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NO-SCALPEL VASECTOMY CURRICULUM

Trainer's Manual

A Training Course for Vasectomy Providers and Assistants

2nd Edition

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EngenderHealth
440 Ninth Avenue
New York, NY 10001 U.S.A.
Telephone: 212-561-8000
Fax: 212-561-8067
e-mail: info@acquireproject.org
www.acquireproject.org

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Contents

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The first edition of the curriculum was edited by Joanne Tzanis; Stephanie Greig provided art direction and designed all graphics and texts for both the trainer's manual and the participant handbook. Anna Kurica was responsible for final production of the curriculum, with the assistance of Marge Baynes.

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Introduction to the NSV Training Course

Course Overview

Course Purpose

This curriculum on no-scalpel vasectomy (NSV) is a clinical course designed to train vasectomists and vasectomy assistants to provide NSV. This course emphasizes the information needed to provide safe and effective NSV services and may require extensive practice time. It assumes that participants will bring skills, knowledge, and self-motivation to the training. In many areas, NSV services are provided as part of a team effort; thus, this course includes instructions for training vasectomy assistants.

Trainers for this Course

This curriculum has been designed to be used by trainers who are skilled, experienced NSV providers and who have previously conducted clinical skills training. While this curriculum contains information to guide the trainer during a workshop and to assist the trainer in making decisions that will enhance the learning experience, it is assumed that the trainer understands adult learning concepts, has experience with a variety of training methods and techniques, and knows how to adapt materials to meet participants' needs.

The trainer for this course may or may not be affiliated with the site where the training is conducted or with the institution sponsoring the training. Though the trainer's affiliation will not affect the clinical content of this course, the trainer must be aware of the institution's standards and guidelines regarding certification, training follow-up, and ongoing supervision. While reviewing the curriculum in preparation for conducting this course, trainers should be sure to address these issues.

Training Location

Whenever possible, skills training should be conducted at the location where the participants work. This increases the likelihood that participants will use the skills immediately after training. However, this is not always possible, especially when representatives from a variety of institutions or locations are participating in the training. If this is the case, the trainer should find as many opportunities as possible to have participants discuss how they will apply what they have learned at their own site.

NSV Training Package

Training Curriculum

This curriculum consists of:

- A trainer's manual
- A participant handbook
- *No-Scalpel Vasectomy: An Illustrated Guide for Surgeons, third edition* (published by EngenderHealth)

Other materials and supplies needed to conduct the NSV course are listed on pages 4 and 5.

NSV Trainer's Manual

Trainer's Notes, Options, Tips, and Activities

The first two pages of each module contain introductory information with essential details about:

- How to present the content of the module
- Estimated time needed for the module's training
- Training supplies
- Advance preparation
- Purpose and objectives for the module

Additionally, the Trainer's Manual includes the following options, tips, and activities to customize and enhance the learning process:

- **Training Options.** These offer alternative ways to present the content of the module. Training options in the curriculum are preceded by the symbol ◔.
- **Training Tips.** These present information that can help make the training techniques more effective. Training tips in the curriculum are preceded by the symbol ☞.
- **Training Activities.** These are activities that can be used as training tools. These provide opportunities to analyze concepts and apply information and skills presented in the modules. Activities include case studies, role plays, and discussion topics. Training activities in the curriculum are preceded by the symbol ⌘.
- **Optional Activities.** These are activities that the trainer can include if there is sufficient time and if the needed materials are available. Optional training activities in the curriculum are preceded by the symbol ✺.

Training Tools

The Trainer's Manual also includes the following tools trainers can use to customize training.

NSV Knowledge Assessment Test

This pretest, which appears in Appendix A, is designed to be given at the beginning of the workshop. The trainer can use the results to customize the training to best suit the participants' level of knowledge and experience. Answers to this test appear in Appendix A of this Trainer's Manual, but these answers are not included in the Participant Handbook.

Self-Assessments

A self-assessment appears at the end of most modules in this curriculum. Participants who are studying the material independently are instructed to complete the assessment after reviewing the information in the module.

These assessments may also be used as a group evaluation tool during a workshop (see pages 8–9). Each question in the assessment is followed by a notation of the pages in the source material where the answer can be found. Answers appear in both the trainer's and the participant's books.

NSV Clinical Skills Checklist
This is a competency-based course. Each participant's performance will be evaluated using the NSV Clinical Skills Checklist, which appears on pages 4–7 of the Participant Handbook and in Appendix B. Participants should not begin supervised surgical practice until the trainer has used this checklist to evaluate their performance on the scrotal model as satisfactory. Participants will not have successfully completed this course until the trainer has evaluated their clinical performance as satisfactory using this checklist.

Directions for Independent Study
Independent study can be used as an alternative to taking group time to cover knowledge-based course content. Directions for independent study are given for each module. Independent study is *not* meant as a substitute for scrotal model practice time, surgical observation, or surgical practice time.

Even experienced vasectomists have difficulty teaching themselves the NSV technique. Until their clinical performance has been evaluated as satisfactory by the trainer using the NSV Clinical Skills Checklist, participants should not perform NSV without supervision.

NSV Participant Handbook
The Participant Handbook* includes all essential course information; this minimizes the need for participants to take notes and allows them to give their full attention to the course. The handbook also provides directions for independent study (see page 1), which participants can use if they are reading their handbook in advance of the course or if independent study time is scheduled into the training course. After reviewing the material in each module, participants who are studying independently can use the self-assessment instrument that follows most modules to test their knowledge.

No-Scalpel Vasectomy: An Illustrated Guide for Surgeons, third edition (EngenderHealth, 2003).
This book, the primary text for the NSV training course, contains essential content and illustrations for both trainers and participants. Each participant must have a copy of this text in order to complete the course. Trainers must be thoroughly familiar with this text before conducting an NSV training course.

Training Materials, Supplies, and Equipment
Along with the Trainer's Manual, the Participant Handbook, and the Illustrated Guide, trainers must obtain the following materials, equipment, and supplies in order to successfully conduct an NSV training course*:

- ***No-Scalpel Vasectomy* video** (World Health Organization). This important video, which shows NSV as performed by the technique's originator, Dr. Li Shunqiang, is used throughout the course to familiarize participants with the technique and to aid in skills acquisition.

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* See the Trainer's Checklist on page 5 for information on ordering texts and other materials needed to conduct an NSV workshop.

- **NSV instruments.** The ringed clamp (extracutaneous ringed forceps) and dissecting forceps were specially designed for NSV by Dr. Li Shunqiang. Each participant must have a set of these instruments in order to perform the NSV technique.
- **Scrotal model.** Each participant will practice the NSV technique on a scrotal model (see Module 7: Scrotal Model Practice). EngenderHealth considers satisfactory performance on the scrotal model to be a prerequisite to Module 8: Supervised Clinical and Surgical Practice.
- **NSV supplies.** For scrotal model practice, each participant will need suture material and a syringe with a 25- or 27-gauge needle, along with NSV instruments. Needles and syringes, along with other surgical instruments and supplies needed to perform NSV (for example, straight scissors, sterile gloves, antiseptic solution, adhesive tape, etc.), should be available at the training site. A full list of surgical instruments and supplies needed for NSV appears on page 9 of the Illustrated Guide.
- **Other training aids.** Trainers must obtain audiovisual equipment in order to make use of the videos. Trainers should also obtain condoms and a penis model for training participants in appropriate condom use (see Module 4: Counseling and Informed Consent for NSV). Trainers may also want to obtain training aids, such as flipchart paper, tape, and markers, for use during the course.
- **Optional video.** If the video *Infection Prevention Guidelines for Healthcare Facilities with Limited Resources: Overview and Practical Training Demonstration Segments and Safe Practices in the Operating Room* (JHPIEGO Corporation) is available, trainers can use it in Module 6: Infection Prevention.
- **Optional manual.** Copies of *Infection Prevention: A Reference Booklet for Health Care Providers* can also be ordered by the trainer for each trainee. This booklet is a useful reference on important infection prevention topics, such as handwashing, gloving, aseptic tecnhique, use and disposal of sharps, instrument processing, housekeeping, and waste disposal.

How to Use These Materials

Training Design

This is a competency-based training course. This means that the training focuses exclusively on teaching the skills, facts, and attitudes needed to perform NSV correctly, and that the participants' progress will be measured against the preestablished criteria (in the NSV Clinical Skills Checklist, Appendix B). Participants will not have successfully completed this course until the trainer has evaluated their clinical performance as satisfactory using this checklist.

This course has been designed so that it can be used flexibly by trainers to accommodate different levels of participant experience, client load and scheduling, and available training time. The number of participants who can be accommodated in the training will be determined in part by the client load at the training site, as it is necessary to have enough clients for the clinical practice portions of the training. It is recommended, however, that no more than four vasectomists and their assistants (for a total of eight) participate in the supervised surgical practice portion of the training at any given time. There may be situations in which a larger group of participants could participate in the theoretical portion of the training. For example, doctor-nurse teams from a number of sites could come together for the theoretical part of the training, with the supervised surgical practice then being held at each of the trainees' service sites.

Trainer's Checklist

NSV Materials, Equipment, and Supplies

Before beginning any training, the trainer should make sure that everything needed to conduct training is available and in working order.

For the course

- *No-Scalpel Vasectomy* video*
- *Infection Prevention Guidelines for Healthcare Facilities with Limited Resources: Overview and Practical Training Demonstration Segments and Safe Practices in the Operating Room* video (optional)**
- *Infection Prevention: A Reference Booklet for Health Care Providers**
- Audiovisual equipment (for videos)
- Penis model
- Condoms
- Flipchart paper, tape, and markers

For each participant

- Training agenda
- Participant Handbook*
- *No-Scalpel Vasectomy: An Illustrated Guide for Surgeons, third edition**
- Ringed clamp*
- Dissecting forceps*
- Scrotal model*

Other supplies needed for NSV procedure

- Adhesive tape
- Scissors for cutting suture
- Scissors for hair trimming
- Soap and running water
- Antiseptic for surgical scrub and surgical site preparation
- Sterile gloves
- Sterile gauze
- Sterile drapes with hole in the centre
- Sterile 25-gauge needle and 5 or 10 ml syringe
- 1% to 2% lidocaine without epinephrine
- Suture material or a cautery unit
- Adhesive tape or bandage for dressing
- Antiseptic solution
- Scrotal support (optional)

* To obtain these items, contact EngenderHealth, 440 Ninth Avenue, New York, NY 10001, U.S.A (telephone: 212-561-8000; fax: 212-561-8067; e-mail: info@engenderhealth.org), or use EngenderHealth's publications order form at www.engenderhealth.org.

**To obtain this optional video, contact JHPIEGO, 1615 Thames Street, Baltimore, MD 21231, U.S.A. (telephone: 410-537-1800; fax: 410-537-1473, email: info@jhpiego.net), or use JHPIEGO's publications order form at www.jhpiego.org.

The training package includes most of the essential training materials, but trainers should prepare their own workshop agenda and lesson plans. Trainers should thoroughly review the training package and consider these key factors when preparing their course:

- The prior experience and training of the participants will affect the course design.
- The NSV Knowledge Assessment Test (see Appendix A), which is given during the introductory session of the workshop, can help trainers identify participants' training needs and adapt the workshop accordingly.
- Trainers can provide participants with the Participant Handbook, with *No-Scalpel Vasectomy: An Illustrated Guide for Surgeons*, with a scrotal model, and with the NSV instruments in advance of the course. Instructions for independent study are included in the Participant Handbook. If participants read the course material before attending the course, lecture time can be saved, and more time will be available for surgical practice and discussion.
- Trainers should use training techniques with which they feel comfortable. Training techniques have been suggested in each module, but trainers should feel free to use any other techniques they believe will be useful.
- Module 7: Scrotal Model Practice should always precede Module 8: Supervised Clinical and Surgical Practice. Model practice permits participants to develop basic skills before surgical performance. This increases participants' skill and confidence before surgical practice and reduces the number of clients needed for surgical practice sessions.
- Experienced vasectomists will not require as much training in the knowledge and skills needed for NSV; participants with no surgical experience will require more in-depth training.

Advance Preparation

Participant Selection

The intended audiences for this curriculum are medical personnel (doctors, nurses, and medical assistants) who want to learn the NSV technique, as well as the nurses and other assistants who will work with them. All participants should have a desire to learn about NSV and should be committed to providing this service as a family planning option after they complete the course. Because NSV is performed under local anesthesia while the client is awake, the participants should demonstrate empathy and sensitivity toward clients and any fears that clients may have about the procedure. Participants must also be willing and able to converse with clients during the procedure.

When considering the qualifications of potential participants, a trainer should give priority to individuals from institutions that are committed to providing NSV and that have an existing demand for NSV services. Without client demand and institutional commitment, the participant will not be able to use newly learned skills. Furthermore, each sponsoring institution should be able to provide the space, equipment, and operating time needed for NSV services.

Before beginning training, it is helpful to know participants' knowledge and experience. A trainer who is sending application forms or information about the workshop to potential participants will find it useful to include the following questions:

- What experience do you have in performing surgery?
- Have you had any training in vasectomy?
- Do you currently provide vasectomy services?
- What experience and training have you had in providing family planning services?
- What is your educational background?

Training Site Selection

The facility requirements for performing NSV are minimal: an examination room and the materials, supplies, and equipment needed to perform NSV services, to carry out infection prevention measures, and to ensure that clients make an informed choice. The surgical instruments and supplies needed for NSV are described in detail on page 9 of the Illustrated Guide.

Additionally, the training facility should have a room large enough for participants to comfortably meet and examination rooms large enough to hold a few observers. A key consideration is that there be a sufficient number of clients for surgical practice and evaluation. (See Module 8: Supervised Clinical and Surgical Practice for a discussion of the number of clients needed for training.)

Client Selection and Client Rights

Consent to Training

As with any medical service, the rights of the client are paramount and should be considered at all times throughout the training course. All clients must be adequately counseled, and each client must make an informed and voluntary decision to undergo vasectomy. Each client's permission must be obtained before a participant in this training observes, assists with, or performs any aspect of care related to vasectomy.

Clients who consent to participate in training should be informed in advance that they will receive care from a vasectomy trainer or from a participant under the direct supervision of a qualified trainer. Clients are within their rights to refuse care from a participant. A client who refuses to grant permission, appears uncomfortable with receiving services from a participant, or appears to be uncomfortable about having participants present when the procedure is performed should not be denied services, nor should his procedure be postponed. If a client refuses to be operated on by a participant, the trainer or a qualified member of the training center staff should perform the procedure.

Confidentiality

The client's right to confidential medical care must be observed. This is particularly difficult in a training situation, where participants may need to discuss the specifics of a particular case. It is important that discussions about clients be confined to rooms that afford the required degree of privacy. Hallways, corridors, waiting areas, and other public areas are not appropriate venues for discussing clients.

Evaluation

Evaluation is an important part of the training. Evaluation gives feedback to participants about what they have learned and helps trainers determine effective training strategies. Each module contains several tools and activities for evaluation.

For example, a self-assessment is included at the end of most modules. This tool can be used during training sessions, independent study, or group study. The trainer can use this instrument in several ways:

- At the beginning of the module, have individuals respond in writing to the questions.
- At the end of the module, have participants write responses to the questions.
- At the beginning or the end of the module, ask the group to respond as each question is read aloud.
- Throughout the workshop, note which questions participants found difficult to answer. At the end of the last module that contains a self-assessment (Module 10), have participants review these questions.
- Use the assessments as part of a final group review.

It is critical that a trainer who adapts this curriculum include appropriate evaluation options to:

- Assess participants' needs and abilities *before training*. For example:
  - Use the Knowledge Assessment Test as a written pretest
  - Present the questions from the test to the participants for discussion
  - Use the Knowledge Assessment Test as a verbal pretest
  - Ask all participants about their experience with vasectomy and ask specific questions related to their level of knowledge and skill
- Assess participants' progress *during training*. For example:
  - Use the NSV Clinical Skills Checklist in every module where it is appropriate
  - Use the module's self-assessment
  - Observe participants during practice sessions
  - Ask questions to groups of participants or to individual participants
  - Present case studies or situations for discussion
- Assess cumulative knowledge and skills at the *end of training*. For example:
  - Use the Knowledge Assessment Test as a written or verbal posttest
  - Carry out a final skills observation
  - Ask questions to test knowledge and comprehension
- Assess the outcomes or results of the course *after training*. For example:
  - Carry out a follow-up of the applications of the knowledge and skills taught during the training (see "After the Training Course," page 15)

It is also important to have an end-of-training evaluation to look at the overall process and results. Trainers should check with the institution they are working with to see if there is a form the institution prefers to use. Trainers may have a form they have used before or may prefer to design one specifically for this course. A sample form appears on page 10.

Certification

Certification of a participant's skill and ability to perform NSV indicates that the participant has demonstrated the competency needed to perform this procedure independently. It is the responsibility of the institution that provides the certification to ensure that the participant meets all the necessary requirements of competency in this procedure.

The institution that provides the NSV training should determine whether it wants to provide participants with some type of certification. For example, institutions can choose to provide participants with a certificate of attendance or with a certificate of competency. If an institution decides to provide NSV competency certificates, the institution assumes responsibility for assuring that each certified participant is capable of independently and competently performing NSV.

Developing a Training Agenda

The modules are organized in a logical order, but trainers may change the order to suit participants' training needs. However, Module 1: Introduction should always be first, and Module 7: Scrotal Model Practice should always precede Module 8: Supervised Clinical and Surgical Practice. Refer to the sample agendas on the following pages for a two-day workshop for experienced vasectomists and a three-day workshop for participants with no prior vasectomy experience.

Each module contains Trainer's Notes to help trainers organize a lesson plan for that module. Potential adaptations for different workshop lengths and types of participants appear as "training options." When designing a workshop agenda, consider some of the following factors:

- **Client load and clinic schedule.** Maximize participants' exposure to NSV procedures. If NSV clients are scheduled in the mornings, plan surgical observation and practice then and use the afternoons to cover other material. If there are not sufficient clients for all participants to become competent, trainers may need to have some participants return to the training facility (or to arrange to visit participants' facilities) for further supervised surgical practice after the course.
- **Participants' vasectomy experience.** If participants are experienced vasectomists and if they do well on the pretest, emphasize scrotal model and surgical practice. In this case, classroom material can be presented as reviews and updates, and trainers may elect to skip Module 3: Anatomy and Physiology.
- **Inclusion of vasectomy assistants.** Each module (except Module 7: Scrotal Model Practice) contains information that is relevant to the training of staff who work with vasectomists. Two of the modules, Module 4: Counseling and Informed Consent for NSV and Module 6: Infection Prevention, include information on how to expand or adapt the content for vasectomy assistants.
- **The independent-study option.** This option works particularly well when there is a lot of information to cover, when there is limited time for participants to meet, and when the information can be easily studied independently. Independent study:
  — Allows each person to cover the material at his or her own pace
  — Provides everyone with the opportunity to prepare for discussions
  — Saves time during training that can be used for scrotal model or surgical practice.

Sample End-of-Training Evaluation Form

Please complete all sections of this evaluation form. Your responses will assist the organizers of the training to determine what modifications, if any, should be made to this program.

A. Overall Evaluation

Select the choice that best reflects your overall evaluation of this training:

___Excellent ___Very Good ___Good ___Fair ___Poor

B. Specific Aspects

1. Evaluate each of the following elements of the training (circle the number of your response for each):

ELEMENT	Excellent	Very Good	Good	Fair	Poor
Content					
• Sufficiency of information	5	4	3	2	1
• Organization	5	4	3	2	1
Materials and Visual Aids					
• Quality	5	4	3	2	1
• Usefulness	5	4	3	2	1
Instructor Presentation					
• Knowledge of subject	5	4	3	2	1
• Presentation style	5	4	3	2	1
• Responsiveness	5	4	3	2	1
Practicum	5	4	3	2	1

2. The length of the training was: _____Too long _____Just right _____Too short

3. The most important thing I learned in this training was:

C. For the Future

Please think about this training event and all the elements (content, materials, presentation, practicum, etc.) you feel should be the same if this training is repeated. Also think about what aspects you feel could be improved and what elements you feel should be eliminated from this training.

1. I suggest the following be SAVED and included in future training (include reasons why):

2. I suggest the following be CHANGED for future training (include reasons why):

3. I suggest the following be REMOVED from future training (include reasons why):

D. Comments (Please use the reverse side to record any comments about the training.)

Independent study cannot replace small-group discussions that allow participants to share ideas and opinions and learn from one another. Independent study is also *not* a substitute for skills practice. In this course, independent study should be used to allow participants to progress on content knowledge.

Agenda Samples

The sample two-day and three-day agendas on the following pages will help the trainer design a course, though the agenda may need adjustment to allow more time for a particular module (especially for surgical practice). For participants with no vasectomy experience, five days may be necessary to allow adequate time for counseling, model practice, and surgical practice in particular. Trainers should make sure to adjust the agenda, including spreading the didactic sessions over additional days, to accommodate the times in which vasectomy clients have been scheduled for appointments at the training site.

During the Training Course

This is a clinical training course, and it is different from classroom teaching. The emphasis during NSV training is on *doing*: demonstration, scrotal model practice, and supervised surgical practice.

Though there is some didactic material to be covered, it need not always be covered using a lecture technique; more participatory methods such as questioning, role plays, case studies, observation, and discussion can also be used. Since participants are a highly educated group, trainers can request that they cover the didactic material through independent study. Though this is not a participatory technique, it is a fast, efficient way to introduce new material.

Create a Positive Learning Environment

Many factors contribute to the success of a clinical training course. One key factor is the learning environment. The trainer can create a positive learning environment by:

- **Respecting each participant.** Recognize the knowledge and skills participants bring to the course. Show respect by remembering and using participants' names, encouraging them to contribute to discussions, and requesting their feedback on the course schedule.
- **Giving frequent positive feedback.** Positive feedback increases people's motivation and with it, their learning ability. Whenever possible, recognize participants' correct responses and actions by acknowledging them publicly: Excellent answer! Great question! Good work!
- **Keeping participants involved.** Use training methods that increase participant involvement, such as questioning, role plays, case studies, discussions, and small-group work.
- **Making sure participants are comfortable.** The training room(s) should be well lit, well ventilated, and quiet and should be kept at a comfortable temperature. Breaks for rest and refreshment should be scheduled.

SAMPLE COURSE AGENDA #1: FOR EXPERIENCED VASECTOMISTS

Two-Day NSV Training Course*

DAY 1	DAY 2
Module 1: Introduction (45 minutes)	Module 4: Counseling and Informed Consent for NSV (135 minutes)
Module 2: Overview of Vasectomy (45 minutes)	Module 8: Supervised Clinical and Surgical Practice (120 minutes)
Module 5: Prevasectomy Evaluation (60 minutes)	Module 9: Postvasectomy Care (60 minutes)
Module 7: Scrotal Model Practice (120 minutes)	Module 10: Management of Complications (60 minutes)
Module 8: Supervised Clinical and Surgical Practice** (90 minutes)	Course Summary and Closure (30 minutes)
Total time = 6 hours	Total time = 6 hours, 45 minutes

* This sample, based on a course for three participants, shows how an agenda might be adapted and designed. Times may not be identical to those shown in the modules. Because each participant brings a different experience to the training course, participants in different trainings may require more or less emphasis on particular modules. Trainers should develop a schedule that allows the time needed for participants to acquire the necessary knowledge and skills. If there are time constraints, trainers should consider having participants read some content material as part of independent study.

** Trainers may find that more time is needed for surgical practice and should adjust the schedule to ensure that each participant has the opportunity to carry out the number of NSV procedures needed to achieve competency.

SAMPLE COURSE AGENDA #2: FOR PARTICIPANTS WITH NO VASECTOMY EXPERIENCE

Three-Day NSV Training Course*

DAY 1	DAY 2	DAY 3
Module 1: Introduction (45 minutes)	Module 5: Prevasectomy Evaluation (120 minutes)	Module 7: Scrotal Model Practice (60 minutes)
Module 2: Overview of Vasectomy (60 minutes)	Module 6: Infection Prevention (120 minutes)	Module 8: Supervised Clinical and Surgical Practice (180 minutes)
Module 3: Anatomy and Physiology (60 minutes)	Module 7: Scrotal Model Practice (60 minutes)	Module 9: Postvasectomy Care (60 minutes)
Module 4: Counseling and Informed Consent for NSV (135 minutes)	Module 8: Supervised Clinical and Surgical Practice (120 minutes)	Module 10: Management of Complications (60 minutes)
Module 7: Scrotal Model Practice (60 minutes)		Course Summary and Closure (30 minutes)
Module 8: Supervised Clinical and Surgical Practice** (60 minutes)		
Total time = 7 hours	Total time = 7 hours	Total time = 6 hours, 30 minutes

* This sample, based on a course for three participants, shows how an agenda might be adapted and designed. Times may not be identical to those shown in the modules. Because each participant brings a different experience to the training course, participants in different trainings may require more or less emphasis on particular modules. Trainers should develop a schedule that allows the time needed for participants to acquire the necessary knowledge and skills. If there are time constraints, trainers should consider having participants read some content material as part of independent study.

** Trainers may find that more time is needed for surgical practice and should adjust the schedule to ensure that each participant has the opportunity to carry out the number of NSV procedures needed to achieve competency.

Adjusting the Curriculum

As the course progresses and the trainer gets to know the participants' learning styles, the trainer may need to make adjustments to the course content or to the agenda. Time requirements will vary depending on participants' experience and interests and on the trainer's experience.

Adjustments to the curriculum should not compromise the quality of the training. Trainers should cover all important content and allow sufficient time for model and surgical practice.

At the End of the Training Course

It is important to summarize the content and activities of the course. The trainer should highlight key points and be sure to review any specific concerns or difficulties related to the NSV technique that were raised during the course.

Trainers may choose to use the NSV Knowledge Assessment Test as a posttest. By comparing the results of the pretest and posttest, trainers can determine changes in the participants' knowledge.

It is also important for participants to complete an end-of-workshop evaluation so that the trainer may look at overall processes and results. The sample evaluation on page 10 can be adapted for this purpose if the sponsoring agency or institution does not provide its own evaluation form.

After the Training Course

Learning about NSV does not end at the end of the course. At the completion of the course, most participants will have gained competency in a new technique; with practice they will gain proficiency in the technique over the next few months. *Competency* describes the state of having acquired the skills, knowledge, and attitudes needed to perform the procedure (as measured against preestablished criteria, such as the NSV Clinical Skills Checklist). *Proficiency* is the state of being well-advanced in these skills.

Some participants may encounter difficulties in initiating an NSV program at their facility. Other participants who do not achieve competency during the training course will need continued supervision before they can provide NSV on their own. For these and other reasons, the trainer should discuss follow-up at the end of the workshop.

Before the beginning of the training course, trainers should understand their role, if any, in follow-up. There are several different ways to provide follow-up, depending on the participants' needs, the trainer's availability, and financial considerations. Follow-up mechanisms include:

- Preparing a list of participant contact information and distributing one to each workshop attendee (and, if possible, preparing a list of the NSV providers in participants' geographic area). Encourage participants to stay in contact and to phone, write, or meet with one another after the workshop. They can help each other with questions and concerns about NSV.

- Giving participants a contact who can answer any questions about the procedure that arise after training.
- Arranging monthly or quarterly discussion meetings. If participants live far from the training site but close to one another, they can organize meetings themselves.
- Visiting participants at their facilities. Observe their NSV technique and give them feedback. Discuss caseload and administrative issues and ask whether they have encountered any problems.
- Inviting participants to visit a facility that provides NSV. Participants can observe vasectomies, counseling, infection prevention procedures, administrative processes, and other parts of NSV service provision.
- Requesting a quarterly letter from participants in which they describe the steps they have taken to initiate an NSV program and the number of procedures they have performed. Based on the responses, develop a simple quarterly newsletter that summarizes successes and difficulties in implementing NSV programs and that responds to frequently asked questions.
- Arranging continued supervised practice for participants who do not achieve competency during training.

Follow-up is an important part of training and should be a planned part of any training course. Participants should know who will be conducting follow-up and when and how it will be conducted.

Adapting the Curriculum

This curriculum has a modular design, facilitating easy adaptation to the particular needs of participants and the location of the training. Specific training needs may vary: for example, trainers may be working with a single participant or with a group of four or five; the training may be part of an on-the-job training program or a centralized program held at a regional training site. In these cases, trainers will have to adapt the training methods and activities, the amount of time allocated for model practice, and the caseload required for surgical practice.

If locally produced client-education materials are available (particularly for Module 4: Counseling and Informed Consent for NSV), trainers should incorporate these into the training program. Trainers should use local expressions and terms that are familiar to the participants and clients with whom they will be working.

This curriculum can be adapted for use with those learning the technique for the first time, with those who learned the technique before but need a refresher, and with those who want to make sure they are up-to-date on all aspects of the NSV technique (such as counseling).

When preparing a course for *any* audience, the trainer should be sure to include all essential content and activities required to build competency in the NSV technique. Trainers should discuss possible adaptations with other experienced trainers; even the most experienced trainers have found it useful to review their ideas for adapting materials with others.

MODULE 1 Introduction

Trainer's Notes for Module 1

During the introduction:

- Welcome the participants
- Introduce the training team and participants
- Discuss workshop logistics
- Introduce the content of the workshop
- Describe the participant evaluation process (and the certification process, if any)
- Develop workshop norms
- Give participants the NSV Knowledge Assessment Test (Appendix A)

Note: Registration for the workshop should take place before the introduction.

Introductions of Trainers and Participants

Welcome the participants to the workshop. Introduce all training team members and support staff. If there are fewer than five participants, ask them to introduce themselves to the group. Groups of more than five participants who do not know one another may pair up and interview their partner. They can ask:

- Where are you from?
- Where do you work? What work do you do there?
- Why did you choose to participate in this workshop?

Allow a few minutes for the paired interviews, then have the pairs introduce one another.

Workshop Logistics

Discuss workshop logistical details such as the following (you may want to develop a participant handout that addresses these points):

- Beginning and ending times for each day
- Meals and other break arrangements
- Smoking policies
- Per diems and other financial matters
- Expectations regarding independent work, reading assignments, evening sessions, and work on holidays or weekends
- Time off, special events, or excursions
- Reconfirmation of travel arrangements
- Whom to see about any administrative problems or needs

Training Time

35–45 minutes if all activities are included

MODULE 1 Introduction

Materials and Supplies

Trainer's supplies

✔ Flipchart paper, masking tape, and colored markers

Participant's supplies

Provide each participant with a training package that includes:

✔ Participant Handbook for this curriculum
✔ *No-Scalpel Vasectomy: An Illustrated Guide for Surgeons*, third edition, 2003.
✔ Scrotal model*
✔ Dissecting forceps*
✔ Ringed clamp*
✔ Copy of the workshop agenda
✔ Copy of NSV Knowledge Assessment Test

* Vasectomy assistants do not need these materials.

Advance Preparation

- Prepare a workshop agenda (see page 11 of this Trainer's Manual) and make a copy for each participant. If participants include surgical teams, prepare and distribute an agenda for vasectomy assistants as well.
- Make a copy of the NSV Knowledge Assessment Test (see Appendix A) for each participant.

Training Option

Develop transparencies, slides, or flipcharts to present the content of this introduction.

Introduction

Explain to the participants that the purpose of the workshop is to train them to be competent providers of safe, effective vasectomy services using the no-scalpel approach to the vasa under vasal block anesthesia. Also explain that this is a clinical skills training course and that the emphasis will be on scrotal model practice, followed by supervised surgical practice.

Review the workshop agenda with participants. Ask if they have any questions or recommendations for changes in the schedule.

Training Materials

Distribute course texts to each participant (including vasectomy assistants). Point out the differences between the two books:

- Explain that the Participant Handbook includes information on all of the content to be presented during this course. Show participants that the modules in their handbook correspond to course training sessions on their agenda.
- Explain that the Illustrated Guide is the basis for the surgical skills training portion of the course. This book describes and illustrates the procedure in great detail.

Instruct participants to read the appropriate material from these sources in advance of each training session, to help them get the most out of the training course.

Provide each vasectomy trainee with a dissecting forceps, ringed clamp, and scrotal model. Vasectomy assistants who are participating in the course do not need to have these materials, but they should be given an opportunity to handle the instruments.

Inform participants that although the instruments' use will be explained during Module 7: Scrotal Model Practice, independent practice on the scrotal model using the Illustrated Guide as a guide is encouraged.

Training Activity: Workshop Norms

Ask participants what behaviors they think are important to follow during the training course. Write their responses on a piece of flipchart paper. If necessary, give one or more of the following examples to help get the group started:

- Being punctual
- Attending all of the sessions
- Not interrupting when someone is speaking
- Treating clients with respect and courtesy
- Maintaining confidentiality for all clients

Ask for comments on the norms and delete or add to them, according to the group's consensus. Post the completed flipchart where all participants can see it throughout the training course.

Evaluation

Explain that this is a competence-based course and that each participant's performance will be evaluated using the NSV Clinical Skills Checklist, which appears on pages 4–7 of the Participant Handbook. A copy of the checklist also appears in Appendix B of both the Trainer's Manual and the Participant Handbook.

Training Activity: NSV Knowledge Assessment Test

Distribute the NSV Knowledge Assessment Test (Appendix A) or ask participants to use the clean copy that appears in their handbook. Explain that the test will not be graded and that it will not have a bearing on the assessment of any participant's competency. The purpose of this pretest is to help identify the areas of course work that should be emphasized in the workshop. Allow approximately 15 minutes for participants to take the test.

Review, correct, and return the assessments as soon as possible. Trainers can use the results of the assessment to adapt the training course to participants' needs. Participants can use the results to identify material they should pay special attention to.

The answer sheet to the assessment appears in Appendix A of this Trainer's Manual; answers do not appear in the Participant Handbook.

Training Options

- If there are only a few participants, have participants correct their own test while you read the answers for each question. If the group is large, have participants exchange tests and correct one another's responses.
- If there are fewer than three participants, have the participants take the pretest orally.

NSV Clinical Skills Checklist

Introduce the checklist to participants and explain how it will be used during the training course. Assure participants that all evaluations using the checklist will be kept confidential.

Introduction to the NSV Clinical Skills Checklist

The NSV Clinical Skills Checklist will be used to measure participants' performance throughout the portions of this course involving use of the scrotal model and supervised surgical practice. In addition, the checklist may be used during follow-up to assess whether the provider is performing to standard. The checklist lists the 60 tasks to complete when performing NSV. These tasks include both the clinical procedure and points of interaction with the client.

Each copy of the checklist has room for the trainer to complete three separate evaluations of a participant's performance on a scrotal model or of supervised performance on a client. There is no maximum number of evaluations that can be completed: Trainers should use as many checklists as are necessary for the participant's performance to be evaluated as satisfactory. Trainers should ensure that an adequate number of checklists are available for evaluation.

Using the Checklist

Participants should keep a copy of the checklist nearby as a reference throughout training sessions, independent study, and independent scrotal model practice. Participants need not fill out any copies of the checklist. Trainers should be sure to keep extra copies of the checklist available to participants throughout the training course.

When performing an evaluation, the trainer should first circle "M" if the evaluation is for the scrotal model or "C" if the evaluation is for supervised surgical practice on a client. For each task on the checklist, the trainer should mark "S" for satisfactory or "U" for unsatisfactory in the space provided.

Trainers should not sign and complete the final evaluation at the end of the form until one of the following has occurred:

- During an evaluation, the participant's performance has been rated as "satisfactory" for supervised surgical practice. The participant is then considered "competent" to deliver NSV services.

or

- The participant's performance has been evaluated three times, but his or her performance of some tasks has been rated as "unsatisfactory." The participant is then considered "not competent" to deliver NSV services.

Note: During scrotal model practice, partcipants will not be evaluated on client interaction or occlusion tasks. Although satisfactory performance on the scrotal model is a prerequisite to supervised surgical practice, it is not an indication of competence to provide NSV services.

MODULE 2 Overview of Vasectomy

Trainer's Notes for Module 2

This module provides a general introduction to vasectomy, including:

- The acceptability of vasectomy
- The differences between NSV and standard vasectomy
- The safety of NSV
- Local or national factors that affect the availability of vasectomy

Participants will see an eight-minute video featuring Dr. Li Shunqiang, the doctor who developed the NSV technique.

Managing and Publicizing Vasectomy Services

Appendixes C and D contain information on how to develop, manage, and publicize vasectomy services. In particular, if vasectomy will be a new service at participants' facilities, trainers may want to develop training content based on these materials. This is a particularly appropriate option if participants will be responsible for managing vasectomy services at their facility.

Training Time

35–45 minutes Trainers may choose to invite a guest speaker to talk to participants about local or national factors that affect vasectomy services or may choose to invite a trained provider to make a presentation on NSV. If so, training time will be longer. Instruct the speaker to prepare for a 25-minute session (a 15-minute presentation with 10 minutes for discussion).

MODULE 2 Overview of Vasectomy

Materials and Supplies

Trainer's supplies

- ✔ Dissecting forceps
- ✔ Ringed clamp
- ✔ Overhead projector (optional)
- ✔ *No-Scalpel Vasectomy* video
- ✔ Television and videocassette player
- ✔ Flipchart paper, masking tape, and colored markers

Reference materials

- ✔ *No-Scalpel Vasectomy: An Illustrated Guide for Surgeons,* pages 1–4.

Advance Preparation

- Prepare an overview of country-specific information about vasectomy (see page 26) in advance of this session.
- Set up the videocassette player and cue the video.

Training Options

- It may be useful to arrange for a speaker or a trained NSV provider to make a presentation.
- Have participants read the purpose and objectives aloud at the beginning of the session.
- Develop additional training on how to manage and publicize vasectomy services based on Appendixes C and D.
- The trainer may choose to develop transparencies for presenting key information from this module.

Introduction

During the introduction to this module:

- Review the purpose and objectives for this module that appear in the Participant Handbook.
- Explain the different training activities that will be included in this module (video, lecture, discussion, etc.).
- Provide information regarding scheduling and logistics (length of training session, break times, etc.).

Acceptability of Vasectomy

Explain to participants that sterilization is the most widely used method of contraception in the world. Although tubal occlusion is the more common sterilization procedure in most countries, vasectomy is being used more and more frequently. Discuss why vasectomy is underutilized, referring to the text in the Participant Handbook (page 10).

History of NSV

Review the main points of NSV history presented in the Participant Handbook.

Training Options

If you want to present more information on the history of NSV, refer to *No-Scalpel Vasectomy: An Illustrated Guide for Surgeons*, page 2.

Major Differences between Vasectomy Techniques

Explain that there are more similarities than differences between incisional vasectomy and NSV. For example, client counseling, prevasectomy assessment, vas occlusion, postvasectomy care, and management of complications are the same in both techniques. The differences between the two techniques are few but significant. (These are outlined in Table 2-1 of the Participant Handbook.)

Advantages of NSV over Incisional Vasectomy

Using Table 2-2 in the Participant Handbook, point out some of the advantages of NSV that make it the method of choice for this training course and for other EngenderHealth-sponsored activities. Use the table and list in the Participant Handbook to explain the important advantages of the NSV technique. Introduce the NSV instruments and explain briefly how they are used.

Training Tip

When discussing the ringed clamp and dissecting forceps (see Figures 1 and 2 in *No-Scalpel Vasectomy: An Illustrated Guide for Surgeons*, pages 7 and 8), hold each instrument up and show it to participants.

Training Activity: Observing the NSV Technique

Show the NSV video, which lasts about 10 minutes. The video covers the history and advantages of NSV and shows Dr. Li Shunqiang performing the technique. Allow 5 to 10 minutes after the video for questions and discussion.

Training Tip

Explain to the participants that the video will be available for them to view again during their free time or study time. Participants will find repeated viewing of the video extremely helpful as they prepare for scrotal model and surgical practice.

Country-Specific Information about Vasectomy

In this section, provide participants with an overview of the local and national factors concerning the provision of vasectomy. You must research and develop this section independently to ensure that it reflects current local laws and practices.

Present information that will be relevant to participants' work as vasectomy providers, such as the items listed in the Participant Handbook in Table 2-4.

Training Options

- You can develop transparencies or handouts on this information.
- It may be useful to invite a guest speaker (for example, a local health officer) to present vasectomy information about the participants' country or region.

Training Activity: Discussion Topic

Access to family planning methods, including vasectomy, is a basic human right. However, medical practices or local and national laws often intentionally or unintentionally decrease men's access to vasectomy.

Facilitate a discussion on the effects of laws and medical practices on the accessibility of vasectomy in participants' country or region. Ask participants:

- How do local laws affect access to vasectomy?
- How do local medical practices affect access?
- What are the local policies and practices concerning spousal consent?
- How can vasectomy providers increase men's access to vasectomy?

Encourage participants to have their facility adopt flexible criteria and policies that do not inappropriately deny access to services.

Developing, Managing, and Publicizing Vasectomy Services

If you have not already discussed this topic with participants, ask them about the current situation regarding vasectomy services at their facilities. Determine their level of experience and interest in developing, managing, and publicizing vasectomy services before deciding how much time you will spend on these topics.

Review Appendixes C and D in advance to ensure that you are familiar with all the information provided.

Training Activity: Discussion Topic

Facilitate a discussion on developing, managing, and publicizing vasectomy services. Include the following topics:

- The considerations that need to be addressed during the development of vasectomy services
- The characteristics of successful vasectomy programs
- Different ways of promoting vasectomy services in the community

Training Tip

Participants may have different levels of interest in this topic. Try to ensure that everyone has an opportunity to participate in the discussions.

Training Options

- If a participant has experience in developing or managing vasectomy services, ask him or her to make a short presentation.
- If a nearby facility has a successful vasectomy program, invite a guest speaker from the facility to address the group.

MODULE 3 Anatomy and Physiology

Trainer's Notes for Module 3

This module covers basic information on male anatomy and physiology as it relates to vasectomy. You can decide to cover the didactic material through independent study, lecture with audiovisual aids, or some combination of these.

Training Option

If particpants are experienced vasectomists, this module need not be included in the training.

Training Time

60 minutes if all activities are included; **30 minutes** without role play.

MODULE 3 Anatomy and Physiology

Materials and Supplies

Trainer's supplies

- ✔ Transparencies for Module 3 (optional)
- ✔ Overhead projector (optional)
- ✔ Flipchart paper, masking tape, and colored markers

Training Options

Have participants read the purpose and objectives aloud at the beginning of the session.

Introduction

During the introduction:

- Review the purpose and objectives for this module that appear in the Participant Handbook
- Explain the different training activities that will be included in this module
- Provide information regarding scheduling and logistics (length of training session, break times, etc.).

External Organs of the Male Genitourinary System

Identify and describe the function of the external male genitourinary organs (Figure 3.1). Although most participants will be familiar with the principal organs, many will be unfamiliar with the landmarks used in NSV (the median raphe and the location of the NSV puncture site).

Internal Organs of the Male Genitourinary System

Identify and describe the function of each of the internal organs of the male genitourinary system.

Training Option

Instead of lecturing on the physiology of the internal organs, ask participants to describe the physiology of each organ in Figure 3-2 in simple language.

Physiological Changes after Vasectomy

It is important for vasectomists and their clients to understand that, aside from the desired change in fertility, male sexual function and reproductive physiology are unaffected by vasectomy. Review postvasectomy physiology with participants.

Training Option

Have the group discuss myths and rumors about vasectomy that they have heard from clients, colleagues, or friends.

Explaining the Effects of Vasectomy to Clients

Use Figure 3-4 and the text in the Participant Handbook to assist you in discussing how to explain vasectomy to clients. Many men lack a basic understanding of their reproductive anatomy and physiology. While helping clients learn about vasectomy, vasectomy providers must be prepared to give a clear explanation of male reproductive anatomy and physiology and how they are affected by vasectomy. Understanding how their reproductive organs work and how vasectomy affects them will help alleviate some men's fears concerning sexual problems and decreased masculinity following a vasectomy.

Training Activity: Role-Playing

Have the participants role-play a doctor explaining vasectomy and male anatomy and physiology to a client. Ask the participant who plays the client to pretend to be uninformed about anatomy and physiology and to be concerned about impotence following vasectomy. Remind the participant who plays the doctor to use simple language. After the role play, facilitate a discussion on the strengths and weaknesses of the "doctor's" explanation. Ask the following questions:

- Was the explanation easily understood?
- Did the "doctor" use the simplest language possible and explain new terms to the "client"?
- Did the "doctor" maintain eye contact with the "client"?
- Did the "doctor" encourage the "client" to ask questions?

Training Option for Topics on External and Internal Organs of the Male Genitourinary System, Physiological Changes After Vasectomy, and Explaining the Effects of Vasectomy to Clients

(For courses that have a large enough number of trainees—e.g., more than 10 trainees—the following activity may be an appropriate alternative learning activity.)

Advance preparation

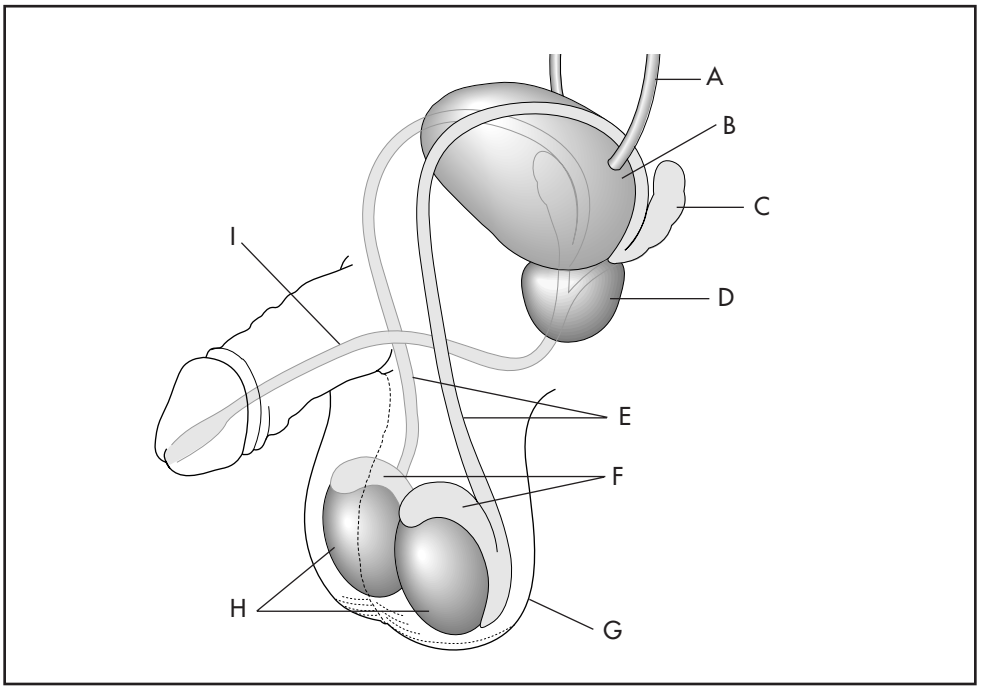
1. Prepare cue cards (a total of 22 cards) with the different parts of the male external and internal reproductive system and their corresponding description and/or function written on them (one part per card; one description or function per card). The parts and the functions can be copied from the section in the Participant Handbook on male anatomy and physiology.
2. Prepare a large diagram of the male external and internal reproductive system without labelling the parts. Print numbers corresponding to the part that you want participants to identify for this activity.

The preparations will look like this:

Sample cards:

PENIS	Tubular structure that can be flaccid or erect; male organ for sexual intercourse

Diagram:



Introduction

Inform the group that in the next activity you will review the basic anatomy and physiology of the male reproductive system. Through this activity, participants will learn how to address and answer misconceptions and questions that clients may have about the effects of vasectomy.

Instructions

1. Divide the group into at least three smaller groups.
   a. Have each group brainstorm and list questions, rumors, misconceptions, concerns, worries, fears, and doubts about vasectomy either that they themselves have *or* that they may have heard from potential clients, fellow health workers, or others.
   b. Have someone in each group write the results on flipcharts.
   c. After several minutes, let them post their flipcharts up on the walls.
   d. Ask all of the participants to go around the room and look at the other groups' outputs.
   e. After three minutes, ask them to return to their seats.
2. Explain that they will now have a brief review of male anatomy and physiology and then, using this basic knowledge, they will demonstrate how to answer all of the questions they have written down.
3. Post the diagram in the front of the room.
4. **Before** handing out the cards, give the following instructions to the participants:
   a. Each of you will receive one card. On each card is written either the name of a part or the description or function of a part of the male reproductive system.
   b. Your task is to look at your card and then find the corresponding part or function held by another participant.
   c. After finding your partner, look at the diagram posted in front and determine the number that your part and function corresponds to.
   d. Be ready to explain your part and function when your number is called.
   e. Be ready also to demonstrate how to answer misconceptions related to the part assigned to you, using the basic male anatomy and physiology after vasectomy.
   f. Ask if there are any questions about the instructions.
5. Distribute the cards—one card per participant—and then allow the participants time to look around the room for their partner.
6. When all have located their partner, let them sit down and call the numbers one at a time.
7. For each called number, have the participants with the corresponding part and function stand up and read their cards.
8. While the participants are still standing up, choose from the list of questions written on the flipcharts that are related to the part and function discussed. For example, for "penis" and its corresponding card "tubular structure….", ask the couple to answer the misconception about impotence resulting from vasectomy.
9. Have the participants use role-playing to answer the question, with one partner pretending to be the client asking the question and the other being the vasectomist providing the answer.

10. Then ask the partners to exchange roles and discuss a second related question.
11. Be sure to provide details or corrections to the answers, as necessary. Be sure to let the participants practice using simple language understandable to laymen.
12. Call on others to participate in answering the questions, if necessary, to get them involved as well.
13. After completing this exercise with one pair, call on the next, until all parts and functions have been called and all questions/misconceptions listed on the flipcharts have been answered.
14. If there are questions that none of the pairs answered, you should answer them. For example, the fear of bodily weakness (and therefore an inability to perform manual labor) after vasectomy is a major concern for all men. This may not be directly answered by the anatomy and physiology cards.
15. After all of the participants have discussed the parts and functions, ask if any questions posted on the flipcharts still need to be clarified. Answer any other issue they bring up.

Sample Correspondence between Anatomy/Physiology and Misconceptions about Vasectomy

PART	MISCONCEPTION
Penis	Impotence; loss of pleasure
Seminal vesicle	No more ejaculate
Prostate gland	No more ejaculate; ejaculation and urination can occur simultaneously
Testes	Loss of manhood; loss of libido; effeminacy; castration; weight gain
Vas deferentia	No more ejaculate

Self-Assessment Answers

Page numbers for text references in the Participant Handbook are provided for each question.

Answers to true/false questions:

1. _F_ Sperm are produced in the seminal vesicles. (page 17)

2. _T_ Seminal fluid continues to be produced after vasectomy. (page 19)

3. _T_ Sperm pass first through the vasa deferentia, then through the urethra. (page 17)

4. _F_ If a vasectomy is performed correctly, there should be no subsequent development of antisperm antibodies. (page 19)

5. _T_ After vasectomy, sperm can build up in the epididymides. (page 19)

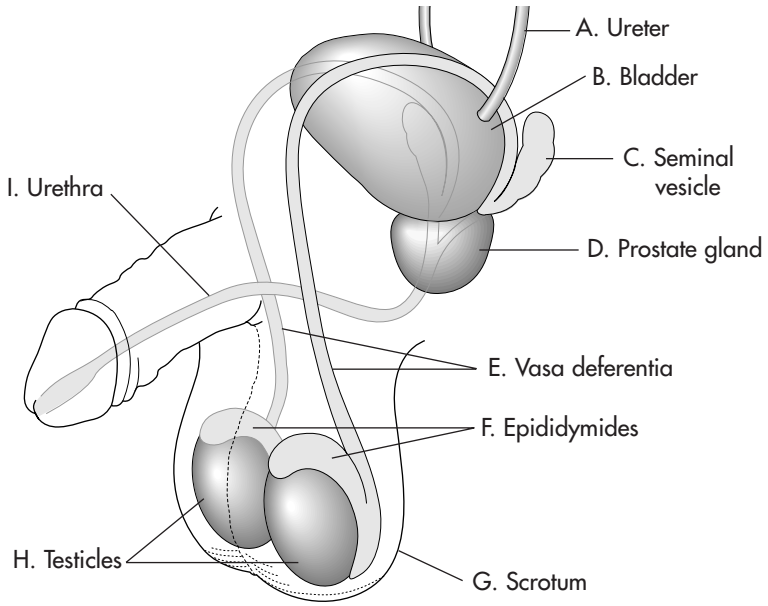
6. _F_ Each vas deferens is approximately 35 mm long, begins at the seminal vesicle, and ends at the prostate. (page 18)

7. _F_ Testosterone is produced in the prostate gland. (page 17)

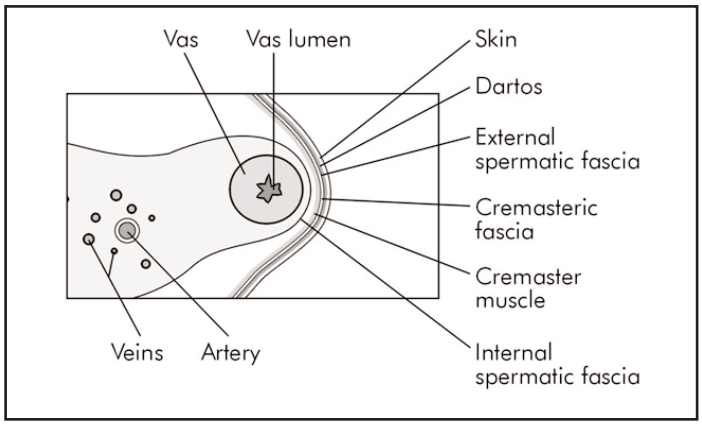
8. _F_ Men who have had a vasectomy should be screened frequently for cardiovascular disease and prostate cancer. (page 19; Appendix E)

Answers to identification questions:

9. (page 17)



10. (page 18)


Vas
Vas lumen
Skin
Dartos
External spermatic fascia
Cremasteric fascia
Cremaster muscle
Internal spermatic fascia
Veins
Artery

MODULE 4 Counseling and Informed Decision Making for NSV

Trainer's Notes for Module 4

This module covers basic information about counseling potential vasectomy clients and verifying informed decision making (sometimes also referred to as "informed consent," though these are not necessarily the same).* The material in this module can be addressed through independent study, lecture with audiovisual materials, discussion, observation, or role play. Inform participants that they will verify clients' informed decision making as part of their training and that you will evaluate their ability to do so using the NSV Clinical Skills Checklist (see Appendix B).

Training Option

- If participants are experienced vasectomists, use this module as a review and update. Ask about the family planning and vasectomy counseling procedures at their facilities: Who provides counseling? What information is covered in a counseling session? How does the vasectomist verify clients' informed decision making before a procedure? Base your training session on the needs identified.
- If participants include vasectomy assistants or others who will be counseling clients but not performing vasectomy, this module can include more in-depth counseling content. These participants can learn more about counseling and informed decision making while vasectomists perform scrotal model and supervised surgical practice.
- If possible, arrange for participants to observe a counseling session. Be sure to make arrangements in advance with staff who provide counseling at the site and ensure that staff at the facility follow the counseling recommendations discussed in this module.
- Incorporate additional information and practice for NSV counseling into the model and surgical practice portions of the workshop.

Additional Counseling Training

The information presented in this module is not sufficient to train someone in counseling family planning clients. Family planning counseling requires in-depth skills training. To provide additional training, you may:

- Arrange for participants to observe and talk to the staff who provide counseling at the training facility.

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* **Informed decision making** is a process through which a client makes a well-considered, voluntary decision based on options, information, and understanding, including relevant medical facts and the risks involved, *whereas* **informed consent** is the client's consent (acceptance or permission) to a medical or surgical procedure after having made an informed decision.

- Set up a training session in which participants role-play a client-provider counseling session. Afterward, facilitate a discussion on the strengths and weaknesses of each "counselor's" presentation. If possible, the site's counseling staff can conduct or assist in the session.

Training Time

90–120 minutes. Training time could be as long as 4 1/2 hours if all training tools are included.

MODULE 4 Counseling and Informed Decision Making for NSV

Materials and Supplies

Trainer's supplies

- ✔ Transparencies (optional)
- ✔ Overhead projector (optional)
- ✔ Penis models (one for every two to three participants)
- ✔ Unlubricated condoms (one condom per participant)
- ✔ Informed consent form
- ✔ Flipchart paper, masking tape, and colored markers

Advance Preparation

- If participants will observe a counseling session, make advance preparations with the facility's counseling staff. The client's consent is required. The group should be small (two to three observers at most).
- Determine local legal and governmental requirements regarding informed decision making and/or informed consent. Prepare handouts on this information, if warranted.
- Make copies of informed consent forms for all participants. If using a locally developed form, make sure that this form includes the seven elements listed on page 24 of the Participant Handbook (Figure 4-1).
- Develop any transparencies that you may want to use (optional).

Introduction

During the introduction:

- Review the purpose and objectives for this module in the Participant Handbook.
- Explain the different training activities that will be included in this module.
- Provide information regarding scheduling and logistics (length of module training, break times, etc.).

Training Option

Have the participants read the purpose and objectives aloud at the beginning of the session.

☛ Training Tip

It may be useful to develop transparencies for the material on clients' rights, the benefits of counseling, and the definition of family planning counseling.

Definition and Rationale

When reviewing the benefits of counseling, emphasize the following:

- Research studies have shown that clients are more likely to adopt a method and use it correctly if they have chosen it themselves. It is important for medical personnel to let clients choose the method they feel will work for them.
- Providers sometimes resist counseling because they believe their program cannot afford it or that it takes too much time. However, the cost of counseling is ultimately less than the cost of not counseling. If clients do not feel they have made well-informed choices, they will express their resulting dissatisfaction to others, and fewer clients will come for services.

Review the "Rights of the Client" in Figure 4-1. Explain that family planning counseling, by protecting some of these rights, benefits both clients and providers. Tell participants that they can adapt Figure 4-1 to make a display poster for the clients at their facility.

The Participant Handbook summarizes the benefits of counseling and presents the two critical reasons why counseling is particularly important for vasectomy clients.

◔ Training Options

Have participants answer these questions without referring to the book:

- What are family planning clients' rights?
- What is family planning counseling?
- What are the benefits of counseling?

⁂ Training Activity: Discussion Topic

Facilitate a discussion on family planning counseling practices at participants' facilities. Ask:

- What have your roles and responsibilities been in providing family planning counseling?
- What will they be once vasectomy services are offered?
- Are staff trained in family planning counseling available at your site?
- How were they trained and by whom?
- Who supervises them?
- What do you think each right in Figure 4-1 means? Do you agree or disagree with them?

Family Planning Counseling and Vasectomy

Counseling is an ongoing process, not a one-time activity. A staff member primarily responsible for the facility's family planning counseling is just one of the staff members who can benefit from counseling training. All staff can benefit from a basic understanding of counseling. For example:

- An outreach worker may make the initial contact with a client.
- When the client arrives at the clinic to obtain a particular method, another staff member (for example, a doctor, nurse, assistant, counselor, or social worker) may provide additional counseling.
- The client may be influenced by encounters with other staff (for example, the clinic receptionists).

Emphasize to participants that all staff members, even those not responsible for counseling, should take a concerned counseling attitude when dealing with clients and should treat them with respect, listen to their concerns, and try to help them get the information and services they need.

Steps in Providing Counseling for Vasectomy Clients

Review with participants the five steps in the Participant Handbook.

STEP 1 Preparation for Counseling

A respectful counselor, an appropriate setting, and adequate supplies are the basics needed for a successful counseling session. The settings and materials available for counseling may be different for each participant. Any area or room with chairs, a table, and sufficient lighting will do. Educational materials can include posters, pamphlets, pictures in a book, or even simple drawings.

Training Activity: Discussion Topic

Use the questions in the Participant Handbook to help participants determine whether they and the staff at their facility have the materials and environment needed to provide counseling. Through discussion, help them determine and resolve the obstacles to counseling provision at their facility.

STEP 2 The Counseling Session Begins

Explain the importance of treating clients with respect and making them feel welcome at the health facility. Recommend that participants maintain eye contact with the client and give their full attention to him. Gathering basic information and assessing what the client knows about reproduction and contraception enables the counselor to adapt the counseling session to the individual's needs.

Training Activity: Discussion Topic

Ask participants about their past visits to a doctor. What factors put them at ease or made them anxious?

STEP 3 Discussing Family Planning Choices

The terms *family planning* and *contraception* are not synonymous. Not every family planning client wishes to use a contraceptive method: Family planning clients have the right to freely choose whether to use contraception.

Counselors should help clients make an informed decision about whether to have more children. The client should know that he is free to choose a different contraceptive method and to decide against having a vasectomy at any time before the procedure. Counselors should be able to refer clients to other facilities if the clients choose methods or services not available at the facility.

STEP 4 Assessing the Client's Decision to Have a Vasectomy

Because vasectomy is a permanent method, it is critical to determine whether a client's decision to have a vasectomy is a sound one. Explain that each client's decision must be explored individually. The "signs" listed in the Participant Handbook are meant as guides, not as firm criteria of a sound decision.

Training Option

Ask participants to name the signs that might indicate that a client is making a sound decision and the signs that might indicate that a client may later regret his decision. List participants' responses on a flipchart under the heading "sound decision" or "warning sign." If participants have trouble coming up with responses, prompt them with the lists in the handbook.

Training Activity: Case Studies

Use one or more of the following cases (or use case histories of your own) to help participants think through how to determine the soundness of a client's decision. If you are working with a group of more than six, break them up into smaller groups for this activity.

For each case, ask participants:

- Is the client making a well-considered decision?
- What questions would you want to ask?
- What signs indicate that the decision is sound? What are the possible warning signs?
- What issues would you want to discuss with the client?

1. The client is a 29-year-old man:

- Who has four children and does not want any more
- Who does not want to tell his wife about the vasectomy because she wants to have more children

2. The client is a 20-year-old man who:
   - Has three children
   - Has a partner who supports his decision

3. The client is a 30-year-old man:
   - Whose wife just survived a difficult labor delivering their third child
   - Who has just lost his job

STEP 5 Counseling the Client about the Vasectomy Procedure

Review the steps outlined in the Participant Handbook.

Training Activity: Role-Playing

Role-playing is particularly useful for learning about counseling. Facilitate role-playing after reviewing the counseling steps.

Have the participants work in groups of three, if possible. Have them take turns playing counselor, client, and observer. The "client" should be a man who is trying to decide whether he is interested in vasectomy. The "counselor" should give the client information, answer any questions, and assist the man as he decides for or against vasectomy. The "observer" should use the steps of counseling in the Participant Handbook to give feedback to the "counselor."

After the role play, the "client," the "counselor," and the observer should talk about what they felt went well during the counseling session and what they felt could have been better.

Informed Decision Making

Define *informed decision making* for participants and describe the difference between informed decision making, informed consent, and counseling (or, ask the participants to define informed decision making and informed consent, and then describe how they differ from counseling).

Counseling: The process by which a health care worker uses two-way communication to help the client make a voluntary, informed, and well-considered decision

Informed decision making: The process through which a client makes a well-considered, voluntary decision based on options, information, and understanding, including relevant medical facts and the risks involved

Informed consent: The client's consent (acceptance or permission) to a medical or surgical procedure after having made an informed decision (For vasectomy, the client gives informed consent *after* being counseled and signs a consent form *before* the procedure is performed.)

Training Activity: Discussion Topic

Facilitate a discussion on what is meant by "free will." If any participants are experienced in providing vasectomy or family planning services, ask them if they have ever had clients who they believe were forced to come to them for services. If so, how did they handle the situation? Ask participants about the informed consent procedures followed at their facilities.

A model informed consent form appears on page 31 of the Participant Handbook. Review each of the seven elements of informed decision making with participants. If an informed consent form is not already available, recommend that participants develop one for use at their facility. Discuss local legal, governmental, or administrative requirements that apply to informed decision making and informed consent.

Training Option

Participants may role-play explaining the informed consent form to a client.

Model Informed Consent Form for Vasectomy

Participants may adapt the form for use in their facility.

Training Tip

If a version of the locally accepted informed consent form is available, distribute copies to participants and discuss whether it includes the seven points of informed decision making.

Verifying Informed Decision Making

By the time the client enters the vasectomy procedure room, he should have:
- Been counseled about his contraceptive options
- Made an informed decision that vasectomy is what he wants
- Signed the consent form

Explain to participants that vasectomists are responsible for verifying informed decision making. Figure 4-3 in the Participant Handbook contains a guide to verifying informed decision making. Review the directions for using this guide before discussing the guide itself.

After checking to see if the informed consent form has been signed, the vasectomist should ask the six questions on the left side of the guide and match the client's response to one of those in the three columns of the guide.

Condom Instructions

Using an unlubricated condom and a penis model, demonstrate how to explain condom use to clients.

Steps of condom use

- Remove the condom from its package.
- Pinch the tip of the condom to squeeze out air.
- Place the condom on the tip of the erect penis.
- Unroll the condom down the penis.
- Smooth out air bubbles.
- With the condom on, insert penis for intercourse.
- After ejaculation, hold onto the condom at the base of penis.
- Withdraw the penis while it is still erect.
- Remove the condom from the penis.
- Tie the condom to prevent spills.
- Dispose of the condom safely.

Training Option

If time permits, ask each of the participants to practice demonstrating and explaining condom use on a penis model. If there is time for at least one participant to demonstrate and explain condom use, incorporate this into the module.

Self-Assessment Answers

Page numbers for the text references in the Participant Handbook are provided for each question.

Answers to true/false questions:

1. __T__ Vasectomy providers should determine whether clients understand that temporary methods of contraception are available. (pages 27, 31)

2. __T__ Each client has the right to choose whether or not to use a contraceptive method. (page 25)

3. __T__ Clients should be informed that vasectomy risks include the rare possibility of failure. (pages 29, 31)

4. __F__ Because vasectomy is a safe procedure with only rare complications, there is no need to discuss the possible side effects and complications of the procedure. (pages 27, 29, 31)

5. __F__ Lubricating a condom with oil or petroleum jelly before usage decreases breakage. (page 34)

6. __T__ Leave space at the tip of the condom when unrolling it on the erect penis. (page 33)

Answers to multiple-choice questions:

7. If a client has decided to have a vasectomy despite the objections of his partner, you would: (pages 29, 32)

   *a. Delay the procedure, arrange further counseling for the couple (if possible), and discuss use of a temporary contraceptive method.

8. Informed consent means: (pages 30, 31)

   *b. The client has been fully informed about all contraceptive options available and has made a free choice from among them.

9. An effective counselor: (pages 24, 25, 29)

   *d. None of the above.

10. A vasectomist assessing a client's decision to choose permanent contraception before surgery should ask the following questions: (pages 28, 32)

    *d. All of the above

MODULE 5 Prevasectomy Evaluation

Trainer's Notes for Module 5

This module covers the prevasectomy medical history, genital examination, identification and management of conditions that indicate vasectomy precautions. The didactic material can be covered through independent study, lecture with audiovisual aids, discussion, and observation or practice sessions.

Inform participants that they will be performing prevasectomy evaluations on clients as part of their training. Explain that their skills will be evaluated using the NSV Clinical Skills Checklist (see Appendix B).

Note: This module assumes that participants know how to take a medical history and perform a general physical examination.

Training Option

If participants are experienced vasectomists, the sections "Prevasectomy Assessment" and "Genital Examination" may be omitted. However, remember that participants' performance of these tasks will be evaluated using the NSV Clinical Skills Checklist.

Training Tips

If participants have not performed scrotal examinations before, include a practicum. Performing a genital examination and identifying the vas will help participants prepare for surgical practice. If clients at the training facility give permission, participants can interview and examine them.

Training Time

60 minutes. If a practicum will be included, allow up to an additional 20 minutes per participant for examinations (10 minutes to examine a client, two client examinations per participant) and an additional 15 minutes for discussion.

MODULE 5 Prevasectomy Evaluation

Materials and Supplies

Trainer's supplies

- ✔ Transparencies (optional)
- ✔ Overhead projector (optional)
- ✔ Flipchart paper, masking tape, and colored markers
- ✔ NSV Clinical Skills Checklist (see Appendix B)

Introduction

During the introduction:

- Review the purpose and objectives for this module in the Participant Handbook.
- Explain the different training activities that will be included in this module.
- Provide information regarding scheduling and logistics (length of module training, break times, etc.).

Training Option

Have participants read the purpose and objectives aloud at the beginning of the session.

Prevasectomy Assessment

Explain to participants that:

- It is important for clients to have a counseling session (see Module 4: Counseling and Informed Consent for NSV) before the physical evaluation to ensure that the client has a general understanding of the procedure and to help the vasectomist determine the client's emotional and psychological readiness for the procedure.
- The purpose of the prevasectomy assessment is to determine the client's physical fitness for a vasectomy. This includes assessing the client for conditions that may warrant taking precautions. NSV providers are also responsible for evaluating whether clients are making an informed choice to have a vasectomy. (This is discussed in more detail in Module 4.)
- A vasectomist who identifies a condition that can interfere with the safe performance of a vasectomy should treat it or refer the client to an appropriate caregiver. The client should also be counseled about interim methods of contraception.
- Participants will be evaluated on prevasectomy evaluation skills through use of the NSV Clinical Skills Checklist (see Appendix B).

Medical History and Physical Examination

Table 5-1 describes the components of a prevasectomy medical history and physical examination and explains the reason for each component. Review the table with participants.

Genital Examination

Explain to participants that a prevasectomy genital examination is important to identify any:

- Local lesions or sexually transmitted infections that might require preoperative treatment
- Conditions that might make it difficult to identify the vasa or perform the vasectomy
- Problems that might indicate that the vasectomy should be delayed or performed in a hospital or by a more experienced vasectomist

Explain to participants how to perform a genital exam. Tell them what they should note during the examination and discuss the abnormalities they might encounter. Allow time for questions and discussion. Remind participants that they will have a chance to practice genital examination skills, as well as history taking, during a practicum session (if you choose to include one) or with surgical clients.

Training Tip

If a practicum is included, participants can practice the three-finger technique (used to isolate the vas) while performing the scrotal examination.

Vasectomy Precautions

Using Table 5-2, review the physical conditions that indicate a possible need to take precautions when performing a vasectomy. Discuss how each condition is managed. Explain that these conditions generally do not indicate that a client cannot have a vasectomy, but they may indicate:

- The need for treatment before the vasectomy is performed
- The need for referral to a more experienced vasectomist or specialist
- The need to perform the vasectomy in a facility (such as a hospital) that has appropriate staff and equipment to assure client safety
- The need for counseling and the provision of an alternative contraceptive method

Encourage participants to ask questions about such conditions and question participants about those conditions and their recommended treatment. This will help you assess their knowledge and understanding of them.

Training Activity: Discussion Topic

If time permits, facilitate a discussion on how each participant would manage or refer clients who have conditions that are precautions to vasectomy. For example, ask participants:

- Are you familiar with and able to treat sexually transmitted infections (STIs)?
- Can you repair hydroceles and varicoceles? If not, can you refer the client to a doctor who can?
- Can you make arrangements in your community for a client whose vasectomy has to be performed in a hospital? If not, is there a place you can refer the client to that is not too far away?

This discussion exercise will help participants think through the case management of their clients who have conditions that are precautions to vasectomy.

Training Options

If participants are unfamiliar with the terminology in Table 5-2 (for example, if participants have never performed scrotal examinations), you may want to review terms such as:

- *Balanitis:* Inflammation of the glans penis
- *Sexually transmitted infections (STIs):* infections passed from person to person by sexual contact.
- *Varicocele:* A condition manifested by abnormal dilation of the veins of the spermatic cord, caused by incompetency of valves in the internal spermatic vein and resulting in downward reflux of blood into the spermatic cord veins when the patient assumes the upright position
- *Hydrocele:* A collection of serous fluid in a sacculated cavity, such as in a pocket along the spermatic cord
- *Cryptorchidism:* Failure of one or both of the testes to descend

Self-Assessment Answers

Page number for text references in the Participant Handbook are provided for each question.

Answers to true/false questions:

1. __F__ It is not appropriate to ask a potential vasectomy client if he has ever had sexual difficulties. (page 39)

2. __T__ Varicoceles and hydroceles can be corrected at the same time that a vasectomy is performed. (page 43)

3. __T__ If a client has malaria, the malaria should be treated before the client has a vasectomy. (page 42)

4. __F__ An inguinal hernia must be repaired before a vasectomy is performed. (page 44)

5. __T__ A man whose diabetes is controlled can have a vasectomy. (page 44)

6. __T__ Infertility is possible in a man who has unilateral cryptorchidism. (page 43)

7. __T__ If a client's vasectomy cannot be performed as scheduled, you should counsel him about interim contraception and provide condoms (if available). (pages 42–44)

8. __T__ A thickened vas could indicate chronic infection. (page 41)

Answers to multiple-choice questions.

9. If a client who has gonorrhea requests an NSV, you would: (page 42)

   *a. Delay the procedure
   *b. Treat the infection
   *c. Provide condoms (if available)
   *d. Counsel the client about condom use for STI prevention

10. Essential elements of a prevasectomy evaluation include: (page 38)

   *c. Medical history
   *d. Scrotal examination

MODULE 6 Infection Prevention

Trainer's Notes for Module 6

This module describes the infection prevention practices required to safely provide vasectomy services. This module can be covered at any time during the training. The material can be covered through independent study, lecture with audiovisual aids, demonstration, discussion, or some combination of these. Throughout the clinical portion of this course, the trainer should demonstrate the infection prevention practices to follow before, during, and after surgery. Participants' ability to follow infection prevention practices will be evaluated on the NSV Clinical Skills Checklist (see Appendix B).

Training Option

Staff at the training facility can provide "on the job" training by having participants observe and assist them. If you use this approach, first make sure that the staff carry out infection prevention practices as described in this module. Plan with the site's staff and supervisors how to best conduct this training.

Training Tip

If participants have a lot of experience with infection prevention, use this module as an update or review. Use the self-assessment to identify areas for improvement, ask the group if they have any questions regarding infection prevention or if they have encountered problems in their practices, and review the figures and tables in this module. If possible, conduct the review in the procedure rooms and areas items are processed

Expanded Infection Prevention Training

If participants will be training their staff in infection prevention procedures, more in-depth training can be provided. Vasectomy assistants participating in the workshop can spend extra time studying infection prevention while vasectomists participate in scrotal model practice and supervised surgical practice. Although this course does not provide in-depth infection prevention training, the following may help you provide more thorough training:

- Arrange for participants to observe infection prevention practices at the training site. The number of participants who can observe at one time will depend on the size of the areas. Arrange in advance for staff to demonstrate instrument and linen processing and waste disposal.
- If available, view the video *Infection Prevention Guidelines for Healthcare Facilities with Limited Resources: Overview and Practical Training Demonstration Segments and Safe Practices in the Operating Room*. All of the training demonstration segments (TDSs) in this video except segments 3 and 13 apply to vasectomy service providers.

Training Time

120 minutes if showing all video segments; 60–80 minutes if presenting an update and review of the material.

MODULE 6 Infection Prevention

Materials and Supplies

Trainer's supplies

- ✔ Transparencies (optional)
- ✔ Overhead projector (optional)
- ✔ NSV Clinical Skills Checklist (see Appendix B)
- ✔ Flipchart paper, masking tape, and colored markers
- ✔ *Infection Prevention: A Reference Booklet for Health Care Providers*. EngenderHealth 2004
- ✔ Video (*Infection Prevention Guidelines for Healthcare Facilities with Limited Resources: Overview and Practical Training Demonstration Segments and Safe Practices in the Operating Room*), television, and videocassette recorder (optional)
- ✔ Three types of gloves
- ✔ Samples of locally available antiseptics and disinfectants

Advance Preparation

If participants will observe infection prevention practices at the training facility, first observe these practices to ensure that they are in accordance with those described in this module. Make advance arrangements to let staff know which practices to demonstrate.

Training Options

- Have participants view the infection prevention video recommended for this course.
- Substitute a locally produced infection prevention video for the one recommended. A video from a local hospital, clinic, medical school, or Ministry of Health may be available. Review the video before using it to ensure that the information is up-to-date and is in agreement with the information provided in this module.

Introduction

During the introduction:

- Review the purpose and objectives for this module in the Participant Handbook.
- Explain the different training activities that will be included in this module.
- Provide information regarding scheduling and logistics (length of module training, break times, etc.).

Training Option

Have the participants read the purpose and objectives aloud at the beginning of the session.

Importance of Infection Prevention

This module presents information on handwashing, surgical hand scrub, surgical site preparation, antiseptics, disinfectants, use of multidose vials, processing of instruments, storage of processed items, waste disposal, and facility requirements. Point out that while the infection rate associated with NSV is quite low, fatal infections can develop if proper infection prevention practices are not followed. It is important for providers to be vigilant to ensure the safety of clients and staff. Participants must remember that symptoms of some infections (for example, HIV infection) may not be evident at the time of the vasectomy.

Explain to participants that following appropriate infection prevention procedures is just as important to ensuring client safety as following correct surgical techniques. Additionally, infection prevention practices protect the NSV provider, the facility staff, and the community from infectious diseases.

Emphasize to participants that, as NSV providers, they are responsible for client safety and for the well-being of other clinic staff during the procedure. This includes ensuring that appropriate infection prevention practices are followed at the facility where they operate.

Training Activity: Discussion Topic

Participants' facilities can represent a wide range of infection prevention practices and capabilities. Discussion about actual infection prevention practices at participants' facilities can help determine the information to emphasize. Additionally, discussion time can help participants plan the steps they will need to improve infection prevention practices at their facilities.

Facilitate a discussion on the doctor's and the assistant's or nurse's roles in infection prevention. Be sure to discuss the doctor's responsibilities in training and supervision. Ask participants:

- Who at your facility is responsible for cleaning, processing instruments, and disposing of waste?
- What training have these individuals received? Who supervises and trains them?
- Are there written guidelines that providers can refer to?
- Will participants be able to meet with staff at their facility who perform infection prevention tasks to provide an infection prevention update after this training course?

How Infections Are Transmitted

Review the information on the disease transmission cycle that appears in the Participant Handbook (Figure 6.1, page 48). Highlight the "mode of transmission" point in the disease transmission cycle and explain that it is the most effective place to stop the cycle.

Who Is At Risk of Infection?

Review the material in the Participant Handbook, and conduct the following training activity. If desired, you may also conduct the following optional activity.

Training Activity: Discussion Topic (*Approximate time: 10 minutes)*

Ask the participants to identify the people at their facilities who they think are at risk of infections from the work that they do. Note their responses on a flipchart. If their responses focus only on clients and service providers, guide them to think about others who might be at risk by asking:

- Are the ancillary staff who work at the facility at risk of infections? If so, how?
- Who would be at risk of infections if contaminated needles, syringes, and scalpel blades were simply thrown into an open garbage heap instead of being placed in a puncture-resistant container?
- Who would be at risk of infections if contaminated bandages, dressings, cotton wool, and gauze were deposited in a public garbage pile and left to scatter?

Optional Activity: Discussion Topic *(Approximate time: 15 minutes)*

Facilitate a discussion by asking the participants:

- Why is a health care facility an ideal setting for infections to spread?
- What are some examples of how infections are spread?

Emphasize that everyone who works at a health care facility is at risk of infections—from the doctors and nurses to the cleaning staff. Because of the different tasks they perform, each level of staff is at risk in a different way. For example, service providers have the greatest exposure to infections during clinical procedures, while cleaning staff are at risk of infections and injury when cleaning instruments and other items or disposing of waste.

As the participants grasp the broader picture of who is at risk of infections from service-delivery practices, reinforce the goal and purpose of infection prevention practices by reemphasizing the three categories of people at risk:

- Clients
- Service providers and ancillary staff
- Members of the community

Link this material to the discussion of the disease transmission cycle by stating that in order to develop a willingness to practice infection prevention, the participants need to understand how infections are transmitted and where infection prevention practices break the disease transmission cycle, thereby protecting everyone's health.

Stopping Transmission of Infections

Review the material in the Participant Handbook. Explain that whereas the term "universal precautions" refers to practices performed to protect health care workers from exposure to bloodborne microorganisms, "standard precautions" is a much broader term—meaning the precautions help protect both clients and health care workers from exposure not only to blood, but also to other body fluids that can transmit infections. Reinforce the fact that standard precautions are the foundation for the infection prevention practices discussed in this training course.

Handwashing

Describe when and how handwashing should be done. Demonstrate the appropriate handwashing technique when preparing for client examination and surgery. Remind participants that handwashing is one of the skills that they will be evaluated on.

✺ Optional Activity: Video Viewing

Show training demonstration segment (TDS) No. 1 from the infection prevention video. This section includes a demonstration of handwashing and surgical hand scrub

Use of Gloves

Review the three different kinds of gloves and conduct the following training activity. If desired, you may also conduct one or more of the following optional activities. Note that health care workers must wear gloves whenever they may come in contact with blood, other body fluids, or medical or hazardous chemical waste, and they must change their gloves before seeing a new client.

⌘ Training Activity: Demonstration *(Approximate time: 10 minutes)*

Display and circulate samples of the three kinds of gloves. Explain that each kind is appropriate for use in a different situation and that some kinds are reusable and some are not. Then ask the participants to name the acceptable alternatives when each kind is not available.

◐ Training Option

If the participants can visit a store during the course of the training, ask them to explore the variety of gloves that are available locally and compare the costs to find the most cost-effective products for surgical, examination, and utility needs.

Optional Activity: Video Viewing
Show TDS No. 2 from the infection prevention video, which presents the different kinds of gloves. Review the material presented with the participants and allow for questions. The video may be shown either at the beginning of the session to introduce the topic or at the end of the session for review.

Highlight the point that in many low-resource settings, surgical gloves—which are the most expensive—are often used when supplies of the other kinds of gloves run out or are not available (e.g., when cleaning instruments and other items, because "there are insufficient funds" to purchase utility gloves). This is extremely costly and may result in a shortage of surgical gloves. It is important to use the proper supplies whenever possible.

Surgical Scrub

Review the steps of the surgical scrub and conduct the following training activity. If desired, you may also conduct the following optional activity. Discuss how, when, for how long, and with what materials a surgical scrub is performed. Remind participants that the surgical scrub is one of the clinical skills on which they will be evaluated.

Training Activity: Demonstration and Practice *(Approximate time:10–15 minutes)*
Demonstrate the steps of surgical scrub and ask the participants to practice them. Correct any incorrect procedures, if necessary.

Optional Activity: Video Viewing
Show the second part of TDS No. 1 from the infection prevention video, which includes a presentation of the surgical scrub. When the segment is over, review the material presented with the participants and allow for questions.

Antiseptics and Disinfectants

Definitions and Common Uses

Health care workers are often confused about the differences between antiseptics and disinfectants and often use these solutions inappropriately. Review the main difference between antiseptics and disinfectants—antiseptics are for use on people, and disinfectants are for use on inanimate objects, such as instruments and surfaces. Review the two types of disinfectants (high-level and low-level), their different purposes, and the different situations in which each should be used. If desired, you may conduct the following optional activity.

✺ **Optional Activity: Discussion Topic** *(Approximate time: 15 minutes)*
Ask the participants to list the various uses of antiseptics and disinfectants, and record their responses on a flipchart. Add any uses that the participants omitted, if necessary. Discuss any misconceptions the participants may have about antiseptics. Then ask them to explain the difference between high-level and low-level disinfectants, and discuss any misconceptions they may have about disinfectants.

Common Antiseptics and Disinfectants

The content on common antiseptics and disinfectants that appears in the Participant Handbook is provided for reference use by the participants. **At the beginning of this session, explain to the participants that they are not expected to memorize all of this information.**

Ask the participants which antiseptics and disinfectants are available locally and are used at their facilities. Note their responses on a flipchart. Then review the information on the appropriate antiseptics and disinfectants. If desired, you may conduct the following optional activity.

✺ **Optional Activity: Discussion Topic** *(Approximate time: 15–30 minutes)*
Purchase several of the locally available antiseptics and disinfectants and pass them out to the participants. Ask the participants the following questions about the product they are holding:

- What is the active ingredient in this product?
- What should this product be used for? What should this product **not** be used for?
- What are the advantages and disadvantages of this product?

During the course of this session, highlight the following important points (as appropriate):

Antiseptics:

- Chlorhexidine (with or without cetrimine) and iodophor solutions are the preferred antiseptics for use in health care settings. While products containing chlorhexidine are ideal for surgical handscrub and skin preparation in general, they may not be the best antiseptic to use in the genital area because of the small potential for irritation. Iodophors are a better choice for use in the genital area; however, if an iodophor is not available, a product containing chlorhexidine is the best alternative.
- Hexachlorophene and iodine solutions are *not* recommended for use in routine surgical handscrub or for use on mucous membranes.
- Benzalkonium chloride (BZK) and mercury laurel are disinfectants and should *not* be used as antiseptics. (Use of compounds containing mercury should be avoided in health care settings because of their high toxicity.)

Disinfectants

- In most low-resource settings, chlorine and glutaraldehyde are the only available solutions that are suitable for high-level disinfection; glutaraldehyde may also be used for sterilization.

- Low-level disinfectants are suitable for housekeeping, but they tend to be more expensive and less readily available than are chlorine/detergent solutions.
- Hydrogen peroxide, formaldehyde, alcohol, and iodophors should *not* be used for high-level disinfection.

☞ Training Tip

Be prepared to answer questions or explain more about each of the common antiseptics and disinfectants, especially if the participants are not familiar with infection prevention practices or the routine use of antiseptics or disinfectants.

Protecting Antiseptics and Disinfectants from Contamination

Review the material in the Participant Handbook and conduct the following training activity. If desired, you may also conduct the following optional activity.

⌘ Training Activity: Demonstration *(Approximate time: 10 minutes)*

Demonstrate some of the ways to prevent contamination of antiseptics and disinfectants listed in the Participant Handbook. For example:

- Demonstrate how to pour a solution from its original, large container into a smaller bottle for daily use without contaminating the stock solution.
- Demonstrate how to pour an antiseptic solution into an iodine bowl, gallipot, or other small bowl for use during a clinical procedure.

✺ Optional Activity: Discussion Topic *(Approximate time: 10–15 minutes)*

Facilitate a discussion by asking the participants how antiseptics and disinfectants are received and stored at their facilities. Record their responses on a flipchart. After reviewing the information in the Participant Handbook on ways to prevent solutions from becoming contaminated, ask the participants to identify the practices used at their facilities that would increase the chances of contamination. For each incorrect practice, guide the group in discussing what could be done to change the practice and thereby minimize the risk of contaminating the solutions.

Highlight the fact that because antiseptics and disinfectants can become contaminated if handled improperly, these solutions must be kept from coming into contact with health care workers' skin or with instruments and other items—including gauze, cotton wool, cotton balls, soiled countertops, and work areas—that are not sterile or high-level disinfected. Storing gauze and cotton in solutions is particularly risky, since they provide a good medium for the growth of microrganisms. Solutions may also be more susceptible to contamination and thus less effective when exposed to heat and direct light.

Surgical Site Preparation

Describe the steps in preparing the surgical site. As the trainer, you will demonstrate this task during the supervised surgical practice. You will also evaluate participants' performance of this task using the NSV Clinical Skills Checklist (see Appendix B).

Multidose Vials

Review the main points regarding safe use of multidose vials.

Optional Activity: Video Viewing

Show TDS No. 11 from the infection prevention video, which contains information on multi-dose vials.

Processing of Instruments and Other Items

Correct processing of the instruments and reusable supplies used in NSV is critical. NSV providers need to be familiar with the three important steps in this process described in the Participant Handbook and shown in Figure 6-4:

- Decontamination
- Cleaning and rinsing
- Sterilization or high-level disinfection

Training Activity: Discussion Topic

Lead a discussion about the processing of instruments at participants' facilities. The purpose of this discussion is to identify participants' knowledge and practice of instrument processing so that the training can address participants' needs and the changes they will need to make in order to provide safe vasectomy services. Ask participants:

- Who decontaminates, cleans, and sterilizes or high-level disinfects instruments at your facility? How is this done?
- Are instruments sterilized or are they high-level disinfected?
- What equipment (autoclave or dry heat) and chemicals (chlorine or glutaraldehyde) are available?
- What training will you need to provide to your facility's staff after this workshop?

Decontamination

Explain the steps of the decontamination process. Explain that the decontamination process protects staff who are cleaning instruments. The Participant Handbook shows the formulas for making a chlorine solution. Use the examples here or present another example to show participants how the formula works.

Training Option
Arrange a live demonstration of decontamination that includes preparing a decontamination solution.

Training Activity: Discussion Topic
Ask participants if instruments are routinely decontaminated in their facilities. Also ask if chlorine is readily available. Have participants explain the routine decontamination process in their facility. If they do not routinely decontaminate instruments, have them explain what they do instead. Ask participants to specify whether they use chlorine solution and how they prepare it.

Optional Activity: Video Viewing
Show TDS No. 4 and TDS No. 9 from the infection prevention video. These segments are on decontamination and preparing a chlorine solution, respectively.

Cleaning
The main points on effective cleaning are presented in the Participant Handbook. Review these with participants.

Optional Activity: Video Viewing
Show TDS No. 5 from the infection prevention video, which discusses cleaning.

Sterilization
Sterilization and sterilization processes are explained in the Participant Handbook. Review each sterilization process with participants.

Training Activity: Discussion Topic
Facilitate a discussion on sterilization processes at participants' facilities. Ask participants:

- How are instruments sterilized in your facility?
- Which processes are available? Which ones are followed?
- Do you have a backup process in case your usual sterilization process is unavailable?

Optional Activity: Video Viewing
Show TDS No. 6 from the infection prevention video.

High-Level Disinfection

Emphasize the fact the high-level disinfection is the only acceptable alternative to sterilization. Explain the various processes that can be used for high-level disinfection.

Training Activity: Discussion Topic

Ask participants:

- Are high-level disinfection processes used in your facility? If so, which ones?
- What supplies and equipment would be needed for your facility to utilize high-level disinfection processes?

Optional Activity: Video Viewing

Show TDS No. 7 and TDS No. 8 from the infection prevention video, which describe high-level disinfection and how to prepare a high-level disinfected container, respectively.

Storage of Processed Items

Once instruments have been processed, they must be stored correctly to prevent contamination. Review the important points of storage as presented in the Participant Handbook.

Maintaining a Safe Environment in the Vasectomy Procedure Room

Review the room-cleaning requirements that support safe provision of vasectomy services.

Waste Disposal

Careful disposal of waste material after a vasectomy protects the cleaning staff and the community. Describe the essential points of waste disposal. The Participant Handbook describes the proper disposal of needles and other sharps.

Training Activity: Discussion Topic

Facilitate a discussion about waste disposal practices at participants' facilities. Ask participants:

- How does your facility dispose of contaminated waste?
- How does your facility dispose of needles and other sharps?
- Are needles usually recapped?
- Are disposal containers for sharps available at or near procedure rooms?
- What training or other measures will you have to take to improve waste-disposal measures at your facility?

Self-Assessment Answers

Page numbers for the text references in the Participant Handbook are provided for each question.

Answers to true/false questions:

1. __T__ You should wash your hands after removing gloves. (page 53)

2. __F__ When performing a number of procedures in succession, a vasectomist should perform a surgical hand scrub before each procedure. (page 53)

3. __F__ Store pick-up forceps (lifters) in a container filled with antiseptic and water before and during NSV. (page 67)

4. __F__ Instruments should be cleaned and then decontaminated before being sterilized. (pages 63–65)

5. __T__ Chlorine rapidly inactivates HIV and HBV. (page 63)

Answers to multiple-choice questions:

6. Which of the following antiseptics can be used for surgical hand scrub and surgical site preparation? (pages 54, 61)

   *a. Savlon
   *b. Iodophors
   *c. Chlorhexidine gluconate

7. If you have 4% chlorine liquid bleach, how many parts water and bleach do you need to make a 0.5% chlorine solution? (page 63)

   *c. One part bleach to seven parts water

8. Which of the following procedures can be used to sterilize the instruments used in NSV? (pages 64, 65)

   *a. Steam sterilize wrapped items for 30 minutes at 121ºC and 106 kPa
   *b. Steam sterilize unwrapped items for 20 minutes at 121ºC and 106 kPa
   *c. Sterilize needles at 160ºC for 120 minutes in a dry-heat sterilizer or oven
   *d. Soak in a 2% glutaraldehyde solution for 8–10 hours

9. Which of the following procedure(s) can be used to high-level disinfect instruments used in NSV? (page 65)

   *b. Submerge instruments in boiling water for 20 minutes
   *c. Soak in a 2% glutaraldehyde solution for 20 minutes
   *d. Soak in a 0.5% chlorine solution for 20 minutes

MODULE 7 Scrotal Model Practice

Trainer's Notes for Module 7

This module emphasizes surgical skills development through practice with the scrotal model. During this module:

- Show the video of the NSV technique.
- Demonstrate NSV techniques that can be practiced on a scrotal model.
- Demonstrate the NSV technique again while the participants attempt the technique.
- Observe and support participants as they practice these new skills on scrotal models.
- Evaluate each participant's performance on the scrotal model using the NSV Clinical Skills Checklist (see Appendix B). Each participant's performance on the scrotal model must be evaluated as satisfactory before the participant can perform NSV on a client.

Scrotal model practice increases client safety: it is preferable to giving participants instructions while they are operating on an awake and already anxious client, and it decreases the number of clients needed for NSV training.

Even experienced vasectomists should first practice the NSV technique on the scrotal model. However, experienced vasectomists will probably require less practice time before evaluation.

Training Options

- If participants do not have previous surgical experience, train them in knot tying as part of this module's training.
- Participants who are vasectomy assistants do not need to participate fully in the scrotal model practice sessions. It will be useful for them to observe the demonstration, but they do not need to practice surgical skills on the scrotal models. While the vasectomists are practicing on scrotal models, these assistants can be involved in more in-depth training about infection prevention, counseling clients, and managing vasectomy services. Training activities are suggested in each of the modules for these topics.

Training Time

A minimum of 120 minutes to show audiovisual materials, demonstrate NSV, and repeat the demonstration while participants practice. As much time as possible should be allocated for supervised and unsupervised practice (allow a minimum of three hours).

MODULE 7 Scrotal Model Practice

Materials and Supplies

Trainer's supplies

- ✔ Transparencies (optional)
- ✔ Overhead projector (optional)
- ✔ *No-Scalpel Vasectomy* video
- ✔ Television and videocassette recorder
- ✔ *No-Scalpel Vasectomy: An Illustrated Guide for Surgeons* (Chapters 4 and 5)
- ✔ NSV presentation script (see Appendix F)
- ✔ NSV Clinical Skills Checklist (see Appendix B)
- ✔ Flipchart paper, masking tape, and colored markers

Participant's supplies

- ✔ Copies of the NSV Clinical Skills Checklist (at least two copies for each participant)
- ✔ Scrotal model
- ✔ Dissecting forceps
- ✔ Ringed clamp
- ✔ Suture material or cautery instruments
- ✔ Needle and syringe
- ✔ Clipboard (or another means of securing the model)
- ✔ Scissors

Advance Preparation

- Arrange to have a space available where participants can continue scrotal model practice independently. Make the *No-Scalpel Vasectomy* video available for reviewing in the practice area.
- Familiarize yourself with the page numbers of the figures in *No-Scalpel Vasectomy: An Illustrated Guide for Surgeons* that will be referred to during scrotal model practice.
- Make sure you have enough copies of the NSV Clinical Skills Checklist. Each copy of the checklist has space for three evaluations of one participant. For some participants, you will use only one copy of the checklist, but for others you may need to use two or more copies. Be sure to have extra copies available.
- The learning content of this module comes from *No-Scalpel Vasectomy: An Illustrated Guide for Surgeons*, Chapters 4 and 5. You must be thoroughly familiar with these chapters before facilitating scrotal model practice.

Introduction

During the introduction to this module:

- Review the purpose and objectives for this module that appear in the Participant Handbook.
- Explain the different training activities that will be included in this module.
- Provide information regarding scheduling and logistics (length of module training, break times, etc.).

Training Option

Have the participants read the purpose and objectives aloud at the beginning of the session.

Overview of the NSV Technique

Using the NSV presentation script (see Appendix F), describe the NSV procedure to participants. You may also want to reshow the parts of the *No-Scalpel Vasectomy* video that demonstrate the technique. Encourage the participants to ask questions.

Demonstration

Using Table 7-1 in the Participant Handbook, explain to participants that during this training session they will review all the steps on the NSV Clinical Skills Checklist (see Appendix B) and will only practice the steps of NSV that can be performed on a model. (For example, they will not be able to inject lidocaine or cut or cauterize the vasa, although they can practice doing the needle cautery as long as the unit is turned off.)

Encourage participants to ask questions at any time during the demonstration. To conduct the demonstration:

1. Using the NSV Clinical Skills Checklist, talk through the steps preceding those that can be performed on a model (steps 1–17 on the checklist).
2. Explain to participants that you will demonstrate each of the steps in Table 7-1 on the model and that they will practice these same steps after the demonstration. Make sure that each participant can clearly see this demonstration.
3. Explain each step of the demonstration on the scrotal model as it is performed. Perform each step of the procedure slowly so participants can see the movements clearly. Have the participants refer to the appropriate figure in *No-Scalpel Vasectomy: An Illustrated Guide for Surgeons* as each step is performed.
4. Show participants only the methods of occlusion used in your area, but remind participants that they will not occlude the tubes in the model. Only demonstrate the procedure for the right vas, but instruct participants to perform the procedure for both the right and the left vasa during their practice sessions.

5. When the demonstration is complete, return to the NSV Clinical Skills Checklist and talk participants through the remaining tasks (steps 46–60 on the checklist).
6. Repeat the demonstration, but have all participants perform each step on the scrotal model along with you. This will give participants immediate feedback and will help them remember the many steps of the procedure. Encourage participants to ask questions and continue practice on their own.

☞ Training Tips

- Have participants draw the median raphe on the scrotal model.
- For better visibility, have participants stand or sit around the scrotal model during your first demonstration. Make sure that everyone can see clearly.

Supervised Scrotal Model Practice

After the demonstration, instruct participants to practice the NSV techniques on their scrotal model. Explain that they should refer to Figures 4–34 in *No-Scalpel Vasectomy: An Illustrated Guide for Surgeons* during their practice session. They should also refer to the NSV Clinical Skills Checklist (see Appendix B), using it to "talk through" the steps that cannot be practiced on the model. Instruct participants to practice the NSV technique on both the right and left vas. During this supervised practice time, spend time assisting each participant with the technique.

☞ Training Tips

- If several participants are having difficulty with the same tasks, demonstrate those tasks again for the group.
- For better simulation, participants should secure the model to a clipboard or other surface with a clamp and orient themselves to account for the position of the client.
- After participants have practiced the three-finger technique on the scrotal model, you may want to arrange for them to practice this technique on clients (after obtaining the clients' consent). You may also suggest that male participants practice the technique on themselves at home.

Independent Scrotal Model Practice

Following supervised practice, schedule time for participants to practice on the scrotal models independently. This time need not be supervised. During this time, encourage participants to view the NSV video again and to review Figures 4–34 in *No-Scalpel Vasectomy: An Illustrated Guide for Surgeons*. Once they feel comfortable with handling the instruments and with each step of the technique, they should refer to the NSV Clinical Skills Checklist (see Appendix B) to verify that they have completed each step in the correct order. In preparation for evaluation, they can use the checklist to either evaluate themselves or have another participant evaluate them.

☛ Training Tips

- Participants may want or need to practice outside of class time.
- If participants are working in pairs or groups, assign more experienced practitioners to each group or pair and enlist their help as teaching assistants.
- If it is helpful (due to time constraints, client scheduling, or space), have some participants practice with the models while others are observing surgery. Participants can observe surgery at anytime during the training; however, they *should not perform NSV* until their performance on a scrotal model has been evaluated as satisfactory. (Even then, their surgical performance should be supervised.) Have participants review the Surgical Observation/Practice Guidelines in Module 8 (page 75 of this Trainer's Manual; page 82 of the Participant Handbook) before they observe surgery.

Evaluation

There is no separate time scheduled for evaluation. Evaluate participants individually throughout the scrotal model practice sessions.

Ask participants to let you know when they feel ready for evaluation. *Evaluate one participant at a time.* You will use the NSV Clinical Skills Checklist (see Appendix B) to evaluate a participant and determine whether he or she is ready for supervised surgical performance.

◐ Training Option

Participants do not have to be doing the same things during the same period of time. Splitting up the training group can be beneficial, as it may allow you more one-on-one training time with some of the participants. For example, some participants can observe NSV while others are being evaluated on the scrotal model. A participant whose performance on the scrotal model is evaluated as satisfactory can move on to supervised surgical practice immediately or can use any extra time for independent study.

Use the NSV Clinical Skills Checklist (see Appendix B) to evaluate each participant's performance on the scrotal model. Use a separate checklist for each participant. There are three columns on the checklist for rating up to three performances by the participant, but this number is arbitrary. You may not need to use all three columns for some participants, and you may need to use more than one checklist for others.

When evaluating a participant's performance:

1. Write the participant's name on the bottom of the checklist. Circle "M" for model at the top of the form.
2. Ask the participant to state each task on the checklist in the correct order, including the tasks that cannot be performed on the scrotal model.

3. If the participant satisfactorily describes and performs a step, write "S" for "satisfactory" in the space provided on the form. Once the participant's performance of each step has been rated as satisfactory, the participant need not undergo additional evaluation.
4. If the participant does not satisfactorily perform a step, write "U" for unsatisfactory in the space provided on the form. Explain and demonstrate for the participant the correct way to perform any steps that were not satisfactorily performed or described. Ask the participant to practice, provide the participant with further coaching (if needed), and arrange a second evaluation. Do not limit the number of times a participant can be reevaluated.

Self-Assessment Answers

Page numbers for text references in *No-Scalpel Vasectomy: An Illustrated Guide for Surgeons* (NSV book) and in the Participant Handbook (PH) are provided for each question.

Answers to true/false questions:

1. __T__ Puncture the scrotal skin in the previously anesthetized spot, midway between the base of the penis and the top of the testes. (NSV book, page 29)

2. __T__ Open the blades of the dissecting forceps transversely at a right angle to the vas. (NSV book, page 32)

3. __F__ Keep the ringed clamp locked while you deliver the vas. Otherwise, you may sever the vas. (NSV book, pages 36–39)

4. __F__ After occluding the right vas, pinch the puncture site before proceeding to the left vas. (NSV book, pages 43–51)

5. __T__ After occluding both vasa and returning them to the scrotum, apply pressure directly to the puncture site for one minute. (NSV book, page 52)

6. Correct order for steps of NSV: (PH, page 75)

   __3__ Deliver the vas through the puncture hole while releasing the ringed clamp, but still keeping it in its place.

   __5__ Use the dissecting forceps to isolate the vas from the perivasal structures.

   __1__ Gently open the blades of the dissecting forceps and spread the tissue to make a skin opening twice the diameter of the vas.

   __2__ Use the lateral blade of the dissecting forceps to spear the bare vas wall and rotate the dissecting forceps clockwise 180º.

   __4__ Grasp a partial thickness of the elevated vas with the ringed clamp.

MODULE 8 Supervised Clinical and Surgical Practice

Trainer's Notes for Module 8

This module includes the entire surgical practice training for this course. Most of the time during this workshop will be spent on this module. Since this is a competency-based course, the principal NSV skills training takes place in this module and Module 7: Scrotal Model Practice. During this module, participants will observe NSV procedures and perform NSV under supervision. After supervised surgical practice, the trainer will evaluate each participant's performance using the NSV Clinical Skills Checklist (see Appendix B).

Note: Surgical practice training should be preceded by scrotal model practice (Module 7). Participants' NSV technique on the scrotal model must be evaluated as satisfactory before they begin supervised surgical practice. Trainers must supervise participants at all times during surgical practice.

Surgical practice training should be tailored to the needs of each individual participant. For example, following scrotal model practice, an experienced vasectomist may be ready to scrub in and assist the trainer immediately. However, a participant with no prior surgical experience may need to observe surgery first. The number of procedures each participant must perform before achieving competency will vary according to the participant's skill and experience. Some experienced vasectomists or surgeons may be competent after performing three procedures or fewer, though others may need to perform 10 or more. Participants who lack surgical experience could require 25 or more procedures to achieve competency. If there are not enough clients for participants to achieve competency during training, you may need to arrange a return visit to the training facility after the workshop for participants who require further practice. When scheduling surgical practice, remember that the NSV trainees will take an average of 30 to 40 minutes longer than usual to perform the procedure.

Training Option

If vasectomy assistants participate in the training, they should also observe the NSV procedure to better understand their roles and responsibilities. However, NSV trainees will need to spend more time in surgical practice than assistants. While trainees are practicing the technique, assistants can pursue independent or programmed studies such as those described in Module 4: Counseling and Informed Consent for NSV and Module 6: Infection Prevention.

Training Time

15 minutes for the content of this module; 30–40 minutes per client for each participant's practice.

MODULE 8 Supervised Clinical and Surgical Practice

Materials and Supplies

Trainer's supplies

- ✔ Transparencies for this module (optional)
- ✔ Overhead projector (optional)
- ✔ Flipchart paper, masking tape, and colored markers
- ✔ NSV Clinical Skills Checklist (see Appendix B)
- ✔ *No-Scalpel Vasectomy* video
- ✔ Television and videocassette recorder

Surgical supplies needed

- ✔ Examination table with adequate lighting
- ✔ Dissecting forceps and ringed clamp
- ✔ Straight scissors for cutting sutures
- ✔ Razor or scissors to remove hair from the operative site (if necessary)
- ✔ Suture material or cautery instruments
- ✔ Needle ($1^1/_2$ inch, 25- or 27-gauge) and syringe (10 cc)
- ✔ Adhesive tape and gauze for positioning penis
- ✔ Soap and running water or antiseptic agents for the surgical hand scrub
- ✔ Alcohol rinse (recommended if plain soap is used for the surgical hand scrub)
- ✔ Sterile gloves
- ✔ Antiseptic solution for the operative site
- ✔ Sterile drapes
- ✔ 1% or 2% lidocaine (lignocaine, xylocaine) without epinephrine (adrenaline)
- ✔ Sterile gauze
- ✔ Adhesive tape or bandage for dressing the wound

Advance Preparation

- Prepare all training and surgical supplies.
- Schedule procedures for a sufficient number of clients.
- Prepare an adequate number of copies of the NSV Clinical Skills Checklist.

Introduction

During the introduction:

- Review the purpose and objectives for this module that appear in the Participant Handbook.
- Explain the training activities that will be included in this module.
- Provide information regarding scheduling and logistics (length of module training, break times, etc.).

Training Option

Have participants read the purpose and objectives aloud at the beginning of the session.

Guidelines for Surgical Observation and Practice

Before beginning surgical observation and practice, review the guidelines that appear in the Participant Handbook. Make sure participants understand these guidelines and discuss any additional guidelines participants' facilities might require.

Review the "Infection Prevention Highlights," page 83 in the Participant Handbook. These are important steps that participants were not able to practice on the scrotal model.

Surgical Observation

Although surgical observation is not a prerequisite to assisting an NSV, it can be extremely useful to all participants (especially to those who do not have prior surgical experience). If the number of clients is limited, having participants observe a procedure that another participant performs can maximize participants' exposure to NSV. During surgical observation, provide a running commentary to the participant and perform carefully the tasks participants have not been able to practice on the scrotal model (so long as it does not disturb or alarm the client). The primary concern during surgical observation is the client's safety and comfort.

In addition to demonstrating the pre- and postprocedure techniques, the entry, location, and delivery of the vas, injection of anesthesia, and occlusion, demonstrate:

- Gentle tissue handling to reduce pain and the possibility of complications
- Control of bleeding from vessels in the spermatic cord
- Identification of the internal and external fascial sheath
- Supporting and conversing with the client during surgery

After surgical observation:

- Ask if there are any questions.
- Point out how aseptic technique was maintained during surgery.
- Discuss techniques that were used to support the client during the procedure.
- Identify the emergency equipment and supplies and explain their use.

Training Tip

The number of participants who can observe a procedure at one time is limited by the size of the room in which the procedure is performed and by the client's and trainer's preferences. A group no larger than two participants and one trainer is recommended.

Client-Support Highlights

Participants, even experienced surgeons, might lack experience performing surgery on a client who is awake and who therefore needs more involvement and support (review "Client-Support Highlights" in the Participant Handbook as a reminder of the importance of respect for the client). There is no anesthesiologist during NSV, which means the responsibility for monitoring the client's condition during surgery is assumed by the vasectomist or by a designated assistant.

Highlight the importance of minimizing the client's tension and anxiety and maximizing his comfort.

Training Option

If there are experienced vasectomists in the group, have them share their experiences with the group.

Infection Prevention Highlights

Training Option

If you feel the participants need to review infection prevention practices during and after the procedure, have them review the highlights orally.

Supervised Surgical Practice

A participant whose skills have been evaluated as satisfactory on the scrotal model can perform NSV under your supervision. Participants should not perform NSV until they have been evaluated as satisfactory on the scrotal model using the NSV Clinical Skills Checklist (see Appendix B). It is important to provide ample opportunities for scrotal model practice and evaluation.

During supervised surgical practice, provide each participant with the support needed to perform a safe, effective NSV. When guiding or correcting a participant, do so in a manner that will not increase the client's anxiety. At times during the procedure, you might need to assist by placing your hands on the participant's, helping to hold instruments at the correct angle. It may be a good idea for participants who are observing the procedure to touch the instruments while they are in position so they will be able to understand the amount of pressure that is used. If a participant's performance is not adequate, be prepared to take over the procedure. If this happens, instruct the participant to assist you or to observe.

Surgical training requires a great deal of patience: some participants may take up to an hour to perform an NSV. New techniques are hard to learn, and participants will require repeated practice on the scrotal model and on clients. Participants should also review the *No-Scalpel Vasectomy* video and the figures in *No-Scalpel Vasectomy: An Illustrated Guide for Surgeons*. Be supportive of participants and acknowledge their accomplishments.

Immediately after surgical practice, review the case with the participant who performed the NSV and the observers. Give the participant feedback on his or her performance and answer any questions. Use the NSV Clinical Skills Checklist as a reference while you review the participant's performance. During the case review, be prepared to refer to the figures on NSV technique in *No-Scalpel Vasectomy: An Illustrated Guide for Surgeons* or review the *No-Scalpel Vasectomy* video. Additionally, you might want to use the scrotal model to demonstrate specific techniques.

Training Options

- A participant who finishes this portion of the training quickly may help other participants during model practice or may read material to prepare for the next module.
- If a video camera is available, you can videotape participants during supervised performance. Be sure that this is acceptable to the client. Later, use the videotape to discuss participants' performance.

Training Tips

- If participants want to revise the surgical approach based on their experience, explain to them that this standardized technique has been found successful internationally and is the technique to be used during this workshop.
- If having significant problems performing NSV, the participant should observe the procedure again or return to model practice. Be supportive and provide one-on-one training, if needed.

Evaluation of Clinical and Surgical Skills

How many NSV procedures a participant must perform before achieving satisfactory performance varies according to the skill and experience of the participant. Once the participant is ready for evaluation, use the NSV Clinical Skills Checklist to review his or her performance. Participants must satisfactorily perform each task on the NSV Clinical Skills Checklist. When the participant's performance has been evaluated as satisfactory, the participant will have completed this module.

If the client caseload is not sufficient for all NSV trainees to receive enough surgical practice, make arrangements for follow-up training. You may choose to invite participants back individually or as a group, or you may choose to visit their facilities to provide training and follow-up.

MODULE 9 Postvasectomy Care

Trainer's Notes for Module 9

This module emphasizes immediate postvasectomy care and communication with clients about postvasectomy instructions. The trainer can cover the didactic material presented in the Participant Handbook through independent study, lecture with audiovisual aids, or discussion. During clinical and surgical practice, demonstrate appropriate postvasectomy care. Later, participants' abilities to provide immediate postvasectomy care and explain home care in a compassionate and thorough manner will be evaluated on the NSV Clinical Skills Checklist (see Appendix B).

Training Option

If participants are experienced vasectomists, you can use portions of this module as a review and update. Postoperative care for NSV clients is almost exactly the same as that for clients who have standard incisional vasectomy. The only difference is that stitch removal is not necessary for NSV clients.

Training Time

30 minutes; 90 minutes if optional activities are included.

MODULE 9 Postvasectomy Care

Materials and Supplies

Trainer's supplies

- ✔ Transparencies (optional)
- ✔ Overhead projector (optional)
- ✔ NSV Clinical Skills Checklist (see Appendix B)
- ✔ Flipchart paper, masking tape, and colored markers

Introduction

During the introduction:

- Review the purpose and objectives for this module that appear in the Participant Handbook.
- Explain the different training activities that will be included in this module.
- Provide information regarding scheduling and logistics (length of module training, break times, etc.).

Training Option

Have participants read the purpose and objectives aloud at the beginning of the session.

Immediate Postvasectomy Care

Review the information on immediate postvasectomy care. Explain to participants that communication is the emphasis in immediate postvasectomy care. Remind participants that their ability to provide immediate postvasectomy care will be evaluated using the NSV Clinical Skills Checklist.

Training Option

If participants are experienced vasectomists or have already read the didactic material for this module, ask them to list client instructions for immediate postvasectomy care. Write their responses on a flipchart and compare them to the sample instructions on pages 89–90. Ask them if they have any questions about providing immediate postvasectomy care and home care instructions. This will help focus the training on practical issues.

Training Activity: Discussion Topics

- Though serious vasectomy complications are rare, they do sometimes occur (see Module 10: Management of Complications). Facilitate a discussion on the availability of emergency care. This will help participants think through the back-up systems available to them and their clients in time of an emergency. NSV providers who live in the same community as their clients may be able to provide 24-hour emergency care. Others whose clients travel for health care and providers who work in different communities on different days of the week will be less available. NSV providers should inform their clients of their availability and tell clients how to contact them in case of emergency. A vasectomist whose availability is limited should provide clients with a referral to a health care worker who is familiar with vasectomy. Vasectomists may need to train doctors and other health care workers in postvasectomy care to ensure that adequate backup is available.
- Facilitate a discussion on what is meant by "using language a client can understand." NSV providers should avoid using medical jargon that clients cannot easily understand. If clients and doctors do not speak the same language, instructions should be translated by a staff member or one of the client's family members. Remind participants to ask clients to repeat the instructions in order to ensure that clients understand them.

Sample Postvasectomy Instructions for Clients

Review the key points that should be included in written and oral postvasectomy instructions. Explain to participants that they should adapt these written instructions for use at their facility.

Training Tip

When participants observe the provision of services during training, model postvasectomy care on that described in this module. When the participants are managing their own clients after supervised surgical practice, observe them and give them feedback on the quality of their post-vasectomy care and instructions.

Training Activity: Role Play

You may decide to use a role play to demonstrate how to provide postvasectomy instructions for clients. Ask one participant to play the role of the NSV provider and another to play that of the client. After the role play, facilitate a discussion.

Ask the "provider":

- What do you think you did well?
- Was there any more information that should have been included?

Ask the "client":

- How do you think the provider did?
- Was the provider's treatment of you polite and compassionate?
- Do you believe you received adequate information?
- Was the language easy to understand?

Ask the other participants:

- What do you think the provider did well during this exchange?
- Did the provider maintain eye contact?
- How did the provider assure that the client understood the information that was explained?
- Is there any other information you would have added?

Semen Analysis

Semen analysis aids the vasectomist in evaluating the success of the procedure. Semen analysis is not considered an essential procedure, given the high success rate of vasectomy and the lack of laboratory facilities and microscopes in many settings

Follow-Up

Review what to do if sperm are seen in the postvasectomy analysis.

Self-Assessment Answers

Page numbers for text references in the Participant Handbook are provided for each question.

Answers to true/false questions:

1. __T__ Tell the client that minor pain and bruising are to be expected and do not require medical attention. (page 92)

2. __F__ After NSV, a man should avoid strenuous activity for at least one week. (page 91)

3. __F__ Bathing should be avoided for three days after an NSV. (page 91)

4. __T__ Written postvasectomy instructions should be provided to illiterate clients. (page 90)

5. __T__ After NSV, clients should use another form of contraception for 12 weeks. (page 91)

Answers to multiple-choice questions:

6. After NSV, explain to the client: (page 90)

   *a. How to care for the wound
   *b. What side effects to expect
   *c. What to do if complications occur
   *d. Where to go for emergency care
   *e. When and where to return for a follow-up visit

7. After NSV, a client should seek medical attention if he has: (page 92)

   *a. A fever within one week of surgery
   *b. Blood or pus at the vasectomy site
   *c. Unrelieved pain and swelling
   *d. Persistent pain with ejaculation

8. After NSV, sexual intercourse should be avoided: (page 91)

   *c. Until the client feels comfortable

MODULE 10 Management of Complications

Trainer's Notes for Module 10

This module covers the potential intraoperative and postoperative complications of vasectomy. You may choose to cover the material in this module through independent study, lecture with audiovisual aids, case studies, or discussion.

Training Options

- If participants are experienced vasectomists or have already read this module, you may want to begin the module by going over the self-assessment as a group activity. Ask participants to talk about problems or successes they have had in managing vasectomy complications.
- If participants have never performed vasectomy before, talk about a "case study" from your experience that would be helpful to participants. Encourage participants to ask questions.

Training Time

60 minutes (could be 120 minutes if all training activities are used).

MODULE 10 Management of Complications

Materials and Supplies

Trainer's supplies

- ✔ *No-Scalpel Vasectomy: An Illustrated Guide for Surgeons,* pages 3 and 4
- ✔ Transparencies (optional)
- ✔ Overhead projector (optional)
- ✔ NSV Clinical Skills Checklist (see Appendix B)
- ✔ Flipchart paper, masking tape, and colored markers

Introduction

During the introduction:

- Review the purpose and objectives for this module that appear in the Participant Handbook.
- Explain the training activities that will be included in this module.
- Provide information regarding scheduling and logistics (length of module training, break times, etc.).

Training Option

Have participants read the purpose and objectives aloud at the beginning of the session.

Overview of Complications

Present the information in this module through lecture or discussion. Serious complications related to vasectomy are rare—and those from NSV are even more rare. (For information on rates of complications, refer to *No-Scalpel Vasectomy: An Illustrated Guide for Surgeons,* pages 3 and 4.) The possible complications from standard vasectomy and NSV are the same. The management of most potential vasectomy complications is similar to that for other types of minor surgery.

Training Activity: Discussion Topic

Many practitioners lack clear definitions for *side effects* and *complications*. Ask participants if they can describe the difference between a side effect and a complication. Check their responses with the definition in the Participant Handbook.

Management of Intraoperative Complications

Through lecture or discussion, review the symptoms, treatment, etiology, and prevention of intraoperative complications using the information presented in the Participant Handbook.

Two potential intraoperative complications, vasovagal reaction and lidocaine toxicity, can lead to severe complications (including death) if they are not recognized early and treated promptly. Both are largely preventable. Vasovagal reactions are not usually severe if recognized and treated promptly. Lidocaine toxicity is caused by overdosage or inadvertent intravascular injection; therefore, this can be prevented by using only the recommended dosage and aspirating the syringe before injecting.

Training Activity: Discussion Topic

Ask participants if they have ever managed a client who had a vasovagal reaction or lidocaine toxicity. If so, ask them to describe the steps they took in case management.

Emergency Management of Intraoperative Complications

Review the lists of emergency medications, supplies, and equipment that facilities should have available.

Training Activity: Discussion Topics

- After reviewing emergency drugs, equipment, and supplies, ask participants if they have these items available at their facility. If not, will they be able to obtain them?
- While reviewing how complications become serious, point out that many health care providers have noted that people die from a "complication of a complication"—not from the complication itself. In these cases, staff who recognize the complication do or fail to do something that makes the complication worse. Ask participants:
  - How familiar are the staff at your facility with handling emergencies?
  - What further training do staff at your facility need?
  - How can you help provide additional training required at your facility?

Potential Postvasectomy Complications

Review with participants the symptoms, treatment, etiology, and prevention of the potential postvasectomy complications listed in Table 10-2.

When discussing pregnancy and vasectomy failure, explain that these are the most difficult complications to manage. The client is likely to be angry. If the client discovers that the pregnancy is the result of an extramarital affair rather than vasectomy failure, the couple may develop serious marital problems. Whenever discussing vasectomy failure with clients, participants must draw heavily on their communication skills. All discussions with clients must be kept confidential.

Training Options

- Draw four columns on a flipchart. Ask participants to fill in the information on the symptoms, treatment, etiology, and prevention of each postvasectomy complication.
- If time permits, use all of the training activities listed below. If not, try to at least touch on all of the possible complications discussed in the case studies.

Training Activity: Discussion Topic

Facilitate a discussion on the management of postvasectomy complications. Ask participants whether they have treated clients with any of these complications. If so, ask them how they managed their care.

Training Activity: Case Studies

After reviewing the table of potential complications, use the following case studies (or case histories of your own) to help participants learn complication management skills. For each case study, ask participants to discuss the diagnostic and treatment steps they would take and what information they would discuss with the client. Have them also discuss etiology and prevention of the complications.

1. A client returns five days after his vasectomy. He states that he has had testicular pain for two days and has noted some discharge.
2. One week after his vasectomy, a client returns and says he is experiencing increasing scrotal pain and swelling. You note that he has a fever of 38.3ºC (101ºF).
3. Two months after his vasectomy, a client returns. He is furious because he has just discovered that his wife is pregnant.

Self-Assessment Answers

Page numbers for text references in the Participant Handbook are provided for each question.

Answers to true/false questions:

1. __F__ An asymptomatic sperm granuloma should be drained or excised. (page 103)

2. __T__ Pressure that develops in the epididymis after a vasectomy can lead to congestive epididymitis. (page 104)

3. __T__ Toxic doses of lidocaine can require use of dopamine and cardiopulmonary resuscitation (CPR). (page 99)

4. __F__ Treatment of hematomas should always include drainage. (page 102)

5. __T__ Using gentle surgical technique can prevent most vasectomy-related complications. (page 98)

Answers to multiple-choice questions:

6. Hematomas can be caused by: (page 102)

   *a. Failure to achieve hemostasis before closing the wound
   *b. Excessive strain or heavy lifting by the client after vasectomy
   *c. The client's failure to rest for 24 hours or to wear a scrotal support after vasectomy
   *d. Inexperience of the surgeon
   *e. Rough handling of the tissues during surgery

7. A man returns eight weeks after vasectomy complaining of a mild chronic pain that began a few days ago. Upon examination, you suspect a granuloma and recommend the following treatment: (page 103)

   *a. A nonsteroidal analgesic

8. Most vasectomy complications can be prevented by: (page 98)

   *a. Gentle tissue handling
   *b. Adhering to infection prevention procedures
   *c. Careful client screening
   *d. Controlling bleeding during the procedure
   *e. Secure occlusion of the vas

9. Four days after his vasectomy, a client returns to the clinic with a fever of 38.3ºC (101ºF), scrotal pain, swelling, and pyuria. You would suspect: (page 104)

   *c. Infectious epididymitis

10. Vasovagal reactions may need to be managed with: (page 99)

    *c. Oxygen
    *e. Reassurance

Appendix A

NSV Knowledge Assessment: Test and Answers

NSV Knowledge Assessment Test

Note: This test will not be graded. It will be used by the trainer in order to adapt this course to best suit your needs.

Decide whether each of the following statements is T (true) or F (false). Write your answer in the space provided for each statement.

Anatomy and Physiology

1. ____ During vasectomy an opening is made along the median raphe midway between the base of the penis and the top of the testes.

2. ____ Following a vasectomy, the flow of semen is blocked.

3. ____ The vas deferens is located just outside of and parallel to the spermatic cord.

Counseling and Informed Consent

4. ____ A trained counselor or a doctor is the best person to choose an appropriate contraceptive method for a couple.

5. ____ Vasectomists should verify a client's informed consent by talking with him before the procedure.

6. ____ During vasectomy counseling the client should be assured that he can change his mind at any time before the procedure without losing the right to other medical services.

Prevasectomy Evaluation

7. ____ A man with diabetes cannot have a vasectomy.

8. ____ A prevasectomy evaluation includes a medical history, a complete physical, and a hemoglobin count or hematocrit.

9. ____ A client with syphilis should be treated before having a vasectomy.

10. ____ A client whose vasectomy needs to be postponed should be counseled about alternative methods of contraception.

11. ____ Prophylactic antibiotics should always be given before vasectomy.

Infection Prevention

12. ____ An iodophor is an appropriate antiseptic to use on the scrotal area before NSV.

13. ____ Instruments that have been boiled for 20 minutes can be used in NSV.

14. ____ Instruments can be high-level disinfected by soaking them in alcohol or an iodophor for 20 minutes.

15. ____ Instruments and gloves can be decontaminated by soaking them in a 0.5% chlorine solution for 10 minutes.

16. ____ Handwashing is indicated before putting on and after removing sterile or high-level disinfected gloves to perform a vasectomy.

17. ____ Used hypodermic needles should be recapped, bent, or broken, then disposed of in a puncture-resistant container.

Surgical Knowledge

18. ____ The three-finger technique is used to identify the vas.

19. ____ Before performing a vasectomy, you should inject 20 cc of lidocaine without epinephrine.

20. ____ The ringed clamp is used to puncture the vas.

21. ____ The occlusion techniques used in NSV differ from those used in standard vasectomy.

22. ____ After the right vas has been occluded, the left vas is isolated, anesthetized, and occluded.

Postvasectomy Care

23. ____ After vasectomy, a man should use an alternative contraceptive for three weeks.

24. ____ A man who has bruising and/or passes a blood clot during ejaculation should immediately return to his NSV provider.

25. ____ Following a vasectomy, a man should avoid strenuous activity and wear a snug undergarment for 48 hours.

26. ____ Vasectomy provides protection against pregnancy and STIs.

Management of Complications

27. ____ If a client becomes nauseated and weak and has a low blood pressure during a vasectomy, you would suspect a vasovagal reaction.

28. ____ Providing clients with clear postvasectomy instructions is an important way to prevent complications.

29. ____ Fascial interposition does not reduce the vasectomy failure rate.

30. ____ Nonsteroidal pain relievers can be used for pain related to sperm granulomas.

Answers: NSV Knowledge Assessment Test

Anatomy and Physiology

1. __T__ During vasectomy an opening is made along the median raphe midway between the base of the penis and the top of the testes.

2. __F__ Following a vasectomy, the flow of semen is blocked.

3. __F__ The vas deferens is located just outside of and parallel to the spermatic cord.

Counseling and Informed Consent

4. __F__ A trained counselor or a doctor is the best person to choose an appropriate contraceptive method for a couple.

5. __T__ Vasectomists should verify a client's informed consent by talking with him before the procedure.

6. __T__ During vasectomy counseling the client should be assured that he can change his mind at any time before the procedure without losing the right to other medical services.

Prevasectomy Evaluation

7. __F__ A man with diabetes cannot have a vasectomy.

8. __F__ A prevasectomy evaluation includes a medical history, a complete physical, and a hemoglobin count or hematocrit.

9. __T__ A client with syphilis should be treated before having a vasectomy.

10. __T__ A client whose vasectomy needs to be postponed should be counseled about alternative methods of contraception.

11. __F__ Prophylactic antibiotics should always be given before vasectomy.

Infection Prevention

12. __T__ An iodophor is an appropriate antiseptic to use on the scrotal area before NSV.

13. __T__ Instruments that have been boiled for 20 minutes can be used in NSV.

14. __F__ Instruments can be high-level disinfected by soaking them in alcohol or an iodophor for 20 minutes.

15. __T__ Instruments and gloves can be decontaminated by soaking them in a 0.5% chlorine solution for 10 minutes.

16. __T__ Handwashing is indicated before putting on and after removing sterile or high-level disinfected gloves to perform a vasectomy.

17. __F__ Used hypodermic needles should be recapped, bent, or broken, then disposed of in a puncture-resistant container.

Surgical Knowledge

18. __T__ The three-finger technique is used to identify the vas.

19. __F__ Before performing a vasectomy you should inject 20 cc of lidocaine without epinephrine.

20. __F__ The ringed clamp is used to puncture the vas.

21. __F__ The occlusion techniques used in NSV differ from those used in standard vasectomy.

22. __F__ After the right vas has been occluded, the left vas is isolated, anesthetized, and occluded.

Postvasectomy Care

23. __F__ After vasectomy, a man should use an alternative contraceptive for three weeks.

24. __F__ A man who has bruising and/or passes a blood clot during ejaculation should immediately return to his NSV provider.

25. __T__ Following a vasectomy, a man should avoid strenuous activity and wear a snug undergarment for 48 hours.

26. __F__ Vasectomy provides protection against pregnancy and sexually transmitted infections.

Management of Complications

27. __T__ If a client becomes nauseated and weak and has a low blood pressure during a vasectomy, you would suspect a vasovagal reaction.

28. __T__ Providing clients with clear postvasectomy instructions is an important way to prevent complications.

29. __T__ Fascial interposition reduces the vasectomy failure rate.

30. __T__ Nonsteroidal pain relievers can be used for pain related to sperm granulomas.

Appendix B

NSV Clinical Skills Checklist

NSV Clinical Skills Checklist

TASKS	EVALUATION		
Trainers: When rating tasks for evaluation, use the following codes: **S = Satisfactory:** Performs the task according to the standard guidelines **U = Unsatisfactory:** Does not perform the task according to the standard guidelines	Circle one: (M=model, C=client) **M C**	**M C**	**M C**
All crtical steps must be performed satifactorily for the participants to be assessed as competent.			
Prevasectomy Evaluation			
1. Greets client.			
2. Ensures that client has been appropriately counseled about the procedure.			
3. Takes medical history and performs heart, lung, and abdominal examination.			
4. *Performs genital examination.			
Preprocedure Tasks			
5. Ensures that room is warm enough to relax clients's scrotum			
6. Reviews chart for relevant medical history.			
7. *Verifies informed consent			
8. Washes hands.			
9. Examines operative site to ensure that spermatic cords are mobile.			
10. Clips hair at operative site, if necessary.			
11. Ensures operative site is clean.			
12. Retracts the penis upward on the abdomen in the 12 o'clock position and anchors it comfortably.			
13 Performs surgical scrub. Puts on sterile gloves.			
14. Prepares a syringe to administer 10 cc 1% or 5 cc 2% lidocaine (without epinephrine). Attaches 1.5 inch (or metric equivalent) small-gauge needle (22–27 gauge)			
15. Adequately prepares operative site with body temperature antiseptic.			
16. Isolates operative site (scrotum) with sterile sheet(s) or towel(s).			
Procedure Tasks			
17. Observes and communicates with client.			

***A critical step that must be performed satisfactorily for the participant to be assessed as competent.**

continued

NSV Clinical Skills Checklist continued

TASKS	EVALUATION					
18. *Identifies, isolates, and fixes right vas deferens under the median raphe midway between the base of the penis and the top of the testicles. Traps the right vas firmly using the three-finger technique.						
19. *Raises skin wheal using 0.5 cc of 1% or 2% lidocaine (without epinephrine). Advances needle in the right external spermatic fascial sheath toward the inguinal ring about 1.5 in. above the wheal, aspirates, and without withdrawing the syringe slowly injects 2 to 5 cc of lidocaine into the sheath, then removes the needle.						
20. *Uses the three-finger techniques to firmly trap the left vas. Reintroduces the needle through the puncture. Advances the needle in the left external spermatic fascial sheath toward the inguinal ring about 1.5 inches above the wheal, aspirates, and injects 2 to 5 cc of lidocaine into the sheath.						
21. Pinches the skin wheal between the thumb and forefinger to reduce local edema, and waits 2–3 minutes for the anesthesia to take effect.						
22. Fixes the right vas under the skin wheal, using the three-finger technique.						
23. Applies upward pressure with the middle finger underneath the scrotum; presses the open tips of the ringed clamp onto the skin at the skin wheal overlying the vas; grasps the right vas, applying the clamp at a 90° angle perpendicular to the vas, with the palm facing up.						
For steps 24-44, fill the columns for right and left with S or U as appropriate.	**R**	**L**	**R**	**L**	**R**	**L**
24. Checks with client to ensure that anesthesia is sufficient. If not, repeats local infiltration being sure not to exceed the maximum dose.						
25. Elevates the entrapped vas by lowering the handle of the ringed clamp.						
26. ***Uses a quick, sharp, single movement to pierce the skin down to the vas lumen using the medial blade of the dissecting forceps, introduced at a 45° angle**.						
27. ***Withdraws the medial blade of the dissecting forceps, closes both blades and inserts both tips of the dissecting forceps into the puncture site to the same depth down to the vas.**						
28. Gently opens the blades of the dissecting forceps and spreads the tissue to make a skin opening twice the diameter of the vas.						
29. *Withdraws the dissecting forceps and uses the tip of the lateral blade of the dissecting forceps to pierce the vas wall (or holds the dissecting forceps in line with the long axis of the vas and grasps the bare vas directly) and rotates the dissecting forceps clockwise 180º.						
30. *Delivers the vas through the puncture hole while releasing the ringed clamp, but still keeping it in place.						
31. Grasps a partial thickness of the elevated vas with the ringed clamp.						

***A critical step that must be performed satisfactorily for the participant to be assessed as competent.**

continued

NSV Clinical Skills Checklist continued

TASKS	EVALUATION					
	R	L	R	L	R	L
32. If the sheath is not completely dissected, with one tip of the dissecting forceps, gently punctures the vas sheath, removes and closes the dissecting forceps, then reinserts to strip the vas sheath.						
Occlusion—Ligation with Excision and Fascial Interposition (For cautery occlusion, see 33A below.)						
33. After carefully separating of fascia and blood vessels from the vas, ligates the prostatic end of the vas.						
34. *Cuts one end of the suture about 2–3 mm from the knot, leaving a single uncut end of about 5–7 cm in length.						
35. Ligates the testicular end about 1.5 cm from the prostatic end ligature and leaves both end of the suture to about 5–7 cm in length.						
36. Excises up to 1cm of vas in between the two ligatures.						
37. *Pulls both ligatures to ensure that both stumps are separated by at least 1 cm.						
38. Ensures hemostasis.						
39. Cuts both ends of the testicular suture, leaving about 2–3 mm.						
40. *Allows both ends of the vas to drop back into their original position in the scrotum by gently pulling on the scrotum with the thumb and index finger.						
41. *Very gently pulls the long suture of the prostatic end of the vas to reexpose the cut end of the vas, which will be covered with fascia.						
42. Gently grasps the fascia of the spermatic cord with the tip of the dissecting forceps and ties the fascia around the vas 2–3 mm below the previous tie of the prostatic end.						
43. Cuts the suture and allows the stump to drop back into its original position in the scrotum.						
44. Pulls slightly the prostatic end again up to the puncture wound and cuts the single long end of the suture.						
Occlusion—Cautery (Alternative method)						
33A. After carefully separating fascia and blood vessels, pierces the vas wall with the sharp-needle electrode and directs the tip 1.0–1.5 cm into the lumen or hemitransects the vas to permit the blunt cautery tip to enter the lumen 1.0-1.5 cm.						
34A. Applies current and withdraws the tip slowly.						
35A. After cauterizing in one direction, turns off the cautery unit to allow the tip to cool before cauterizing the vas in the other direction.						
36A. Excises up to 1cm of vas between the two cauterized segments.						
If using cautery, move on to Step 45.						

***A critical step that must be performed satisfactorily for the participant to be assessed as competent.**

continued

NSV Clinical Skills Checklist continued

TASKS	EVALUATION		
45. Using the three-finger technique, isolates the left vas under the puncture site			
46. Grasps the left vas at the lower end of the puncture site with the ringed clamp.			
Repeats steps 24–44 (or steps 33A–36A, for cautery occlusion) for the left vas.			
47. Pinches the puncture site tightly for a minute.			
48. Inspects again for bleeding.			
49. Secures sterile gauze dressing to the wound with a tape or a bandage.			
Postprocedure Tasks			
50. Flushes the needle and syringe and places all instruments in a 0.5% chlorine solution for decontamination.			
51. *Ensures the disposal of waste materials and sharps in accordance with infection prevention guidelines.			
52. *Immerses both gloved hands in 0.5% chlorine solution.			
53. *Removes gloves by turning them inside out. • If disposing of gloves, places in leak-proof container or plastic bag. • If reusing surgical gloves, submerge in 0.5% chlorine for 10 minutes for decontaimination			
54. Washes hands thoroughly with soap and water and dries with a clean cloth.			
55. Asks client how he feels.			
56. Provides client with written postoperative instructions and information when and where to return for follow-up.			
57. Reviews instructions orally and asks if client has any questions.			
58. Reviews the need for backup contraception for at least 12 weeks. Provides client with condoms, if needed.			
59. Advises client to return for semen analysis (if available) after 12 weeks .			

***A critical step that must be performed satisfactorily for the participant to be assessed as competent.**

Evaluation for _____
(print participant's name)

The participant is ☐ Competent ☐ Not competent in scrotal model practice.

The participant is ☐ Competent ☐ Not competent to deliver NSV services.

Trainer's signature _____ Date _____

Appendix C

Developing and Managing Vasectomy Services

Developing and Managing Vasectomy Services

Vasectomy and the Health Care System

Vasectomy programs should be well-integrated into existing services of the facility and health care system and should make appropriate use of existing staff and facilities. In addition, systems for client referral and follow-up and linkages to other health services need to be established.

Because vasectomy is a surgical procedure, there are limitations to where and how it can be offered and delivered. But because it is less complex than female sterilization, vasectomy may be offered in a greater variety of settings by more types of staff and can extend sterilization services to areas where female sterilization is difficult or inappropriate.

The Service Manager's Mandate

Managers of vasectomy services are responsible for making safe, voluntary sterilization services available to the largest possible number of potential users using methods that are affordable and sustainable over the long term. At the same time, managers must ensure that sterilization is provided under conditions that minimize the risks associated with elective surgery.

> Since sterilization directly and permanently ends reproduction, clients requesting this service must be given full information about its intended effects and consequences. Managers must ensure that services are offered without inducement or coercion and that meticulous attention is given to medical safety.

Two principles address the fundamental requirements that managers must meet if high-quality services are to be provided:

- Ensure that all clients make voluntary, fully informed, and well-considered decisions.
- Ensure the medical safety and effectiveness of all clinical and surgical procedures.

To ensure that these high-quality services are well utilized and successful, managers should also:

- Establish services that are responsive to the needs, preferences, and behavior of clients and the community.
- Make services widely available and easily accessible to all potential clients.
- Plan and manage services to ensure their efficiency and cost-effectiveness.
- Strive for long-term viability and sustainability of services.

This appendix is adapted from: World Health Organization, 1988, *Technical and Managerial Guidelines for Vasectomy Services*, Geneva, and is reprinted with permission.

General Programming Considerations

The information provided here is meant to describe some of the basic programming considerations for developing and managing vasectomy services; it is not meant to be an exhaustive explanation.

Location of Services

With very little additional investment, vasectomy can be performed on a continuous, year-round basis in nearly all permanent health care facilities (including hospitals, multipurpose health care centers and clinics, specialized family planning clinics, and the treatment rooms of private physicians).

Mobile Teams

Several countries, including India, Indonesia, Nepal, the Philippines, and Thailand, have successfully used mobile teams to offer vasectomy services to rural, remote, or underserved communities. It is important to note that mobile teams cost more and require more resources than services provided continuously in permanent facilities. Extra attention must be given to quality assurance because it may be more difficult for mobile teams to maintain cleanliness and asepsis, to screen and counsel clients, and to provide semen analysis and postoperative follow-up treatment of complications. Also, working in mobile teams places extra burdens on personnel: Because of fatigue and pressure of work, they must take greater care to avoid mistakes.

Each country must study its own conditions and priorities to determine whether mobile teams are compatible with national health needs and objectives. The use of mobile teams should probably be viewed as a short-term activity for use while developing the local capability for delivering vasectomy services on a permanent basis.

While vasectomy programs can be integrated into existing health services, they may have to compete with more urgent curative and emergency services, and overworked personnel may not have sufficient time to devote to them. Programs organized in specialized family planning clinics can often sustain a high level of performance over an extended period of time. If resources are expressly allocated for vasectomy, there is less likelihood that they will be diverted to other purposes. In such settings, the surgical team becomes expert, and services can be offered efficiently and safely. However, unless there is an adequate caseload to justify the use of resources, having a specialized service may prove expensive.

Checklist for Planning and Organizing Vasectomy Services

1. Survey community, identify potential obstacles.
2. Investigate local laws, legal issues, regulations.
   - Obtain licenses and other approvals.
3. Estimate potential caseload.
4. Develop budget; arrange financing
5. Develop information and education program.
6. Establish clinic facilities; select, prepare, and renovate site.
7. Arrange for supplies, equipment, and services:
   - Procure equipment, instruments, medicines, and supplies.
   - Establish storage and inventory systems.
   - Establish infection prevention procedures.
8. Establish essential policies:
   - Set client selection criteria.
   - Develop procedures regarding free and informed decision making, counseling, and informed consent.
   - Establish medical/surgical protocols and service standards.
9. Develop and print record forms, information materials, and other documents, such as:
   - Medical history/client record form
   - Informed consent form
   - Preoperative and postoperative instructions
   - Client brochures and other information material
10. Staff the program.
    - Determine staff requirements; develop job descriptions.
    - Recruit and select staff.
    - Train staff.
11. Establish client-flow system and procedures:
    - Reception, intake, and registration
    - Record of patient history
    - Clinic-based information activities
    - Client counseling
    - Informed consent
    - Physical examination and medical screening
    - Referral for medical or psychological indications or for temporary contraception
    - Preoperative preparation
    - Surgical procedure
    - Complications management and emergency treatment procedures
    - Postoperative monitoring
    - Postoperative instructions and discharge
    - Follow-up procedures
12. Other:
    - Develop financial accounting procedures.
    - Establish data collection and service statistics.
    - Set up monitoring and evaluation.

Facilities

As discussed above, vasectomy can be offered in a number of different permanent and temporary locations. However, regardless of where vasectomies are done, there are certain space requirements that must be met to provide a high-quality, comprehensive service:

- A comfortable waiting-room for new arrivals and follow-up clients
- Private space for counseling
- An examination room for preoperative and follow-up examinations
- Place for storage and retrieval of records
- Place for laboratory investigations (blood, urine, and semen analysis)
- A clean room for surgery, isolated from the outside and from clinic traffic
- Areas where vasectomy personnel can scrub
- Toilet and washing facilities for clients
- Rest area for clients after surgery
- Facilities for sterilizing or high-level disinfecting surgical instruments and supplies
- Waste-disposal facilities
- Laundry

Several of these functions may share a common space, especially in facilities that are not very busy. As the caseload increases, a separate area may need to be assigned to each function. The accommodation should be planned to permit an orderly flow of clients through the clinic, particularly as their number increases. Some of the components listed above, such as laboratory tests, laundry, and autoclaving, may be contracted out or, in multisite programs, handled by a central supply unit

Who Can Provide Vasectomy?

Vasectomy can be performed by general practitioners, specialist surgeons, and other physicians. In all cases, operators must be carefully selected to ensure high-quality service delivery. Knowledge, technical skill, and surgical proficiency are, of course, prerequisites. Moreover, it is important that physicians be committed to providing vasectomy services.

Specialists, including some urologists, may be too preoccupied with more complex surgery and medical problems to take an active interest in vasectomy, an elective procedure that can become tedious and boring for the surgical expert. Interestingly, some of the most successful vasectomy programs have been organized and conducted by specialist obstetrician-gynecologists who are closely involved with and committed to family planning.

Vasectomy may appeal to private practitioners because it requires little capital investment and can be done on an outpatient basis in the physician's treatment room. As private practitioners are a primary source of health care in many countries, program managers should consider instituting training programs for this important sector.

Staffing

There is no simple formula for determining the personnel required to staff a vasectomy service. Program managers must arrange for sufficient staff to handle the following duties:

- Receiving clients and maintaining records
- Providing information and education
- Counseling clients
- Examining clients, performing surgery, and conducting follow-up
- Performing laboratory tests (optional)
- Sterilizing or high-level disinfecting equipment and supplies
- Doing laundry
- Cleaning and maintaining the facilities

In clinics with a small caseload, only a nurse and a physician may be needed, since one person can handle several of these functions. A well-trained vasectomy assistant might easily receive the client, take the preliminary medical history, counsel the client, handle the laboratory tests, assist the surgeon in the operating room, and sterilize instruments. As the caseload increases, more personnel, each responsible for one area, may be needed.

Paramedical Personnel

A number of countries have successfully trained and used paramedical personnel to perform vasectomy. Medical assistants, medical students, nurses, and community health workers have performed the procedure competently and safely (Gojaseni and Leoprapai, 1982). Where this practice is legal and permitted by local regulations, it can free physicians to do other work. Paramedical staff may find the surgical task challenging, interesting, and rewarding and, thus, may be motivated to remain involved with the program. It has been reported from some programs that paramedical staff empathize closely with clients and that this has led to better community and client acceptance. However, consideration should be given to the concerns of the community and other health care providers about provision of vasectomy by paramedical staff.

Paramedical personnel should work under the supervision of responsible physicians who themselves are competent in performing vasectomy (Bunyaratavej et al.,1981). Wherever paramedical personnel provide vasectomy services, a physician must be available and ready to intervene in case problems are encountered.

Clearly, paramedical workers must be selected with great care of aptitude, surgical skill, dexterity, interpersonal skills, and judgement. Their training must be more comprehensive than that provided to a physician. They should be required to perform a larger number of training cases to establish proficiency, and they should receive instruction in relevant anatomy, physiology, and pharmacology.

Client Follow-Up and Medical Referrals

Follow-up is a crucial part of vasectomy services. If mobile teams are used, local physicians or specially trained community health personnel may conduct follow-up examinations. Paramedical staff must be trained to identify problems and to refer clients to the nearest health center when serious complications are encountered. Clients themselves must be instructed to seek assistance if they encounter postoperative problems (see "Sample Postvasectomy Instructions for Clients" in Module 9: Postvasectomy Care).

Programs must always be prepared to refer clients to another department or another sector of the health system when appropriate. In the event of rare, life-threatening complications, the client may need to be referred to another facility better equipped to handle the situation. If medical problems, such as the presence of a sexually transmitted infection, are discovered during the prevasectomy examination, the vasectomy provider must be prepared to treat or refer the client (see Table 5-2, "Vasectomy Precautions" in Module 5: Prevasectomy Evaluation). Occasionally, screening and counseling may identify psychological problems that require referral for further counseling or psychiatric treatment.

Semen Analysis

In many settings, semen analysis is difficult or impossible to provide on-site, since it requires special training and equipment. For some programs, it may prove less expensive and more convenient to arrange for semen analysis to be done under contract by an independent laboratory or other health facility. Some programs will not be able to provide semen analysis at all.

Vasectomy Reversal

Vasectomy should not be offered or promoted as a reversible method. It is intended to be a permanent procedure. While performing reconstructive surgery to reverse a vasectomy is feasible, the surgery is expensive, time-consuming, difficult, and not guaranteed to result in subsequent pregnancy. Every program should therefore include a client-assessment or counseling component to help identify and screen out clients who are likely to regret their decision (see Module 4: Counseling and Informed Consent for NSV for more on this topic).

Despite all precautions, a few clients will regret their choice (for example, because of remarriage, the death of a child, or some other unanticipated event). Because of this, a comprehensive vasectomy program may make vasectomy reversal services available. Because the number of requests for reversal should be few, the number of centers where reversals are performed, and the number of specialists trained to perform them, should also be few. In many countries, one center will be sufficient to handle the requests. Additional centers may be needed in large countries where many vasectomies are performed. Experience has shown that one reversal request can be expected for every 400–700 vasectomies.

Finally, an adequate caseload is necessary to maintain surgical proficiency and success in vasectomy reversal. By restricting the number of reversal centers and of surgeons trained in reversal techniques, programs will help to protect surgical skills and effectiveness.

Reported pregnancy rates following vasectomy reversal range from 35% to 82% and are affected by a number of factors—the technical demands of the surgery itself, the type of vasectomy procedure performed, the length of time between the vasectomy and the reversal procedure, the level of anti-sperm antibodies that may have developed after the vasectomy or the reversal, and changes in the epididymis or partial obstruction of the vas after reversal (EngenderHealth, 2002a). Published success rates must be interpreted cautiously since many individuals seeking reversal are screened out as poor risks for reversal success. Also, many surgeons who have low success rates do not publish their results.

In addition to men being screened out for medical indications, men may decide not to have the operation for other reasons such as the cost of the procedure, the risks and surgery involved, or the fact that success cannot be guaranteed (Figure C-1). For most men, the probability that reversal surgery will restore fertility is considerably lower than the published success rates indicate.

Assessing the Receptiveness of the Local Community

Before introducing vasectomy services, managers must consider the environment or community in which the services are to be located. Political, cultural, and religious attitudes must be identified and taken into account. Local laws and regulations, guidelines for medical practices, and codes of ethics should be studied to determine how they will affect services. All necessary permits and licences must also be obtained.

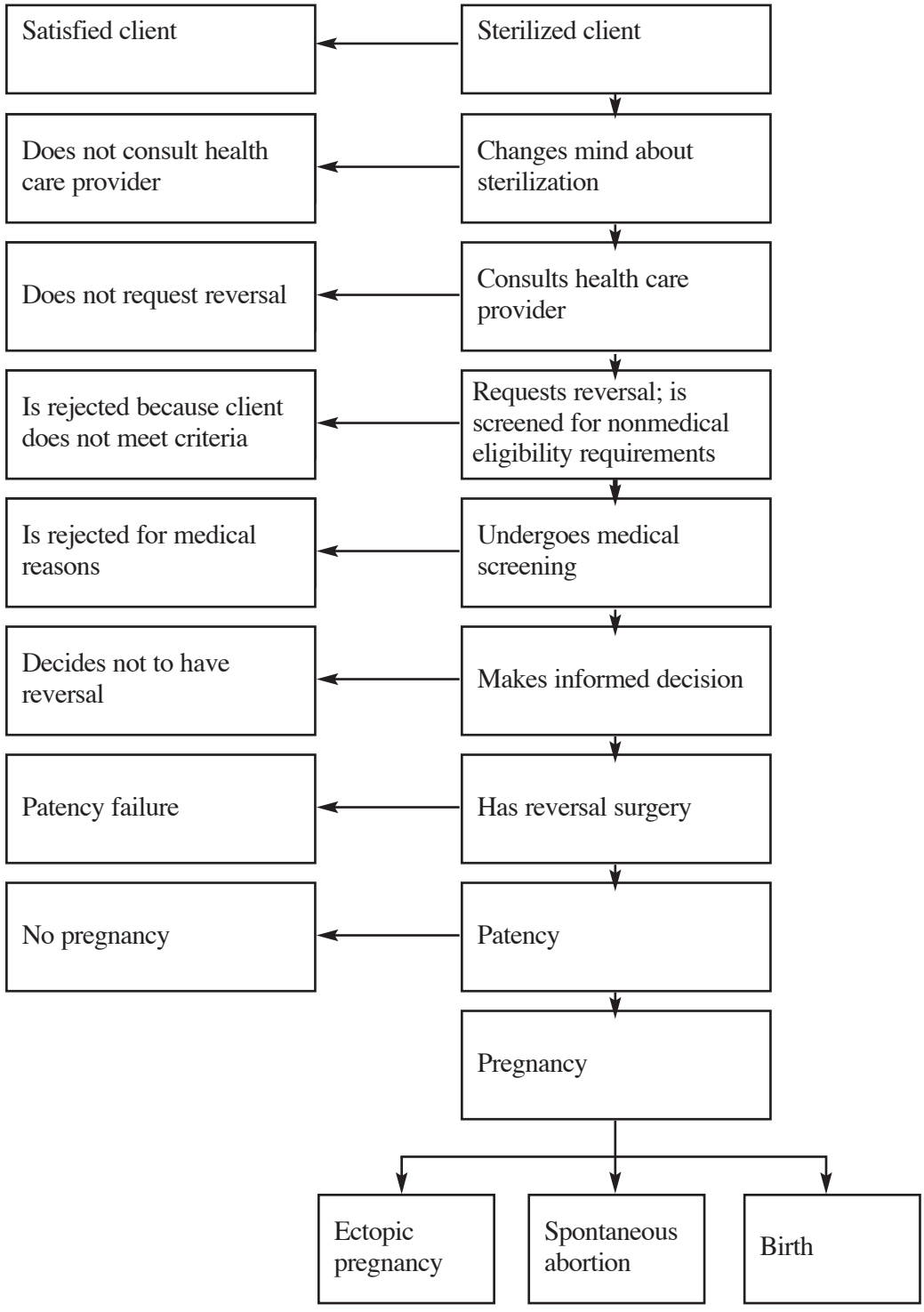
Managers should also investigate the level of community knowledge and practice of family planning and the availability of other family planning services. Existing data, group discussions, and community surveys can help identify common myths and misinformation about vasectomy that can be addressed with information and counseling. In addition, in this preliminary community survey, local medical and health professionals should be interviewed to determine their attitudes about vasectomy, their willingness to collaborate in the provision of vasectomy services, and their willingness to refer potential clients.

Estimating the Potential Caseload

To develop services that meet local needs, service managers will need to estimate the potential demand for vasectomy. This estimate will be important in determining the facilities, staff, and other resources needed. The actual number of clients who request services will be influenced by such variables as the cultural acceptability of sterilization, the design and accessibility of services, the existence of similar services in the community, and the impact of information and education.

When services are first introduced into a community, requests for vasectomy may be limited. However, the caseload can be expected to increase as the number of satisfied clients grows, as accurate information becomes increasingly widespread, and as fears are allayed and misconceptions corrected. Having some idea of the potential number of clients can assist service managers in forecasting and planning for growth rather than being overcome by it.

Figure C-1. Client Decision-Making Process and Outcomes of Requests for Sterilization Reversal



Sustainability

To provide services efficiently and to ensure their continuation, managers need to understand and use the principles of budgeting and other aspects of financial planning and management.*

Financing services can be a complex problem involving multiple sources of funding. The most common sources of funds for sterilization services are:

- *Government subsidies*. While subsidies may help make services available initially, subsidized services may be difficult to manage and sustain over the long term.
- *Grants from donor agencies*. Several international donor agencies provide grants for sterilization services during the first few years of operation. Most have policies to phase out support and encourage self-sufficiency.
- *Client fees for services*. Fees must be set at a level that covers costs but does not discourage use of the service. Accommodations must be made for clients who cannot afford even modest fees; no client should be denied services because of an inability to pay.
- *Insurance schemes*. Private or government health insurance may cover the cost of sterilization.
- *Income-generating schemes*. Organizations sometimes help support the costs of sterilization through special fund-raising events or use of profit from temporary family planning or other reproductive health services.
- *Combined financing mechanisms*. Most common is financial support through a combination of different sources, such as sliding-fee scales combined with profit from other services and grants from donor agencies.

Services should also pay attention to financial management and accounting procedures. Effective accounting and auditing systems help managers keep costs under control, stay within budgets, and avoid or anticipate financial difficulties. Governmental and other donors often require particular accounting systems, but all services should maintain internal accounting systems that are designed to permit periodic internal and external audits.

Planning for Self-Sufficiency

One important advantage of sterilization is its cost-effectiveness in relation to other methods of contraception (Janowitz, Measham, & West, 1999; EngenderHealth, 2002a). Nevertheless, the costs of sterilization are relatively high and immediate, whereas those associated with most temporary methods are spread over a long period of time. Clients who cannot afford the cost of sterilization will require subsidy.

Because new services often rely on outside funding or on sources of income that may be unreliable for the long term, managers must prepare for the future and continuously monitor and improve the efficiency, and thereby the sustainability, of services.

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* One valuable resource that managers can use when developing budgets is a cost-analysis tool developed by EngenderHealth (see: EngenderHealth, 2001. *Simplifying cost analysis for managers and staff of health care services.* New York; available at http://www.engenderhealth.org/res/offc/qi/cope/toolbook/pdf/ cost_analysis_tool.pdf).

Services that rely on subsidies may find that they are continuously compensating for reductions in funding. To reduce this problem, nongovernmental organizations should diversify and balance their sources of funding so that the elimination of any one source will not drastically affect their ability to provide services. In most for-profit enterprises, the sustainability mandate is clear: Costs must be transferred to clients or recovered from third parties (such as insurance companies or governments) as soon as possible, or the institution will be forced to close. Governments and donors may be willing to support for-profit organizations during their early stages, but will not usually provide funds indefinitely for recurring costs.

Managers should consider the following strategies in working towards self-sufficiency:

- Keep costs to their absolute minimum without sacrificing quality.
- Review service options to deliver services as economically as possible.
- Achieve economies of scale so that costs are shared among more cases.
- Work towards cost recovery by gradually increasing reliance on fees and insurance.
- Adopt supplementary income-generating schemes.

Characteristics of Successful Programs

The activities listed so far are all essential for the organization of a vasectomy program. Yet, they may not be sufficient by themselves to launch and manage a successful program that truly meets the needs of the community. Public health professionals have considered the question of what makes the difference between a lackluster or unsuccessful vasectomy program and one that is obviously dynamic and successful. A few characteristics that seem to be shared by successful programs are summarized here.

Client Satisfaction Is of Paramount Importance

Effective promotion

Successful vasectomy programs use several channels to deliver their messages (See Appendix D). Vasectomy promotion through community talks and home visits and mass media (billboards, newspaper and magazine advertisements, and radio and television spots) have been instrumental in informing men about vasectomy. Satisfied vasectomy clients have been especially influential in helping other men decide to have a vasectomy.

Emphasis on quality and client satisfaction

A program cannot afford mistakes, especially in the early stages. Maintaining a service of high quality is of great importance: Lowering standards to achieve higher volume is self-defeating in the long run. Negligence and inconsiderate treatment of clients must not be tolerated. A vasectomy program that has established a reputation for excellent service is likely to produce a self-generating demand through word of mouth from clients and local health professionals

Attention to the needs of customers (men)

Programs that specifically take account of the psychological characteristics of men are more likely to succeed. In some societies, this may mean that the vasectomy program should be physically separate from female family planning services. In some cultures, it may be advisable for key clinic staff to be men. Clinic hours should be convenient for clients; evening, weekend, or holiday sessions may be suitable for men who find it inconvenient to leave their jobs on weekdays. Finally, educational materials and information programs should carefully address common misunderstandings about vasectomy.

Thorough and sensitive counseling. Men are more likely to return to facilities where they are made to feel welcome and valued as a client. Counseling is especially important to men's perceptions of being well-treated.

Privacy and confidentiality. Men are especially concerned about confidentiality when discussing reproductive health matters. Some men prefer to travel to a distant site, to avoid being seen entering a reproductive health facility in their community.

Convenience and comfort. Men are more likely to use services that have convenient hours (i.e., that are open evenings and weekends). Male-only clinics, separate waiting areas or hours, and male providers make men feel more comfortable.

Array of services. Men prefer to visit facilities that offer an array of services, including general medical care and treatment for urological problems, sexual dysfunction, sexually transmitted infections (STIs), and infertility. Offering a broad spectrum of reproductive health services for men not only brings in new clients, but also may generate additional revenue.

Skilled Providers

Well-trained clinicians inspire confidence, but it is just as important that clinicians and other staff are skilled in interpersonal communication—in particular, in talking with men. Successful programs have focused on the training of teams or sites rather than of individuals. Special attention must be given to the treatment of clients in nonsurgical situations. Thorough counseling and good preoperative examination should eliminate clients who are at risk of vasectomy-related complications or regretting the operation at a later date. Whenever possible, postoperative semen analysis should be made available to identify failed vasectomies before unwanted pregnancies occur and to evaluate the adequacy of surgical techniques.

The way clients are treated by clinic staff will undoubtedly influence their satisfaction with, and perceptions of, the services. If staff members are attentive and compassionate, even clients who experience complications will be more likely to leave with a favorable impression and to share that impression with potential clients.

Working within the community

A vasectomy service may be more acceptable and successful when it is located within the community it is intended to serve. Some programs have had good results by employing staff who reside in the

clinic's neighborhood. As far as possible, staff members should have the same socioeconomic, cultural, and ethnic characteristics as their clients. Finally, the clinic should have good connections with other local institutions, such as social welfare organizations, local health facilities, community-based family planning programs, and local government councils or groups. In sum, the program should strive to be part of the local social fabric.

Strong leadership

A successful vasectomy program is usually headed by a professional who has taken a personal interest in involving men in family planning and who is committed to the success of the project. When vasectomy is being introduced in a locality for the first time, it is especially important for the leader to be patient, persistent, committed, and willing to be a pioneer.

Features of successful family planning programs

Vasectomy services should operate within the context of a client-centered family planning program and should be well-integrated into existing services. The main features of successful family planning services have been identified (Edmunds et al., 1987) as follows:

- Providing a wide choice of methods of contraception
- Placing the concept of family planning within the broader context of each client's experience
- Ensuring accessibility of family planning methods through a variety of staff and delivery systems
- Supporting clients by providing full information and counseling and by providing reassurance when problems arise
- Enhancing the quality of services by promoting the highest possible standards of care appropriate to the setting
- Responding to clients' needs and preferences for methods and services
- Providing effective outreach and follow-up
- Encouraging active client participation at all stages of service development and implementation
- Undertaking research and evaluation to elicit clients' perceptions and preferences

Appendix D

Informing the Community about Vasectomy

Informing the Community about Vasectomy

Information and promotion help the general public become aware of vasectomy services and allow prospective vasectomy clients to be more knowledgeable about the procedure. Information, promotion, and counseling are also important in ensuring that clients are well-informed and satisfied, and thus are less likely to regret the operation and are more likely to share their positive experiences with others in their community.

Each program should determine the most appropriate ways of informing potential clients about vasectomy and the availability of services. While a program may rely exclusively on one or two methods or approaches, more typically a variety of channels will be developed. The specific ways chosen to develop a network for referring clients to the clinic will depend on:

- The nature of the service-delivery system
- The location and setting of the service sites
- The sensitivity about vasectomy in the community and the openness with which it can be discussed
- Local regulations

This appendix outlines some of the key considerations for program developers who wish to institute informational and promotional activities for their vasectomy services.

Information, Promotion, and Counseling

Informing clients about vasectomy and other methods of contraception is different from promoting services or counseling clients. While each of these activities has its own primary purpose, individual staff members are often responsible for more than one of them. For instance, a nurse-midwife in a maternity service may inform and counsel clients. Likewise, a community worker may promote the practice of family planning and inform people about the various contraceptive methods. Whatever their individual responsibilities, staff members should understand the differences between these three activities.

- *Information:* To provide facts about available methods of family planning
- *Promotion:* To encourage people to practice family planning
- *Counseling:* The process by which a health care worker uses two-way communication to help the client make a voluntary, informed, and well-considered decision

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This appendix is adapted from: World Health Organization. 1988. *Technical and managerial guidelines for vasectomy services*, Geneva, chapter 4, pp. 37–55; World Health Organization. 1992. *Female sterilization: A guide to provision of services*, Geneva, chapter 6, pp. 47–59; and Pile, JM. Forthcoming. Vasectomy: A safe but neglected method. New York: EngenderHealth.

Information

The major purpose of information activities is to provide facts that the client can use in making a decision about family planning. Accordingly, clients must be given complete, accurate, and unbiased information about the available methods of contraception. Messages that favor one method of contraception over another or that address only the advantages of particular methods are misleading and compromise informed choice. In the case of vasectomy, the procedure's intended permanence must be stressed.

For information activities to be effective, a range of family planning services must be available and accessible to the public, and these services must be provided in a noncoercive atmosphere. If a family planning service provides information about vasectomy but the procedure is either unavailable or inaccessible, potential clients will be disappointed and frustrated, and the credibility of the family planning service will be damaged. Clients are unlikely to believe information and may resist vasectomy if information was presented in a coercive atmosphere, while they might have considered vasectomy if information were provided in a more open and supportive environment. If clients undergoing sterilization feel pressured in any way, they are likely to regret the procedure afterward and to criticize both the method and the provider.

Family planning providers must ensure that all personnel who provide information about contraception are themselves well-informed. Facts about methods, their advantages and disadvantages, and their side effects should be incorporated in training programs for doctors, nurses, field workers, counselors, and other appropriate personnel. Staff members should also be routinely supervised to ensure that they are providing clients with accurate and complete information.

Promotion

The major purpose of promotion is to encourage people to practice family planning. It is acceptable to promote the benefits of small families and to encourage clients to use some method of family planning. However, urging healthy clients to use specific methods compromises voluntary choice.

Family planning services have undertaken a variety of promotional activities. One of the most common is to use trained community workers to promote contraception; these individuals usually have other public health or family planning responsibilities, such as providing information about health services and methods of contraception, distributing contraceptive or medical supplies, or accompanying clients to clinics.

Some promotional activities, notably provision of incentives and disincentives, can pose serious threats to free and informed choice.

Counseling

The purpose of counseling is to assist the client in making an informed, voluntary, well-considered decision regarding family planning. In addition to providing information about methods of contraception (filling in gaps in the client's knowledge and correcting misconceptions), the counselor

focuses on the client's decision and how it is made. When discussing sterilization, the counselor must stress that the method is intended to be permanent. (For additional information about counseling, see Module 4: Counseling and Informed Consent for NSV.)

Considerations

The Client Decision-Making Process

An understanding of the decision-making process that leads someone to request or reject vasectomy can help in designing effective information and counseling programs. The following events are common to many men who choose vasectomy:

- Becomes aware of vasectomy
- Talks to a vasectomized man
- Starts seriously considering vasectomy
- Decides that temporary contraceptives are no longer acceptable
- Decides that vasectomy is the best contraceptive method

The sequence in which these events occur may differ, depending on the country and the individual.

Many vasectomized men are aware of and know about vasectomy for a relatively long period before having the procedure. Knowledge, however, does not necessarily lead to action. Clearly, the factor that weighs most heavily on a couple's decision is the realization that they want no more children. Only when the family is considered complete do couples seriously start listening to messages about vasectomy and seeking more information. Even with the realization that they desire no more children, most couples do not request vasectomy immediately. Often the decision for the procedure comes after another pregnancy, or as the couple becomes increasingly dissatisfied with the inconvenience, side effects, or failure of temporary contraceptives.

Research conducted in the United States suggests that the overall decision-making process for vasectomy can take two or more years (Mumford, 1977; Mumford, 1983). In Mexico, one study reported that the duration of time during which vasectomy was seriously considered was from two to 20 months (Alarcon et al., 1995). A shorter duration for this consideration process—of about four months—has also been noted in Brazil and Colombia (Vernon, 1996).

Although the decision to choose a permanent method is often presented as a joint decision, some of the literature suggests that the decision to choose vasectomy can be an autonomous one (EngenderHealth, 2002a). In one six-country study, Bangladeshi, Rwandan, and Sri Lankan vasectomy users often made the decision to choose sterilization on their own, excluding their partners (Landry & Ward, 1997).

Research has clearly shown that information and communication programs are important for creating awareness among eligible couples. They are even more important for couples who have already decided not to have any more children. These couples are at a critical decision-making juncture and need detailed facts about the benefits and effects of vasectomy; they also need to have their fears assuaged. In this regard, studies have demonstrated that talking to other vasectomized men is critical

to a man's decision. In one U.S. study, nine out of 10 vasectomized men stated that talking with a man who had had a vasectomy was essential in arriving at a positive decision (Mumford, 1983).

The implication for vasectomy programs is obvious: Producing satisfied clients who not only are pleased with the procedure, but who also have accurate and complete information about vasectomy and its effects, can be one of the most important factors in attracting more clients to the clinic. Client assessment and counseling activities can therefore have a double impact: They help to ensure that vasectomies are performed only on those men who are likely to be satisfied, and they provide vasectomy clients with correct information that can be passed on to other people in their communities.

Three categories of media (public information and communication, referral systems, and clinic-based activities) are all necessary parts of an information program.

Public Information and Communication

Public information and communication approaches help to stimulate interest in the procedure and provide basic information to couples who have decided to have no more children. However, these approaches are impersonal and cannot cater to individual situations, needs, and questions.

These approaches include:

- *Mass media.* Techniques can include posters, billboards, newspaper articles, advertisements on buses and trains and in periodicals, and radio and television announcements. Radio and print ads that give the addresses and telephone numbers of vasectomy service providers can actually bring clients to the clinic's doors. Mass media messages can reach a large audience but are impersonal, can be expensive, and, under most conditions, can deliver only simple messages. On the other hand, telephone hotlines have been effective, as they offer a means of private and confidential counseling.
- *Printed materials.* Every program should consider developing some printed materials. A brochure or question-and-answer sheet written in sample language and in local dialects can efficiently address common concerns about vasectomy. Information should be presented in a straightforward, nontechnical, noncondescending manner. In a number of programs, pictorial printed materials have been developed for semiliterate and nonliterate audiences. Comic books, for example, have been used in Mexico, the Philippines, and Thailand. These can be colorful, can contain interesting, attention-grabbing stories, and can convey essential facts about vasectomy using drawings and a minimum of words. In some countries, picture books using specially designed and pretested photographs or drawings have been developed to communicate with potential clients who are nonliterate.
- *Social marketing.* Based upon marketing principles developed by profit-making enterprises, social marketing promotes products and services such as family planning that are considered beneficial to society by:
  - Defining and researching target audiences
  - Planning, developing, and pretesting messages and materials
  - Advertising extensively
  - Selling products or services, often at subsidized or reduced cost

Social marketing has considerable potential for use in vasectomy programs.

Multiple communication channels create a synergistic effect. Successful programs develop an appropriate public information strategy (which helps to generate demand). Effective vasectomy programs use several channels to deliver their messages. Program experience shows that individuals who are exposed to a message from multiple sources—such as mass and community-based media and interpersonal communication—are more likely to take action than are those exposed to a message from a single source. Evaluations of communication campaigns around the world frequently find a dose-response relationship between the level of exposure to the campaign messages and behavior. The higher the dose (the number of messages and the number of communication channels through which the person is exposed to the message) is, the more likely a person is to use contraceptives, to talk to his/her partner, and to visit a family planning provider (JHU/CCP, 1997). Men are frequently easier to reach with multiple, reinforcing messages because they generally have better access and more exposure to mass-media and community-level communication than women. In Ghana, a communications initiative was designed both to serve as a catalyst for men considering vasectomy to take that final step and access services and to raise awareness of vasectomy as a contraception option and dispel rumors. Community outreach events were carried out and a vasectomy campaign, based on qualitative research and featuring satisfied vasectomy users, included television advertisements, a television documentary, radio advertisements, posters, brochures and flyers, and public relations efforts. A telephone hotline was also set up. Initial results indicated that the project was a success; the number of vasectomies performed quadrupled over the volume provided in the year prior to the project, and awareness of vasectomy among men nearly doubled (The ACQUIRE Project, 2005).

The failure of promotional strategies often is more a consequence of poor media selection than of a lack of interest from men (Vernon, 1996). Work-site talks given by promoters to publicize vasectomy services have at times proved to be ineffective, since the audience that they reached did not meet the profile of vasectomy acceptors—i.e., they were too young or too old, had fewer than two children, and often were unmarried. On the other hand, talks targeted at partners of women having abortions in Turkey were successful, as the majority of men who were reached met the profile of a potential vasectomy acceptor (Pile et al., 1999).

Referral Systems

Client-referral systems provide links for potential clients between the community and the clinic. The purposes of referral systems are primarily to guide interested clients to sources of more information and to assist them in getting a vasectomy. Thus, client-referral programs are most usefully directed toward those who have decided that they want no more children. A number of different referral systems are described in this section.

Word-of-mouth communication by satisfied users

Men have less contact with health workers than do women, and personal contacts—friends, relatives, and co-workers—are key to introducing new ideas and provide support for behavior change (Green et al., 1995). Word-of-mouth information from satisfied clients is perhaps the most potent advertisement for a vasectomy program. In some settings, the vasectomy program may have such a good

reputation in the community that word-of-mouth communication alone ensures an adequate caseload. In some settings, informal oral communication may be one of the few ways available to spread information about vasectomy. The key ingredient to a successful word-of-mouth program is a high-quality and affordable service: Clients satisfied with their treatment are more likely to discuss vasectomy and recommend it to friends and relatives.

Some programs have formed clubs of men who have had vasectomies. In a typical arrangement, vasectomized men who accept the invitation to become club members receive additional information and materials to distribute to other people in their communities. They may be given an identifying pin, badge, or certificate that would invite questions from friends and community members. Program managers may convene occasional meetings of club members to give further training in communication skills, to provide a social environment where club members can exchange experiences, and to recognize those who have referred other clients for a vasectomy.

Field agents

In many countries, community development, health, and family planning programs employ field workers who are closely and frequently in touch with the community. After brief training, these workers can give people accurate information about vasectomy and refer interested clients to service sites. Examples of community workers who can serve as referral agents are primarily health workers, traditional birth attendants, and agricultural extension workers.

Many family planning programs have their own special field workers. In addition, programs for community-based distribution (CBD) of temporary contraceptives employ community-level agents. These workers can also be trained to communicate about vasectomy. CBD workers, in particular, often know who among their customers are dissatisfied with temporary contraceptives or want no more children, and can refer these clients to a site where vasectomy services are offered. (Nirapathpongporn and Viravaidya, 1983)

Professional referral systems

The local medical community should be informed about the availability of vasectomy services. Physicians who do not themselves perform vasectomy services are often willing to refer their clients to a high-quality service. Similarly, local hospitals, family planning clinics, and medical societies should be informed about the program's services. In some programs, nonmedical community-service professionals have been used successfully as referral sources. Such groups might include social workers, religious leaders and clergy, and teachers. Ways of informing local professionals include seminars, letters, word-of-mouth communication, and announcements in professional journals and newsletters.

Groups and organizations

Organizations in which men predominate are good sources of potential clients and targets for organized educational activities. Some programs have cooperated effectively with factories, unions, agricultural workers' organizations, taxi drivers' associations, policemen's and firemen's organizations, communes, and community service societies. Women's groups are also a good target, as women are often interested to learn about vasectomy when considering methods of family planning.

Clinic-Based Information and Communication

Family planning and primary health clinics are primary sources of information and communication about vasectomy. Couples often come to these clinics when they are thinking about having no more children or when they have already decided to have no more children. They make this visit because they are seeking accurate and detailed information and want to have their questions answered and their fears allayed.

For clients who come to request vasectomy, the clinic should offer client-assessment or counseling services and obtain written informed consent. These procedures ensure that the decision is informed and voluntary and minimize the possibility of later regret.

Aside from serving those who have already decided to request vasectomy, family planning and primary health clinics offer opportunities to create awareness about vasectomy. Clients who come for temporary contraceptives can easily be given information about vasectomy individually or in group sessions, through lectures and discussions, audiovisual presentations, and flipcharts. Posters about vasectomy can be displayed and question-and-answer brochures about vasectomy can be made available.

Developing Information Activities and Materials for Clients

Developing an effective information and education program about vasectomy is not a hit-or-miss matter. Whether a program is advertised by means of television or radio, posters or brochures, a certain sequence of steps must be followed to transmit clear messages to a well-defined audience. Information and communication activities require careful planning and execution. Program managers should draw upon the expertise developed over many years in advertising, graphics, marketing, social marketing, and communications research.

Informed and voluntary choice is jeopardized when undue emphasis is placed on particular methods of contraception. Information about sterilization should be part of a broad communication program about family planning, and clients should therefore receive information about all the available options before they make a choice.

As providers plan and develop information activities and materials, they should seek assistance from two valuable sources: members of the target audience and professionals with experience in communication activities. Client participation is essential if the program is to succeed. Through focus groups and interviews, clients can help develop the messages to be conveyed and identify the appropriate information channels for these messages. Furthermore, that can review sketches and drafts of materials being developed during the critical pretesting stage.

A variety of professionals have considerable experience with information activities and should be asked to participate in planning and carrying out the program. Managers should draw upon the experience of personnel from areas such as health education, communications, graphic design, advertising, production of audiovisual materials, and communications research. Their efforts can encourage better use of resources and can enhance the effectiveness of information materials and activities.

Major Steps in Developing an Information Program about Vasectomy

1. Analysis
Research the proposed target audiences and their characteristics. Determine what messages are circulating and what materials already exist. Examine the institution's ability to carry out the information program, and consider whether additional resources are required.

2. Developing a plan
Determine the objectives, topics, and target audiences. Identify the resources required, both inside and outside the institution. Identify staff members who will be involved, and spell out their responsibilities. Develop a schedule and a budget.

3. Developing messages, materials, and activities
Investigate the target audience's knowledge about family planning. Develop messages based on these results. Review these messages with staff. Select the most appropriate information channels to convey the messages. Design materials and activities, and review these with staff.

4. Pretesting and revising
Pretest the messages, materials, and activities on the target audiences. Revise as necessary and review the revised materials and activities with staff. Repeat this stage as required.

5. Implementation
Train staff members to use the materials and to carry out the activities. Produce and distribute the materials. Implement the program.

6. Assessment
Assess the impact of the information activities on the target audiences. Revise the material and activities as required.

Family planning managers who are not experienced in carrying out information programs and those in countries where resources are scarce may have difficulty in obtaining appropriate professional assistance. Ministries of health, major hospitals, and family planning organizations often have communications departments that can help to plan and develop information programs.

Steps for Developing Activities and Materials

To reach men directly, successful projects use spokespeople and media that men trust and address issues that they feel are important. The key to increasing men's participation is to develop messages that are relevant to their perceived concerns. (These may not always coincide with the messages that family planning programmers believe men should hear.) Men must be approached on their own terms and in their own words. The major steps in developing information activities and materials are discussed below:

Analysis

Careful analysis is the first step in any successful information program. During this stage, staff should talk to clients and should examine the messages about vasectomy that are being circulated. Clients receive information about contraception (including vasectomy) in many ways. Some of that

information may be inaccurate or incomplete. Service managers should also examine the context in which they are communicating. They should seek to answer the following questions:

- What rumors and myths exist?
- What forces are at work that might make clients resist or disbelieve information about family planning, including vasectomy?
- Which sources of information does the community trust and rely upon?
- What information is being presented in newspapers, on television, and on radio?
- Is family planning widely practiced in the community, or is it just beginning to be used?
- How prevalent is vasectomy?
- Are there any laws or local customs that might restrict public discussion about family planning and vasectomy?
- What role do men play in making decisions about family planning?
- Are other agencies already providing information about contraception, including vasectomy?

To obtain answers to these questions, service providers can interview community leaders and clients, talk to experienced health personnel who have worked in the community, consult reference materials, and conduct surveys and focus groups. A major goal of all of these activities is to collect information about the proposed target audiences so that messages can be tailored to meet their needs.

During the analysis stage, the institution's ability to carry out the proposed information program should also be examined. Staff should evaluate whether outside assistance is needed.

Developing a plan

After careful analysis of the community and service context, the second step is to develop a plan. The following questions should be considered:

- Are the potential clients literate, partially literate, or illiterate?
- What languages do they speak and read?
- What do they already know about family planning and vasectomy?
- What concerns, questions, and misconceptions do they have about family planning and vasectomy?
- Who influences their decisions about family planning?
- What is the desired family size?
- What is important to the audience?
- What problems are they facing?

Again, interviews, surveys, focus groups, and reference materials can help answer these questions. Staff members responsible for information activities should describe the target audience in writing, revise that description as the activities progress, and continually refer to it as a guide. For example: "The primary target audience for this activity is rural, illiterate, married men aged over 30 and under 45 with at least two children. Secondary target audiences are their wives and parents."

Developing key messages, materials, and activities

Once the target audience has been selected and its characteristics, needs, attitudes, and level of understanding assessed, key messages should be developed. These should address the main topics identified during audience research. When the messages have been determined, staff should select

the most appropriate information channels to convey these messages and begin designing materials and activities.

Pretesting and revising

The next step is to pretest the materials and activities with the target audience. Pretesting is essential, since it helps to ensure that information materials and activities are culturally appropriate, relevant to clients' concerns, and presented in familiar language and at an educational level that clients can understand.

Pretesting can be conducted in a variety of ways: for example, through focus groups, through structured, in-depth interviews, or through interviews with members of the target audience at a common gathering place, such as a clinic waiting room. Managers should plan sufficient time for several rounds of pretesting. Elements that require pretesting include illustrations, text, layout, size, color, and sequence (for printed materials) and script, recorded voices, music, and images (for slide programs, videos, and films).

Once pretest results have been collected, the messages, materials, and activities are revised as needed. If revisions are extensive, another round of pretesting may be required.

Implementation

Implementation may begin as soon as the information activities and materials have been revised and finalized. This phase involves such tasks as training staff, producing an adequate supply of materials for service sites, establishing an efficient reordering system, scheduling broadcasts and events in a cost-effective way and at times that are most convenient for the target audience, and providing audiovisual equipment and training to service sites. All activities should be monitored and supervised throughout this stage to ensure that the objectives are being achieved and the target audiences are being reached.

Assessment

The final step is to review the program and to use that assessment to decide on future activities. Information programs are cyclical in nature, and the steps presented above should be repeated in response to the changing needs of the audiences and the environment.

Information Channels

Clients acquire information by hearing or seeing it expressed in different ways at different times. They listen to friends, neighbors, health care workers, and community leaders. If they are literate, they may read pamphlets, magazines, and newspapers. If they are partially literate or illiterate, they may ask other people to read material to them. They may also watch television or listen to the radio, see poster and billboard displays, or attend information sessions at health care centers and in their communities. Because people obtain information from so many different sources and because they learn by hearing and reading messages over and over again, it is generally more effective to use a combination of information channels than to rely on only one.

Before choosing the channels to be used, it is essential to define the target audience and identify the objectives and messages of the information program. A particular channel should be selected because it is an effective and efficient way to reach the audience and accomplish the program's goals. Planners should also consider how to evaluate the effectiveness and costs of particular information channels.

The most important channel is the communication that occurs between the client and the provider. Accordingly, the provider should always speak directly to the client, even if other channels are used.

All information channels have costs associated with them—for instance, salaries or time away from other tasks for staff involved; fees for outside experts; and costs for paper, ink, photography, videotape, or air time. The costs of using a particular channel must be weighed against its effectiveness in disseminating information to potential clients.

Counteracting Misinformation

Misinformation about family planning methods is a major obstacle to contraceptive use in some countries. The effects of different methods of contraception are often the subject of rumors and myths (e.g., "vasectomy makes a man impotent"). Sometimes misinformation may be circulated by dissatisfied clients, opponents of family planning services, or even poorly informed health providers.

Successful communication campaigns focus on factual information and perceptions to overcome myths or rumors that sometimes lead men to oppose vasectomy and other family planning methods. Broad-based information activities that communicate in a simple, clear, and objective manner can be used to counteract rumors and myths about vasectomy and other methods of contraception. Service providers should aim to identify any such rumors and misinformation as soon as possible and address them at the source; follow up with clients who are using methods of contraception to ensure that they possess correct information; provide services of high quality that are trusted by the community; provide accurate information about contraceptives, including their advantages and disadvantages; and use words and symbols in information activities that promote understanding rather than confusion.

Appendix E

Long-Term Effects

Long-Term Effects

Potential physiological effects and long-term sequelae of vasectomy have been the subject of extensive research over the past two decades. This research provides reassurance that vasectomy does not have any significant long-term negative physical or mental health effects. Results of large-scale, well-designed epidemiological studies in men have consistently shown no adverse effects of vasectomy in terms of heart disease, testicular or prostate cancer, immune complex disorders, and a host of other conditions. Vasectomy appears to be a largely safe and highly effective method of contraception, certainly with risks no greater than those for any of the contraceptive methods used by women.

Comprehensive Studies of Disease Incidence

Five large-scale retrospective cohort studies have examined the incidence of a number of diseases in thousands of vasectomized and nonvasectomized men (Goldacre et al., 1978; Goldacre & Vessey, 1979; Massey et al., 1984; Nienhuis et al., 1992; Petitti et al., 1983; Schuman et al., 1993; and Walker et al., 1981). For the disease categories or organ systems studied, vasectomized men were no more likely to be hospitalized or to develop a disease than were controls. In these studies, there were large numbers of cases of disease among vasectomized and nonvasectomized men in all categories. Thus, taken together, the studies are reassuring that vasectomy does not increase the risk of adverse physical or mental health outcomes.

Effects on Cardiovascular Function

Reports that vasectomized monkeys developed atherosclerosis more rapidly than unvasectomized controls (Alexander & Clarkson, 1978; and Clarkson & Alexander, 1980) led to extensive research into the potential effects of vasectomy on cardiovascular disease in men. Since the early 1980s, most of the cohort, case-control, and cross-sectional studies that were conducted have found no association of vasectomy with acute myocardial infarction, other ischemic heart disease, stroke, peripheral vascular disease, hypertension, coronary artery disease, or hypertensive and atherosclerotic retinal vascular changes (Coady et al., 2002;Giovannucci et al., 1992; Goldacre et al., 1978; Goldacre and Vessey, 1979; Massey et al., 1984; Nienhuis et al., 1992; Petitti et al., 1983; Rimm et al., 1983; Rosenberg et al., 1986; Schuman et al., 1993; and Walker et al., 1981).

Antisperm Antibodies

The number of circulating antisperm antibodies increases after vasectomy: Antisperm antibodies are found in 50–80% of vasectomized men (Bernstein et al., 1979; Hellema & Rumke, 1978; Lenzi et al., 1997), but in only 8–21% of men in the general population (Gubin, Dmochowski, & Kuttch, 1998). The theoretical concern that these antibodies may have adverse health consequences has led to numerous studies, the results of which have shown no evidence of any immunological or other diseases related to the formation of antisperm antibodies after vasectomy (Coulson et al., 1993; Giovannucci et al., 1992; Goldacre, Holford, & Vessey, 1983; Lepow & Crozier, 1979; Massey et

al., 1984; Petitti et al., 1982; Rimm et al., 1983; and Walker et al., 1981). However, antisperm antibodies may play a role in decreased fertility after vasectomy reversal, although conflicting results have been reported. Some studies have shown decreased pregnancy rates due to antisperm antibodies and others have not (Huang et al., 1997; Meinertz et al., 1990; Newton, 1998; Thomas, 1981).

Prostate Cancer

Since the mid-1980s, more than a dozen epidemiological studies of the risk of prostate cancer after vasectomy have been reported in the literature. Results have been difficult to interpret because of conflicting study findings, the lack of a convincing biological mechanism for an association between vasectomy and prostate cancer, and generally weak associations when they have been found. Also, the potential for bias in some studies was high and likely led to an overestimation of any effect (Bernal-Delgado et al., 1998).

Based on the results of the research published to date, there is little evidence for a causal association between vasectomy and prostate cancer (Peterson & Howards, 1998). A panel of experts gathered by the U.S. National Institutes of Health in 1993 concluded that no change in the current practice of vasectomy was necessary nor should vasectomy reversal be done as a measure to prevent prostate cancer (Healy, 1993). Studies published after the expert panel report support these conclusions (Bernal-Delgado et al., 1998; Peterson & Howards, 1998; Stanford et al., 1999; Lynge, 2002; and Lesko et al., 1999). Results from a population-based survey in New Zealand confirmed that vasectomy does not increase the risk of prostate cancer, even after 25 years or more (Cox et al., 2002).

Testicular Cancer

Some studies have linked vasectomy with an increase in risk of testicular cancer. However, with one exception (Cale et al., 1990), In the studies conducted between the 1970s and early 1990s, the increased risk of testicular cancer was not statistically significant (Goldacre et al., 1978; Swerdlow et al., 1987; Strader et al., 1988; and Thornhill et al., 1988). These studies included only small numbers of vasectomized men with testicular cancer and were subject to confounding and/or misclassification bias. Giovannucci and coworkers (1992) found no cases of testicular cancer among nearly 15,000 vasectomized men. Two additional studies, which included the largest numbers of cases of testicular cancer among vasectomized men, found no increased risk (Moller et al., 1994; and Rosenberg et al., 1994). Taken together, results of these epidemiologic studies provide convincing evidence that vasectomy is not associated with an increased risk of testicular cancer.

Postvasectomy Pain Syndrome

A small percentage of vasectomized men have reported chronic pain in the testis following vasectomy. While up to one-third to one-half of men have reported occasional testicular discomfort following vasectomy, only a small percentage of all vasectomized men (no more than 2–3%) said the pain had negatively impacted their life or that they regretted having had the vasectomy because of chronic pain (Choe & Kirkemo, 1996; Ehn & Liljestrand, 1995; Manikandan et al., 2004; McMahon et al., 1992). Conservative therapies (such as nonsteroidal antiinflammatory drugs, sitz baths, antibiotics, or

spermatic cord blocks) are sufficient treatment in most cases. There is also some evidence that when these fail, vasectomy reversal or denervation of the spermatic cord may prove helpful (Ahmed et al., 1997; and Myers, Mershon, & Fuchs, 1997). The cause of postvasectomy pain is poorly understood and may be related to infection, epididymal engorgement with sperm, sperm granuloma formation resulting from back pressure–induced rupture of epididymal tubules, or nerve entrapment (Myers, Mershon, & Fuchs, 1987; Temmerman et al., 1986; and Schmidt, 1979).

Appendix F

NSV Technique: Presentation Script

NSV Technique: Presentation Script

Important Note for Trainers

This presentation script is based on the book *No-Scalpel Vasectomy: An Illustrated Guide for Surgeons, Third Edition* (EngenderHealth, 2003). All references in this presentation script are to that text, unless noted otherwise. The script, which describes each step as it appears in the book, is designed to help facilitate your description of the demonstration.

Figures from the book are placed in the margins. You may choose either to show slides or overheads during your presentation or to refer participants to the figures in the book.

The script does not include the "Hints," "Alternatives," and "Pitfalls" sections of the book. If you like, you may add information from these sections to your demonstration. Before beginning a slide or transparency demonstration, thoroughly familiarize yourself with Chapters 4 and 5 of *No-Scalpel Vasectomy: An Illustrated Guide for Surgeons, Third Edition.* The script does not include the steps of the preoperative medical history and physical examination (including penile and scrotal examination), but starts with the final steps for preparing the client for the vasectomy procedure.

Preprocedure Tasks

1. Ensure that the room is warm enough to relax the client's scrotum.
2. Greet the client.
3. Review the client's chart and history.
4. Verify informed consent.
5. Wash your hands.
6. Examine the site to ensure that the vas deferens are mobile.
7. Clip the site, if necessary.
8. Ensure that the operative site is clean.
9. Retract the penis upwards on the abdomen in the 12 o'clock position and anchor it comfortably.
10. Perform a surgical scrub and put on sterile gloves.
11. Prepare a syringe to administer 10 cc 1% or 5 cc 2% lidocaine (without epinephrine).
12. Prepare the operative site with a body-temperature antiseptic.
13. Isolate the operative site (scrotum) with sterile sheet(s) or towel(s).

The Three-Finger Technique

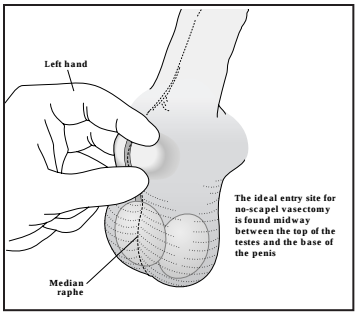

Figure 4

- With the middle finger of your left hand under the scrotum, palpate the vas and sweep it toward the raphe beneath your thumb. Hold the vas in position between the thumb and middle finger while placing your left index finger on top of the scrotum, slightly above the thumb (Figure 4).
- Your fingers should be perpendicular to the vas. You will have created a "window" between your thumb and index finger through which you will make the puncture.
- Apply upward pressure from the middle finger, and downward pressure from the index finger, to create a bend in the vas for easier entry.
- Maintain the three-finger hold as you anesthetize the right side.

Note: If you are left handed, stand on left side and use your right hand for right vas fixation.

Raising the Skin Wheal

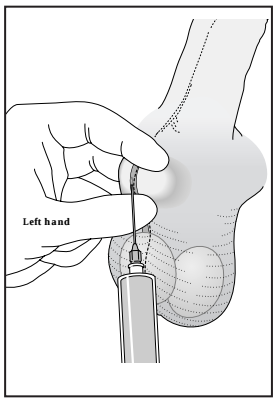

Figure 5

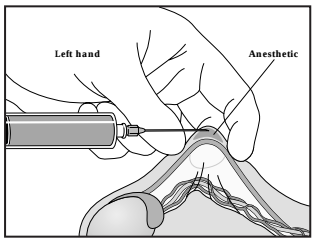

Figure 6

- The needle entry site is at the midline, over the vas deferens, midway between the thumb and the index finger.
- Use only the tip of the needle to raise a superficial skin wheal, 1 to 1.5 cm in diameter (Figure 5).
- Hold the syringe at about a 5°–15°degree angle, with the needle bevel facing up (Figure 6).
- On a client, you would now inject lidocaine into the dermis and subcutaneous tissues (0.5 cc is usually adequate). Do not inject lidocaine into the scrotal model.

Creating the Vasal Block

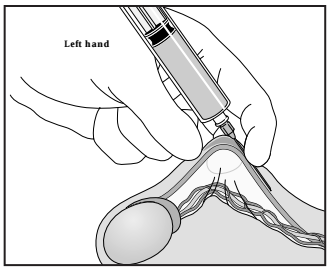

Figure 7

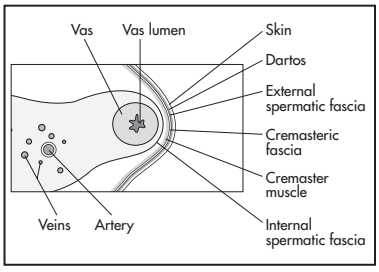

Figure 3

- Creating a vasal block is a critical difference from the way anesthesia for vasectomy has traditionally been administered.
- After making the superficial skin wheal, advance the needle parallel to the vas within the external spermatic fascial sheath toward the inguinal ring (Figure 7).
- Take care when injecting the lidocaine to keep the needle away from the internal spermatic fascia that enclose the testicular artery and veins (Figure 3).

- Advance the full length of the needle, 1.5 inches, without releasing any of the anesthetic. Gently aspirate to ascertain that the needle is not in a blood vessel. Without withdrawing the syringe, slowly inject 2–5 cc lidocaine (depending on concentration) within the external spermatic fascial sheath around the right vas deferens.
- Remove the needle from the right sheath. Do not inject lidocaine while withdrawing the needle.

The Three-Finger Technique: Isolating the Left Vas

- Anesthetize both sides before entering the scrotum and occluding the right vas. Position the left vas under the anesthetized puncture site.
- Place your thumb in the upper third of the scrotum while your index finger is in the middle third (Figure 8). This is different from the three-finger hold on the right side. As with the right side, position the middle finger beneath the scrotum to identify the vas and sweep it to the puncture site.
- Once again, use the middle finger to elevate the vas, while your thumb and index finger press downward, to create a bend in the vas at a point directly under the puncture site. Now, however, the thumb is superior to the index finger. Note the differences between Figures 5 and 8.

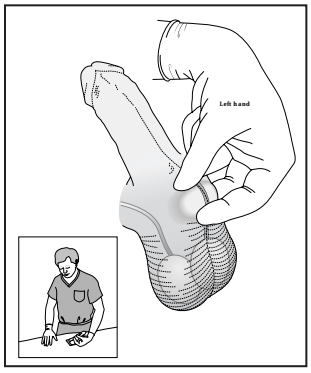

Figure 8

Creating the Vasal Block: Left Vas

- Reintroduce the needle through the same hole previously used; a second skin wheal is not needed. Advance the needle parallel to the vas into the external spermatic fascia (Figure 9). As with the right vas, aspirate, then inject 2–5 cc lidocaine within the external spermatic fascial sheath, around the left vas deferens.

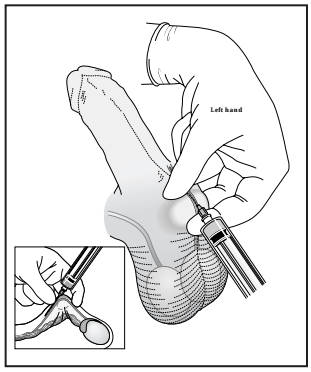

Figure 9

Pinching the Skin Wheal

- After removing the needle, gently pinch the skin wheal between the thumb and forefinger for a few seconds to reduce the size of the skin wheal and to soften and thin the local tissues (Figure 10).

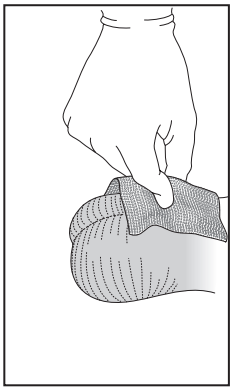

Figure 10

Holding the Ringed Clamp

- When holding the ringed clamp, it is important to remember three points:
  1. For the greatest control and accuracy, hold the ringed clamp with the palm facing up and the wrist extended (Figure 11).
  2. Apply the clamp at a 90° angle perpendicular to the vas. The palm-up hand position helps make this easier to do (Figure 12a).
  3. Hold the shaft of the ringed clamp in line with the axis of the vas—parallel to and directly over the vas (Figure 12c).

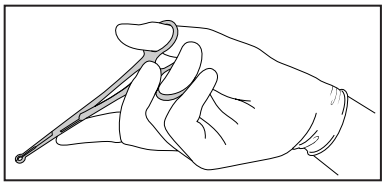

Figure 11

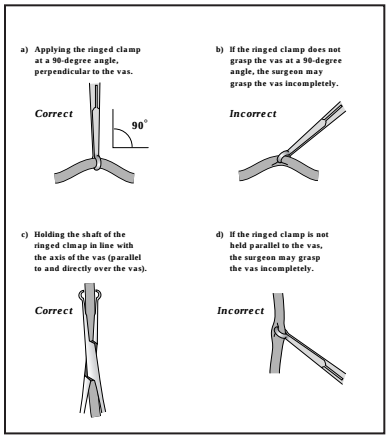

Figure 12

Applying the Ringed Clamp to the Scrotal Skin and Underlying Right Vas

- Using the three-finger technique, tightly stretch the skin overlying the vas (where the needle entered for anesthesia infiltration). Apply the ringed clamp, with the shaft at a 90° angle perpendicular to the vas.
- Open the ringed clamp, and press the tips onto the skin immediately overlying the vas (Figure 13). Apply upward pressure with the middle finger underneath the scrotum to resist the downward push of the ringed clamp and to press the vas from below into the ring. Slowly and gently close the clamp around the vas, up to the first click-stop.

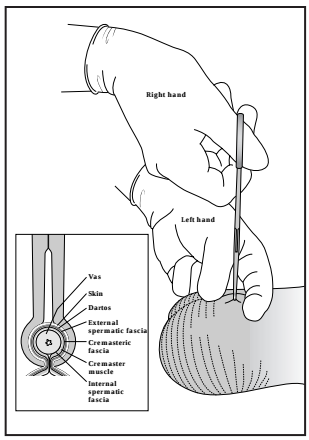

Figure 13

Elevating the Underlying Right Vas

- While the ringed clamp is still grasping the scrotal skin and the underlying right vas, transfer the instrument to your left hand. Then lower the handles of the ringed clamp, causing a bend in the vas (Figure 14). This motion elevates the vas. Continue to keep the shaft of the clamp in line with the longitudinal axis of the vas.

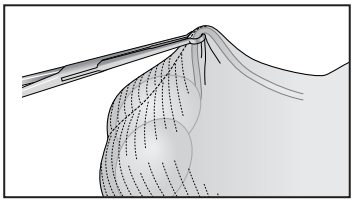

Figure 14

Puncturing the Scrotal Skin

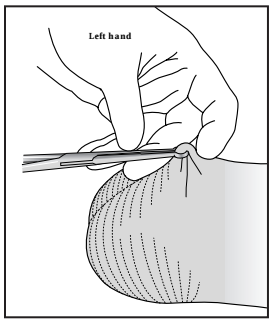

Figure 15

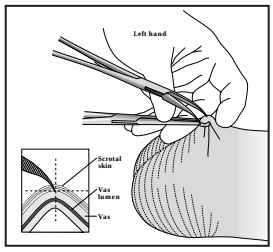

Figure 16

- The skin should be punctured in the previously anesthetized spot, midway between the base of the penis and the top of the testes. With the left index finger, press downward lightly to tighten the scrotal skin just ahead of the tips of the ringed clamp and over the anesthetized area (Figure 15).
- Hold the dissecting forceps in your right hand, points curved downward, in preparation for puncturing the vas. Hold the instrument so that there is a 45° angle between the closed tips of the forceps and the lumen. Open the forceps. Using only the medial blade of the forceps, pierce the scrotal skin just superior to the upper edge of the ringed forceps, where the vas is most prominent (Figure 16).

Piercing the Skin with the Medial Blade of the Dissecting Forceps

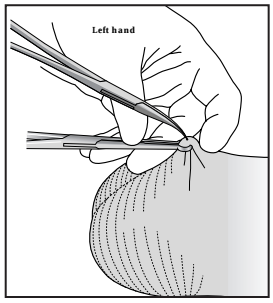

Figure 17

- When making the puncture, use a quick, sharp single movement to make a clear puncture of the skin down into the vas. Advance the medial blade of the forceps into the vas lumen.
- After making the puncture, withdraw the medial blade of the dissecting forceps. Close the tips of the forceps. At the same 45° angle as before, insert both tips of the forceps into the same puncture hole, in the same line, and at the same depth as when you made the puncture with the single blade (Figure 17).
- The ringed clamp remains locked in place while the skin is punctured.

Spreading the Tissues

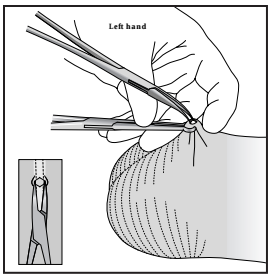

Figure 18

- Gently open the tips of the dissecting forceps transversely across the vas, to create a skin opening twice the diameter of the vas (Figure 18). In one motion, spread all layers of tissue, from the skin to the vas deferens.
- The tips of the forceps should penetrate deeply enough to expose bare vas wall. No harm is done if you enter the lumen. Be careful to keep the closed blades of the dissecting forceps parallel to the vas.

Delivering and Elevating the Right Vas

- Remove the dissecting forceps from the puncture hole. With the tip of the lateral blade of the dissecting forceps facing downward, pierce the wall of the vas deferens at a 45° angle (Figure 19). Using the lateral blade enables you to rotate your wrist more easily.

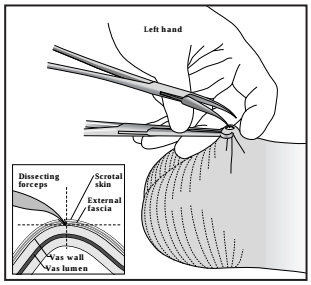

Figure 19

- With the lateral blade skewering the vas and the ringed clamp still grasping the scrotal skin, rotate the handle of the dissecting forceps clockwise 180° so that the tips face upward, to deliver a loop of the vas deferens (Figures 20 and 21).

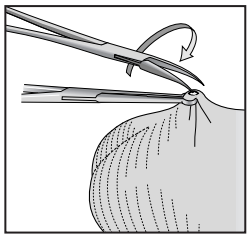

Figure 20

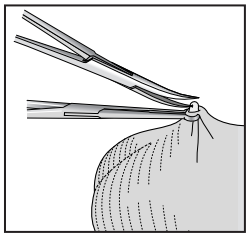

Figure 21

- As you rotate the dissecting forceps with your right hand, slowly release the ringed clamp with your left hand, thus allowing the forceps to elevate the vas through the puncture hole (Figure 22). The simultaneous rotation with one hand and release of the ringed clamp with the other hand requires practice and coordination. At the beginning of the rotation, your hand will be palm-side down. After rotation, it will be palm-side up.

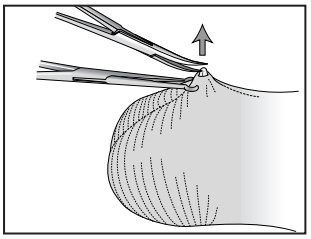

Figure 22

Alternative Method

You can also deliver the vas directly by grasping the bare vas without skewering it. The following description is for the right-handed person. After stretching the opening in the skin and sheath, do not remove the dissecting forceps from the puncture whole. Instead, gradually withdraw the forceps, holding them in line with the longitudinal axis of the vas, until you can see the tips (facing downwards) at the site of the bare exposed vas. Move your right hand, which is holding the dissecting forceps, and right elbow toward the right, away from your side, until the dissecting forceps are at about a 45° angle to the longitudinal axis of the vas (see Figure A). This movement causes the medial blade to slip out of the wound, while the tip of the later blade continues to touch the right side of the vas.

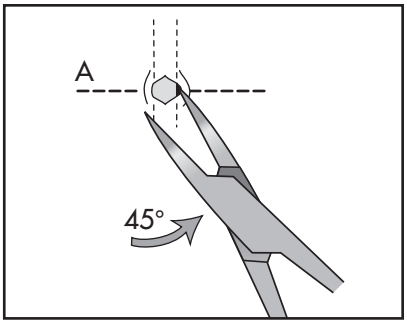

Figure A

Next, gently close the tips of the forceps, grasping the right half of the bare vas, with the tips of the forceps facing to the sides. Then start to rotate the dissecting forceps in a clockwise direction about 90° (see Figure B). Stop rotating and check to be sure that no fascia are between the tips of the forceps. Then continue to rotate the forceps, completing a 180° turn. After the rotation, the curved tips of the forceps are facing up. The rotational movement slightly elevates the vas out of the wound.

[need to insert figures A & B from page 38 of the surgeon's guide here.]

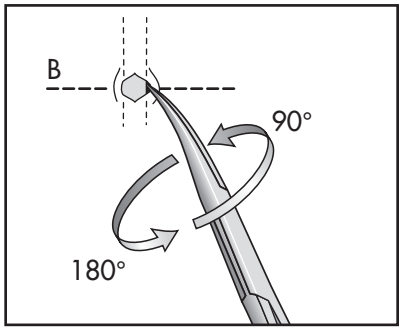

Figure B

Grasping the Vas with the Ringed Clamp

- Once a loop of the vas has been delivered, gently close the dissecting forceps on the vas to prevent it from slipping back into the scrotum while the ringed clamp is removed from the skin.
- Grasp a partial thickness of the loop of the vas with the ringed clamp (Figure 23).
- To avoid damaging the vas artery, be sure to grasp the vas at the crest of the loop. After you have grasped a partial thickness of the vas, release the dissecting forceps (Figure 24).

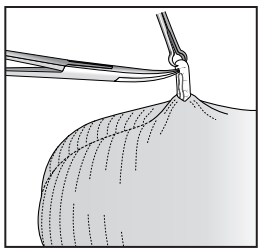

Figure 23

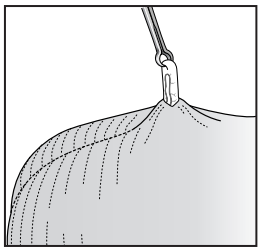

Figure 24

Puncturing and Stripping the Sheath

- With the tips of the dissecting forceps facing up, use one tip to gently puncture the vas sheath just below the vas, taking care not to injure the vas artery (Figure 25). Then remove the tip.

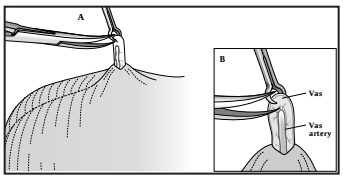

Figure 25

- Close the tips of the dissecting forceps. With the tips facing to the side, insert both tips into the punctured sheath (Figure 26).

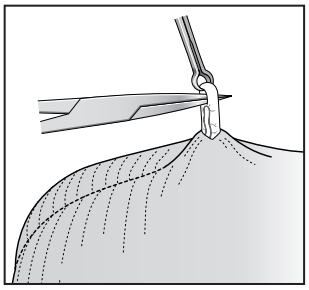

Figure 26

- Gently open the dissecting forceps. Strip the sheath and surrounding tissues downward for at least a 1 cm length of vas (Figure 27). This is a longitudinal, not a transverse, motion. Be careful to avoid blood vessels. Clamp or cauterize bleeders immediately. When checking for bleeding, pay particular attention to the abdominal segment of the vas, which is where bleeding from the vas artery could occur (a common reason for hematoma formation).

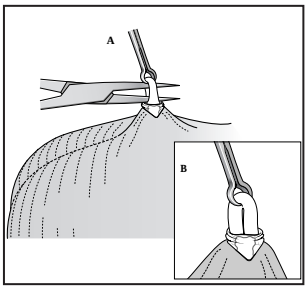

Figure 27

Occlusion

Once the vas has been brought into the open, it can be occluded using a variety of methods, including ligation with sutures, division, cautery, application of clips, excision of a segment of the vas, fascial interposition, or some combination of these. Ligation is the most widely used technique. The recommended technique for ligation is ligation with excision and fascial interposition. When used with ligation and excision, fascial interposition improves the effectiveness of vasectomy. Fascial interposition allows the surgeon to place a tissue barrier between the two cut ends of the vas by suturing (or securing with a clip) the thin layer of tissue that surrounds the vas (the fascial sheath) over one end of the vas. The stump of the prostatic (proximal) end is outside the fascial sheath and, when the vasectomy is completed, the stump of the testicular (distal) end is inside the fascial sheath.

Occluding the Right Vas by Ligation with Excision

- Before beginning ligation, make certain that all sheath and vasal vessels have been stripped away from the segment of vas to be occluded (Figure 28a).
- Ligate the isolated vas at two points about 1.5 cm or more apart using two separate ligatures, starting with the prostatic end of the vas and then ligating the testicular end. After ligating the prostatic end, cut one of the ends of the ligature, leaving a single uncut end of about 5 to 7 cm in length (Figure 28b). This will identify the prostatic end. The single uncut end of the ligature will be used later to retrieve the vas while performing fascial interposition.
- Ligate the testicular end and leave both ends of the ligature about 5 to 7 cm in length (Figure 28c). Some operators use absorbable suture material such as chromic catgut; others prefer nonabsorbable silk or cotton. There have been no studies done to determine the best material for ligating the vas.
- Excise up to 1 cm of the vas (Figure 28d).
- When excision is completed, assure that both stumps are not too close by pulling both ligatures. Separate both stumps by at least 1 cm (Figure 28e).
- Inspect for bleeding, and control it when it is present. Before the ligature of the testicular end is trimmed, hemostatis must be assured. After assuring that both stumps are separate, cut the ligature at the testicular end (Figure 28f).

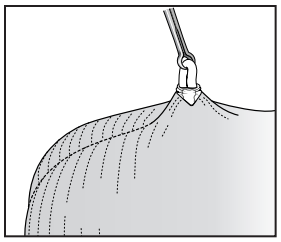

Figure 28a

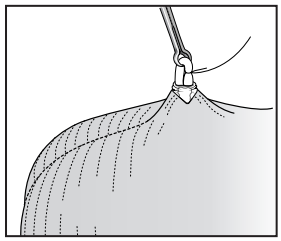

Figure 28b

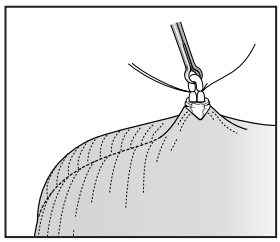

Figure 28c

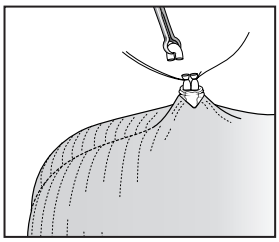

Figure 28d

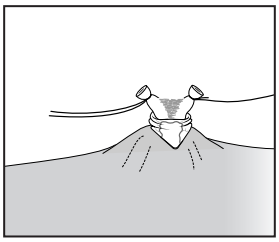

Figure 28e

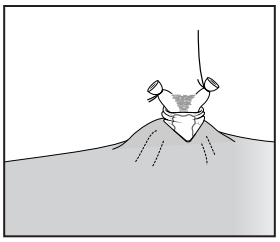

Figure 28f

Creating Fascial Interposition

- Allow both ends of the vas to drop back into the scrotum by gently pinching and pulling up on the scrotum with the thumb and index finger (Figure 29a) until the prostatic end is felt passing through the fingers (Figure 29b).

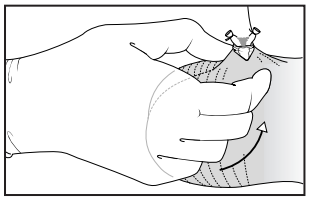

Figure 29a

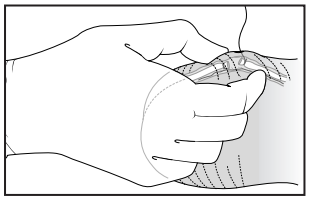

Figure 29b

- Start the fascial interposition technique by very gently pulling the uncut ligature of the prostatic end through the puncture wound. As the vas appears, it should be covered with the fascial sheath, which is seen as a translucent membrane covering the stump of the cut vas (Figure 29c). If the translucent membrane (the fascial sheath) is not seen covering the vas, the vas should be dropped back into the scrotum and pulled out again, more gently.

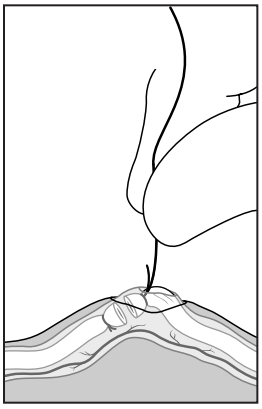

Figure 29c

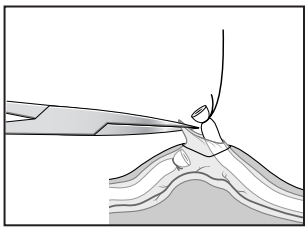

Figure 29d

- Using the tip of the dissecting forceps, carefully grasp and hold tightly the fascial membrane (Figure 29d), and tie the fascial membrane about 2 or 3 mm below the previous tie of the prostatic end (Figure 29e). Cut the sture.
- Allow the stump of the prostatic end to drop back into the scrotum by gently pinching the scrotum so that the stump falls back into its original position (Figure 29f).

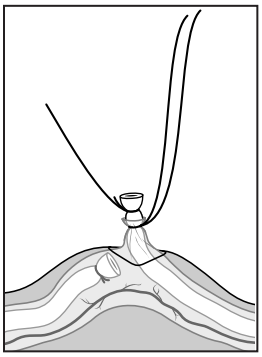

Figure 29e

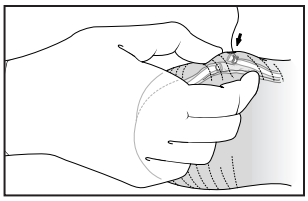

Figure 29f

- Assure by palpation with the thumb and middle finger that the prostatic end is in the correct position. Pull the single ligature just enough to see the stump of the prostatic end, then cut the single ligature and once again allow it to drop back into the scrotum. When fascial interposition is complete, the stump of the prostatic end should be outside the fascial sheath and the stump of the testicular end inside the fascial sheath (Figure 30).

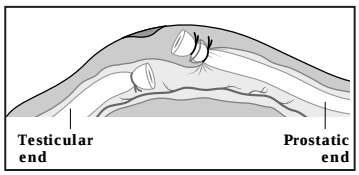

Figure 30

Occluding the Right Vas by Cautery

- There are many variations in the cautery technique, depending on the equipment used and the operator's preferences. For, example, when a sharp-needle electrode is used, the operator pierces the vas wall with the needle and directs it into the lumen (Figure 31).

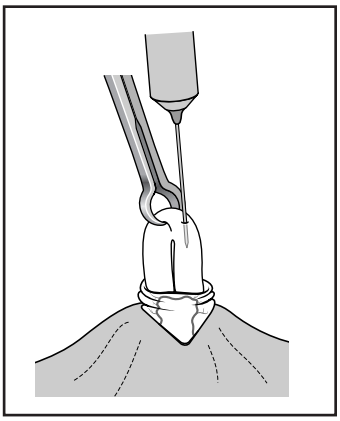

Figure 31

- When a blunt cautery unit is used, however, the vas is first hemi-transected, to permit the cautery tip to enter the lumen. If the vas is only partially transected at this stage, it cannot slip back into the scrotum (Figure 32).

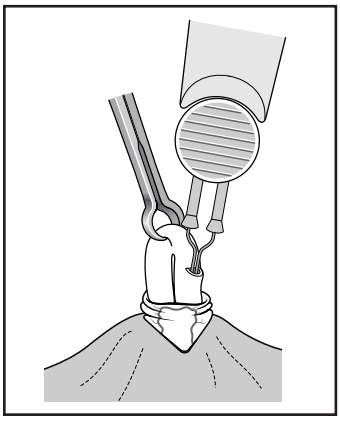

Figure 32

- To achieve a graded desiccation of only the mucosal layer, the operator inserts 1.0 to 1.5 cm of the cold cautery tip into the lumen. Current is then applied, and the tip is slowly withdrawn. Depending on the equipment and the electrical current or strength of the battery, the time needed to cauterize the mucosal layer will vary. Doctors who are experienced with cautery usually note changes in the vas that indicate the mucosa has been desiccated. (For example, the mucosa blanches, and a small amount of smoke escapes from the tissue.) After cauterizing in one direction, the operator turns off the cautery unit to allow the tip to cool before cauterizing the vas in the other direction.

- The vas is then divided. Some doctors remove a segment of the vas (Figure 33) and other do not. Fascial interposition may also be used after the vas is occluded by cautery; however, there is no evidence that fascial interposition leads to a more rapid decrease in sperm counts than cauter alone.

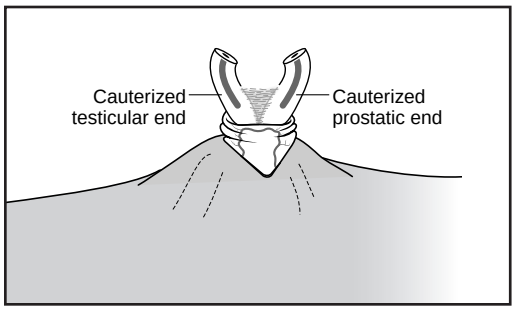

Figure 33

Isolating the Left Vas before Occlusion

- Adjust your left hand to use the three-finger technique to grasp the left vas deferens (Figure 34). Place your middle finger below the scrotum and your thumb and index finger above the scrotum. Position the vas directly under the previously opened puncture site.

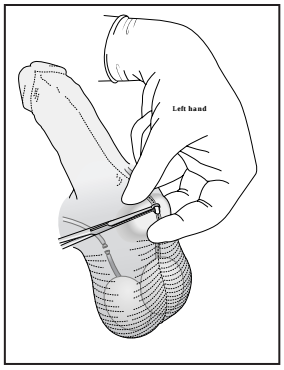

Figure 34

Applying the Ringed Clamp to the Scrotal Skin and Underlying Left Vas

- Still using the three-finger technique, tightly stretch the skin overlying the vas. Open the ringed clamp and press the tips around the vas and overlying sheath. Lock the clamp around the puncture site (vas and overlying sheath) using the "palm-up" approach.

Delivering, Elevating, and Occluding the Left Vas

- The steps for delivering and elevating the left vas are the same as those for the right vas. When practicing on your own, repeat the steps for the right vas, beginning with the section entitled "Delivering and Elevating the Right Vas" (page 35) and continuing through "Occluding the Right Vas."

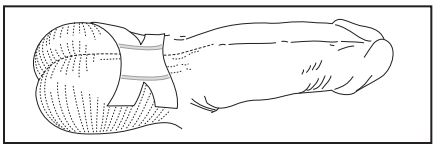

Figure 35

Dressing the Wound

- After both vasa have been occluded and returned to the scrotum, pinch the puncture site for a minute, or ask the client to hold the gauze and apply pressure himself.
- Inspect for bleeding. If bleeding is present, hemostasis must be achieved.
- No closure is necessary.
- Apply antibiotic ointment to the wound and cover with sterile gauze or bandage (Figure 35).

Postoperative Tasks

Describe the postprocedure tasks on the NSV Clinical Skills Checklist (Appendix B in the NSV Curriculum):

1. Flush the needle and syringe and decontaminate all instruments.
2. Dispose of waste and sharps.
3. Remove gloves. (Decontaminate reusable gloves.)
4. Wash and dry your hands thoroughly.
5. Hand undergarments to the client.
6. Ask the client how he feels.
7. Give the client written instructions on postoperative care.

Bibliography

The ACQUIRE Project. 2005. *'Get a permanent smile'—Increasing awareness of, access to, and utilization of vasectomy services in Ghana.* New York: EngenderHealth/The ACQUIRE Project.

Ahmed, I. et al. 1997. The incidence of post-vasectomy chronic testicular pain and the role of nerve stripping (denervation) of the spermatic cord in its management. *British Journal of Urology* 79(2):269–270.

Alarcon, F., et al. 1995. Vasectomy decision-making in Mexico (GLO-11-EV-1): A global vasectomy decision-making study: A six-part series. New York: AVSC International. 1995.

Alderman, P. M. 1991. Complications in a series of 1224 vasectomies. *Journal of Family Practice* 33(6):579–584.

Alexander, N. J., and Clarkson, T. B. 1978. Vasectomy increases the severity of diet-induced atherosclerosis in *Macaca fascicularis. Science* 201(4355):538–541.

Arellano Lara, S., et al. 1997. No-scalpel vasectomy: Review of the first 1,000 cases in a family medicine unit. *Archives of Medical Research* 28(4):517–522.

Atkins, B., and Jezowski, T. 1983. Report on the first International Conference on Vasectomy. *Studies in Family Planning* 14(3):89–95.

Bates, B. 1995. *A guide to physical examination and history taking.* Philadelphia: Lippincott.

Barone, M., et al. 2003. A prospective study of time and number of ejaculation to azoospermia after vasectomy by ligation and excision. *Journal of Urology* 170(3):892–896.

Barone, M. A., et al. 2004. Effectiveness of vasectomy using cautery. *Biomed Central Urology* 4:10. Available at http://www.biomedcentral.com/1471-2490/4/10.

Bernal-Delgado, E., et al. 1998. The association between vasectomy and prostate cancer: A systematic review of the literature. *Fertility and Sterility* 70(2):191–200.

Bernstein, G. S., et al. 1979. A controlled prospective study of the effects of vasectomy. In *Vasectomy: Immunologic and pathophysiologic effects in animals and man,* ed. by I. H. Lepow and R. Crozier, New York: Academic Press, p. 473.

Bunyaratavej, P., et al. 1981. Comparison of vasectomy performed by medical students and surgeons in Thailand. *Studies in Family Planning* 12(8–9):316–318.

Cale, A. R., et al. 1990. Does vasectomy accelerate testicular tumour? Importance of testicular examinations before and after vasectomy. *British Medical Journal* 300(6721):370

Campbell, M. F. (ed.). 2002. *Campbell's urology.* Philadelphia: W.B. Saunders.

Choe, J. M., and Kirkemo, A. K. 1996. Questionnaire-based outcomes study of nononcological post-vasectomy complications. *Journal of Urology* 155(4):1284–1286.

Clarkson, T. B., and Alexander, N. J. 1980. Long-term vasectomy: Effects on the occurrence and extent of atherosclerosis in rhesus monkeys. *Journal of Clinical Investigation* 65(1):15–25.

Coady, S., et al. 2002. Vasectomy, inflammation, atherosclerosis and long-term follow-up for cardiovascular diseases: No associations in the atherosclerosis risk in communities study. Journal of Urology 167(1):204–207.

Cook, L. A., et al. 2004. Vasectomy occlusion techniques for male sterilization. *Cochrane Database of Systematic Reviews* 2004;(3):CD003991

Coulson, A. H., et al. 1983. Health Status of American Men—a study of post-vasectomy sequelae: Results. *Journal of Clinical Epidemiology* 46(8):857–958.

Cox, B., et al. 2002. Vasectomy and risk of prostate cancer. *JAMA* 287(23):3110–3115.

Ehn, B. E., and Liljestrand, J. 1995. A long-term follow-up of 108 vasectomized men. Good counseling routines are important. *Scandanavian Journal of Urology and Nephrology* 29(4):477–481.

EngenderHealth. 2003. *No-scalpel vasectomy: An illustrated guide for surgeons.* Third edition. New York.

EngenderHealth. 2003. *Choices in family planning: Informed and voluntary decision making.* New York.

EngenderHealth. 2003. *Comprehensive counseling for reproductive health: An integrated curriculum.* New York

EngenderHealth. 2000. Men's Reproductive Health Curriculum.three-part curriculum. Section 1: Introduction to Men's Reproductive Health Services, Revised Edition (currently under development); Section 2: Counseling and Communicating with Men (2003). Section 3: Management of Men's Reproductive Health Problems (2003). New York

EngenderHealth. 2002a. *Contraceptive sterilization: Global issues and trends.* New York.

EngenderHealth. 2002b. *Online courses on sexuality and sexual health; sexually transmitted infections; HIV and AIDS; and infection prevention.* Available at http://www.engenderhealth.org/res/onc/index.html

EngenderHealth. 2001. *Infection prevention: A reference booklet for health care providers.* New York

EngenderHealth. 1999. *Infection prevention curriculum: A training course for health care providers and other staff of hospitals and clinics.* New York.

EngenderHealth. 1997. *Programming for male involvement in reproductive health: A practical guide for managers.* New York.

EngenderHealth. 1991. *How to assess a client's decision for permanent contraception: A surgeon's guide for final assessment.* New York.

Giovannucci, E., et al. 1992. A long-term study of mortality in men who have undergone vasectomy. *New England Journal of Medicine* 326(21):1392–1398.

Gojaseni, P., and Leoprapai, B. 1982. A pilot project to train paramedical personnel to perform vasectomy. In: *Voluntary sterilization in Thailand.* Ed. by Sangsingkeo et al., Bangkok: Thai Association for Voluntary Sterilization.

Goldacre, M. J., et al. 1978. Follow-up of vasectomy using medical record linkage. *American Journal of Epidemiology* 108(3):176–180.

Goldacre, M., and Vessey, M. 1979. Record linkage study of morbidity following vasectomy. In *Vasectomy: Immunologic and pathophysiologic effects in animals and man*, ed. by I. H. Lepow and R. Crozier, New York: Academic Press, Chap. 27.

Goldacre, M. J.; Holford, T. R., and Vessey, M. P. 1983. Cardiovascular disease and vasectomy: Findings from two epidemiological studies. *New England Journal of Medicine* 308(14):805–808.

Green, C. P., Cohen, S. I., and Ghouayel, H. B. 1995. Male involvement in reproductive health, including family planning and sexual health. *UNFPA Technical Report* Number 28. New York: United Nations Population Fund (UNFPA).

Gubin, D. A., Dmochowski, R., and Kutteh, W. H. 1998. Multivariant analysis of men from infertile couples with and without antisperm antibodies. *American Journal of Reproductive Immunology* 39(2):157–160.

Healy, B. 1993. From the National Institutes of Health: Does vasectomy cause prostate cancer? *Journal of the American Medical Association* 269(20):2620.

Hellema, H. W. J., and Rumke, P. 1978. Sperm autoantibodies as a consequence of vasectomy: I. Within 1 year post-operation. *Clinical and Experimental Immunology* 31(1):18–29.

Hieu, D. T., et al. 2003. The acceptability, efficacy and safety of quinacrine non-surgical sterilization (QS), tubectomy and vasectomy in 5 provinces in the Red River Delta, Vietnam: a follow-up of 15,190 cases. *International Journal of Gynaecology and Obstetrics* 83(Suppl 2):S77–85.

Holt, B. A., and Higgins, A. F. 1996. Minimally invasive vasectomy. *British Journal of Urology* 77(4):585–586.

Huang, M. K., et al. 1997. Multiple factors affecting human repregnancy after microsurgical vasovasostomy. *Reproduction and Contraception* 8:92–100.

Huber, D. 1989. No-scalpel vasectomy: The transfer of a refined surgical technique from China to other countries. *Advances in Contraception* 5(4):217–218.

International Planned Parenthood Federation (IPPF). 1993. *The rights of the client*. Poster. London.

Jamieson, D. J., et al. 2004. US collaborative review of sterilization working group: The risk of pregnancy after vasectomy. *Obstetrics and Gynecology* 103(5 Pt 1):848–850.

Janowitz, B., Measham, D., and West, C. 1999. *Issues in the financing of family planning services in Sub-Saharan Africa*. Research Triangle Park, NC: Family Health International.

Jezowski, T. W., et al. 1995. A successful national program for expanding vasectomy services: The experience of the Instituto Mexicano del Seguro Social. *AVSC Working Paper* No. 8. New York: AVSC International.

JHPIEGO Corporation. 2003. *Infection prevention guidelines for healthcare facilities with limited resources: Overview and practical training demonstration segments and safe practices in the operating room* (video). Baltimore: JHPIEGO Corporation.

Johns Hopkins School of Public Health, Center for Communication Programs. 1997. *Reaching men worldwide: Lessons learned from family planning and communication projects (1986–1996)*. Working Paper No. 3. Baltimore.

Kendrick, J. S., et al. 1987. Complications of vasectomies in the United States. *Journal of Family Practice* 25(4):245–248.

Labrecque, M., et al. 2002. Effectiveness and complications associated with 2 vasectomy occlusion techniques. *Journal of Urology* 168(6):2495–2498.

Labrecque, M., et al. 2004. Vasectomy surgical techniques: A systematic review. *BioMed Central Medicine* 2:21. Available at http://www.biomedcentral.com/1741-7015/2/21.

Lande, R. 1993. Controlling sexually transmitted diseases. *Population Reports* series L, no.9. Baltimore: Johns Hopkins School of Public Health, Population Information Program.

Landry, E., and Ward, V. 1997. Perspectives from couples on the vasectomy decision: A six-country study. In *Beyond acceptability: Users' perspectives on contraception,* ed. by T. K. Sundari Ravindar, M. Berer, and J. Cottingham. London: Reproductive Health Matters, pp. 58–67.

Lenzi, A., et al. 1997. Antisperm antibody detection: 2. Clinical, biological, and statistical correlation between methods. *American Journal of Reproductive Immunology* 38(3):224–230.

Lepow, I. H., and Crozier, R. H. (eds.) 1979. *Vasectomy: Immunologic and pathophysiologic effects in animals and man.*New York: Academic Press.

Lesko, S. M., et al. 1999. Vasectomy and prostate cancer. *Journal of Urology* 161(6):1848–1852.

Li, S., et al. 1991. The no-scalpel vasectomy. *Journal of Urology* 145(2):341–344.

Li, P. S., et al. 1992. External spermatic sheath injection for vasal nerve block. *Urology* 39(2):173–176.

Liskin, L., Benoit, E., and Blackburn, R. 1992. Vasectomy: New opportunities. *Population Reports,* series D, no. 5. Baltimore, Johns Hopkins University, Population Information Program.

Lynge, E. 2002. Prostate cancer is not increased in men with vasectomy in Denmark. *Journal of Urology* 168(2):488–490.

Manikandan, R., et al. 2004. Early and late morbidity after vasectomy: a comparison of chronic scrotal pain at 1 and 10 years. *BJU International* 93(4):571–574.

Massey Jr., F. J., et al. 1984. Vasectomy and health: Results from a large cohort study. *Journal of the American Medical Association* 252(8):1023–1029.

McMahon, A. J., et al. 1992. Chronic testicular pain following vasectomy. *British Journal of Urology* 69(2):188–191.

Meinertz, H., et al. 1990. Antisperm antibodies and fertility after vasovasostomy: A follow-up study of 216 men. *Fertility & Sterility* 54(2):315–321.

Moller, H., et al. 1994. Risk of testicular cancer after vasectomy: cohort study of over 73,000 men. *British Medical Journal* 309: 295–299 (July 1994).

Mumford, S. D. 1977. *Vasectomy: The decision-making process*. San Francisco: San Francisco Press.

Mumford, S. D. 1983. The vasectomy decision-making process. *Studies in Family Planning,* 14(3):83–88.

Myers, S. A., Mershon, C. E., and Fuchs, E. F. 1997. Vasectomy reversal for treatment of the post-vasectomy pain syndrome. *Journal of Urology* 157(2):518–520.

Nazerali, H., et al. 2003. Vasectomy effectiveness in Nepal: A retrospective study. *Contraception* 67(5):397–401.

Neamatalla, G., and Harper, P. B. 1994. *Family planning counseling and voluntary sterilization: A guide for managers.* New York: AVSC International.

Newton, R. A. 1998. IgG antisperm antibodies attached to sperm do not correlate with infertility following vasovasostomy. *Microsurgery* 9(4):278–280.

Nienhuis, H., et al. 1992. Incidence of disease after vasectomy: A record linkage retrospective cohort study. *British Medical Journal* 304(6829):743–746.

Nirapathpongporn, A., Huber, D., and Drieger, J. N. 1990. No-scalpel vasectomy at the King's birthday vasectomy festival. *Lancet* 335(8694):894–895.

Nirapathpongporn, A., and Viravaidya, M. 1983. Client referral system of the community-based voluntary sterilization project. Paper read at 5th International Conference on Voluntary Surgical Contraception. 5-8 December. Santo Domingo, Dominican Republic.

Peterson, H. B., and Howards, S. S. 1998. Vasectomy and prostate cancer: The evidence to date. *Fertility & Sterility* 70(2):201–203.

Petitti, D. B., et al. 1982. A survey of personal habits, symptoms of illness, and histories of disease in men with and without vasectomies. *American Journal of Public Health* 72(5):476–480.

Petitti, D. B., et al. 1983. Vasectomy and the incidence of hospitalized illness. *Journal of Urology* 129(4):760–762.

Philp, T., Guillebaud, J., and Budd, D. 1984. Complications of vasectomy: Review of 16,000 patients. *British Journal of Urology* 56(6):745–748.

Physicians' Desk Reference. 2006. Montvale, NJ: Thomson Healthcare.

Pile, J. M., et al. 1999. Involving men as partners in reproductive health: Lessons learned from Turkey. *AVSC Working Paper* No. 12. New York: AVSC International.

Rimm, A. A., et al. 1983. The relationship between vasectomy and angiographically determined atherosclerosis in men. *Preventive Medicine* 12(2):262–273.

Rosenberg, L. et al. 1994. The relation of vasectomy to the risk of cancer. *American Journal of Epidemiology* 140(5):431–438.

Rosenberg, L., et al. 1986. The risk of myocardial infarction 10 years or more after vasectomy in men under 55 years of age. *American Journal of Epidemiology* 123(6):1049–1056.

Salem, R. 2004. Men's surveys: New findings. *Population Reports*, series M, no. 18. Baltimore, The Johns Hopkins Bloomberg School of Public Health, The INFO Project.

Schmidt, S. S. 1979. Spermatic granuloma: an often painful lesion. *Fertility & Sterility* 31(2):178–181.

Schuman, L. M., et al. (eds.) 1993. Health Status of American Men—a study of post-vasectomy sequelae. *Journal of Clinical Epidemiology* 46(8):697–958.

Skriver, M., Skovsgaard. F., and Miskowiak, J. 1997. Conventional or Li vasectomy: A questionnaire study. *British Journal of Urology* 79(4):596–598.

Sokal, D., et al. 1999. A comparative study of the no scalpel and standard incision approaches to vasectomy in 5 countries. *Journal of Urology* 162(5):1621–1625.

Sokal, D., et al. 2004a. Vasectomy by ligation and excision, with versus without fascial interposition: A randomized controlled trial. *BioMed Central Medicine* 2:6. Available at http://www.biomedcentral.com/1741-7015/2/6.

Sokal, D., et al. 2004b. A comparison of vas occlusion techniques: Cautery more effective than ligation and excision with fascial interposition. *BioMed Central Urology* 4:12. Available at http://www.biomedcentral.com/1471-2490/4/12.

Stanford, J. L., et al. 1999. Vasectomy and risk of prostate cancer. *Cancer Epidemiology, Biomarkers & Prevention* 8(10):881–886.

Strader, C. H., et al. 1988. Vasectomy and the incidence of testicular cancer. *American Journal of Epidemiology* 128:56–63.

Swerdlow, A. J., et al. 1987. Testicular cancer and antecedent diseases. *British Journal of Cancer* 55:97–103.

Temmerman, M,. et al. 1986. Evaluation of one-hundred open-ended vasectomies. *Contraception* 33(6):529–532.

Thomas, Jr., A. J., et al. 1981. Microsurgical vasovasostomy: Immunologic consequences and subsequent fertility. *Fertility & Sterility* 35(4):447–450.

Thornhill, J. A., et al. 1988. Physician-dependent prognostic variables in the management of testicular cancer. *British Journal of Urology* 61(3):244–249.

Tietjen, L., Bossemeyer, D., and McIntosh, N. 2003. *Infection prevention guidelines for healthcare facilities with limited resources*. Baltimore, MD: JHPIEGO Corporation.

Viladoms Fuster, J.M., and Shihua Li, P. 1994. Vasectomia sin bisturio. *Archivos Espanoles de Urologia* 47(7):695–701.

Vernon, R. 1996. Operations research on promoting vasectomy in three Latin American countries. *International Family Planning Perspectives* 22(1):26–31.

Walker, A. M., et al. 1981. Hospitalization rates in vasectomized men. *Journal of American Medical Association* 245(22):2315–2317.

Wang D. 2002. Contraceptive failure in China. *Contraception* 66(3):173–178.

World Health Organization (WHO). 2004a. *Improving access to quality care in family planning: Medical eligibility criteria for contraceptive use,* Third edition. Geneva.

WHO. 2004b. *Selected practice recommendations for contraceptive use.* Second edition. Geneva.

WHO. 1988. *Technical and managerial guidelines for vasectomy services.* Geneva.

WHO. 1992. *Female sterilization: A guide to provision of services.* Geneva.

WHO. 1994. *No-scalpel vasectomy* (video). Geneva.

EngenderHealth
440 Ninth Avenue
New York, NY 10001
Telephone: 212-561-8000
Fax: 212-561-8067
e-mail: info@engenderhealth.org
www.engenderhealth.org

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