TREATMENT MANUAL
2013

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ROTARY DOCTORS

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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, Medicins Sans Frontières. ISBN 2-906498-78-5

National Guidelines for the Diagnosis, Treatment and Prevention of Malaria in Kenya, Third Edition. 2010.

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 www.who.int

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

Clinical Guidelines for Management and Referral of Common Conditions at Level 2-3: Primary Care. www.health.go.ke.

Kenya Essential Medicines List 2010 - World Health Organization

Where there is no doctor. A village health care handbook. ISBN 0-333-51652-4.

Tropical Medicine and Parasitology. ISBN 0-7234-2069-6

MEDICAL EQUIPMENT AVAILABLE IN THE JEEP/DOCTOR'S HOUSE

CONTENTS OF DOCTORS BOX/HOUSE

- Stethoscope
- Blood pressure meter
- Otoscope (battery operated)
- Disposable caps for otoscope
- Thermometer
- Foetoscope
- LED flashlight
- Wooden spatulas
- Clinical Guidelines Kenya
- Injectable drugs: diazepam, quinine,
- Tweezers(anatomical, surgical)
- Surgical blades + surgical handle
- Scissors (1 smaller , curved+ 1 straight, standard sized)
- Syringes 2,5 and 10 ml
- Needle holder
- Sutures with needles (to be brought from the Netherlands, Non-absorbable, cutting,monofil 3-0, 4-0 and 5,0)
- Disposable gloves
- Lignocaine 2%
- Salbutamol + aerochamber
- Kidney dish + ear syringe
- Foley catheters (CH16)
- Bandages MEDS size 4", 2"
- Tape measure, MUAC tape
- Scale + hanging scale for babies
- Urinary test sticks
- Vaseline (=petroleum jelly) as lubricant gel for rectal examination

Doctors are advised to bring the following from the Netherlands

- hand disinfectant gel or similar
- head torch

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.

ROTARY DOCTORS

MEDICAL RECORD KEEPING, ABBREVIATIONS AND ROUTINES FOR PRESCRIBING DRUGS

Patient based. Make short notes in patient book.
Always write the full treatment, dosage and duration in the patient book.
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.

H	= history		
CO	= complaints of	**BD**	= 2 dd
E	= on examination	**TD**	= 3 dd
L	= laboratory	**QD**	= 4 dd
D	= diagnosis	**1/7**	= 1 day
R	= medical prescription, treatment	**3/7**	= 3 days etc.
TCA	= to come again or review	**1 week**	= 7/7, 7/30 or 1/52.
Stat	= immediately = give urgently	**1 month**	= 1/12
OD	= 1 dd = one dose daily	**ANC**	= ante natal clinic

ART	= anti retroviral therapy
BP	= blood pressure
BS for mps	= blood slide for malaria parasites
C	= coughing
CCC	= Comprehensive Care Centre
CO	= complaining of
D	= diarrhoea
F	= fever
FBS	= fasting blood sugar
IPTP	= Intermittent Preventive Treatment of malaria in pregnancy
LOA	= loss of appetite
LOW	= loss of weight
MUAC	= mid-upper arm circumference
NAD	= no abnormalities detected
O/C	= ova / cysts (in stools)
PCM	= paracetamol
PEP	= post exposure prophylaxis
PITC	= provider initiated testing and counseling
PMH	= past medical history

PR	= pulse rate
PSC	= Patient Support Centre
PITC	= provider initiated testing and counseling
RBS	= random blood sugar
RDT	= rapid diagnostic test (for malaria in this context)
RR	= respiratory rate
TCA	= to come again
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 lactation

ABBREVIATIONS OF COMMON DRUGS

AL	= coartem	**GRIS**	= griseofulvin
AMC	= amoxycillin/ clavulanic acid	**HC**	= hydrocortisone
AX	= amoxycillin	**KTZ**	= ketoconazole
BBE	= benzylbenzoat lotion	**LMS**	= levamisole
CH	= chloramphenicol	**MBZ**	= mebendazole
CIPX	= ciprofloxacin	**MN**	= metronidazole
CL	= clotrimazole	**ORS**	= oral rehydration salts
CLOX	= cloxacillin	**PCM**	= paracetamol
DX	= doxycycline	**PenV**	= penicillin V
ERY	= erythromycin	**SMX/TMP**	= Co- Trimoxazole=septrim

ROTARY DOCTORS

MALARIA

UNCOMPLICATED MALARIA

Symptoms:

- fever
- chills
- vomiting
- diarrhoea
- refusal to eat
- abdominal pains
- joint pains

Diagnosis: BS for Malariaparasites

All patients with fever or recent history of fever should be tested for malaria.

Only patients who test positive should be treated for malaria.

If testing is not possible, all children under 5 with fever should be classified and treated for malaria.

Always ask the patient if he/she has already taken a treatment (any doses) against malaria.

In children <5 kg malaria is not a common cause of fever. Always evaluate for other causes.

Important about Paracheck Pf: It is a two site sandwich immunoassay for the detection of P. falciparum specific histidine rich protein –2 (Pf HRP-2) in whole blood samples. Sensitivity P.falciparum malaria. – 98.6%. This test detects only P. falciparum malaria.

Non- falciparum malaria may be misdiagnosed as Parachek remains negative.

False negative results may be associated with low parasitemia. These patients are often asymptomatic. Patients with severe malaria and high parasitemia might have negative test in rare cases.

RDT tests give only a quality result and may remain positive 2-3 weeks following effective treatment.

P. falciparum malaria is the predominant species in Kenya (98.2 per cent).

The check is expensive:110 Ksh; not used by RDN Kenya

1ST LINE TREATMENT

Artemether- Lumefantrine 20/120 mg= Coartem (AL) and **paracetamol**

Rehydration + avoiding hypoglycaemia , **ORS** (or **breastfeeding**) when there is diarrhoea

Zinc tabs 20mg <½ y 10 mg OD 14/7, >½y 20mg OD 14/7

bodyweight	DAY 1 1st dose	 8 hrs	DAY 2 24 hrs	 36 hrs	DAY 3 48 hrs	 60 hrs
< 5 kg	1/2	1/2	1/2	1/2	1/2	1/2
5-14 kg	1	1	1	1	1	1
15-24 kg	2	2	2	2	2	2
25-34 kg	3	3	3	3	3	3
> 34 kg	4	4	4	4	4	4

2ND LINE TREATMENT

Referral

The recommended second line treatment for uncomplicated malaria in Kenya is dihydroarte-misinin-piperaquine (DHA-PPQ).

MALARIA IN PREGNANCY

Pregnant women are particular at risk when having malaria. Always check Bs for MPS in pregnant women with fever.

Uncomplicated

1st trimester	**Quinine 300mg**	PO 2 TD 7/7
2nd and 3rd trimester	**Artemeter-Lumefantrine**	4 BD 3/7

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

IM Quinine 20 mg /kg to max 1200 , 600 mg in each buttock

Glucose

SEVERE MALARIA/CEREBRAL MALARIA

- fever
- general weakness,
- prostration,
- shock;
- cold extremities
- weak pulse
- convulsions,
- respiratory distress (nasal flaring, fast breathing, chest indrawing)
- altered level of consciousness
- severe anaemia (very pale conjunctivae , palms of hand, oedema)
- disseminated intravascular coagulopathy-

- spontaneous bleedings in skin, gums, conjunctivaes,nose, blood in stools
- renal failure (oligo-or anuria)
- haemoglobinuria (black water fever)
- jaundice

PRE-REFERRAL MANAGEMENT

- Convulsions **0,5 mg diazepam/kg rectally** **=P=,=L=**
  Use diazepam rectiole: **< 2 yrs 5 mg diazepam > 2yrs 10 mg diazepam**

- **Quinine IM, 20 mg/kg** loading dose **=P=, =L=**
  ampules 2 ml (300 mg/ ml quinine dihydrochloride)
  Dilute before use to 50 mg / ml (1ml quinine + 5 ml sterile water)

bodyweight	ml diluted quinine (50mg/ml)	Places of injections (buttocks)
<5 kg	1 ml	1
5,1-7,5 kg	1,5 ml	1
7,6-10 kg	2,0 ml	1
10,1-12,5 kg	2,5 ml	1
12,6-15 kg	3,0 ml	1
15,1-17,5kg	3,5 ml	1
17,6-20kg	4,0 ml	2
20,1-22,5kg	4,5 ml	2
22,6-25 kg	5,0 ml	2
25,1-27,5 kg	5,5 ml	2
27,6-30 kg	6,0 ml	2
30,1-32,5 kg	6,5 ml	3
32,6-35 kg	7,0 ml	3

ORS, Sugar water 5 g (1 teaspoon) in 50 ml of water **Paracetamol**

INTERMITTENT PREVENTIVE TREATMENT OF MALARIA IN PREGNANCY = IPTP

Fansidar = Sulphadioxine-Pyrimetamin, 500mg/25mg

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

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

INSECTICIDE TREATED NETS (ITN)

ITN are advised

- for pregnant women and children < 5 50 Ksh (government program)
- for patients > 5 years 50 Ksh

TREATMENT FOR NON-IMMUNES

Coartem (artemeter-lumefantrine) 24 tab

day 1 4 tab after 8 hours again 4 tab
day 2 24 hours after the first dose, 4 tab BD
day 3 4 tab BD

Malarone (atovaquone/proguanil)

As prophylaxis: use 1 OD at breakfast
Anti malarial treatment: 4 tab stat for three days.
Side effect: nausea

MALNUTRITION

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

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 : marasmus –kwashiorkor

MUAC 1-5 yr <11,0 cm

- Anorexia,
- oedema:bilateral tibial;periorbital ,
- severe anaemia,
- dehydration or infection,
- signs of vitamin A deficiency (dry conjunctives, >Bitots spots, corneal ulcers, keratomalacia).
- 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 - 3,5cm

Children without significant medical complications may undergo ambulatory treatment.

WEIGHT FOR AGE REFERENCE TABLE

Year	Mths	st.(kg)	80%	60% Marasmus
	0	3.4	2.7	2.0
	1	4.3	3.4	2.5
	2	5.0	4.0	2.9
	3	5.7	4.5	3.4
	4	6.3	5.0	3.8
	5	6.9	5.5	4.2
	6	7.4	5.9	4.5
	7	8.0	6.3	4.9
	8	8.4	6.4	5.1
	9	8.9	7.1	5.3
	10	9.3	7.4	5.5
	11	9.6	7.7	5.8
1	12	9.9	7.9	6.0
	15	10.6	8.5	6.4
	18	11.3	9.0	6.8
	21	11.9	9.6	7.2
2	24	12.4	9.9	7.5
	27	12.9	10.5	7.8
	30	13.5	10.8	8.1
	33	14.0	11.2	8.4
3	36	14.5	11.6	8.7
	39	15.0	12.0	9.0
	42	15.5	12.4	9.3
	45	16.0	12.8	9.6
4	48	16.6	13.2	9.9
	51	17.0	13.6	10.2
	54	17.4	14.0	10.5
	57	17.9	14.4	10.7
5	60	18.4	14.7	11.0

W-A% of standard	oedema	no oedema
80-60	kwashiorkor	mild-moderate PEM
< 60	marasmic kwashiorkor	marasmus

Management

- Nutritional guidance of nurse to mother or caretaker.

- Medical and nutritional treatment:

Test for Malaria, if positive:	**Coartem BD 3/7 BD 5/7**
Presumed subclinical infection:	**Amoxicillin BD 5/7 or Co-Trimoxazole BD 5/7**
Worms:	**Mebendazol 500 mg to all children >24 mths**
If oral thrush:	**Nystatin oral drops 1 ml QD 7/7**

Multivitamin	1-5yrs	1 OD 7/7	Syrup 2,5 ml BD 7/7
	5-15yrs	1 BD 7/7	5 ml BD 7/7

Vit A OD 2/7 + OD day 14:

< ½ yr 5	0.000 IU
½-1 yr	100.000 IU
> 1 yr	200.000 IU

Folic acid 5 mg OD 7/7

Zinc tabs 20mg	<½ yr	10 mg OD 10/7
	½ - 5 yr	20 mg OD 10/7

Once gaining weight and oedema disappeared

Ferrous sulphate 3 mg/kg/day

4 - 6 kg	1 ml	BD 14/7
6 - 8 kg	1,5 ml	BD 14/7
8 - 10 kg	2 ml	BD 14/7
10- 12 kg	2,5 ml	BD 14/7
12- 20 kg	5 ml	BD 14/7 or 1 tab OD 14/7
20- 35 kg	1 tab	BD 14/7

ORS if dehydrated

Support children with **baby porridge or NAN**.

Check immunization state, complement if necessary

Review every week until good weight gain is observed, > 5 mg/kg/day

If failure over a 2-week period refer to hospital. HIV? TB?

RESPIRATORY TRACT DISEASES AND INFECTIONS

ASTHMA, CHRONIC INTERMITTENT OR MILD ATTACK

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

ACUTE ASTHMA

Salbutamol **puffs QD**

7/7 + aerochamber

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

Prednisolone p.o 1-2 mg/kg Stat

Refer to hospital if no response

PNEUMONIA MILD TO MODERATE

First line treatment:

Amoxycillin 250 mg caps or susp 125mg/5 ml TD 5/7

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

Second line treatment;

Erythromycin

Doxycycline

SEVERE PNEUMONIA

Refer

TUBERCULOSIS

Suspect if prolonged cough (> 2w), chest pain, fever, night sweats, weight loss, breathlessness.

Refer to hospital, TB clinic for treatment (drugs are free of charge)

BRONCHIOLITIS

RS virus, common <1 year

Refer if there is apathy, dyspnoea, cyanosis, rapid breathing!

COMMON COLD

Cough expectorance, advice to use honey in boiled water.

ACUTE OTITIS MEDIA = AOM

Paracetamol

In breastfed children breastmilk could be squirted in nostrils before nursing.

< 5 years : **amoxycillinTD 5/7**

> 5 years : **amoxycillin** or **penicillin V**

EXTERNAL OTITIS

Paracetamol

Remove debris, dry wicking

Water rinsing if visualized normal tympanic membrane.

Hydrocortison creme 1% BD 5/7 if severe pruritus

Gentamicin ear drops 2dr TD 5-7/7 if bacterial infection

Cloxacillin TD 5/7 if severe infectious signs, furuncle

TONSILLITIS ACUTE

When a streptococcal infection is suspected:

PenV 125-250 mg TDS 10/7

THE VERY SICK CHILD

Check for general danger signs

- Refusal to eat or drink
- Vomits everything
- Convulsions
- Lethargy or unconsciousness

If any of danger signs presents, the child should be referred to hospital urgently after initial treatment.

Convulsions: 0,5 mg diazepam/kg rectally

Fever>38: Paracetamol

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: BS for MPS
Test Hb
Test glucose

RESPIRATORY DISTRESS

- Stridor
- chest indrawals
- respiratory rate
- nasal flaring

In children fever may cause respiratory rate 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.

DIARRHOEA AND SEVERE DEHYDRATION

Severe dehydration: 2 or more of the followings signs:

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

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

DIARRHOEA

ACUTE DIARRHOEA

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

ACUTE BLOODY DIARRHOEA

SHIGELLA

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

adults	**Ciprofloxacin**	**500 mg BD**	**3/7**	**>P<, =L=**
children		**15 mg/kg BD**	**3/7**	

Refer if pregnant

AMOEBIASIS

spreads by contaminated water, vegetable.
Affects mostly adults.
low infectivity.
Clinic range from asymptomatic carrier state (90%) to fulminant colitis and extra-intestinal amoebiasis, peripheral abscesses. Liver abscess is the most common.

AMOEBIC DYSENTERY

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

adults	**Metronidazol 200mg**	**4 tabl TD**	5/7	**>P< 1st trim, =L=**
children		**15mg/kg TD**	**5/7**	

ORS

AMOEBIC LIVER ABSCESS

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

Refer if severely ill

Treatment:

adults	**Metronidazol 200mg**	4 tabl TD	5-10/7	**>P<, =L=**
children		15mg/kg TD	5-10/7	

ACUTE NON-BLOODY DIARRHOEA

Without fever: viral, E-coli, food poisoning, giardiasis (early

With fever: malaria, salmonellosis, sepsis, E-coli, campylobacter enteritis, cholera

GIARDIASIS

Spread by contaminated water

Affects mostly children.

High infectivity.

- watery stools initially, later steatorrhoea may occur, no fever,
- abdominal distension, flatulence, “rumbling stomach”, burping, “rotten egg smell”
- weight loss

adults	**Metronidazol tabs**	**200mg 3 TD**	**3/7**	**>P<, =L=**
children		**10 mg/kg TD**	**3/7**	

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” diarrhoea, 5-20 l/day!, fever(children)
- vomiting, malaise.

Refer

Report new case immediately to health authorities!

Treatment mainly rehydration, antibiotics in severe cases: **doxycycline, erythromycin**

PERSISTANT DIARRHOEA (more than 2 weeks)

- Giardiasis,
- other intestinal protozoan infections,
- E-Coli,
- HIV,
- intestinal TB,
- malnutrition,
- pancreatitis,
- liver disease,
- coeliac 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

Refer for IV rehydration
start rehydration with **ORS**

Some dehydration: 2 or more of the followings signs:
- restlessness, irritability
- sunken eyes
- drinks eagerly, thirsty

Rehydration with **ORS**.

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

Continue breast feeding if child is breastfed
Zinc tabs 20 mg: to reduce duration and severity of diarrhea

<6m	10 mg	**½ OD 14/7**
>6m	20 mg	**1 OD 14/7**

THE CHILD WITH DIARRHOEA

DEHYDRATION

	plan A	plan B	plan C
condition	well /alert	restless / irritable	lethargic / floppy
eyes	normal	sunken	very sunken / dry
tears	present	absent	absent
mouth / tongue	moist	dry	very dry
thirst	drinks normally	thirsty	drinks poorly / not
skin pinch	goes back quickly	goes back slowly	goes back very slowly
	no dehydration	some dehydration	severe dehydration

PLAN A (at home)

- Give more fluids than usual (f.e. ORS) to prevent dehydration.
- Continue BF – milk – solid food
- Not getting better in 3 days: Take the child to the health-worker

Age	ORS after each loose stool
< 24 months	50 - 100 ml
2 – 10 years	100 – 200 ml
10 years or more	As much as wanted

Show the mother how to give ORS:

- <2 years: one teaspoon every 1 – 2 minutes (no bottle or teat. Cave infection!)
- Older child: frequent sips from a cup.
- After vomiting, wait for10 minutes. Then give more slowly.

PLAN B (at home)

Amount of ORS to give in the first 4 hours:

Age	< 4 mths	4 – 11 mths	12–23 mths	2 – 4 years	5 –14 yrs	> 14 yrs
Weight	< 5 kg	5 –7,9 kg	8 –10,9 kg	11-15,9 kg	16-29,9 kg	> 30 kg
in ml	200-400	400-600	600-800	800-1200	1200-2200	2200-4000

If the child wants more, give more.

If the child is getting better, shift to plan A.

PLAN C : refer to hospital.

Give the mother some ORS and show her how to give it to her child during the journey.

MALNUTRITION.

	Weight for age	Weight for height	Symmetrical oedema
Moderate malnutrition	60 – 75%	70 – 80%	no
Severe malnutrition	< 60%	< 70%	yes

ACUTE DIARRHOEA WITHOUT BLOOD.

Common causes: Rotavirus – ETEC (enterotoxigenic E.coli) – cholera (during epidemics)

Therapy:

- Dehydrationplan (see higher up)

- No antibioticics unless cholera (epidemic)
  No antidiarrhoeal drugs, no anti-emetics < 5 years
  No treatment for Giardiasis (unless persisting diarrhoea)

- Give Zinc for 10 - 14 days
  < 6 mths 10 mg/day (=1/2 tbl)
  >6 mths 20 mg/day

- Give Vitamin A for 2 days (unless given <1 month ago) if:
  - Bitot's spots cornea / xerophthalmia
  - Malnutrition
  - Measels within the past month

Dosis	< 6 mnths	50.000 IU/day
	6 mnths – 1 yrs	100.000 IU/day
	12 mnths – 5 yrs	200.000 IU/day

Mothers should be taught routinely to give their children carotene-rich food: yellow/orange fruits/vegetables and dark green leafy vegetables.

ACUTE DIARRHOEA WITH BLOOD (WITH OR WITHOUT FEVER).

Causes: 1. Shigella 2. Amoebiasis

Therapy:

- Dehydration plan (see higher up)
- Give Zinc and vit.A (see acute diarrhoea)
- Give antibiotics to which most Shigella in the area are sensitive (Ciprofloxacin)
- If better after 2 days: continue the antibiotics for 5 days

- If no improvement: refer to hospital
- In case of severe malnutrition: refer to hospital

Amoebiasis is an unusual cause of bloody diarrhoea in young children.

N.B.: In simple microscopic examination the non-pathogenic Entamoeba Dispar can not be differentiated from the parthogenic Entamoeba Histolytica.

PERSISTENT DIARRHOEA (> 14 DAYS).

Refer to hospital:

- children with severe malnutrition
- children with a serious pneumonia/sepsis
- children with signs of dehydration
- infants below 4 months of age

Treatment at home:

- Dehydration plan (see higher up)
- Diet: Continue BF
  Give yoghurt in place of milk or limit animal milk to 50 ml/kg/day for 7 days
  Give frequent small meals, at least 6 times a day
- No routine treatment of antibiotics
- Exclude other infections (pneumonia/sepsis/OMA etc)
- Treat Giardiasis only if cysts are seen in the faeces
- Give Zinc and vit.A (see acute diarrhoea)
- Give Multivitamins and 5 mg Folic acid for 7 days in case of severe malnutrition
- Follow/up after 1 week. No improvement: refer to hospital

PREVENTION OF DIARRHOEA

- During the first 6 months the infant should be exclusively breastfed.
- No feeding bottles or teats, but use a cup
- Monitor the weight / use growth chart
- Use safe water / boil shortly
- Wash hands with soap
- Food safety practices (washing – peeling – cooking etc)
- Measles immunization
- Vit. A supply during the immunization program

GENITOURINARY DISEASES AND SEXUALLY TRANSMITTED INFECTIONS

VAGINAL DISCHARGE

TRICHOMONAS VAGINALIS

Metronidazol PO 400mg BD **7/7 or 2g stat** **>P< 1st trim. =L=**

Follow up in 7 days. Ask patient to bring partner

CANDIDA ALBICANS

Clotrimazol pessaries 200 mg 1 OD **3/7**

Treat partner if symptomatic: Clotrimazole cream BD 7/7

Bacterial vaginosis (gardnerella vaginalis)

Metronidazol PO 400mg BD **7/7 or 2g stat** **>P< 1st trim =L=**

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.

Doxycycline PO 200 mg + 1OD 7/7 + **Ciprofloxacin 500 mg stat** **>P<, L avoid**

Pregnant: **Erythromycin 500mg PO QDS** **7/7**
+ **Metronidazol 400mg BD** **7/7** **>P< 1st trim. =L=**

Follow up in 7 days

GENITAL ULCERS

GENITAL HERPES

Incubation period 6-7 days.

Multiple painful blisters on and around genitals.

Test for HIV

Local treatment: clean with soap and water

Paracetamol or Diclofenac

Review 1 week

SYPHILIS

Incubation period~21 days

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

Doxycyclin 100mg BD 14/30 or **Erythromycin 250mg 2 QD 14/30**

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

Tertiary: Gummata, cardiovascular disease, CNS disease .

Refer to CCC/VCT clinic for counseling 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

Ciprofloxacin 500 mg BD	**3/7**	or	**>P<, =L=**
Erythromycin 500 mg QD	**7/7**		**=P=, =L=**

If abscess aspirate with needle. Avoid incision !

Review 1 week. Bring partner.

Counselling and health education.

Syphilis and chancroid cannot be surely distinguished on clinical grounds.

Treat for both if either is suspected!

LYMPHOGRANULOMA VENERUM (LGV)

Caused by a different serotype of chlamydia trachomatis than classical genital chlamydia.

Often coinfection with HIV

Primary painless vesicle, lasts a few days

Secondary Developing of bubo, a mass of enlarged lymph nodes in one groin both above and below the inguinal ligament making a grove « string sign »

Refer if severe

Doxycycline PO100 mg BD 14/7 or **>P< 2nd and 3rd trimester, L avoid if possible**

Erythromycin PO 500mg 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 leision of cervix.

Surgery when big.

URINARY TRACT INFECTIONS (UTI)

Cystitis (lower UTI)

If mild symtoms await treatment.

If haematuria indication for treatment

Nitrofurantoin 100 mg ½ TD 5/7 or **=P=, =L=**

Co-Trimoxazole 400/80 mg

adult 2 BD 3/7 **>P< last month =L= avoid if premature child**

PYELONEFRITIS (UPPER UTI)

Fever, lumbar pain, nausea, dysuria, stranguria, pollakisuria.

Consider referral

Co-Trimoxazole 2 BD 7-14/30 or **>P< last month =L= avoid if premature**

Amoxycillin 250 mg 2TD 7-14/30 **>P<, =L=**

ACUTE PROSTATITIS

Signs of cystitis, fever and perineal pain and very tender prostate

Ciprofloxacin 250 mg 2 BD 7/7 to be continued up to 3-4 weeks **>P<, =L=**

NEPHROTIC SYNDROME

Predominantly in preschool and school age children

Peripheral a Majority of idiopathic cause

In children sometimes secondary to malaria, UTI, HIV.

- facial oedema,
- frothy urine: proteinuria,
- ascites and pleural effusions.

Frusemid 20 mg OD 7/7

Prednison 5 mg BD 7/7

Consider refer to hospital

ANEMIA

Normal laboratory values:

new born < 2 wks	13-20 g/dl
infant 3 mths	9-14 g/dl
>6mths - 6yr	10-14 g/dl
>6 yr	11-16 g/dl

Symptoms:

- pallor of conjunctiva
- mucous membranes
- palms, soles, nail beds
- oedema of lower limbs
- dyspnoea,
- weakness

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

Specific signs: angular stomatis, glossitis, jaundice, signs of malaria, signs of chronic diseases

When Hb < 5 g/dl consider refer for blood transfusion or if anemia is accompanied by pneumonia, heart failure, confusion or oedema
Do not give iron if child has sickle cell disease; only folic acid

TREATMENT OF IRON DEFICIENCY ANEMIA

Ferrous sulphate 200 mg tab

Ferrovit syrup 100 mg fe.s+1½mgB1+ 1mg B2+ 2mg B6+ 5 mg B3=niacin/ 5ml

Children 30 mg Fe.syrup /kg/day in 2-3 doses/day. 4 months optimal

4 - 6 kg	1 ml	BD 14/7	
6 - 8 kg	1,5 ml	BD 14/7	
8 - 10 kg	2 ml	BD 14/7	
10- 12 kg	2,5 ml	BD 14/7	
12- 20 kg	5 ml	BD 14/7	or 1 tab OD 14/7
20- 35 kg	1 tab	BD 14/7	
adults	1 tab	TD 14/7	

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

Folic acid tab 5 mg	**1 OD 14/7**	in children	> 1 y and adults.
	0,5 mg/kg	in children	< 1 y
	4 months treatment is recommended .		

If not de-wormed in previous 3 months

Mebendazol	**500 mg stat**	to children >1y and adults	**>P< 1st trim , =L=**
	250 mg stat	to child > 6 m but < 10 kg	

Review after 2 weeks for more iron

IRON DEFICIENCY PREVENTION IN PREGNANCY

Tab Ferrous sulphate 200 mg OD	**14/7**
Folic acid 5 mg OD	**14/7**

SKIN DISORDERS

ECZEMA

Atopic eczema

Often more severe than in Europe. Lichenification, papular form is common.

Hydrocortisone 1% BD 7/7. Often longer treatment is needed.

Betamethasone 0,1% OD 7/7 in severe or refractive cases. Do not use in face.

Chlorpheniramine (Piriton) Tabs 4 mg when itchy. Not for children < 8 kg

	Weight	Dose
	> 40 kg	1TD
	20- 40 kg	½ TD
	15- 20kg	½ BD or 5ml BD

Calamine lotion BD

Emulsifying cream or **coconut oil** while child is still wet. (Not vaseline)

Cloxacillin TD 7/7 in case of severe infection

Form	Weight	Dose
Caps 250 mg	> 40 kg	3 TD
	20 - 40 kg	2 TD
	10 - 20 kg	1 TD
Susp 125mg /5 ml	< 5 kg	2,5 ml TD
	5 -10 kg	5 ml TD
	10 - 20 kg	10 ml TD

Review after 2 weeks

PITYRIASIS ALBA

Infants, children and adolescents. Multiple hypopigmented, vaguely bordered patches, on face, trunk and extremities.

- no treatment. Can persist for years.

SEBORRHOIC ECZEMA

On scalp, face, behind ears, in axilla, chest and perianal area.

Often becomes very severe in HIV- patients.

Clotrimazole cream BD 7/7

Hydrocortisone 1% cream BD 7/7

Severe cases: **Ketoconazole 200mg OD 7/7**
Cloxacillin or GV if secondary infection

FUNGAL INFECTIONS

Athletes´s foot: Itchy, macerated whitish scaling lesions in the interdigital spaces of the foot.

Pityriasis versicolor: Scaling hypopigmented macules on the neck and upper trunk.

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

Whitfield´s ointment BD 7/7 or **clotrimazole cream BD 7/7**. Often longer treatment is needed.

If severe tinea corporis adults: **griseofulvin 500 mg OD 7/7**
children: **griseofulvin 15 mg/kg OD 7/7**

Review after 2 weeks (long treatment needed, 4 - 8 weeks)

Tinea capitis:

Whitfield´s ointment BD 7/7 or **Clotrimazole cream BD 7/7**.

If infected treat the secondary infection first before topical treatment.

Cloxacillin or erythromycin 7/7.

Griseofulvin adults: **500 mg OD 7/7**
children 6-12 w: **15 mg/kg OD 7/7**.

in severe cases, pustules and nodules, purulent secretion, enlarged lymph nodes in neck, fever and headache

Alternative treatment for adults: **Ketoconazole 200mg BD 7/7**, often longer treatment needed

Candidiasis

Severe candidiasis is seen often in HIV infection. Test for HIV!

GV 0,5% paint OD-BD 3-5/7 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.

Griseofulvin is not an effective treatment for candida infections.

Mycetoma

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

- refer for surgical therapy.

BACTERIAL INFECTIONS

Impetigo:

dressing with povidone-iodine(Betadine) solution.

GV-paint 0,5% OD- BD 3-5/7 can be used

Penicillin V, Cloxacillin or **erythromycin 7/7** if allergic to PcV

Tropical ulcer:

- Common in children and teens. Often found a variety of bacteria.
- Initially small discoloured 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 discharge is 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 .

Penicillin V, cloxacillin or erythromycin 7/7 if secondary infected or very extensive.

Antibiotics may be useful in the early stages of phagedenic ulcers

Honey could be tried as dressing, if experienced and reliable patient or dependents.

Smear honey over the ulcer with a wooden spatula. Cover with compresses and bandage.

Daily changing.

Yaws:

caused by treponema pertenue.

Primary lesion (mother yaws); a wet, easily bleeding raspberry- like papule or nodule, which disappears after a few weeks leaving an atrophic scar.

Secondary lesions (daughter yaws) appear as generalized nodules and ulcerations if primary

Late yaws: might appear after a few years if primary or secondary yaws is not treated and infection is not treated. Presents in form of deformities of bones, joints and soft tissues.

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.

BBE lotion 25% OD 2/7	> 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

No second application in pregnant and children <2 y.

Chlorpheniramine 4mg tabs	> 40kg	1 TD	**=P=, >L<**
	20- 40kg	½ TD	
	15- 20kg	½ BD or 5ml BD	

Severe scabies = crusted scabies = Norwegian scabies

Soften crusts with **Whitfield ointment BD**

BBE lotion and **Chlorpheniramine** as above

Review once a week. Itching may persist up to 3 weeks

Consider repeating treatment 2-3 times.

Jiggers:

Invasion of the skin caused by a female sand fly, 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.

Management: Soak feet in **Lysol 12 %** for **15 minutes**.

Then the jiggers should be winkled out. The breaking of the jigger may cause inflammation and possible infection.

The feet should be soaked for about 15 minutes every day 1-2 weeks to completely kill the rest of the flies and eggs.

VIRAL INFECTIONS

HERPES ZOSTER

Is an early indicator of HIV. Always test for HIV.

Diclofenac 50 mg TD **>P<,>L<**

Calamine lotion for itch and drying in.

When eye involvement refer to eye-clinic.

Amitryptiline 25 mg BD

HERPES SIMPLEX - LIPS AND GENITALS

More severe and might be chronic in HIV patients.

MEASLES

Incubation 10-12 d

Prodromal phase, 2-4 d:	high fever, conjunctivitis, dry cough, running nose, Kopliks spots.
Eruptive phase, 5-6 d:	non-puritic erythematous maculopapules, begins on forehead, spreads downwards.

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

Complications:

Respiratory	Pneumonia, otitis, croup
Gastrointestinal	Stomatitis diarrhea, dehydration
Ophtalmic	Purulent conjunctivitis, keratitis, xerophtalmia
Acute malnutrition	
Neurological	Febrile seizures, encephalitis

Management:

Ensure adequate hydration, nutrition. Education to caretaker about complications.

Paracetamol

Consider **Amoxycillin PO 50 mg/kg BD 5/7** for prevention of RTI and ENT-infections, especially in malnourished children.

If pneumonia or ENT **Amoxycillin 250 mg caps** or **susp 125mg/5 ml TD 5/7**

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

Or **Co-Trimoxazole 400/80mg** or **susp 5/7**

Tabs 400/80mg	> 12y	2 BD
	6y -1 2y	1 BD
Susp 200/40mg/5ml	6m - 6y 5	ml BD
	1m - 6m	2,5 ml BD

Vitamin A = Retinol	6 m	50 000 IU OD 3 times	D1, D2 and D8
	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 D15

Zinc tabs 20mg	<½ yr	10 mg OD 14/7
	> ½ yr	20 mg OD 14/7

If purulent discharge in eyes, clean eyes BD with clean water then apply
Tetracycline eye ointment BD 7/7

AT OUTBREAK OF MEASLES: PROMOTE VACCINATION IN THE SURROUNDINGS!

BACTERIAL DISEASEAS/INFECTIONS

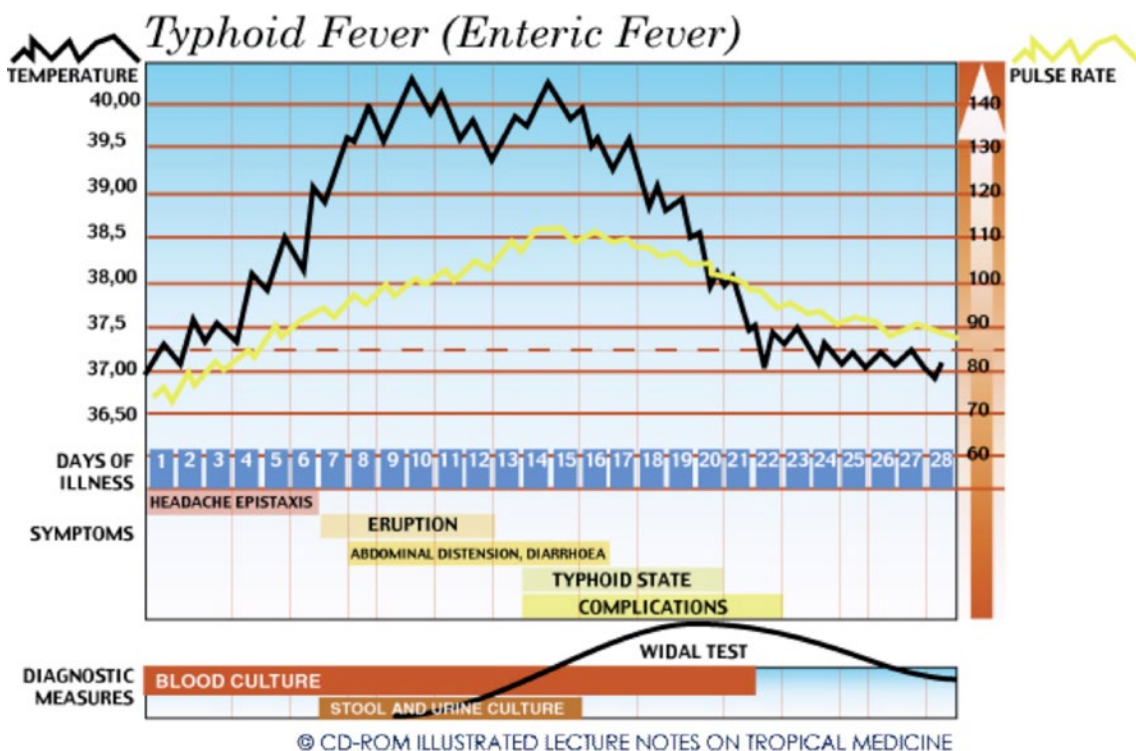
TYPHOID FEVER = ENTERIC FEVER

Salmonella typhi = Salmonella enteritidis serotype Typhi
• Transmission: contaminated water and food. Human reservoir, not a zoonosis
incubation period: 10-14 days.

Symptoms:

- fever
- headache
- abdominal pain
- diarrhoea (pea soup) or constipation
- dry cough, splenomegaly,
- relative bradycardia (not always),
- rarely roseola typhosa (not visible on dark skin)
- The patiënt is severely ill.

Complications: ileal perforation, organ abscesses
Clinical diagnosis!! Overdiagnosis is common.



Lab: leucopenia, faeces/urine/blood/bone marrow cultures
Widal test : lack of specificity and sensitivity. Widal test can be used to detect seroconversion (rising titere). O-antibodies (IgM=acute inf.) rise swiftly and disappear a few months after infection), H-antibodies (IgG=old inf.) rise slowly and will stay positive for long time.
If in an acute ill patient H-antibodies are positive: this is due to former and not to recent infection!!!
If in an acute ill patient O-antibodies are postitive and malaria is ruled out: strong argument for typhoid. Negative Widal does not rule out typhoid (frequent false negative).

Treatment: chloramphenicol, ampicillin, cotrimoxazole, ciprofloxazine (expensive!)
Prevention: water- and food hygiene.
• Relapse in 5-10% of the patients (5 to 14 days after fever has subsided), usually milder. Caused by reactivation of "dormant" bacteries, so this is not antibiotic resistance!
Treat with the same antibiotics!
Cave antibiotic resistance if there is lack of clinical improvement. Change antibiotics.
Cave chronic carriers (when also gallstones or bilharzia).

TYPHUS

Rickettsioses:
• Transmission; via lice, fleas, ticks or mites.
Poor hygiene. Incubation period: 1-3 wks.
• Basic lesion is vasculitis (in all organs)
Symptoms:
At the site of the bite sometimes a papulovesicular lesion with local necrosis: inoculation chancre (tache noire). Lymfnodes can enlarge. High fever, severe headache, muscle pain (quadriceps!), rash (may develop into purpura) and multi-organ involvement.
• Cough, dyspnoe, neurological signs, myocarditis, kidney failure from vasculitis, bleeding, gangrene, conjunctivitis, meningo-encefalitis.
• Clinical diagnosis!
Lab: trombopenia. Bloodculture.
•Weil Felix test: aspecific. Only a four-fold rise in titres is diagnostic for infection. With a single serum sample available the test is suggestive for infection only at a high cut-off titre (>1: 320)
Treatment: tetracyclines

Management: refer

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: refer

PYOMYOSITIS

- Pyogenic infection of muscle, mostly of limb and torso, 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 early stage and if patient is generally unaffected, medical treatment can be effective:

Cloxacillin	Caps 250 mg	> 40 kg	3 TD
		20 – 40 kg	2 TD
		10 - 20 kg	1 TD
	Susp 125mg /5 ml	< 5 kg	2,5 ml TD
		5 -10 kg	5 ml TD
		10 - 20 kg 10 ml	TD

Paracetamol

If no improvement in 48 hours to hospital for surgical drainage.

Review 1 week. Need for drainage?

Treatment needed ≥ 3 weeks

MOUTH INFECTIONS

Ulcers, peridontitis, gingivitis.

Sometimes as complications to measles.

Can deteriorate especially in malnourished children, HIV-patients and rapidly become necrotic and cause extensive destruction of tissues of the mouth and face = Noma

amoxicillin plus metronidazol

Refer severe cases.

Consider adjuvant treatment:

Multivitamin	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		
Vit A OD 2/7 + OD day 14	< ½ yr	50.000 IU	
	½-1 yr	100.000 IU	
	> 1 yr	200.000 IU	

Folic acid 5 mg OD 7/7

WORM INFECTIONS

Spread by contaminated ground and vegetables.
Worm infectinions can be prevented by using latrines and wearing shoes.
Diagnosis is based on clinical signs on jeepline clinics
Kenya has a national deworming programme 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 y(10 kg)	**Mebendazol 500 mg** stat	**>P< 1st trim , =L=**
Child > 6 m < 10 kg	**Mebendazol 250 mg** stat	

HOOKWORMS, ANCYLOSTOMA

- 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 attaches in the intestinal mucosa causing chronic blood loss and anemia

Adult + children > 1 y(10 kg)	**Mebendazol 500 mg** stat	**>P< 1st trim , =L=**
Child > 6 m but < 10 kg	**Mebendazol 250 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 y(10 kg)	**Mebendazol 500 mg** stat	**>P< 1st trim , =L=**
Child > 6 m but < 10 kg	**Mebendazol 250 mg** stat	

WHIPWORMS, TRICHURIASIS

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

Adult + children > 1 y(10 kg)	**Mebendazol 100 mg BD 3/7**	**>P< 1st trim , =L=**
Child > 6 m but < 10 kg	**Mebendazol 50 mg BD 3/7t**	

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 (to buy)

BILHARZIA, SCHISTOSOMIASIS

Humans are infected while wading och 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 buy)

EYE DISEASES

ACUTE BACTERIAL CONJUNCTIVITIS

Tetracyclin eye ointment QD 5/7 or

Chloramphenicol eye drops 0,5% 5/7 2 gtts 6-8 times daily

Amoxicillin PO 7/7 if swollen eye, fever

Susp. 125 mg /5 ml	< 5 kg	2,5 ml TD	
	5 -10 kg	5 ml TD	
	10 - 30 kg	10 ml TD or	1 caps TD
Caps 250 mg	< 30 kg		2 caps TD

TRACHOMA

Contagious chronic keratoconjunctivitis caused by Chlamydia Trachomatis

Usually contracted children and 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:	I+II	Cleaning eyes and face several times per day **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 ULCERS

Gentamycin eye drops QD 5/7,or **Tetracycline eye ointment TD 5/7**

Review 1 w, refer if no improvement.

Refer immediately if ulcer has perforated, suspect herpeskeratis 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 xeropthalmia

Clinical features as progressing:

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

Management: massive doses of Vitamin A are necessary for

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

Vitamin A = Retinol   treatment

Age	Dose	Days
<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

NEUROLOGICAL AND PSYCHIATRIC DISORDERS

EPILEPSY

i.e recurrent seizures should be referred to hospital clinic.

CONVULSIONS

Children: **0,5 mg diazepam/kg rectally,** not exceeding 10 mg.

Use **IV ampules** for rectal administration in a syringe without a needle. Insert it 2-3 cm

Adults: **Diazepam IV slowly! 10 - 20 mg**

AGITATION

If severe and medical causes can be excluded or if signs of psychosis is prevalent

25 mg promethazine TD

PAIN TREATMENT

Always prescribe PCM when treating malaria!!

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

Children > 5kg and >3 mths **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	1-2tab	TD 3/7
> 60 kg	2 tabs	TD 3/7

Tabs Ibuprofen 200 mg 3-5/7	> 40 kg	1-2 TD	**>P<, =L=**
	20-40kg	1 TD	
Diclofenac 50 mg tab	> 50 kg	1 TD 3-5/7	**>P<, =L=**

HIV-AIDS

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

Clinical phases :

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

Symptoms:

Loss of weight, malaise, lymphadenpathy, night sweats, chronic diarrhoea, persistent cough, persistent fever. Ichtiness, seborrhoic eczema, papular pruritic rash.

Opportunistic infections:,

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

Neoplasms

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

MANAGEMENT IN JEEPLINE CLINIC.

Many patients will not 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.
PITC (provider initiated testing and counseling) VCT (voluntary counseling and testing.)

Always first counseling and then testing by counselor if suspicion of HIV infection
Write PICT and P24 in patients booklet
P24 is a capillary HIV test and detects p24 antigen, a component of the HIV protein shell.
If reactive on test and opportunistic infection or malaria give standard treatment according to condition.

Symptomatic :

- Neuralgia (zoster) **Amitriptylin 25 mg** initial dose **1 OD**, at night **7/7 + paracetamol TD**

Prophylaxis:

Co-Trimoxazole 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 ,TCT ,or PSC for further assessment, confirmation tests and treatment.
A special referral form is used.

ROTARY DOCTORS

MEASURES AT NEEDLESTICK INJURY OR OTHER INJURIES WITH POSSIBLE HIV TRANSMISSION

Transmission risk if needle had been in bloodvessel and injury was deep ~0,3% and in splash injurys with HIV-infected blood on non-intact skin or mucosa ~ 0,1%

1. Let the blood drip by gravity.Do not squeeze as this traumatizes the bloodvessels more and makes entry of the virus easier.
2. Clean the area gently with soap and water
3. If patients HIV-status is unknown test the patient for HIV.
4. If the patient tests positive, or doesn´t want to do the testing, start PEP.
5. If the patient tests negative, the injured doctor can decide whether he/she stars PEP (clinically suspected that the patent is infected but not yet seroconverted).
6. You will be required to fill out a legal form, just in case there will be an official complaint.
7. Inform/consult local rotary coordinator
8. Start anti-retro-viral post exposture prophylaxis ART-PEP as soon as possible. Don't wait more than 36 hours. ART-PEP treatment is available in the rotary doctors house.
9. Hb, neutrophil leukocytes, liver and kidney test should be checked at start and at 2 weeks of PEP

PEP: T. Truvada 200/245mg OD and T. Retrovir 250 mg BD 1/12 (1 month)

DRUG DOSAGE LIST

1. ANTIBIOTICS

Pen V =P=, =L=

Tabs 250 mg	>40 kg	3 TD	
	20 - 40 kg	2 TD	
	10 - 20 kg	1 TD	
Susp. 125mg / 5 ml	10 - 20 kg	1 0 ml TD	
	7,5 - 10 kg	7,5 ml TD	
	5 - 10 kg	5 ml TD	
	< 5 kg	2,5 ml TD	

Amoxycillin =P=, =L=

RTI, otitis, UTI ; 7/7

Susp. 125 mg /5 ml	< 5 kg	2,5 ml TD	
	5 -10 kg	5 ml TD	
	1	0 - 30 kg	10 ml TD or 1 caps TD
Caps 250 mg	< 30 kg		2 caps TD

Cloxacillin =P=, =L=

Skin infections 7/7, pyomyositis 14/7, staphylococcal pneumonia 10/7,osteitis

Caps 250 mg	> 40 kg	3 TD
	20 – 40 kg	2 TD
	10 - 20 kg	1 TD
Susp 125mg /5 ml	< 5 kg	2,5 ml TD
	5 -10 kg	5 ml TD
	10-20 kg	10 ml TD

Erythromycin =P=, =L=

RTI, pc-allergy, chancroid, Chlamydia

Caps 250 mg	> 35 kg	3 TD
	20 – 35 kg	2 TD
	15 – 20 kg	1 TD
Susp 125mg /5 ml	< 4 kg	2 ml TD
	4- 7 kg	3 ml TD
	7-10 kg	4 ml TD
	10-15 kg	6 ml TD

ROTARY DOCTORS

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

Pneumonia, skin infections, UTI , HIV

Tabs 400/80mg	>12yrs	2	BD 7-14/30
	6y -12yrs	1	BD
Susp 200/40mg/5ml	6m - 6y	5 ml	BD
	1m - 6m	2,5 ml	BD

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

Atypical pneumonia 7/7, cholera stat, PID 7/7 in comb with ciprofloxacin, malaria 7/7

Tabs 100mg : adult and child> 8y 2 stat + 1 OD

Cholera adult: 300 mg stat, child; 100-200 mg stat

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

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

Caps 500 mg	Adult:	500 mg BD
	Child:	15 mg/kg BD

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

Cystitis 5/7

Tabs 100mg	> 35 kg	½ TD
	25-35 kg	½ BD
	20-25 kg	¼ TD
	15-20 kg	¼ BD

Mebendazole

Antihelmintic, Not to children< 6 m **>P=** avoid during 1st trimester, **=L=**

Tabs 100 mg	> 10 kg to adults	5 tabs stat
Syr 100mg/5 ml	< 10 kg but > 6m	2,5 ml BD 3/7

Metronidazole **>P< 1st trim, =L=** divide into smaller doses

Amoebiasis, giardiasis, trichomoniasis stat, bacterial vaginosis, infections due to anaerobic bacterias, dental infections 5/7

Tabs 200 mg:	Amoebiasis 10/7: > 60kg:	4 TD	Susp 200 mg/5ml:	35-40 mg /kg/d:	
	45-60kg:	3 TD		15-18 kg:	5ml TD
	30-45kg:	2 TD		13-15 kg:	4ml TD
	22-30kg:	1½ TD		10-13 kg:	3ml TD
	17-22kg:	1 TD		7-10 kg :	2ml TD
				5-7 kg:	1,5ml TD

Giardiasis 6/7:		child 25-40 mg/kg/d	
>60 kg:	4 BD	15-18 kg:	5ml BD
45-60 kg:	3 BD	13-15 kg:	4ml BD
30-45 kg:	2 BD	10-13 kg:	3ml BD
22-30 kg:	1½ BD	7-10 kg:	2ml BD
17-22 kg:	1 BD	5-7 kg:	1,5ml BD
10-17 kg:	½ BD		

Trichomonas 7/7: 1 TD

Griseofulvin **>P<, >L<**

Severe tinea capitis or tinea corporis.

Tabs 500 mg OD 7/7 adults, 15 mg/kg OD 7/7 children 6-12 w.

2. ANTIMALARIALS

Artemeter-Lumefantrine

Uncomplicated malaria **=P=** may also be used in 1st trim, **=L=**

Tabs 20/120 mg,	5-14 kg	1 BD 3/7
	15-34kg	2 BD 3/7
	25-34kg	3 BD 3/7
	≥ 34kg	4 BD 3/7

Quinine **=P=, =L=**

Severe malaria, uncomplicated malaria in pregnant 1st trimester

Tabs 300 mg:	24-35 kg	1 TD 7/7
	36-47 kg	1½ TD 7/7
	≥ 48 kg	2 TD 7/7

Amps 600mg/2 ml

to be diluted in 5% glucose or water for injection, 1ml in 5 ml →50 mg/ml

Loading dose 20 mg /kg to max 1200 , 600 mg in each buttock

Risk of quinine related hypoglycemia in pregnant

>40 kg	600 mg	IM in each buttock stat
35-40 kg	500 mg	IM in each buttock stat
30-35 kg	400 mg	IM in each buttock stat
25-30 kg	300 mg	IM in each buttock stat
20-25 kg	200 mg	IM in each buttock stat
15- 20 kg	100 mg	IM in each buttock stat

12,5 -15kg	175mg = 3ml	IM in one buttock stat
10-12,5kg	150mg = 2,5ml	IM in one buttock stat
7,5 - 10kg	100mg = 2ml	IM in one buttock stat
5 - 7,5 kg	75 mg = 1,5ml	IM in one buttock stat
< 5 kg	50 mg = 1ml	IM in one buttock stat

Fansidar

= Sulphadioxine-Pyrimetamin, 500mg/25mg

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

3. ALLERGY, ASTHMA

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

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

2 -5 years	2,5 ml TID 7/7	
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

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 , tabs, syrup **=P=, >L<**

Sedating antihistaminic. Allergic reaction, itchiness etc

Tabs 4 mg	> 40 kg	1 TD
	20- 40 kg	½ TD
	15- 20 kg	½ BD or 5ml BD

4. SKIN

Betametasone cream	**1% BD**
Hydrocortisone cream	**1% BD**

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

Benzyl benzoate emulsion = BBE

Clotrimazol cream, pessaries and oral paint

Zinc oxide ointment

Silver sulphadiazine cream

Lysol

5. VITAMINS

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 gaining weight and oedema disappeared. Anemia.

Ferrous sulphate	3 mg/kg/day.	4 mths if optimal

Ferrovit syrup = ferrovit/fe-sulph-B-comp =

100mg Fe.s+ 1½mg B1+ 1mg B2+ 2mg B6+ 5 mg B3=niacin / 5ml

4 - 6kg	1 ml BD 14/7	
6 - 8kg	1,5 ml BD 14/7	
8 - 10kg	2 ml BD 14/7	
10- 12kg	2,5 ml BD 14/7	
12- 20kg	5 ml BD 14/7	or 1 tab OD 14/7

Ferrous sulphate

tabs 200mg	20- 35kg	1 tab BD 14/7
	>35kg	1 tab TD 14/7

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

Folic acid **5mg 1 OD 7/7**

Multivitamin tabs, syrup

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

Zinc

Severe malaria, pneumonia or diarrhoea in combination with ORS in children <5yrs

Shortens the illness period and also give protection for further illness.

Tabs 20mg	<½ yrs 10 mg	OD 14/7
	> ½y 20 mg	OD 14/7

6. EYE, EAR

Tetracycline eye ointment 1%

BD 7/7

Chloramphenicol eye drops 0,5%

1 gtt 6-8 times daily 5/7

7. PAIN

Paracetamol

Tabs 500 mg suspension 120mg/5 ml **=P=, =L=**

Children > 5kg and >3 mths 50- 60 mg/kg/d in 3-4 doses. 3/7

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

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

Diclofenac

50 mg tabs	adults	1 TD 3-5/7	**>P<, =L=**

Ibuprofen

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

Susp 100 mg/5ml		
(100ml; 21 KES)	18-20 kg	7 ml TD
	16-18 kg	6 ml TD
	14-16 kg	5 ml TD
	12-14 kg	4 ml TD
	10-12 kg	3 ml TD
	7 -10 kg	2,5 ml TD

Amitriptylin 25 mg

Neuralgia zoster

Tabs 25 mg; 1-3 OD at night, increase weekly, 7/7

8. VARIOUS

Antacid

1-2 TD 7/7 **=P=, =L=**

Omeprazol

Tabs 20mg 1 OD 7/7 **>P<, >L<**

Frusemide tabs **>P<, >L<**

Oedema of renal, hepatic or cardiac cause

Tabs 40 mg	30-40 kg	½ OD 7/7
	>40 kg	1 OD 7/7

Clotrimazole cream, pessaries

Pessaries 200 mg 1 OD 3/7

Partner treatment if symptomatic: Clotrimazole cream BD 7/7

ORS

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

ROTARY DOCTORS

DRUGS AND OTHER SUPPLIES WITH CODES TO BE ORDERED FROM MEDS

Only drugs from this stocklist should be ordered.

Code	Item	Strength	Unit pack	Price KES Jan 2012
AMO001	Amoxycillin caps	250 mg	1000	1290
AMO005	Amoxycillin caps	500 mg	500	1240
AMO002	Amoxycillin powder for susp	125 mg/5 ml	100 ml	29
ANT003	Antacid tabs	magn.trisil./alum.hyd	1000	178
ART001	Artemeter/Lumefantrine	tabs 20/120mg	24	30
BEN001	Benzoic/salicylic acid ointment=Whitfield ointment´6%/3%		400 gm	134
BEN004	Benzyl benzoate emulsion= BBE lotion 25%		5 litre	820
BET001	Betamethasone cream	0,1%	15 gm	22
CAL006	Calamine lotion	15%	1 litre	242
CHL024	Chloramphenicol eye drops	0,5%	10 ml	17
CIP004	Ciprofloxacin caps	500 mg	100	220
CLO006	Clotrimazole cream	1%	20 gm tube	14
CLO005	Clotrimazole oral paint	1	15 ml	28
CLO004	Clotrimazole pessaries	200 mg	3	16
CLO001	Cloxacillin caps	250 mg	1000	1530
CLO003	Cloxacillin syrup	125 mg / 5 ml	100 ml	29
COT008	Co-Trimoxazole susp	200/40 mg / 5 ml	100 ml	22
COT003	Co-Trimoxazole tab = Septrin	400/80 mg	1000	714
COU002	Cough expectorant mixture		5 litre	
DIA004	Diazepam tablets	5 mg	1000	
DIC001	Diclofenac sodium tab	50 mg	1000	299
DOX005	Doxycycline caps	100 mg	1000	960
EPH004	Epehedrine nasal drops pead 0,5%			
ERY002	Erythromycin syrup	125mg/5ml	100 ml	57
ERY001	Erythromycin tab	250 mg	1000	3125
FER003	Ferrous sulphate tab	200 mg	1000	265
FER001	Ferrous sulphate/ vit B comp syrup= ferrovit		5 litre	486

ROTARY DOCTORS

FOL001	Folic acid tab	5 mg	1000	94
FRU002	Frusemide tab	40 mg	1000	288
GEN004	Gentamycin eye drops	0,3%	5ml	18
GRI001	Griseofulvin tab	250 mg	100	311
HYD005	Hydrocortisone cream	1%	15gm	30
IBU002	Ibuprofen tab	400 mg	1000	340
MEB001	Mebendazole tab=Vermox	100 mg	1000	650
MET003	Metronidazole tab	200 mg	1000	310
MET004	Metronidazole tab	400 mg	1000	310
MUL001	Multi-vitamin syrup		5 litre	358
MUL002	Multi-vitamin tab		1000	365
NIT001	Nitrofurantoin tab	100 mg	1000	536
NYS002	Nystatin oral drops		30 ml	34
OME001	Omeprazol tab	20 mg	30	45
ORA005	Oral rehydration salts for	500 ml	100	417
PAR011	Paracetamol susp	120 mg /5 ml	5 litre	358
PAR002	Paracetamol tab	500 mg	1000	340
PEN006	Penicillin V syrup	125 mg/ 5 ml	100 ml	41
PEN008	Penicillin V tab	250 mg	1000	995
PRE001	Prednisolone tab	5 mg	1000	491
QUI004	Quinine tabs	300 mg	1000	5245
QUI001	Quinine inj IM, IV	600mg/2ml	amp	21
QUI003	Quinine oral drops	20%w/v.	15ml	114
SAL004	Salbutamol inhaler	100mcg/dose	200 doses	155
SAL003	Salbutamol syrup	2 mg /5 ml	100 ml	16
SAL001	Salbutamol tab	4 mg	1000	167
SIL002	Silver sulfadiazine cream	1%	250gm	180
SUL006	Sulfadoxine/ pyrimethamine tabs 500/25mg = Fansidar		100	250

TET003	Tetracycline eye oint 1%		3,5 gm	15
WAT001	Water for inj	10 ml	vial	3
ZIN001	Zinc oxide ointment	15%	500 gm	190
ZIN003	Zinc tabs	20 mg	100	210

OTHER SUPPLIES

CHL010	Chlorhex/Cetrimide sol.	1,5/15% w/v	5 litre	1015
LYS001	Lysol	12%	5 litre	504
MET021	Methylated spirit	70%	5 litre	893
POV002	Povidone iodine solution	10%	5 litre	2070
SOA003	Soap liquid detergent	25%	500ml	97
CRE001	Bandages crepe	4"	dozen	421
CRE003		2"	dozen	156
GAU011	Bandages gauze non sterile	4''	dozen	94
GAU001	Band.gauze. nonsterile	2"Mesh size 19x15	dozen	52
GAU002		3	dozen	90
FOL004	Foley catheter 2ways	size 14	piece	36
SUR001	Surgical blades	sizes 10	100	600
SUR002		11	100	600
SUR003		15	100	600
SUR004		23	100	600
BOT001	Bottles, plastic with cap	120 ml	100	800
COT004	Cotton wool paper partitioned	400gm	roll	209
ENV001	Envelopes paper		1000	575
ENV002	Envelopes plastic ziplock seal		1000	580
LAB002	Labels for dispensing Ext. Use		200	98
LAB001	Labels for dispensing Oral		200	97
SPA002	Spatulas wooden		100	60
GLO025	Gloves latex medium		100	466
GLO026	Gloves latex large		100	465
NEE001	Needles disposable G19	1,1x38 mm	100	263
NEE002	Needles disposable G21	0,8x38 mm	100	215
NEE003	Needles disposable G23	0,6x25 mm	100	200

SYR001	Syringe disposable	2ml	100	310
SYR002	Syringe disposable	5ml	100	390
SYR006	Syringe disposable	10ml	100	570
SOD 003	Sodium chloride Normal Saline	0,9%	1000 ml	63

MUL003	Multitest urine strip		100	900
POL002	Polypots with screw cap	25 ml	in multiples of 200	3x200
POL003	Polypots with screw cap	60 ml	in multiples of 100	4x100
PRE011	Pregnancy rapid test strips		50 tests	340

NOTES