Federal Democratic Republic of Ethiopia

Ministry of Health

Ethiopian primary health care clinical guidelines

Care of Children 5-14 years and Adults 15 years or older in Health Centers

Addis Ababa

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SAMPLE

How to use this Guide

Ethiopia's PHC clinical guide is an algorithmic guideline, prepared to be used as a quick and action oriented reference material for care givers in a health center; and primarily it targets health officers and nurses as care givers. It is divided into two main parts: first part for "adults" (15 years or older) and second part for children (5 to 14 years). Each part is divided into two sections: symptoms and chronic conditions (Routine Care). For management of the child aged younger than 5 years, please see the Integrated Management of New-borns and Childhood Illness (IMNCI) guidelines.

To use this guide,

- First consider the age of the patient and identify which part to use based on patient's age.
- In a patient presenting with one or more symptoms (Eg. Fever, cough, chest pain…),
  - Start by identifying the patient's main symptom.
  - Use the Symptoms contents page to find the relevant symptom page in the guide.
  - Decide if the patient needs urgent attention (in the red box) and if not, follow the algorithm to either a management plan or to consider a chronic condition in the chronic condition section of the guide.
- In the patient known with a chronic condition (Eg. known TB patient),
  - Use the chronic Conditions contents page to find that condition in the guide.
  - Go to the colour-coded Routine Care pages for that condition to manage the patient's chronic condition using the 'Assess, Advise and Treat' framework.
- Arrows refer you to another page in PHCG: The return arrow (⮐) guides you to a new page but suggests that you return and continue on the original page. The direct arrow (→) guides you to continue on another page.
- The assessment tables on the Routine Care pages are arranged in 3 tones to reflect those aspects of the history, examination and investigations to consider.
- Refer to the glossary for abbreviations and units used in PHCG.

For further information about the PHCG, contact the Clinical Service Directorate of FMOH, via e-mail at phcgethiopia@gmail.com or via telephone +251 115 514901.

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Seizures/convulsions

Give urgent attention to the patient who is unconscious and convulsing:

- Assess and manage airway, breathing, circulation and level of consciousness ⮐12.
- If current head injury →14.
- Ensure the patient does not sustain additional trauma. Don't leave patient alone or put anything in mouth. Place patient on side and give 100% facemask oxygen.
- Secure IV access with normal saline or dextrose in normal saline.
- Check glucose. If < 70mg/dl or unable to measure, give glucose 40% 50ml IV over 2-3 minutes. Repeat if glucose still < 70mg/dL after 15 minutes. Maintain with glucose 10% solution[1]. If glucose ≥ 200mg/dL, control convulsion and stabilize patient, then ⮐86
- If ≥ 20 weeks pregnant up to 1 week postpartum: consider eclampsia →112.
- Give diazepam 10mg IV slowly over 2 minutes. Repeat after 5 minutes if convulsion continues.
- If still convulsing 10 minutes after second dose of diazepam or patient does not recover consciousness between convulsions, **status epilepticus** likely:
  - Give phenytoin or phenobarbitone 20mg/kg PO (crushed and diluted in water through NG Tube). Give diazepam 10mg IV at the same time and repeat up to a total dose of 40-60mg if convulsion continues.
  - Add phenytoin or phenobarbitone 10mg/kg PO if convulsion persists after 60-90 minutes.
  - Refer urgently to hospital.

Approach to the patient who is not convulsing now

- Confirm with the patient and a witness that s/he indeed had a convulsion: abnormal, jerking movements of part of or the whole body, usually lasting < 3 minutes.
- May have had tongue biting, incontinence, post-convulsion drowsiness and confusion.

Yes

Refer patient same day if one or more of:

- Neck stiffness/meningism, temperature ≥ 38°C, **meningitis** likely: give ceftriaxone[2] 2g IM/IV or crystalline penicillin[2] 4M IU IV with chloramphenicol 500mg IV
- Malaria test[3] positive: give artesunate 2.4mg/kg IM or artemether 3.2mg/kg IM.
- HIV patient: consider CNS toxoplasmosis, CNS TB, cryptococcal meningitis or HIV associated dementia
- Reduced level of consciousness for more than 1 hour after convulsions stopped: suspect complications
- New sudden asymmetric weakness or numbness, difficulty speaking or visual disturbance: consider stroke
- New/different headache or headache getting worse/more frequent: consider sub-arachnoid hemorrhage
- BP ≥ 180/110 one hour after convulsion has stopped: consider hypertensive emergency
- Substance abuse: consider overdose or withdrawal
- Head injury within past 6 weeks: consider subdural hematoma
- Pregnant or up to 1 week postpartum: consider eclampsia →112.

Approach to the patient who had convulsion but does not need same day referral

Is the patient known with epilepsy?

Yes
Give routine **epilepsy** care →97.

No
Patient has previous history of head trauma, meningitis, family history, stroke or brain tumor?

Yes
Give routine **epilepsy** care →97.

No
Refer to hospital.

No

New sudden asymmetric weakness or numbness of face arm or leg; difficulty speaking or visual disturbance

Stroke or **TIA** likely →93.

Collapse with twitching lasting < 15 seconds following hot feeling, nausea, prolonged standing or intense pain with rapid recovery

Faint or **syncope** likely →20.

Episodes of acute anxiety, fully conscious, responds irregularly, with abnormal body movement and usually after stressful experience

Conversion Disorder (**Hysteria**) likely →99.

If diagnosis uncertain, refer.

[1]Add 10 vials of glucose 40% in 1L dextrose in normal saline solution at 30 drops per minute. [2]If severe penicillin allergy (previous angioedema, anaphylaxis or urticaria), give chloramphenicol only and refer. [3]Test for malaria with parasite slide microscopy or if unavailable, rapid diagnostic test.

SAMPLE

Headache

Give urgent attention to the patient with headache and one or more of:

- Sudden severe headache
- New/different headache, or headache that is getting worse and more frequent
- Headache that wakes patient or is worse in the morning
- Temperature ≥ 38°C, neck stiffness/meningism or vomiting
- Worsening/persistent headache in HIV patient recently started on ART
- BP ≥ 180/110 and not pregnant →89
- Pregnant or 1 week post-partum, and BP ≥ 140/90 →112
- Decreased level of consciousness
- Confusion
- Sudden dizziness
- Vision problems (e.g. double vision) or eye pain →23
- Following a first convulsion
- Recent head trauma
- Sudden weakness or numbness of face, arm or leg →93
- Speech disturbance
- Pupils different in size

Management:

- If temperature ≥ 38°C or neck stiffness/meningism, give ceftriaxone[1] 2g IV/IM or crystalline penicillin[1] 4M IU IV with chloramphenicol 500mg IV. If malaria test[2] positive, also give artesunate 2.4mg/kg IM or artemether 3.2mg/kg IM.
- Refer urgently.

Approach to the patient with headache not needing urgent attention

Is headache disabling and recurrent with nausea or light/noise sensitivity, that resolves completely?

Yes

Migraine likely
- Give immediately, and then as needed: ibuprofen[3] 400mg PO QID with food *or* paracetamol 1g PO QID for up to 5 days.
- If nausea, also give metoclopramide 10mg PO TID as needed up to 5 days.
- Give oral hydration.
- Advise patient to recognise and treat migraine early, rest in dark, quiet room.
- Advise regular meals, keep hydrated, regular exercise, good sleep hygiene.
- Keep a headache diary to identify and avoid migraine triggers like lack of sleep, hunger, stress, some food or drink.
- Avoid oestrogen-containing contraceptives ↩110.
- If ≥ 2 attacks/month, refer for medication to prevent migraines.

No

Pain when pushing on forehead or cheek/s, recent common cold, runny/blocked nose?

Yes

Sinusitis likely
- Give paracetamol 1g PO QID as needed for up to 5 days.
- If tooth infection, swelling over sinus or around eye, refer.
- If patient has recurrent sinusitis, test for HIV ↩75.
- If nasal discharge for > 10 days or symptoms worsen after initial improvement, give antibiotic:
  - Is there risk of severe infection (> 65 years, alcohol abuse or impaired immunity[4])?

Yes
- Give amoxicillin/clavulanate 500/125mg PO TID for 7-10 days.
- If penicillin allergic, give instead azithromycin 500mg PO daily for 3 days, if available or refer.

No
- Give amoxicillin 500mg PO TID for 7 days.
- If penicillin allergic, give instead doxycycline[5] 100mg PO BID for 7 days.

No

- If using analgesia > 2 days/week for ≥ 3 months it can cause headaches:
  - Advise against regular use and to cut down on amount used.
  - Headache should improve within 2 months of decreased use.
- Consider muscular neck pain or giant cell arteritis:

Constant aching pain, tender neck muscles

Muscular neck pain likely →48.

> 50 years, pain over temples

Giant cell arteritis likely
Check ESR. If > 30mm/h, give single dose prednisolone 60mg PO and refer same day.

- In the past month, has patient: felt depressed, sad, hopeless or irritable or worrying a lot, had multiple physical complaints, felt little interest or pleasure in doing things? If yes to any ↩99.
- If excessive worry causes impaired function/distress for at least 6 months with ≥ 3 of: muscle tension, restlessness, irritability, difficulty sleeping, poor concentration, tiredness: **generalised anxiety disorder** likely ↩100..

- Warn patient to avoid overusing analgesics.
- If uncertain of diagnosis or poor response to treatment, refer.

[1]If severe penicillin allergy (previous angioedema, anaphylaxis or urticaria), give chloramphenicol only and refer. [2]Test for malaria with parasite slide microscopy or if unavailable, rapid diagnostic test. [3]Avoid if peptic ulcer, asthma, hypertension, heart failure or kidney disease. [4]Known with HIV, diabetes or cancer, pregnant or receiving chemotherapy or corticosteroids. [5]Avoid if pregnant.

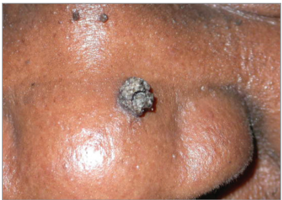
SAMPLE

Skin lump/s

Refer same week the patient with a mole that:
- Is irregular in shape or colour
- Changed in size, shape or colour
- Differs from surrounding moles
- Is > 6mm wide
- Bleeds easily
- Itches

If painful, firm, red, warm lump which softens in the centre to discharge pus, **boil/abscess** likely →54.

Round, raised papules with rough surfaces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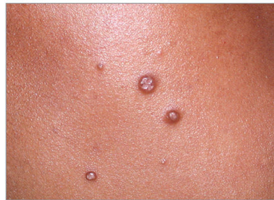
Warts likely
- Usually on hands, knees or elbows but can occur anywhere.
- Plantar warts on the soles of the feet are thick and hard with black dot/s.

- Reassure patient that warts often disappear spontaneously.
- If treatment desired, apply salicylic acid 5% 1-2 drops to wart every night and cover with a plaster.
- Advise patient to soak in warm water for 5 minutes then scrape wart with nail file between treatments.
- Continue to apply salicylic acid for a week after wart has come off.
- If warts are extensive, refer.

Small, skin-coloured bumps with pearly central dimples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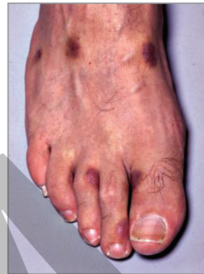
Molluscum contagiosum likely
May be extensive in HIV.

- Test for HIV ↩75.
- Reassure patient that lesions may resolve spontaneously after several years or with ART.
- If intolerable, remove with curettage or apply podophyllum 15% for 4 hours, then wash off. Repeat podophyllum weekly for up to 6 weeks.
- If podophyllum not available, protect surrounding skin with petroleum jelly and apply KOH 5-10% solution with cotton tip applicator daily for 2-3 weeks.
- If extensive or no resolution after 4 years and intolerable for patient, refer.

Painless, purple/brown lumps on skin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Kaposi's sarcoma likely
Lesions vary from isolated lumps to large ulcerating tumours and may also appear in mouth and on genitals.

- Test for HIV ↩75. If HIV positive, give routine care and ART ↩76.
- Refer for biopsy to confirm diagnosis and for further management.

Painless lumps on face and extremities with overlying scales or central ulcer

© St. Paul's Hospital Millennium Medical College

Cutaneous leishmaniasis likely
Do slit skin smear microscopy and refer to leishmaniasis treatment center.

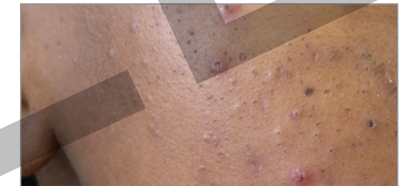
Red lumps on face

Dry skin with redness and visible vessels on face

Rosacea likely

- Advise to avoid aggravating factors.
- Apply zinc oxide ointment every morning.
- Give doxycycline[1] 100mg PO daily for 1 month or azithromycin 250mg PO 3 times a week for 6 weeks.
- Refer if no improvement or diagnosis uncertain.

Oily skin with white/blackheads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Acne likely
May involve chest, back and upper arms

- Advise patient to wash skin with mild soap twice a day and to avoid picking, squeezing and scratching.
- Apply benzoyl peroxide 5% cream twice a day after washing. Continue for 2 weeks after lesions have gone. Avoid in pregnancy.
- If benzoyl peroxide not available, apply clindamycin 1% gel and tretinoin 0.025- 0.05% cream once daily.
- If red, swollen and extensive lesions over chest and back, also give doxycycline 100mg PO daily for at least 3 months. Doxycycline may interfere with oral contraceptive. Advise patient to use condoms as well. Avoid in pregnancy.
- In woman needing contraception, advise combined oral contraceptive ↩110.
- Advise patient that response may take several weeks to months.
- If severe or no response after 6 months of treatment, refer.

[1]Avoid if pregnant.

SAMPLE

HIV: diagnosis

Decide who to test for HIV

- Pregnant woman and her partner/s if HIV status unknown
- Patient in labour and her partner/s if HIV status unknown
- Postpartum woman and her partner/s if HIV status unknown
- Patient seeking contraception and her partner/s if HIV status unknown
- Patient whose partner is HIV positive
- Patient whose family member is HIV positive
- Patient with symptoms of HIV/AIDs
- Patient with TB if HIV status unknown
- Patient with STI and partner/s if HIV status unknown
- MARP[1] patient or between patient 15-24 years of age.

Obtain informed consent

- Educate patient about HIV, modes of HIV transmission, risk factors, benefits of knowing one's HIV status and treatment.
- Offer HIV testing like any other investigation. Unless the patient says no, s/he is tested.
- If consent is granted, explain the test procedure and proceed to testing immediately.

Test

Do rapid HIV test on finger-prick blood using Colloidal Gold®.

Positive

Do a second rapid HIV test on finger-prick blood using Uni Gold®.

Positive

Negative

Do a third rapid HIV test on finger-prick blood using Vikia®

Positive

Negative

Negative

Indeterminate/Invalid

- Advise patient to practice safe sex and return after 2 weeks for repeat test.
- If results are still indeterminate, send blood specimen to laboratory for ELISA test.

Patient has HIV.

- Give routine HIV care at this visit →76.
- Offer to help disclose status to sexual partner/s.
- Encourage HIV testing for sexual partners and children.

HIV test result negative

Was patient at risk of HIV infection in the past 4 weeks (new or multiple sexual partners, or unprotected sex)?

Yes

- Repeat HIV test after 4 weeks.
- Encourage patient to follow safe sex practices.

No

- Patient does not have HIV.
- Encourage patient to remain negative and advise when to re-test:
  - If sexually active, yearly
  - If pregnant: between 28 and 36 weeks
- Offer referral for male circumcision to decrease risk of HIV infection.

Support

Ensure patient understands test result and knows where and when to access further care.

[1]MARP include commercial sex workers, long distance drivers, university students and community around and workers of Mega projects.

SAMPLE

Cardiovascular disease (CVD) risk: routine care

Assess the patient with CVD risk factors or CVD risk ≥ 10% or established CVD

Assess	When to assess	Note
Symptoms	Every visit	Ask about chest pain ⮐28, difficulty breathing ⮐29, leg pain ⮐49, or new sudden asymmetric weakness or numbness of face, arm or leg; difficulty speaking or visual disturbance ⮐93.
Modifiable risk factors	Every visit	Ask about smoking, diet, substance use and exercise or activities of daily living. Manage as below.
BMI	Every visit	BMI = weight (kg) ÷ height (m) ÷ height (m). Aim for < 25.
Waist circumference	Every visit	Measure while standing, on breathing out, midway between lowest rib and top of iliac crest. Aim for < 80cm (woman) and < 94cm (man).
BP	Every visit	Check BP ⮐89. If known hypertension ⮐90.
CVD risk	At diagnosis, then depending on risk	If < 10% with CVD risk factors or 10-20% reassess after 1 year. If > 20%, refer to hospital for investigation if not already done.
Blood glucose	At diagnosis, then depending on result	Check glucose ⮐86. If known diabetes ⮐87.
Random total cholesterol (by referral to hospital)	At baseline if no CVD or diabetes within 3 months of diagnosis.	• If no CVD or diabetes no need to repeat cholesterol or adjust simvastatin. • If CVD or diabetes, increase simvastatin based on repeat cholesterol on relevant page.

Advise the patient with CVD risk

- Discuss CVD risk: explore the patient's understanding of CVD risk and the need for a change in lifestyle.
- Invite patient to address 1 lifestyle CVD risk factor at a time: help plan how to fit the lifestyle change into his/her day. Explore what might hinder or support this. Together set reasonable target/s for next visit.

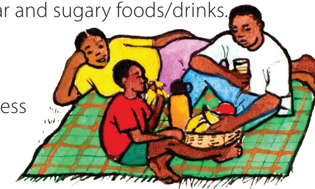
Physical activity
- Aim for at least 30 minutes of moderate exercise (e.g. brisk walking) on most days of the week.
- Increase activities of daily living like gardening, housework, walking instead of taking transport, using stairs instead of lifts.
- Exercise with arms if unable to use legs.

Smoking
- Encourage patient not to start
- If patient smokes tobacco ⮐102.

Weight
- Aim for BMI < 25, and waist circumference < 80cm (woman) and < 94cm (man).
- Any weight reduction is beneficial, even if targets are not met.

Diet
- Eat a variety of foods in moderation. Reduce portion sizes.
- Increase fruit and vegetables.
- Reduce fatty foods: eat low fat food, cut off animal fat. Use liquid oils instead of solid or semisolid oils
- Avoid adding salt to food.
- Avoid/use less sugar and sugary foods/drinks.

Stress
Assess and manage stress ⮐65.



Screen for substance abuse
- Limit alcohol intake ≤ 2 drinks[1]/day and avoid alcohol on most days of the week.
- In the past year, has patient: 1) drunk ≥ 4 drinks[1]/session, 2) used khat or illegal drugs or 3) misused prescription or over-the-counter medications? If yes to any ⮐103.

- Identify support to maintain lifestyle change: health care worker, friend, partner or relative to attend clinic visits, a healthy lifestyle group.
- Be encouraging and congratulate any achievement. Avoid judging, criticising or blaming. It is the patient's right to make decisions about his/her own health. For tips on communicating effectively ⮐124.

Treat the patient with CVD risk

- If no diabetes, give simvastatin 20mg PO daily if patient has established CVD, cholesterol > 300mg/dL or CVD risk ≥ 30%.
- If diabetes, decide if patient needs simvastatin ⮐87.

If CVD risk remains > 30% after 6 months, refer.

[1]One drink is 1 shot (25mL) of spirits (whiskey, vodka, areke, gin), or 1 small glass (125mL) of wine/tej or 1 can/bottle (330mL) of beer/tela.

SAMPLE

Epilepsy: routine care

- If the patient is convulsing →15 to control the convulsion. If the patient is not known with epilepsy and has had a convulsion →15 to assess and manage further.
- **Epilepsy** is a chronic seizure disorder diagnosed in a patient who has had at least 2 definite convulsions with no identifiable cause or with one convulsion following meningitis, stroke or head trauma.

Assess the patient with epilepsy

Assess	When to assess	Note
Symptoms	Every visit	Manage symptoms as on symptom pages.
Frequency of convulsions	Every visit	Ask patient about frequency of convulsions since last visit. Assess if convulsions prevent patient from leading a normal lifestyle.
Adherence	Every visit	Assess past clinic attendance and pill counts.
Side effects	Every visit	Side effects (see below) may explain poor adherence. Weigh up side effects with control of convulsions or consider changing medication.
Other medication	At diagnosis, if convulsion occur	Check if patient is on other medication like TB treatment, ART or contraceptive. See below for interactions and consider referring the patient.
Substance use or abuse	At diagnosis, every visit	In the past year, has patient: 1) drunk ≥ 4 drinks[1]/session, 2) used khat or illegal drugs or 3) misused prescription or over-the-counter medications? If yes to any ↩103.
Family planning	Every visit (for reproductive age women)	• Refer same week if patient is pregnant or planning to be, for epilepsy and antenatal care. • Assess family planning needs: avoid oral contraceptives and implants on carbamazepine or phenytoin ↩110.

Advise the patient with epilepsy

- Educate patient about epilepsy (cause and prognosis), the medications (including about side effects) ,need for adherence to treatment and to record occurrence and frequency of convulsions.
- Advise patient to avoid lack of sleep, asubstance use/abuse, dehydration and flashing lights.
- Advise patient on avoiding dangers like heights, fires, swimming alone, cycling on busy roads, operating machinery. Avoid driving until free of convulsions for 1 year.
- Advise patient there are many medications that interfere with anti-convulsant treatment (see below) and to discuss with health worker when starting any new medication.
- Advise patient to use reliable contraception (like IUD , Injectables and condom) and to seek advice if planning a pregnancy.

Treat the patient with epilepsy

- Initiate with single medication and review every 2 weeks until no convulsions.
- If still convulsing on treatment, increase dose as below if patient is adherent, there is no substance use/abuse and no interactions with other medications.
- If still convulsing after 1 month on maximum dose or side effects intolerable, start new medication and increase dose without discontinuation of the first medication to avoid recurrence of convulsions.
- After the second medication is increased to optimal dose, the first is gradually tapered and discontinued.

Medication	Dose	Note
Phenytoin	Start 150mg PO daily. If needed, increase by 50mg weekly to 300mg daily. Maximum dose: 600mg daily.	Avoid in pregnancy. Side effects: facial hair , drowsiness, large gums. Toxicity: balance problem, double vision, slurred speech. Drug interactions: anti-TB, ART, furosemide, fluoxetine, fluconazole, theophylline, oral contraceptives and implants.
Phenobarbitone	Start 30mg PO BID; maximum dose of 180mg per day	Side Effects: Sedation, ataxia, sexual dysfunction, depression. Liver failure. Drug interactions: similar to phenytoin, see above.
Carbamazepine	Start dose 100mg PO BID; and a maximum dose of 1200mg daily in 2 or 3 divided doses	Side effects: skin rash, blurred or double vision, ataxia, nausea. Drug interactions: isoniazid, warfarin, fluoxetine, cimetidine, theophylline, amitriptyline, oral contraceptives, Implants and antiretrovirals.
Valproic acid	Start 600mg PO daily in 2 divided doses. Increase daily dose by 200mg every 3 days to maintenance dose of 1-2 g daily in divided doses. Maximum dose: 2.5g daily.	Avoid if liver problem, pregnant or a woman of childbearing age unless on reliable contraception. Use as first choice in patient on ART. Side effects: drowsiness, dizziness, weight gain, temporary hair loss. Drug interactions: zidovudine, aspirin.

- If convulsion free, follow up 3 monthly. If convulsions uncontrolled with two medications, refer.
- Consider stopping treatment if no convulsion for 2 years. Refer patient to a hospital, for gradual tapering and discontinuation of antiepileptic medications.

[1]One drink is 1 shot (25mL) of spirits (whiskey, vodka, areke, gin), or 1 small glass (125mL) of wine/tej or 1 can/bottle (330mL) of beer/tela.

SAMPLE

Seizures/convulsions

Give urgent attention to the child who is unconscious and convulsing:
Give medication to stop the convulsion whilst giving supportive treatment. Then treat possible causes.

Stop the convulsion that has lasted > 5 minutes

- Give rectal[1] diazepam 0.1mL/kg PR or if IV line already inserted, give diazepam 0.05mL/kg IV slowly (see table below).
- Expect a response within 5 minutes. Monitor breathing: if decreased respiratory rate, breathing stops or gasping, ventilate with bag-valve mask (1 breath every 3-5 seconds) ↩127.
- If child still convulsing after 5-10 minutes, give a 2nd dose of diazepam. If child still convulsing 5-10 minutes after this, give a 3rd dose of diazepam.

Weight/age	Rectal[1] diazepam (10mg/2mL) 0.1mL/kg	IV diazepam (10mg/2mL) 0.05ml/kg
18-25kg (5-8 years)	1.5mL	0.9mL
≥ 25kg (≥ 8 years)	2mL	1mL

- If child still convulsing or repeated convulsions without regaining consciousness despite diazepam: give phenytoin 20mg/kg PO via nasogastric tube (NGT) *or* phenobarbitone 20mg/kg (up to 1g) PO via NGT.
- Refer to hospital urgently.

Give supportive treatment and treat possible causes

- Open airway: clear mouth, stabilise neck if trauma patient and suction secretions.
- If not trauma patient, place in recovery position[2]. Avoid placing anything in mouth.
- Give facemask oxygen 5 L/minute.
- Check fingerprick glucose: if < 45mg/dL (or < 54mg/dL if malnourished), give 10% glucose[3] 5mL/kg IV/IO. Recheck glucose after 30 minutes. If still low, repeat 10% glucose[3] bolus.
- If **meningitis**[4] likely, give ceftriaxone 100mg/kg (up to 2g) IV.
- If malaria is suspected/confirmed[5]: give artesunate 3mg/kg IM or artemether 3.2mg/kg IM.

Approach to the child who is not convulsing now:

- If child known with epilepsy, give routine epilepsy care →154.
- If not know with epilepsy: confirm that child indeed had a convulsion: jerking movements, loss of consciousness, eyes open during convulsion, incontinence, post-convulsion drowsiness and confusion. If not, refer to hospital.

Refer patient same day if one or more of:

- Temperature ≥ 38°C
- Convulsion > 15 minutes
- Unresponsive to voice > 1 hour after convulsion
- > 1 convulsion in 24 hours
- Convulsion occurs only on one side
- Neck stiffness/ meningism
- Weakness of arm/leg/face, even if resolved
- Dehydration[6]
- Suscpted/confirmed malaria[5]
- Ingestion of medication/potentially harmful substance
- Previous birth trauma, head injury, meningitis
- Family history of epilepsy[7]
- HIV positive
- Head injury within past week
- Close TB contact

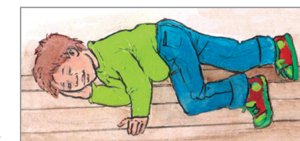
Has child had ≥ 2 convulsions in the last year on 2 different days?

Yes
Refer to hospital.

No
- If talking/understanding problems, refer to hospital.
- If otherwise well, review in 3 months for further convulsions, new symptoms or delayed milestones.

Advise the caretaker on what to do if child has a convulsion at home

- Place child in safe place (on floor or bed) away from objects that may cause injury.
- Lie child on left side in recovery position[2]. Avoid placing anything in his/her mouth. Wipe away secretions.
- Time convulsion: get help if convulstion continues for more than 3 minutes or child does not wake up properly between convulsions.
- Encourage caretaker/s to have a plan ready if medical attention needed urgently: know where nearest clinic is, have reliable transport plan.



[1]Rectal administration: draw up correct dose, remove needle and connect to an NGT that has been cut to a length of 5cm (length of baby finger). Insert into rectum, inject diazepam solution and hold buttocks together. [2]Recovery position: turn onto left side, place left hand under cheek with neck slightly extended and bend the right leg to stabilise position (see picture above). [3]If 10% glucose unavailable: make up with 1 part 40% glucose and 3 parts normal saline or distilled water (e.g. 20kg child will need 100mL 10% glucose: mix 25mL 40% glucose and 75mL normal saline). [4]**Meningitis** likely if: temperature ≥ 38°C, neck stiffness, headache and/or vomiting. [5]Test for malaria with parasite slide microscopy or if unavailable, rapid diagnostic test. [6]Dehydration: ≥ 2 of: 1) sunken eyes, 2) thirsty/drinks eagerly, 3) restless/irritable, 4) slow skin pinch. [7]Family history of epilepsy refers to a parent or sibling with childhood onset epilepsy.

SAMPLE

Headache

Give urgent attention to the child with headache and any of:

- Sudden severe headache
- Headache/vomiting on awakening or waking from sleep
- Headache getting worse and more frequent
- Temperature ≥ 38°C
- Decreased level of consciousness
- Neck stiffness/meningism
- Head tilted to one side (torticollis)
- Pupils different size
- Weakness of arm or leg
- Vision problems (e.g. double vision)
- Head trauma in last week →132
- Abnormally large head
- Elevated BP[1]

Manage and refer urgently:

- If neck stiffness/meningism or decreased level of consciousness, **meningitis** likely: give ceftriaxone 100mg/kg (up to 2g) IV/IM.
- If malaria is suspected/confirmed[1]: give artesunate 3mg/kg IM or artemether 3.2mg/kg IM.
- If temperature ≥ 38°C ⤾134.
- Give paracetamol 15mg/kg (up to 1g) PO.

Approach to child with headache not needing urgent attention

Is headache throbbing, disabling and recurrent with nausea/vomiting or light/noise sensitivity, that resolves completely within 72 hours?

Yes

Migraine likely

- Give immediately and then as needed: paracetamol 15mg/kg (up to 1g) QID PO or if ≥ 20kg and able to swallow tablet, ibuprofen[2] 200mg TID PO with meals. Advise to return if no better after 24 hours and refer to hospital.
- Advise child/caretaker with migraine:
  - Recognise migraine early and rest in dark, quiet room.
  - Draw up a headache calendar to identify and avoid triggers like lack of sleep, stress, prolonged screen time, hunger and some food or drink.
  - Migraine may occur at start of menstrual period. Reassure.
  - Give letter with advice on care if migraine occurs at school.
- If ≥ 2 attacks/month or no response to treatment, refer to hospital.

No

Pain over cheeks, thick nasal (or postnasal) discharge, recent common cold, headache worse on bending forward?

Yes

Sinusitis likely

- Give paracetamol 15mg/kg (up to 1g) QID PO as needed for up to 5 days.
- Give normal saline drops into nostrils as needed.
- If no better, give oxymetazoline 0.025% 2 drops TID into each nostril for up to 5 days.
- If symptoms > 10 days: give amoxicillin[3] 50mg/kg (up to 1g) BID PO for 10 days.
- If > 1 episode, test for HIV.
- If poor response to antibiotic or > 4 episodes per year, refer to hospital.
- If swelling around sinus/eye or tooth infection, refer same day to hospital.

No

Consider tension headache and muscular neck pain

Tightness around head or generalised pressure-like pain

Tension headache likely

- Give paracetamol 15mg/kg (up to 1g) QID PO as needed for up to 5 days.
- Do vision test, if problem, refer to hospital.

Constant aching neck pain, tender neck muscles

Muscular neck pain likely

- Give paracetamol 15mg/kg (up to 1g) QID PO as needed for up to 5 days.
- Advise sleeping on different pillow, avoid prolonged screen time (TV, cellphones and computers) and correct posture.

If unsure or poor response to treatment refer to hospital.

[1]Do a peripheral blood film examination or a malaria rapid diagnostic test. [2]Avoid if asthma, heart failure or kidney disease. [3]If penicillin allergy (history of anaphylaxis, urticaria or angioedema), give instead erythromycin 12.5mg/kg (up to 500mg) QID PO for 5 days.

SAMPLE

Malnutrition

- **Acute malnutrition** likely if visible wasting, low BMI < -2 line or low MUAC[1] (< 14cm in a child 5-9 years old or < 18cm in a child 10-14 years old).
- **Severe acute malnutrition** likely if BMI < -3 line or very low MUAC[1] (< 13cm in a child 5-9 years old or < 16cm in a child 10–14 years old) or if malnutrition with oedema.

Assess the child with acute malnutrition

Assess	When to assess	Note
Symptoms	Every visit	Manage symptoms as on symptom page. Ask specifically about diarrhoea ↩144. Check if urgent attention needed ↩150.
Feeding	At diagnosis	Ask the following about diet: is child eating regular protein, dairy, vegetables, fruit; how often is child eating; what quantity is child eating; what fluids is child drinking and advise on correct habits depending on response.
TB risk	Every visit	If close TB contact or TB symptoms (cough or fever ≥ 2 weeks, not growing well/losing weight, tired/less playful), exclude TB.
Caretaker	Every visit	Check HIV status, contraceptive needs and TB symptoms.
Social	At diagnosis	Ask who looks after child most of the time. If concerns about neglect, refer to hospital.
Oedema	Every visit	If swelling of feet, hands or face, **severe acute malnutrition** (**SAM**) likely, refer to hospital.
Weight-for-age	Every visit	• If weight loss > 5% [(weight lost ÷ weight at last visit) x 100] at any visit; if child has lost weight on 2 consecutive visits or if no weight gain for 3 consecutive visits, refer to hospital. • If weight-for-age (WFA) still below -2 line after 2 months of supplements from Therapeutic Feeding Unit/Center (TFU/TFC), refer to hospital.
BMI	Monthly	If BMI still below -2 line after 2 months of supplements from Therapeutic Feeding Unit/Center (TFU/TFC), refer to hospital.
MUAC[1]	Monthly	If MUAC[1] still low (< 14cm in a child 5-9 years old or < 18cm in a child 10-14 years old) after 2 months of supplements from Therapeutic Feeding Unit/Center (TFU/TFC), refer to hospital.
Mouth/teeth	At diagnosis	If white patches in mouth (inside of cheeks/lips and on tongue), **oral thrush**/**candida** likely ↩139. If dental caries, refer to hospital.
Hb	At diagnosis	Look for pallor[2] and if possible check Hb: if pallor or Hb < 11g/dL, **anaemia** likely ↩137. If Hb < 7g/dL, refer to hospital.
HIV	At diagnosis	Test for HIV. If HIV positive, manage according to national HIV programme guidelines.

Advise the caretaker of child with acute malnutrition

- Educate caretaker that good nutrition is vital for the normal function of the body. Refer to social worker and link with local NGOs.
- Advise caretaker to give foods rich in protein[3], iron[4], vitamin A[5] and C[6], dairy, vegetables and fruits.
- Advise to feed child 5 times a day (3 meals with 2 nutritious snacks). Add a teaspoon of butter or vegetable oil to porridge.
- Give hygiene advice: wash hands with soap and water regularly, especially when handling food/after using toilet. Wash fruit/vegetables and use boiled water if no access to clean water.
- Refer for community health extension worker support and physiotherapy/occupational therapy for rehabilitation and physical and emotional stimulation.

Treat the child with acute malnutrition

- Check immunisations are up to date and give single dose vitamin A 200 000IU PO and albendazole 400mg PO.
- If severe acute malnutrition without danger signs, also give amoxicillin[7] 30-40mg/kg (up to 1g) BID PO for 5 day at diagnosis.
- Refer to Therapeutic Feeding Unit/Center (TFU/TFC): ensure a monthly supply of correct product and amount: enriched porridge plus energy drink plus Ready-to-use Therapeutic/Supplementary Food (RUTF/RUSF).

- Review weekly until stable (gaining weight at 3 consecutive visits). Then review every 2 weeks until growing well[8].
- Once child growing well[8] review monthly and continue on supplements from Therapeutic Feeding Unit/Center (TFU/TFC) until weight remains on upward growth curve > 3 months.

Advise caretaker to return immediately if condition worsens (unable to drink/eat, vomiting everything, fever, profuse watery diarrhoea, lethargy).

[1]Mid upper arm circumference. [2]If child's palm significantly less pink than your own. [3]Protein-rich foods: chicken, fish, cooked eggs, beans, lentils (shiro watt/thick soup), soya. [4]Iron-rich foods: liver, kidney, dark green leafy vegetables like spinach, cooked egg, beans, peas, lentils, fortified cereals. [5]Vitamin A-rich foods: vegetable oil, liver, yellow sweet potatoes, dark green leafy vegetables like spinach (imifino), mango, full cream milk. [6]Vitamin C-rich foods: oranges, melons, tomatoes. [7]If penicillin allergy (history of anaphylaxis, urticaria or angioedema), give erythromycin 12.5mg/kg (up to 500mg) QID PO for 5 days instead. [8]Growing well: MUAC ≥ 14 cm in a child 5-9 years old or ≥ 18 cm in a child 10-14 years old.

SAMPLE

Epilepsy

- If child convulsing now or is not known with epilepsy and has had a recent convulsion → 130
- A doctor decides to start long-term treatment in a child with ≥ 2 convulsions and no identifiable cause.

Assess the child with epilepsy: record epilepsy diagnosis and care plan in birth record.

Assess	When to assess	Note
Long term health conditions	Every visit	If other long-term health conditions present, ensure they are adequately treated.
Adherence and side effects	Every visit	Ask if child takes medication every day. If not, explore reasons for poor adherence. Ask about side effects of treatment (below).
Other medication	Every visit	If child started TB or HIV treatment or antibiotics, refer to hospital to assess for drug interactions.
Convulsion frequency	Every visit	Review convulsion diary. If still convulsing after 2 months *and* adherent to treatment (correct dose) with no obvious triggers[1] or medication interactions, refer to hospital.
School problems	Every visit	If failing grades, not coping with school work or bullying/violence at school, caretaker to arrange meeting with teacher.
Family planning	If sexually active girl	If on valproate, ensure child on reliable contraception ⤾110.

Advise the caretaker of a child with epilepsy

- Explain what to do if child has a convulsion at home ⤾130. Avoid possible triggers: lack of sleep, alcohol/drug use, dehydration and flashing lights.
- Educate about epilepsy and need for adherence to be convulsion free.
- Advise to keep a home record/convulsion diary to record frequency of convulsion, length of convulsion, possible triggers and changes in medication. Encourage caretaker to take a video of event.
- Help caretaker to get Medic alert bracelet. Refer for support. Caretaker to inform teachers, explain what to do if child has a convulsion and what activities child should avoid.
- Reduce chance of injury: supervise swimming/bathing/crossing roads (walking to school/shops), shield fireplaces/cookers, avoid contact sports (rugby), advise not to lock doors (bed/bathroom).

Treat the child with epilepsy

- A single medication is best. Start low dose and increase slowly every 2 weeks until convulsion free or side effects intolerable (treatment usually initiated at hospital).

Medication	Dose	Maximum dose	Indication	Side effects
Valproate[2]	• Start dose: 5mg/kg/dose 8-12 hourly • Increase to: 15-20mg/kg/dose 8-12 hourly • Maintenance dose: 20-30mg/kg/dose 8-12 hourly	40mg/kg/day in divided doses	• Choose if generalised tonic/clonic seizures, absence seizures, on ART. • Avoid if liver disease.	Urgent: jaundice, vomiting, abdominal pain: stop medications and refer urgently. Self-limiting: nausea, diarrhoea, constipation.
Carbamazepine[3]	• Start dose: 2mg/kg/dose 8-12 hourly • Increase to: 5-10mg/kg/dose 8-12 hourly • Maintenance:10-20mg/kg/day in divided doses	10mg/kg/day in divided doses	• Choose if focal seizures/convulsion. • Avoid in absence, myoclonic seizures or if child on ART.	Urgent: skin rash, refer. Self-limiting: drowsiness, dry mouth, dizziness, ataxia, nausea, loss of appetite, constipation, abdominal pain. If drowsiness affects school performance, refer to hospital.
Phenobarbitone	Start and maintain: 3-5mg/kg/dose as a single dose at night.	5mg/kg/day	Avoid in absence seizures.	Drowsiness, behaviour problems, hyperactivity.

- If convulsions worsen or persist despite maximum treatment or if loss of milestones, refer to hospital.
- If convulsion free, review 6 monthly. If no convulsions for 2 years: discuss stopping treatment with doctor in hospital. Gradually decrease dose of anticonvulsant over 2 months. If convulsions recur, refer to hospital.

[1]Triggers include: lack of sleep, dehydration, flashing lights, recent illness (fever), alcohol/drug use. [2]If unable to swallow tablet, give crushable formulation (100mg tablets) TID. If able to swallow, give controlled release (CR) formulation BID. [3]Give syrup formulation TID and tablet formulation BID.

SAMPLE

Quick reference chart

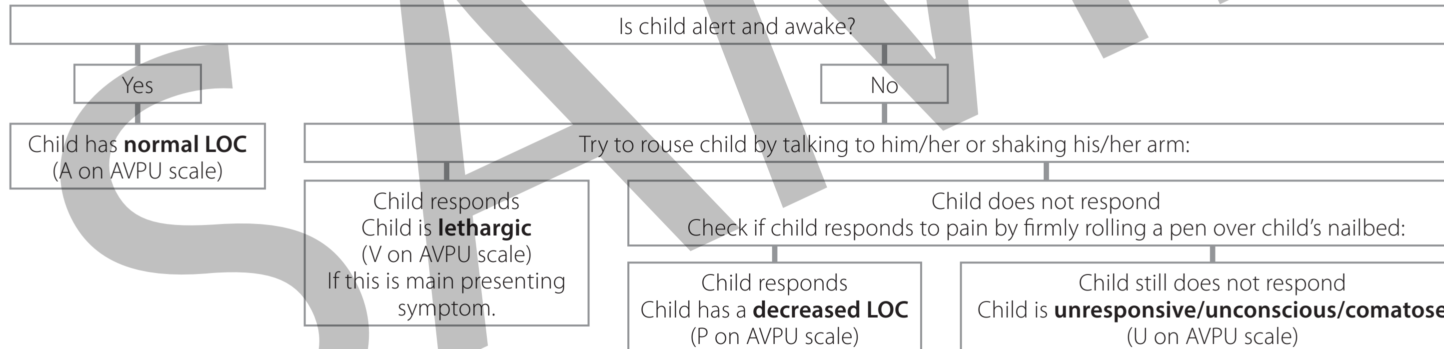
Decide if respiratory rate is normal for age		
Age	Respiratory rate (breaths/minute)	
	Respiratory rate decreased if:	Respiratory rate increased if:
5-12 years	< 20	≥ 25
≥ 12 years	< 15	≥ 20

Decide if pulse rate is normal for age		
Age	Pulse rate (beats/minute)	
	Pulse rate decreased if:	Pulse rate increased if:
5-12 years	< 80	≥ 120
≥ 12 years	< 60	≥ 100

Estimate weight according to age	
5-12 years	Weight (kg) = (3 x age in years) + 7

Decide if blood pressure is normal for age				
Age	Blood pressure decreased if:		Blood pressure increased if:	
	DBP	SBP	DBP	SBP
6-10 years old	< 57	< 97	> 76	> 115
10-12 years old	< 61	< 102	> 80	> 120
12-15 years old	< 64	< 110	> 83	> 131

Decide on maintenance fluid rate	
Weight	24 hour fluid need
< 10kg	120mL/kg
10-20kg	1000mL + (50mL for every kg body weight over 10kg) e.g.: if 14kg: 1000mL + (50 x 4) = 1200mL/24 hours
≥ 20kg	1500mL + (20mL for every kg body weight over 20kg) Up to 2000mL in girls and 2500mL in boys e.g.: if 23kg: 1500mL + (20 x 3) = 1560mL/24 hours



Assess level of consciousness with AVPU	
A	**A**lert
V	responds to **V**oice
P	responds to **P**ain
U	**U**nresponsive/**U**nconscious

SAMPLE

About PACK Global

The Ethiopian Primary Health Care Clinical Guidelines were developed by localizing the PACK Global Adult (2017) and PACK Western Cape Child (2017) guides developed by the Knowledge Translation Unit of the University of Cape Town Lung Institute, South Africa. The Practical Approach to Care Kit (PACK) was developed, tested and refined since 1999 by the Knowledge Translation Unit (KTU) of the University of Cape Town Lung Institute Proprietary Limited in collaboration with clinicians, health managers and policy makers in South Africa, and expanded upon through research and localization throughout the world. This guide is a comprehensive tool to the commonest symptoms and conditions seen in primary care in low and middle-income countries. It integrates content on communicable diseases, non-communicable diseases, mental illness and women's health. Each of the almost 3000 screening, diagnostic and management recommendations is informed by evidence and guidance in the BMJ's (British Medical Journal) clinical decision support tool, Best Practice, as well as the latest World Health Organization guidelines, including the 2015 WHO Model List of Essential Medicines. The content has been carefully localised for health workers in Ethiopia and is, as of October 2017, believed to comprise best practice and comply with local guidelines and policies.

The KTU's involvement in the localisation work was supported by the United Kingdom's National Institute of Health Research (NIHR) using Official Development Assistance (ODA) funding (NIHR Global Health Research Unit on Health System Strengthening in Sub-Saharan Africa, King's College London (16/136/54)). The views expressed in this publication are those of the author(s) and not necessarily those of the NHS, the National Institute for Health Research or the English Department of Health. To the fullest extent permitted by law, the University of Cape Town Lung Institute (Pty) Ltd or BMJ Publishing Group Limited of Health shall not be held liable or be responsible for any aspect of healthcare administered in reliance upon, or with the aid of, this information or any other use of this information.

PACK is also being implemented in South Africa, Brazil and Nigeria, and the content is revised annually in line with latest evidence and WHO guidelines. For access to the most up-to-date templates, tools, associated training materials and a mentorship programme for countries wishing to localise it for their health systems visit:

www.knowledgetranslation.co.za or contact ktu@uct.ac.za

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