



# JEEP DOCTOR MANUAL 2015-2016



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

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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 **1<sup>st</sup> 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 ( $\geq 2$  seconds)

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

Some dehydration

2 or more of the following signs:

- restlessness, irritability
- sunken eyes
- drinks eagerly, thirsty
- 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

<1/2 yr	<b>10 mg OD 14/7</b>
1/2 - 5 yr	<b>20 mg OD 14/7</b>

# MALARIA

## Uncomplicated malaria

Symptoms: 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 1 day!

Diagnosis: **Microscopy and on Mummies jeeline 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 undertaken

### *Some facts about rapid diagnostic tests for 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 any of the other three plasmodia.

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

**pLDH**= plasmodium Lactate Dehydrogenase, 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.

Microscopy 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-falciparum 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 severely ill.

### **1st line treatment:**

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

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

The 1<sup>st</sup> 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. 2<sup>nd</sup> 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, 1 after 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, 3 after 8 hrs, then 3BD 2/7	375-500 mg TD 3/7
≥ 34		4 stat, 4 after 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 1<sup>st</sup> 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:

or **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, conjunctivae, 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, 10 mg/ 2 ml, for rectal administration in a syringe without a needle. Insert it 2-3 cm.

=P=,=L=

<2 years (<10 kgs) **5mg**

>2 years (>10 kgs) **10mg**

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

or:



**Quinine IM 20 mg /kg loading dose** to max 1200mg + Glucose /sugar  
 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!

=P=,=L=

**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 water** 5 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 1<sup>st</sup> trimester and at the beginning of the 3<sup>rd</sup> 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 1<sup>st</sup> hour

5-adult: 1puff in the spacer, 5 breaths. To be repeated up to 20 times under the 1<sup>st</sup> 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 betametason 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:** **Amoxicillin**

## **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 suppressant syrup** could be offered, not to children <10 kg though.

**Home made saline nose drops**, administer content of one pipette in each nostril as often as needed. Give parent a plastic pipette, the ones use in lab for capillary blood sampling

1 pinch (1 ml) of salt dissolved in 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.

**Boric acid** if very swollen and abundant in discharge

**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 penicillin allergy **Erythromycin**

## 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: 1<sup>st</sup> 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 use

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 gonorrhoea 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 mg PO 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< 1<sup>st</sup> trim. =L= divide into smaller doses

Can be diagnosed by microscopy at the jeplines where this is available. Clinically it is impossible to distinguish trichomonas and gonorrhoea, so give both **Metronidazole** and **Azithromycin 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< 1<sup>st</sup> 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.

**Azithromycin PO 1 g stat**

=P=, =L=

+ **Metronidazole Tabs 400mg BD 7/7**

>P< 1<sup>st</sup> 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 Tabs 100mg BD 14/30** or **Erythromycin Tabs 250mg 2 QD 14/30** if Pc allergic.

Secondary: 4-12 weeks after primary lesion. 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 250mg 2 QD or 4 BD , 7/7**

=P=, =L=

- +**Inj Benzathine benzylpenicilline 2.4 mU IM stat**, half dose in each 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 groove « string sign »

Refer if severe

**Doxycycline Tabs 100 mg BD 14/7**

>P<2<sup>nd</sup> and 3<sup>rd</sup> trimester, Lavoid if possible

Or **Erythromycin Tabs 250mg 2 QD 14/7**

=P=, =L=

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

Venerial warts- HPV-Condyloma:

Refer. Indication for screening for precancerous lesion of cervix. Surgery when big.



## HIV-AIDS

Human Immunodeficiency Virus, mostly 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. Symptomatic 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, seborrheic 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

Kaposi 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** in 2 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 3-4 weeks or **Doxycycline**

Review weekly

# SKIN DISORDERS

## Eczemas

Atopic eczema

Common. Often more severe than in Europe. Lichenification and popular form is common.

Ointments on dry, lichenified lesions

**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 Violet** 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.

Seborrheic eczema

On scalp, face, behind ears, in axilla, chest and perianal area. Often becomes very severe in HIV-patients

Creams on wet lesions

**Clotrimazole cream BD 7/7**

**Hydrocortisone 1% cream BD 7/7.**

Severe cases: **Fluconazole 150mg OD 7/7**

If secondary infection **Cloxacillin 7/7** or **gentian violet 0.5%** paint daily until lesions are dry

## Fungal infections

Athletes' 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 and 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 doxycycline 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 disfigurement of the nose, bones, joints and palmar/plantar hyperkeratosis.

**1<sup>st</sup> line treatment:** **Azithromycin 30 mg/kg** to max 2g.

**2<sup>nd</sup> 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 scabidial treatment.

**BBE lotion 25% OD 2/7** over the entire body but not on sores 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 2<sup>nd</sup> application should be done after 24 hours with a rinse between the applications.

No 2<sup>nd</sup> application in pregnant and children <2 y.

Close contacts of the patient should be treated simultaneously even in absence of symptoms. Clothing and bedding should be changed washed and exposed to sunlight 72 hours or sealed in a plastic bag for 72 hours after each treatment.

**Chlorpheniramine 4mg tabs** or **Syrup 2mg/5ml**

=P=, >L<

The itching often persists 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 ointment BD 7/7**. Remove crusts before applying topical scabicide

**BBE lotion** and **Chlorpheniramine** as above

**Ivermectin 200 mcg/kg, single dose twice, 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 sores 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.

**Ibuprofen 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

Ophthalmic; Purulent conjunctivitis, keratitis, xerophthalmia

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**

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

If pneumonia or ENT, **Amoxicillin**

**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 7/7** on 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:

- 1<sup>st</sup> week; Rising remitting fever, usually without chills, headache, malaise, abdominal discomfort, constipation, sometimes diarrhea, epistaxis.
- 2<sup>nd</sup> 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
- 3<sup>rd</sup> week; Increasing toxicity, delirious patient. Persistent high fever. Feeble pulse. “pea soup” diarrhea. Risk of complications
- 4<sup>th</sup> 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:

**Ciprofloxacin 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  $\geq 3$  weeks

### **Mouth infections**

Ulcers, periodontitis, 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 jepline 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<1<sup>st</sup> trim, =L=  
or **Albendazol 400 mg stat** >P<1<sup>st</sup> 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<1<sup>st</sup> trim, =L=  
or **Albendazol 400 mg stat** >P<1<sup>st</sup> trim, =L=

Child > 6 m but < 10 kg **Albendazol 200 mg stat**

+ **Ferrous sulphate** or **Ferrovitamin syrup 14/7**

### **Threadworms, Pinworms, Enterobiasis, Oxyuris**

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

Adult + children > 1 yr (10 kg): **Mebendazol 500 mg stat** >P<1<sup>st</sup> trim, =L=  
or **Albendazol 400 mg stat** >P<1<sup>st</sup> 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 insufficient

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

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## **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** Tabs not to be divided

**or Hydrochlorthiazide Tabs 50 mg ½-1 OD 7/7**

**or Atenolol Tabs 50mg 1-2 OD (if pulse rate over 90) 7/7**

>1<sup>st</sup> trimP=avoid in L

>P<, >L<

=P=, >L<

**In pregnancy:** refer if  $\geq 140/90$ , 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 sequelae

*Carditis:* in 40-50%. Mild if only endocarditis, severe if myo- and pericarditis.

Signs: persistent tachycardia, 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 **PeV**.

## 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< 1<sup>st</sup> trim, =L=


>P< 1<sup>st</sup> 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 Coastal 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 5/7** or  
**Chloramphenicol eye drops 0,5% 5/7 2gtts 6-8 times daily**  
**Amoxicillin 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 herpeskeratitis or fungal infection.

## Xerophthalmia

Corneal ulceration from malnutrition affects young children only. The main cause is Vitamin A deficiency. PEM, intestinal parasites, measles and malaria can precipitate acute xerophthalmia.

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 xerophthalmia
- 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 )**

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

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## 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

**Diazepam IV ampoules 2ml 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

20-40kg TD 3-5/7

>P<, =L=

Severe pains in acute osteoarthritis, 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 1<sup>st</sup> trim =L=

Uncomplicated 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=

1<sup>st</sup> 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 1<sup>st</sup> 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

2<sup>nd</sup> 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

### Azithromycin 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 &lt;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

&lt; 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

&gt; 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

&gt; 12y 2 BD

**Doxycycline****>P<2<sup>nd</sup> and 3<sup>rd</sup> 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 &gt; 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

Child 10 mg/kg TD 5/7  
 Adult 600-800mg TD 5/7

## Giardiasis

Child 12-15 mg/kg TD 3/7  
 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 1<sup>st</sup> 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

### Diazepam 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 1<sup>st</sup> hour

5-adult: 1 puff in spacer, 5 breaths. To be repeated up to 20 times under the 1<sup>st</sup> 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 ointment**

Anti fungal, exfoliating. Tinea capitis.

BD 7/7. Often longer treatment needed.

**Benzyl benzoate 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 2<sup>nd</sup> 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

<b>Ferrous sulphate tabs 200mg</b>	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**

<b>Tetracycline eye ointment</b>	1%BD 7/7
<b>Chloramphenicol eye drops</b>	0,5% 1 gtt 6-8 times daily 5/7
<b>Boric acid, external otitis</b>	2 gtt 6-8 times daily 5/7
<b>Sodium Chromoglycate</b>	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
5-10 kg	2,5 ml	TD
10-15 kg	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

>1<sup>st</sup> trimP=avoid in L

**Praziquantel**

Tabs 600mg: >2 y

Bilharzia, 40 mg/kg stat

Taeniasis 10 mg/ kg stat

=P=, =L=

**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.



## 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

*Integrated Management of Childhood Illness*, WHO/CHD/UNICEF

*Management of the child with a serious infection or severe malnutrition* WHO ISBN 92-4-154531-3

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WHOs different fact sheets at [http://www.who.int/mediacentre/factsheets/en/WHO Model Lists of Essential Medicines Adults, 18<sup>th</sup> edition April 2013 and Children 4<sup>th</sup> edition 2013](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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*PLOS Medicine, Public Library of Science*, <https://www.plos.org>,

Artiklarna: *Health is still social: Contemporary examples in the age of genome*.

The neglected diseases section [www.journals.plos.org](http://www.journals.plos.org)

*Course in GLOBAL MEDICIN / INTERNATIONAL HEALTH Jönköping 2011*

*Helpful in reviewing during various updates:*

*Dr Ann Åkesson, Consultant Physician Specialist at Infectious Diseases Clinic Hallands Hospital Halmstad*

*Dr Per E Hedman MD, DTM&H, Infectious Diseases Clinic Karolinska Sjukhuset South Hospital*

*Dr Sven-Åke Hedström, Specialist Infectious Diseases*

*RDS Medical Council: Dr Alena Novak and Dr Anne-Marie Pernulf*

*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 sterile 0.9 % sodium chloride 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  
Boric acid  
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	STAT	= statim = immediately= give urgently
IM	= intramuscular	OD	= omni die = 1dd= one dose daily
PO	= per.os	BD	= bis die = 2dd
Hx	= history	TD	= ter die = 3dd
c/o	= complaints of	QD	= quater die = 4dd
o/e	= on examination	PRN	= pro re nata = when needed
L	= laboratory		
Dx	= diagnose	1/7	= 1 day,
Rx	= medical prescription, treatment or if referred	3/7	= 3 days etc.
TCA	= to come again or review	1 week	= 7/7, 7/30 or 1/52.
		1 month	= 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 = hydrochlorthiazide  
KTZ = ketoconazole  
LMS = levamisole  
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. Boric acid Eardrops
8. Gentian violet 0,5%
9. Ivermectin Tabs
10. Amoxicillin/Clavulanic Acid tabs = Augmentin; 4 different strengths, Augmentin 4 times cost of generic

# ATTACHMENT G

## **POST-EXPOSURE PROPHYLAXIS FOR STAFFS UNDER RDS PROGRAMS**

### **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 ACQUISITION (%)
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 regimen**

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; however 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; however 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)

### **SUMMARY OF MANAGEMENT**

<b>Eligibility</b>	Exposure within 72 hours. Exposed individual not HIV-Infected. High risk exposure. Source individual HIV –positive or unknown status.
<b>Counseling and testing the exposed individual</b>	Offer information on risk and benefits. Verbal consent adequate. Baseline HIV test in HIV exposed and source individual.
<b>ARV agents for PEP</b>	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
<b>Time of initiation</b>	As soon as possible after exposure, but not later than 72 hours.
<b>Duration of therapy</b>	28 days
<b>Dose of pep</b>	Same as indicated for ART, use dosing wheel for children for age appropriate dosing.
<b>Follow up</b>	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.
<b>Counseling</b>	Adherence counseling, risk reduction, trauma and mental health problems, social support and safety, safe sex practice.
<b>Other services.</b>	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 4<sup>th</sup> edition 2011.