Northern Territory Government

DEPARTMENT OF **HEALTH**

NT Guidelines for the Management of Sexually Transmitted Infections in the Primary Health Care setting

Sexual Health and Blood Borne Virus Unit
Centre for Disease Control

Acknowledgements

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Cover painting: "Better Health"
Story: people are calling out for help. They have sickness caused by bacteria and blood borne viruses. Some sickness causes discharge. When treatment happens and information is shared, people feel better and can tell others.
Artist: Nola Jimarin of Naiyu Community.

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See page 57 for
Standard treatment protocols for sexually transmissible infections

This guideline was produced in reference to the:

1. Minymaku Kutju Tjukurpa Women’s Business Manual (4th Edition)
‘Standard Treatment Manual for Women’s Business in Central Australia and the Top End of the Northern Territory.
Congress Alukura and Nganampa Health Council Inc. Alice Springs, May 2008

2. CARPA Standard Treatment Manual (5th Edition)
A clinic manual for primary health care practitioners in remote and rural communities in Central and Northern Australia.
Central Australian Rural Practitioners Association. Alice Springs, 2009
www.carpa.org.au

Sexual history taking

A detailed sexual history can be useful both in diagnosing and treating the patient, and helping to provide personalised preventative counselling. The level of detail you ask around sexual behaviour should be assessed on an individual basis. Generally more detail is required for symptomatic people and those requesting tests. Asymptomatic screening tests routinely offered to the client generally do not require a full sexual history.

At all times, ensure patient privacy, confidentiality and comfort. Be friendly and non-judgemental and ask open ended questions. The following checklist will help you cover all the questions you would ask if taking a full sexual history.

Presenting complaints

Listen to the patient's reason for attending and follow-up with questions about their symptoms.

SYMPTOMS - ask about onset, duration and change over time.

- Urethral/vaginal/anal discharge - amount, colour, odour?
- Abnormal vaginal or rectal bleeding?
- Dysuria/urinary frequency?
- Lower abdominal pain - genital/anal, pain type, location of pain, what makes the pain better or worse?
- Itch/discomfort in perineum, peri-anal, pubic region?
- Genital lumps, sores?
- Pain with defecation?
- Pain with sex?
- Fever, enlarged lymph nodes?
- Rashes - genital and elsewhere?
- Sore throat?
- Any other symptoms?

Sexual history

Do they have a current regular sexual partner (or partners)?

- Is the partner male or female?
- How long have they been together?
- Type of sexual contact - oral/vaginal/anal?
- Do they use condoms - always/sometimes/never?
- Are they concerned about their current partner's past or current risk (i.e. is the partner likely to have had other partners recently, a man who has sex with other men, a sex worker, an injecting drug user)?
- When was the last unprotected (without a condom) sexual intercourse with this partner?

Have they had sexual intercourse with any casual partners in the past 3 months?

- Type of sexual contact – oral/vaginal/anal?
- Were condoms used?
- Were any of these partners from outside the Top End or Central Australia (see p10)
- Were any of these partners injecting drug users or sex workers?
- Have they had more than 1 sexual partner in the past 6 months?
- Have they ever accepted money/favours for sex?

Social history

- Do they drink alcohol? How much and how often?
- Do they smoke?
- Any history of non-professional tattoos/piercing?
- Any history of current or past injecting drug use, if so - when did they last inject, have they ever shared equipment?
- Any needle stick injuries?

Past medical history

- Any previous sexually transmissible infections (STIs) or similar symptoms?
- Any medical or surgical conditions?
- Any blood transfusions - if so when (pre 1985 for HIV and pre 1990 for HCV)?
- Have they been vaccinated for Hepatitis A or B (The NT has had a program of vaccinating all Aboriginal children against Hepatitis B at birth since 1989 and all children since 1990).

Medications/allergies

- Current medications prescribed - particularly antibiotics or creams?
- Any medications they have taken without prescription?
- Any known allergies?
- Current contraception - any problems?

Gynaecological history

- Date of last menstrual period?
- Usual menstrual cycle - has this changed?
- Any pregnancies including terminations/miscarriages?
- Complications in pregnancy?
- Gynaecological procedures - past history?
- Contraceptive history - any problems?
- Abnormal vaginal bleeding?
- Pap smears - date of most recent pap, any abnormal pap smears?

Pre-test information if testing for blood borne viruses

- Explain the nature of the test, and how confidentiality of test results will be assured.
- Ensure client understands the concept of a 'window period'.
- Advise client that they should return in person for test results.
- Discuss social and cultural implications of a positive test - who they would tell and what might it mean?

Education as part of a sexual health consultation

- Discuss how STIs are spread and the importance of treatment to prevent infertility and miscarriages in women.
- Discuss safe sex and the use of condoms.
- Advise that if they have an STI, recent partners in the past 3 months will need to be checked and treated.

Contact tracing

- Explain the reasons why partners need a check-up and treatment (to prevent repeat infection, miscarriages and infertility in women).
- Explain that many STIs have no symptoms and partners may not be aware they are infected.
- Explain how confidentiality will be maintained and the methods of informing their partner/s:

    1. Ask them to tell their partner/s to come to the clinic for a check-up and treatment;

        or

    2. Ask for the names of their partner/s and the clinic staff can follow them up, names of contacts will never be recorded in the index case's medical record and contacts **are not** told who named them.

Sexual risk assessment

These guidelines are for all regions of the Northern Territory (NT). The prevalence of STIs varies greatly within the NT and this will affect the likelihood that a person who has had unprotected intercourse may have been exposed to an STI. Practitioners can seek advice from their local Centre for Disease Control (CDC) about the prevalence of STIs in their area.

While these guidelines generally recommend a syndromic management approach, different approaches are appropriate for people or groups with different risk status. As a result, recommendations for treatment will vary. Some of the protocols in this publication suggest making a risk assessment, identifying criteria to do so and recommending treatment accordingly.

Remote communities

People who live in remote communities and are sexually active are at increased risk of syphilis, gonorrhoea, chlamydia and trichomonas because of the very high rates of infection in those communities. In general terms, communities in the western regions of Central Australia have higher rates than other regions. However, there are also remote communities where rates are lower.

People who live in urban settings, who have a sexual network connection to remote communities are also at an increased risk of infection. i.e. those people whose sexual partners are connected to remote communities.

Age

People in their mid to late teens and early adulthood have higher rates of STIs than older people[1]. As a generalisation, people will have a higher STI risk if they are:

- under 25 years with no sexual network connection to remote communities; or
- under 35 years with a sexual network connection to remote communities.

Sexual partners

The greater the number of sexual partners a person has, the higher their risk of contracting an STI[1].People with higher numbers of sexual partners pose an increased risk of infecting others[1]. This is especially true if they have concurrent sexual partners: i.e. they are having sex with more than one person during the same time period.

For chlamydia infection in women, there is an increased risk of infection if a woman has:

- a new sexual partner in the past 3 months; or
- more than 1 sexual partner in the past 6 months.

Recent STI

People who contract an STI are at greater risk of doing so again. Various studies have measured this over periods of 3, 6 and 12 months. A person who has had an STI in the past 12 months may be at increased risk of re-infection[2].

Alcohol and other substance use

Excessive use of alcohol and other substances increases the risk of STIs[3,4]. However, it is not the substance use on its own that increases risk, but that people who are intoxicated become uninhibited, are more likely to have sex, especially with someone who is not their usual partner, less likely to have safe sex, and therefore more likely to contract an STI[5].

Regular partner's behaviour

When assessing a person's risk of an STI, their regular partner's behaviour may be more important than their own, particularly when the regular partner has multiple concurrent partners, and the person only has one partner. Similarly, a sexual partner's alcohol or drug use may suggest an increased risk for the person.

Sexual assault

Sexual assault may be disclosed by a person during the course of an STI assessment. Reassure the person that all information given during a consultation is confidential. Affirm the person's rights to control their sexual choices. Offer the person support in deciding whether to seek further advice about what has happened to them. Consult the Women's Business Manual, CARPA and Specialist Sexual Assault Referral Services (SARC) for further advice.

If a child under 18 discloses non consensual sexual activity please consult the flow chart (page 56) in the Appendix for advice on the reporting responsibilities you have as a health professional.

Male examination

It is important that the patient is informed about what the examination involves, why it will help with their management, and consents to the examination. Ensure privacy and patient comfort throughout the examination. Ensure good lighting and have underwear removed to allow adequate examination. A sheet to cover the genital area should be used before and after examination for client comfort.

Start with a general examination of skin, abdomen, inguinal region then genital area.

General examination

- Skin - rashes, tattoos, fungal infections in flexures, skin creases.
- Hands and feet - fungal infections, rashes.
- Nails - candida or fungal infections or changes in nail development.
- Hair and eyebrows - hair loss, lice.
- Lymph nodes - cervical, axilla, inguinal.
- Mouth, teeth and throat - inflammation, ulcers, plaques, oral candida.
- Temperature and pulse if febrile.

Abdominal examination

- Look for tenderness, masses, guarding, rebound tenderness, scars and bowel sounds (always palpate gently).

Inguinal region

- Examine for lymph nodes - enlarged, tender, bilateral or unilateral, fluctuant.
- Rashes - folliculitis, fungal infections.

Genital examination

- Pubic hair area - any skin lesions, signs of scabies or pubic lice.
- Penis and under the foreskin - note any discharge from the meatus and its colour, odour and consistency.
- Any lumps, rashes or ulcers i.e. warts, molluscum, genital herpes, candida.
- Scrotum and testicles - any swelling, heat, tenderness - unilateral or bilateral (epididymitis).
- Examine the anal area for rashes, ulcers, lumps or discharge. Consider proctoscopy if anal symptoms are present and you have been trained in this technique.

Female examination

It is important that the patient is informed about what the examination involves, why it will help with their management, and consents to the examination. Ensure privacy and patient comfort throughout the examination. Ensure good lighting and have underwear removed to allow adequate examination. A sheet to cover the genital area should be used before and after examination for client comfort. If a speculum or bimanual examination is anticipated ask the client to empty her bladder prior to commencing the examination. If urine is to be collected for urine pregnancy test or mid stream urine (MSU) ask the client to collect it at this time.

Start with a general examination of skin, abdomen, inguinal region then genital area.

General examination

- Skin - rashes, tattoos, fungal infections in flexures/skin creases.
- Hands and feet - fungal infections, rashes.
- Nails - candida or fungal infections or changes in nail development.
- Hair and eyebrows - hair loss, lice.
- Lymph nodes - cervical, axilla, inguinal.
- Mouth, teeth and throat - inflammation, ulcers, plaques, oral candida.
- Temperature and pulse if febrile.

Abdominal examination

- Look for tenderness, masses, guarding, rebound tenderness, scars, bowel sounds (always palpate gently).

Inguinal region

- Examine for lymph nodes - enlarged, tender, bilateral or unilateral, fluctuant.
- Rashes - folliculitis, fungal infections.

Breast examination - as required

External genital examination - vulva

- Pubic hair area - any skin lesions, warts, molluscum, scabies, pubic lice.
- Gently open the labia and examine the labia majora and minora. Look for any vulval redness, swelling, signs of itching, excoriation or scratch marks.
- Any signs of discharge - note its colour, odour and consistency.
- Look for ulceration, trauma or splits in the skin - herpes, donovanosis, syphilis.
- Any lesions i.e. warts, cysts, molluscum contagiosum, pigmented lesions, white plaques.

Higher rates of carcinoma of the vulva have been observed in the East Arnhem region among Aboriginal women in recent years[6]

Internal genital examination - vaginal speculum

- Insert speculum gently - usually best lubricated with warm water or water based lubricant.
- Note the vaginal walls and check for inflammation, discharge - increased quantity, smell, colour and consistency. Any warts, cysts, ulcers or signs of trauma.
- Note the cervix - shape, size, ectropion, inflammation, discharge, bleeding.
- Are there any warts, ulcers, polyps or cysts on the cervix.

Bimanual examination

With one hand on the abdomen and 2 fingers of the other hand in the vagina, note any tenderness or pain when moving the cervix, feel the size and orientation of the uterus, for any pain or masses in the adnexa (if **any** of these signs are present see PID protocol, page 21*)*.

Anal examination

Examine the anal area for warts, lesions, ulcers, discharge or rashes. Consider proctoscopy if anal symptoms and you have been trained in this technique.

Important points

laboratory tests for STIs

Nucleic acid amplification tests (NAAT): (i.e. PCR, TMA)

The principle diagnostic test for several different STIs in recent years has been the Polymerase Chain Reaction (PCR) test. PCR tests are just one type of Nucleic Acid Amplification Test (NAAT). There are now other types available.

Transcription Mediated Amplification (TMA) tests are now also widely used in the NT for the diagnosis of chlamydia, gonorrhoea and trichomonas.

The type of test available in a clinic will depend on the pathology company used.

It is now recommended that the acronym used when ordering these tests is NAAT as this will cover all types of nucleic acid tests available.

The PCR and TMA tests have different collection and transport systems and you will need to find out which one your clinic uses and what the systems are.

Currently all laboratories use PCR tests for herpes. Some laboratories have access to PCR tests for syphilis and donovanosis.

Tests for chlamydia, gonorrhoea and trichomonas may be either PCR or TMA according to the laboratory.

Swabs for PCR tests: a dry swab in a dry tube.

Swabs for TMA tests: need special TMA swab and transport medium container.

Urine for both PCR and TMA tests: ordinary urine collection jar.

As NAAT tests do not allow us to determine antibiotic sensitivity patterns it is important to always request a gonorrhoea culture as well. Samples for gonorrhoea culture need to remain at room temperature. For urine samples, gonorrhoea or "gono" MC&S need to be specified on the pathology request form. This is because the culture technique is different to that used for the standard urine cultures used for urinary tract infections (UTI), and without specifying gono MC&S, only standard urine culture for UTIs will be performed. Sample storage is described in greater detail at the end of the male and female asymptomatic screening sections. (page 12/14)

Antibiotic resistance of *Neisseria gonorrhoeae*

In most places in the world, *Neisseria gonorrhoeae* is resistant to penicillin. Central Australia, the Top End of the NT and parts of the Goldfields and Kimberley regions of Western Australia are amongst the few places where *Neisseria gonorrhoeae* infections can routinely be treated with penicillin (i.e. with oral amoxicillin and probenecid).

In determining the medication to treat someone who either has confirmed gonorrhoea or who may have gonorrhoea, it is important to determine where the infection may have come from.

This means always asking about where the person's sexual partner/s are from. If a partner comes from or usually lives in the regions above, gonorrhoea can be safely treated with oral amoxicillin and probenecid. If the person is from outside these regions an injection of ceftriaxone is needed. The important point is where the partner is from and not where the sex took place. If a person had sex with an interstate or overseas visitor in Alice Springs, then ceftriaxone would be needed. If in doubt, it will be better to use ceftriaxone as this will always be effective.

For these reasons, these guidelines frequently prompt the practitioner to ask whether the person's sexual partners come from either the Top End or Central Australia.

Hepatitis B

This protocol refers generally to taking blood for syphilis, HIV and +/- Hep B.

- A test for hepatitis B (HBsAg, HBsAb and HBcAb) can be considered if there is no evidence of previous hepatitis B infection or vaccination.

- **If testing is done, there is an obligation to do full follow up for the patient and his/her contacts and you will need to ensure that you and your health service have the capacity to do so.**

- Patients who are not immune, not vaccinated and not hepatitis B surface antigen positive can be offered immunisation. Adult hepatitis B vaccine is not government funded. These vaccines must be costed to your health centre.

- Patients who are chronic carriers (HBsAg positive) will need investigation and follow up for chronic hepatitis B and could be considered for anti-viral treatment.

- Sexual partners and close household contacts of chronic carriers should be tested for hepatitis B and offered vaccination if not immune or chronic carriers. The Centre for Disease Control (CDC) will cover the cost of vaccines in these cases.

- Refer to the current Northern Territory Hepatitis B guideline, Public Health Management guidelines and the current Australian Immunisation Handbook for further information[7].

Investigations - males

Always take swabs before passing urine as this washes away any discharge.

First void urine (FVU) specimen is the first 20-30mls of urine a person passes and is preferred for STI tests.
It is not a mid stream urine (MSU) specimen.

Any person who has symptoms of an STI or a confirmed STI must be offered a full STI check including bloods for syphilis and HIV. A person may refuse to have any test but if they do, you need to write this in their notes. If you don't, it could become a medico legal issue.

Asymptomatic male

Take a FVU specimen:

- LABEL specimen: FIRST VOID URINE.
- REQUEST: Nucleic Acid Amplification Test (Abbreviated to NAAT, see p 9) for chlamydia, gonorrhoea, trichomonas and gono MC&S for gonorrhoea.

Symptoms of urethritis

If there is discharge

Take 2 swabs from the discharge:

- LABEL specimens: URETHRA.
- First swab: sample discharge and put swab into bacterial transport medium (Stuart's medium) REQUEST: gono MC&S.
- Second swab: sample discharge and put back into tube according to pathology company instructions (dry tube for PCR, transport media tube for TMA, see p 9). REQUEST: NAAT chlamydia, gonorrhoea and trichomonas.

If discharge is not present

Take a FVU specimen:

- LABEL specimen: FIRST VOID URINE.
- REQUEST: NAAT chlamydia, gonorrhoea, trichomonas and gono MC&S.

Male with genital ulcer

If there are ulcers present - refer to genital ulcer protocol, p 34.

Additional tests if needed

If a history of receptive anal sex
Take 2 anal swabs:

- LABEL specimens: ANAL SWABS.
- First swab: take a swab from about 1 - 2cm within anus, put swab into bacterial transport medium. (Stuart's medium) REQUEST: gono MC&S for gonorrhoea
- Second swab: take a swab inside the anus and put back into tube according to pathology company instructions (dry tube for PCR, transport media tube for TMA (see p 9) REQUEST: NAAT chlamydia (NB: site not validated for NAAT gonorrhoea).

If a history of receptive oral sex
Take 2 throat swabs:

- LABEL specimens: THROAT SWAB.
- First swab: take specimen from the posterior oropharynx (back of throat) and/or tonsils put swab into bacterial transport medium. (Stuart's medium) REQUEST: gono MC&S for gonorrhoea
- Second swab: take a swab from posterior oropharynx (back of throat) and/or tonsils and put back into tube according to pathology company instructions (dry tube for PCR, transport media tube for TMA, see p 9) REQUEST: NAAT chlamydia (NB: site not validated for NAAT gonorrhoea).

If dysuria present and client over 40 years of age:

- Urine dipstick for protein, blood, leucocytes and nitrites.
- Take a MSU specimen. LABEL Specimen: MID STREAM URINE. REQUEST: gono MC&S.

Blood tests

- Collect blood for syphilis, HIV and possibly hepatitis B (HBsAg, HBsAb and HBcAb) if client is symptomatic, at high risk for STI, or has had contact with a person with an STI.
- These tests may also be done as part of an adult health check or well men's check according to local health service protocols.
- A test for hepatitis B (HBsAg, HBsAb and HBcAb) can be considered if there is no evidence of previous hepatitis B infection or vaccination. If testing is done, there is an obligation to do full follow up for the patient and his contacts and you will need to ensure that your health service has the capacity to do so. **See hepatitis B, p 10.**

Storage of specimens

- Culture specimens for gonorrhoea should be stored at room temperature. The bacteria will die if refrigerated or if heated above 40°C.
- NAAT specimens are best stored in the fridge.
- Ideally, urine specimens for STI tests should be split: 1 to remain at room temperature for culture and the other to go in the fridge for NAAT. If this is not possible, and transport time to the laboratory is within 7 days, the urine can be kept at room temperature.

Investigations - females

In females, self collected vaginal swabs are the preferred specimens for asymptomatic screening. If a client is unwilling to collect these, a FVU specimen is acceptable.

FVU is the first 20-30mls of urine a person passes and is preferred for STI tests.
It is not a MSU specimen.

Any person who has symptoms of an STI or a confirmed STI must be offered a full STI check including bloods for syphilis and HIV. A person may refuse to have any test but if they do, you need to write this in their notes. If you don't, it could become a medico-legal issue.

Speculum examination

Take 2 endocervical swabs

- LABEL specimens: ENDOCERVICAL or CERVICAL.
- First swab: take a swab from the endocervix and put swab into bacterial transport medium. (Stuart's medium) REQUEST: gono MC&S.
- Second swab: take a swab from the endocervix and put back into tube according to pathology company instructions (dry tube for PCR, transport media tube for TMA, see p 9). REQUEST: NAAT chlamydia, gonorrhoea and trichomonas.

Take 1 high vaginal swab

- LABEL specimen: HIGH VAGINAL or HVS.
- Take a swab from upper vaginal wall and roll onto a glass slide, leave slide to air dry, put swab into bacterial transport medium (Stuart's medium). REQUEST: gono MC&S.
- If abnormal vaginal discharge is present and if available do a pH test - touch pH paper with swab from vagina before putting into culture medium: (if pH >4.5 treat with 2g metronidazole - see vaginal discharge protocol, p 19-20).

Take PAP smear if required i.e. 2 years or more since last normal pap smear, or as directed after a previous abnormal smear.

If a history of receptive anal sex
Take 2 anal swabs:

- LABEL specimens: ANAL SWABS.
- First swab: take a swab from about 1- 2cm within anus, put swab into bacterial transport medium (Stuart's medium) REQUEST: gono MC&S
- Second swab: take a swab inside the anus and put back into tube according to pathology company instructions (dry tube for PCR, transport media tube for TMA, see p 9). REQUEST: NAAT chlamydia (NB: site not validated for NAAT gonorrhoea).

If a history of receptive oral sex
Take 2 throat swabs:

- LABEL specimens: THROAT SWAB.
- First swab: take specimen from the posterior oropharynx (back of throat) and/or tonsils and put swab into culture medium. REQUEST: gono MC&S
- Second swab: take a swab from the posterior oropharynx (back of throat) and/or tonsils and put back into tube according to pathology company instructions (dry tube for PCR, transport media tube for TMA, see p 9). REQUEST: NAAT chlamydia (NB: site not validated for NAAT gonorrhoea).

Consider urine specimen if symptoms of a UTI

- Urine dipstick for protein, blood, leucocytes and nitrites.
- Take a MSU specimen if concerned about UTI. REQUEST: gono MC&S.
- Perform a pregnancy test if late period or possible pregnancy.

Self-collected genital specimen

(if speculum not possible or patient asymptomatic)

Ask the woman to self-collect 2 vaginal swabs.

- Open the packs and label the tubes. LABEL specimen: SELF OBTAINED LOW VAGINAL SWABS (SOLVS).
- Send the woman to the toilet or private area to take 2 self collected swabs. Instruct her to take the swab for gono MC&S first and the NAAT swab second. Ask her to insert each swab 3-5cm into the vagina, rotate it 360 degrees then count to ten and remove swab. To avoid contamination she should hold the swab by the handle and not touch the tip. She should be asked to either bring the swabs back to the clinician for placement into the correct media or place them into the tubes as the clinician has instructed. *Place one swab into bacterial transport medium (e.g. Stuart medium) for gono MC&S and the other per manufacturers instructions for NAAT.(see laboratory tests for STI section p 9)*
- First swab: if abnormal vaginal discharge present and if available do pH test (see p 15) and then smear onto glass slide and place swab into tube of media. REQUEST: gono MC&S (if pH is >4.5 consider treatment with metronidazole 2g for trichomoniasis or bacterial vaginosis).
- Second swab: REQUEST NAAT chlamydia and gonorrhoea and trichomonas.

Consider urine specimen

- If not possible to do self collected swabs obtain a FVU specimen. REQUEST: NAAT chlamydia, gonorrhoea and trichomonas, and gono MC&S.
- Take a MSU if concerned about possible urinary tract infection Do an immediate dipstick analysis for nitrites and leucocytes. REQUEST: gono MC&S.
- Perform a pregnancy test if period late or pregnancy possible.

Blood tests

- Collect blood for syphilis and HIV and possibly hepatitis B (HbsAg, HbsAb and HbcAb) if client is symptomatic, at high risk for STI, or a contact of a person with an STI.
- These tests should also be done as part of an adult health check or well women's check according to local health service protocols.
- A test for hepatitis B (HBsAg, HBsAb and HBcAb) can also be considered if there is no evidence of previous hepatitis B infection or vaccination. If testing is done, there is an obligation to do full follow up for the patient and her contacts and you will need to ensure that your health service has the capacity to do so. **See hepatitis B, p 10.**

Storage of specimens

- Culture specimens for gonorrhoea should be stored at room temperature. The bacteria will die if refrigerated or if heated above 40°C.
- NAAT specimens are best stored in the fridge.
- Ideally, urine specimens for STI tests should be split: 1 to remain at room temperature for culture and the other to go in the fridge for NAAT. If this is not possible, and transport time to the laboratory is within 7 days, the urine can be kept at room temperature.

pH testing of vaginal secretions

Testing of the acidity of vaginal secretions may be performed for women who have abnormal vaginal discharge. This may be done by touching a swab of the secretions onto pH paper. The pH is abnormal if it is >4.5.

pH testing has been widespread in Central Australian remote communities in recent years following a study[8] which demonstrated an association between increased pH and trichomonas infection and bacterial vaginosis. Practical use of the test in recent years has led to a revision of its use.

The test is only useful, and is only recommended in women with abnormal vaginal discharge and not in well women. It is not reliable and should not be used in post-menopausal women (whose vaginal pH is higher) or in women who are menstruating, as blood will raise the pH.

The test should be used to exclude the need for treatment of trichomonas in those women who receive syndromic treatment for abnormal vaginal discharge. In these women if the pH is ≤ 4.5, they do not need treatment for trichomonas (i.e. single oral doses of metronidazole or tinidazole) as part of their syndromic management.

If laboratory results indicate trichomonas infection the woman should be followed up and treated appropriately. Bacterial vaginosis only requires treatment if the women has symptomatic vaginal discharge

Management of abnormal vaginal discharge

Causes

Vaginal discharge may come from the vagina, cervix or upper genital tract. All women have some vaginal discharge normally from cervical and vaginal secretions. This can vary throughout the menstrual cycle and at different times of a woman's life.

It is abnormal when it increases in amount, or is accompanied by soreness, itching or odour.

There are many conditions that can cause abnormal discharge: candidiasis, bacterial vaginosis, trichomoniasis, gonorrhoea, and chlamydia.

Generally, it is not possible to tell by clinical examination the causative organism.

History

Ask the woman about:

- The amount, colour, duration and smell of the discharge.
- Any itching, soreness or pain on passing urine or frequency.
- Any lower abdominal pain or pain deep inside with sex - if yes to either, assess for pelvic inflammatory disease.
- Ask about other possible STI symptoms (e.g. sores, warts or lumps, rash, sore throat).
- Ask about her sexual partners and if any of them are from outside the Top End or Central Australia (see p 10).
- Assess her personal risk of STI (see p 4)

Examination (see Female examination, p 7)

Investigation - speculum examination (see Investigations-females, p 13)

Investigation - speculum examination not possible (see Investigations-females, p 14)

Blood tests

- Blood test for syphilis serology, HIV +/- hepatitis B (HBsAg, HBsAb, and HBcAb) if an STI is a possible cause. **See hepatitis B, p 10.**

Treatment

- Treatment given will depend on the woman's population group, her personal risk factors for STIs and examination findings.
- If on speculum examination, there is discharge from the cervix or the cervix is inflamed or bleeds easily, treatment for gonorrhoea and chlamydia (amoxicillin, probenecid, azithromycin) or ceftriaxone (if partner outside the NT) should be given regardless of the population group or personal STI risk.

High risk of STI

High risk if the woman:

- is from a remote community or her sexual network relates to remote communities; or
- is aged <25 years (or <35 years if sexual network relates to a remote community); or
- has >1 partner in the last 6 months; or
- has a new partner in the past 3 months; or
- has visible discharge from the cervix or inflamed cervix on examination.

  Excess drug and alcohol use in either the patient or her partners is associated with behaviours such as having multiple sexual partners or unsafe sex.

Treatment should be given immediately, do not wait for test results.

- Give oral **amoxicillin 3g** and **probenecid 1g** and **azithromycin 1g** once only.
- If the woman has had a recent sexual partner who is from outside the Top End or Central Australia (see p 10) then give **ceftriaxone 500mg** IMI and **azithromycin 1g** orally instead.
- Also give either oral **metronidazole 2g** or oral **tinidazole 2g** (not tinidazole if pregnant) as a single dose. (If a pH test of vaginal fluid was performed and was ≤4.5, **do not** give metronidazole or tinidazole). This can be given to take at home if the women feels there are "too many tablets".
- Treat UTI if she has dysuria and urine dipstick is positive for nitrites or leucocytes.
- If she has vulval itch, vulval soreness or swelling, or the discharge is curd like, treat for candida with topical **clotrimazole 500mg** vaginal tablet inserted once only.

Low risk of STI

Low risk if the woman:

- is from a population with **low** prevalence of gonorrhoea or chlamydia**; and**
- has low personal risk of STI (i.e. >35 years, only 1 partner in last 6 months and no new partner in last 3 months); and
- has no visible discharge from the cervix or inflamed cervix on speculum examination.

Treatment

- Give either oral **metronidazole 2g** or oral **tinidazole 2g** (not tinidazole if pregnant) as a single dose. (If a pH test of vaginal fluid was done and was ≤ 4.5, do not give metronidazole or tinidazole).
- Also treat for a UTI if she has dysuria and urine dipstick is positive for nitrites or leucocytes.
- If she has vulval itch, vulval soreness or swelling, or the discharge is curd like, treat for candida with topical **clotrimazole 500mg** vaginal tablet inserted once only.

If she is allergic to any of the medicines, is pregnant, or there are other symptoms, talk to the local sexual health unit (SHU) or District Medical Officer (DMO). Contacts on back cover page.

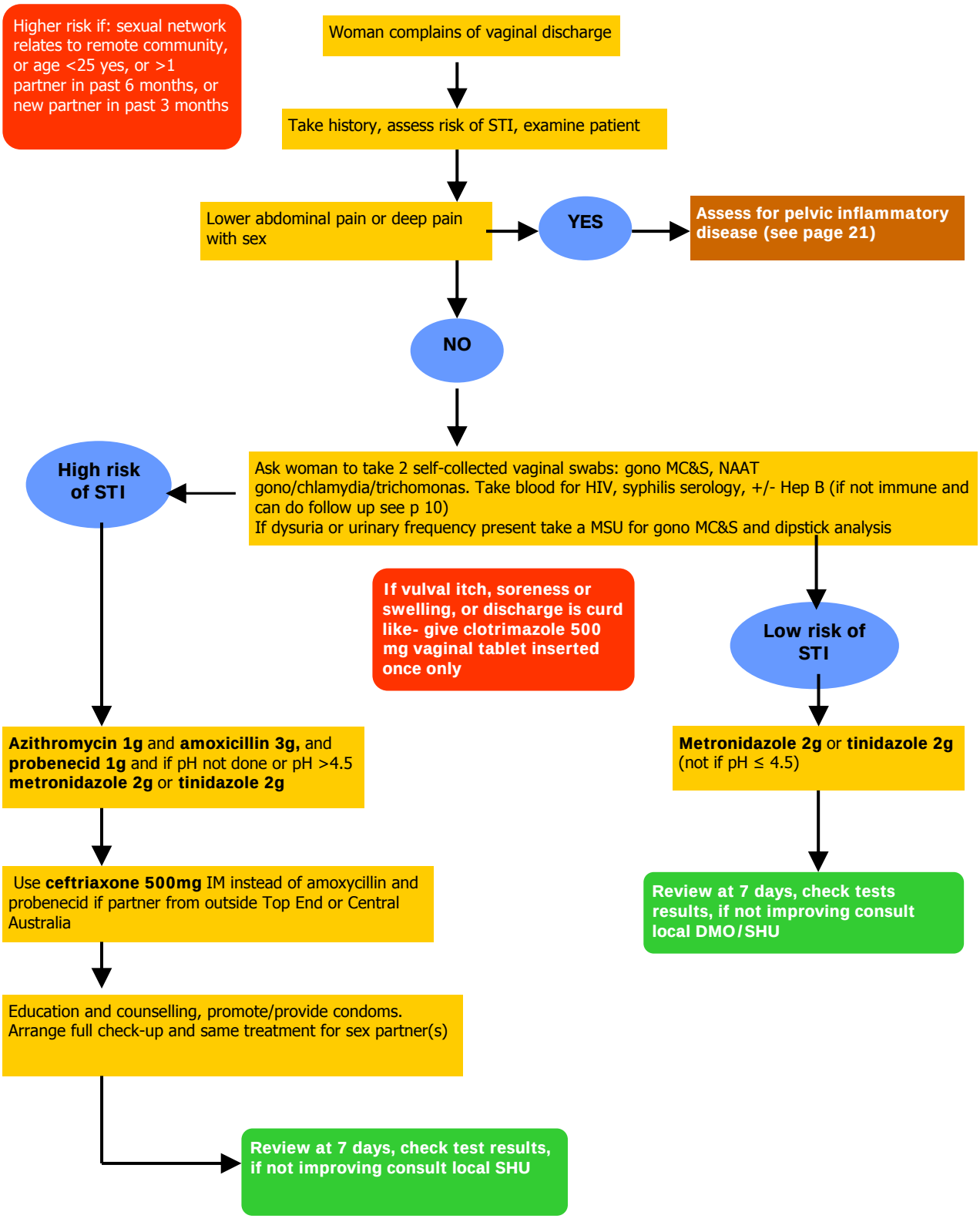
If an STI is suspected:

- explain that her partner/s need to be treated too so that she doesn't get reinfected.
- explain that even if her partner has no symptoms he may still be infected and needs treatment.
- make sure that sexual partner/s from the last 3 months are checked for STIs and given the same treatment.
- advise her not to have sex until 1 week after both her treatment and her partner/s are treated.
- discuss condoms and safe sex.

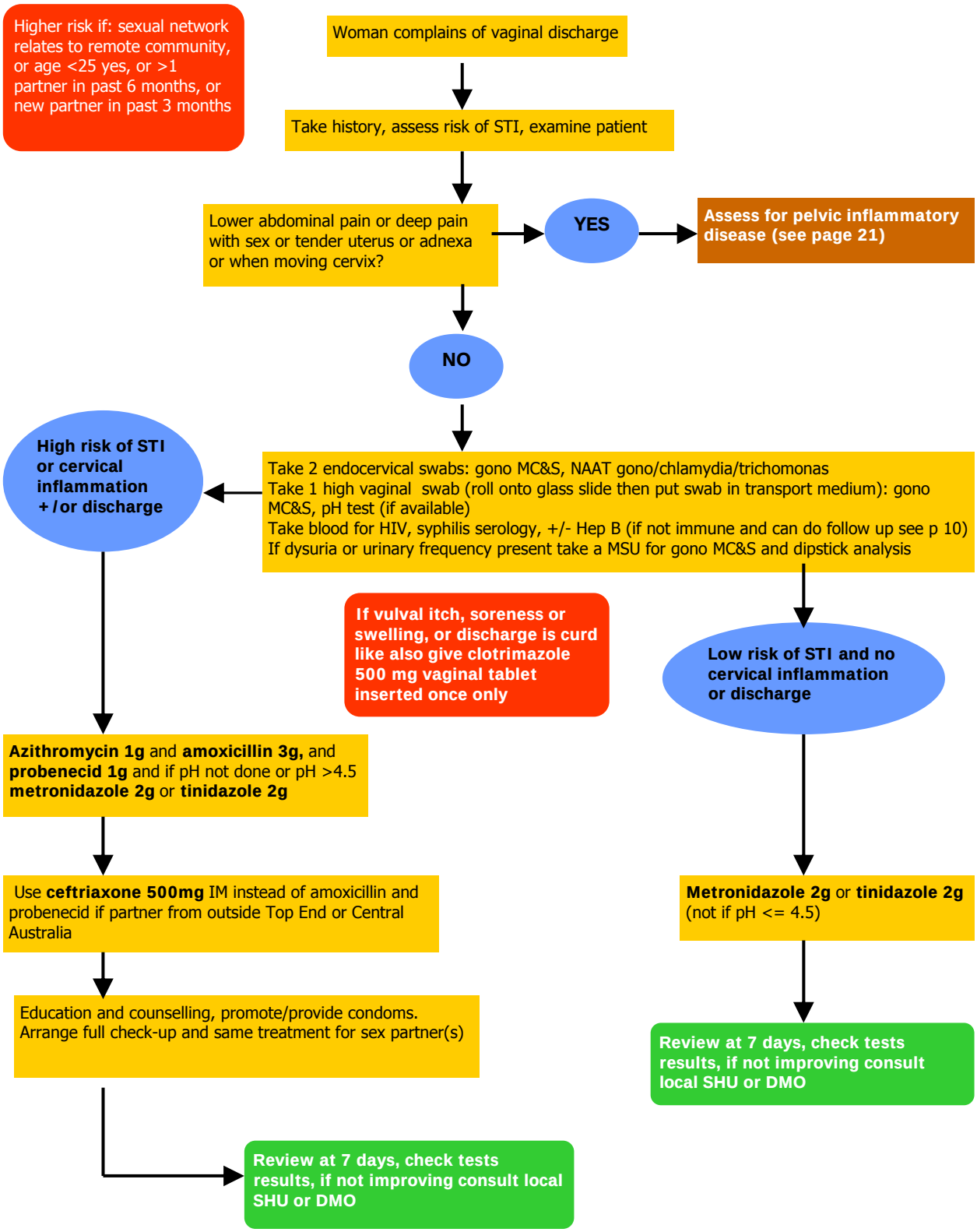
Follow up

- If resources permit, ask her to come back in 1 week to be sure she is better, check the test results for other infections and discuss safe sex and condom use again.
- If no improvement, discuss with the local SHU.

Management of vaginal discharge (Vaginal and speculum examination not possible)



Management of vaginal discharge (vaginal and speculum examination possible)



Management of lower abdominal pain and pelvic inflammatory disease

Causes

The causes of lower abdominal pain in a woman can vary from minor but uncomfortable problems such as constipation or period pain, to life threatening problems such as ruptured ectopic pregnancy or appendicitis.

Pelvic inflammatory disease (PID) is a common and often under recognised cause of lower abdominal pain in women in the NT, particularly in remote communities where there are high rates of gonorrhoea and chlamydia infection.

PID is inflammation of the upper genital tract - uterus, fallopian tubes, ovaries or pelvic cavity. It is often caused by gonorrhoea or chlamydia. Many other organisms, which usually live in the vagina without causing harm, can cause PID. This can occur if there has been damage to the upper genital tract by a previous infection with gonorrhoea or chlamydia or following a termination of pregnancy, dilatation and curettage (D&C) or insertion of an intrauterine contraceptive device (IUCD).

Symptoms suggestive of PID include abdominal pain, painful sex, vaginal discharge, intermenstrual or post coital bleeding, dysuria, fever and sometimes nausea and vomiting.

A woman can still have PID even if the tests for gonorrhoea and chlamydia are negative.
It is common in remote communities for women with PID to be misdiagnosed as having a urinary tract infection and given incorrect treatment.

Making a diagnosis can be complicated; nurses and Aboriginal Health Workers should consult with a doctor if there is any uncertainty. The medications are safe. As it is impossible to be 100% sure whether a women truly has PID, it is important to have a low threshold for treating women with possible PID.

Always consider PID in a woman with lower abdominal pain.

History

Ask the woman about:

- the pain - how long she has had it, is it there all the time, what makes it worse or better?
- any pain deep inside when having sex?
- vaginal discharge - amount, colour and smell of the discharge and how long it has been present for?
- any fever or feeling generally unwell?
- any change in her periods - more bleeding than usual, more pain, any bleeding in between?

- any itching, soreness, pain on passing urine or passing urine more often than usual?
- when was her last period?
- other possible STI symptoms (e.g. sores, warts or lumps, rash, sore throat)?
- her sexual partners and if any of them are from outside the Top End or Central Australia?

Examination (see female examination, p 7)

Ideally, examination should include:

- temperature
- abdominal examination for tenderness;
- vaginal examination with a speculum to look for discharge from the cervix; and
- bimanual examination to feel for tenderness of the uterus or in the fornices; pain when moving the cervix, or any masses.

See p13 and 17 for:

- vaginal and speculum examination
- speculum examination not possible
- other tests for all women.

When to refer to hospital

The situation should be discussed with a doctor or specialist and the patient should be referred immediately to hospital when any of the following are present:

- missed, overdue or delayed period
- recent delivery, miscarriage, abortion or termination of pregnancy
- abdominal guarding, rigidity or rebound tenderness
- abdominal mass or swelling
- active vaginal bleeding, unless this is her expected, normal menses.
- patient is pregnant (NB ectopic pregnancy)
- patient is very unwell or temp >38°C
- surgical problem e.g. appendicitis cannot be excluded
- diagnosis is uncertain.

While arranging transfer:

- take blood culture (send in to hospital with the woman);
- set up IV line: 1000ml normal saline at 125 ml/hr or as directed by DMO;
- give **ceftriaxone 1g** IV;
- give **azithromycin 1g** orally;
- give **metronidazole 500mg** IV.

Treatment of PID in the community

If the criteria for referral to hospital (as above) are not present a diagnosis of PID can be made and managed in the community if a woman has:

- lower abdominal pain and cervical discharge; or
- lower abdominal pain and vaginal discharge if a vaginal examination is not done; or
- tenderness when the cervix is moved on bimanual examination; or
- tenderness of the uterus or in the fornices on bimanual examination.

If there is no history of vaginal discharge, treatment for PID may be considered in women under 25 (or 35 if sexual network relates to remote communities) with other indicators such as deep or internal pain with sex, intermenstrual bleeding, or an STI or PID in the past year. **Talk with a DMO in these cases.**

It is very important to see the woman often during treatment for PID. If it is unlikely that the woman will be able to complete treatment, consider sending her to hospital.

Important note on doxycycline treatment

For many years daily doxycycline has been a mainstay component of PID treatment protocols. However, for many women, this is difficult to take, particularly when combined with daily metronidazole as recommended in the NT. This is why recent NT protocols have recommended doses of azithromycin on days 1 and 8 in addition to the doxycycline as a 'back-up' in case the woman did not take all the daily medications.

A recent study suggests that a PID treatment regimen with azithromycin on days 1 and 8 is as good as one with daily doxycycline. However, caution needs to be exercised in using single doses of azithromycin instead of daily doxycycline. Firstly, although there is a good theoretical basis for azithromycin being effective, it is only available in one study[9]. Secondly, if the dose on day 8 is not received, and the woman had not been given daily doxycycline to take home, then she will not have received adequate treatment.

Practitioners will need to be very sure that a woman will receive the second dose of azithromycin on day 8, if they are not going to offer daily doxycycline. If there is any doubt then offer both.

DAY 1

- Give **ceftriaxone 500mg** IM or IV AND **azithromycin 1g** orally.
- Commence metronidazole 400mg bd orally for 14 days. (caution patient to avoid alcohol)
- Give paracetamol 1g orally 4 to 6 hourly for pain if required.
- If she has an IUCD in place, see information below.
- Make sure that her sexual partner/s from the last 3 months are checked for STIs and given amoxicillin 3g with probenecid 1g orally (or ceftriaxone 500mg IMI if they are from outside the Top End or Central Australia, see p 10) and azithromycin 1g, all as a single dose.
- Explain that her partner/s need to be treated so she doesn't get re-infected.
- She should not have sex until 1 week after both her treatment is finished and her partner/s are treated. Discuss safe sex and condom use.

DAY 2

- Give **doxycycline 100mg** bd orally for 14 days (if you are **certain** you will see the woman on day 8 to give a second dose of azithromycin then the doxycycline may be withheld).
- If pregnant or breastfeeding and not going to hospital give roxithromycin 300mg once a day for 14 days instead of doxycycline).
  (This medication may be given on day 1 to commence on day 2)

DAY 3

- Examine the woman and check if there are any problems with taking the medication.
- If she is not improving, discuss with doctor or DMO.

DAY 8

- Check the test results (it can still be PID even if the tests for gonorrhoea and chlamydia are negative).
- Examine the woman. If she is not improving, discuss with doctor.
- Check to see if she still has doxycycline and metronidazole and if she has been taking them.
- Give **azithromycin 1g** orally if the woman has not been on doxycycline or you are unsure of her compliance.

DAY 14

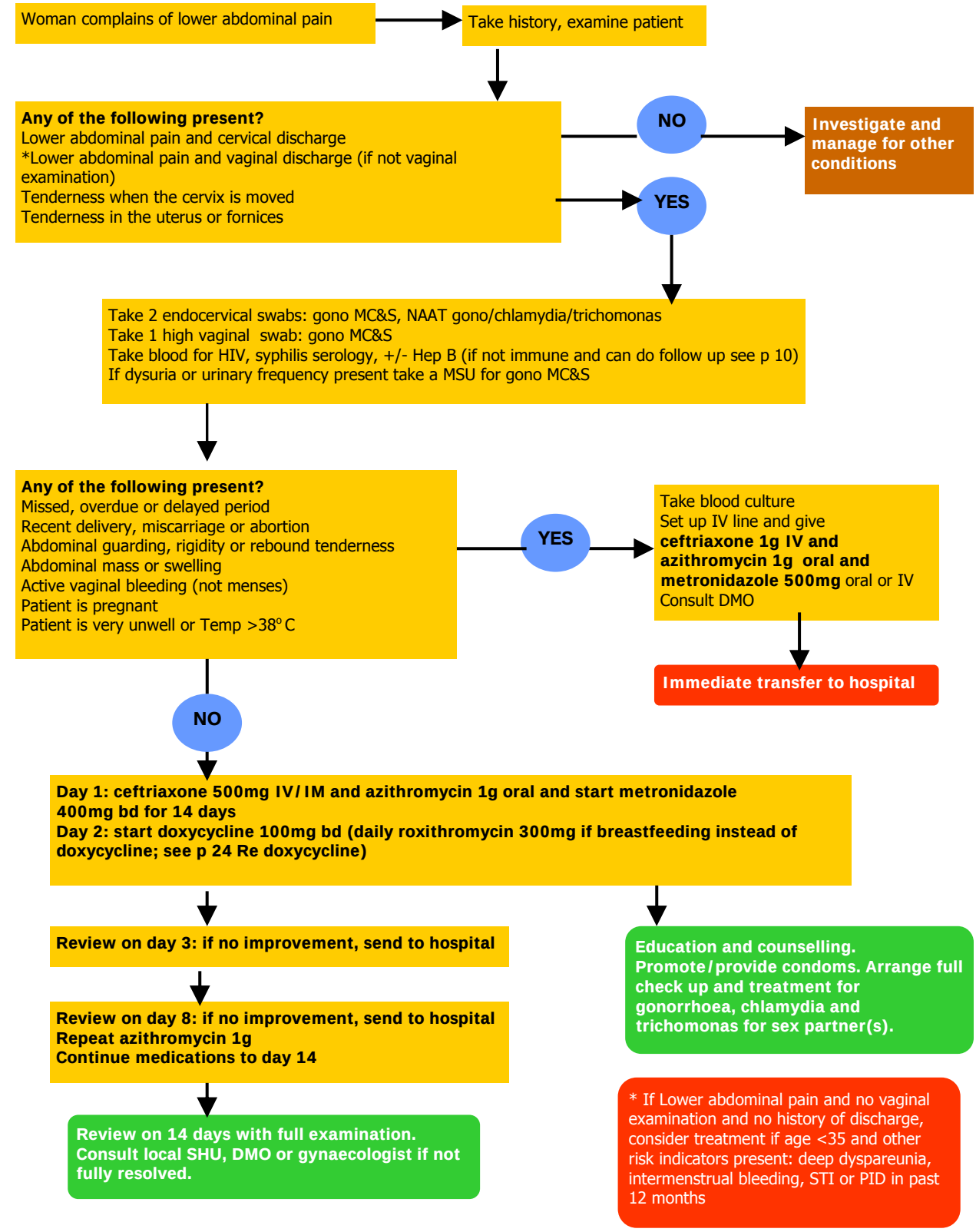
- Examine the woman including a bimanual examination. If she still has symptoms or any tenderness on abdominal or bimanual examination, consult with your local Sexual Health Unit or doctor/DMO.
- Consider alternative contraception to an IUCD in a woman at high risk of STI.
- Discuss safe sex and condom use.

Additional management for women with an IUCD

- Talk with a doctor who should discuss the problem with a gynaecologist.
- Advice from the gynaecologist may vary. Women with mild PID who have an IUCD can sometimes be managed in the community, without removing the IUCD.
- These women need very careful follow-up and **must** be seen daily for the first 3 days.
- Talk to a doctor if symptoms are not improving.
- If for any reason the IUCD is removed - take 2 swabs of the IUCD, 1 for gono MC&S and 1 for NAAT for gonorrhoea, chlamydia and trichomonas. Put the IUCD in a yellow-top jar and send for gono MC&S.

Do not recommend an IUCD as a contraceptive method for women at high risk of STIs.

Management of lower abdominal pain / pelvic inflammatory disease



Management of male urethral discharge or dysuria

Causes

Usually caused by gonorrhoea or chlamydia but is sometimes caused by trichomonas or other organisms.

It is not possible to tell by clinical examination the causative organism**.**

History

- Ask the man about other possible STI symptoms (e.g. sores, warts or lumps, rash, see p 1).
- Ask about his sexual partners in the past 3 months and whether any of them are from outside the Top End or Central Australia (see p 10).

Examination (see Male examination, p 6)

Investigations (see Investigations-males, p 11)

To do a full STI check – see p 11 and 12

Treatment

Treat immediately for gonorrhoea and chlamydia even if only dysuria with no urethral discharge.

- Give oral **amoxycillin 3g** and **probenecid 1g** and **azithromycin 1g** once only.
- If allergic to penicillin contact the local Sexual Health Unit (SHU) or DMO.
- If he has had a recent sexual partner who is from outside the Top End or Central Australia (see p 14) - give **ceftriaxone 500mg** IMI and **azithromycin 1g** orally instead.
- Make sure that sexual partner/s from the last 3 months are checked for STIs and given the same treatment.
- Explain that all partner/s need to be treated as well so he doesn't get re-infected.
- Advise him not to have sex until 1 week after both his treatment and his partner/s treatment.
- Discuss safe sex and condom use.

Follow up

- If resources permit, ask him to come back in 1 week to be sure he is better, check the test results for other infections and discuss safe sex and condom use again.
- If no improvement, discuss with the local SHU, DMO or regional sexual health coordinator.

If he has symptoms 1 week after treatment

It may be re-infection, resistant infection, trichomonas or another organism.

- Check the results of the tests taken initially:
  - if trichomonas is present then treat him and his partner/s with 1 dose of **metronidazole 2g** or **tinidazole 2g** orally,
  - if culture for gonorrhoea was positive, check the antibiotic sensitivity.

- If he did not have trichomonas, ask whether his symptoms got better and then came back or never got better in the first place.
- Check the original treatment was taken properly. Repeat if it was not.
- Make sure all sexual partners were tested and treated.
- If re-infection is likely, repeat the STI check-up and treatment.
- Ask if he had sex with someone from outside the Top End or Central Australia (see p 10).
- Talk with the local SHU/DMO about what further tests or treatment are needed. It may be necessary to do an intra-urethral swab to confirm a diagnosis of urethritis and maximise the chance of culturing gonorrhoea (see technique below).

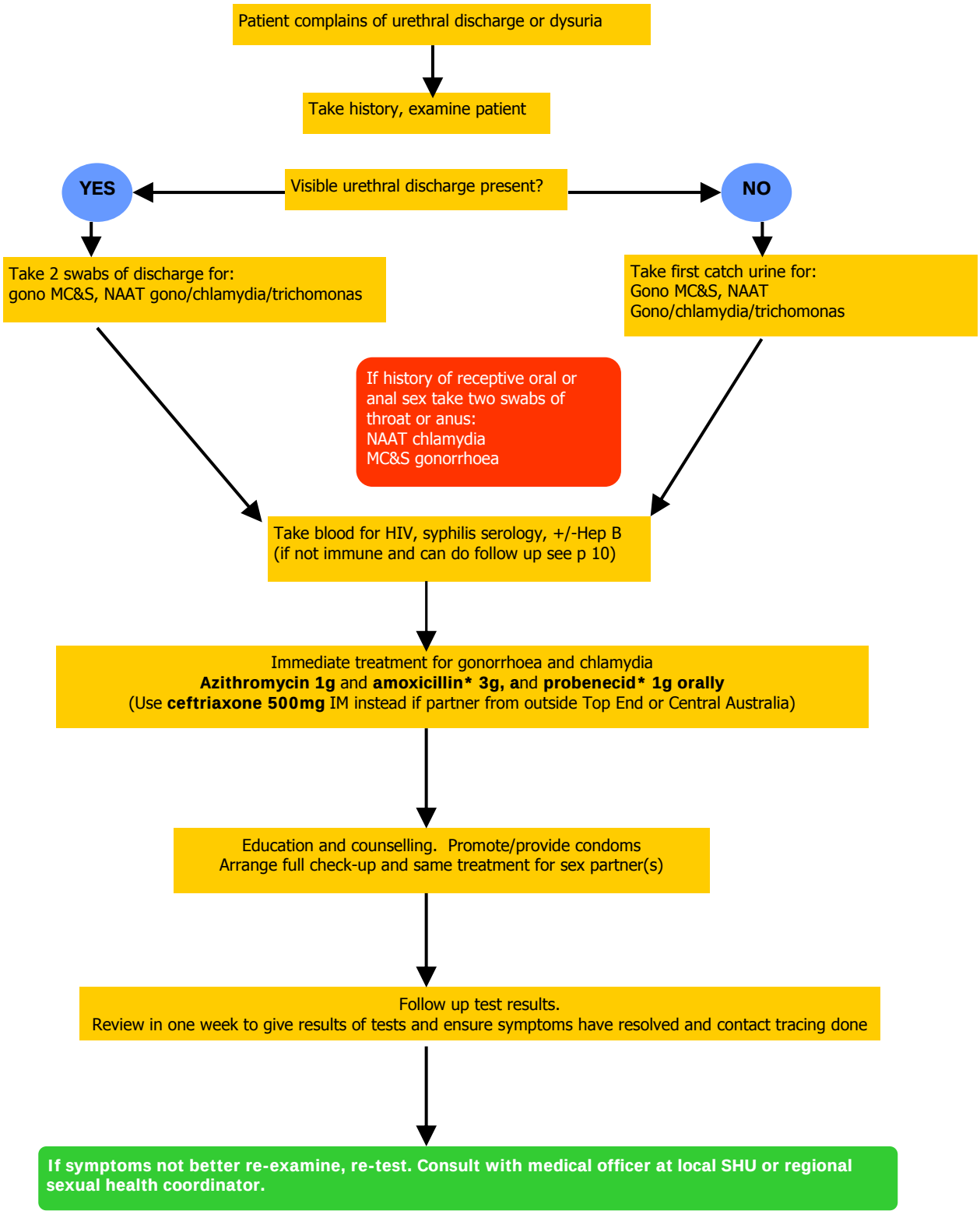
Doing a urethral swab (i.e. from inside the penis)

If an antibiotic resistant gonorrhoea is suspected then collect another specimen for MC&S is needed.

- If discharge is present take a swab of it for MC&S for gonorrhoea.
- If there is no discharge then:
  - moisten the tip of a thin urethral swab with sterile saline (i.e. the wire stem swab not the wooden stem swab);
  - gently insert the tip of the swab 1-2cm into the urethra, leave it in place for a few seconds and then withdraw it.
- Put the swab in bacterial transport medium.
- Keep the swab at room temperature: do not refrigerate or let it get too hot.

Write gono MC&S on the form and get it to the lab as soon as possible.

Management of male urethral discharge



Management of epididymo-orchitis (swollen painful testes)

Causes

The causes of epididymo-orchitis vary with age.

In younger sexually active men gonorrhoea and chlamydia are common (usually <35 years but can be <45 years in Indigenous men in remote communities).

In older men, organisms associated with urinary tract infections (*E. coli*, *Pseudomonas*, *Klebsiella* species) occur. It is not possible to tell by clinical examination which organism is the cause.

Many references use the age 35 years as a cut off point to guide treatment. However, for men living in remote NT communities or whose sexual networks relate to remote communities with high rates of gonorrhoea and chlamydia, 45 years may be more appropriate.

> Torsion of the testis can be very similar to epididymo-orchitis and is an emergency. If there is any doubt about the diagnosis, the patient should be referred immediately to hospital. Nurses and Aboriginal Health Workers should always consult with a DMO.

History

In addition ask about:

- how long the pain and swelling have been present, whether it started slowly or suddenly, or whether there was any trauma preceding the pain;
- any nausea or vomiting;
- recent symptoms of urethral discharge or dysuria;
- other possible STI symptoms (e.g. sores, warts or lumps, rash, sore throat);
- sexual partners and if any of them are from outside the NT.

Examination

Look for urethral discharge and fever especially (see Male examination, p 6).

In all men with epididymo-orchitis

- Take a first void urine for gonorrhoea culture and NAAT for chlamydia and trichomonas; and
- a midstream urine for MC&S.

For men in whom a urethral discharge is present regardless of age

Take 2 swabs of the discharge:

- First swab for MC&S and put swab in bacterial transport media (Stuart's medium) ; and
- Second swab for NAAT for gonorrhoea, chlamydia and trichomonas according to pathology company instructions (dry tube for PCR, transport media tube for TMA, see p 9).

For all men under 35 (under 45 if remote community connection)

- Take a blood test for syphilis serology, HIV +/- Hepatitis B (HBsAg, HBsAb, and HBcAb)
  See hepatitis B, p 10.

Treatment

If there is any doubt about the diagnosis, consult with DMO or specialist and consider referring immediately to hospital to rule out torsion of the testis.

For men of any age in whom a urethral discharge is present or for men under 35 years of age (under 45 years in remote communities) gonorrhoea or chlamydia are likely causes.

- **ceftriaxone 500mg** IM stat; and
  azithromycin 1g orally stat; and
  doxycycline 100mg oral bd for 14 days.
- Repeat the azithromycin on day 8 if any doubt about ability to take the doxycycline.

For men over 35 years of age (over 45 years in remote communities) in whom a urethral discharge is not present a urinary tract infection is the likely cause.

- **Trimethoprim daily for 14 days 300mg**, or
- **amoxicillin+clavulinate 875/125mg** oral bd for 14 days, or
- **norfloxacin 400mg** oral bd for 14 days, or
- **ciprofloxacin 500mg** oral bd for 14 days.

If allergic to the medication, consult the local SHU.

For all men

- Paracetamol for the pain and advise rest in bed.
- Wearing firm underpants can support the scrotum and help reduce the pain.
- Check the results of the tests for other infections and the antibiotic sensitivity of any infections found.
- See him on days 3 and 8 – if he is not improving, consult with the local SHU and consider sending to hospital.

For men treated for an STI

- Ensure that all sexual partner/s from the last 3 months are checked for STIs and given single dose treatment for gonorrhoea and chlamydia.
- Explain that all partner/s need to be treated as well so he doesn't get re-infected and to reduce their risk of pelvic infection and infertility.
- Advise him not to have sex until 1 week after both his treatment and his partner/s treatment.
- Discuss condoms and safe sex.
- On day 8 if there is any doubt about whether he is able to take all the doxycycline, give **azithromycin 1g** by orally.

For men treated for a urinary tract infection

- Check the organism found on culture and its antibiotic sensitivity.
- When the infection is resolved, arrange renal investigations (e.g. ultrasound).

Differential diagnosis

Scrotal swelling: epididymo-orchitis or torsion of the testis?

Scrotal swelling may be due to either epididymo-orchitis or torsion of the testis. It can be very difficult to tell the difference between the two on clinical grounds. Torsion of the testis requires surgery and, if there is a delay of more than several hours, can lead to loss of the testis. Therefore, a quick decision is needed.

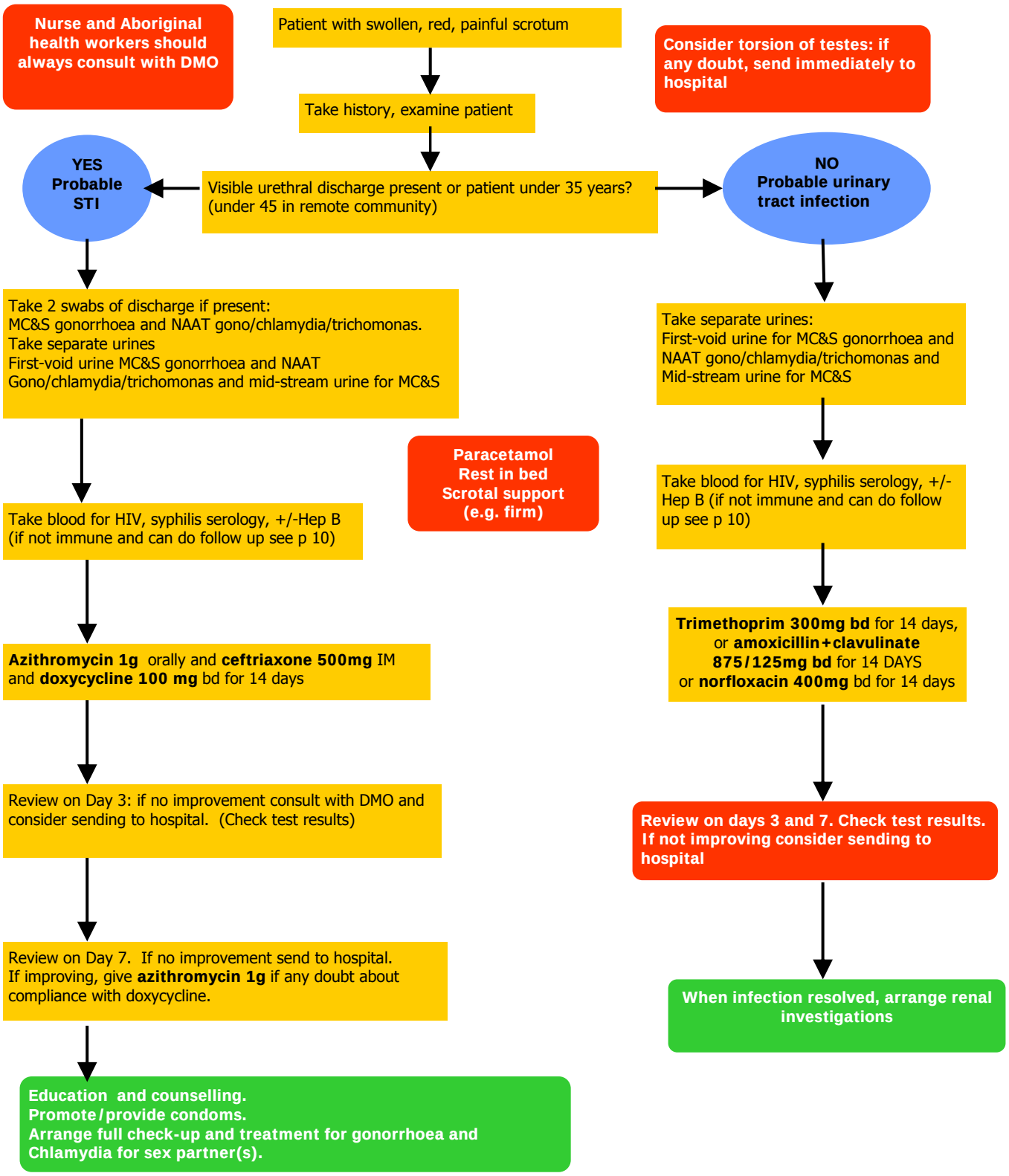
Nurses and Aboriginal Health Workers should always consult with a doctor. Doctors should consider consulting a specialist or hospital transfer.

If there is any doubt about the diagnosis refer immediately to hospital.

The table below provides an outline to assist in making a diagnosis.

	Torsion	**Epididymo-orchitis**
Age	Can be any age but more usually under 1 year or between 12-20 years.	Rare in boys before puberty. Usually young sexually active men or older men.
Onset	Usually sudden but can be gradual. Sometimes related to recent trauma.	Gradual.
Pain	Always present- can be severe.	Usually mild to moderate.
Other symptoms	May have abdominal pain, and vomiting.	May have abdominal pain, dysuria or urethral discharge.
Fever	Either no fever or less than 37.5^{o}C.	Usually more than 37.5^{o}C but may be absent.
On examination	Scrotum often swollen, red and warm. Testicle within the scrotum also swollen and tender. Affected testicle may be sitting higher than the other and/or lying sideways.	Scrotum often swollen, red and warm. Testicle within the scrotum also swollen and tender. Urethral discharge may be present. May be nitrites on urinalysis.
Effect of lifting the scrotum	Either no change in pain or worsens the pain.	May relieve the pain.

Management of epididymo-orchitis



Management of genital ulcers

Causes

Common causes of genital ulcers will vary within population groups. Genital ulcers usually refer to herpes, syphilis or donovanosis.

In non-Aboriginal people the most common cause of genital ulcers is herpes although syphilis is relatively common in remote communities.

Donovanosis is mainly found in remote communities and while rare, still occurs.

The possibility of malignancy as a cause of genital ulceration should not be overlooked especially if there is poor response to treatment. Increased rates of vulval carcinoma have been observed in the East Arnhem region in recent years. Any genital lesion that does not resolve following standard treatment should be reviewed by a medical officer.

History

- How long the ulcers have been present and have they had them before?
- Ask about other possible STI symptoms (e.g. warts or lumps, urethral or vaginal discharge, dysuria, rash, sore throat).
- Ask about sexual partner/s and if any of them are from outside the Top End or Central Australia.
- See Sexual history p 1.

Examination (see Male examination, p 6; Female examination, p 7).

It is important to look inside the vagina with a speculum in women, under the foreskin and scrotum in men and in the peri-anal region in both sexes.

Genital herpes
May present as multiple, painful or itchy small blisters, which become ulcers, then scabs which then heals. There may be tender lymph nodes in the groin. The first episode is often the most severe and can last 2-3 weeks. It is often associated with flu like symptoms and headache and there can be severe localised genital swelling, pain and retention of urine requiring hospitalisation. Herpes can recur. If so, the ulcers are not usually as severe and heal within a week.

Syphilis
Usually presents as one (occasionally two) **painless** ulcer/s which are red, round with a rolled edge and the base of the ulcer is firm ('indurated') although they can often be atypical in appearance. Without treatment the sore will go away in 4-6 weeks but the person will still have syphilis.

Donovanosis
Usually presents as a red, beefy, raised, raw, painless lesion. Distinctive smell if infected. Can be painful if secondary infection is present. Without treatment the ulcer will not heal, and can spread slowly outwards and become very large, eroding normal tissue. Ulcer/s may be present for months or years. It can be difficult to tell syphilis and donovanosis apart.

These infections can vary greatly in the way they look. It is often not possible to tell by looking which organism is the cause.

Investigations

Do a full STI check

- Using a dry swab, swab the base of the ulcer. REQUEST: genital ulcer NAAT for herpes, syphilis and donovanosis.
- For herpes like sores: if blisters are present gently burst with a sterile needle and swab the fluid, for other sores just swab the sore or scab.
- Take 2 self collected vaginal swabs or a urine test in women and a urine test in men. REQUEST: gono MC&S and NAAT chlamydia, gonorrhoea and trichomonas. (If doing a speculum examination in a woman taking endocervical and high vaginal swabs is better).
- Take a blood test for syphilis serology, HIV +/- Hepatitis B (HBsAg, HBsAb, and HbcAb). **See hepatitis B, p10.**

Treatment

Treatment should be given straight away - do not wait for test results to come back.

- If the sores are completely typical of herpes, then manage as for herpes only (see below).
- If not completely typical of herpes, then manage as for syphilis and donovanosis (see p 37).
- Talk to your local SHU, DMO about any pregnant woman with genital ulcers.

Herpes management

First episode herpes

If the person has not had similar lesions in the past they then have first episode genital herpes.

- Give **valaciclovir 500 mg** twice daily for 5 - 10 days
- Keep the sores clean with salt water washes and/or put betadine on the sores to dry them (or any drying agent).
- Give paracetamol 2 tablets by mouth every 4 hours as needed for pain. Sometimes first episode genital herpes causes severe pain and stronger painkillers may be required, e.g. panadeine forte 1-2 every 6 hours as needed for a few days.
- Lignocaine gel may be helpful during the first few days to reduce pain particularly prior to passing urine.
- Talk to your SHU or DMO if the woman is pregnant or can’t pass urine.

Recurrent herpes

Recurrent episodes are usually less severe and heal within a week. Usually only keeping them clean and mild pain relief is needed. If the episodes are more severe or frequent, specific treatment may be needed. For maximum benefit, treatment should be commenced within 24 hours of the onset of symptoms.

- Give **valaciclovir 500 mg** twice daily for 3 days or **famciclovir** 500mg stat and then 3 doses of 250mg 12 hourly. If the person is getting 6 or more recurrent episodes per year, they may benefit from taking long term daily medication to prevent or reduce the recurrences. Seek advice from your local SHU.

Note: Both valaciclovir and famciclovir require authority prescriptions and are approved for recurrent herpes. Both are effective in first episode/primary herpes but only valaciclovir is approved for this indication.

Follow up at 1 week

- A positive test confirms genital herpes.
- A negative test does not exclude genital herpes (ask them to return for another swab if the sores come back).
- Provide herpes information and advice about safe sexual behaviour.
- Offer sexual partners information on herpes and a full STI screen.

Any woman who has herpes or whose partner has herpes, should be advised to tell their doctor of this if they get pregnant in the future (risk of neonatal herpes).

Blood tests for antibodies to herpes are available. However, their interpretation and application to the clinical situation is complex. Practitioners are advised to seek advice from the local SHU medical officer before considering their use.

Syphilis and donovanosis management

- Give **benzathine penicillin** IM 1.8gm or 2.4 million units.
- **Azithromycin 1gm** orally.
- Contact trace all sexual partners in the last 3 months and offer a full STI screen and the same treatment.

Syphilis and donovanosis are notifiable diseases. Contact your local SHU if treating for syphilis or donovanosis.

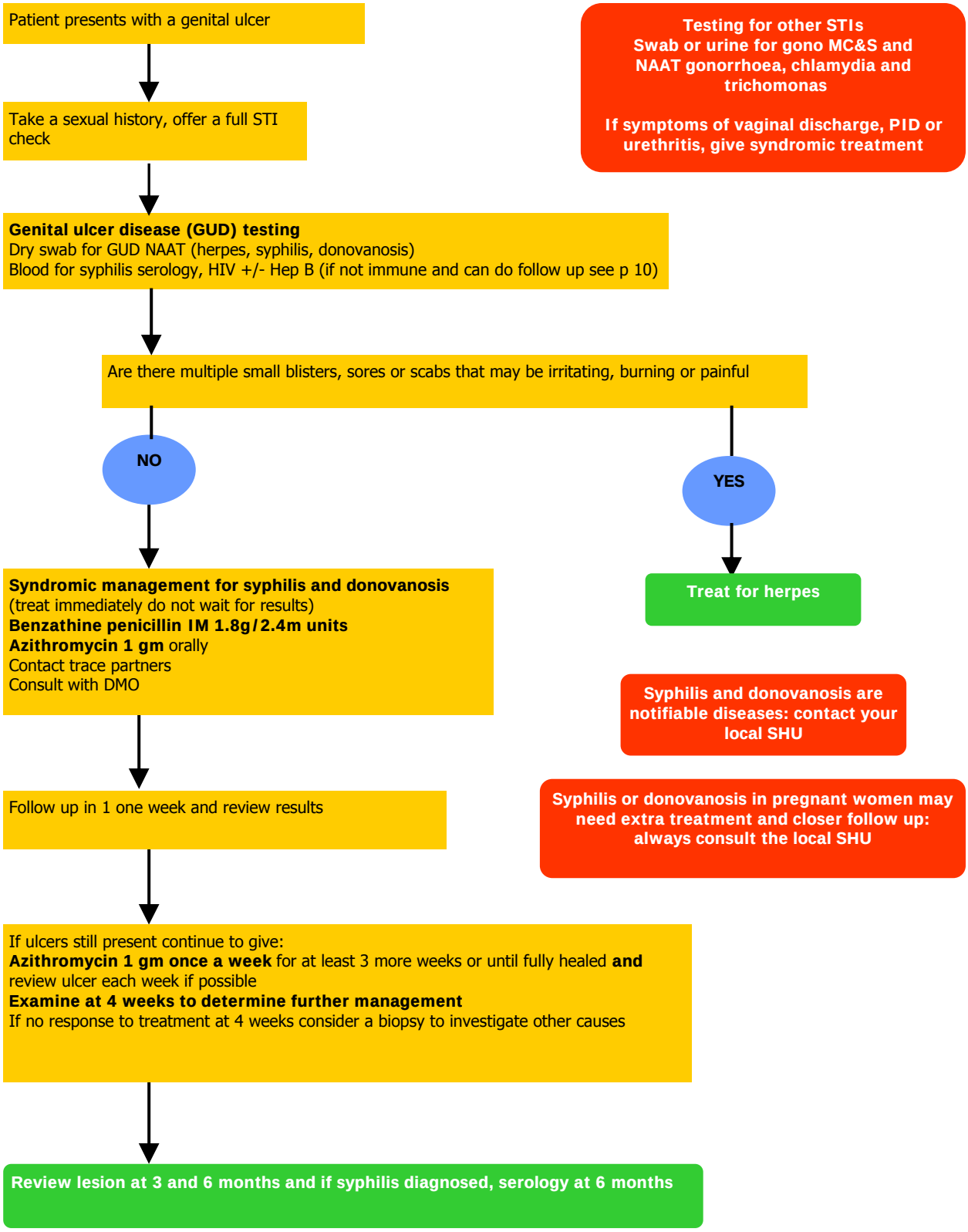
Follow up at 1 week

- Check test results.
- If the ulcer is still present or the donovanosis test is positive keep giving **azithromycin 1g** orally once a week for at least 3 weeks until the sore has healed.
- If possible examine the ulcer each week until it is fully healed.
- The ulcer **must** be examined at 4 weeks. If no response to treatment consider a biopsy to investigate other causes.
- Examine the person at 3 months and 6 months after treatment is completed to look for a recurrence.
- If syphilis was diagnosed, repeat syphilis serology 6 months after treatment and ask for RPRs on both specimens to be 'run in parallel'.

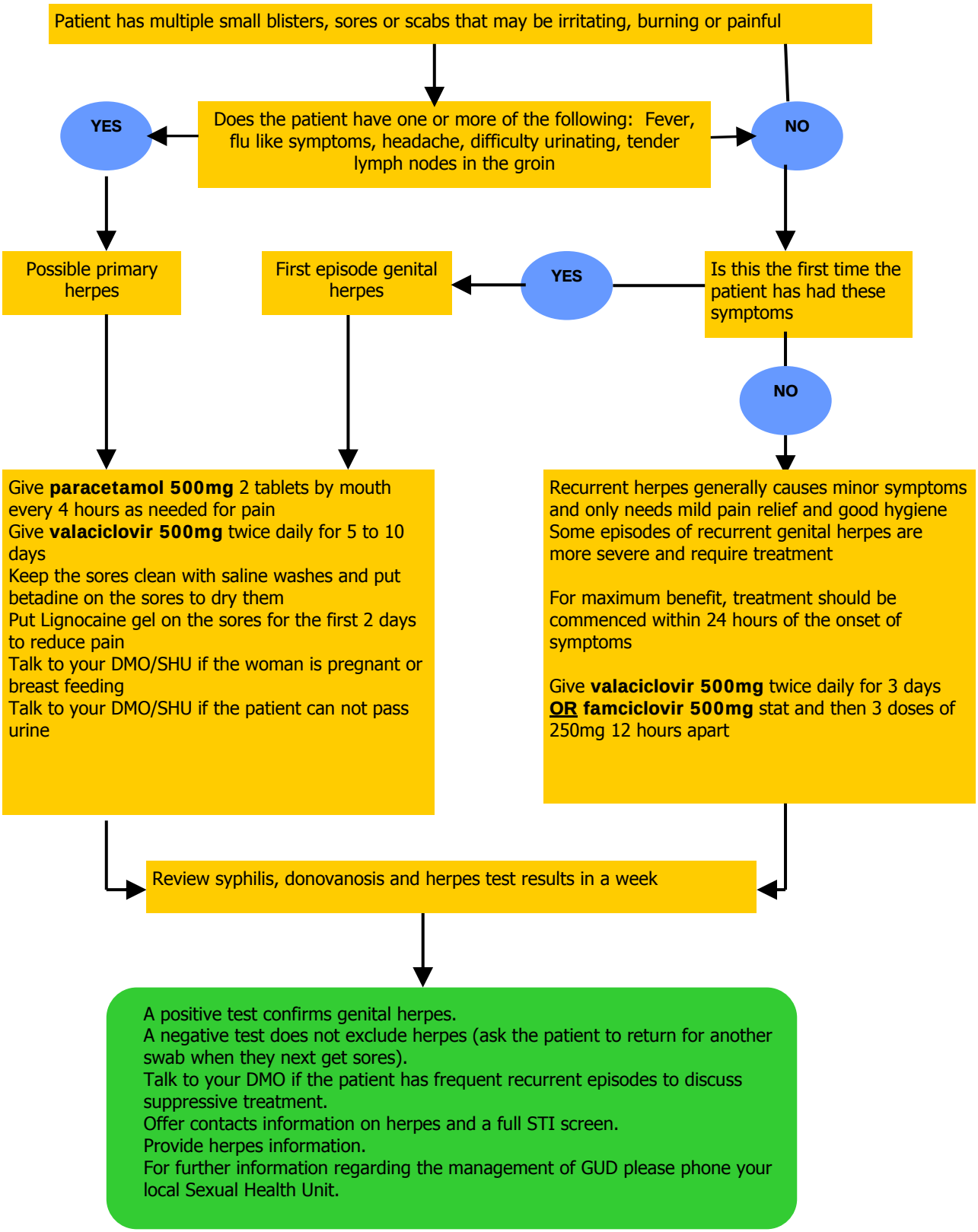
Safe sex advice

Advise the person about safer sexual practices and condom use. Remember condoms do not always cover the ulcer. Advise the person not to have sex until the sores have healed.

Management of genital ulcers



Management of genital herpes



Management of genital warts

Causes

Genital warts are caused by infection with human papillomavirus (HPV). They are spread by skin-to-skin contact.

They are one of the most common STIs in non-Aboriginal people and according to anecdotal reports are increasingly common in Aboriginal people.

There are over 100 sub-types of HPV. HPV can cause common warts and carcinoma of the cervix, vulva, anus and penis. The sub-types that cause genital warts are different from those causing cancer.

A vaccine is now available against 4 sub types of HPV. Of these, 2 cause genital warts and 2 cause cervical carcinoma. The vaccine is only useful in people not already exposed to those types of HPV (i.e. usually those with no or limited sexual experience) and has no role in treatment of established warts.

History

Genital warts are usually painless but can cause itching or discomfort.

- Ask how long the warts have been present, and have they had them before.
- Ask about other possible STI symptoms (e.g. urethral or vaginal discharge, dysuria, rash, sore throat)
- See Sexual History p 1.
- Ask about sexual partner/s, and if any of them are from outside the Top End or Central Australia.

The appearance of warts can vary from being small to solid lumps with a hard smooth surface, to a 'cauliflower-like' appearance. They are often multiple, scattered and of different sizes.

Examination (see Male examination, p 6, Female examination p 7).

It is important to look inside the vagina with a speculum, under the foreskin and scrotum and in the peri-anal region.

Some other conditions look like genital warts, including:

- Secondary syphilis ('condylomata lata')
- Molluscum contagiosum
- Vulval cancer.

Sub-clinical infections can also occur: i.e. normal looking skin may be infected with HPV and be infectious.

Investigations

Diagnosis is usually on clinical grounds. There is no routinely available diagnostic test for HPV. Where confusion exists a biopsy may be performed after specialist advice.

It may be difficult to distinguish between HPV warts and condylomata lata of secondary syphilis, which are usually moist and fleshy in appearance (see treatment below).

Do a full STI check

- Take 2 self-collected vaginal swabs or a urine test in women and a urine test in men: request MC&S and NAAT chlamydia, gonorrhoea and trichomonas. (If doing a speculum examination in a woman taking endocervical and high vaginal swabs is better).
- Women should have a Pap smear if not already done in the past 2 years.
- Take a blood test for syphilis serology, HIV +/- Hepatitis B (HBsAg, HBsAb, and HBcAb). **See hepatitis B, p 10.**

Treatment

Secondary syphilis should always be considered and excluded before treating for genital warts particularly in populations with high rates of syphilis (for example remote communities or people whose sexual networks relate to remote communities).

Self-administered treatment with podophyllotoxin 0.5% lotion or 0.15% cream is recommended. If the warts cover more than 4 cm^2, direct medical supervision is recommended.

- Wash and dry the affected area prior to application.
- Apply to warts twice a day for 3 days and then no treatment for 4 days.
- Repeat for up to 4 cycles.
- If no improvement, seek DMO advice.

Show the patient how to apply the lotion or cream to the warts only and not the surrounding skin. The lotion comes with an applicator. The cream can be applied using a finger preferably with a glove. Wash hands with soap and water immediately afterwards.

Skin reactions at the treatment site may occur. A rest period of several days may be required due to discomfort or severity of a local skin reaction. Treatment may resume when the reaction has subsided.

Podophyllotoxin should not be used in pregnant or lactating women

Podophyllotoxin should only be used for external genital warts or warts just inside the introitus. It should not be used inside the vagina or urethra. People with warts in these places should be referred to a specialist clinic.

Imiquamod 5% cream can also be used for genital warts. However, it is not approved for this purpose under the PBS and is extremely expensive.

Cryotherapy can be used but usually requires several treatments. Given the need for specialised cryoprobes, it is generally only available in specialist sexual health clinics. Patients who cannot use self-administered treatments can be referred to Clinic 34 in Alice Springs or Darwin.

Safe sex advice

Advise the person about safer sexual practices and condom use. Remember condoms may not always cover the wart. HPV transmission may occur through normal looking skin.

Disease specific treatments

Gonorrhoea

Causative agent: *Neisseria gonorrhoea*

Symptoms

- Females - vaginal discharge or lower abdominal pain, 10-15% of acute gonococcal cervicitis in women is complicated by pelvic infection. Tubal damage can result in increased risk of ectopic pregnancy and infertility.
- Males - urethral discharge, dysuria, epididymo-orchitis is a complication.
- Pharyngeal and anal infections can occur.
- May be asymptomatic.

Investigations

- Females - endocervical, self-collected vaginal or urine test for NAAT gonorrhoea, gono MC&S.
- Males - urine or urethral swab: NAAT gonorrhoea, gono MC&S.
- Throat and anal swabs for culture as indicated by sexual history

Treatment

Uncomplicated genital infection acquired from NT partner.
Give amoxicillin 3g and probenecid 1g orally.

Partner outside NT or contact of PPNG or anal or pharyngeal infection.
Ceftriaxone 500mg IM with 2ml 1% lignocaine.

If signs or symptoms of pelvic inflammatory disease.
See PID protocol, p 21.

Contact tracing

Partner/s in last 3-6 months.

Follow up

Offer test for re-infection at three months.

Key points re infections detected in "asymptomatic" women

Practitioners should consider the possibility of mild PID in apparently asymptomatic women diagnosed with gonorrhoea or chlamydia before giving single dose treatment. A speculum and bimanual examination should be offered but may be difficult to arrange (i.e. no trained staff immediately available, on an outstation, or in a very busy clinic).

Ask whether she has symptoms of lower abdominal pain, deep dyspareunia, intermenstrual bleeding, or abnormal vaginal discharge. If she has any of these symptoms a full examination for PID should definitely be offered (see p 7 and 21). If this is impossible, consider treating for PID anyway if the woman is at high risk for an STI - AHWs and nurses should consult a DMO.

In Central Australia, urine NAAT tests may be used at times to diagnose infection in asymptomatic women. This particular NAAT in urine has a very low sensitivity (i.e. a high false negative rate) for gonorrhoea in women. Because of this, and the high rates of gonorrhoea in many Central Australian remote communities, the Women's Business Manual recommends that asymptomatic women in whom either gonorrhoea or chlamydia is diagnosed should be treated for both infections as a matter of routine.

This recommendation does not apply in the Top End where TMA tests, which do not have the same problem for gonorrhoea diagnosis in women, are used in the primary care setting, and where rates of gonorrhoea are not as high. This recommendation does not apply to people in urban settings in Central Australia whose sexual networks do not relate to remote communities.

Chlamydia

Causative agent: Chlamydia trachomatis

Symptoms

- Females - cervicitis, vaginal discharge or lower abdominal pain and approximately 10-15% of cases are complicated in women by pelvic infection. Tubal damage can result in increased risk of ectopic pregnancy and infertility.
- Males - urethritis and dysuria, epididymo-orchitis is a complication.
- May be asymptomatic.

Investigations

- Females - endocervical, self-collected vaginal swab or FVU for *Chlamydia trachomatis* NAAT.
- Male - FVU or urethral swab for *Chlamydia trachomatis* NAAT.
- Throat or anal swabs for NAAT as indicated by sexual history

Treatment

If uncomplicated.
Give: azithromycin 1g.

If symptoms or signs of pelvic inflammatory disease.
See PID protocol, p 21.

Contact tracing

Partner/s in last 3-6 months.

Follow up

Offer test for re-infection after three months.

Trichomoniasis

Causative agent: Trichomonas vaginalis

Symptoms

- Females - abnormal vaginal discharge with thin, frothy, yellow/green and fishy smell, vulval itch and irritation. Infection can persist for months or longer and can be asymptomatic.
- Males - can cause urethral discharge and dysuria, usually short lived, but often asymptomatic.
- Often asymptomatic

Investigations

- Females - cervical, high vaginal or self-collected vaginal swab or FVU for NAAT trichomonas.
- Males - urethral swab (only if symptomatic) or FVU for NAAT trichomonas

Treatment

- Metronidazole 2g

or

- Tinidazole 2g (not if pregnant)

Note: treatment considerations for trichomoniasis in pregnancy are complex.
Trichomoniasis may lead to adverse pregnancy outcomes (e.g. premature labour), but there is no evidence that treatment improves these outcomes and some evidence infers that it may worsen them. Benefits and risks should be considered on an individual basis. Some authorities recommend treatment at any gestation if the woman has symptoms, but withholding treatment until 36 weeks if she is asymptomatic.

Contact tracing

Treat current partner/s and offer a full STI screen.

Follow up

Offer test for re-infection after three months.

Donovanosis

Causative agent: Klebsiella granulomatis

Symptoms

- Lesions/ulcers in genital, anal or inguinal area with exuberant beefy red appearance, usually painless. If there is a superimposed infection it may be painful and malodorous.

Investigations

- Swab of lesion - roll swab on glass slide and air dry (laboratory will look for Donovan bodies).
- Swab of ulcer/lesion for NAAT herpes/donovanosis/syphilis.

Treatment

- Azithromycin 1gm once a week for at least 4 weeks or until fully healed.

or

- Azithromycin 500 mg daily for 7 days only.

Review ulcer each week if possible.

Examine at 4 weeks to determine further management.
If no response to treatment at 4 weeks consider a biopsy to investigate other causes.

Extra treatment and closer follow up may be required in pregnant women.
Consult the local SHU.

Contact tracing

Partner/s in last 3 months.

Syphilis

Causative agent: Treponema pallidum.

Syphilis infection can be divided into sexually acquired and congenital infection. For the purpose of treatment, sexually acquired infection is categorised as equal to or less than 2 years duration, more than 2 years duration, or unknown duration.

Symptoms

- Primary syphilis is characterised by a genital ulcer (chancre), which is single or multiple usually painless and may be associated with lymphadenopathy.
- Secondary syphilis represents the dissemination of the organisms throughout the body and involves constitutional symptoms such as fever, rashes (often involving palms and soles), condylomata lata (wart like lesions) and generalised lymphadenopathy.
- Asymptomatic stage (latent).
- Tertiary syphilis occurs in 10-30% of people who are untreated and involves lesions of skin, bone and complications of the neurological and cardiovascular systems.

Investigations

Syphilis serology is the main test for syphilis. Treponemal tests such as CMIA, EIA, TPPA, TPHA are positive for life in most cases regardless of treatment. Non-treponemal tests such as RPR assess response to treatment and disease activity. Both tests are required.

A NAAT for syphilis may be done on swabs from ulcers, skin rash or condylomata lata.

Treatment

Blood should be taken for RPR on the first day of treatment. This result is used as the baseline result to determine treatment response.

Syphilis <2year duration
Benzathine penicillin 1.8g or 2.4 million units IM stat.

Syphilis >2 years duration or unknown duration
Benzathine penicillin 1.8g or 2.4 million units IM X 3 at weekly intervals for 3 weeks.

Neurosyphilis or cardiovascular syphilis
Seek advice from your local Clinic 34.

If syphilis in pregnancy
Seek advice from your local Clinic 34.

Contact tracing

Contact trace partners in the last 6 months - 2 years in syphilis <2 years duration, give benzathine penicillin 1.8g or 2.4 million units and offer STI screen to contacts.

Follow up

Adequate treatment of early syphilis is a four-fold (2 titre) drop in RPR titre after 6-12 months. Do syphilis serology at 6 months after treatment. Further follow up serology may be needed depending on the response to treatment.

Syphilis Register

The Northern Territory Sexual Health & Blood Borne Virus Unit maintains a Territory wide Syphilis Register. While diagnosis and treatment of STIs in many cases is relatively straightforward, it is not the case with Syphilis. Information on current clinical findings and previous tests and history is required in order to determine treatment. This is where clinicians and Syphilis Register operators can work together to maximize clinical information.

The Syphilis Register operators coordinate the collection, storage and distribution of information in relation to the diagnosis, treatment and follow up of syphilis and congenital syphilis. Register operators are registered nurses with extensive experience in syphilis management.

The Syphilis Register operators are available via telephone to support treating clinicians in the clinical management of syphilis. Additionally, they liaise with the Sexual Health Coordinator. Contact details are located on the back cover page of this document.

Genital herpes

Causative agent: Herpes simplex 1 and 2 virus (HSV).

Symptoms

Genital herpes may present as multiple, painful or itchy small blisters, which become ulcers, then scabs and then heal. There may be tender inguinal lymphadenopathy. The first episode is usually the most severe episode and can last 2-3 weeks. It is usually associated with flu like symptoms and headache and there can be severe localised genital swelling and pain and retention of urine, requiring hospitalisation. Herpes can reoccur in some people. If so, the ulcers usually are not as severe and usually heal within a week.

Investigations

Dry swab, swab base of the ulcer and request NAAT herpes (if blisters are present gently burst with a sterile needle and swab the fluid, for other sores just swab the sore or scab).

Treatment

First episode
Valaciclovir 500mg bd for 5-10 days.

Recurrent episode

- Valaciclovir 500mg bd for 3 days
  or
- Famciclovir 500mg stat then 250mg 12 hourly for 3 doses.

Note: Both valaciclovir and famciclovir require authority prescriptions and are approved for recurrent herpes. Both are effective in primary herpes but only valaciclovir is approved for this indication.

If pregnant or breastfeeding seek specialist advice.

Contact tracing

Counselling for current partners.

Bacterial vaginosis

Causative agent*:* Bacterial vaginosis (BV) results from an overgrowth of mixed organisms and is characterised by a decrease in lactobacilli and a rise in vaginal pH (>4.5).

Symptoms

Characteristic symptoms and signs are: malodorous 'fishy', white-grey discharge and minimal vulvar irritation.

Investigations

High vaginal swab for MC&S.

Treatment

Metronidazole 400mg BD for 7 days.
Metronidazole intravaginal gel (0.75%) 5gm daily for 5 days.

Note: Single dose treatment of BV is no longer recommended due to a higher recurrence rate. In remote communities there may be difficulties with patients adhering to a 7 day course of metronidazole. If so, a dose of 2g on the first day followed by 400mg BD for 6 more days can be considered.

Contact tracing

Not needed.

Candidiasis

Causative agent: Candida albicans

Symptoms/Signs

Symptoms include vulval itch or burning, white, thick curd like discharge; signs include erythema of vulva and vagina, erosions and fissures and white curd like discharge adherent to vaginal walls.

Investigations

High vaginal swab for MC&S.

Treatment

Clotrimazole 500mg vaginal pessary as a single dose.
Fluconazole 150mg stat (not recommended for breastfeeding or pregnant women or those under eighteen).

Contact tracing

Not needed.

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Appendix 1 Investigations – men who have sex with men

Nationally, gonorrhoea, chlamydia, infectious syphilis and HIV continue to be diagnosed at high rates among men who have sex with men (MSM). These STIs are being diagnosed in MSM with and without HIV infection in the context of changing patterns of sexual behaviour.

Recommendations:

1. **At least once a year**: all men whio have had any type of sex with another man in the previous year should be offered the following tests:

Pharyngeal swab:	Gonorrhoea NAAT/culture	
Anal swab:	Gonorrhoea NAAT/culture and chlamydia NAAT	
First void urine:	Chlamydia NAAT	
Serology:	Syphilis	
	HIV	
	Hepatitis A	(if negative- immunise)
	Hepatitis B	(if negative-immunise)
	Hepatitis C	(if HIV positive or injecting drug use)

2. **More frequent testing**: 3-6 monthly testing is recommended for men who:

- have episodes of unprotected anal sex
- have more than 10 partners in the past 6 months
- participate in group sex or use recreational drugs during sex.

3. **HIV positive MSM**: 3 monthly syphilis testing as part of routine HIV monitoring.

Repeat testing: People diagnosed with chlamydia or gonorrhoea should be re-tested in 3 months.

Used with permission of the STIs in Gay Men Action Group, Sydney

Appendix 2 Population screening in a remote community

For many remote communities of the Northern Territory, the levels of STIs remain unacceptably high. Notification data for 2011 shows that over 75% of all STIs in the Northern Territory are in remote areas. A successful and sustainable comprehensive sexual health program requires sexual health to be an integrated and core component of service delivery within a remote primary health care facility.

Evidence suggests a high testing rate within the target groups can lead to a reduction in overall community STI prevalence. The following best practice targets are recommended by the Northern Territory Sexual Health & Blood Borne Virus Unit.

- Testing at least 80% of the resident population aged 16 – 34 annually for chlamydia, syphilis, gonorrhea and trichomonas.
- Treat at initial consult, 100% of all symptomatic presentations.
- Treat 80% of asymptomatic infections within 7 days of receiving a pathology result.
- Follow up and re-test 80% of treated infections at three months.
- Test and treat 50% of named contacts within 14 days.
- A community specific sexual health action plan.
- Health promotion and community education.

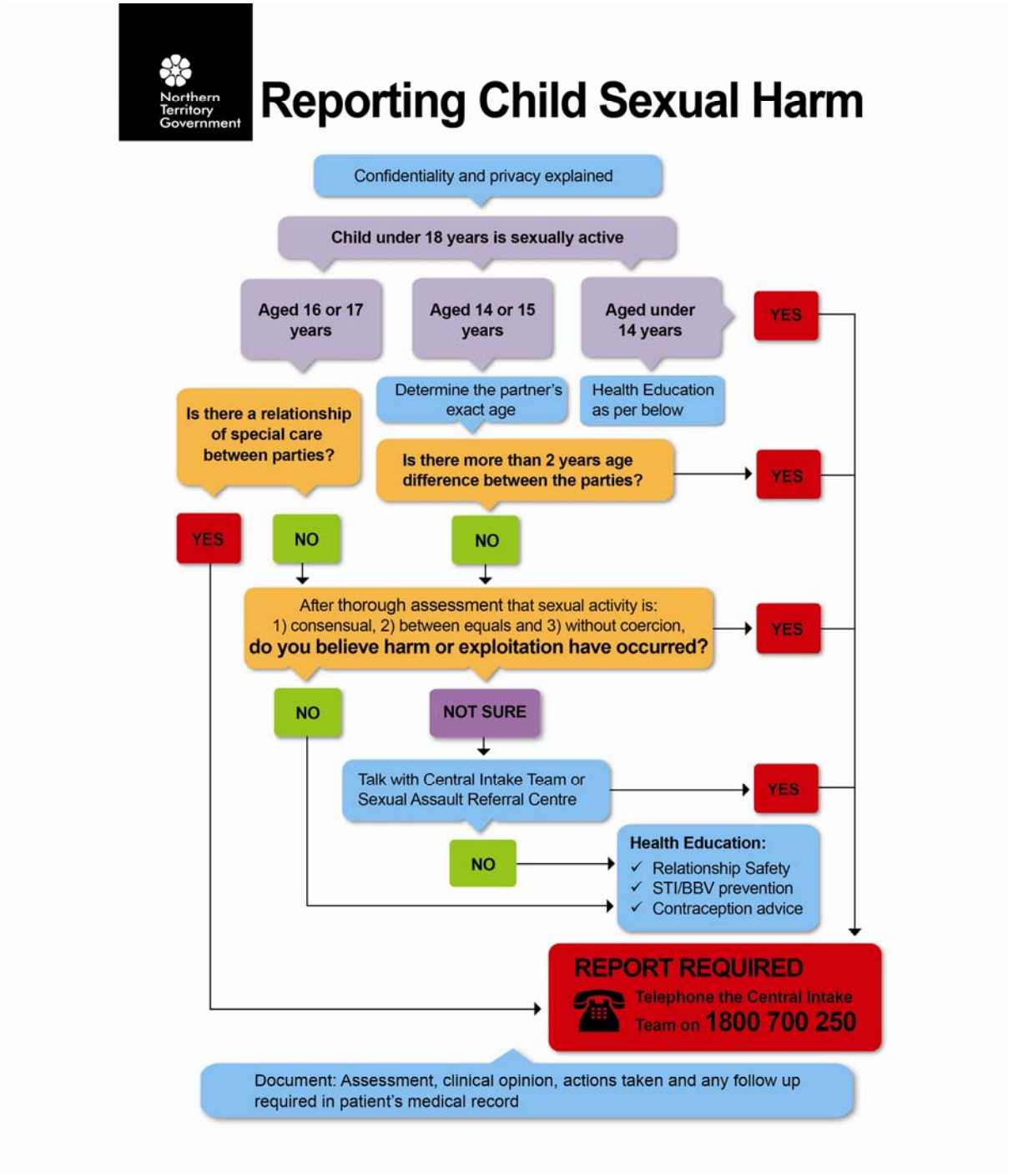
The Northern Territory Sexual Health and Blood Borne Virus Unit have remote sexual health coordinators located in Darwin, Katherine, Tennant Creek, Alice Springs and Nhulunbuy. The remote sexual health coordinators support remote primary health care by the following activities:

- Clinical updates in relation to STI/BBV for remote health services.
- Undertake chart audits for quality assurance/teaching purposes and participate in community STI/BBV screens if requested.
- In consultation with community members and the local clinic team, have input to community STI/BBV activity planning activities.
- Organise and deliver gender specific sexual health workshops for the communities and contribute to health promotion/health education activities.
- Provide telephone and on line information to remote health services about STI/BBV management on request.
- Contribute to joint SHBBV activities with remote team workers across the entire NT.

Contact details:

Darwin:	8922 8874
Katherine:	8973 9049
Tennant Creek:	8962 4603
Alice Springs:	8951 7549
Nhulunbuy:	8987 0357

Appendix 3: Flowchart "Reporting Child Sexual Harm"



Standard treatment protocols for sexually transmitted infections

These guidelines cover STIs commonly encountered in the NT and may vary slightly from your district guidelines. Please contact your local **Clinic 34** or **Sexual Health Unit** if you have any questions. **STIs in children, pregnancy, breast feeding and patients with antibiotic allergy require specialist management. Please contact your local Clinic 34 (see back cover for telephone numbers)**.

Note: All treatments are single dose, oral preparations unless otherwise indicated

Gonorrhoea

Genital (uncomplicated)

i) ***acquired from Top End or Central Australian partner***
Amoxicillin 3g

PLUS

Probenecid 1g

ii) ***acquired from a partner outside of the Top End or Central Australia or contact of known penicillin resistant gonorrhoea***
Ceftriaxone 500mg IM

Extra-genital – *(pharyngeal or rectal)*
Ceftriaxone 500mg IM

Chlamydia (uncomplicated)
Azithromycin 1g

For PID refer to PID management guidelines

Trichomoniasis
Metronidazole 2g
OR
Tinidazole 2g

If pregnant seek specialist advice

Bacterial vaginosis
Metronidazole 400mg BD for 7 days

Donovanosis
Refer to Management Guidelines for Genital Ulcerative Disease
Azithromycin 1g once a week for 4 weeks
Or
Azithromycin 500mg daily for 7 days

Syphilis

Early (infectious)

Primary and secondary syphilis, or early latent (asymptomatic) syphilis or < 2 years duration
Benzathine penicillin 1.8g or 2.4 million units IMI single dose

Late latent syphilis, or syphilis > 2 years or unknown duration

Benzathine penicillin 1.8 g 2.4 million units IMI at weekly intervals for three weeks

Neurosyphilis and cardiovascular syphilis

Requires specialist assessment and management
Ring your local Clinic 34 for further information on the management of neurosyphilis and cardiovascular syphilis.

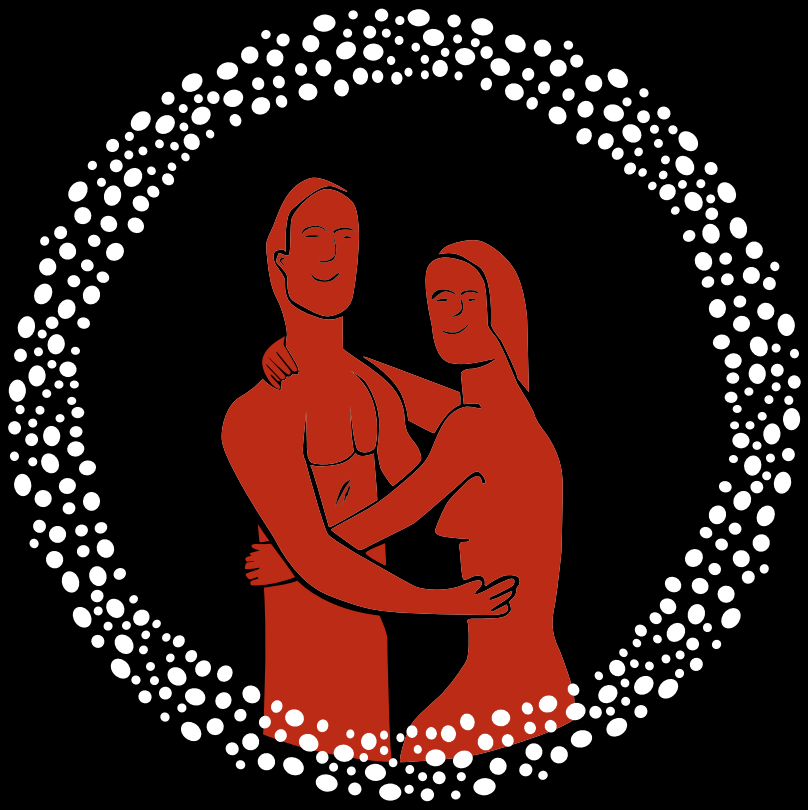
Note: Syphilis in pregnancy requires careful management and follow-up. Please contact your local Clinic 34 for assistance.

Herpes simplex 1 & 2
Primary attack
Valaciclovir 500mg BD for 5-10 days

Recurrent episode
Valaciclovir 500mg for 3 days
OR
Famciclovir 250mg BD

If pregnant or breastfeeding seek specialist advice

For any enquiries regarding management of patients, please contact the staff at your nearest Centre for Disease Control or Sexual Health Unit or Clinic 34



For any enquiries regarding management of patients, please contact the staff at your nearest Centre for Disease Control or Sexual Health Unit

Centre for Disease Control

Darwin	08 8922 8044
Alice Springs	08 8951 7540
Katherine	08 8973 9049
Nhulunbuy	08 8987 0282
Tennant Creek	08 8962 4259

Clinic 34

Darwin	08 8999 2678
Alice Springs	08 8951 7549
Katherine	08 8973 9049
Nhulunbuy	08 8987 0356
Tennant Creek	08 8962 4250

Syphilis Database

Darwin	08 8922 7818
Alice Springs	08 8951 7552
Katherine	08 8973 9046
Nhulunbuy	08 8987 0356
Tennant Creek	08 8962 4250