Rotary Doctors Sweden

JEEP DOCTOR MANUAL 2015-2018

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Practical guidelines for management of illnesses and recommendations for prescribing and dispensing drugs at jeepline clinics of the Rotary Doctors Sweden in Kenya

CONTENTS

This manual was revised, based on an earlier manual, in 2012 by Dr. Ina Dagis and Dr. Agnes Györffy. After that it has been regularly updated.

THE VERY SICK CHILD

Check for general danger signs: Vomits everything, Convulsions, Lethargy or unconsciousness
Refusal to drink
If any of danger signs presents, the child should be referred to hospital urgently after initial treatment.

Convulsions: **0,5 mg diazepam/kg rectally**, not exceeding 10 mg.
Use IV amp. for rectal administration in a syringe without a needle. Insert it 2-3 cm.

Fever above 38°C: **Paracetamol,30 mg/kg** bolus dose

Prevent hypoglycaemia: **ORS** or **sugar water** (4 teaspoons/200ml water) to, one sip or spoon every minute or try dropper or giving 3-5 ml at a time through a syringe
Test for malaria; M RDT
Test Hb; Range 40-140 g/l. Very severe anaemia <40, severe 40-60, moderate 60-80.

Prereferral antibiotic
Ceftriaxone inj IM STAT Child > 3m to adult **100mg/kg to max 4 g** in 2 injection sites

Malaria treatment

Inj Artesunate IM 2,4 mg/kg STAT, administered in anterior thigh **1st line treatment**
or Inj Quinine IM 20 mg /kg loading dose, Glucose /sugar water

Ampoules 2 ml 300 mg/ ml quinine dihydrochloride). Dilute before use to 50mg/ml for children (1 ml quinine + 5 ml sterile water)
A maximum of 3 ml should be injected into one site. Anterior thigh is preferable injection site.

Respiratory distress

Stridor, chest indrawals,respiratory rate, nasal flaring?

Guide: age	normal rr	severe respiratory distress
< 2m	30-40	>60
2-12m	30-40	>50
1-5 y	25-30	>40
>5 y	20-25	>30

In children fever may cause RR to increase by 10 breaths/min with each increase of 1°C.
If in doubt of severity give child Paracetamol and count again in 20 minutes.

Diarrhea and dehydration

Severe dehydration
2 or more of the followings signs:

- lethargy/unconsciousness
- sunken eyes
- unable to drink or drinks poorly
- skin pinch goes back very slowly (≥ 2 seconds)

Refer for further assessment and IV rehydration, **start ORS**

Some dehydration
2 or more of the followings signs:

- restlessness, irritability
- sunken eyes
- drinks eagerly, thisty
- skin pinch goes back slowly immediately

ORS, or **more frequent breastfeeding**

Give ORS after every loose stool	< 2 yr	50-100ml
	2-10 yrs	100-200ml
	> 10 yrs	unlimited

Zinc tabs 20 mg: to reduce duration and severity of diarrhea

<½ yr	**10 mg OD 14/7**
½ - 5 yr	**20 mg OD 14/7**

MALARIA

Uncomplicated malaria

Symtoms: Fever, chills, vomiting, diarrhea, refusal to eat, abdominal pains, joint pains, headache, often prodromal. Patients can seek for a very short history of fever for example just day!

Diagnosis: **Microscopy and if not possible Malaria Rapid Diagnostic Test (MRDT): Paracheck**

- All patients with fever or recent history of fever should be tested for malaria.
- Only patients who tests positive should be treated for malaria.
- If testing is not possible, all children under 5 with fever should be classified and treated for malaria.
- If the test result is unexpectedly negative, make a second test. If still negative and patient is severely ill, refer.
- In children <5 kg evaluation for other causes of fever than malaria should be considered.

Test with Microscopy: It has an average detection limit of 500 parasites/ µl, when really good 50 p/.µl.

False positivity can occur because of:

- Cross reaction to autoantibodies especially human rheumatoid factor for pHRP 2
- Persistent viable asexual stage parasitemia below microscopy limit
- Delayed clearance of circulating antigens
- Cross reactions to non-falciparium malaria
- Low sensitivity of the test

False negative results:

- May be associated with low parasitemia. These patients are often asymptomatic
- Have been observed severe malaria with parasitemias > 40 000p/µl because excess of antigen can inhibit the reaction, or possible genetic factors. These patients should however be clinically severly ill.

Some facts about rapid diagnostic tests for malaria

Malaria RDT tests give only a quality result and may remain positive up to 4 weeks following effective treatment. Combined tests pHRP-2/p LDH or pHRP-2/ Aldolase enables simultaneous detection and differentiation of the infection with *P. falciparum* and or any of the other three plasmodia.

HRP2= Histidine rich protein is a surface antigen of plasmodium infected red blood cells. It is pl Falciparium specific. It detects <200 p/µl and persists after successful treatment up to 4 weeks.

pLDH= plasmodium Lactate Dehydrogenas, is an enzyme that is produced and excreted from all four malaria parasite species during their growth in the red blood cell. This antigen does not persist. It clears out in the same time as the parasites after successful treatment.

pAldolase is an enzyme active in the energy production in all 4 malaria species. It has been used in combined tests P.f and P.v that targets the PMA (pan malarial antigen) along with pHRP2. Detects 500 p/µl.

1st line treatment:

Artemether- Lumefantrine 20/120 mg, and **paracetamol**

Rehydration + avoiding hypoglycemia, **ORS** or **breastfeeding**

The 1st dose of AL should be given at the clinic and may be given on empty stomach. If vomiting occurs within 30 minutes the dose should be repeated. 2nd dose after 8 hrs. From day 2, 12 hrs between doses. Important that all 6 doses are taken!

Body weight in kg	Age	Number of AL tabs/day	Paracetamol
3-4		½ stat,½ after 8 hrs, then ½BD 2/7	1,5 ml (40mg) TD 3/7
4-5		½ stat,½ after 8 hrs, then ½BD 2/7	2,5 ml (60 mg)TD 3/7
5-14	5m-3y	1 stat, 1after 8 hrs, then 1BD 2/7	3-5 ml TD 3/7
15-24	3-7y	2 stat, 2 after 8 hrs, then 2BD 2/7	200-375 mg TD 3/7
25-34	8-11y	3 stat, 3after 8 hrs, then 3BD 2/7	375-500 mg TD 3/7
≥ 34		4 stat, 4after 8 hrs, then 4BD 2/7	500-1000 mg TD 3/7

AL should be administered together with milk or food!

Treatment failure:
Symptoms persist or patient deteriorates 3-14 days after initiation of recommended drug therapy.
Refer for further assessment. Malaria microscopy, etc. In case of non-adherence or non-completion of previous medication repeat a full course of AL

Malaria in pregnancy

Pregnant women are at particular risk of malaria. Always check RDT in pregnant women with fever.

Uncomplicated Malaria
All trimesters: **Artemeter-Lumefantrine 4 BD 3/7.** AL is preferred also in 1st trimester because of risk of poor compliance because of sideeffects of quinine + longer treatment course

Severe malaria in pregnancy
Severe malaria in pregnancy is a medical emergency!
Pre-referral treatment:

Artesunate IM 2,4 mg/kg stat, administered in anterior thigh
or **Quinine IM 20 mg /kg** to max 1200mg, 600 mg in each anterior thigh+ **Glucose /sugar**

Severe malaria/cerebral malaria

Fever, general weakness, prostration, obtundation
Shock; cold extremities, weak pulse
Convulsions
Respiratory distress (nasal flaring, fast breathing, chest indrawing), pulmonary oedema
Altered level of consciousness
Severe anaemia (very pale conjunctivae, palms of hand, oedema) Hemoglobine under 5.
Disseminated intravascular coagulopathy- bleedings in skin, gums, conjunctivaes, nose, blood in stools
Renal failure (oligo-or anuria), Haemoglobinuria (black water fever)
Jaundice

Pre-referral management
If convulsions give **0,5 mg diazepam/kg rectally**, not exceeding 10 mg**.** Use IV amps, **=P=,=L=**
10 mg/ 2 ml, for rectal administration in a syringe without a needle. Insert it 2-3 cm.
<2 years (<10 kgs**) 5mg**
>2 years (>10 kgs) **10mg**

- **Artesunate IM 2,4 mg/kg stat**,administered in anterior thigh is **1st line treatment**
  or:

Quinine IM 20 mg /kg loading dose to max 1200mg + Glucose /sugar **=P=,=L=**

Ampoules 2 ml (300 mg/ ml quinine dihydrochloride). Dilute before use to 50mg/ml for children (1ml quinine + 5 ml sterile water) or to 100 mg/ml for adults (1ml quinine + 2 ml sterile water) A maximum of 3 ml should be injected into one site. Anterior thigh is preferable injection site.
Only if out of Artesunate!

Table of quinine dosage

Body weight	Total dose quinine	Dil.100mg/ml Total volume to be administered	dil.50mg/ml total volume to be administered	Number of injection sites
>60 kg	1200mg	12ml		4
55-60 kg	1100mg	11ml		4
50-55 kg	1000mg	10ml	—	4
45-50 kg	900mg	9ml		3
40-45 kg	800mg	8ml		3
35-40 kg	700mg	7ml		3
32,5-35 kg	650mg		7,0ml	3
30-32,5 kg	600mg		6,5ml	3
27,5-30 kg	550mg		6,0ml	2
25-27,5 kg	500mg		5,5ml	2
22,5-25 kg	450mg		5,0ml	2
20-22,5 kg	400mg		4,5ml	2
17,5-20 kg	350mg		4,0ml	2
15-17,5 kg	300mg		3,5ml	2
12,5-15 kg	250mg		3,0ml	1
10-12,5 kg	200mg		2,5ml	1
7,5-10 kg	150mg		2,0ml	1
5-7,5 kg	100mg		1,5ml	1
< 5 kg	50mg		1,0ml	1

ORS, Sugar water5 g 1teaspoon) in 50 ml of water or **Dextrose 50% 1 ml/kg IV** very slow (5 min.
Paracetamol

Intermittent Preventive Treatment of Malaria in Pregnancy = IPTp

Fansidar = Sulphadoxine-Pyrimetamin, 500mg/25mg

- 3 tabs stat at each scheduled visit after quickening. To be given at clinic
- A minimum of 2 doses during pregnancy
- At intervals of at least of 4 weeks
- Not to be given together with folic acid
- Folic acid can be started again 14 days after Fansidar administration

Routine treatment at the end of 1st trimester and at the beginning of the 3rd trimester(28-34 w) is advised and given at the antenatal clinics(ANC)

MALNUTRITION

MUAC = Mid Upper Arm Circumference, measures the degree of muscle wasting =
W/H = Weight for index of < -3Z
PEM = Protein energy malnutrition

Severe acute malnutrition

Clinical features

	Marasmus	Kwashiorkor
Growth failure	+	+
Muscle wasting	+	+
Oedema	-	+
Skin changes	-	+
Hair changes	-	+
Anorexia	-	+
Mental state	Irritable	Miserable
Anemia	+	+
Oral thrush	+	+

Clinical features of severe malnutrition can be mixed: *marasmic –kwashiorkor*
Anorexia, bilateral oedema of lower limbs, periorbital oedema, severe anaemia, dehydration or infection, signs of vitamin A deficiency (dry conjunctives, Bitots spots, corneal ulcers, keratomalacia).

MUAC	1-5 yrs	<11,0 cm
	5-15yrs	MUAC is not used,
	Adult	< 16,0 cm
	Pregnant/lactating	< 17,0 cm

Significant mortality risk

Management: Refer to hospital.

Moderate acute malnutrition:

W/H-index: -2SD—3SD or 70-80% without oedema,

MUAC	1-5 yr:	11,0 -12,5 cm	at risk: 12,5 - 13,5cm
	Pregnant:	16,0 -18,5 cm	at risk: 18,5 - 21,0cm
	Adults:	16.0-18,5 cm	

Children without significant medical complications may undergo ambulatory treatment.

Management

- Nutritional guidance to mother or caretaker.
- Test for Malaria, if positive: **Coartem**
- Presumed subclinical infection: **Amoxicillin**
- Worms: **Mebendazol** or **Albendazol** to all children >24mths and who haven´t been dewormed the latest 3 months
- If oral thrush: **Nystatin oral drops**
- **Multivitamin**
- **Vit A**
- **Folic acid**
- **Zinc tabs**
- Once gaining weight and oedema disappeared give **Ferrous sulphate**
- **ORS** if dehydrated

Support children with **baby porridge.** Check immunization state, complement if necessary. Review every week until good weight gain is observed,> 5 mg/kg/d. If failure over a 2-week period refer to hospital. HIV? TB?

Nephrotic syndrome

Differential diagnosis to malnutrition!
Predominantly in preschool and school age children
Peripheral and facial oedema, frothy urin (proteinuria), ascites and pleural effusions if severe.
Majority of idiopathic cause
In children sometimes secondary to malaria, UTI, HIV.
Refer to hospital.

RESPIRATORY TRACT DISEASES AND INFECTIONS

Asthma, chronic intermittent or mild attack

Salbutamol Tabs, Syr or inh **=P=, =L=**

Acute Asthma

Adrenaline Inj 1mg/ml **=P=, =L=**
Children< 5y 0,01 mg / kg SC
Repeat in 30 min if needed

Salbutamol inhaler 100 mcg/dose
< 2yr : 1 puff in the spacer, 5 breaths. To be repeated up to 6 times under 1st hour
2-5 yrs: 1 puff in the spacer, 5 breaths. To be repeated up to 10 times under 1st hour
5-adult: 1puff in the spacer, 5 breaths. To be repeated up to 20 times under the 1st hour

If a conventional spacer is not available a 250-500ml plastic bottle could be used. Make a hole in the bottom of the bottle, insert the mouthpiece there as tight as possible. Let the patient breathe through the mouth of the spacer
If response – continue with **salbutamol tabs TD 7/7** or **puffs QD 7/7** +

Betametason(Betapred) 0,5 mg tabs STAT if available;
child <10 kg; 8 tabs stat
child>10 kg-adults; 12 tabs stat

or **Prednisolone tabs 1-2 mg/kg STAT**

followed by prednisolone tabs

Prednisolone 5 mg tabs
adults OD 30 mg 5/7
children 1 mg. / kg / day 3-4/7
If no response on initial betametasone or prednisolone orally

Inj Hydrocortisone 100 mg/ml IM
child <1yr : 25mg
child 1-5 yrs: 50 mg
child>5yrs-adult: 100 mg
Refer to hospital

Persistent asthma

Beclomethasone inhaler 100 mcg/dose

Pneumonia mild to moderate

First line treatment: **Amoxycillin**

Severe pneumonia

Refer

Pre-referral antibiotic: **Ceftriaxone inj**

Tuberculosis

Suspect if prolonged cough (> 2w), chest pain, fever,night sweats, weight loss,breathlessness.
Refer to hospital for treatment (drugs are free of charge)

Bronchiolitis

RS virus, common in children <1 year
Refer if there is apathy, dyspnoea, cyanosis, rapid breathing!

Common cold

Drugs are not needed. Encourage plenty to drink for cough expectorance. If severe dry cough **cough supressant syrup** could be offered, not to children <10 kg though.
Home made saline nose drops, administer content of one pipett in each nostril as often as needed o. Give parent a plastic pipette, the ones use in lab for capillary blood sampling
1 pinch (1 ml) of salt dissolved I 1 dl of boiled water. Make fresh every day

Acute Otitis Media = AOM

Paracetamol
In breastfed children breast milk could be squirted in nostrils before nursing.
< 5 yrs: **amoxicillin**
> 5 yrs: **penicillin V or amoxicillin**

External otitis

Paracetamol
Remove debris by dry wicking
Water flushing if visualized normal tympanic membrane.

Hydrocortison ointment if severe pruritus.
If severe infectious signs, boil or furuncle - **oral Cloxacillin**
If fungal infection – **0,5% gentian violet** or **Clotrimazole**

Chronic Suppurative Otitis Media =CSOM

If no antibiotic administered recently **treat as AOM. Wicking QD until dry.** Wick should not be left between treatments. HIV test. Review weekly. Refer if no improvement in 4 weeks

Tonsillitis

When a streptococcal infection is suspected: **PcV,** in case of penicillinallergi **Erytromycin**

DIARRHEA

Acute diarrhea: at least 3 liquid stools per day for less than 2 weeks

Acute bloody diarrhea

Shigellosis:

- Spreads human to human, or by contaminated water or food
- Highly infective
- Clinic range from mild forms to severe systemic complications
- Rapid onset of abdominal pain, tenesmes
- fever, malaise, vomiting,
- frequent bloody mucoid stools

Refer if severe (septic, malnourished, dehydrated)
Usually self-limiting (2-7 days), prevent dehydration
ORS
Ciprofloxacin **>P<, =L=**
Refer if pregnant, just give ORS prereferral.
NB: 1st line treatment for bloody diarrhea when no laboratory is **Ciprofloxacin.** If no improvement in 1 week treat with **Metronidazol**

Amoebiasis:

- Spread by contaminated water, vegetables
- Affects mostly adults. Low infectivity.
- Clinic range from asymptomatic carrier state (90%) to fulminant colitis and extraintestinal amoebiasis, peripheral abscesses. Liver abscess is the most common.

Amoebic dysentery:

- gradual onset of diarrhea increasingly bloody and mucoid, rotten fish-smelling
- no or moderate fever
- abdominal pain, tenesmus

Metronidazol **=P=**divide into smaller doses, avoid prolonged use
=L= divide into smaller doses, avoid prolonged us

Only the amoebic dysentery should be treated, not cyst treatment, as in Africa reinfections occur soon.
ORS

Amoebic liver abscess:

- tender or painful hepatomegaly, mild jaundice may occur
- fever, may be intermittent
- LOA, nausea, weight loss, vomiting

Same treatment as for amoebic dysentery but 7/7. Refer if severely ill.

Acute non-bloody diarrhea

Without fever: viral, E-coli, food poisoning, giardiasis (early)
With fever: malaria, salmonellosis, sepsis, E-coli, campylobacter enteritis, cholera (children, mild).

Giardiasis:

- Spread by contaminated water. Affects mostly children. High infectivity.
- watery stools initially, later steatorrhea may occur, no fever,
- abdominal distension, flatulence, "rumbling stomach", burping, "rotten egg"- smell
- weight loss

Metronidazol **=P=, =L=**

Cholera:
Spread by infected water. High infectivity. Incubation period hours to some days. High rate of asymptomatic carriers. Often in epidemics. Sudden onset, rice-water" diarrhea, 5-20 l/day! fever(children), vomiting, malaise.

Refer urgent to hospital for treatment and they report to the local authorities after diagnosis.

Persistent diarrhea (more than 2 weeks)

Giardiasis, other intestinal protozoan infections, E-Coli, HIV, intestinal TB, malnutrition, pancreatitis, liver disease, IBD, celiac disease, lactose-intolerance, IBS

Refer when appropriate

Severe dehydration
2 or more of the followings signs

- lethargy/unconsciousness
- sunken eyes
- unable to drink or drinks poorly
- skin pinch goes back very slowly ($\geq$ 2 seconds)

Refer for IV rehydration
Start treatment with **ORS**
Consider IV fluids or nasogastric rehydration during transport if IV treatment is not available within 30 minutes. Could be lifesaving.

Inf Sodium Lactate solution= Ringer Lactate
As thick needle as possible, 0,9 mm, 18G for adults, 0,6 mm 22G for children
Bolus dose 250 ml or 20 ml/kg in children

Some dehydration
2 or more of the followings signs:

- restlessness, irritability
- sunken eyes
- drinks eagerly, thirsty
- skin pinch goes back slowly immediately

Rehydration with **ORS**. Give after every loose stool. Continue breast feeding if child is breastfed
Zinc tabs: to reduce duration and severity of diarrhea

GENITO-URINARY DISEASES AND SEXUALLY TRANSMITTED INFECTIONS

Urethral or cervical discharge

Treat for gonorrhea and Chlamydia if no other genital condition is present. Ask patient to bring the partner next week.

1st line treatment:

Men and women and pregnant women

Azithromycin Tabs 250 mgPO 1g stat or

=P=, =L=

Doxycycline Tabs 100 mg 1 BD 7/7 is an alternative in men and non-pregnant women **>P<, =L=**

or

Erythromycin Tabs 250mg 2 QD or 4 BD 7/7 is an alternative in pregnant woman **=P=, =L=**

+ Counselling. Health education and contact tracing if possible

+ Recommend HIV testing

Review 7 days. If discharge still present refer for investigation.

Vaginal discharge

Trichomonas vaginalis:

Metronidazole PO 400mg BD 7/7 **>P< 1st trim. =L=** divide into smaller doses

Can be diagnosed by microscopy at the jeeplines where this is available. Clinically it is impossible to distinguish trichomonas and gonorrhea, so give both **Metronidazol** and **Azitromycin PO 1 g stat**

Follow up in 7 days. Ask patient to bring partner. Recommend HIV testing

Candida albicans:

Clotrimazole pessaries or Flukonasol 150 mg stat, Partner treatment if symptomatic: **Clotrimazole cream**

Bacterial vaginosis (gardnerella vaginalis):

Metronidazole Tabs 400mg BD 7/7 **>P< 1st**trim**=L=** divide into smaller doses

Pelvic inflammatory disease in female = PID

Lower abdominal pain, fever, vaginal discharge, dysuria, cervical motion tenderness. Usually due to gonorrhoea or chlamydia.

Refer if rebound tenderness, delayed last menstrual period or pregnant.

Azitromycin PO 1 g stat **=P=, =L=**

+Metronidazol Tabs 400mg BD 7/7 **>P<**1st trim.**=L=** divide into smaller doses

Recommend HIV testing. Follow up in 7 days

Genital ulcers

Genital herpes:

Incubation period 6-7 days. Multiple painful blisters on and around genitals. Recommend HIV testing

Local treatment : clean with soap and water

0,5% gentian violet stat If secondary infection

Aciclovir Tabs **=P=, =L=**
If severe and if treatment can start within 72 hours after onset of symptoms.
Paracetamol

Review 1 w, consider another **GV** single treatment

Syphilis:
Incubation period~21 days

Primary: Painless ulcer, genital, in mouth, in anus. Firm edge. Enlarged painless firm lymph nodes in groins

Inj Benzathine benzylpenicilline 2.4 mU IM stat (half dose in each anterior thigh) **=P=, =L=**
Or Doxycyclin Tabs100mg BD 14/30 or Erythromycin Tabs 250mg 2 QD 14/30 if Pc allergic.

Secondary: 4-12 weeks after primary leision. Fever, malaise, symmetrical maculo-papular rash without itching, also on palms and soles. Can in perineum develop into flat pale warts. Enlarged lymph nodes.

Tertiary: Gummata, cardiovascular disease, CNS disease.

Refer to VCT clinic for counselling and testing (drugs are free)

Chancroid (soft chancre)

Starts as a papule, then pustulates and becomes a painful genital ulcer. Painful enlarged lymph node in groin. Test for HIV. Syphilis and chancroid cannot be surely distinguished on clinical grounds. Treat for both if either is suspected !

- **Azithromycin Tabs 250 mg , 4 STAT** **=P= ,=L=**
  or **Erythromycin Tabs 250mgg 2 QD or 4 BD , 7/7** **=P=,=L=**
- +**Inj Benzathine benzylpenicilline 2.4 mU IM stat**, half dose in eack buttock **=P=,=L=**

If abscess aspirate with needle. Avoid incision! Review 1 week. Bring partner. .Counselling and health education.

Lymphogranuloma venerum (LGV)
Caused by a different serotype of chlamydia trachomatis than classical genital chlamydia. Often coinfection with HIV
Primary : Painless vesicule, lasts a few days
Secondary : Developing of bubo, a mass of enlarged lymph nodes in one groin both above and below the inguinal ligament making a grove « string sign »
Refer if severe
Doxycycline Tabs 100 mg BD 14/7 **>P<** 2nd and 3rd trimester, **L**avoid if possible
Or **Erythromycin Tabs 250mg 2 QD 14/7** **=P=,=L=**

Fluctuant lymphnodes may be aspirated if healthy skin. Do not incice! Review 1 week.

Venerial warts- HPV-Condyloma:
Refer. Indication for screening for precancerous leision of cervix. Surgery when big.

HIV-AIDS

Human Immunodeficiency Virus, moistly HIV-1, deteriorates the immune system by causing a deficit in CD4 T-lymphocytes. Acquired Immune Deficiency Syndrome is the most serious form of HIV infection

Clinical phases

1. Primary infection or acute retroviral illness; a viral syndrome with fever, malaise and lymphadenopathy in 50-70 % of infected 2-5 weeks post infection. Last from 3-21 days
2. Asymptomatic HIV infection: clinical but not viral latency; up to 10 yrs. Persistent generalized lymphadenopathy is common
3. Symtomatic HIV infection; progressive destruction of the immune system. Initially mild infectious symptoms; skin rashes, recurrent RTIs.
4. AIDS: severe opportunistic infections in multiple organs and neoplasms

Symptoms:
Loss of weight, malaise, lymphadenopathy, night sweats, chronic diarrhea, persistent cough, persistent fever. Itchiness, seborrhoic eczema, papular purity rash.

Opportunistic infections
Severe bacterial infections. Pneumocystis pneumonia, TB lung (lungs, bones), encephalitis, pyomyositis. Oral, esophageal and genital thrush. Herpes simplex and zoster, often extensive. Severe scabies.

Neoplasms
Kaposis sarcoma can occur in all parts of the body. In skin purple-black papules and plaques. Feels as hard as wood. Very common in mouth. Lymphoma. Cervical carcinomas.

Management in jeep line clinic

Many patients won´t present themselves as being HIV positive though they know. Denial is common. One can ask if they are "on the program" or "know their status", or if they "have been tested", or if they take any drugs regularly.VCT is voluntary counseling and testing.

Always first counseling and then testing by counselor if suspicion of HIV infection**.** Write PICT in patients booklet.

If reactive on test and opportunistic infection or malaria give standard treatment according to condition.

Prophylaxis:
Co-Trimoxazole Tabs 400/80 mg 1 OD 7/7, until patient gets to CCC (Comprehensive Care Center) or TSC(Treatment Support Center) or PSC(Patient Support Center)
Multivitamins 1 TD 7/7

Refer To CCC, TSC , or PSC for further assessment, confirmation tests and treatment.
A special referral form is used.

URINARY TRACT INFECTIONS=UTI

Pyelonefritis (upper UTI):

Fever, lumbar pain, nausea, dysuria, stranguria, pollakisuria.
If no signs of severe illness
Ciprofloxacin Tabs 500 mg **>P<, =L=**
Or **Co-Trimoxazole Tabs** (< 18 years) **>P<**last month **=L=** avoid if premature

Refer if septic
Prereferral antibiotic
Ceftriaxone inj IM stat Child > 3m to adult **100mg/kg to max 4 g** in2 injection sites

Cystitis (lower UTI)

If mild symptoms await treatment. If haematuria indication for treatment
Nitrofurantoin Tabs **=P=, =L=**

Acute prostatitis

Signs of cystitis, fever and perineal pain and very tender prostate
Ciprofloxacin to be continued up to 3-4weeks or **Doxycycline**
Rewiew weekly

SKIN DISORDERS

Eczemas

Atopic eczema

Common. Often more severe than in Europe. Lichenifation and popular form is common.
Ointments on dry, lichenified leisions

Hydrocortisone ointment 1% BD 7/7. Often longer treatment needed.
Betamethasone ointment 0,1% OD 7/7 in severe or refractive cases. Do not use in face
Chlorpheniramine (Piriton) when itchy. Not to children< 8 kg
Calamine lotion BD when oozing
Emulsifying cream or coconut oil while child is still wet. (Not vaseline)
Gentian Violetstat or **OD 5/7** under topical steroid
Cloxacillin Caps in case of severe infection. Review 1 week if severe

Pityriasis alba

Infants, children and adolescents. Multiple hypopigmented, vaguely bordered patches, on face, trunk and extremities. No treatment. Can persist for years.

Seborrhoic eczema

On scalp, face, behind ears, in axilla,chest and perianal area**.** Often becomes very severe in HIV-patients
Creams on wet leisons
Clotrimazole cream BD 7/7
Hydrocortisone 1% cream BD 7/7.
Severe cases: **Fluconazole150mg OD 7/7**
If secondary infection **Cloxacillin 7/7**or **gentian violet 0.5%** paint daily until lesions are dry

Fungal infections

Athletes´s foot

Itchy, macerated whitish scaling lesions in the interdigital spaces of the foot.
Clotrimazole cream BD or Whitfield´s ointment BD 2-4 weeks

Pityriasis versicolor

Scaling hypopigmented macules on the neck and upper trunk. Do not use Vaseline or oil on affected skin.
Clotrimazole cream BD or **Whitfield´s ointment BD 2-4 weeks**

Tinea corporis

Round, scaling at the periphery or in concentric rings. Often severe in HIV.

- Clean with soap and water 2 times/day, dry well.
- For wet lesions (in skin folds) apply **gentian violet 0.5%** paint daily until lesions are dry
- Then apply **Whitfield´s ointment BD**3-4 weeks,or **clotrimazole cream BD** 2-4 weeks until 1 week after lesions have healed, if not very extensive lesions:

Severe tinea corporis adults **Griseofulvin tab 500 mg OD** 4 weeks
children **Griseofulvin tab 250mg, 15 mg/kg, OD** 4 weeks
Should be administered with food. Avoid alcohol during treatment (antabuse effect). Review every week

Tinea capitis
Often gets better spontaneously at puberty. In severe cases, *kerion;* pustules and nodules, purulent secretion, enlarged lymph nodes in neck, fever and headache and *favus*; circular, small cup-shaped crusts grouped in patches with a hair projecting in the center. Should be treated both topically an orally.

- Shave the hair, clean with soap and water 2 times /day, dry well.
- For painful kerion **Paracetamol**
- Treat secondary infection before topical treatment. **Cloxacillin or Erythromycin 7/7**.
- Apply Whitfield´s ointment BD for 2-6 w
- **Griseofulvin 500 mg OD** adults, **15 mg/kg OD children**
- Treat 4-6 weeks, review weekly.

Candidiasis
Severe candidiasis is seen often in HIV infection. Test for HIV!
GV 0,5% paint OD-BD3-5/7 Paint mucosal or smaller wet lesions with until healed.
Clotrimazole cream BD 7/7.
Nystatin oral suspension 1 ml QD 7/7, for oral thrush. Longer treatment might be needed.
Fluconazole 100mg OD 7-14/7 if suspected oesophageal thrush.

Mycetoma
A chronic localized infection, caused by various fungi and bacteria. Most common on feet (Madura foot).
Painless nodules with fistulas, abscesses and ulcers. Can spread to underlying bones and joints.
Refer for surgical therapy.

Bacterial infections

Impetigo
Dress with povidone-iodine (Betadine) solution.
GV-paint 0,5% OD- BD 3-5/7 can be used
Cloxacillin or erythromycin 7/7 if allergic to PcV , if systemic antibiotics are needed.

Tropical ulcer:

- Common in children and teens. Often found a variety of bacteria.
- Initially small discolored patch, usually on the lower leg.
- Develops rapidly into a pustule >1cm and ruptures into an ulcer.
- Round/oval in shape, sloughy wound bed, clearly defined edge, not undermined.
- Maximum size at 6 weeks.
- If the ulcer does not heal and moves into a chronic phase it stops being painful.

Daily cleaning with water clean enough for drinking, dry 10 min in sunshine.
If clean and little discharge; dressed with a clean non-adherent dressing, **10% povidone-iodine + Vaseline.**
If oozing: dress with 10 % povidone-iodine alone.
If dirty with little discharge: dress with **silver sulfadiazine**
Paracetamol in acute stages and at dressing changes.
Cloxacillin or erythromycin 7/7 if secondary infected or very extensive.

Phagedenic ulcers
Antibiotics may be useful in the early stages.
Benzathine penicillin initially or erythromycin if allergic to PcV or doxycykline or metronidazol for 7/7.

Review weekly.
If the selected antibiotic is effective continue treatment as long as needed. Benzathine Pc acts 15-20 days.
See attachment A

Yaws
Caused by Treponema pertenue. Mainly affects children below 15 years.
***Primary lesion (mother yaws*)**; a wet, easily bleeding raspberry- like papule or nodule, which disappears after a few weeks leaving an atrophic scar. Itchy, painless. 95% on lower limb
Secondary lesions (daughter yaws): appear weeks to years after primary lesion as generalized nodules and ulcerations.
***Late yaws*:** appears a few years after non-treated primary or secondary yaws. Is characterized by disfiguremet of the nose, bones, joints and palmar/plantar hyperkeratosis.

1st line treatment: **Azithromycin 30 mg/kg** to max 2g.
2nd line treatment: **Benzathine penicillin** when azithromycin is unavailable
Children < 6y **Inj Benzathine penicillin 0,6 MIU IM**, may be repeated after 2 weeks.
>6 y +adults **Inj Benzathine penicillin 1,2 MIU IM**

Penicillin-allergy: **Erythromycin 500 mg QD 14/7** (50 mg/kg/day in children).
Or **Doxycycline 100 mg OD 14/7** children >8 y, adults **2 OD 14/7.>P<, >L<**

Buruli ulcer
Caused by Mycobacterium ulcerans.

- Often in children.
- Starts as a painless nodule. Rapid progress in weeks without pain or fever**.**
- Can present as a large area of induration or a diffuse swelling of the legs and arms
- Usually progresses with no pain and fever.
- Without treatment, massive ulcers with undermined borders results.
- Sometimes, bone is affected causing gross deformities.

Refer to local hospital for surgery.

Parasitic infestations

Scabies
Superinfection is common. If present start treatment 2 d before topical scabicidial treatment.
BBE lotion 25% OD 2/7 over the entire body but not on sored skin or on mucous membranes

AGE	DOSAGE.
> 12 y	undiluted contact time 24h
2-12 y	diluted 1:1 in water, contact time 24h
6 m -2y	diluted 1:3 contact time 12 h
< 6 m	diluted 1:3 contact time 6 h

The 2nd application should be done after 24 hours with a rinse between the applications.

No 2nd application in pregnant and children <2 y.
Close contacts of the patient should be treated simultaneously even in abscense of symptoms.
Clothing and bedding should be changed washed and exposed to sunlight 72 hours or sealed I a plastic bag for 72 hours after each treatment.

Chlorpheniramine 4mg tabs or **Syrup 2mg/5ml** **=P=, >L<**

The itching often persist up to 3 weeks after successful treatment. If itching still is present after that or if new burrows or pimple-like rash lesions continue to appear, retreatment may be necessary.
Hydrocortison cream BD can be used to ease the itching

Severe scabies / crusted scabies / Norwegian scabies
Soften crusts with **Whitfield ointmentBD 7/7.**Remove crusts before applying topical scabicide
BBE lotion and **Chlorpheniramine** as above
Ivermectin 200 mcg/kg, single dosetwice, day 1 and day 7, **>P<,=L=**
In crusted scabies. Not to pregnant women or children < 15 kg

Weight	15-24kg	25-35kg	36-50kg	51-65kg
Single dose Ivermectin 3mg tabs	1 tab	2 tabs	3 tabs	4 tabs
6mg tabs	½ tab	1 tab	1½ tab	2 tabs

Review once a week at least up to 3 weeks after first treatment. Itching may persist up to 3 weeks
Health education. Decontamination of environment, clothing, bedding, exfoliated skin scales.
Consider repeating treatment.

Jiggers:
Infestation of the skin by a female sand flea, Tunga penetrans. The female needs blood to feed developing eggs and burrows into human or animal skin. Papules containing sand fleas are most commonly found on feet, especially under the toes or toenails. Infestation can cause disfiguring sore and extreme deformation of feet and fingers. The sores are excruciatingly painful. Severe cases should be seen by the doctor. Secondary infection is common. Affected children are often very deprived and lethargic why malaria also should be considered.

Management:
According to ”JIGGER MANAGEMENT IN JEEP LINE CLINIC SET UP”. See attachment B

VIRAL INFECTIONS

Herpes Zoster

Is an early indicator of HIV. Test for HIV if not known positive.

Ibumetin 400 mg TD 7/7 **>P<,>L<**

Calamine lotion for itch and drying in.

Aciclovir 800 mg 5 times daily 7/7. **=P=,=L=**

When eye involvement refer to eye-clinic.

Herpes simplex – lips and genitals

More severe and might be chronic in HIV patients. Treat when extensive.

Oral and skin: **Aciclovir 200 mg 5 times daily 7/7**

Genital: **Aciclovir 400mg 5 times daily 7/7**

Measles

Incubation 10-12d.

Prodromal phase: 2-4 d: High fever, conjunctivitis, dry cough, running nose, Kopliks spots.

Eruptive phase, 5-6 d: non-pruritic erythematous maculopapules, begins on forehead, spreads downwards.

Skin desquamation,1-2 w, pronounced in pigmented skin.

Complications:

Respiratory; Pneumonia, otitis, croup

Gastrointestinal; Stomatitis diarrhea, dehydration

Ophtalmic; Purulent conjunctivitis, keratitis, xerophtalmia

Acute malnutrition

Neurological: Febrile seizures, encephalitis

Refer if

- Inability to eat, drink, suck or vomiting
- Seizures or altered consciousness
- Severe respiratory infection or croup
- Diarrhea with dehydration
- Acute malnutrition
- Corneal damage

Management:

Ensure adequate hydration, nutrition. Health education to caretaker about complications

Paracetamol

Amoxycillin for prevention of RTI and ENT-infections in malnourished children and always to children < 5 y

If pneumonia or ENT, **Amoxycillin**

Vitamin A = Retinol

If purulent discharge in eyes, clean eyes BD with clean water then apply

Tetracycline eye ointment BD 7/7.

GV 0,5% BD 7/7on mouth ulcers

BACTERIAL INFECTIONS

Typhoid fever =enteric fever

Systemic infection caused by Salmonella Typhi. High infectivity. Transmitted via ingestion of contaminated water or food or direct hand contact. More common during dry seasons. Most common in children and young adults. Deadly complications in 10%. Early treatment is essential.

Clinical features:

- 1st week; Rising remitting fever, usually without chills, headache, malaise, abdominal discomfort, constipation, sometimes diarrhea, epistaxis.
- 2nd week; Toxic, apathetic, sustained high fever, relative bradycardia (normal PR despite high fever), Rose spots on trunk (bacterial embolies,2-4mm pink papules that blanches on pressure) Increasing risk of complications
- 3rd week; Increasing toxicity, delirious patient. Persistent high fever. Feeble pulse. "pea soup" diarrhea. Risk of complications
- 4th week; if survived, gradually improving. Still risk for complications.

Complications

Intestinal perforation or hemorrhage, peritonitis, myocarditis, encephalitis.

Diagnose; Clinical in early stages. Rule out malaria. Culture of bone marrow blood or stools.

Management:

Ciprofloxaxin Tabs 250 mg 2 BD 7/7 adult

>P<,=L=

Refer if child.

Fever persist 4-5 d after onset of treatment even if antibiotic is effective.

Refer if pregnant or septic. Give pre-referral if septic

Inj Ceftriaxone IM 100mg/kg as a single dos, max 4g half-dose in each anterior thigh

If not referred, review 1 week

Meningitis

Refer urgently.

Give prereferral:

Inj Ceftriaxone IM 100mg/kg as a single dos, max 4g half-dose in each anterior thigh+

Betapred tablets **=P=, =L=**

Severe septicemia or septic shock

Clinical features:

- Fever > °38C, or hypothermia < 36°C
- Rapid onset of symptoms;
- Hypotension.
- Rapid pulse, often only detectable on major arteries
- Oliguria
- Confusion
- Cold extremities, sweating, thirsty
- Respiratory distress

Management: Prereferral **Inj Ceftriaxone IM 100mg/kg to max 4 g+ IV fluid, Inf. Sodium Lactate Compound = Ringer Lactate**
As thick needle as possible. Bolus dose 250 ml or 20 ml/kg in children

Pyomyositis

- Pyogenic infection of muscle, mostly of limb and torso, mostly caused by Staphylococcus aureus. Mostly affects young adults.
- Painful, red, swollen very firm. First stage may last for months, may show little systemic illness.
- Develops to a deep intramuscular abscess. In this stage surgical drainage is the only effective treatment
- More often seen in HIV

In early stage and if patient is generally unaffected,medical treatment can be effective: **Cloxacillin** + **Paracetamol**

If no improvement in 48 hours to hospital for surgical drainage. Review 1 week. Need for drainage?
Treatment might be needed ≥ 3 weeks

Mouth infections

Ulcers, peridontitis, gingivitis. Sometimes as complications to measles. Can deteriorate especially in malnourished children, HIV-patients and rapidly become necrotic and cause extensive destruction of tissues of the mouth and face =Noma

Penicillin V or **amoxicillin** and **metronidazol**

Refer severe cases.
Consider adjuvant treatment: **Multivitamins, Vit A, Folic acid**

WORMS

Spread by contaminated ground and vegetables. Worm infections can be prevented by using latrines and wearing shoes. Diagnosis is based on clinical signs on jeepline clinics. Kenya has a national deworming program for children 5-14 years. Children should be dewormed at least 2 times a year. Ask parents when the child was last dewormed.

Roundworms, Ascaris

15-30 cm. Recurrent abdominal pains, worms seen in stools or vomit, distended belly.
Complications: Oedema, ileus, pneumonia, peritonitis

Adult + children> 1 yr (10 kg): **Mebendazol 500 mg** stat — **>P<**1st trim**, =L=**
or **Albendazol 400 mg** stat — **>P<**1st trim**, =L=**
Child > 6 m but < 10 kg **Albendazol 200 mg** stat

Hookworms, Ankylostoma

1 cm. Larvae penetrates through skin, often feet, hands. Itchy rash at the site of penetration. Mild cough when worms enter the lungs. Adult worms attach in the intestinal mucosa causing chronic blood loss and anemia

Adult + children > 1 yr (10 kg): **Mebendazol 500 mg** stat — **>P<**1st trim**, =L=**
or **Albendazol 400 mg** stat — **>P<**1st trim**, =L=**
Child > 6 m but < 10 kg **Albendazol 200 mg** stat
+ **Ferrous sulphate** or **Ferrovitamin syrup 14/7**

Threadworms, Pinworms, Enterobiasis, Oxyuris

I cm. Anal pruritus. Worms can often be seen around anus, and on stools

Adult + children > 1 yr (10 kg): **Mebendazol 500 mg** stat — **>P<**1st trim**, =L=**
or **Albendazol 400 mg** stat — **>P<**1st trim**, =L=**
Child > 6 m but < 10 kg **Albendazol 200 mg** stat

Whipworms, Trichuriasis

3-4 cm, colonizes colon. Distended belly, abdominal pains, tenesmes, bloody stools. Rectal prolapse can occur and worms can be seen in the mucosa. Stat treatment often unsufficient

Adult + children >1 yr(10 kg) : **Mebendazol 100 mg BD 3/7** — **>P<**1st trim**, =L=**
or **Albendazol 400 mg OD 3/7** — **>P<**1st trim**, =L=**
Children > 6 m but < 10 kg **Albendazol 200 mg OD 3/7**

Tapeworms, Taeniasis

Acquired from eating raw or undercooked meat. Often asymptomatic or vague abdominal discomforts. Segments can be seen in stools.
Adults and children >2yrs: **Praziquantel 10 mg/kg stat**

Bilharzia, Schistosomiasis

Humans are infected while wading and swimming in fresh water contaminated by schistosoma larvae. The larvae develops in an intermediate host, a freshwater snail.

Clinical features:

- "Swimmer itch", papular puritic rash (rare in people living in endemic areas).
- Bloody urine, often dysuria and and pollakisuria. Have in mind in young persons with urinary symptoms also when not reporting blood in urine.
- Benign and selflimiting disease mostly. Most parasites die within a few years.
- Few develop complications: renal failure, colitis, bladder carcinoma.

Adults and children >2yrs: **Praziquantel 40 mg/kg stat. To be bought in the local pharmacy.**

CARDIOVASCULAR DISORDERS

Hypertension

Refer immediately if malignant, >220/120-130
Start treatment if severe, >180/110, but still refer for further investigations.

Nifedipine Retard Tabs 20 mg 1-2 OD 7/7 Tabls not to be divided **>1st trimP=avoid in L**
or Hydrochlorthiazide Tabs 50 mg ½-1 OD 7/7 **>P<, >L<**
or **Atenolol Tabs 50mg 1-2 OD (if pulse rate over 90) 7/7** **=P=, >L<**

In pregnancy: refer if ≥140/90, urgent if symptoms or proteinuria

Heart Failure

Cardiomyopathy is a common cause.
Refer
Pre-referral treatment in acute stage: **Inj Frusemide 40 mg IV**

Rheumatic Heart Disease/ Rheumatic Fever

Highest prevalence in children 5-14years. Related to group A Streptococci. In 5-6% of GAS pharyngitis.
Acute phase begins ~2-3 weeks after GAS infection.

Arthritis: in 80% of cases, large joints, often migratory(flitting) over a period of days.
No sequeles
Carditis: in 40-50%. Mild if only endocarditis, severe if myo- and pericarditis.
Signs: persistant takycardia, heart murmurs, pericardial rub
In first episode usually without symptoms or mild fatigue and dyspnoea and limited sequelae.
Each subsequent episode can cause increasing heart damage, most commonly to the mitral valve.
Chorea: in 10%. Emotional lability, involuntary movements in face, limbs, hands
Erytema marginatum: on trunk and upper arms and legs, disc shaped, spread outwards, elevated edges, no itch, can come and go for several months.
Erythema nodosum; subcutaneous, firm, round 0,5-2cm, painless. Usually found when severe carditis is present.

Refer for further investigation and management

Primary prevention (of RF) in children when suspected GAS pharyngitis is **PcV.**

ANEMIA

Frequent. 10-20% have Hb <100 g/l

Normal HB:

Newborn-2w	2w-6m	6m-6yrs	6y-12yrs	Men	Woman	pregnant
130-200 g/l	>95 g/l	>110 g/l	>115g/l	> 130g/l	>120 g/l	> 110 g/l

Severity of anemia:

Mild	80-100 g/l
Moderate	60-80 g/l
Severe	40-60 g/l
Very severe	<40 g/l

Clinical features

Pallor of conjunctives, mucous membranes, palms, soles, nail beds. Tachycardia, systolic flow murmur, oedema of lower limbs, dyspnoea, fatigue.

Life threatening: Sweating, thirst, cold extremities, heart failure and respiratory distress.

Specific signs: angular stomatitis, glossitis, jaundice, signs of malaria, signs of chronic diseases.

Refer if anemia is accompanied by pneumonia, heart failure, confusion or oedema

Iron deficiency anemia

Treatment:

Ferrous sulphate 200 mg tabs or Ferrovit syrup 100 mg Fe+1½ mg B1+ 1 mg B2+ 2mg B6+ 5 mg B3=niacin/ 5ml

Refer children < 6-8 kg (less than 6-8 mts) if anemic

Do not give iron: -If sickle cell anemia.
-Together with antibiotic. Start after antibiotic treatment has been finished.
-In severe malnutrition in feeding program first 2 weeks

Folic acid tab

If not dewormed in previous 3 months

Albendazol (chewable **or Mebendazol** **>P< 1st trim, =L=**

>P< 1st trim, =L=

Not to children < 6 mts

Review 2 week for more iron.

Sickle cell anemia

- Chronic hemolytic
- Prevalence Nyanza 5-12%, Western Province and Costal province 3-5%, Rift valley 2%
- Homozygotes sickled red blood cells are fragile and have a lifetime of 10-20 days.

Clinical features: onsets at ~ 6 months

- Periods of good health alternate with acute crisis in young patients
- Pains in bones, chest, abdomen, joints, back, head due to blocked blood flow in tiny vessels. Last hours to weeks
- Anemia: fatigue, jaundice
- Impaired growth and development
- Increased susceptibility to infections, malaria, bacteriaemia
- Hepatosplenomegaly
- Swollen hands and feet in babies due to blocked blood outflow
- Vision problems due to plugged retinal vessels
- Aplastic crisis; Hyperhaemolytic, impaired renal function, avascular necrosis of femoral head

Have in thought when

- unexplained episodes of severe pain
- tender abdominal swelling
- digits of varying lengths, results of occlusive necrosis of small bones
- priapism
- stroke signs

especially when combined with fever and signs of anemia

Refer for testing. Important to get diagnose early, adequate medical management, health education and knowledge about the illness, and folic acid supplement.

EYE DISEASES

Acute bacterial conjunctivitis

Tetracycline eye ointment QD 5/7or
Chloramphenicol eye drops 0,5% 5/72gtts 6-8 times daily
Amoxycillin Caps 7/7 if swollen eye, fever

Trachoma

Contagious chronic keratoconjunctivitis caused by Chlamydia Trachomatis
Is usually contracted early in childhood, and is due to poor hygiene.

Early stage: I+II Follicles under upper eyelid, later gets rough, red and thickened
Later stages: III Scarred tarsal conjunctive, white lines.
IV Ingrowing eyelashes causing corneal ulcers. Trichiasis, entropion
V Corneal opacity

Treatment
Stage I+II: Cleaning eyes and face several times per day
Azithromycin PO stat. Child >6m or >6kg: 20 mg/kg
Adult or > 45kg: 1gm
Erythromycin syr 125mg/5 ml, **20mg/kg BD 14/7** child <6kg or< 6m
or **Tetracycline eye ointment BD 6/52.** Compliance difficulties!
Review 1 week.
Stage III; No treatment.
Stage IV Refer for surgery. Tape eyelashes while waiting.
Stage V No treatment possible

Corneal ulcer

Tetracycline eye ointment TD 5/7
Review 1 w, refer if no improvement. Refer immediately if ulcer has perforated, suspect herpeskeratis or fungal infection.

Xerophtalmia

Corneal ulceration from malnutrition affects young children only. The main cause is Vitamin A deficiency. PEM, intestinal parasites, measles and malaria can precipitate acute xeropthalmia.
Clinical features as progressing:

- Night blindness, impaired vision in dim light
- Conjunctival xerosis small patches on the dry, pigmented conjunctiva)
- Bitot´s spot (a small pigmented plaque on the surface of bulbar conjunctiva)
- Corneal xerosis, onset of visual inpair. Most common in children 2-4 y
- corneal ulcerations: often worse in measles
- keratomalacia: especially when measles in PEM
- Corneal scaring.

Management: massive doses of Vitamin A are necessary for

- all children with active corneal ulceration
- all children with measles
- all children with any signs of xerophtahalmia
- all severely ill malnourished children

Vitamin A = Retinol treatment

<6 m	50 000 IU OD 3 times;	day1, day2 and day8
6-12m	100 000 IU OD 3 times;	D1, D2 and D8 or D15
>1y-adult	200 000 IU OD 3 times;	D1, D2, and D8 or D1

Tetracycline eye ointment BD 7/7

Review 1 week

Allergic conjunctivitis

Piriton Tabs or Syr)

This is becoming a problem in Kenya too nowadays. You can use antihistamine, Cetrizine or Piriton in case of general symptoms.

Sodium Chromoglycate eye drops 20 mg/ml 1-2 drops BD- QD can be bought but is expensive, >175 KES for 10 ml.

NEUROLOGIC AND PSYCHIATRIC DISORDERS

Epilepsy

I.e recurrent seizures should be referred to hospital clinic. Treatment is free in national health facilities.
Carbamazepin could be given for 1 week if out of maintenance treatment.

Convulsiones

DiazepamIV ampoules2ml 5mg/ml Dilute 2 ml in 8 ml of 0,9% sodium chloride
For rectal administration use syringe without a needle. Insert it 2-3 cm

Children: **0,5 mg diazepam/kg rectally**, not exceeding 10 mg.
Adults: **Diazepam 10 mg rectally or IV injection, slowly 3-4 min**

If seizure do not stop within 5 min from first dose, repeat once

Agitation

If severe and medical causes can be excluded or if signs of psychosis is prevalent
Inj Diazepam IM 10 mg, to be repeated in 30-60 minutes if necessary.

PAIN TREATMENT

Always prescribe PCM when treating malaria!!

Paracetamol Susp 120mg/5 ml tabs 500 mg **=P=, =L=**

Children > 5kg and >3 mts **50- 60 mg/kg/d** in 3-4 doses.
Risk of liver damage at doses > 90mg/kg/d. Increased risk if malnutrition and/or dehydration

Fever without pains	10-15mg/kg/dose, max QD
At very high fever	30 mg/kg STAT if needed 15 mg/kg after 4 h
At severe pain	30-40 mg/kg STAT, 75-90mg/kg/d, max 2-3 d

5-10 kg	2,5 ml TD 3/7
10-15 kg	5 ml TD 3/7
15-25 kg	½ tab TD 3/7
25-40 kg	1 tab TD 3/7
40-60 kg	1-2tabs TD 3/7
> 60 kg	2 tabs TD 3/7

Tabs Ibuprofen 200 mg > 40 kg 1-2 TD 3-5/7 **>P<, =L=**
20-40kg TD 3-5/7

Severe pains in acute osteoarthiritis, RA, spondylitis. **Meloxicam 7,5 mg OD 7/7** **>P<, >L<**

Neuropathic pain

Neuralgia zoster

Carbamazepine **Tabs 200 mg**; initial dose 1 OD at night, 7/7 **>P<,=L=**

Amitriptyline **Tab 25 mg** 1 OD, at night, 7/7 **>P<,>L<**

DRUG DOSAGE LIST

Antimalarials

Artemeter-Lumefantrine **=P=** may also be used in 1st trim **=L=**
Uncomlicated malaria
Tabs 20/120 mg,

WEIGHT	DOSAGE
5-14 kg	1 stat then repeat after 8hrs then 1bd 2/7
15-24 kg	2 stat repeat after 8hrs then 2bd 2/7
25-34kgs	3 stat repeat 8hrs the 3bd for 2/7
≥ 34k	4 stat repeat after 8hrs then 4bd for 2/7

Artesunate inj IM **=P=, =L=**
1st line prereferral treatment in severe malaria
60 mg/ml vial: 2,4 mg/kg stat,administered in anterior thigh

Fansidar= Sulphadoxine-Pyrimetamin, 500mg/25mg **=P=,=L=**
Intermittent preventive treatment of malaria in pregnancy= IPTp

- 3 tabs stat at each scheduled visit after quickening. To be given at clinic
- A minimum of 2 doses during pregnancy, at intervals of at least of 4 weeks
- Not to be given together with folic acid

Quinine tablets **=P=, =L=**
Uncomplicated malaria in pregnant 1st trim, but AL is preferred
Risk of poor compliance because of longer treatment course and more side effects

Tabs 300 mg

36-47 kg;	1½ TD 7/7
≥ 48 kg;	2 TD 7/7

Inj Quinine IM ampoules 600mg/2ml **=P=, =L**
2nd line choice after inj Artesunate.
Loading dose 20mg/ml
Dilute before use to **50mg/ml for children** (1ml quinine + 5 ml sterile water) to **100 mg/ml for adults**(1ml quinine + 2 ml sterile water)
A maximum of 3 ml should be injected into one site. Anterior thigh is preferable injection site
Risk of quinine related hypoglycemia in pregnant

Weight	mg	Volume of diluted quinine	No of injection sites
>60 kg	1200mg	12ml	4
55-60 kg	1100mg	11ml	4
50-55 kg	1000mg	10ml	4
45-50 kg	900mg	9ml	3
40-45 kg	800mg	8ml	3
35-40 kg	700mg	7ml	3
32,5-35 kg	650mg	7,0ml	3
30-32,5 kg	600mg	6,5ml	3
27,5-30 kg	550mg	6,0ml	2
25-27,5 kg	500mg	5,5ml	2
22,5-25 kg	450mg	5,0ml	2
20-22,5 kg	400mg	4,5ml	2
17,5-20 kg	350mg	4,0ml	2
15-17,5 kg	300mg	3,5ml	2
12,5-15 kg	250mg	3,0ml	1
10-12,5 kg	200mg	2,5ml	1
7,5-10 kg	150mg	2,0ml	1
5,7-5 kg	100mg	1,5ml	1
< 5 kg	50mg	1,0ml	1

Antibiotics

Amoxicillin Caps 250 mg, susp 125mg/5ml **=P=, =L=**

RTI 7/7, otitis 5/7, UTI ;5/7, H. Pylori 7/7

< 5 kg	2,5 ml
5-10 kg	5 ml TD
10 - 30 kg	10 ml TD or 1 caps TD
> 30 kg	2 caps TD

Increase dose if severe infection

Azitromycin tabs 250 mg **=P=, =L=**

STI:	4 tabs STAT	
Yaws, trachoma	Child >6m or >6kg:	20mg/kg STAT
	Adult or > 45kg:	1g(4tabs) STAT

Benzathine benzylpenicillin inj **=P=, =L=**

Prolonged action, 15-20 days

Tonsillitis, Yaws, dose may be repeated after 2 w. IM stat

<6yr	600 000 IU (0,6MIU
>6yr	1200 000 IU (1,2MIU)

Syphilis, chancroid together with other broad spec antibiotic (Az, Cip, Ceft, Ery)

IM 2.4 mU stat

Ceftriaxone inj **=P=, =L=**

Vial 250 mg and 1 gm to be dissolved in water for injection, half dose in each anterior thigh.
Prereferral when severe malaria in pregnant and when suspected cerebral malaria in any: 2 g IM STAT
In severe infections, septicemia, meningitis, pneumonia, pyelonephritis, meningitis

Child 1-3mth 50-75 mg/kg IM STAT
Child <3mts-12y 100 mg/kg IM to max 4g STAT
Adult 4 g IM(STI), (PID): 250 mg IM STAT(chanchroid) 250 mg IM STAT

Ciprofloxacin **>P<, =L=**

Caps 250 mg
Shigellosis 3/7, typhoid 7/7, STI and PID stat in comb with Doxycycline, upper uncomplicated UTI 7/7, prostatitis 7/7 to be continued in 3-4 weeks
Adult: 2 BD
Child 15 mg/kg BD

Cloxacillin **=P=, =L=**

Susp 125mg /5ml, Caps 250mg
Skin infections 7/7, pyomyositis 10-14/7, staphylococcal pneumonia 10/7, osteitis

< 5 kg	2,5 ml TD
5 - 7,5 kg	4 ml TD
7,5- 10 kg	5 ml TD
10 - 15 kg	7,5 ml TD
15 - 20 kg	10 ml TD
10 - 20 kg	1 TD
20 - 40 kg	2 TD
> 40 kg	3 TD

Co-Trimoxazole **=P<last month, = L=avoid if premature infant + in children <1m**

Susp 200/40mg/5ml, Tabs 400mg/80 mg
Pneumonia, skin infections, UTI, HIV, 7-14/30

1m – 6m	2,5 ml BD
6m - 6y	5 ml BD
6y - 12y	1 BD
> 12y	2 BD

Doxycycline **>P<**2nd and 3rd trimester**, L** avoid if possible

Caps 100 mg
Atypical pneumonia 7/7, STIs and PID in combination with ciprofloxacin, when Pc-allergy in yaws and phagedenic tropical ulcers
Adults and children > 8y: 2 Stat + 1 OD

Erythromycin **=P=, =L=**

Susp 125mg /5 ml, Tabs 250 mg

In pc-allergy, RTI 7/7, chancroid 7/7 Chlamydia 7/7

< 4 kg	2 ml TD	> 35 kg	3 TD
4 - 7 kg	3 ml TD	20 – 35 kg	2 TD
7-10 kg	4 ml TD	15 – 20 kg	1 TD
10-15 kg	6 ml TD		

Nitrofurantoin **=P=, =L=**

Tabs 100mg

Cystitis 5/7

> 35 kg: ½ TD
25-35 kg: ½ BD
20-25 kg: ¼ TD
15-20 kg: ¼ BD

Metronidazole **=P=**divide into smaller doses, avoid prolonged use

=L= divide into smaller doses, avoid prolonged use, risk of gastrointestinal disturbances in breastfed

Tabs 200mg, susp 200 mg/5ml

Amoebiasis, giardiasis, trichomoniasis stat, bacterial vaginosis, infections due to anaerobic bacterias, dental infections 5/7. Pyomyositis in combination whit amoxicillin 7/7

Amoebiasis	Giardiasis
Child 10 mg/kg TD 5/7	Child 12-15 mg/kg TD 3/7
Adult 600-800mg TD 5/7	Adult 800mg TD 3/7

Weight	Metronidazol/d	Tabs 200		*Weight*	*Metronidazol*	*Susp 40mg/ml*
> 60 kg	800 mg TD	4 TD		*5 - 7 kg*	*60 mg*	*1½ ml TD*
50- 60 kg	600 mg TD	3 TD		*7 - 9 kg*	*80 mg*	*2 ml TD*
30 -50 kg	400 mg TD	2 TD		*9 -11 kg*	*100mg*	*2½ ml TD*
20 -30 kg	300 mg TD	1½ TD		*11-14 kg*	*120 mg*	*3 ml TD*
15-20 kg	200 mg TD	1 TD		*14-17 kg*	*160 mg*	*4 ml TD*
				17-20 kg	*200 mg*	*5 ml TD*

Trichomonas

2 g STAT. In case of treatment failure 400mg BD 7/7:

Dental infections

Child 7,5 mg /kg TD 5-7/7
Adult 400mg TD 5-7/7

Anaerobic infection in combination with amoxicillin 12,5 mg/kg duration depending on infection site.

Child 10 mg /kg
Adult 500-800 mg TD

Pen V **=P=, =L=**
Susp. 125mg / 5 ml, Tabs 250 mg
Tonsillitis, impetigo 10/7. Otitis 5/7 double dose.

10 – 20 kg	10 ml TD	>40 kg	3 TD
7,5 –10 kg	7,5 ml TD	20 - 40 kg	2 TD
5 – 10 kg	5 ml TD	10 - 20 kg	1 TD
< 5 kg	2,5 ml TD		

Antihelmintics

Albendazole **>P=** avoid during 1st trimester, **=L=**
Broader spectrum than mebendazol, also tricuriasis, strongyloidiasis.Not to children< 6 m
Tabs 400 mg chewable
Not to children < 6mts
> 10 kg to adults; 1 tab STAT
< 10 kg but > 6m ½ tab STAT
(for tricuriasis, strongyloidiasis and trichinellosis other dosages)

Mebendazole **>P=** avoid during 1st trimester, **=L=**
Not to children< 6 mts
Tabs 100 mg:
> 10 kg to adults 5 tabs stat

Antifungal drugs

Clotrimazole cream, pessaries
Vaginal candidiasis: Pessaries 200 mg 1 OD 3/7. Partner treatment if symptomatic: Clotrimazole cream BD 7/7

Nystatin oral drops **=P=, =L=**
Oral candidiasis 1 ml QD 7/7

Fluconazol (Diflucan)Tabs 50 mg **>P<, >L<**
Systemic, fungal infections and severe candidiasis
Adult; 150 mg OD 14-21/7
Vaginal candidiasis 150 mg STAT

Griseofulvin **>P<, >L<**
Tabs 250 mg
Severe tinea capitis 4-6/52 or tinea corporis. 4/52
6-12yrs 15 mg/kg OD
Adults. 500 mg OD

Review weekly

Antiviral drugs

Acyclovir **=P=, =L=**

Herpes zoster, severe herpes simplex oral+ skin, herpes simplex genital

HZ: 800mg 5 /d 7/7 treatment onset within 72 hours

HS1+2: < 2 y: 200 mg 5/d 7/7

> 2 y: 400mg 5 /d 7/7 treatment onset within 48 hours

Severe illness

Diazepem inj **P** if vital**, L** avoid

Amps 10mg/2ml

IV amps can be used for rectal administration. Dilute 2ml in 8 ml of 0,9% sodium chloride.

Convulsion: Children: 0,5 mg diazepam/kg rectally, not exceeding 10 mg. Use in a syringe without a needle or even better attach a cut NG tube ~3cm to the tip of the syringe. Insert it 2-3 cm

Adults: Diazepam 10 mg IM, rectally or very slow IV, 3-4 min or orally. If seizure does not stop within 5 min from first dose, repeat once

Agitation: 5-10 mg IM

Dextrose inj

50 %, 50 ml

Severe hypoglycemia: Child and adult: 1 mg/kg very slow IV

Diklophenac inj **>P<,>L<**

25mg/ml, 3ml amps

Moderate to severe inflammatory pain: Adult: 3ml deep IM

Frusemide inj **>P<,>L<**

Prereferral treatment in acute stage of pulmonary oedema or severe hypertension;

40-80 mg stat IM or slow IV 0,5-1mg/kg

Inf Sodium Lactate solution= Ringer Lactate= Hartmann´s solution

In severe septicemia or septic shock during transport if IV treatment is not available within 30 minutes

Bolus dose 250 ml or 20 ml/kg in children.

or when bodyweight

< 12 kg 30 ml/kg in 1 hour, then 70 ml/kg in 5 hrs

> 12 kg 30 ml/kg in 30 min, then 70 ml/kg in 2,5 hrs

Allergy, Asthma

Adrenaline =Epinephrine EPN **=P=,=L=**

inj 1mg/ml amp, IM undiluted or **IV** diluted, add 9 ml 0,9%NaCl

In severe acute asthma in children, SC or IM and severe allergic reactions and anaphylaxis IM or IV

Adults	0,2 - 0,5 mg IM
Children	0,01 mg / kg IM

Beclomethasone inhaler 100 mcg/dose **=P=,=L=**

Moderate to severe persistent asthma

adult:	2-4 inh BD 2 weeks followed by 1 inhalation BD until package is out.
Child 5-12 y:	1 inh BD 2 weeks followed by 1 inhalation OD until package is out.

Salbutamol inhaler + tabs+ syr **=P=,=L=**

4mg tabs, syrup 2mg/5ml and **Inhaler 100mcg/dos**

2 -5 years	2,5 ml TID 7/7	1 puff PRN max 4/d
5 -15	5 ml or ½ tab TD 7/7	1 puff PRN, max 8/d
adults	1 tab TID 7/7;	1-2 puffs PRN max 16/d

Acute treatment:

< 2 yrs : 1 puff in spacer, 5 breaths. To be repeated up to 6 times under 1st hour

2-5 yrs: 1 puff in spacer, 5 breaths. To be repeated up to 10 times under 1st hour

5-adult: 1 puff in spacer, 5 breaths. To be repeated up to 20 times under the 1st hour

Hydrocortisone inj **=P=,=L=**

Severe allergic or asthma attack, angioedema

100 mg vial, dissolve in 2ml water for inj. IM or slow IV

< 1 yr	25 mg.
1-6 yrs	50 mg.
> 6 yrs	100 mg

Prednisolone tabs **P=, =L=**

Moderate to severe asthma, allergic reactions, severe inflammatory reactions

5 mg tabs

adults	OD 30 mg 5/7
children	1 mg. / kg / day (3 - 4 days)

Calamine lotion

Pruritus	BD-QD, 7/7

Chlorpheniramine = Piriton , **=P=,>L<**
Tabs 4 mg
Syrup 2mg/5ml. Not to children < 8 kg
Sedating antihistaminic. Allergic reaction, itchiness etc
> 40 kg 1 TD
20- 40 kg ½ TD
15- 20 kg ½ BD or 5ml BD
8- 15 kg 2,5 ml BD

Skin

Betametasone cream and ointment 1% BD
Hydrocortisone cream and ointment 1% BD

Benzoic/salicylic acid ointment= Whitfields oinment
Anti fungal, exfoliating. Tinea capitis.
BD 7/7. Often longer treatment needed.

Benzyl bensoate emulsion BBE 25% **=P= ,=L=**se below
Scabies OD 2/7

AGE	DOSAGE
> 12 y	Undiluted contact time 24h. Pregnant 12 h
2-12 y	Diluted 1:1 in water, contact time 24h
6 m -2y	Diluted 1:3 contact time 12 h
< 6 m	Diluted 1:3 contact time 6 h

No 2nd application in pregnant and children <2 y.

Gentian Violet paint 0,5%
Candidiasis, impetigo and other oozing dermatosis, infected atopic eczema under topical steroid
OD- BD 3-5/7
Clotrimazole cream, BD 7/7

Vitamins and haematinics

Vitamin A= Retinol
Xeroftalmia, malnutrition, measles, corneal ulcer
OD 3 times: day 1+day 2+day 14:

< ½ yr	50.000 IU
½-1 yr	100.000 IU
> 1 yr	200.000 IU

Ferrous sulphate

Malnutrition- once started gaining weight and oedema has disappeared. Anemia.
Ferrous sulphate 3 mg/kg/day 14/7, but 4 mts is optimal

Ferrovit syrup = ferrovit/ferro-sulphate-B-complex =
100mg Fe+ 1½mg B1+ 1mg B2+ 2mg B6+ 5 mg B3=niacin / 5ml

	4 - 6kg	1 ml BD 14/7
	6 - 8kg	5 ml BD 14/7
	8 - 10kg	2 ml BD 14/7
	10- 12kg	2,5 ml BD 14/7
	12- 20kg	5 ml BD 14/7 or 1 tab OD 14/7
Ferrous sulphate tabs 200mg	20-35kg	1 tab BD 14/7
	>35kg	1 tab TD 14/7

Do not give iron if sickle cell anemia
together with antibiotic. Start after treatment
in severe malnutrition in feeding program first 2 weeks

Folic acid 5mg 1 OD 7/7

Multivitamin tabs, syrup

1-5yrs:	Tabs:	1 OD 7/7:	Syrup	2,5 ml BD 7/7
5-15yrs		1 BD 7/7:		5 ml BD 7/7
Adult		1 TD 7/7:		

Zinc
Acute diarrhea in combination with ORS and in persistent diarrhea in children<5yrs and shortens the illness period and also give protection for further illness.
Tabs 20mg
<½ yr 10 mg OD 14/7
½ yr 20mg OD 14/7

Eye, Ear

Tetracycline eye ointment 1%BD 7/7
Chloramphenicol eye drops 0,5%1 gtt 6-8 times daily 5/7
Boric acid,external otitis 2 gtt 6-8 times daily 5/7
Sodium Chromoglycate 1-2 gtt BD-TD

Pain

Paracetamol **=P=, =L=**
Tabs 500 mg, Susp 120mg/5 ml
Children > 5kg and >3 mths 50- 60 mg/kg/d in 3-4 doses. 3/7

3-5 kg 1,5 ml TD

15-25 kg	½ TD
25-40 kg	1 TD
40-60 kg	1-2 TD
> 60 kg	2 TD

Ibuprofen **>P<,=L=**
200 mg tabs, 3-5/7

> 40kg	1-2 TD
20-40kg	1 TD

Meloxicam
Tabs 7,5 mg

Severe pains in acute osteoarthritis, RA, spondylitis. 1-2 OD 7/7 **>P<, >L<**

Carbamazepine **>P<,=L=**
Tabs 200 mg
Neuralgia zoster,
Initial dose 1 OD at night, 7/7
In epilepsy for patients out of maintenance treatment.

Amitriptyline
Tab 25 mg **>P<,>L<**
Neuropathic pain, 1 OD, at night, 7/7

Various

Antacid tabs **=P=, =L=**
1-2 TD 7/7
Bisacodyl **>P<,>L<**
tabs 5 mg
Constipation, 1 OD 3/7
Omeprazol **=P=,>L<**
Tabs 20mg 1 OD 7/7

Atenolol **=P<**avoid in pregnancy,**>L<**
Tabs 50 mg
Hypertension 1-2 OD 7/7

Hydrochlorthiazide **>P<, >L<**
Tabs 50 mg
Hypertension ½-1 OD 7/7

Frusemide **>P<, >L<**
Tabs 40 mg

Oedema of renal, hepatic or cardiac cause	30-40 kg:	½ OD 7/7
	>40 kg:	**1 OD 7/7**

Inj 20 mg/2 ml
Pulmonary oedema 40-80 mg IV

Nifedipine Retard
Tabs 20 mg, not to be divided. 1-2 OD 7/7 **>1st trimP=avoid in L**

Praziquantel **=P=, =L=**
Tabs 600mg: >2 y
Bilharzia, 40 mg/kg stat
Taeniasis 10 mg/ kg stat

ORS

< 2 yrs	50-100ml
2-10 yrs	100-200ml
> 10 yrs	Unlimited

Cough suppressant syrup, **Diphenhydramine HCL 12,5 mg+ Ammoniumchloride 125 mg/ 5ml**. (=Desentol)
potent antihistamine and anticholinergic and sedating

> 40 kg 10 ml TD 3/7
20-40 kg 5 ml TD 3/7
15 -20 kg 2,5ml TD 3/ 7
10-15 kg 1ml TD 3/7
not to be given <1 yr.

A manual on five non-communicable diseases (NCDs), "general body pain" and recommendations regarding antibiotics

Objective of this manual

The main objective of this manual is to facilitate management of a few common non-communicable diseases at the jeeplines, to give advice about how lifestyles can influence diseases and for some of the diseases provide the most affordable medication in areas where these are not available.

Target group of this manual

This manual should be a support tool for nurses working at the jeeplines. The nurses will be responsible for all follow-up visits and monitoring of the patients, while the doctor is responsible for diagnosing and prescribing all medicines and supporting the nurse in the follow-up.

Treatment and payment policy for NCDs at the jeeplines

A patient coming to a jeepline that have not been diagnosed by a jeepdoctor earlier should have an appointment and be diagnosed by the doctor, as an ordinary doctor's visit. If the patient is diagnosed with one of the NCDs diagnoses included in this manual they will be subscribed medicine for one week and will be sent to the nurse/health counselor (depending on jeepline) to be listed into the special register for NCDs.

The NCD register should contain lists of the patients enrolled according to the different diseases. It should include the patient's particulars e.g. age , sex, contact information, health information such as allergies, conditions they have, all prescriptions of medicine, dated results of tests, information given about non-pharmalogical management, etc.

The nurse should give special information about:

- their chronic illness/problems and the need for continuous management/treatment.
- the importance of non-pharmacological management, especially for diabetes and hypertension as well as information about the same (diet, etc.).
- the importance of monitoring their health status, how this is done, and how they can do that regularly at the jeepline clinic.
- the pharmacological treatment that is needed and how they can buy that through the jeepline and what the treatment will cost for one month.

If necessary and suitable the Community Health Worker in the area will be informed about the status of the patient. The patient will be requested to come back after a week for monitoring in accordance to this manual. At monitoring visits he/she will not have to pay any patient fee, but will be paying for medicines which the nurse will sell. If needed based on the results from the monitoring the nurse will consult with the doctor about the treatment. The doctor might also need to refer the patient to a higher level. It should always be the doctor that changes the prescription of the medication.

The role of the doctor

The doctor should always assess and determine management of the patient when he/she comes to the clinic the first time, before he/she entered into the special NCD register of the jeepline. The doctor should also always make the decision about changes in the medication as well as give advice and examine the patient when the nurse requests that kind of support. The doctor should also hold weekly

meetings with the nurse and look at the NCD register to follow-up/assess what has happened with the patients registered.

Non-communicable diseases

1. Asthma

Asthma is a respiratory condition characterized by a tightening of the airways due to a number of factors. The patient may experience this as breathlessness (especially on exertion), a feeling of tightening of the chest, wheezing sound when breathing, or maybe just a dry cough, which is often worse at night. PEF meters (Peak Expiratory Flow) will be availed to doctors for the diagnosing and for the nurses in the follow-up.
Asthma is caused by an inflammation in the airways. The most common kind of inflammation (especially in children) is an atopic or allergic inflammation.
Examination: Place the stethoscope on the back of the patient and listen to the breathing. You usually hear high or low pitched wheezing sounds, sometimes only on expiration. You can ask the patient to exhale as hard as they can. In more serious cases breathing out lengthened and the patient will use other muscles to assist in breathing.
Non-pharmacological management includes:
- No smoking, or no smoking in the house by other persons.
- Avoid smoke from e.g. a fire-place in the house.

Pharmacological management:
Corticosteroids/steroids should be the basis for treatment of acute asthma, however long term use of steroids has side effects. Hence the development of inhaled steroids, that are only applied to the inflamed organs.
1. Salbutamol is used for treating the symptom only. This should only be used when really needed.
2. The patients should use inhaled steroids, Beclamethasone aerasol 200 µg. This is the most affordable medicine and then the patient would not need to use Salbutamol.
3. If patients come with severe respiratory distress he/she should be seen by the doctor urgently.
4. Patients that do not manage to inhale themselves, usually children and elderly should be given a ”spacer”. If a conventional spacer is not available a PET bottle can be used. Make a hole in the bottom of the bottle; insert the mouthpiece there as tight as possible. Let the patient breathe through the mouth of the spacer: 1 liters for adults; 0.5 liter for children.
Look at: https://www.youtube.com/watch?v=4wsikghGriI, for an easy version.
5. The inhaler should be demonstrated to the patient before they leave the clinic. The inhaler is placed in the bottom of the spacer, a finger over the hole, and the small end in the mouth. After the aerosol is injected into the spacer, the patient lifts his finger from the hole, and slowly inhales, about a 15 second slow inhalation. After the inhalation, the patient should gargle with clean water, and then spit it out. We only want cortisone in the inflamed lungs, not in the mouth, and not to be swallowed!
6. Review one-two weeks later, agree with the doctor which is best. At the review visit ask the patient how often he/she has taken Salbutamol, once a day, once a week, etc. If the patient is down to zero use of Salbutamol, it might be good to try halving their inhalation (only a puff in the morning and none at night) and reviewing them again. If they are still using Salbutamol, you may need to double their inhalation, and review again. Discuss these changes in medication with the doctor. Do also check that they have a good inhalation technique.

Beclomethasone inhaler 100 mcg/dose

adult : 2-4 inhalation BD 2 weeks followed by 1 inhalation BD until package is out.
Child 5-12 y: 1 inhalation BD 2 weeks followed by 1 inhalation OD.
Review every 1-2 weeks

Salbutamol 7/7	**Syr 2mg/5ml**	**Tabs 4mg**	**Inhaler 100mcg/dose**	**=P=, =L=**
2 -5 years	2,5 ml TD			
5 -15	5 ml TD or	½ TD or	1 puff PRN max 8/d	
adults		1 tab TD or	1-2 puffs PRN max 16/d	

Salbutamol inhaler 100 mcg/dose
< 2yrs : 1 puff in the spacer, 5 breaths. To be repeated up to 6 times under 1st hour
2-5 yrs: 1 puff in the spacer, 5 breaths. To be repeated up to 10 times under 1st hour
5-adult: 1puff in the spacer, 5 breaths. To be repeated up to 20 times under the 1st hour

Prednisolone 5 mg tab	
adults	OD 30 mg 5/7
children	1 mg / kg / day (3 - 4 days)

2. Diabetes

Diabetes mellitus is recognized by chronic elevated glucose in the blood (hypoglycaemia). It is classified into two types:

Type I diabetes: Usually occurs in children and young adults and is associated with ketoacidosis. They often loose weight. These patients are insulinopenic and require insulin to sustain life. Should always be referred to a hospital level.

Type 2 diabetes: Usually afflicts adults, a large number of whom are obese and have high blood pressure (metabolic syndrome).

Diabetes is diagnosed and monitored by: - urine test for protein, glucose and ketones - fasting venous blood glucose more than 7.8mmol/L on more than one random occasion.

Non-pharmacological management includes: -Weight reduction, counseling by nurse/health advisor to keep diet - Regular physical exercise - Advising patient to decrease alcohol intake See diabetes poster and diet advice in annex to explain to patient.

It is important that the nurse/health advisor-counsellor should have sufficient time to discuss and advice regarding the non-pharmacological management.

Pharmacological management: 1. Glibenklamid 5mg 1/2 OD (this is the cheapest treatment) Go on to 5mg 1 OD Maximum 10mg OD

2. Metformin 500mg Later if sugar still in urine 500mg BD and perhaps even 500mg TD

3. If still sugar in the urine discuss with the doctor.

See diabetes poster and diet advice in annex to explain to patient. (The nurse of the jeepline has the annexes) It is important that the nurse/health advisor-counselor should have sufficient time to discuss

and advise regarding non-pharmacological management.

3. Hypertension

Hypertension is diagnosed when blood pressure reading is greater than 140/90 mmHg on three separate occasions. The patient should be rested and calm when the blood pressure is taken.
Non-pharmacological management includes:
-Weight reduction
- Healthy eating, according to diet advice, low salt diet and low fat diet
- Give up smoking
- Regular physical activities
See diet advice in annex to explain to patient.
Pharmacological management:
Treat until you reach blood pressure level below 140/90

1. Nifedipine 20mg OD
If you don't reach 140/90 add
2. Hydrochlorothiazide 50mg ½ 1 OD
If still not 140/90 add
3. Atenolol 50mg OD (if pulse rate >90)
If you still don't reach 140/90 refer to hospital.

If a patient already has been subscribed Enalapril at a hospital that patient should be able to buy that medicine from the jeepline clinic. Once a year they should be sent to the hospital for a test of the electrolytes (sodium, potassium and creatinine.) Enalapril should though not be subscribed at the jeepline.

4. Psoriasis

This is a common papulosquamous skin disease that occurs in 2-3% of the general population. Clinical presentations are erythematous, papules or laques that are usually covered with silvery scales.
Pharmacological management:
Hydrocortisone cream or betamethasone cream

5. Epilepsy

Epilepsy is a clinical syndrome characterized by recurrent seizures. It may result in loss of consciousness and abnormal movement, behaviour or sensation. Seizures are classified as partial or generalized, with each having sub-categories.
History from patients and reliable witnesses is critical in diagnosing. Ask about the movement during seizures, duration, frequency and the age of the debut.
Advice to patients includes:
- Medication should be taken regularly and it should not be assumed that the patient is healed when seizures are controlled.
- Ensure normal activity, especially for children, including going to school.

- Eat at regular intervals.
- Manage stress.
- Avoid sleep deprivation.
- Protect the patient from falling into fires.
- Avoid becoming drunk.

During an epileptic attack:
- Place the patient in left lateral position with head to the same side.
- Remove tight fittings clothes, especially around the neck.
- No attempt should be made to insert object in the mouth.
- Keep privacy, turn away any observers.
- Seizures should be allowed to complete its course without holding the patient down, however protect him/her from danger.

Pharmacological treatment is usually life long it may be discontinued after a seizure free period if at least two years if the patient does not have other risk factors. Reduce dose gradually over many months.

Pharmacological management:
Carpamazepin
For adults: 200 mg x 2
For children 100 mg X 2

6. General body pain

Patients with general body pain are common due to hard work and it is usually the same muscles or tendons that are painful. By using painkillers the patients get some pain relief but no solution.
It is important to explain the reasons for the muscles pain: that they are using the same muscles in fixed positions for many hours and it becomes painful when they relax and sleep.
It can be good to demonstrate some easy stretching positions for the back, groins, thighs and chest/arms. Let them for example lie down and show them some easy ways to stretch out after work or before bedtime. It might be painful initially, but it will reduce the pain a bit if they do it regularly.

Pharmacological treatment against pain:

Paracetamol

Equipment needed for the nurses

Thermometer
Stethoscope
Blood pressure measurement device
Measurement tape
Weighing Machine
Spacer for inhalers
Glucometer
Urine test strips for glucose, protein and ketones
PEF meter with plastic mouthpieces

Annexes:
- Recommendations regarding use of antibiotics
- “What is diabetes?” advice from Kenya Diabetes Management and Information Centre

- Healthy meal planning/diet advice based on West Kenyan food habits
- Some basic stretching movements
- Pricelist of the medicine that will be used for NCDs

Recommendations regarding the use of antibiotics

Antibiotics have NO effect on viral infections. Common cold is a viral infection where there is no place for antibiotics. When choosing a suitable antibiotic the narrowest type should be used. Avoid broad spectrum antibiotics because of the risk for developing resistance. When antibiotic resistance is established it means that the antibiotic has no effect on the bacterial infection. Therefore use antibiotics with responsibility!

Respiratory tract infections (NOT common cold)

Almost all bacteria causing respiratory tract infections are gram positive and therefore is sensitive to Penicillin V or Amoxycillin. In case of allergy against Penicillin V choose Ery-Max.

Urinary tract infections

Mostly caused by gram negative bacteria and that´s why Penicillin V doesn´t have effect. Use instead Nitrofuradantin, Ciprofloxacillin or Co-trimazole.

Gut Infections with diarrhea

Use Metronidazole and or Ciprofloxaclillin

Don´t try to cover up for both upper and lower tract infections. It will cause resistance development. Try to use one antibiotic and don´t mix too many.

MAIN REFERENCES AND RECOMMENDED READING

Oxford Handbook of Tropical Medicine. ISBN 978-0-19-92049-0
Clinical Guidelines, Médecins Sans Frontières. ISBN 2-906498-81-5.
Essential Drugs, Médecins Sans Frontières. ISBN 2-906498-78-5
National Guidelines for the Diagnosis, Treatment and Prevention of Malaria in Kenya, Fourth Edition. 2012.
National Policy Guidelines on Prevention and Control of jigger infestations, by Division of Environmental Health, 2014
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WHOs different fact sheets at http://www.who.int/mediacentre/factsheets/en/WHO Model Lists of Essential Medicines Adults, 18th edition April 2013 and Children 4th edition 2013

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Common skin diseases in Africa. Colette van Hees & Ben Naafs via Troderma@hotmail.com

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PLOS Medicine, Public Library of Science, https://www.plos.org,
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The neglected diseases section www.journals.plos.org

Course in GLOBAL MEDICIN / INTERNATIONAL HEALTH Jönköping 2011

Helpful in reviewing during various updates:
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Se also various reading: http://www.rotarydoctors.se/om-lakarbanken/du-som-ar-lakare/forelasninglecture-tropiska-sjukdomar/

ATTACHMENT A

Wounds and wound treatment. RDS Boudewijn J.Bakker April 2013

Introduction of sterilizing the used instruments.

Definition wound: any disruption of the skin surface by cut, bite, stich, scratch. A wound can be superficial or deep infected or clean, bleeding or not bleeding

How can you suspect a wound is being infected?

- significant discharge
- greenish color or foul odor of the soiled compresses.
- red, indurated painful edges
- subcutaneous [under the surface/skin] crackles
- general physical signs of spreading out of the infection: painful

-lymphangitis, enlarged regional lymph glands,

-fever, chills, changes in overall condition,

Treatment: first aid:

- wash hands with soap or disinfect them with alcohol based hand rub
- put on non-sterile gloves and remove dressings/bandage and discard these with the gloves in the waste container
- press when bleeding
- observe the wound:
    - black area: necrosis wet or dry
    - yellowish/greenish area: infected tissue+ presence of pus
    - red area: healing wound
    - pink area: process of epithelialization from the edges of the wound

Treatment: second aid:

1. **Clean wound, sutured wound or wound with red granulation**

   -wash hands with soap or disinfect them with alcohol based hand rub and

   -open the dressing set or box, after checking the date of sterilization and put on gloves

   -make a swab by folding a compress in 4 using the forceps

   -clean with sterile Sodium Chlorine 0.9% solution or sterile water

   -remove any organic residue with sterilized knife, scissors, tweezers

   -work from the cleanest to the dirtiest area

   -dab dry with sterile compress

   -suture wound: sterile compress

   -open wound: sterile paraffin /Vaseline impregnated gaze a few beyond the edges of the wound, sterile compress on top of that

   -adhesive tape or bandage.

   -review: remove compress after 5 days when clean by patient himself, after 2-3 days when granulating except in case of hypertrophic granulation

   - soak the instruments as quickly as possible in disinfectant

   - wash hands or disinfect them with alcohol-based hand rub

2. Necrotic or infected open wound

- wash hands with soap or disinfect them with alcohol based hand rub
- open the dressing box [same as under]and put on gloves

Attachment A – continuation

- when infected sutured wound: remove 1 or more sutures
- remove all necrotic tissue at each dressing with sterilized knife, scissors and/or pair of tweezers.
- apply Povidone-iodine 10% dermal solution,1 on 5 diluted with sterile0.9 % sodium chlorine or sterile water, rinse thoroughly by then with sterile compress.
- dab dry with sterile compress
- apply Vaseline + Povidone-iodine 10% ointment or gaze
- apply sterile compresses, and bandage
- discard sharp materials in sharps container and the rest in the waste container
- soak the instruments as quickly as possible in disinfectant
- wash hands or disinfect them with alcohol-based hand rub
- review: renew compress with Vaseline +Povidone-iodine at least once a day, a CHW need to be taught and supported to do this.

Agreements:

Who is responsible for the aseptic wound treatment?	Doctor and Nurse
Who is responsible for the presence of all the materials needed?	Nurse
who is responsible for sterilization of surgical instruments +specula?	Nurse
Who is responsible for antiseptic removal of all disposable material?	Nurse
Who is responsible for the treatment during reviews of the patient?	Nurse

References:

MSF clinical guidelines 2010, treatment of a simple wound and dressings, page 253-266, modified by B.J.Bakker according to the RDS situation.

Which material is needed: each car /doctor:

compresses sterilized and not sterilized, different sizes
bandages, different sizes
tape
gloves non sterilized different sizes
sutures 3x0 and 5x0
Vaseline
sterilized wooden spatulas
Povidone-iodine dermal solution 10% and ointment sterilized water or 0.9% Sodium Chlorine solution
plastic foil
disinfectant : chlorhexidine solution
brush to clean the instruments
Surgical instruments from the nurse´s box:4 long curved long Kocher´s forceps, 2 needle holders
waste basket, sharps container
baskets for antiseptic treatment of open wounds with pus
basket for cleaning/disinfection of instruments
gynecological instruments: specula, 2 sizes, 2 each of them

Sterilization process:
pressure cooker , indicator tape ,cotton to wrap in the instruments ,heater/burner ,time controller ,1-2 boxes for each car.

Overall responsibility for an adequate sterilizing process: Daniel Muruka , coordinator RDS West-Kenya

ATTACHMENT B

JIGGERS MANAGEMENT IN JEEP LINE CLINIC SET UP

Source: National Policy Guidelines on Prevention and Control of jigger infestations, by Division of Environmental Health 2014

Background: Jiggers is a neglected disease. It is becoming a severe public health problem in many communities in Kenya. An estimated 1,4 million Kenyans (ca 4 % of the population) suffer from jiggers infestation, children, old people, mentally ill patients, disabled people are at high risk. It is often associated with poverty, poor hygiene and negative health seeking behavior. Patients with jiggers face the challenge of discrimination and stigmatization. Jigger infestation lead to many affected children dropping out of school as they are unable to work or they are discriminated, many affected adults are unable the work because of the pain.

Etiology and clinical signs: Infestation of the skin by a female sand flea, Tunga Penetrans. Off- host stages of T. Penetrans develop best in dry soil or in dusty soil containing organic material.
The female needs blood to feed developing eggs and burrows into human or animal skin. The first evidence of the infestation by the sand flea is a tiny black dot on the skin at the point of penetration. Because the flea is a poor jumper, most of the lesions occur on the feet, often on the soles, the toe webs and around the toenails. After a few days forms a papule with a central black dot. After a few weeks, the papule slowly enlarges into a white, pea-sized nodule with well defined borders between 4- 10 mm in diameter. This lesion can range from asymptomatic to pruritic to extremely painful.
Infestation can be multiple, causing disfiguring sores and extreme deformation of feet and fingers. Secondary infections (streptococcal infections, staphylococcal infection, tetanus, sepsis, gangrene) are very common and sometimes can cause severe infections or death.

Treatment: The nurses and community health workers are trained to treat jigger infestation. To avoid the secondary infection and to try to kill the parasite, patients are supposed to soak feet and other infected areas in antiseptic solution e. g. hydrogen peroxide for at least 15 minutes followed by a topical application of petroleum jelly. Sometimes the surgical extraction of embedded sand fleas is necessary. In that case it is very important to avoid to damage the" sack" otherwise the risk of spreading the eggs is very high. Before removing the “sack” the feet is usually brushed with a soft brush or with a corncob. After that the sack usually can be removed with a wooden stick. According to the Clinical guidelines for Kenya, patients are advised to soak the infected and treated area/feet in hydrogen peroxide diluted 1:3 parts of water for about 15minutes for three consecutive days, followed by application of Vaseline.

Management: Kenya has a national guideline for treatment and management of jigger infestations. (National Policy Guidelines on Prevention and Control of jigger infestations, by Division of Environmental Health, 2014) The national goal is to eradicate the jigger infestation by 2030. The guideline gives a central role for the local public health offices and for the communities to prevent and treat the disease. NGO´s are warmly welcome to

participate in the treatment and prevention, as partners in the process.

In case we plan to treat Jiggers patient, it is highly recommended for the Rotary team to take contact with the local public officer and the local community health workers for help with treatment and follow up (under 3 days after treatment) and mapping to find other effected families in the community. We recommend the active involvement of CHWs. The patients/clients should be attached to a community health worker who will do the treatment at home and follow up.

Attachment B – continuation

The CHWs will also help the family affected by giving health education directed towards the needs in that family.

Before treatment an appointment has to be done with the head of the family to secure that every family member can be at home.

For complete treatment and prevention of secondary infection the patients recommended to use of Hydrogen Peroxide diluted 1:3 parts of water for about 15minutes for three consecutive days, followed by application of Vaseline. The affected families usually need help of the community to make this procedure and with making the right dilution of Hydrogen peroxide.
We also advice them to the use of footwear.

The effected families also need support of the community with vector control to avoid re-infection and advice to keep good hygiene in the household environs.

For vector control the usage of chemicals be very effective if available e.g. Carbaryl. Before spraying we need the permission of the local public health officer. He also gives the guidelines how the spraying should be done securely.

If chemicals are not available, regular wetting of the dusty floors and walls can reduce the number of jigger's fleas, smearing of earthen floor with cow dung mixed with OMO is also encouraged.

For more information you can read the National Policy Guidelines on Prevention and Control of jigger infestations, by Division of Environmental Health, 2014.

ATTACHMENT C

MEDICAL EQUIPMENT

MEDICAL EQUIPMENT AVAILABLE AT THE JEEPLINES

Content of doctors' box:

- Stethoscope
- Blood pressure meter
- Otoscope battery operated
- Disposable caps for otoscope
- LED flashlight
- Wooden spatulas
- Disposable gloves
- Tape measure and MUAC tape
- Foley catheter size 12 or 14
- Female intermittent catheter
- Rectal examination gel or Vaseline (=petroleum jelly)
- Plastic bag for transport of contaminated equipment
- Sterile gloves 1 pair of each medium and large
- Toilet paper
- Hand sanitizer
- Thermometer for armpit

Documents

- Plasticized Jeep Doctor Manual
- Referral forms
- Diagram Weight for Age 0-5 yrs
- Division of work between doctor and nurse on jeep lines
- PEP, post exposure prophylaxis management in RDS staffs

Local document per jeep line:

- Plasticized Referral Guidelines with distances to facilities and cost for transports
- List of purchased drugs others than those on RDS drug list, amount and date of purchase. To be updated by doctor when finished or new drugs are bought

In a separate plastic box inside the Doctor´s box:

Drugs: Wax softner
Salbutamol Spray
A small bottle of Liquid paraffin
Inj Lignocaine.. Marked date of opening on bottle!

Content of dressing box:

- Gauze roll
- Sterile compresses
- Scissors, 1 small+ one bigger
- Cotton wool, a smaller amount
- Wooden ear sticks
- Fine metal ear sticks
- Band aid
- Suture tape
- Surgical tape
- 2 sets of sutures, size 4.0 and 3.0
- Scalpels for puncturing, scalpels for cutting (to be brought from Sweden)
- Protection sheet for minor surgery
- Kidney bowl

Content of asthma box:

- Spacer for asthma sprays
- Facial mask for spacers, 3 sizes, baby, 1-3 yrs and >3 yrs
- PEF meter and mouthpiece.

All items should be disinfected after each use, either with alcohol swabs or dished in hot water and dishwashing detergent

Content of Nurse´s box:

- Equipment for pre- and ante-care, vaccination and family planning,
- 100 ml syringe for ear flushing
- Vaginal examination instruments

Injection box inside the nurse´s box

- Injection swabs
- Some syringes of various size
- Some needles of various size

Doctors are advised to bring the following from Sweden-Betametasone tablets (Betapred) , hand disinfection gel

Every doctor must check the contents of the box and make sure that all of the items listed above are present. If missing, please report to the local coordinator. Surgical instruments are available in the **dressing box**.
There is a separate **emergency box** for the very sick patients. The content is described in attachment D.

ATTACHMENT D

MEDICAL RECORD KEEPING, ABBREVIATIONS AND ROUTINES FOR PRESCRIBING DRUGS

Patient based. Make short notes in patients' booklet. Always write the full treatment regimen i.e presentation, dosage and duration in the booklet. Do not prescribe drugs for more than one week at a time. Review patients without payment if medication has to be extended. 'Stat' treatment when possible.

IV = intravenous
IM = intramuscular
PO = per.os
Hx = history
c/o = complaints of
o/e = on examination
L = laboratory
Dx = diagnose
Rx = medical prescription, treatment or if referred
TCA = to come again or review

STAT = statim = immediately= give urgently
OD = omni die = 1dd= one dose daily
BD = bis die = 2dd
TD = ter die = 3dd
QD = quater die = 4dd
PRN = pro re nata = when needed

1/7 = 1 day,
3/7 = 3 days etc.
1 week = 7/7, 7/30 or 1/52.
1month = 1/12

ANC = ante natal clinic
ART = anti retroviral therapy
BP = blood pressure
BS for mps = blood slide for malaria parasites
C = coughing
CCC = comprehensice care centres for HIV/AIDS
CO = complaining of
D = diarrhoea
F = fever
FBS = fasting blood sugar
HTN = hypertension
IPTp = Intermittent Preventive Treatment of malaria in pregnancy
LOA = loss of appetite
LOW = loss of weight
MRDT = malaria rapid diagnostic test
MUAC = mid-upper arm circumference
NAD = no abnormalities detected

O/C = ova / cysts (instools)
OI = opportunistic infection
PEM = Protein Energy Malnutrition
PEF = peak expiratory flow
PEP = post exposure prophylaxis
PITC = provider initiated testing and counseling
PMCTC = Preventing Mother To Child Transmission
PMH = past medical history
PR = pulse rate
PSC = Patient Support Centre
P24 = HIV-test
RBS = random blood sugar
RR = respiratory rate
TCA = to come again
TSC = Treatment Support Centre
V = vomiting
VCT = Voluntary Counselling and Testing (STD's)
=P= = permitted during pregnancy
>P< = not permitted during pregnancy
=L= = permitted during lactation
>L< = not permitted during pregnancy

Abbreviations of common drugs

ABZ = albendazole
AL = Coartem, artemeter-lumefantrine
CIPX = ciprofloxacin
CLT = clotrimazole
CLOX = cloxacillin
DX = doxycillin
ERY = erythromycine
GRIS = griseofulvine
HC = hydrocortisone
HCTZ = hydochlorthiazide
KTZ = ketoconazole
MBZ = mebendazole
MTZ = metronidazole
ORS = oral rehydration salts
PCM = paracetamol
Pen V = penicillin V
SMX/TMP= cotrimoxazole

ATTACHMENT E

CONTENT OF THE EMERGENCY BOX

1. **INJECTIONS**
   I. Adrenaline
   II. Diazepam
   III. Hydrocortisone
2. **I.V FLUIDS**
   I. Dextrose 50%
   II. Sodium lactate solution
3. Syringes: 2mls , 5mls and 10mls
4. Needles to the syringes
5. I . V cannula and giving set
6. Betapred (cortisol tablet with fast effect) from Sweden
7. Nitrolingual (nitromint) spray against angina from Sweden
8. Bp machine
9. Thermometer
10. Stethoscope
11. Gauze
12. Alcohol swabs
13. Strapping
14. Crape bandage
15. Medium and large size gloves
16. Paracetamol Suppository (this is in the cool box.)

WHAT TO DO IN CASE OF EMERGENCY.

Protocol to be followed

1) The sick patient should immediately be taken to the doctor by the volunteer that register patients.
2) The volunteer should notify the nurse and lab assistant that there is an emergency, and they should go to the doctor's room.
3) The nurse should bring the emergency box
4) The lab tech/HIV counselor should bring test kits MRDT or blood slide for mps, blood sugar (glucometer) and hemoglobin and perform all the test without delay
5) Nurse should measure patient's temperature and take patient history through patient or relative.
6) Pharmacist/driver oversees CHVs as they prepare ORS for the patient
7) Doctor takes blood pressure immediately

8) Nurse should apply one or more intravenous cannulas without delay if patient is unconscious or cerebrally affected, severely ill, or shows signs of dehydration dehydrated etc.
9) Drugs and fluids according to symptoms should be ordered by doctor and administered by nurse
10) Transport of patient to referral clinic should be undertaken as soon as possible
NB: CHVs should be involved in every step of the entire procedure.

ATTACHMENT F

List of medications that doctors can buy from the local pharmacy

Because of the geographical location and the different climate there are some differences between the jeep lines according to which diagnoses are more common, which kind of health problems the patients are seeking for. Every doctor has possibilities to use a little amount of poverty fond or income from the clinics to buy some medications he/she needs for some patients/ group of patients. That includes the list of drugs here below. If you want to buy any other drugs you should first discuss that with Jacinta.

1. Diclofenac gel.

2. Cough syrup.

3. Cough supressant syrup, Diphenhydramine HCL 12,5 mg+ ammoniumchloride 125 mg/ 5ml. Kallas I sverige för Desentol och är ett starkt antihistamin med kraftiga antikolinerga egenskaper och sedering.

Adult 10 ml x4 Proposal: Give 3 doses per day in 3 days for all ages.
30-40 kg 5 ml x max 5
20 -30 kg 5ml x max 4
15-20 kg 2,5 x max 4
10-15 kg 1ml x max 4. Not <1 yr.

4. Baby porridge (available in the local supermarkets)5. NAAN 1

6. Praziquantel

7. Gentian violet 0,5%

8. Ivermectin Tabs

9. Amoxycillin/Clavulanic Acid tabs = Augmentin; 4 different strengths, Augmentin 4 times cost of generic

ATTACHMENT G

POST-EXPOSURE PROPHYLAXIS FOR STAFFS UNDER RDS PROGAMS

Introduction

Health care workers are at risk of exposure to HIV through contact with contaminated blood and other body fluids containing HIV through.

- Needle sticks injuries and injuries by other sharp objects.
- Non-intact skin and mucous membranes.

The risk of exposure to HIV contaminated blood or body fluids should be minimized by using universal precautions. This means that all blood should be treated as if contaminated with HIV. The same conditions apply to hepatitis B & C which are also blood borne viruses. To avoid exposure to these viruses precautions should be taken when handling possibly contaminated body fluids by including the use of appropriate barriers such as gloves, gowns and goggles; care with sharps including minimizing blind surgical procedures and proper handling and disposal of sharps; safe disposal of contaminated waste; safe handling of soiled linen; adequate disinfection procedures and universal Hepatitis B vaccination of non-immune at risk groups including HCWs, police, prison staff and rescue workers.

Considerations for post exposure prophylaxis

Local capacity to offer treatment as soon as possible after risk exposure

- Once the decision to give PEP has been made, treatment should be started as soon after the exposure as possible preferably within 1 hour of exposure and administered for 4 weeks.)
- PEP should be discouraged after 72 hours of exposure as there is no benefit. (Ensure early referral to nearest centre offering PEP if there are no local services)
- Pre-existing medical conditions and any current medications being used by an exposed individual.
- Choice of an efficacious simplified regimen preferably in a fixed dose combination whenever possible to increase adherence by reducing number of pills and frequency of dosing.

Capacity to follow up the exposed individual, provide on-going counseling and monitor treatment

- After initiating treatment, constitutional adverse reactions that may develop can be managed symptomatically. This could enhance adherence to the prescribed regimen with the ultimate goal of achieving treatment completion in the exposed individual.
- Linkage to a unit where ART is provided should this be necessary in the HCW (as well as source)
- Recording and reporting of data

Post-exposure management

Post-exposure management in occupational exposure comprises of

Immediate care to exposure site.

- Encourage bleeding from the site but do not scrub or cut the site, washing it with soap and water

Determine risk associated with exposure

- Evaluate the source and exposed person
- Assess the potential risk of infection

- Both the source and exposed person need to be counseled for HIV-testing. A known source should be tested for HIV; if the source person is not willing to be tested, he/she should not be coerced into having the test.
- Discarded sharps/needles should not be tested

The exposed person should not receive ARV drugs without being tested. However, where immediate testing is not feasible, treatment should not be delayed since HIV testing can be carried out the following day or soon thereafter. Counselling and support should be provided to the exposed and for those who decline to be tested, they should be offered further appropriate support.

- HIV test should be done at baseline, at 3 months and at 6 months for person exposed. Other baseline tests to be carried out where feasible include: FBC, LFT and renal function.
- Offer PEP as appropriate (see below)
- Treatment should not be continued if status of exposed individual remains undetermined
- Hepatitis B vaccination should be offered to non-immune where available.
- Review staff health and safety: evaluate exposure and determine whether local preventive procedures could be improved
- Provide follow up testing and counselling for the exposed person
- Proper documentation and reporting of event and patient management
- Post exposure prophylaxis in not indicated
- If the exposed person is HIV-positive
- Exposure to intact skin with potentially infectious material, any exposure to non-infectious material (e.g. faces, urine, saliva and sweat)
- If the exposure occurred more than 72 hours previously

Indications for and considerations prior to prescribing PEP

Antiretroviral prophylaxis is prescribed after an occupational exposure to HIV is based risk assessment, which takes into account the type of exposure, the characteristics of the source patient and the material to which the HCW is exposed, as summarized in the table below:

Risk assessment following exposure to various body fluids.

	LOW RISK	HIGH RISK
TYPE OF EXPOSURE	Intact Skin	Mucus membranes/none intact skin. Percutaneous injury.
SOURCE	HIV -negative	HIV- status unknown, clinically well/unwell.
MATERIALS	Saliva, tears, sweat, urine, vomit, sputum	Semen, Vaginal secretions, synovial, pleural, pericardial, peritoneal, amniotic fluids. Blood and bloody bodily fluids. CSF, viral cultures in labs.

- Of particular high risk are deep injuries, those involving hollow needles with visible blood and those involving patients with high viral loads (recent HIV infection, late stage HIV disease).

Probability of HIV acquisition after different exposures;

EXPOSURE	PROBABILITY OF DISEASE ACQUISATION (%)
Receptive anal intercourse	0.008-0.032
Receptive vaginal intercourse	0.005 – 0.0015
IVDU	0.0067
Needle stick injury	0.0032
Insertive vaginal intercourse	0.0003 – 0.0009

- The risk of HIV transmission is probably significantly higher in rape because of trauma forceful penetration. Other factors that increase transmission risk include disease status of rapist (risk increases with viral load) and presence of STIs in the source or the person assaulted.

Choice of ARVs regiment

PEP is recommended following exposures judged to be of high risk. The choice of ARV drugs used for PEP should be made only after careful assessment of the nature of the exposure and the source's characteristics including previous and current ART history.

The prophylaxis is given for 28 days

ARV prophylaxis options in occupational exposure

- TDF + 3TC or TDF/AZT + 3TC + LPV/r

PI-based triple regimens should be used in cases judged to involve particularly high risk exposure and in the patient care setting where patients are likely to be on ART and possibility of resistance exists.

- Exposures involving source patients on ART should be discussed with a clinician experienced in HIV management; how ever treatment should be started even while awaiting this.
- NNRTI-based regimens are NOT recommended for PEP. (Severe NVP toxicity has been reported and should be anticipated in the immunocompetent. There is no biological reason why EFV should not be used; how ever EFV and the risk teratogenicity in early pregnancy and short term toxicity may pose problems. Furthermore, these drugs are part of standard first line treatment and should therefore not be used in circumstances where PEP may be used following exposure to patients on NNRTI treatment, HIV sero-conversion may occur or treatment discontinuation is likely to be high.)

Use FDCs if available, to reduce pill burden and increase adherence.

ARV prophylaxis options in sexual assault. All HIV exposures through sexual assault are considered to be high risk and should be treated as indicated. TDF + 3TC +LPV/r (adults only) Or AZT + 3TC +LPV/r (for adults and children)

SUMMERY OF MANAGEMENT

Eligibility	Exposure within 72 hours. Exposed individual not HIV-Infected. High risk exposure. Source individual HIV –positive or unknown status.
Counseling and testing the exposed individual	Offer information on risk and benefits. Verbal consent adequate. Baseline HIV test in HIV exposed and source individual.
ARV agents for PEP	Occupational exposure. - TDF or AZT + 3TC+ LPV/r - TDF or AZT + 3TC Sexual assault (adult) TDF or AZT + 3TC + LPV/r (children) AZT or ABC + 3TC + LPV/r
Time of initiation	As soon as possible after exposure, but not later than 72 hours.
Duration of therapy	28 days
Dose of pep	Same as indicated for ART, use dosing wheel for children for age appropriate dosing.
Follow up	Follow up HIV testing at 3 and 6 months after exposure. Hb (if AZT – containing regimen used for PEP. Hepatitis B and C screening (if available) Management of side effects.

Counseling	Adherence counseling, risk reduction, trauma and mental health problems, social support and safety, safe sex practice.
Other services.	STI prophylactic treatment to all. Additional services for rape cases.

RDS STAFFS ACTION IN CASE OF EXPOSURE.

- Report to the team leader of the doctor immediately it happens.
- The HIV counselor to assess the source of exposure.
    - HISTORY – If known case of HIV infection, if on ARVS or Not, if non positive or the risks of infection.
    - -HIV TESTING – If not known case the there should be an HIV test upon verbal consent
- The exposed staff(s) should immediately be taken to the nearest ART center together with the information obtained above, where there are qualified staffs to deal with such cases.
  NB – All team leaders have the information regarding the nearest ART center.

Adopted from:
Guidelines for ART in Kenya 4th edition 2011.