Somali National Treatment Guidelines in line with the Essential Package of Health Services

2
Health Centre STGs

November 2015

Somali Health Authorities
World Health Organisation

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Contents

List of abbreviations

ANC	Antenatal care
ARI	Acute respiratory illness
ARV	Antiretroviral
AS+SP	Artesunate + sulfadoxine-pyrimethamine
BEmONC	Basic emergency obstetrical and neonatal care
BP	Blood pressure
CEmONC	Comprehensive emergency obstetrical and neonatal care
CHW	Community health worker
COC	Combined oral contraceptive
CSB	Corn soya blend
DOT	Directly Observed Therapy
DVT	Deep vein thrombosis
EC	Emergency contraception
EPHS	Essential Package of Health Services
FANC	Focussed antenatal care
H	Hospital
HC	Health centre
iPT	Intermittent presumptive treatment
iCCM	Integrated community care management
IMCI	Integrated Management of Childhood Illnesses
IUD	Intrauterine contraceptive device
MAM	Moderate acute malnutrition
MMN	Multiple micronutrient
MOH	Ministry of health
MUAC	Mid-upper arm circumference
ORS	Oral rehydration solution
OTP	Outpatient therapeutic programme
PHU	Primary health unit
PMTCT	Prevention of moter-to-child transmission
POP	Progestogen-only contraceptive

RHO	Regional health office
RUTF	Ready-to-use therapeutic food
SAM	Severe acute malnutrition
SC	Stabilisation centre
RDT	Rapid diagnostic test
RHC	Referral health centre
SFP	Supplementary feeding programme
STG	Standard treatment guideline
STI	Sexually-transmitted infection
UNIMIX	A dry ration given as part of a SFP

Abbreviations used for treatments

DOTS	Directly Observed Treatment Short course
g	gram
IM	intramuscular
IU	international units
IV	intravenous
kg	kilogram
mg	milligram
ml	millilitre
per	for each
SC	subcutaneous
x	times (eg four times for each day = 4 x per day)

Introduction

A health system without treatment guidelines is like a transport system without rules. If drivers could drive as fast as they liked, put in any fuel, drive on any side of the road and have as noisy and polluting cars as they liked, then the number of accidents and deaths would spiral. It would become much more dangerous to pedestrians and other drivers than if drivers followed the simplest of rules, and the net effect would be more harm than good. It is the same with a health system. If clinicians prescribe whatever they like with no guidance then they are likely to cause great harm to patients, resulting in more suffering and even deaths than from the original disease for which they consulted.

Health systems need rules. And above all the use of medicines needs to be very carefully controlled. All medicines are developed by pharmaceutical companies because of their potential benefits and impact on saving millions of lives. But used in the incorrect way, these agents of humankind can exacerbate suffering and even provoke premature death.

That is why health professionals need to be very well trained in the use of medicines, treatment guidelines and diseases protocols. Ministries of health are responsible to ensure that people prescribed treatments by health professionals receive the most effective medicine for the indication with the fewest side effects. And with limited budgets and wanting to limit the bills that patients pay, health ministries have to constantly look for the most cost-efficient treatments as well as those that are the most effective.

- Purpose
- scope
- concept
- format
- authority
- principles

The purpose of the STGs

These STGs outline principles for prescribing, and list the best treatments that are currently available at affordable prices. The application of these guidelines for Somali nationals brings huge benefits to the health status and well-being of Somalis, limits potential harm that incorrect prescribing can cause and eases the task of the thousands of health professionals navigating their way through dozens of manuals and protocols. Developed as pocket guides for different levels of the Somali health system in line with the EPHS, the availability of STGs greatly simplifies the task of health professionals in prescribing and ensures that those using the health system know that they are getting the best treatments with the least chance of side effects at low cost. With STGs, the use of medicines becomes rational.

STGs bring everyone involved in medicines onto the same page. They are used by *policy makers* in the health ministries to set standards and regulate practices. *Supply chain managers* consult them to ensure affordable generic medicines are available in line with the STGs. *Prescribers* (health professionals) consult them to ensure all their prescribing is appropriate, evidence-based, and affordable. *Dispensers* (pharmacists and those authorised to dispense) check that health professionals are prescribing correctly and not duplicating medicines unnecessarily or using inappropriate or expensive medicines. Dispensers also check that prescribed medicines are in line with the formulary for that level facility. *Patients* benefit from the application of the STGs in knowing that they are receiving the best evidence-based, effective and affordable medicines, greatly improving the quality of treatment they receive and limiting any out of pocket expenses.

The scope of the STGs

The STGs are the authoritative medicine prescribing guide for policy makers, managers, dispensers and health professionals in territories governed by the governments of Federal Somalia, Puntland and Somaliland. This handbook covers what midwives and nurses can treat in health centres.

The concept and format of the STGs

These STGs are written in a format designed to be concise, clear and easy to use by nurse and midwives in a health centre or on a home

visit. Unlike national treatment guidelines in some countries, the STGs have been "stripped back" to include just treatments and a few points related to the treatment indication, dosage and key important side effects and interactions. The STGs are not diagnostic guidelines or clinical protocols, and do not provide detailed descriptions of disease. This information can be found in other documents including training manuals, reference text books, on-line resources and disease-specific protocols. To have included this information would have made the STGs much longer and not as easy to reference during consultations. The STGs are primarily about medicines and when and how to best use them. In the future clinical protocols may be produced to accompany the STGs.

The Authority of the STGs

The STGs are developed, approved and adopted by the Ministries of Health of the Federal Government of Somalia, the Government of Puntland and the Government of Somaliland. They are the standardised treatments that should be followed at each level of the health system. Application of the STGs brings huge benefits for patient well-being, reduces the harm caused by inappropriate prescriptions and brings large cost savings for health facilities and the Somali population. Only health professionals licenced to practice (whether in the public or private sector) by health ministries and Somali health professional bodies are authorised to use these guidelines. The guidelines assume that the health professional at each level has been trained to use the treatment described. Each set of guidelines outlines which professionals are authorised to prescribe which treatments.

These guidelines must not be used by someone who has not been trained to give a treatment or by someone who is not authorised by the health ministry to work in a health facility.

The STGs are based on the current evidence-based prescribing practices from around the world, with cost-effectiveness taken into account. In medicine the evidence is constantly changing as new high-class research is carried out. At times health ministries may issue statements on small adjustments to be made to these STGs based on new evidence about a medicine, but with budgetary constraints the full STGs will only be updated every few years.

Principles of prescribing and dispensing

Principle	Explanation of principle
Efficacy	The best known treatment is given for the appropriately diagnosed medical condition.
Evidence-based	Treatments are selected based on their efficacy and credibility as proven by research from around the wo rld.
Updated	As the evidence changes, health ministries may issue small adjustments to the STGs.
Cost-effective	The most effective and affordable options are chosen. Generic names are used instead of brand names.
Harm-limiting	All medicines have negative as well as positive effects. Treatments are selected that are likely to be as safe as possible, causing the fewest side-effects to patients.
Professional	Only registered health professionals are authorised by health ministries to prescribe. Prescribers and dispensers behave with the utmost professionalism in adhering to treatment guidelines and in following ethical codes of conduct. They are not influenced by medicines branding or by the advertising pressure of pharmaceutical companies.
Quality-controlled	All medicines dispensed are supplied from quality-controlled procurement and supply chains.

The STGs in line with the Essential Package of Health Services

EPHS Core programmes 1 – 6 for the health centre

At health centre (HC) level all interventions of core programmes 1 – 6 are implemented in their entirety. Compared with PHUs where ANC and deliveries are not conducted, health centres have a full family planning, ANC and BEmONC delivery programme.

Nurses and midwives treat many common conditions, give first line treatment for STIs and immunise children and pregnant women. They do not initiate treatment for HIV and TB but may be involved in giving continuity treatment.

EPHS Additional programmes 7 – 10 are not conducted at HC levels in EPHS phases I & II, but teams may come from the region for outpatient clinics for these programmes. Nurses may be specifically trained and supervised to conduct some of these activities in the HC, in which case treatment guidelines will be given.

Standard Treatment Guidelines for Health Centres

Danger signs

Health centre staff must refer immediately any child or adult with danger signs. According to the likely diagnosis (see relevant section) an initial treatment may be given. These signs include the following:

Signs of severe infection

- high fever (over 40°)
- drowsiness, blue or very pale colour
- convulsions
- stiff neck

Signs of severe dehydration

- Lethargic or unconscious
- Sunken eyes
- Not able to drink or drinking poorly
- Skin pinch goes back very slowly (children and young adults only)

Signs of severe pneumonia

- very rapid or noisy breathing
- chest indrawing

Signs of shock

- Fast feeble pulse
- Low BP
- Cold, clammy skin
- Pallor or blue colour
- Drowsiness or unconscious

Standard precautions for avoiding transmission of HIV and other pathogens in health facilities.

Standard precautions of infection prevention and control must be taken routinely with all clients at all times. Standard precautions include:

- Use safe injection techniques, with 1 injection given by one person, and dispose of syringe and needle.
- Handle and clean instruments safely
- Handle and dispose sharps safely in safety box
- Use personal protective materials
- Handle and dispose of waste safely
- Manage needle-stick and other workplace exposure to HIV

Prescribing paracetamol

Paracetamol is the most common medicine used in the health system. It helps reduce fever, pain and symptoms associated with the common cold such as cough and congestion[1]. For fever it is given if the temperature is over 38.5°. It is given for many of the conditions described in the STGs. Paracetamol should not be given more than every 6 hours (not more than 4 x per day). There are three preparations commonly available - syrup (120mg/ml), 500mg tablets and 100mg tablets, so it is very important that the right amount is given for each preparation.

Like all medicines, paracetamol is effective in the prescribed dosage but may be very dangerous if this dose is exceeded. If a patient accidentally takes too much, or a parent has accidentally given a child more than double the recommended dosage, then refer immediately. Aspirin is also sometimes used for treating fever but must never be given to children under 12 years. The following dosage table is used whenever "Give paracetamol" is mentioned in the STGs.

Medicine	Age	Dose	Duration	Side effects
Paracetamol	Infants < 2 months	Do not give		**Common:** no common **Rare:** skin reaction. Very dangerous in over-dosage, refer all cases.
	Infants 2 to 6 months	60mg 4 x per day (2.5mls of 120mg/ 5mls syrup or ½ 100mg tablet)	2 to 5 days	
	Children 6 months to 3 years	120mg 4 x per day (5mls of 120mg/5mls syrup or 100mg tablet)	2 to 5 days	
	Chilren 3 years to 7 years	240mg 4 x per day (10mls of 120mg/5ml syrup or 2 x 100mg tablet or ½ x 500mg tablet)	2 to 5 days	
	Children 8 to 11 years	500mg 4 x per day (1 x 500mg tablet)	2 to 5 days	
	Children 12 to 15 years	750mg 4 x per day (1½ 500mg tablet)	2 to 5 days	
	Adults (16 years and over)	1000mg per day (2 x 500mg tablets)	2 to 5 days	

Prescribing tip: Infants: Best to give in syrup form and measure carefully with measuring spoon. **Older children:** can crush tablets if syrup not available

1 A medicine used for pain control is called an *analgesic* and a medicine used for fever is called an *antipyretic.*

Core Programme 1.
Maternal, Reproductive, Neonatal Health

Antenatal care

Full antenatal guidelines must be followed for focussed antenatal care (FANC). A minimum of 4 ANC visits are recommended for all women, but women with complications or chronic medical problems will need more visits as appropriate to their treatment needs. The 4 FANC visits are timed as follows < 16 weeks, 16.28 weeks, 28-32 weeks and 32-40 weeks. The objectives of the visits are:

- Detection and treatment of problems
- Prevention of complications using safe, simple and cost-effective interventions
- Preparation for birth
- Promotion of health

The following is a summary of key treatments that are given during ANC.

Tetanus prevention

Administration of tetanus toxoid by staff specifically trained to give immunisations:

Tetanus toxoid	
Type of vaccine	**Toxoid**
Number of doses	At least two primary doses
Schedule	See next table
Contraindications	Anaphylactic reaction to previous dose
Adverse reactions	Mild local or systemic reactions are common and increase in frequency with increasing numbers of doses, and may constitute a contraindication to further doses
Dosage	0.5ml
Injection site	Outer upper arm
Injection type	Intramuscular
Storage	Store between 2°C–8°C. Never freeze

Between 0 and maximum 3 doses of tetanus toxoid immunisation (TT2+) are given during pregnancy depending on previous immunisation history. The following table is consulted:

Dose	Time of administration	Duration of protection
TT1	At first contact	No protection
TT2	4 weeks after TT1	Three years
TT3	At least 6 months after TT2	Five years
TT4	At least one year TT3	Ten years
TT5	At least one year after TT4	For thirty years (throughout a woman's reproductive life)

Malaria prevention
Intermittent preventive treatment (iPT) is not currently given to non-immune women in areas of low transmission. It is however given to reduce the incidence of severe malaria and low birth weight in semi-immune women in areas of moderate to high P. falciparum transmission.

Areas of medium to high transmission only:
Give 3 tablets of sulfadoxine-pyrimethamine by mouth once in the 2nd trimester and once in the 3rd trimester.

Micronutrients – Antenatal
Ensure pregnant women take 1 multiple micronutrient tablet per day (1 MMN tab per day). HC staff may liaise with PHUs so that women might receive top-up supplies of MMN from the PHU.

Micronutrients - Postnatal for mother
Vitamin A 200,000iu single dose within 6 weeks for mothers (1 red capsule or 2 blue capsules single dose) and 1 multiple micronutrient tablet per day (1 MMN tab per day) each day for 6 months. Staff may liaise with PHUs so that women who might receive top-up supplies of MMN from the PHU.

Deworming
400mg (1 tablet) of Albendazole is given as a single dose once during pregnancy in the 2nd or 3rd trimester.

Supplementary feeding for pregnant and lactating women with Moderate Acute Malnutrition (MAM)
Nurses and midwives screen women with MUAC bands and refer any women with Severe Acute Malnutrition (SAM). At times a supplementary feeding programme (SFP) may be set up in a HC, with Plumpysu*p*® distributed to pregnant women and lactating mothers with MAM. Full protocols, guidance and supervision will be issued by the RHO.

Women enrolled in an SFP are given take-home dry rations or supplementary Plumpy®. The quantities given are monitored as part of any SFP that nurses may be involved in, and clear instructions are given to parents on how to give supplementary Plumpy® or prepare CSB or UNIMIX at home.

Prevention of mother-to-child transmission of HIV
All women are offered voluntary counselling and tests for HIV and other diseases as part of routine bloods in the ANC. All women who test + for HIV or syphilis are referred.

Antenatal care for women with HIV
Any women previously diagnosed with HIV or diagnosed during routine testing at ANC are referred to initiate ARV and integrated management. These women may at times be followed up in the HC under the guidance of the ART centre, and also treated for common illnesses or pregnancy-related problems. These can sometimes be managed in the HC. The HC must ensure that any referred women do attend the ART centre, if not to encourage them to do so, and inform the ART centre of the referral. If not the HC must continue providing full ANC.

Intensified case finding for TB
Ask if a pregnant women if she has ONE of the following currently:
- Cough for any duration
- Fever for any duration
- Night sweats
- Weight loss OR failure to gain weight in pregnancy

If so she should be referred for sputum investigation for TB.

In addition, full infection control measures for TB are implemented in the ANC as per PMTCT guidelines.

Care for diseases and complications during pregnancy

Malaria

Treatment of uncomplicated malaria in pregnancy

All pregnant women with symptomatic malaria and RDT+ve should receive urgent treatment. Quinine is used in the 1st trimester as first line treatment and AS+SP during the 2nd and 3rd trimesters as first line treatment:

1st trimester first line treatment: Give oral quinine 600mg (2 x 300mg tablets) 3 x per day (every 8 hours) for a total of 7 doses.

Precaution: Quinine can induce hypoglycaemia.

Medicine	Age	Dose	Duration	Side effects
Quinine 300mg tablet	Adults 38 to 52kgs	450mg (1½ x 300mg tablets) every 8 hours (3 x per day)	for 7 doses (just over 2 days)	**Common:** hearing impairment, ringing in ears, headache, nausea **Rare:** hypoglycaemia, agitation, confusion, diarrhea
	Adults > 52kgs	600mg (2 x 300mg tablets) every 8 hours (3 x per day)	for 7 doses (just over 2 days)	
Prescribing tip: Infants: Older children:				
Advice: Take some sugar in drinks or food during the course of treatment.				

2nd & 3rd trimesters first line treatment: Give AS+SP

Treatment with Artesunate and Sulfadoxine-pyrimethamine (AS+SP) with AS 50mg

Medicine	Age	Dose	Duration	Side effects
Artesunate and Sulfadoxine-pyrimethamine (AS+SP) with AS 50mg	Women 40 to 50kg	2 tab AS and 2 tab SP on day 1 2 tab AS on day 2 2 tab AS on day 2	3 days	**Common:** Rash, nausea, headache **Rare:** Allergic skin reaction, vomiting, diarrhea, effects on blood
	Children over 12 years and Adults > 50kg	4 tab AS and 3 tab SP on day 1 4 tab AS on day 2 4 tab AS on day 2	3 days	
Prescribing tip:				
Advice:				

Treatment with Artesunate and Sulfadoxine-pyrimethamine (AS+SP) with AS 100mg

Medicine	Age	Dose	Duration	Side effects
Artesunate and Sulfadoxine-pyrimethamine (AS+SP) with AS 100mg	Women 40 to 50kg	1 tab AS and 2 tab SP on day 1 1 tab AS on day 2 1 tab AS on day 2	3 days	**Common:** Rash, nausea, headache **Rare:** Allergic skin reaction, vomiting, diarrhea, effects on blood
	Women > 50kg	2 tab AS and 3 tab SP on day 1 2 tab AS on day 2 2 tab AS on day 2	3 days	
Prescribing tip:				
Advice:				

If the HC has a laboratory that can do microscopy, a thick film should be taken and examined for all patients with persisting symptoms of malaria. (a second RDT should NOT be done as it will remain +ve for 21 days following infection). If the thick film is +ve for malaria, if AS+SP was given as the first line treatment, and if the HC cannot easily refer the patient, they may need to initiate treatment with quinine and then refer immediately

Management of severe malaria in pregnancy

Refer immediately if any danger signs of severe malaria (unable to drink, repeated vomiting, anaemia, jaundice, convulsions, unconscious, passing no urine, weak or rapid pulse, severe dehydration, bleeding, difficulty breathing).

Treatment of anaemia

Symptoms and signs include irritability, tiredness and pallor of the conjunctivae, lips, tongue, nail beds and palms. The haemoglobin is taken. If the Hb is 7 – 11g/dl without symptoms of severity, iron folate can be given. Treatment with iron folate may be continued in the PHU once it has been started in the HC. Severe anaemia with Hb < 7g/dl can present with breathlessness and these cases must be referred immediately.

Iron folate for treating anaemia

Medicine	Age	Dose	Duration	Side effects
Iron & folate tablets (60mg iron + 400 micrograms folate)	Pregnant women	2 tablets per day (2 x 60mg + 1 x 400 micrograms folate)	3 months	**Common:** Abdominal discomfort; constipation **Rare:**
Prescribing tip: Infants: Older children:				
Advice slot: Follow up at the HC to check blood levels and if further treatment need or not.				

Bleeding in pregnancy

Bleeding in the first trimester is referred to as a threatened abortion (or miscarriage) and bleeding the 2nd and 3rd trimesters is called an antepartum haemorrhage. Bleeding throughout pregnancy can present with shock from severe blood loss and hypovolaemia for which IV fluids are rapidly needed and the woman referred immediately accompanied by the midwife.

Threatened abortion

The BEmONC guide outlines the management of threatened abortion. Medical treatment does not reduce the chances of a threatened abortion leading to an abortion, so medicines should not be given except for pain control. An ectopic pregnancy can also present with vaginal bleeding and abdominal pain. If an ectopic pregnancy is suspected the woman must be referred immediately, with an IV fluid line of ringers lactate or normal saline in place.

Management of threatened abortion

- Refer if more than light bleeding (spotting).
- Monitor vital signs frequently
- Rest, but some activity and gentle walking must be maintained to avoid thrombosis
- Give paracetamol for pain control if needed.
- Maintain fluid intake and meals.
- Refer immediately if heavy bleeding, moderate to severe abdominal pain, with IV fluids of ringers lactate or normal saline for transfer if needed.

Management of inevitable and incomplete abortion

The cervix is dilated and products of conception are still in the uterus (either intact or partial), or there is a possibility of a molar pregnancy. There is a danger of severe bleeding leading to shock. If the cervix is closed and there is possibility of either threatened or complete abortion the woman is referred for confirmation.

- Refer immediately, with IV fluids of ringers lactate or normal saline. If evacuation is not immediately possible, and there is heavy bleeding, and the cervix is open, give misoprostol 2 x 200mcg tablets (400mcg) (repeated once after 4 hours if necessary). Refer whenever possible.
- Give paracetamol for pain control.

Septic abortion

If there is a septic abortion with presence of badly-smelling discharge, fever or a history of a provoked abortion then antibiotics may be needed. For these cases:

- Give antibiotics: Amoxicillin 2g (8 x 250mg tablets) by mouth every 8 hours AND metronidazole 500mg or 400mg (2 x 250mg or 2 x 200mg) by mouth every 8 hours AND gentamicin 5mg/kg IM once every 24 hours. Give antibiotics for 5 days. If the woman is allergic to penicillin or amoxicillin give erythromycin instead of amoxicillin.
- Refer if the woman has any danger signs or is not quickly improving with treatment.

Bleeding in pregnancy, 2nd and 3rd trimester

This is known as an antepartum haemorrhage when there is > 500ml blood loss (whereas bleeding in the first trimester is known as a threatened abortion). Causes include beginning of labour, placenta previa, placental abruption, uterine rupture, local lesions of the vagina or cervix or bleeding disorders. Placental abruption and uterine rupture may be accompanied by severe pain and other indications. Uterine rupture normally occurs after a prolonged labour but may occur early after contactions have started if there is a previous cesarian section scar in which case the onset of labour might not have been diagnosed.

For any bleeding in the 2nd and 3rd trimester apart from a “show” marking the onset of labour:

- Give an IV is set up with 500ml ringers lactate or normal saline.
- Vaginal examination is not performed.

- If the woman is bleeding heavily and is in shock, the perfusion can be given rapidly in 10 minutes. If she still has signs of shock a further 500ml is given.
- Refer immediately accompanied by a midwife.

Raised blood pressure in pregnancy

There are three principle mechanisms of raised BP in pregnancy – chronic hypertension dating from before the pregnancy, gestational hypertension that develops during the pregnancy and pre-eclampsia. Pre-eclampsia is diagnosed with raised BP (> 140/90) AND proteinuria. It can worsen very rapidly. Pre-eclampsia is a leading cause of maternal death and stillbirth so regular ANC attendance is vital and the BP should always be measured. Symptoms of pre-eclampsia are persisting headache, flashing lights in the eyes, severe pain in the liver area and new swelling in feet, legs or hands.

Management of raised BP > 140/90 in pregnancy, proteinuria absent

- Give aspirin 75mg 1 x per day from 12 weeks to reduce risk of pre-eclampsia.
- Do NOT advise bed rest (no benefit and increases DVT risk)
- Advise stopping smoking.
- If BP > 150/100 refer for treatment. If BP > 160/110 refer immediately.
- Give continuity medication for raised BP that may have been prescribed by a doctor. This is likely to be labetolol or methyldopa.

Management of raised BP > 140/90 in pregnancy, proteinuria present

- Once pre-eclampsia diagnosed no need to repeat urine for protein again.
- Refer. Check BP twice weekly and more frequently in 3rd trimester.
- If BP > 150/100 refer immediately (see below)

Emergency treatment of pre-eclampsia and eclamptic fits in health centre

Severe pre-eclampsia: if BP > 150/100 and condition of woman is worsening with danger signs of persisting headache, flashing lights in the eyes, severe pain in the liver area, the following is given before & during immediate referral:

If unconscious:

- Check her airway
- Put her in the recovery position on her left side

If she is also convulsing:

- Put her in the recovery position on her left side
- Protect her from injuries (fall) but do not restrain her
- A member of staff must stay with her at all times
- Give magnesium sulfate by slow IV injection and give IM injection
- Refer immediately and accompany woman in ambulance

Treatment with magnesium sulfate.

Preparation of magnesium sulfate injection: Mix 8ml of Magnesium Sulfate 500mg/ml (50% solution) from ampoule with 12ml of water for injection or normal saline (0.9% sodium chloride from a perfusion bag).

Loading dose: Give 4g of magnesium sulfate by slow IV injection over 10 to 15 minutes timed on a clock. Then give 10g by deep IM injection, 5g into each buttock, adding 1ml of 2% lignocaine.

Maintenance dose (normally given in RHC or hospital): 5mg Mag Sulp + 1ml of 2% lignocaine every 4 hrs into alternate buttocks.

Withhold Mag Sulph if any of the following:

- Respiratory rate < 16 per minute
- Urinary output < 30ml per hour
- Patellar reflex is absent

ONLY in the absence of magnesium sulfate, give IV or rectal diazepam: Give 2mg Diazepam by slow IV injection. Alternatively it can be given rectally, using a long BCG syringe.

Follow this with IV infusion by mixing 40mg of diazepam from 4 x 2ml ampoules into 500ml of 5% Dextrose given as a continuous infusion over 24 hours.

Oral continuation treatment for hypertension in pregnancy

Treatment note: methyldopa is not known to be harmful in pregnancy

Precaution: prescribed with caution and at low dose in kidney and liver disease.

Methyldopa for treating hypertension in pregnancy prescribed by doctor.

Medicine	Age	Dose	Duration	Side effects
Methyldopa 250mg tablets	Adults	250mg (1 tablets) 3 x per day (at times 500mg, (2 tablets) 3 x per day may be prescribed	As long as prescribed. Usually continued for 2 months after delivery	**Common:** indigestion, dry mouth, dizziness **Rare:** hepatitis, blood disorders
Prescribing tip: side effects are minimised if daily dose is below 1g.				

Complications identified before labour starts

Refer all women with the following complications:

- breech or other malpresentation. For shoulder dystocia, see guidance.
- multiple pregnancy
- prior cesarian section
- significant vaginal scarring from female genital cutting or previous 3rd or 4th degree tears
- postdates (but referred already after 41 weeks)
- uterine problem uterus (eg. fibroids)
- severe anemia
- pelvic infection, fever > 38° with RDT –ve
- pre-eclampsia (BP > 140/90 and proteinuria) or raised BP > 150/100 without proteinuria.
- polyhydramnios
- preterm labour

Premature rupture of the membranes and infection.

If a woman presents with recent premature rupture and is not in labour she should be referred. If she presents with leaking amniotic fluid, infective discharge and abdominal pain, she should be given 1g of amoxicillin by mouth and referred immediately.

Delivery – Basic emergency obstetrical and newborn care (BEmONC)

All women should deliver with a skilled birth attendant either in a HC, RHC or hospital. HC are staffed and equipped to offer full basic emergency obstetrical and newborn care (BEmONC), which consists

of 24 hour care provide by trained midwives for normal deliveries, with emergency referral available at all times to RHC or hospital where Comprehensive emergency obstetrical and newborn care (CEmONC) is provided (with safe blood transfusion, augmentation of labour, assisted delivery, cesarian section). Midwives are not permitted to arrange to do routine home deliveries but must encourage all women to come to the HC or be referred to give the best chance of safe delivery. Full BEmONC guidelines are followed for delivery care at HC level and active labour is charted on a partograph (once the cervix is 4 or more cm dilated).

Induction of labour
is not carried out at HC level. The use of oxytocin, misoprostol or rupture of the membranes to augment labour are not permitted at HC level. If the pregnancy is > 41 weeks, the woman can be referred to be observed while awaiting delivery and for consideration of induction.

Episiotomy
is not routinely carried out. Midwives support the perineum during normal vaginal delivery to limit potential tearing during delivery of the head. Episiotomy is only considered in case of complicated vaginal delivery, but not usually at HC level (usually for women already referred (eg. for breech or for failure to progress)). Women with FGM type 3 should be referred for delivery to hospital. It may occasionally be indicated at HC level if there is fetal distress or previous scarring from female genital cutting or poorly healed third degree tears. Note that staff are forbidden by Somali law from re-stiching up the vagina in a case of FGM (known as re-infibulation). This is part of the move by the government to ban the practice of FGM practice by health workers.

PMTCT
Full PMTCT guidelines are followed and adhered during labour as during antenatal care. Refer women with HIV before or during labour for delivery care.

Complications during labour
Refer all women in labour with the following complications: premature labour (< 37 weeks), postdates (> 42 weeks), prolonged labour, obstructed labour, breech or other malpresentation, multiple pregnancy, prior cesarian section, uterine problem uterus (eg. fibroids), severe vaginal scarring from FGM, severe anemia, pelvic infection, fever > 38° with RDT -ve, pre-eclampsia (BP > 140/90 and proteinuria) or raised BP > 150/100 without proteinuria, intrapartum haemorrhage (> 300ml),

persisting severe lower abdominal pain in between contractions, retained placenta, cervical tear or any postpartum haemorrhage.

Prolonged labour or reduced contractions
Augmentation of labour with stimulants of uterine contraction is not used at HC level during labour. This is because there is a risk of uterine hyperstimulation causing fetal distress or uterine rupture. Oxytocin is only used in CEmONC centres where on-site operative delivery is available. Asssisted delivery with vacuum extractor (Ventouse) is usually performed in RHC and H unless midwives in HC are specifically trained and authorised by the RHO to assist labour in this way, in which case EmONC guidelines are followed. If labour is prolonged, or if contractions are reducing and labour is not progressing then refer immediately.

Depressed fetal heart rate.
If the fetal heart rate is falling below 120 per minute, take all appropriate action as per BEmONC guidelines. Type 1 dips of the fetal heart rate with a return to normal at the end of the contraction are normal, but if there is any delay in return to normal (type 2 dip) this is a sign of fetal distress. This may be accompanied by meconium staining of the liquor. If the head is engaged and the cervix fully dilated, then normal vaginal delivery can be carried out. If the head is not engaged, the cervix not fully dilated, or there are any other complications, the woman must be referred immediately in an ambulance accompanied by the midwife. She is placed on her left hand side during the transfer, with an IV perfusion of ringers lactate or normal saline (unless there is pre-eclampsia when no IV fluid is given).

Pain control during labour
Women experience severe pain with uterine contractions. The amount of pain control given depends on the discussion between the woman and the midwife and the development of the labour. Consult full BEmONC guidelines. Pethidine is not currently authorised for use at HC level.

Active management of the third stage of labour and postpartum haemorrhage

- Oxytocin 10 IU given IM single dose is given after the baby has been delivered for all women (ie when the second stage is completed but *before* the placenta has been delivered).

- Where oxytocin is unavailable, misoprostol may be used instead but after the placenta has been delivered. A dose of 600 micrograms (3 x 200 microgram tablets) single dose is given either orally, or under the tongue or rectally.
- Controlled cord traction (CCT) is optional and depends on clinical decisions relating to the third stage of each delivery.
- Early cord clamping is not usually carried out so as to allow the newborn to get the maximum amount of blood from the placenta, unless the newborn is asphyxiated and needs to be resuscitated in which case the cord is clamped and resuscitation initiated.
- Continuous uterine massage is not recommended, but uterine tonus is observed frequently through palpation.
- If the placenta is not delivered within 30 minutes, if uterine contraction is still very poor (atonic uterus) or if there is a postpartum haemorrhage, refer immediately.

Treatment note: Oxytocin is the choice medicine used for improving uterine tone, aiding delivery of the placenta and preventing postpartum haemorrhage, and is used in preference to misoprostol. If misoprostol is used, common side effects are diarrhea and nausea, and sometimes vomiting.

Care after delivery for the woman

After delivery, the woman is monitored closely in the maternity for any signs of further bleeding or anaemia, ensuring that the uterus remains well contracted. The BP is monitored and signs of infection are monitored. For raised BP and anaemia refer to the guidelines previously in this section on maternal health.

<u>Treating postpartum infection</u>

- Diagnosis is made based on continued bleeding, fever, offensive discharge, abdominal pain, poorly contracted uterus, or burning on urination.
- If there is fever in a malarial area, RDT it done. If RDT + treat for malaria as well as the below steps.
- Give antibiotics: Amoxicillin 2g (8 x 250mg tablets) by mouth every 8 hours AND metronidazole 500mg or 400mg (2 x 250mg or 2 x 200mg) by mouth every 8 hours AND gentamicin 5mg/kg IM once every 24 hours. If staff are trained and authorised by the RHO they may give the first doses of ampicillin IV by slow injection

and metronidazole by slow IV infusion. If the woman is allergic to penicillin or amoxicillin give erythromycin instead of amoxicillin.
- Put up IV fluids, 500ml ringers lactate or normal saline.
- Refer immediately.

A combination of antibiotics is given until the woman is fever-free for 48 hours, and the following regime is recommended. ampicillin 2 g IV every 6 hours, and gentamicin 5 mg/kg body weight IV every 24 hours, and metronidazole 500 mg IV every 8 hours. If fever is still present 72 hours after starting the antibiotic regime outlined above, the midwife will re-evaluate the woman and her treatment. Referral to a higher level health facility may be necessary.

Breast infection

Breast infection is a common problem 2 to 4 weeks after delivery, and can present as mastitis (fever, breast pain and tenderness) or a breast abscess (collection of pus in the breast). Women with extensive mastitis and systemic signs or a breast abscess must be referred, but women with early mastitis confined to a small area of the breast can be treated. For women with cracked nipples apply glycerine gel or vaseline after feeding the newborn.

Treatment of mastitis

- Give antibiotic:
- Cloxacillin 500mg 4x per day for 7 – 10 days OR
- Co-amoxiclav 500mg/125mg 3 x per day for 7 - 10 days. OR (If there is penicillin allergy)
- Erythromycin 500mg 4 x per day for 7 – 10 days.
- Give paracetamol for pain control.
- Continue breast feeding from the good breast and either encourage breast feeding on the affected side if not too painful or gently express milk.
- Support breasts with bra or other support.
- If abscess, give first dose of antibiotic, pain control and refer.

PMTCT

Full PMTCT guidelines are followed and adhered to after delivery for mother and baby in referral centres. HC will be involved in follow-up care. Women not previously tested are given pre-test counselling, and have voluntary testing for HIV, followed by post-test counselling.

Refer any women with HIV and HIV exposed infants (HEI) who had not previously been referred before or during labour for initiation of ARV and appropriate interventions.

Postnatal depression and psychosis

Depression can affect one in ten women after delivery and can present soon after giving birth and can last for months. Symptoms include sadness, low mood, loss of interest (including in her baby) and loss of energy. The woman may cry frequently or not bond well with her baby, have no sense of humour or neglect her appearance. Postnatal psychosis is much rarer and presents with the woman feeling depressed one moment then very happy, or saying things that are obviously untrue (delusions), often related to the baby or hearing voices.

- Refer all women with symptoms of depression
- Refer all women with symptoms and signs of psychosis.

Newborn care

Steps in the routine care of the newborn after birth

- Immediate drying with a towel, clean cloth or gauze
- For babies not spontaneously breathing: initial stimulation by rubbing the back 2 -3 times
- Routine nasal or oral suction should not be done even if there is meconium staining.
- Late cord clamping after 1 to 3 minutes while other care continues.
- Newborns without complications should be kept in skin-to-skin contact with their mothers during the first hour after birth to prevent hypothermia and promote breastfeeding. Breastfeeding should be initiated as soon as possible, when the mother and baby are clinically stable and the newborn able to suck.
- All newborns, including those with complications, should be given 1 mg of vitamin K IM one hour after birth.
- Clean, dry cord care (antiseptic not routinely used)
- Keeping the newborn warm. Bathing is delayed for 24 hours. Wrap one or two layers of clean dry clothes and a cap/ hat put on. The mother and baby are together at all times.

Detecting danger signs in newborns

The following signs are assessed when the newborn is in the maternity and when seen on postnatal visits and the family should be encouraged

to seek health care early if they identify any of the following danger signs in-between postnatal care visits:

- Unable to suck or feed well
- convulsions
- fast breathing (breathing rate ≥60 per minute), severe chest in-drawing
- blueness or pallor
- no spontaneous movement
- fever (temperature >37.5 °C)
- low body temperature (temperature <35.5 °C)
- any jaundice in first 24 hours of life, or yellow palms and soles at any age
- bulging fontanelle
- bleeding or infection of umbilical stump
- any signs of congenital abnormality

Resuscitation of the newborn with a low apgar score

The key to successful resuscitation of babies born with asphyxia and low apgar scores in correct use of the newborn ambubag and mask by experienced staff. Medicines are not needed for resuscitation. Oxygen is freely available at a concentration of 21% in the air around us. This is administered via the ambubag and mask. Suction of the nose and mouth is not conducted (even if there is meconium staining) unless they are full of secretions. In this case suction is carried out with a sterile bulb syringe. Consult EmONC guidelines.

Prevention of infection

Newborns at risk of infection (premature rupture of membranes, maternal fever, offensive amniotic fluid) are treated only by specially trained staff with antibiotics benzyl penicillin and gentamicin for 2 days. If they develop signs of infection they are referred immediately.

Treating signs of infection in newborns

Newborns at risk of infection (premature rupture of membranes, maternal fever, offensive amniotic fluid) or with signs of infection (fever, very fast heart > 140/minute, fast breathing > 60/ minute, floppy, blue colour or pallor, bulging fontanelle) are treated only by specially trained staff with an initial IM dose of antibiotics benzyl penicillin and gentamicin and referred immediately. If a newborn has pustules on the

skin give first dose of antibiotics and refer immediately. Diagnosing the site of infection is difficult and meningitis, pneumonia and septicaemia may present with these similar signs.

Treatment with benzylpenicillin

Medicine	Age	Dose	Duration	Side effects
Benzylpenicillin 600mg pdr/inj vials	Newborns < 7 days	25mg/kg IM 2 x day (every 12 hours)	2 days for prevention 10 days for treatment (but refer after first dose)	**Rare:** allergy, mild or severe reaction,
Newborns 7 – 28 days 25mg/kg IM 3 x day (every 8 hours)				
Prescribing tip: Dosage must be calculated very carefully.				

Treatment with gentamicin

Medicine	Age	Dose	Duration	Side effects
Gentamicin 80mg vials (40mg/ml)	Newborns < 7 days	2.5mg/kg IM every 12 hours (2 x day)	2 days for prevention 7 days for treatment (but refer after first dose)	**Rare:** vomiting, deafness, kidney damage
	Newborns 7 to 28 days	2.5mg/kg IM every 12 hours (2 x day)		
Prescribing tip: Dosage must be calculated very carefully.				

For treatment of conjunctivitis in the newborn *see core programme 5.*

Care of preterm and low birth weight babies

Low birth weight (LBW) < 2000g and premature babies should be provided kangaroo care for at least the first week of life. Babies > 1500g able to suckle normally and with no complications can be observed in the HC. All babies < 1500g should be referred immediately, guarding kangaroo care during referral and ensuring breast milk has been given (expressed, using a cup and spoon) or glucose before referral.

Newborn fits (seizures)

Seizures in newborns should only be treated if they last longer than 3 minutes or are repeated. Glucose is given to all babies with seizures by staff who are trained to give it (5ml/kg of 50% glucose given IV). If there are other signs of infection, antibioitics are given. Refer immediately.

Jaundice of newborns

Newborns with jaundice appearing on the first day or deeply coloured enough to appear on palms and soles should be referred immediately. If there is very mild yellow colouration of the conjunctiva that appears after the first day and there are no signs of infection or illness the baby may be initially observed in the HC.

Immunisation

BCG and polio vaccine are given before the newborn leaves the health centre after birth. A single dose of BCG is given to prevent tuberculosis. The oral polio birth dose is called the zero dose as it does not count toward primary series but is vital in contributing towards polio eradication. Currently immunisation against hepatitis B is given as part of the pentavalent vaccine from 6 weeks. In the future there may be a separate hepatitis B vaccine that could also be given shortly after birth.

BCG	
Type of vaccine	**Live bacterial**
Number of doses	One
Schedule	As soon as possible after birth
Booster	None
Contraindications	Symptomatic HIV infection
Adverse reactions	Local abscess, regional lymphadenitis; rarely, distant spread to osteomyelitis, disseminated disease
Special precautions	Correct intradermal administration is essential. A special syringe and needle is used for the administration of BCG vaccine
Dosage	0.05ml
Injection site	Outer upper left arm or shoulder
Injection type	Intradermal
Storage	Store between 2°C–8°C (vaccine maybe frozen for long-term storage but not the diluent)

OPV	
Type of vaccine	**Live oral polio vaccine (OPV)**
Number of doses	Four in endemic countries (including birth dose)
Schedule	At birth*, 6, 10, 14 weeks
Booster	Supplementary doses given during polio eradication activities
Contraindications	None
Adverse reactions	VAPP (paralysis) occurs very rarely (approximately 2 to 4 cases per million children vaccinated)
Special precautions	Children known to have rare congenital immune deficiency syndromes should receive IPV rather than OPV.
Dosage	2 drops by mouth
Storage	Store between 2°C–8°C (maybe frozen for long-term storage)

Postnatal and essential newborn care after discharge from the maternity

It is recommended that a woman stays for at least 24 hours in the maternity after delivery. Women are encouraged to mobilise as soon as appropriate after birth. After returning home, she should be come back for postnatal visits to see the midwife on:

- day 3
- between the 1st and 2nd week
- around the 6th week

Her health is reviewed together with her baby's. Midwives also do home visits. During these clinic appointments and home visits midwives follow the full postnatal and essential newborn care guidelines. They guide the mother on exclusive breastfeeding, washing and clothing the baby, on care of the umbilical stump, on signs of illness, on danger signs, on growth and immunisations

They do first line interventions, look out for, and refer, any serious complications such as pelvic inflammation, haemorrhage, raised BP, DVT and postnatal depression in the mother or any danger signs in the baby.

Birth spacing

Birth spacing is one of the most important practices to maximise the health and nutrition of women, young children and families. The use of modern methods of birth has a huge impact in reducing deaths of women and babies. Birth spacing empowers families to decide how many children they would like and helps them plan the timing of the

next child. Birth spacing helps provide couples with reproductive choices. Contraceptives should be provided to clients by providers who have been trained to provide that method and in line with the National Birth Spacing Guideline for Service Providers. Birth spacing counselling and services are provided during the continuum of care from antenatal through postnatal periods, and includes counselling on both natural contraceptive methods and modern contraceptive methods. Hormonal contraceptives are highly effective, safe and convenient. The combined pill containing estrogen is not advisable for women who are breastfeeding as this can suppress milk production, whereas the progestogen-only pill is ideal for breast-feeding mothers.

Hormonal contraception is the most effective method of birth spacing, but with major and minor side effects for some groups of women. IUDs are highly effective but may produce local undesirable side-effects, and should not be used in women with an increased risk of pelvic inflammatory disease. Barrier methods alone (male and female condoms) are less effective but can be reliable for motivated couples. Natural contraceptive methods are perfectly safe but much less reliable. Women living with HIV are advised to use dual method (Condom and another contraceptive method). The condom prevents re-infection with other HIV strains or STIs. Women with HIV can use most methods of birth spacing apart from spermicides, the diaphragm or caps with spermicide.

Modern contraceptive methods

- Condoms
- Combined oral contraceptive pill (COC)
- Progestogen-only pill (POP)
- Emergency contraception (EC)
- Progestogen-only contraceptive injection
- Intrauterine contraceptive device
- Implant

Precaution: People prescribing the COCP and POP, or fitting the IUD or implant should be specially trained and follow the full protocol: the guidance given here is only a brief treatment summary.

1. Condoms

Counselling is given on condom use at appropriate moments in consultations with men, women and adolescents in line with training and national birth spacing guidelines. Condoms must be

used correctly to prevent STIs and to reduce pregnancies. The risk is greatest when condoms are not used with every act of sex.

2. Combined oral contraceptive pill (COC)

The COC is reliable and reversible, reduces heavy and painful periods, and reduces pre-menstrual tension. The COC is sometimes prescribed by doctors for women with very heavy periods and other gynaecological disorders. Many preparations of COC are manufactured. Only one generic is included here, but alternatives may in the future also be recommended for use in the national program. Women with HIV can safely use the COC unless they are on the ARV ritonavir. Condoms are also advised to help prevent HIV transmission.

Treatment steps

- Counselling on all contraceptive options
- If breast feeding, offer POP instead and not COC because oestrogen suppresses milk production**.**
- Ensure no history of heart, breast or liver disease, of sickle cell disease, or history of a deep vein thrombosis, pulmonary embolus or stroke, or of migraine headaches. (The COC should not be given if any of these are positive in the history).
- Check BP to ensure it is normal
- Give 3 packs for 3 months and fully explain how to take it.
- Review in 3 months, ask about side effects, check BP. If all is well a further 6 months treatment (6 packs) can be given.

Treatment note: Take first pill on first day of the menstrual cycle. Each tablet should be taken at about the same time each day. Tablets are taken either continuously (28 pack) or with a 7 day break (21 pack).

Advice:

- **Missed pill.** Must be taken at the same time each day. If a woman forgets ,then she should take the pill as soon as she remembers, even if it is near the time of taking the next days pill, which should still be taken. If more than 24 hours late, or misses 2 or more pills, she should take a pill and other precautions (condoms) should be used for the next 7 days or abstain from sex. If those 7 days of using other precautions runs into the normal pill free interval, then the woman is advised to start the next pill pack without having the 7 day pill free interval.

- **Vomiting and diarrhea.** If a woman taking the pill vomits within 2 hours, she should take another pill. If she continues vomiting or has diarrhea for more than 24 hours she should continue taking the pill but use other precautions (condoms) for the next 7 days or abstain from sex.

Precaution: The COC should be prescribed with caution in smokers and for women with obesity, and smoking-cessation advice or weight-reduction advice should be given.

The COC should be stopped immediately if there is sudden severe chest pain, sudden breathlessness, unexplained swelling in the calf, severe stomach pain, severe headache or migraine or neurological effects, hepatitis or raised BP. The COC should be stopped before surgery.

Medicine	Age	Dose	Duration	Side effects
Ethinylestradiol + Levonorgestrel 30mcg + 150mcg tablet, 28 pack with 7 inactive tabs	Women and adolescent girls	1 tablet per day	Continuous; take next pill packet without a break.	**Common:** shorter, lighter periods, nausea, breast changes, mood changes, acne (improve or worsen), migraine **Rare:** depression, deep vein thrombosis (in calf of leg) can also cause pulmonary embolus (but DVT risk less than in pregnancy)
Prescribing tip:				

Medicine	Age	Dose	Duration	Side effects
Ethinylestradiol + Levonorgestrel 30mcg + 150mcg tablet, 21 pack	Women and adolescent girls	1 tablet per day	Take for 21 days then have a 7 day break	Common: shorter, lighter periods, dizziness, nausea, breast changes, mood changes, acne (improve or worsen), migraine Rare: deep vein thrombosis (in calf of leg) can also cause pulmonary embolus (but DVT risk less than in pregnancy)
Prescribing tip:				

3. Progestogen-only pill (POP)

POPs are a good alternative to COCs when estrogens are contraindicated (for breast-feeding mothers, in those with a

history of DVT or migraine, in very obese women or those with raised BP, those with sickle cell disease). POPs can also be taken before and after major elective surgery. Irregular or heavy periods are more common on the POP but often resolve with continued treatment. Many preparations of POP are manufactured. Only one generic is included here, but alternatives may in the future also be recommended for use in the national program.

Women with HIV can safely use the POP unless they are on the ARV ritonavir. Condoms are also advised to help prevent HIV transmission.

Treatment steps

- Counselling on all contraceptive options
- Do not give if continued vaginal bleeding or severe hypertension.
- Check BP
- Give 3 packs for 3 months and fully explain how to take it, at the same time each day and without a break.
- Review in 3 months, ask about side effects, check BP. If all is well a further 6 months treatment (6 packs) can be given.

Treatment note: Take first pill on first day of the menstrual cycle. Each tablet should be taken at about the same time each day. Tablets are taken continuously. If changing pills from COC there should be no 7 day break, the POP is taken the day after 21 days of the COC has completed (this also means that the 7 inactive pills in a 28 pack are not given).

Advice:

- If starting less than 3 weeks postpartum, condoms are not needed; if more than 3 weeks postpartum then condoms should be used for sex or abstinence in the first 2 days after starting the POP.
- If the pill is missed by more than 3 hours then the contraceptive effect may be lost. The pill is taken but condoms should be used or abstinence for the next 2 days.
- Vomiting and diarrhea. If a woman taking the pill vomits within 2 hours, she should take another pill. If she continues vomiting or has diarrhea for more than 24 hours she should continue taking the pill but use other precautions (condoms) for 2 days after recovery or abstain from sex for those 2 days.

Precaution:

Medicine	Age	Dose	Duration	Side effects
Levonorgestrel 30mcg 28 pack	Women	Take 1 per day	Continuous treatment.	**Common:** irregular periods, spotting or continuous bleeding **Rare:** vomiting, breast discomfort, depression, skin disorders, change in libido

4. **Progestogen-only contraceptive injection**
   Injectable contraceptive. Injections are useful for those who often forget to take an oral pill or who do not want to take a pill every day. Injectable contraception usually causes an absence of menstrual periods, which may an advantage for some women. Other advantages include reducing the incidence of sickle cell crises, can help with some conditions of the uterus, reduce the risk of an ectopic pregnancy and help reduce iron-deficient anaemia in those who formerly had heavy periods. Fertility may return to normal 3m after the injection although it often takes 3-4months after this for periods (and fertility) to return to normal. Remind the woman that she will ovulate (and therefore could get pregnant) BEFORE her first period, so absence of periods does not mean contraceptive cover is still present. It can be used postpartum but is not the first choice of contraception within 6 weeks of birth to breastfeeding mothers because it may cause irregular bleeding (but can still be given if this side effect is explained).

Women with HIV can safely use the contraceptive injection. Condoms are also advised to help prevent HIV transmission.

Treatment steps

- Counselling about all contraceptive options.
- The first dose is given by deep IM injection in the first 3 days of the menstrual period
- Continued contraception with deep IM injection given every 3 months
- Continue to advise on alternative contraception

Treatment note: DMPA is given every 3 months, but can be given 2 weeks earlier or up to 4 weeks later than the due date.

Advice: Return for next injection in 3 months.

Precaution: Because of its prolonged effect, and delayed return to fertility after discontinuation, it should only be given after full counselling and discussion of alternatives. Do not give to women with unusual or undiagnosed vaginal bleeding.

Medicine	Age	Dose	Duration	Side effects
Depo-medroxyprogesterone acetate DMPA (Depo.Provera) 150mg injection	Women	1 deep IM injection every 3 months	One injection lasts 3 months	**Common:** absence of periods, or irregular periods; delayed return to fertility

5. **Intrauterine contraceptive devices and implants.**
   HC staff inform about these long-acting contraceptive choices that are available at RHC and H level. Only nurses and midwives who are fully trained in counselling women and in fitting implants are authorised to fit implant contraceptives. They should advise women and potential changes to their menstrual cycle and bleeding pattern. Implants are usually inserted within the first 7 days of the menstrual cycle. They can be inserted 6 weeks postpartum.

6. **Emergency contraception (EC)**
   Emergency contraception is the use of certain contraceptives to prevent pregnancy after women have had unprotected sex. Emergency hormonal contraceptives must be taken within 3 to 5 days of unprotected sex, but the sooner they are taken the more likely they are to be effective. EC should not be used as an alternative to regular contraception. Because it is taken only once EC is safe for all women to take.

EC with POP

The POP levonorgestrel can be used as EC if taken within 5 days but efficacy decreases with time and is much less effective in the 5th day. It may cause menstrual irregularities for the month afterwards.

Treatment

2 tablets of levonorgestrel 750mcg (1500mcg) are taken as a single dose as soon as possible after unprotected sex.

EC with COC

The COC ethinlyestradiol + levonorgestrel can be used as EC if taken within 5 days but efficacy decreases with time and is much less effective in the 5th day. It may cause menstrual irregularities for the month afterwards.

Treatment

4 tablets of ethinlyestradiol 30mcg + levonorgestrel 150mcg (120mcg ethinylestradiol + 600mcg levonorgestrel) are taken as a single dose as soon as possible after unprotected sex.

Core Programme 2.
Child Health

Diarrhea

Diarrhea is the presence of runny stools three times or more a day. Commonly it is caused by viruses, sometimes by bacteria or other organisms and sometimes by other illness in the body. It is a sign of disease with many causes. The danger is that it causes dehydration, kidney failure and death, so the priority of treatment is urgently giving fluids (rehydration). Sometimes diarrhea can be very watery (acute watery diarrhea or cholera), and sometimes diarrhea can have blood in it (dysentery). Most diarrhea will get better in a few days but extra fluids always need to be given.

Treatment steps

- Give extra fluids (rehydration)
- Give zinc supplements
- Give vitamin A if prolonged diarrhea and if vitamin A not recently given.
- Continue feeding
- Give IV fluids to children with severe dehydration.
- Treat children with bloody diarrhea and/or refer.
- Refer all severe cases with no improvement after 4 hours with IV, malnourished children and children with HIV with diarrhea.

Treatment note: Children with diarrhea are in danger of becoming dehydrated through fluid loss in the stools. Treatment is aimed at giving extra fluids to keep the child well hydrated. Zinc supplements are also given to reduce the severity of the diarrhea. Most diarrhea does not need antibiotic treatment.

Dehydration from diarrhea is graded for treatment by IMCI as Plan A (green), B (yellow) or C (red). If there is no dehydration (A) the child can be treated by parents at home following the consultation. If there is some dehydration (B), the child is treated with ORS and observed in the HC. If there is severe dehydration (C) the child is given IV fluids and referred if there is no improvement within 4 hours.

Precaution: Children with acute malnutrition and diarrhoea need to be managed at RHC level. Do not give ibuprofen to dehydrated children because it can damage their kidneys.

1. **Give extra fluid (rehydration)**
   The child needs fluids. These can be given by giving breast milk, water, clear soup, home-made oral rehydration solution (ORS) or ORS sachets. Any water should be clean water (boiled and cooled or treated).

1.1 No dehydration (Plan A):

The following advice is given to parents:

Home-made ORS

You need:

- ½ teaspoon or small measure of salt (or a good pinch. The amount you can pick up between your fingertips)
- 6 teaspoons of sugar (or 2 handfuls. A handful is the amount you can hold
- with four fingers)
- 1 litre of the cleanest water you have, boiled if possible and cooled
- Wash your hands with soap and water
- Mix these together in a clean jug
- Stir until the salt and sugar is dissolved
- Use in the same ways as ORS from a packet.

ORS from a packet - Give the parent 2 sachets to make up at home.

ORS exists in two different sizes of packet. One has to be diluted in 1 litre of water. The other has to be diluted in ½ litre. Check carefully which size you have and check the expiry date has not been passed.

- Wash your hands with soap and water
- Pour all the powder into a clean container e.g. jar, bottle or bowl
- Use the cleanest water you have, boiled and cooled if possible
- Pour 1 litre of water into the container for a 1 litre packet, ½ litre of water for a ½ litre packet and mix well until the powder is dissolved

<u>How to give ORS</u>

- Give to the child in frequent small sips. Use a small spoon or cup
- Throw away the solution after one day and make up more in a clean container
- If the child vomits, try again 10 minutes later but give more slowly
- Give extra fluids and breastfeed infants until the diarrhoea stops.

- Show the parent how much fluid to give in addition to the usual drinks:

Up to 2 years:	50 to 100 ml after each loose stool
2 years or more:	100 to 200 ml after each loose stool

1.2 Some dehydration (Plan B):

In the HC, give recommended amount of ORS over a 4-hour period:

Treatment with ORS over a 4 hour period

Weight	< 6 kg	6 - 10 kg	10 - 12 kg	12 - 19 kg
Age	Up to 4 months	4 months to 12 months	12 months to 2 years	2 years to 5 years
Amount in mls to give over a 4 hour period				
200 - 450				
450 - 800				
800 - 960				
960 - 1600				

- Use the child's age only when you do not know the weight. The approximate amount of ORS required (in ml) can also be calculated by multiplying the child's weight (in kg) times 75.
- If the child wants more ORS than shown, give more. For infants under 6 months who are not breastfed, also give 100 - 200 ml clean water during this period.

Show the parent how to give ORS:

- Give frequent small sips from a cup.
- If the child vomits, wait 10 minutes. Then continue, but more slowly.
- Continue breastfeeding whenever the child wants.

After 2 to 4 hours:

- Reassess the child and classify the child for dehydration. Select the appropriate plan to continue treatment. If there is no improvement, refer.
- If improving, begin feeding the child in clinic.

1.3 Severe dehydration (Plan C)

- Give ORS, give fluids by IV.
- IV fluids for severe diarrhea:
- Give 100 ml/kg Ringer's Lactate Solution (or, if not available, normal saline), divided as follows:

Age	First give 30 ml/kg in:	Then give 70 ml/kg in:
Infants (under 12 months)	1 hour*	5 hours
Children (12 months up to 5 years)	30 minutes*	30 minutes* 2 1/2 hours

** Repeat once if radial pulse is still very weak or not detectable.*

Reassess the child every 1-2 hours. If hydration status is not improving, give the IV drip more rapidly. Also give ORS (about 5 ml/kg/hour) as soon as the child can drink: usually after 3-4 hours (infants) or 1-2 hours (children). Reassess an infant after 6 hours and a child after 3 hours. Reclassify dehydration. Refer immediately if still in Plan C (severe dehydration).

2. Give zinc supplements

Medicine	Age	Dose	Duration	Side effects
Zinc	Infants < 6 months	10mg (½ 20mg tablet) per day	14 days	**Rare:** Nausea, sore mouth/ throat, indigestion
	Children > 6 months	One 20mg tablet per day	14 days	
	Adults	One 20mg tablet per day	14 days	
Prescribing tip: Infants: Tablets can be dissolved in ORS or breast milk. Older children can chew whole; or tablets can be crushed and dissolved in a spoon of water				
Advice: give zinc for 14 days even when the child is better				

3. Give Vitamin A

if prolonged diarrhea. Give vitamin A 50,000 IU for infants 2 – 6 months; 100,000 units for infants 6 – 11 months and 200,000 units for children > 1 year (for dose see Micronutrients in STGs).

4. Continue feeding

Infants who are sick need to continue breast feeding and eating. For infants over 6 months and children parents may need to crush food or make porridge or soups and give with a cup and spoon.

5. Give IV for children with severe dehydration

Put up an IV line and give ringers lactate. If the child can drink, give ORS by mouth while the drip is set up. Give 100 ml/kg Ringer's Lactate Solution (or, if not available, normal saline), divided as follows:

Age	First give 30 ml/kg in:	Then give 70 ml/kg in:
Infants (< 12 months)	1 hour*	5 hours
Children (1 - 5 years)	30 minutes*	2 ½ hours

** Repeat once if radial pulse is still very weak or not detectable.*

Severely malnourished children with shock should be managed in the RHC or hospital. During transfer the child may need an IV infusion. In this case, the fluid diluted and given more slowly: either the same volume of 0.9% sodium chloride *or* ringer's lactate perfusion is mixed with 5% dextrose perfusion. This is given at 15ml/ kg over 1 hour.

Refer immediately. If the child can drink, provide the mother with ORS solution and show her how to give frequent sips during the trip.

If the child cannot be referred immediately, reassess the child every 1-2 hours**.** If hydration status is not improving, give the IV drip more rapidly. Also give ORS (about 5 ml/kg/hour) as soon as the child can drink (usually after 3-4 hours for infants or 1-2 hours for children). Reassess an infant after 6 hours and a child after 3 hours. Classify dehydration. Then choose the appropriate plan (A, B, or C) to continue treatment.

6. **Treat children with bloody diarrhea and/ or refer.**
   If there is blood in the diarrhea (dysentery) with no fever or abdominal pain, treat the dehydration and do stools microscopy test. If amoeba are found, then treat with metronidazole.

   If there is blood in the diarrhea with fever and abdominal pain (dysentery caused by bacteria) treat the dehydration, treat with ciprofloxacin and refer immediately. In hospital they will need a 5 day course of ciprofloxacin but stool samples will be sent to confirm diagnosis and test antibiotic sensitivity. Antibiotics less the risk of serious complications and death, shorten the duration of symptoms and reduces the elimination of shigella in the stools, limiting the spread of infection. They also reduce the worsening of malnutrition that dysentery can cause. The RHO must be immediately informed of any case of bloody diarrhea with fever.

Treatment steps

- Rehydrate with ORS.
- Refer all infants under 1 year with bloody diarrhea.
- If no fever or abdominal pain, do microscopy. If amoeba found, treat with metronidazole. If diarrhea cases with giardia found on stool microscopy, treat with metronidazole.
- If fever and abdominal pain, treat with initial dose of ciprofloxacin for dysentery caused by bacteria and refer immediately.
- Inform immediately RHO of all cases of dysentery with fever.

Treatment of amoebic dysentery with metronidazole.

Medicine	Age	Dose	Duration	Side effects
Metronidazole 250mg tablet	Infants < 12 months	Do not give but refer		Common: nausea Rare: vomitng
	Children aged 1 to 5 years	125mg (1/2 tablet) 3 x per day	5 days	
	Children aged 5 to 12 years	250mg (1 tablet) 3 x per day	5 days	
	Children over 12 years	500mg (2 tablets) 3 x per day	5 days	
	Adults	750mg (3 tablets) 3 x per day	5 days	

If giardia is found in the stools and the person has symptoms (diarrhea, abdominal discomfort, nausea), then metronidazole can be given:

Treatment of diarrhea caused by giardia with metronidazole.

Medicine	Age	Dose	Duration	Side effects
Metronidazole 250mg tablet	Infants < 12 months	Do not give but refer		**Common:** nausea **Rare:** vomiting
	Children aged 1 to 5 years	125mg (1/2 tablet) 2 x per day	3 days	
	Children aged 5 to 12 years	250mg (1 tablet) 2 x per day	3 days	
	Children over 12 years	500mg (2 tablets) 2 x per day	5 days	
	Adults	500mg (2 tablets) 3 x per day	5 days	

Ciprofloxacin for diarrhea with blood and fever

Medicine	Age	Dose	Duration	Side effects
Ciprofloxacin 250mg tablet	Infants < 12 months	Do not give but refer	Refer	**Common:** nausea **Rare:** vomiting
	Children aged 1 to 5 years	125mg (1/2 tablet) single dose	Refer	
	Children aged 5 to 12 years	250mg (1 tablet) single dose	Refer	
	Children over 12 years	500mg (2 tablets) single dose	Refer	
	Adults Do NOT give to pregnant women	500mg (2 tablets) single dose	Refer	

Prescribing tip: will need a 5 days course at RHC or Hospital.

7. **Refer all cases with severe dehydration with no improvement after 4 hours with IV fluids. Refer all malnourished children with diarrhea**
   Give ORS & zinc and refer immediately

Acute Respiratory illness

ARI is an infection in either the upper airway or lower airway. The diseases for which initial treatment may be given in the HC are the following:

Upper airway: common cold, tonsillitis, ear infection, sinusitis, flu
Lower airway: pneumonia, bronchitis

Both common cold and tonsillitis may present with a sore throat and cough. Ear infection may present with earache. It is common for a person to have a common cold with an ear infection. Both common cold and pneumonia can present with cough. But only pneumonia or other dangerous diseases present with fast breathing.

Common cold and cough

The common cold is caused by more than 200 different viruses, including the rhinoviruses. Symptoms include runny or blocked nose, sneezing, sore throat, cough, mild fever, headache. Paracetamol is given to ease pain and reduce temperature and symptoms. Those affected are encouraged to drink more fluids. Many treatments and supplements are advised, but there is not yet convincing evidence that they are effective, and some are harmful.

Treatment steps

- Give paracetamol for symptom relief (see Prescribing paracetamol).
- Advise to drink more fluids.
- Breastfeed infants frequently and clear a blocked nose.
- Refer if fast, difficult or noisy breathing. *Refer* if cough continues more than 14 days.

Treatment note: Advise that there are no medicines that cure the cause; paracetamol eases symptoms. Most colds resolve in 7 to 10 days.

Tonsillitis and cough

Most throat infections are caused by viruses. Sometimes the tonsils may be enlarged, and this may be caused either by a virus or bacteria. If the tonsils are a moderately swollen with no pus then analgesia can be given alone. A generalised inflammation of the back of the throat is known as pharyngitis and can normally be treated with analgesia alone. If the tonsils are very enlarged, very red with pus and there is fever and swollen lymph nodes then penicillin can be given, or erythromycin in case of allergy to penicillin. The reason for treating is to reduce symptoms and reduce the duration of the disease, but also to reduce the chance of someone developing rheumatic heart disease.

Treatment steps

- Pain and fever control. Mild tonsillitis is treated with analgesia alone for pain and fever. For children, give paracetamol as first choice, ibuprofen as second choice for analgesia; for adults, give ibuprofen or paracetamol for pain and fever. Ibuprofen is more effective than paracetamol for pain control in tonsillitis in adults.
- Penicillin for severe tonsillitis. Penicillin can be given when the tonsils are very large and inflamed with white spots. If allergic to penicillin, give erythromycin.
- Refer if fast, difficult or noisy breathing. Refer if cough continues more than 14 days.

Advice: Tell the parent to bring the child back if there is no improvement after two days or any new symptoms. Make sure the child continues to eat and drink plenty. It may help to crush food and give soups. When prescribing suspensions, a plastic measuring spoon usually comes with the medicine. If this is not available, it is important to show the parent how to measure a similar quantity using a tea spoon.

1. Pain and fever control

Give paracetamol or ibuprofen. Ibuprofen should not be given in pregnancy.

Medicine	Age	Dose	Duration	Side effects
Ibuprofen	Infants < 2 months	Do not give		**Common:** nausea and abdominal pain **Rare:** allergic reaction; ulcer in stomach; damage to kidneys & liver
	Infants 2 to 1 year	50mg (2.5mls (1/2 spoon) of 100mg/5ml syrup) 3 x per day	2 to 5 days	
	Children 1 to 4 years	100mg (5mls (1 spoon) of 100mg/5ml syrup) 3 x per day	2 to 5 days	
	Children 5 to 8 years	200mg (10mls (2 spoons) of 100mg/5ml syrup) 3 x per day	2 to 5 days	
	Children 9 to 15 years	300mg (15mls (3 spoons) of 100mg/5ml syrup) 3 x per day	2 ot 5 days	
	Adults	400mg – 800mg (1 – 2 tablets) 3 x per day	2 to 5 days	
Prescribing tip: If children or adults have indigestion after taking ibuprofen then paracetamol should be given instead.				
Advice: Give after food				

Precaution: Do not give ibuprofen to dehydrated children because it can damage their kidneys

2. Antibiotics for severe tonsillitis

Penicillin for tonsillitis if not allergic to penicillin

Medicine	Age	Dose	Duration	Side effects
Penicillin V (Phenoxymethylpenicillin) 250mg tablet	Infants 6 to 11 months	62.5mg (1/4 tablet) 4 x per day	10 days	**Common:** none **Rare:** allergic rash, allergic reaction (anaphylaxis)
	Children 1 to 5 years	125mg (½ tablet) 4 x per day	10 days	
	Children 6 to 11 years	250mg (1 tablet) 4 x per day	10 days	
	Children over 12 and Adults	500mg (2 tablets) 4 x per day	10 days	
Prescribing tip: Older children: tablets can be crushed. A full 10 days is not recommended for tonsillitis to stop recurrence.				
Advice: Give for the full 10 days				

Treatment note: Penicillin V is the best way of giving penicillin in tonsillitis to prevent complications, but if it would be difficult for a child

to take 10 days of oral penicillin, a single dose of benzathine penicillin IM is sometimes given:
Adults: Benzathine penicillin G 1.2 million U IM once
Children: Benzathine penicillin G 25,000 U/kg IM once (maximum 1.2 million U)

Precaution: Ask the parent if the child is allergic to penicillin. If the child has had a previous reaction give erythromycin instead. Do not give ibuprofen to dehydrated children because it can damage their kidneys Erythromycin for tonsillitis, ear infection or pneumonia in case of resistance to penicillin.

Medicine	Age	Dose	Duration	Side effects
Erythromycin 250mg tablet	Infants 6 to 11 months	62.5mg (1/4 tablet) 4 x per day	10 days	**Common:** nausea, vomiting, indigestion **Rare:** rash, jaundice
	Children 1 to 5 years	125mg (½ tablet) 4 x per day	10 days	
	Children 6 to 11 years	250mg (1 tablet) 4 x per day	10 days	
	Children over 12 and Adults	500mg (2 tablets) 4 x per day	10 days	
Prescribing tip: Older children: tablets can be crushed. A full 10 days is not recommended for tonsillitis to stop recurrence.				
Advice: Give for the full 10 days				

Ear infection

Middle ear infections may be caused by bacteria or viruses. They present with earache and fever, and children may rub their ears. Sometimes the ear drum may be very red and there may be pus discharge if the ear drum perforates. Usually antibiotics are not needed. If there is moderate pain and fever then analgesia can be given alone. If the child has a higher temperature and has severe earache the amoxicillin can be given or erythromycin in case of allergy to penicillin/ amoxicillin.

Treatment steps

- Pain and fever control. Mild to moderate earache and fever is treated with analgesia alone for pain and fever. For children, give paracetamol as first choice, ibuprofen as second choice for analgesia; for adults, give ibuprofen or paracetamol for pain and fever. Ibuprofen is more effective than paracetamol for pain control in ear infection in adults.

- Amoxicilln for severe earache. Amoxicillin can be given when there is severe earache and fever. Give erythromycin if allergy to penicillin/ amoxicillin.
- Refer if there is fast or difficult breathing, or if a child is drowsy, has a rash or is very unwell.

Treatment note: Most children with ear infection get better without antibiotics.

Advice: Tell the parent to bring the child back if there is no improvement or any new symptoms. Make sure the child continues to eat and drink plenty.

1. Pain and fever control

Give paracetamol or ibuprofen.

Medicine	Age	Dose	Duration	Side effects
Ibuprofen, syrup 100mg/5ml; 200mg and 400mg tablets	Infants < 2 months	Do not give		**Common:** nausea and abdominal pain **Rare:** allergic reaction; ulcer in stomach; damage to kidneys & liver
	Infants 2 to 1 year	50mg (2.5mls (1/2 spoon) of 100mg/5ml syrup) 3 x per day	2 to 5 days	
	Children 1 to 4 years	100mg (5mls (1 spoon) of 100mg/5ml syrup) 3 x per day	2 to 5 days	
	Children 5 to 8 years	200mg (10mls (2 spoons) of 100mg/5ml syrup) 3 x per day	2 to 5 days	
	Children 9 to 15 years	300mg (15mls (3 spoons) of 100mg/5ml syrup) 3 x per day	2 to 5 days	
	Adults	400mg – 800 mg (1 – 2 tablets) 3 x per day	2 to 5 days	
Prescribing tip: If children or adults have indigestion after taking ibuprofen then paracetamol should be given instead.				
Advice: Give after food.				

Precaution: Do not give ibuprofen to dehydrated children because it can damage their kidneys. Do not give ibuprofen to children with asthma as it can cause an exacerbation.

2. Amoxicillin for severe earache

Amoxicillin for severe earache if not allergic to amoxicillin or penicillin

Medicine	Age	Dose	Duration	Side effects
Amoxicillin 125mg/5ml **suspension** or Amoxicillin 250mg tablet/ capsule. (May also come in 250mg/5ml suspension and in 500mg capsules)	Infants 2 months to 1 year	125mg (5ml or ½ tablet) 2 x day	5 days	**Common:** diarrhea **Rare:** allergic rash, allergic reaction (anaphylaxis)
	Children 1 to 5 years	250mg (10ml or 1 tablet) 2 x per day	5 days	
	Children 6 to 11 years	500mg (20ml or 2 tablets) 2 x per day	5 days	
	Children over 12 and Adults	750mg (3 tablets) 2 x per day	5 days	
Prescribing tip: Older children: tablets can be crushed.				

Precaution: Ask the parent if the child is allergic to amoxicillin or penicillin. In case of allergy, give erythromycin.

Sinusitis

Sinusitis is an infection of the sinus spaces of the front part of skull, most commonly in the maxillary or ethmoid sinuses. It is usually caused by viruses, but may be caused by bacteria. As well as symptoms of a viral cold, the person may have pain and tenderness over these sinuses, with a yellow pus discharged. Normally it can be managed with pain control medicine (ibuprofen or paracetamol). When the sinus is very tender or there is a large amount of pus discharge, refer. Very rarely sinusitis can cause complications such as meningitis or an abscess in the brain. Refer any severe infection, danger signs or sinusitis that is not improving after 10 days.

Flu

Flu starts as an upper airway infection by the influenza viruses. It presents a bit like the common cold with runny nose and sore throat but is usually accompanied by high fever, muscle pains, headache and exhaustion. Most symptoms last less than a week, but the cough can continue for two weeks. In children there may also be nausea and vomiting. Complications of flu include a viral pneumonia

or secondary bacterial pneumonia, sinusitis and exacerbations of asthma. It can cause death in young children, older people or those with chronic disease. It is more dangerous for those who are pregnant. The treatment is supportive, giving paracetamol and encouraging the person to take more oral fluids. Any signs of pneumonia are treated as per the guidelines below. Outbreaks of the Influenza A strain of flu may come in large epidemics, which can be very dangerous depending on the particular sub-strain of virus. Bird flu and pig or swine flu are variants of the influenza A virus that predominantly infect these animals but can also infect humans. Immunisation may become available in the country if there are new epidemics and epidemic control measures put in place. Antiviral medication is expensive, does not help the majority of cases and is not routinely available in the country.

Pneumonia and difficult breathing

Pneumonia is an infection in the lung, in the lower airway caused mainly by bacteria. The signs of pneumonia are fast and difficult breathing, chest indrawing, cough, fever, sputum. It is a very dangerous disease. It also affects older children and adults. Antibiotics are needed for pneumonia. Early pneumonia can be treated in the HC but if there are any danger signs the child or adult must be referred immediately. The IMCI guide can be followed.

Treatment steps

- Assess the patient for fast breathing and danger signs, and a child for chest indrawing and danger signs. Decide if a child is in IMCI phase Red, Yellow or Green.
- If a patient has severe pneumonia (IMCI red) then give one dose of amoxicillin and refer immediately. If the child or adult is wheezing then refer immediately. If the yellow phase, they should be observed closely.
- If a patient has pneumonia without severe signs (IMCI red) then treat with amoxicillin. Treat with erythromycin if allergy to penicillin. Give paracetamol if fever > 38.5° and do and RDT.
- If older children and adults have faster breathing, and cough with sputum they should be treated for pneumonia with amoxicillin, or erythromycin in case of allergy to amoxicillin/ penicillin.
- Give paracetamol for fever > 38.5° and do RDT.

- Give Vitamin A 50,000 IU for infants 2 – 6 months; 100,000 units for infants 6 – 11 months and 200,000 units for children > 1 year (for dose see Micronutrients in STGs).
- If the person is not improving they should come back and be referred if they still have signs of pneumonia after 3 days.

Treatment note: Any child or adult with pneumonia should be watched closely. The nurse will want to see the person with pneumonia regularly, may want to visit them at home or get them to come back regularly. If there is any worsening of the condition the nurse must refer immediately.

Advice: Advise to come back to the HC day or night if the child is not improving and the breathing is getting faster.

IMCI guide for Cough and difficult breathing

Red:

Any danger sign. Danger signs include: Very fast breathing. Noisy breathing (not coming from the nose). Chest indrawing. Blue colour to the lips and tongue. Drowsiness. Convulsion. Inability to eat or drink.

This may be severe pneumonia. A first dose of amoxicillin (or erythromycin in case of allergy to penicillin) should be given and the child is referred immediately.

Yellow:

Fast breathing. May have cough and fever. May have mild chest indrawing.

This may be pneumonia. Amoxicillin should be given (or erythromycin in case of allergy to penicillin) and the child closely monitored.

Green:

Cough and cold. No fast breathing. The child does not have pneumonia and should be treated as for the common cold guidelines. If the child has earache or sore throat then the guidelines for ear infection and tonsillitis should also be followed.

If the child is:	Fast breathing is:
2 months up to 12 months	50 breaths per minute or more
12 Months up to 5 years	40 breaths per minute or more
Older children and adults	30 breaths per minute or more

The treatment dose for pneumonia

Medicine	Age	Dose	Duration	Side effects
Amoxicillin 125mg/5ml suspension or Amoxicillin 250mg tablet	Infants 2 months to 1 year	250mg (10ml (2 spoon) or 1 tablet) 2 x per day	5 days	**Common:**, diarrhea **Rare:** allergic rash, allergic reaction (anaphylaxis)
	Children 1 to 5 years	500mg (20ml (4 spoons) or 2 tablets) 2 x per day	5 days	
	Children 6 to 11 years	750mg (30ml (6 spoons) or 3 tablest) or 2 x 250mg tablets 2 x per day	5 days	
	Children over 12 and Adults	1g (4 tablets) 2 x per day	5 days	
Prescribing tip: Older children: tablets can be crushed.				
Advice: Come back if a rash develops.				

Precaution: Ask the parent if the child is allergic to amoxicillin or penicillin. If an adult or child has allergy to penicillin/ amoxicillin then give erythromycin.

Acute bronchitis

Acute bronchitis is infection in the smaller air passages of the lungs, with some light crepitations but without consolidation in the lung tissue which is pneumonia. If a patient presents with a cough and green or yellow sputum, with or without fever, but without fast breathing, they may have acute bronchitis. Most milder cases of acute bronchitis will resolve without antibiotics and paracetamol can be given for fever and to reduce cough symptoms. If the person is coughing up a lot of yellow or green sputum, amoxicillin can be given. If there is fast breathing, any danger signs or if symptoms are not improving then refer.

Chronic bronchitis

Chronic bronchitis presents with cough and yellow or green sputum for more than two weeks without focal signs in the chest but there may be crepitations. It is commoner in people who have smoked. People with chronic bronchitis are not treated in the HC. Refer.

Treatment of asthma

Asthma presents with acute wheezing in children and adults. Asthma is managed at RHC or hospital level but nurses may follow up treatment and be specially trained to monitor and treat cases. If new cases of children or adults with acute wheeze present to the HC, salbutamol is given and the person referred immediately. If the HC has been supplied with inhalers and the nurse trained to teach the technique, an inhaler with a spacer is used. Otherwise salbutamol is given by mouth. When used properly the inhaler is much better than the oral tablets.

Salbutamol for acute wheeze

Medicine	Age	Dose	Duration	Side effects
Salbutamol syrup (2mg/5ml), 4mg tablet or inhaler	Infants < 12 months	Do not give, but refer immediately		**Common:** tremor, headache **Rare:** fast heart, irregular heart
	Children 1 to 5 years	If trained, give inhaler. If not trained, give 1mg (2.5ml or ¼ tablet) and refer		
	Children 5 to 12 years	If trained, give inhaler. If not trained, give 2mg (5ml or ½ tablet) and refer		
	Adults and children over 11 years	4mg single dose and refer		
Prescribing tip: If using an inhaler, 4 puffs are put into the spacer. The person breaths from the spacer for 1 minute and then is referred.				

Malaria

Malaria is caused by a parasite that is injected into the body through the bite of infected anopheles mosquitos which spread the disease. The parasite destroys the red blood cells and causes fever and symptoms of malaria such as headache, chills, sweating, body pains. In children it commonly presents with vomiting and diarrhea. Malaria is a very dangerous disease that causes complications including anaemia, miscarriage, enlarged spleen, jaundice, convulsions and death. It is diagnosed in the HC by a history of fever and confirmed with the Rapid Diagnostic Test, RDT. HC staff should do everything to prevent malaria in the community following the malaria prevention programme.

Malaria is more common in some parts of the country and may come in seasons especially after the rain.

Treatment steps

- Make clinical diagnosis based on symptoms of fever.
- Take temperature. If > 37.5° or history of fever, then do a RDT, and microscopy if available..
- If RDT +ve, treat with Artesunate and Sulfadoxine-pyrimethamine (AS+SP), first dose under DOT and follow up doses at home. Give quinine not AS+SP to treat pregnant women in the first trimester (see Maternal Health). If RDT –ve do not give antimalarials.
- Give one dose of primaquine by mouth on day 2 for all cases of Plasmodium falciparum
- If RDT + for P. vivax, refer.
- Give paracetamol if fever above 38.5°. Other causes of acute febrile illness should also be looked for.
- Give fluids. Patients with fever need more fluids. Encourage mothers to provide extra breastfeeding. If there is diarrhea, assess and treat as per the diarrhea guidelines.
- Ask the patient to come back immediately in case of danger signs or after 2 days if persisting fever.
- Refer immediately if any danger signs of severe malaria (unable to drink, repeated vomiting, anaemia, drowsiness, jaundice, convulsions, unconscious, passing no urine, weak or rapid pulse, severe dehydration, bleeding, difficulty breathing, neck stiffness). Give 1 dose of rectal artesunate before transfer.
- If not improving on the treatment given in the HC but no danger signs, change treatment to oral quinine. If quinine not available or any danger signs, refer.

Treatment note: The patient should be stay in the HC for about 30 minutes after the first dose under DOT in case he or she vomits up the medication. If so another dose should be given but counted as the first dose and observed. *Refer* if further vomiting.

Advice: Children and adults who are have fever need to drink more and need food. This is hard when they don't want to eat. Parents should give children small amounts of fluid by cup and spoon more often and make food that are easy to eat (like soups and porridge). Adults are encouraged to drink more.

Precaution: AS+SP should not be given to women in early pregnancy or infants aged less than 2 months and to people with known allergy to AS+SP or co-trimoxazole or fansidar. All these patients should be referred, along with all people with danger signs.

Treatment with Artesunate and Sulfadoxine-pyrimethamine (AS+SP) with AS 50mg and 100mg.

	Number of tablets if AS 50 mg				Number of tablets if AS 100 mg			
Body weight (kg)	Day 1		Day 1	Day 1	Day 1		Day 2	Day 3
	AS (50mg)	SP	AS (50mg)	AS (50mg)	AS (100mg)	SP	AS (100mg)	AS (100mg)
Infants < 2months	refer							
5 to 10 (3 m to 1 year)	½	½	½	½	¼	½	¼	¼
>10–24 (1 to 7 years)	1	1	1	1	½	1	½	½
>24 to 50 (7 to 12 years)	2	2	2	2	1	2	1	1
>50 (adult & > 12 years)	4	3	4	4	2	3	2	2

AS, artesunate; SP, sulfadoxine–pyrimethamine.

Side effects: Common: Rash, nausea, headache
Rare: Allergic skin reaction, vomiting, diarrhea, effects on blood

If AS+SP cannot be given because of allergy or it is not available, then the second line treatment, arthemether + lumefantrine may be given, but only at RHC or hospital level. Any people needing second treatment instead of AS+SP must be referred.

Treatment with primaquine

Give all adults with P falciparum a single dose of primaquine by mouth, 15mg tablet, on day 2 of treatment with AS+SP. This treats the early form of the malaria parasite. Give children a single dose, 0.25mg/kg, primaquine by mouth.

If the HC has a laboratory that can do microscopy, a thick film should be taken and examined for all patients with persisting symptoms of

malaria. (a second RDT should NOT be done as it will remain + for 21 days following infection). If the thick film is + for malaria they may need to initiate treatment with quinine but to refer if there are any danger signs.

Treatment with quinine second line if treatment not successful with AS+SP.

Medicine	Age	Dose	Duration	Side effects
Quinine 300mg tablet	Infants < 6 months	Do not give		**Common:** hearing impairment, ringing in ears, headache, nausea **Rare:** hypoglycaemia, agitation, confusion, diarrhea
	Infants 7 – 11kg (6 to 18 months)	75mg (¼ x 300mg tablet) every 8 hours (3 x day) for 7 doses (just over 2 days).	7 dose over 3 days	
	Children 12 – 23 kg (2 to 6 years)	150mg (½ x 300mg tablet) every 8 hours (3 x per day) for 7 doses (just over 2 days)	7 dose over 3 days	
	Children 24 – 37kgs (6 to 12 years)	300mg (1 x 300mg tablets) every 8 hours (3 x per day) for 7 doses (just over 2 days)	7 dose over 3 days	
	Children and adults 38 – 52kgs	450mg (1½ x 300mg tablets) every 8 hours (3 x per day) for 7 doses (just over 2 days)	7 dose over 3 days	
	Adults > 52kgs	600mg (2 x 300mg tablets) every 8 hours (3 x per day) for 7 doses (just over 2 days)	7 dose over 3 days	
Prescribing tip: Infants: Older children:				
Advice: Take some sugar in drinks or food during the course of treatment.				

If any danger signs are present, then treat with a first dose of rectal artesunate and refer immediately. Give 10 mg/kg of artesunate rectal capsules, and repeat the dose if the capsule is expelled within 1 hour. Repeat the dose after 24 hours if it is not possible to refer the patient.

Dose chart by age for artesunate 50 mg and 200 mg rectal capsules as suppositories

Body weight (kg)	Age	No. of artesunate capsules (50mg) given as single dose	No. of artesunate capsules (200mg) given as single dose
5–10	3 months – 2 years	1	–
15–20	2 to 5 years	2	–
20–30	5 to 8 years	3	–
30–50	8 to 12 years	–	2
50–60	Adult & > 12 years	–	3

Prescribing tip: artesunate rectal capsules remain stable in temperatures of up to 40°C and therefore require cool – but not cold – transport and storage. They have to be inserted at least 2 cm into the rectum.

Fever management

Fever is a temperature of over 37.5° and is a response by the body to underlying infection and disease. Fever is a positive reaction by the body in its fight against infection.

Treatment steps

- Take the temperature of all patients complaining of being unwell or with history of fever.
- Refer all patients with high fever (> 40°) and danger signs – including drowsiness, pallor, convulsions, signs of shock, severe dehydration, signs of meningitis. Give first dose treatment with antibiotic if severe infection suspected and give paracetamol.
- Do a RDT (and/or thick film) on all patients with fever over 37.5° If +, treat for malaria.
- Ask other questions to establish cause of fever and treat underlying cause. Other causes of fever include ARI, viral illness, UTI. Refer cases of hepatitis, measles, meningitis and typhoid fever.
- Give paracetamol. In the absence of other signs or symptoms and if the patient is otherwise well, no other treatment is needed, but they should be told to come back if not improving.
- Repeat the RDT after 3 days if fever persists. If RDT+, treat as per STGs. If RDT – then refer child.

Treatment note: Do not give antibiotics if there is mild fever but no obvious cause.

Advice: Do not overdress or underdress a child with fever. Sponging a child with water may initially reduce the temperature but should not be done if it is likely to upset the child.

Precaution:

Treatment of life-threatening infection

Children and adults with life-threatening infections like meningitis, severe pneumonia and septicaemia, may present with very high fever (> 40°), with very rapid breathing, stiff neck, dark purple rash, vomiting, bulging fontanelle in infants, drowsiness or unconscious and have fits. They need to be referred immediately but life-saving support my need to be given.

- Put in recovery position if unconsious
- Give rectal diazepam if prolonged convulsion
- Give fist dose antibiotic
- Give IV fluids
- Refer immediately.

Antibiotic for life-threatening infection.

- If available, give ceftriaxone as a single dose before immediate referral
- Ceftriaxone 50mg/kg by deep IM injection single dose.

Febrile convulsions and epileptic seizures

Children with high fever may have a febrile convulsion caused by the fever associated with an infection. Most febrile convulsions do not need diazepam unless they continue for more than 3 minutes. A child with epilepsy may present with a prolonged seizure.

Treatment steps

- Put the child on their left side in the recovery position.
- When recovered give fluids by mouth.
- Treat as per Fever Management and treat any cause of fever.
- If prolonged convulsion give rectal diazepam.
- Refer immediately if repeated convulsion, temperature > 40°, or any danger signs.

How to give diazepam rectally

- Draw up the dose from an ampoule of diazepam into a tuberculin (1-ml) plastic syringe. Base the dose on the weight of the child, when possible. Then remove the needle.

- Insert the syringe gently 3–4 cm into the rectum, and inject the diazepam solution.
- Hold the buttocks together for a few minutes.
- If convulsions continue after 10 min, give a second dose of diazepam
- Do not give more than two doses of diazepam

Precaution: If an infant or young child stops breathing after administering diazepam give artificial ventilation with bag and mask.

Medicine	Age (weight)	Dose - Diazepam given rectally 10 mg/2 ml solution. Dose 0.1 ml/kg	Duration	Side effects
Diazepam 5mg/ml 2ml ampules	2 weeks - < 2 months (<4kg)	0.3ml	Single dose.	**Common:** drowsiness, confusion **Rare:** stop breathing
	2 – < 4 months (4 - < 6kg)	0.5ml		
	4 - < 12 months (4–< 6 kg)	1.0ml		
	1 - < 3 years (6–< 10 kg)	1.25ml		
	3 - < 5 years (14 – 19kg)	1.5ml		
	5 – 12 years	2.0ml		
	Adult and child > 12 years	3.0ml		

Prescribing tip: Must use a plastic syringe. Insert gently 3 – 4 cm into rectum via anus.

Measles

Measles is a dangerous illness with a high mortality caused by a virus in children who have not been immunised, presenting with a typical viral rash, conjunctivitis, sore throat, cough, mouth ulcers and ear infection, with serious complications such as diarrhea, pneumonia, malnutrition, meningitis and blindness. Measles is a notifiable disease and is highly contagious. It is rarely seen in infants under 3 months as they have some protection from maternal antibodies.

Treatment steps

- If measles is suspected, refer immediately all cases with complications and all pregnant women with measles and notify the RHO. Only keep mild cases in the HC for observation, with the child kept isolated from other children.

- During referral give supportive measures for the symptoms. These are: ORS, other fluids, zinc, paracetamol for fever and distress, gentian violet in the mouth for ulcers and tetracycline ointment for conjunctivitis. For dosage see the relevant section of these STGs.
- Give vitamin A 50,000 IU for infants 2 – 6 months; 100,000 units for infants 6 – 11 months and 200,000 units for children > 1 year (for dose see Micronutrients in STGs).
- If the child already has signs of pneumonia, give a first dose of amoxicillin during the referral.
- Send a referral note with all the treatment already given.
- Begin all measures for control of an epidemic, guided by the RHO.

Treatment note: All children with measles should be referred even if they have mild illness and the RHO must be informed.

Advice: Parents must take the child to the health centre immediately and bring any other children that may have a similar illness. All children must be immunised to prevent this dangerous disease.

Precaution: Measles is dangerous and contagious. It is important the care and rapid referral of the child is a top priority.

Immunisation

The health centre is the key site where children under five and pregnant women are immunised against preventable diseases. Staff promote immunisation, encouraging parents to ensure children follow the full immunisation schedule. Tetanus toxoid is given up to 5 times to all women of reproductive age, with doses administered in the ANC. At birth, the oral polio vaccine is given and BCG (see under Core Programme 1). From 6 weeks onwards, three doses of the pentavalent vaccine are given, to immunise children against tetanus, diphtheria, whooping cough, hepatitis B and haemophilus influenza B. Oral polio is given at the same time. Measles is given at 9 months and a further dose given.

Information on immunisation is available in the guide: Expanded programme of immunisation. Guide for health workers. MOH, WHO, UNICEF 2014.

Somali Immunisation Schedule

	BCG	OPV	IPV	DTP-Hep B-Hib	Measles
Birth	X	X			
6 weeks		X		X	
10 weeks		X		X	
14 weeks		X	X	X	
9 months					X
Further measles booster					X

Only staff specially trained and authorised by the RHO may immunise children. This requires special training and on-going supervision.

Measles	
Type of vaccine	Live attenuated viral
Number of doses	One dose.
Schedule	At 9–11 months of age in countries where measles is highly endemic
Booster	A second opportunity for measles immunization is recommended (routine or campaign)
Contraindications	Severe reaction to previous dose; pregnancy; congenital or acquired immune disorders (not HIV infection)
Adverse reactions	Malaise, fever, rash 5–12 days later; idiopathic thrombocytopenic purpura; rarely, encephalitis, anaphylaxis
Special precautions	None
Dosage	0.5ml
Injection site	Outer mid-thigh/upper arm depending on the age
Injection type	Subcutaneous
Storage	Store between 2°C–8°C (vaccine maybe frozen for long-term storage but not the diluent)

DTP-HepB-Hib	
Type of vaccine	Pentavalent vaccine
Number of doses	Three
Schedule	6, 10, 14 weeks of age
Booster	None
Contraindications	Do not use as a birth dose
Adverse reactions	Mild local and systemic reactions are common
Special precautions	Do not use as a birth dose, usually not given over 6 years of age
Dosage	0.5ml

Injection site	Outer mid-thigh
Injection type	Intramuscular
Storage	Store between 2°C–8°C. Never freeze

OPV	
Type of vaccine	Live oral polio vaccine (OPV)
Number of doses	Four in endemic countries (including birth dose)
Schedule	At birth*, 6, 10, 14 weeks
Booster	Supplementary doses given during polio eradication activities
Contraindications	None
Adverse reactions	VAPP (paralysis) occurs very rarely (approximately 2 to 4 cases per million children vaccinated)
Special precautions	Children known to have rare congenital immune deficiency syndromes should receive IPV rather than OPV.
Dosage	2 drops by mouth
Storage	Store between 2°C–8°C (maybe frozen for long-term storage)

Malnutrition

Nurses and midwives provide a vital role in preventing, detecting and treating malnutrition. Comprehensive guidance[2] and training is given to staff following the manual: Somali guidelines for management of acute malnutrition Somali MOHs, UNICEF, 2010.

All staff are involved in the following key nutrition activities:

- **Promoting good nutrition:** teach parents about infant and young child feeding (IYCF) and exclusive breastfeeding, and how to give micronutrient supplements. Staff are also trained with a check list for home visits of children who may be malnourished and to give key nutritional messages on prevention and treatment.
- **Detecting malnutrition:** HC staff are routinely and actively detecting acute malnutrition by measuring a child's mid-upper arm circumference (MUAC) using the MUAC band, by assessing the presence of bilateral oedema and by looking for wasting and weakness.
- **Treating malnutrition:** Staff may be involved in providing outpatient feeding programmes (OTP) for children and pregnant women with SAM and in supplementary feeding programmes (SFP) for children and pregnant women with MAM if programmes are set up in the HC or community.

2 Somali guidelines for management of acute malnutrition Somali MOHs, UNICEF, 201

Micronutrients

Young children are given multiple micronutrients and vitamin A to help prevent chronic and acute malnutrition and anaemia, to provide the vital micronutrients they need for their growth and development and to help reduce the impact and likelihood of getting infections.

Vitamin A

Infants 6 – 11 months 100,000 IU. Give a single dose every 4 – 6 months. Give 3 drops from red capsule or 1 blue capsule.

Children 12 to 59 months (1 to 5 years) 200,000 IU. Give a single dose every 4 - 6 months. 1 red capsule or 2 blue capsules.

MMN

1 RNI each day children aged 6 – 59 months or 2 RNI each day if fortified foods being used Guidelines on the use of MMN, vitamin A and iron and folate change. The current guidelines should be followed.

Anemia

Anemia is a reduction in the amount of red blood cells. Symptoms and signs include irritability, tiredness and pallor of the conjunctivae, lips, tongue, nail beds and palms. Any suspected case of anaemia is diagnosed by taking the haemoglobin. The normal range varies with age, but on average, normal haemoglobin is > 11g/dl, moderate anaemia is between 7 and 10.9g/dl and severe anaemia is < 7g/dl. In women, the haemoglobin should be > 11.5g/dl and in young children aged 6 months to 2 years the normal range is > 10.5g/dl Severe anaemia can present with breathlessness and these cases must be referred immediately. Treatment for moderate and mild cases is with iron folate.

Many of the disease programmes in the HC help prevent anaemia. These include micronutrient supplementation and the prevention and treatment of malaria. Children with sickle cell disease will need regular follow up.

Deworming medication is given regularly to young children to prevent and treat all worms including the hookworms which cause anaemia. Deworming medication is usually given once to pregnant women during an ANC visit from the 2nd trimester.

Treatment steps

- Test the hemoglobin for all suspected cases of anaemia. Refer immediately any case of breathlessness from anaemia.
- Refer any children with a history of thallasemia or sickle cell but do not give them iron.

- Give iron folate for 3 months if anaemia diagnosed in the health centre.
- Micronutrient and malaria control programmes help prevent and treat anaemia.
- All young children receive deworming medicine.
- Pregnant women are given deworming medicine at the ANC.
- Reinforce all prevention measures, including handwashing, exclusive breastfeeding, infant and young child feeding (IYCF) and the best food for children and pregnant women.

Iron folate for treating anaemia

Medicine	Age	Dose	Duration	Side effects
Iron & folate tablets (60mg iron + 400 micrograms folate) Combined ?	Children < 2 years	½ tablet per day (30mg iron + 200 micrograms)	3 months	**Common:** Abdominal discomfort; constipation **Rare:**
	Children 2 to 12 years	1 tablet per day (60mg iron + 400 micrograms folate)	3 months	
	Adults including pregnant women	2 tablets per day (120mg + 400 folate)	3 months	
Prescribing tip: Infants: Older children:				
Advice slot: Follow up at the HC to check blood levels and if further treatment need or not.				

Precaution: Pregnant women: Albdendazole must not be given in the first trimester of pregnancy. It is not given to women who are breastfeeding in case they are in early pregnancy.

Deworming medicine

Medicine	Age	Dose	Duration	Side effects
Albendazole tablet	Infants < 12 months	Do not give any deworming medicines.		Common: Abdominal discomfort Rare: Diarrhoea, dizziness
	Children 12 to 23 months	½ tablet (200mg) of Albendazole 400mg	Single dose	
	Children 24 months and older	1 tablet (400mg) of Albendazole 400mg	Single dose	
Prescribing tip: Children: Children over 1 year old should have deworming medicine once a year.				

Severe acute malnutrition (SAM) without complications
Refer to OTP.
National therapeutic care protocol – with outpatient therapeutic programme (OTP). If authorised by the programme, an OTP may be set up in the HC. Ready-to-use therapeutic food is given parents to take home for their children, with plumpy'nut the most commonly used preparation. Nursese and midwives are specially trained and monitored to do this if an OTP is set up in the HC. Routine medication is given routinely within an OTP, including vitamin A, amoxicillin, albendazole and measles immunisation if not recently received. Children in the OTP are all tested for malaria with RDT. Several additional medicines may also be given to children in the OTP to treat other medical problems.

Severe acute malnutrition (SAM) with complications
Refer immediately to inpatient stabilisation centre (SC).

Moderate acute malnutrition (MAM)
Nurses may play an active role if there is a targeted feeding programme for treating moderate acute malnutrition in children aged 6 – 59 months in a supplementary feeding programme (SFP) and in following up those discharged from an OTP.

Children and women enrolled in an SFP are given take-home dry rations or supplementary Plumpy®. The quantities given are monitored as part of any SFP that nurses may be involved in, and clear instructions are given to parents on how to prepare CSB or UNIMIX at home. In addition, children enrolled in the SFP may routinely be given vitamin A, albendazole and iron folate, and may be immunised against measles. But this is administered only in the context of the SFP protocol if a programme is operating in the HC.

Core Programme 3.
Communicable Disease Control

Outbreaks

HC staff are all involved in active surveillance programmes and report any cases of epidemic diseases immediately to the RHO. Staff follow the national communicable disease surveillance protocols. If an epidemic response is initiated, nurses and midwives will be called to assist in all targeted vaccination campaign, case identification and prevention activities.

Refer all cases of meningitis, cholera, dysentery with fever, all severe cases of measles, and all other epidemic diseases after initial treatment has been given.

Malaria

National protocols are followed, and HCs distribute nets, give intermittent presumptive treatment for pregnant women and diagnose and treat any cases of malaria. For treatment of malaria in pregnant women see Maternal Heatlh section and in children see Child Health section.

Tropical diseases

Refer all cases

Control programmes for leishmaniasis, schistosomiasis and trachoma may extend to HC level in endemic areas, but with special training and supervision provided.

Water and sanitation

Core WASH activities are conducted from the health centre and into communities. HC staff teach core hygiene messages. Minimum water, hygiene and sanitation standards are applied in all HC activities. These are outlined in in the EPHS and in separate WASH protocols. Water treatment sachets or aquatabs are distributed from the HC as outlined in the WASH programme in each region.

Core Programme 4.
First Aid & care of critically ill & injured

Life saving support

This guide summarises the emergency treatment steps that are taken to save lives in those with emergency signs. Nurses and midwives need to be trained how to do this and be given a detailed manual that explains all the procedures.

Triage

Triage is the process of rapidly screening a sick person soon after their arrival at the HC, in order to identify:

- those with emergency signs, who require immediate emergency treatment;
- those with priority signs, who should be given priority in the queue so that they can be assessed and treated without delay; and
- non-urgent cases, who have neither emergency nor priority signs.

Emergency signs include:

- obstructed or absent breathing
- severe respiratory distress
- central cyanosis (blue colour of lips and tongue)
- signs of shock (cold hands, capillary refill time longer than 3 seconds, high heart rate with weak pulse, and low or unmeasurable blood pressure) coma (or seriously reduced level of consciousness)
- convulsions
- signs of severe dehydration in a person with diarrhoea (lethargy, sunken eyes and in children: very slow return after pinching the skin or any two of these).

People with these signs require immediate emergency treatment to avert death.

Assess the ABC – Airway, Breathing, Circulation

Assess the airway and breathing (A, B)

- **Does the person's breathing appear to be obstructed?** Look at the chest wall movement, and listen to breath sounds to determine whether there is poor air movement during breathing. Stridor indicates obstruction.

- **Is there central cyanosis?** Determine whether there is bluish or purplish discoloration of the tongue and the inside of the mouth.
- **Is the person breathing?** Look and listen to determine whether the child is breathing.
- **Is there severe respiratory distress?** The breathing is very laboured, fast or gasping, with chest indrawing, nasal flaring, grunting or the use of auxiliary muscles for breathing (head nodding). The person is unable to eat because of respiratory distress and tires easily.
- If there is obstructed or absent breathing, central cyanosis or severe respiratory distress:
- Manage airway if there is obstruction with a foreign body (see training manual on how to manage the choking infant, child and adult).
- Give ventilation with ambubag and mask if absent respiration.
- Refer immediately if person is able to breath but has very rapid breathing or has cyanosis.

Assess circulation (for shock) (C)

- People in shock are lethargic and have cold skin, prolonged capillary refill, fast weak pulse and hypotension.
- Check the pulse (very fast) and the BP (very low). If the radial pulse is strong and not obviously fast, the child is not in shock. If you cannot feel the radial pulse, feel the carotid pulse.
- Check whether the person's hand is cold. If so, determine whether the child is in shock.
- Check whether the capillary refill time is longer than 3 s. Apply pressure to whiten the nail of the thumb or the big toe for 5 s. Determine the time from the moment of release until total recovery of the pink colour. If capillary refill is longer than 3 s, check the pulse. Is it weak and fast?

If there are signs of shock:

- Stop any bleeding
- Put them in Trendelenburg position (with head lower than body)
- Give IV fluids (ringers lactate or 0.9 sodium chloride. But if a child has severe acute malnutrition, give IV 5% glucose instead)
- Keep person warm
- Refer immediately

IV fluids for treating shock

Do not give ringers lactate if there is severe acute malnutrition but give 5% Dextrose instead.

Age (weight)	Volume of Ringer's lactate or normal saline solution (20 ml/kg)
2 months (< 4 kg)	50 ml
2–< 4 months (4–< 6 kg)	100ml
4–< 12 months (6–< 10 kg)	150ml
1–< 3 years (10–< 14 kg)	250ml
3–< 5 years (14–19 kg)	350ml

For treatment of convulsions and severe dehydration, see under Child Health.

Treatment of anaphylaxis

A person may develop shock as an acute allergic reaction to a medicine, a bee sting or snake bite, or after eating a food that they are allergic to. They present with fast rapid pulse, low BP, may be pale, cold and clammy and may have an urticarial allergic rash or severe wheezing. They need immediate ABC life-saving measures and treatment with adrenaline and IV fluids (ringers lactate or 0.9% sodium chloride).

Treatment steps for anaphylaxis

- Restoration of blood pressure (lay the patient down, raise the legs or put in recovery position)
- Give IM adrenaline (epinephrine) injection.
- Give IV fluids, ringers lactate or 0.9% sodium chloride. (500mls for adults; 20mls/kg for children); may need to be given in 10 – 20 minutes depending on response in BP and pulse.
- Monitor pulse and BP and repeat adrenaline dose if necessary
- Give IV or IM hydrocortisone
- If severe asthma, give inhaled salbutamol 8 puffs via a spacer
- If the heart stops beating, cardiopulmonary resuscitation is needed by specially trained staff.
- When able to take by mouth, give oral chlorphenamine (see under Ch 5 for dose).

Treatment note: Adrenaline is given IM on the anterolateral aspect of the middle third of the thigh.

Adrenaline for anaphlyaxis

Medicine	Age	Dose	Duration	Side effects
Adrenaline (epinephrine) 1mg/1ml (1 in a 1000)	Children < 6 years	150 micrograms, 0.15ml IM	Single dose may need to be repeated days	**Common:** nausea, vomiting, headache **Rare:** irregular heart beat, hypertension, urinary retention
	Children 6 to 12 years	300 micrograms, 0.3ml IM		
	Adults and chldren > 6 years	500 micrograms, 0.5ml IM		
Prescribing tip: Nurses should be trained to give adrenaline in emergencies, and must follow the indications and the dose very carefully.				

Hydrocortisone for anaphylaxis

Medicine	Age	Dose	Duration	Side effects
Hydrocortisone 100mg/1ml	Infants < 6 months	25mg IM	Single dose	Few side effects on one off dose
	Children 6 months to 6 years	50mg IM		
	Children 6 to 12 years	100mg IM		
	Adults and children > 12 years	200mg IM		
Prescribing tip:				

IV fluids for shock, ringer's lactate or 0.9% sodium chloride, given over 10 – 20 minutes

Age (weight)	Volume of Ringer's lactate or normal saline solution (20 ml/kg)
Infants < 2 months (< 4kg)	50ml
Infants 2 – 4 months (4 – 6 kg)	100ml
Infants 4 – 12 months (6 – 10kg)	150ml
Children 1 – 3 years (10 – 14kg)	250ml
Children 3 . 5 years (14 – 19kg)	350ml
Children 5 – 12 years (20 – 40kg)	500ml
Adults	500ml

Severely malnourished children with shock should be managed in the RHC or hospital. During transfer the child may need an IV infusion. In this case, the fluid diluted and given more slowly: either the same volume of 0.9% sodium chloride or ringer's lactate perfusion is mixed with 5% dextrose perfusion. This is given at 15ml/ kg over 1 hour.

Minor wound management

Only staff trained to suture are authorised to do so. Do not suture dirty wounds or wounds that are more than 6 hours old. These should be cleaned and covered and referred.

- Clean wound with antiseptic (diluted chlorhexidine)
- Cover with sterile bandage
- Give tetanus toxoid IM
- Suture small wounds if clean and a recent injury (within 6 hours) with a sharp clean object like a knife. For any dirty injury or bite do not suture.
- Review every 2 – 3 days and remove sutures after 7 days.
- Refer if bleeding, or if dirty wound.

Major wound management

- Stop bleeding with pressure with sterile gauze.
- Treat with IV fluid if significant blood loss or signs of shock.
- Immediately refer any major wounds or injury.

Poisoning

- If unconscious put up IV 5% glucose.
- If in shock, put up IV ringers lactate.
- Immediately refer all cases of poisoning.

If nurse has had specific training for first aid measures to be taken for specific poisons, and is authorised by RHO to do so, then these measures may be done before immediate referral.

Bites

- Clean wound with antiseptic (diluted chlorhexidine)
- Do not carry out any customary practices associated with snake or other animal bites.
- Cover with sterile bandage
- Give tetanus toxoid IM
- Refer immediately all snake bites, dog bites or those of wild animals

Fractures

- Splint the fracture if trained to do so.
- If substantial bleeding or signs of shock, give IV ringers lactate.
- Immediately refer

Burns

Small superficial burns without blisters:

- Put the affected area into cold water for 15 minutes
- Apply silver sulphadiazine 5%
- Apply gauze dressing
- Give paracetamol
- See daily until healing well.

Advice: give more fluids at home

All large and deep burns:

- Give IV ringers lactate
- Refer immediately
- (give ORS during journey)

Core Programme 5.
Treatment of common illness

Skin diseases

Scabies
Scabies is an infestation of the skin caused by a small insect resulting in a raised very itchy rash. It is often found between the fingers and toes. The rash may be badly scratched and there may be infection from bacteria.

Treatment steps (at home)

- Wash the body with soap, drying, then apply benzyl benzoate 25% lotion on the whole body but not on the face or genitals. For young children dilute the lotion with the same quantity of water to make a 12.5% lotion.
- Apply an antiseptic, gentian violet, to any infected areas. If badly infected, give amoxicillin, (or cloxacillin if available) or, if allergic to pencillin, erythromycin.
- The next day benzyl benzoate is applied again without washing the child.
- A further dose may be applied on the third day after bathing the child
- If the child is very itchy and scratching a lot, give chorphenamine (see under allergic rash for dose).
- Treat all children in the family and tell them to wash clothes and sheets at the same time.

Side effect: Benzyl benzoate may cause skin irritation and burning.

Head lice
If the scalp is infested with head lice, this can be treated with good hygiene and permethrin 1% rinse of the hair and washed off after 12 hours. The hair should also be combed with a fine head lice comb.

Eczema, dermatitis and allergic rash
Eczema and dermatitis are inflammatory conditions of the skin presenting with a raises itchy rash. In children this commonly occurs behind the elbows and knees and can be on the face. Infants may have a scaly rash on their scalps. Treatment aims to stop the skin drying and to reduce the inflammation.

An allergic rash may be in reaction to something that has been eaten, applied to the skin or a reaction to a medicine. Chlorphenamine may be needed.

Treatment steps

- Apply emollient ointment frequently as long as there is eczema.
- Apply a small amount of hydrocortisone 1% to more inflamed areas for 7 days.
- Apply gentian violet to infected areas.
- For severe itching give chlorphenamine by mouth.
- Give penicillin V (or cloxacillin if available) by mouth if rash is badly infected, or erythromycin in case of allergy to penicillin.
- Refer if severe case.

Chlorphenamine for severe itch or allergic rash.

Medicine	Age	Dose	Duration	Side effects
Chlorphenamine syrup (2mg/5ml) and **Chlorphenamine tablet** (4mg)	Infants < 12 months	Do not give		**Common:** drowsiness **Rare:** headache, dry mouth, abdominal discomfort
	Children 1 to 2 years	2.5mls (1mg) or ¼ tablet (1mg) 2 x per day	2 to 3 days	
	Children 2 to 6 years	2.5mls (1mg) or ¼ tablet (1mg) 2 - 4 x per day (every 6 hours)	2 to 3 days	
	Chilldren 6 to 12 years	5mls (2mg) or ½ tablet (2mg) 2 – 4 x per day (every 6 hours)	2 to 3 days	
	Adults and children over 12 years	1 tablet (4mg) 2 – 4 x per day (every 6 hours)	2 to 3 days	

Fungal disease

A fungal rash presents as a raised, red, itchy rash. This rash can be in circles if it is a fungal disease called ring worm.

Treatment

- Apply antifungal cream such as benzoic acid 6% and salicylic acid 3%,
- clotrimazole 1% or miconazole 2% twice a day for 7 days.

Nappy rash
Infants may present with a rash around the groin or buttocks caused by irritation from urine or stools and sometimes caused by thrush.

Treatment steps

- Wash the area with soap and dry.
- Apply an emollient cream or zinc oxide 10% cream as long as the rash is present.
- If there is a red rash with satellite lesions, then this is thrush. Apply clotrimazole 1% or miconazole 2% twice a day for 5 days.
- Any ulcerated areas need the application of gentian violet and the infant referred.
- Advise parents to change the baby cloth/ diaper as frequently as possible.

Impetigo
Impetigo is a bacterial infection of the skin presenting with oozing golden-yellow crusts. They may be red and raised.

Treatment

- Wash the area with soap and water.
- Apply gentian violet.
- Give penicillin V or cloxacilin if there are many spots or if the child is unwell, or erythromycin in case of allergy to penicillin.

Abscess
An abscess is a collection of pus under the skin.

- Very small pus swellings may discharge themselves, and can be treated with antiseptic and a guaze dressing and observed (ask the patient to come back).
- A medium superficial abscess may be incised by a nurse if authorised to do so.
- Give penicillin V (or cloxacillin if available) or erythromycin if allergy to penicillin for medium or large abscesses.
- Refer any larger or deep abscesses.

Ulcer
An ulcer is a chronic break in the skin that is red and may ooze pus.

- Apply antiseptic (diluted chlorhexidine)
- Apply paraffin gauze dressing

- Change daily if infected. Once the ulcer is bright red without infection, the paraffin gauze dressing can be applied and left for 10 days.
- Give penicillin V (or cloxacillin if available) or erythromycin if allergy to penicillin for medium or large ulcers if infected.
- Refer any large ulcers or those that are not healing.

Refer all other skin diseases.

Eye diseases

Conjunctivitis
Conjunctivitis is an inflammation and often infection of the conjunctiva of the eye. Simple conjunctivitis can be treated in the HC. Symptoms and signs include: eye discomfort, yellow discharge, red conjunctivae.

Treatment steps

- Apply tetracycline 1% eye ointment 4 x per day for 5 days.
- Give gauze to clean the side of the eyelids
- Refer if eye is painful, or if there is redness around the cornea, if the eye lids are puffy or if there is photophobia.
- Refer if the conjunctivitis does not improve in 2 days.

Advice: Review if not rapidly improving. Do not put any other product in the eye or any herbs or local medicines. If eye is painful, needs urgent referral.

Conjunctivitis in newborns (neonatal conjunctivitis)
If the eye lids are puffy and there is copious discharge, then apply tetracycline 1% ointment and refer immediately.

If there is less discharge and the eye lids are not puffy:

- Apply tetracycline 1% eye ointment 4 x per day for 5 days.
- Give gauze to clean the side of the eyelids
- Refer if eye is painful, or if there is redness around the cornea, if the eye lids are puffy or if there is photophobia.

Trachoma
Trachoma is the leading cause of preventable blindness in the country. HC staff promote the use of soap and regular washing of the hands and face, and may be involved in trachoma control programmes. People with trachoma can present with a pus discharge and may have complications. Apart from simple conjunctivitis, refer all suspect cases.

Vitamin A deficiency
This can present with dry eyes, eye pain, reduced vision. If it is suspected, or if there are any changes to the cornea, give vitamin A (see Micronutrients for dose), apply tetracycline 1% ointment and refer immediately.

Stye
This is an infection of the eyelid which presents with a small swollen area and pain. A stye usually clears up by itself.
- Apply tetracycline 1% ointment
- Refer if the whole eye lid is swollen.

Other eye conditions
- Refer immediately acute red eye with pain
- Refer immediately any eye trauma. Do not attempt to remove a foreign body.
- Refer any visual difficulty; refer immediately especially any sudden change in vision

Mouth, throat & teeth

Small oral ulcers (aphthous ulcers) can be treated by applying gentian violet.

Advice: make a mild saline solution at home with salt and water for the child to rinse and spit out.

Oral thrush (candidiasis)
presents commonly in infants and sometimes in older children with a white coating on the tongue. In young children this can be treated with nystatin. In adults or children over six with thrush there may be an underlying disease so they should be referred.

Nystatin for oral thrush

Medicine	Age	Dose	Duration	Side effects
Nystatin 100,000 IU/ml oral suspension	Infants < 1 month	Do not give		**Common:** Oral irritation **Rare:** Nausea
	Infants and older children	100,000 IU (1ml) 4 x per day by mouth	5 to 7days	
	Adults	Do not treat in HC. Refer		
Prescribing tip: 1ml is measured with the pipette, and given by parents.				
Advice slot: Give after feeding. Continue giving treatment for 2 days after rash has gone				

- For tonsillitis see under Child Health.
- Refer all other conditions of the mouth and throat

Teeth and gums
- Give paracetamol or ibuprofen for mild toothache and advise a visit to the dentist.
- Advised twice daily dental hygiene with a tooth brush and tooth paste.
- Refer all problems with teeth and gums.

Ear
For ear infections see under Child Health.

Ear wax
Wax occurs naturally in the ear canals and has a protective function. Do not remove wax. If the patient complains the canal is blocked, refer.

Advice: Advise people never to put cotton buds or any instrument inside the ear canal.

Refer all other ear problems, including infections of the ear canal and pus discharge.

Do not attempt to remove a foreign body from the ear but refer.

Nose

Nose bleeds (epistaxis)
Nose bleeds are common in children and in some adults, and can occur spontaneously or after mild trauma. Usually the bleeding comes from the lower, soft part of the nose.

Treatment
- Advise the person to sit forward and hold the soft part of the nose for 10 minutes. A parent may hold the soft part of a young child's nose. Advise them not to blow or pick their nose afterwards for the rest of the day.
- If bleeding continues, refer immediately.
- Refer all other nose problems, including infections of the nasal canal and pus discharge.
- Do not attempt to remove a foreign body from the nose but refer.

Gastro-intestinal

For diarrhea in children and adults see under Child Health.

For worms see Child Health, but refer all cases passing large worms.

Indigestion (dyspepsia)

For mild symptoms in adults (burning or indigestion after food) give Magnesium trisilicate compound, 1 -2 tabs as needed (max 8 a day) or alternative antacid tablet or syrup if available. But if symptoms more than 2 days, if moderate to severe symptoms, or for all children then refer.

Advice: Chew the tablets. Tablets may cause belching or mild diarrhea.

Precaution: Do not take ibuprofen, indomethacin, naproxen or diclofenac if symptoms of indigestion.

Refer all abdominal pain, jaundice, constipation, piles and all other symptoms

Urinary

Mild UTI (urinary tract infection) in women may be diagnosed and treated in the PHU. In men and children UTI may be a sign of underlying disease so all cases should be referred.

Treatment steps

- Test urine of women with mild UTI symptoms with dipstick
- If nitrites and/or leucocytes +ve on dipstick, give nitrofurantoin
- If symptoms persist for more than 2 days or if symptoms worsen, refer.
- Refer all women with moderate to severe symptoms (including high fever, abdominal pain, blood).
- Refer all pregnant women with UTI without treating
- Refer all children and men with UTI without treating.

Treatment note: The bacteria causing UTIs are resistant to many antibiotics. Sometimes amoxicillin can treat it, but the bacteria is often resistant.

Advice: Drink plenty of fluids.

Medicine	Age	Dose	Duration	Side effects
Nitrofurantoin 50mg tablets	Children	Do not give but refer		**Common:** Anorexia, nausea **Rare:** vomiting and diarrhea; allergic reaction
	Adults (women)	1 tablet (50mg) 4 x per day	3 days	
Prescribing tip: Do not give if previous allergic reaction to nitrofurantoin				
Advice slot:				

Refer all other problems of the urinary tract or genitals.

Menstrual

Menstrual disorders are problems with an older girl or woman's periods.
Refer all menstrual problems

Chest and heart

For ARI see under Child Health.

- Immediately refer all cases of breathing difficulties, chest pain or palpitations of the heart.
- Refer all cases of prolonged headache or suspected high blood pressure.
- Refer all cases of suspected diabetes.

Surgical

Refer all cases of swellings, tumours, hernia and abdominal pain.

Musculo-skeletal

- Give paracetamol or ibuprofen for cases of mild bone, joint, back or muscle pain.
- Refer all cases of pain persisting for more than 3 days or all cases with moderate or severe pain.

Neurological

Refer all cases of epilepsy, other neurological disorders and dementia.

Disability

Refer all people with physical or learning disabilities for specialist support.

CHWs may assist in providing home based care if specifically trained to do so as part of a programme for people living with disabilities.

Mental health

The nurses and midwives may provide some psychological support if specifically trained to do so. As mental health services develop in the country, nurses and midwives may be trained to give more support and in general principles of care for people with mental health conditions.

Refer all cases of anxiety, sleep disorders, panic, depression, post-traumatic stress, self-harm, behavioural disorders, learning delays in children, psychosis, substance abuse.

Refer immediately any attempted suicide, overdose of medicines, or severe mental health symptoms or signs.

nurses and midwifes are involved in prevention of these diseases and in detecting cases of chronic cough (suspect TB). nurses and midwifes may be involved in promoting the appropriate use of condoms. More details of prevention and control measures at health centre and community level are given in the respective guidelines.

HIV

Standard precautions for avoiding transmission of HIV and other pathogens in health facilities.

Standard precautions of infection prevention and control must be taken routinely with all clients at all times. Standard precautions include:

- Use safe injection techniques
- Handle and clean instruments safely
- Handle and dispose sharps safely in safety box
- Use personal protective materials
- Handle and dispose of waste safely
- Manage needle-stick and other workplace exposure to HIV

Promotion of HIV-prevention messages and VCT

- Give full health education in line with HIV guidelines and where appropriate, inform people on availability of voluntary counselling and testing (VCT) centres. Offer HIV testing at ANC if trained to do so as part of PMTCT.
- Refer all cases of chronic illness or weight loss.

Refer all cases with symptoms of TB

- Ask if a person living with HIV has any ONE of the following currently:
- Cough for any duration
- ever for any duration
- Night sweats
- Weight loss OR failure to gain weight in pregnancy
- If so they should be referred for sputum testing for TB.

TB

- Refer all cases with symptoms of TB
- Refer all cases of persisting cough, blood in sputum, chronic illness, prolonged fever, weight loss or large lymph nodes in neck.

- Give full health education in line with TB guidelines.

STIs & HIV

Dual protection is proposed against STIs (including HIV, hepatitis B and C) and unplanned pregnancy. It can be achieved by the consistent use of condoms, or the use of one method to protect against unplanned pregnancy (a hormonal method or IUCD, see above) and a second method to protect against STIs and HIV (a male or female condom). The involvement of men is crucial to the success of dual protection. Hormonal methods do not protect women against STIs including hepatitis B, C and HIV.

Condoms

Male condoms significantly reduce the risk of becoming infected with HIV or another STI when used correctly with every act of sex. All men and women can safely use male condoms except those with a severe allergic reaction to latex. Correct condom use must be explained when dispensing condoms.

Consistent messaging to prevent HIV and STIs

- Stigma reduction by raising awareness
- HIV prevention through Behavioral Change Communication (BCC)
- Display and dissemination of educational materials;
- Provision of condoms
- Post-test clubs
- Community mobilization
- Promotion of abstinence; faithfulness and condom use
- Promotion of partner engagement.

Syndromic management of STIs

STIs are treated in HCs in line with Somali STIs treatment flowcharts. The flowcharts are consulted to make the diagnosis.

<u>Treatment of vaginal discharge</u>

- Establish clinical diagnosis based on flowcharts.
- According to diagnosis, give recommended treatment for thrush, bacterial vaginosis, trichomoniasis
- Add treatment for chlamydia and gonorrhea if + risk factors.
- Advise on risk reduction, HIV counselling and testing and condom

use
- Notify and manage partner
- Ask to return for in 3 days

Genital ulcer disease, women and men
- Establish clinical diagnosis based on flowcharts.
- According to diagnosis, give recommended treatment for genital herpes, syphilis, chancroid,
- Add treatment for chlamydia and gonorrhea if + risk factors.
- Advise on risk reduction, HIV counselling and testing and condom use
- Notify and manage partner
- Ask to return for in 3 days
- Refer if ulcer still present and not healing

Lower abdominal pain, women
- Establish clinical diagnosis based on flowcharts.
- Refer immediately if: missed or overdue period, recent delivery or abortion, abdominal mass, rebound tenderness or guarding or abnormal vaginal bleeding.
- According to diagnosis, give recommended treatment for pelvic inflammatory disease
- Advise on risk reduction, HIV counselling and testing and condom use
- Notify and manage partner
- Ask to return for in 3 days
- Refer if pain still present and not improving

Urethral discharge in men and women
- Establish clinical diagnosis based on flowcharts.
- According to diagnosis, give recommended treatment for chlamydia and gonorrhea
- Advise on risk reduction, HIV counselling and testing and condom use
- Notify and manage partner
- Ask to return for in 3 to 7 days
- If re-infection or poor compliance, treat again
- If re-infection unlikely and compliance good, treat for trichomonas.

Precaution: The following medicines *should not be prescribed* during pregnancy, child birth and breastfeeding:

- Ciprofloxacin
- Doxycycline
- Fluconazole
- Tetracycline
- Metronidazole (1st trimester contraindicated, dose should be halved in 2nd and 3rd trimesters)
- Erythromycin (except patients who allergic to penicillin who need urgent treatment for ARI or other life-threatening infections). In this case, they may need to be given erythromycin at RHC or H level.

Treatment for vaginal thrush (candidiasis)

Women may present with a history of an itchy rash with white discharge from the vagina. It is not always necessary to examine the woman if the history is clear and treatment can be given. Thrush is not an STI, but may be associated with an STI. Treatment is with either a pessary that the woman inserts herself in the vagina at home, or (if available) a single tablet of fluconazole taken by mouth.

Vaginal pessary for thrush

Medicine	Age	Dose	Side effects
Clotrimazole 100mg or **500mg vaginal pessary** **Miconazole** 200mg vaginal pessary	Women	Woman to insert in vagina at home: 1 x 500mg Clotrimazole pessary. Single dose OR 1 x 200mg Miconazole pessary each night for 3 nights	**Common:** **Rare:**

Oral fluconazole for thrush

Medicine	Age	Dose	Duration	Side effects
Fluconazole 150mg capsule by mouth	Adults	1 x 150mg capsule	Single dose	**Common:** **Rare:**
Prescribing tip:				

Treatment for bacterial vaginosis & trichomoniasis

Metronidazole for bacterial vaginosis and trichomoniasis

Medicine	Age	Dose	Duration	Side effects
Metronidazole 200mg tablets or 250mg capsules	Adults	2000mg (2gr) (8 x 250mg caps or 10 x 200mg tabs) oral single dose or 400mg – 500mg tablet 2 x per day for 7 days.	Single dose or for 7 days	**Common:** nausea **Rare:** vomiting,
Prescribing tip:				

Treatment for gonorrhea and chlamydia

Treatment note: The choice of antibacterial regime depends on local availability and changing sensitivity and resistance of organisms. Azithromycin 1gm (4x 250mg capsule) single dose + ciprofloxacin 500mg cap single dose

Treatment for genital herpes

- **Treatment note:** If RPR is + treat for syphilis as well.
- Refer for treatment with acyclovir.

Treatment for syphilis and chancroid

- If not allergic to penicillin:
- Benzathine penicillin 2.4 million units IM, divided into 2 and injected in each side, stat
- Refer if penicillin allergy

Treatment for pelvic inflammatory disease, PID (women)

- If pregnant, refer immediately.
- If not pregnant:
- Ciprofloxacin tablet 500 mg orally single dose OR
- Erythromycin 500 mg 4 times for 7 days PLUS Metronidazole 500 mg 2 times a day for 14 days
- Refer if there is no improvement within 3 Days

Protocols, guidelines and manuals used in these STGs

- British National Formulary No 68. September 2014 – March 2015
- Clinical guidelines. Diagnosis and treatment manual for curative programmes in hospitals and dispensaries. MSF 2013

- Emergency Obstetrical and Newborn Care (EmONC) protocols. Training course. Participant and facilitator manuals. MOH SL, THET, SLNMA, UNICEF
- Essential Package of Health Services (EPHS), Somali MOHs, UNICEF, 2009
- Expanded programme of immunisation. Guide for health workers. MOH Somalilland, WHO, UNICEF 2014
- Community health worker (CHW) training manual. MOH Somaliland, THET, 2013
- Community health worker (CHW) training curriculum. MOH Somaliland, THET, 2013
- GP-Update handbook. https://gpcpd.com/handbook (subscription only service for General Practitioners and doctors in the UK and internationally)
- Guidelines for the diagnosis and treatment of malaria in Somalia 2011 Global Fund, Somali MOHs
- Integrated community care management. For pneumonia, diarrhea, acute malnutrition.
- UNICEF& WHO 2012 – 2014
- Malaria guidelines for health workers
- Manual for the healthcare of children in humanitarian emergencies. WHO 2008
- National birth spacing guideline for service providers, MOH, Somaliland, 2015
- Non-communicable disease guidelines. Diseases: asthma, COPD, type 2 diabetes, hypertension, severe hypertension, pregnancy and blood pressure, secondary prevention of cardiovascular disease. NCD Field Guides developed for Somaliland MOH and Health Poverty Action 2015 by Primary Care International
- Plan to Scale up Prevention of Mother-to-Child Transmission and Early Infant Diagnosis of HIV in Somaliland, Puntland and Central South Zone. 2015 – 2019 MOHs FGS, Puntland and Somaliland. 2014
- Pocket book of hospital care of children – guidelines for the management of common childhood illnesses. Second edition. WHO 2013

- Prevention of mother-to-child transmission and early infant diagnosis of HIV. Guidelines and protocols. MOHs FGS, Puntland and Somaliland. 2014
- Micronutrient charts UNICEF/MOH 2013
- Recommendations on maternal and perinatal health. Guidelines on maternal, newborn, child and adolescent health. WHO 2014
- Recommendations on newborn health. Guidelines on maternal, newborn, child and adolescent health. WHO 2014
- Recommendations on child health. Guidelines on maternal, newborn, child and adolescent health. WHO 2014
- Revised WHO classification and treatment of childhood pneumonia at health facilities. Evidence summaries. WHO 2014
- Somali guidelines for management of acute malnutrition Somali MOHs, UNICEF, 2010
- Somali standard treatment guidelines for management and referral of common conditions at level 1, Primary health unit. MOH, Somalia, WHO 2013 (unpublished)
- Somalia standard treatment guidelines. Primary health care level. Third edition. May 2013 (unpublished).
- TB treatment guidelines for Somalia. MOHs, Global Fund, World Vision, WHO 2012
- WHO recommendations for augmentation of labour. WHO 2014
- WHO recommendations for prevention and treatment of pre-eclampsia and eclampsia. WHO 2011
- WHO recommendations for the prevention and treatment of postpartum hemorrhage. WHO 2012

Medicines

Medical Conditions

Health Centre STGs