FEVER

Case management

WHO guidelines for the management of common illnesses with limited resources

Specific history and examination for fever

In the *history*

Number of days of fever
Skin rash
Headache
Neck stiffness
Seizures

Pain on passing urine
Urinary frequency

Earache

In the *examination*

Stiff neck
Rapid breathing
Skin rash
– haemorrhagic *purpura, petechae*
- maculopapular ?*measles)*
Skin: cellulitis or pustules
Ear discharge or red drum
Pain or refusal to move limb or joint
Localised tenderness

Lab tests to consider:

Hb

Blood film

CSF microscopy and culture

Urine microscopy and culture

DIFFERENTIAL DIAGNOSES TO CONSIDER IN FEVER WITHOUT LOCALISING SIGNS

MALARIA	MPs Positive, (splenomegaly, pallor)
SEPTICAEMIA	Seriously ill but no obvious cause Purpura, petechiae Shock, hypothermia in infant or malnourished
TYPHOID	Seriously ill but no obvious cause Abdominal tenderness Shock, confusion
URINARY TRACT INFECTION	Flank tenderness, supra pubic tenderness Dysuria and frequency Incontinent when previously dry Urine dipstick positive or white cells and bacteria on urine microscopy.

DIFFERENTIAL DIAGNOSES TO CONSIDER IN FEVER WITH LOCALISING SIGNS

MENINGITIS	Irritable, stiff neck, bulging fontanelle LP positive
OTITIS MEDIA	Ear pain and/or discharge; or red drum
MASTOIDITIS	Tender swelling behind the ear
OSTEOMYELITIS	Refusal to bear weight, refusal to move limb Tender area on affected bone
SEPTIC ARTHRITIS	Hot, swollen, tender joint

DIFFERENTIAL DIAGNOSES TO CONSIDER IN FEVER WITH LOCALISING SIGNS *cont'd*

PNEUMONIA	Fast breathing, lower chest wall indrawing Grunting, nasal flaring, chest crackles
THROAT INFECTION	Sore throat, tender cervical lymph nodes Painful to swallow
SINUSITIS	Tenderness and pain over affected sinus Painful to lean forward and lower the head Foul nasal discharge
VIRAL UPPER RESPIRATORY INFECTIONS	No systemic problems Cough and runny nose (coryza)

DIFFERENTIAL DIAGNOSES TO CONSIDER IN FEVER WITH A RASH

MEASLES	Cough, runny nose, red eyes, sore mouth typical rash no measles vaccination
VIRAL INFECTIONS	Mild systemic signs transient rash
MENINGOCOCCAL INFECTION	Petechae rash, bruising shock stiff neck (if meningitis)

There are many other rarer causes – typhus, relapsing fever, dengue

DIFFERENTIAL DIAGNOSES TO CONSIDER IN FEVER LASTING LONGER THAN 7 DAYS

There are many reasons for prolonged fever.

Think about what is common in Malawi –

eg TB, salmonella infection, or a malignancy?

Take a **careful 'fever' history**

carry out a **thorough top to toe examination**

Then **request appropriate tests**

In *persistent* fever especially look for:

Stiff neck - (meningitis)

Sore throat - (tonsillitis, throat infection)

Skin rash - (drug rash or viral infection)

- (autoimmune arthritis)

Tender, red joint - (septic arthritis or rheumatic fever)

Ear discharge or red drum – (otitis media)

Jaundice or anaemia – (malaria, septicaemia)

Abdominal pain/tenderness (Urinary infection, or masses)

Fast breathing, grunting, chest indrawing – (pneumonia)

In *persistent* fever
REMEMBER

Some causes of persistent fever may have no localising signs

eg

Miliary TB; Septicaemia; Salmonella infections

HIV infection; Urinary tract infections; Malignancies

In *persistent* fever consider doing these investigations

- Blood film for malaria parasites
- FBC – and examine a thin film for morphology
- HIV test
- Urinalysis including microscopy
- Mantoux
- Chest Xray
- Blood culture
- LP

Fever may be due to other rarer but very important causes

Infective endocarditis	Heart murmur, enlarged spleen Petechiae, anaemia, weight loss Splinter haemorrhages (under the nails) Microscopic haematuria
Rheumatic fever	Heart murmur (variable with time) Heart failure, arthritis/arthralgia Fast pulse, pericardial friction rub Migrating rash, chorea, Hx of sore throat
Miliary TB	Enlarged spleen +/- liver, anorexia Night sweats, weight loss, family Hx TB Fine infiltrations on a CXR

MALARIA

MALARIA

The history may include fever, weakness, vomiting, headache, drowsiness and convulsions

The examination may reveal

Fever

Anaemia,

Jaundice

Weakness,

Decreased coma score

Deep rapid (acidotic breathing)

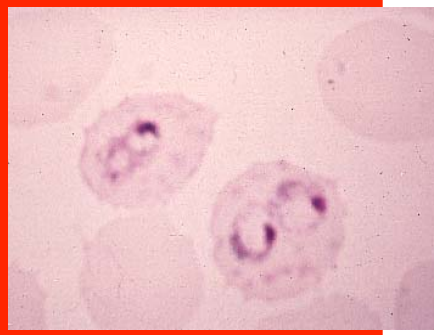
Splenomegaly

Shock, bleeding tendencies, pulmonary oedema

MALARIA
definitions

SEVERE (COMPLICATED) malaria

MPs thick film positive or rapid malaria test positive



Severe anaemia (Haemoglobin <5g/dl)
Hypoglycaemia (Blood Glucose <2.5mmol/l)
Altered consciousness (BCS 2 or less)
Deep rapid (acidotic) breathing

UNCOMPLICATED malaria

MPs positive but none of the findings listed above

MALARIA

All children with seizures or altered level of consciousness should have a Blood Glucose checked

Try to exclude meningitis by doing an LP if no contraindications

All children with severe anaemia should have a haematocrit or Hb tested and repeated if necessary

IF MPs are negative but the diagnosis is not excluded repeat the test

SEVERE MALARIA
treatment

Emergency measures to be taken in the first hour

- Check and correct hypoglycaemia
- Treat convulsions with diazepam (PR or IV) or paraldehyde (PR or IM)
- Check circulation and treat dehydration or shock
- Check Hb and give blood if Hb less than 4g/l or presence of altered consciousness or deep breathing
- Start antimalarial treatment as soon as possible

SEVERE MALARIA
treatment cont'd

- Start antimalarial treatment as soon as possible

QUININE IM 10mg/kg at 0 hrs,4 hrs and then 12hrly until can take orally. (Dilute the quinine for better absorption)

Or

IV 20mg/kg over 4 hours (in 10mls/kg of 5% dextrose or ½ st Darrow's with 5% or Normal Saline) **then 8hrs after starting loading dose give 10mg/kg over 2 hours and continue 8 hourly until can take orally.**

SEVERE MALARIA
treatment cont'd (2)

- Start antimalarial treatment as soon as possible
- When oral treatment can be swallowed

Switch to a full course of LUMEFANTRINE - ARTEMETHER

Or continue QUININE PO

Dose 10mg/kg tds to complete up to 7 days of quinine

REMEMBER QUININE TASTES HORRIBLE AND IT MAY BE DIFFICULT FOR MOTHERS TO GIVE TO THEIR CHILDREN

SEVERE MALARIA
SUPPORTIVE CARE

FEVER – IF >38.5c give paracetamol orally or rectally

HYPOGLYCAEMIA – If B glucose < 2.5mmol/l correct

If UNCONSCIOUS

Put in recovery position and maintain a clear airway

Change wet bedding

Turn every 2 hours

After 24-36 hours consider an NGT to feed and prevent aspiration

IV FLUIDS – check for signs of over hydration (puffy eyelids, wet chest)

Check for good urine output (0.5-1ml urine/kg/hr)

MALARIA
TREATING COMPLICATIONS

Cerebral malaria

i Assess level of consciousness (BCS or AVPU score)

Ii Give full supportive nursing care for unconscious child

Iii Exclude other causes of coma – hypoglycaemia, meningitis,

iv Treat convulsions

v Treat shock if child has cap refill time ≥3 sec or has cold hands. Cover for sepsis with antibiotics if shocked

MALARIA
TREATING COMPLICATIONS

Severe anaemia - Give blood (10ml/kg of packed cells)

Over 3-4 hours to any child with Hb <4g/dl:

Or pallor and signs of heart failure (enlarging liver, basal crepitations in the lungs, gallop rhythm)

Or Hb 4-5 g/dl AND

Shock, severe dehydration, acidotic breathing, impaired consciousness, very high parasitaemia (>10% of RBC affected eg MPs ++++)

MALARIA
TREATING COMPLICATIONS

Severe anaemia

10ml/kg of packed cells or 20ml/kg of whole blood over 3-4 hours.

In malnourished children give 10ml/kg of whole blood over 3-4 hours

Monitor pulse and respiratory rates every 15 mins. If they rise, slow the drip down

Repeat blood transfusion if Hb does not rise

FRUSEMIDE IS SELDOM NECESSARY

MALARIA
TREATING COMPLICATIONS

Hypoglycaemia

If glucose <2.5mmol/l

Give 5ml/kg of 10% glucose and recheck after 30 min. If still low repeat

To prevent hypoglycaemia give 10% glucose solution. Add 10mls 50% glucose to 90mls of ½ Darrows = 10% glucose solution.

Feed as soon as possible.

NGT (15mls/kg 3hrly) if unable to swallow

MALARIA
TREATING COMPLICATIONS

Respiratory Distress Syndrome (acidotic breathing)

Deep rapid breathing with a clear chest usually caused by metabolic acidosis.
(Serum Lactate >2mmol/l)

Treat anaemia if present with blood transfusion
Correct shock and dehydration (give a bolus of Normal saline 20ml/kg and reassess)

MALARIA
TREATING COMPLICATIONS

Aspiration pneumonia

Try to prevent by nursing in recovery position and not allowing oral feeds in unconscious patients

Treat urgently with ceftriaxone (50mg/kg IV daily and metronidazole 7.5mg/kg tds for 5 days)

May benefit from oxygen

MALARIA
MONITORING SEVERE CASES

Check by nurses at least 3 hourly – PR,RR, coma score and blood glucose.

Check by clinician at least twice a day

Children with hypoglycaemia, cold hands, deep coma, respiratory distress to be checked more frequently

IV infusions to be monitored every hour. Check that drip is running and for signs of over hydration.

UNCOMPLICATED MALARIA

Fever or history of fever and a positive malaria test
With NO complications

No severe anaemia
No jaundice
No respiratory distress
No altered consciousness
No hypoglycaemia

UNCOMPLICATED MALARIA
management

Treat with LA
(lumefantrine 120mg – Artemether 20mg)

5 - < 15kg	1 tablet BD for 3 days
15-<24kg	2 tablets BD for 3/7
>24 kg	3 tablets BD for 3/7

UNCOMPLICATED MALARIA
management cont'd

If vomiting and cannot tolerate oral treatment

Give IM Quinine 10mg/kg and repeat after 4 hrs and then 12 hourly

As soon as oral treatment is possible give a FULL course of LA

UNCOMPLICATED MALARIA
management cont'd

If moderate anaemia 5g/dl to 9.3g/dl (PCV 15-27%)

Give iron + folate 1 tablet daily for 3 months

2 weeks treatment will improve the Hb but 3 months needed to restore iron stores

Check child after 2 weeks to ensure good response

(tablet contains 250 microgms folate + 200mg ferrous sulphate = 60 mg elemental iron)

UNCOMPLICATED MALARIA
FOLLOW UP

If moderate anaemia 5g/dl to 9.3g/dl (PCV 15-27%)

Give iron/folate* 1 tablet daily for 3 months

2 weeks treatment will improve the Hb but 3 months needed to restore iron stores

Give albendazole 1 tab stat if >1 year of age

Advise Mum re good diet

Check child after 2 weeks to ensure good response

***(tablet contains 200mg ferrous sulphate and 250 microgms folate = 60 mg elemental iron)**

FOLLOW UP
of ALL FEBRILE PATIENTS

ASK all mothers to RETURN if the child

- **remains febrile for longer than 2 days**
- **Cannot take his medicine**
- **Is vomiting all medications or fluids**
- **Becomes weak and refuses the breast**
- **Is worsening in the mother's view**

RECONSIDER YOUR DIAGNOSIS – WAS IT CORRECT? Are further tests needed? Admit the child if necessary

MENINGITIS

Specific history and examination for MENINGITIS

EARLY DIAGNOSIS AND TEATMENT IS ESSENTIAL

In the *history*

Fever
Irritability
Vomiting
Headache
Neck or back pain
convulsions

Recent head injury

Recent infection eg
pneumonia
ear discharge

In the *examination*

Stiff neck *(not always present!)*
Irritability
Convulsions
Lethargy
Bulging fontanelle
Skin rash - petechiae
Ear discharge

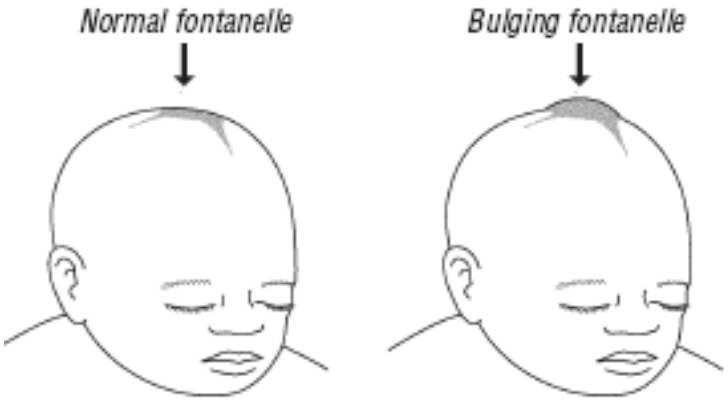
Irregular breathing
Posturing
Unequal pupils
Focal neuro signs

raised ICP

Unequal pupils

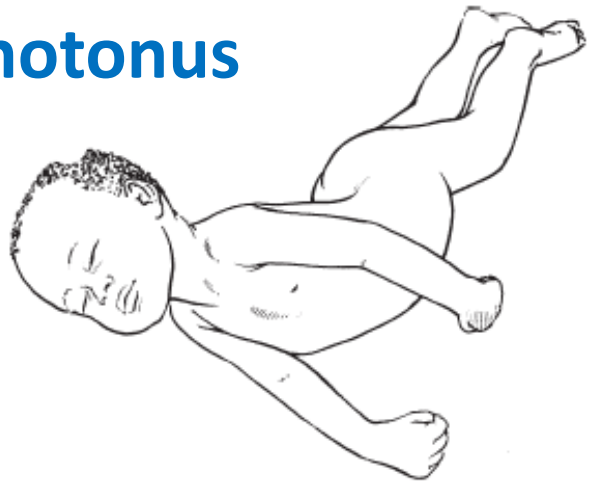
Neck stiffness

MENINGITIS



Bulging fontanelle

Opisthotonus



Specific investigations for MENINGITIS

EARLY DIAGNOSIS AND TEATMENT IS ESSENTIAL

An LP to examine CSF is the gold standard for diagnosis

If CSF is cloudy – assume meningitis and start treatment

CSF microscopy will show
increased WBC (>100/mm3)
Gram stain is positive in 60-80% of cases
CSF glucose is low <1.5mmol/l or 2/3 of blood glucose
CSF protein is high >0.4g/l

Specific investigations for MENINGITIS

EARLY DIAGNOSIS AND TEATMENT IS ESSENTIAL

An LP to examine CSF is the gold standard for diagnosis

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Specific investigations for MENINGITIS

EARLY DIAGNOSIS AND TEATMENT IS ESSENTIAL

An LP to examine CSF is the gold standard for diagnosis

If CSF is cloudy – assume meningitis and start treatment

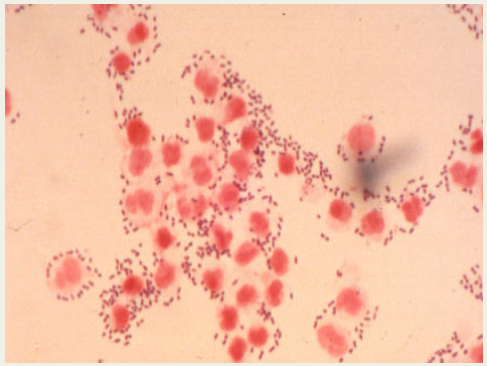
If lab exam not possible dip with urine stick. This will give glucose and protein levels and if dipstick can check leucocyte esterase it can show presence of WBCs

A clear CSF does not exclude meningitis
Up to 300 WBC can be present in clear CSF

Causes of MENINGITIS

In Malawi in children >2 months

Bacterial causes in order of frequency are:
Streptococcus pneumoniae
Haemophilus influenzae
Salmonella typhimurium* and *enteritidis



Strep pnumoniae

Less common are:
***Staphylococcus aureus* (usually with a head wound or infection)**
Neisseria meningitidis
E Coli

Causes of MENINGITIS
Cont'd

In Malawi in children >2 months

CONSIDER TB Meningitis
If history of fever is prolonged (>7 days)
Fever persists despite treatment
CSF shows moderately raised WBC (usually <500), high protein (0.8-4g/l) and low glucose (<1.5mmol/l) and remains unchanged on repeat LP

CONSIDER CRYTOCOCCAL MENINGITIS
If HIV positive
Headache is profound despite no neck stiffness
DO INDIA INK STAIN ON CSF

TREATMENT of MENINGITIS

In Malawi in children >2 months

Antibiotics

Ceftriaxone 80-100mg IV or IM daily x 10 days

5 days in uncomplicated cases

Note:IM injections are very painful

If the bacteria is *Salmonella* give ceftriaxone for 15 days and follow this with ciprofloxacin for 15 days

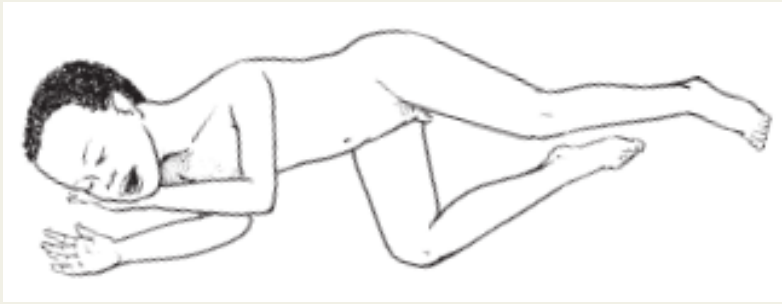
SUPPORTIVE TREATMENT of MENINGITIS Cont'd

- Treat fever >38.5C with paracetamol
- Check for hypoglycaemia (<2.5mmol/l) and treat if low
- Treat convulsions with diazepam or paraldehyde. If they persist then load with phenobarbitone
- Treat shock with boluses of normal saline
- Give oxygen if O2 saturations are < 90% or there is severe pneumonia
- Give maintenance fluids (1/2st Darrow's with 5% glucose)

SUPPORTIVE TREATMENT of MENINGITIS Cont'd

- Look after nutritional needs
- Feed as soon as it is possible.
- If unconscious for >48 hours place an NGT for milk feeds

15ml/kg 3 hourly



If unconscious – keep airway clear
turn every 2 hours
do not leave in wet bedding
keep in recovery position

MONITORING of MENINGITIS

Nurse to check at least 3 hourly for coma score, RR, PR,

Temperature until child is conscious then 6 hourly

Clinician to check at least 2 x daily

Complications to look out for

Persistent fever - ? Injection abscess, ? Brain abscess or subdural empyema

MEASLES

Specific history and examination for MEASLES

Highly contagious viral infection, preventable by vaccination

Unusual under 3 monhs of age

In the *history*

Fever

Prodromal illness of fever for 4 days +Coryza

then

Maculopapular rash starting behind the ears and moving down the body continues for 5-7 days

Then

Rash dries and/or complications emerge

In the *examination*

In prodromal stage: Koplik spots

Red eyes and mouth

Maculopapular rash

Complications

Corneal ulcers Mouth ulcers

Dehydration Malabsorption

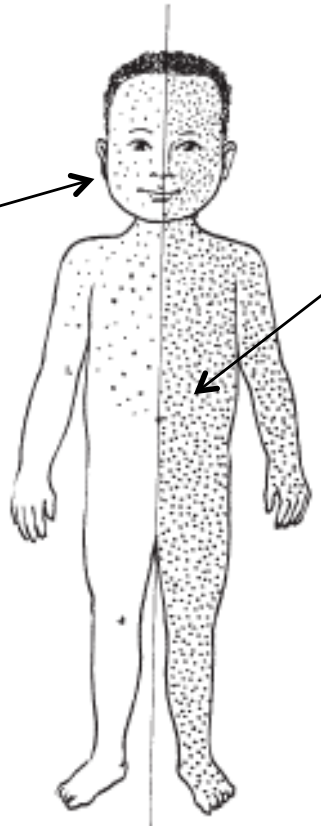
Pneumonia Stridor

Encephalitis Otitis media

Haemorrhagic rash

early rash distribution

late rash distribution



SEVERE MEASLES

Inability to drink or breast feed

Convulsions

Persistent vomiting

Remember that in HIV many of the signs and symptoms including the rash may be absent or minimal

MANAGEMENT of MEASLES

Admit all cases with complications

Give all children

ORAL VITAMIN A daily for 2 days

50,000 iu if <6 months

100, 000 iu if 6-11 months

200,000 iu if > 12 months

If evidence of eye problems give a third dose on follow up

MANAGEMENT of MEASLES
Cont'd

Supportive care

If temp >38.5C give paracetamol

Encourage good nutrition (supply F100 or chiponde if necessary)

Complications

Eyes – if *pus* discharge clean with cooled boiled water and apply tetracycline oint tds. (Watery discharge needs only cleaning).

Refer if eyes worsen

Mouth ulcers - wash out mouth with saline or water:apply GV tds.

If mouth very smelly – Rx with Xpen 50,000 iu tds IM/IV + oral metronidazole 7.5mg/kg tds for 5/7.

If cannot swallow insert an NGT and feed 3 hourly

MANAGEMENT of MEASLES

Cont'd 2

Complications

Croup - treat as for croup but do NOT give STEROIDS

Neurological problems – seizures, low coma score, etc all need to be treated symptomatically (see other slides and WHO blue book page 14)

Dehydration – try to prevent or treat according to guidelines (see other slides or WHO blue book page 111)

MONITORING MEASLES

The number of checks done daily depends on the complications present

Minimum is twice daily nursing observations and once daily clinician

FOLLOW UP OF MEASLES

Recovery can be slow and malnourishd children need FU every 2 weeks until gaining weight

Post measles children are prone to other infections eg TB

PUBLIC HEALTH MEASURES FOR MEASLES

Isolate all children with measles until rash stops erupting

Immunise all children >6 months with vaccine

If <9 months will need a second injection at 9 months

SIMPLE MEASLES

- Treat as outpatients
- Give Vitamin A orally
- Keep eyes clean with careful washing with water. If pus present give tetracycline eye oint tds. NEVER GIVE STEROID EYE OINT
- If temp >38.5C give paracetamol
- Encourage breastfeeding, small frequent feeds
- Salt water mouth washes tds or GV if mouth is sore

ASK ALL CHILDREN TO COME FOR REVIEW EVERY 2 DAYS TO ENSURE NO COMPLICATIONS HAVE OCCURRED

SEPTICAEMIA

Specific history and examination for SEPTICAEMIA

Consider this diagnosis when no focal signs and other diagnoses excluded. Common cause is non typhoidal salmonella

In the *history*

Fever
+ no specific signs of focal Infection

MPs negative

Poor feeding
Vomiting
Seizures
Lethargy

In the *examination*

No signs of focal infection

Splenomegaly

Possible petechiae (N *meningitidis*)

Specific investigations for SEPTICAEMIA

Exclude malaria

Exclude UTI

Clinically exclude chest infection,

If necessary do an LP and exclude meningitis

Do blood culture if possible

Management of SEPTICAEMIA

IV or IM ceftriaxone 80 -100mg daily x7 days

Management of SEPTICAEMIA

If non typhoidal salmonella is the likely cause:

IV or IM ceftriaxone 80 -100mg daily x7 days

Or

IV or IM chloramphenical 25mg/kg tds

+

IV or IM gentamicin 7.5mg/kg or for 7 days

SUPPORTIVE CARE of SEPTICAEMIA

If temp >38.5C give paracetamol

Treat anaemia

Treat and prevent hypoglycaemia

Support nutritional and fluid needs

MONITORING of SEPTICAEMIA

Nurse review every 3 hours

Clinician review twice daily

COMPLICATIONS of SEPTICAEMIA

Seizures

Shock

Cardiac failure

Purpura (disseminated intravascular coagulopathy)

Coma

Pneumonia

Anaemia

EAR INFECTIONS

Specific history and examination for EAR INFECTIONS
Acute otitis media

In the *history*

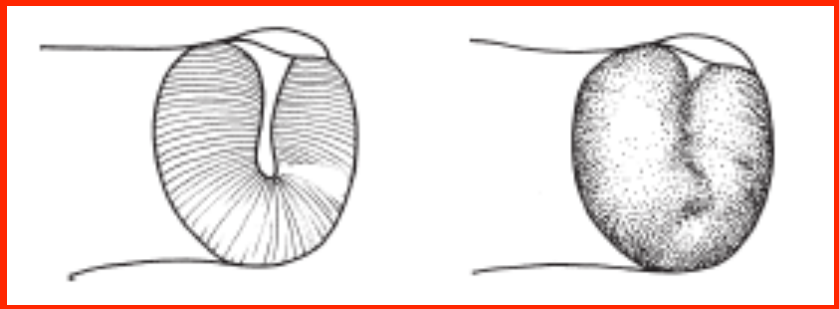
Fever

Pain in the ear

Possibly discharge from the ear

In the *examination*

The ear drum may be dull red, Bulging or perforated.
Pus may be present



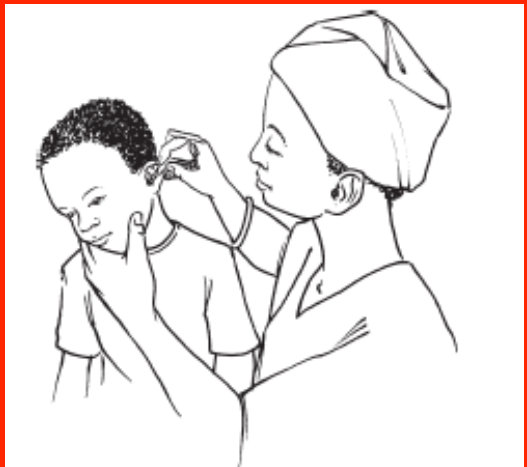
Normal **Bulging**

Ear drum

EAR INFECTIONS
TREATMENT
Acute otitis media

Give oral cotrimoxazole bd or amoxicillin tds for 5/7

If there is pus present clean the ear with a dry 'wick' of gauze and teach mother how to do this



Wicking the child's ear dry in chronic otitis media

EAR INFECTIONS
TREATMENT
Acute otitis media

If child has pain or temp >38.5C give paracetamol

Tell mother NOT to leave cotton wool plugs in the ear

Avoid swimming or getting water in the ears if drum is perforated

EAR INFECTIONS

Chronic otitis media

Definition= Pus discharge for more than 2 weeks

TREATMENT

Keep ear dry by 'wicking'

Teach mother to wick ear regularly

Use antibiotic or antiseptic ear drops daily for 2 weeks – eg norfloxacin, ciprofloxacin, ofloxacin – do not give steroid drops.

Or

Fill the ear canal with eye oint and leave for a few days

If persists despite adequate wicking give one course of gentamicin 7.5mg/kg IM x7/7

Specific history and examination for EAR INFECTIONS

Mastoiditis is a bacterial infection of the bone behind the ear. Untreated it can lead to meningitis ir intracerebral abcesses

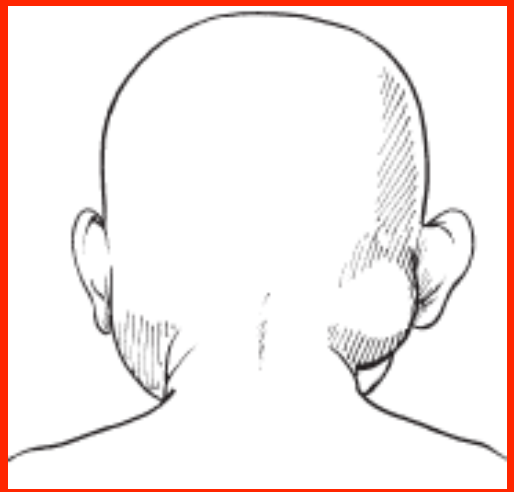
In the *history*

Fever

Tender swelling behind the ear

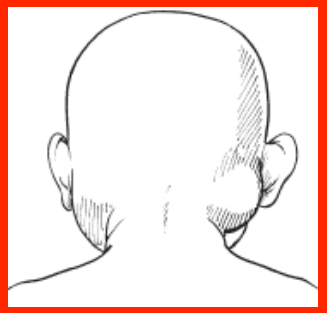
In the *examination*

Tender swelling behind the ear



TREATMENT FOR MASTOIDITIS

Give ceftriaxone 50mg/kg/day for 7 days



If the child does not improve and signs of
An abscess appear:
Refer urgently for surgery

Meningitis or intracerebral abscess require treatment and referral.

URINARY TRACT INFECTIONS

Specific history and examination for URINARY TRACT INFECTIONS

UTIs are common especially in young girls

In the *history*

Young child
Vomiting, diarrhoea,
Irritability, failure to thrive

Older child
Abdominal pain
Urinary frequency
Dysuria

Test a sample of urine

Dipstick: positive for protein, (blood) and leucocytes

Microscopy: >5 WBC per HPF

Urine culture requires a clean mid stream sample

Young children may require a supra pubic aspiration

TREATMENT
for URINARY TRACT INFECTIONS

If no systemic signs treat as outpatient

Give oral cotrimoxazole bd for 5/7

If vomiting ++, not feeding ADMIT and give amoxicillin IM or IV

If tender in loin and ? pyelonephritis present ADMIT and give
Gentamicin 7.5mg/kg IV + Ampiciilin 50mg/kg tds IV
Or Ceftriaxone 50mg/kg IV for 5 days

INFANTS <2 MONTHS OF AGE SHOULD RECEIVE GENTAMICIN DAILY NTIL SIGNS AND SYMPTOMS RESOLVED.

SUPPORTIVE TREATMENT
for URINARY TRACT INFECTIONS

Encourage drinking lots of fluids

FOLLOW UP
for URINARY TRACT INFECTIONS

All children <1 yr who have had a UTI should be examined for urinary track abnormalities ie ultrasound possible Xrays

JOINT AND BONE INFECTIONS

Specific history and examination for SEPTIC ARTHRITIS and OSTEOMYELITIS

INFECTION HAS USUALLY SPREAD FROM THE BLOOD, SOMETIMES FROM A NEARBY WOUND

SEVERAL JOINTS MAY BE IVOLVED

In the *history*

Fever
Miserable and in pain

Painful to move the limb
Refusing to weight bear

In acute osteomyelitis

There is a tender swelling over part of the bone

In septic arthritis

The affected joint is hot, swollen fluctuant and tender

In chronic infections there is no fever, less pain and there may be Discharging sinuses. TB presents in a similar way.

Specific investigations for SEPTIC ARTHRITIS and OSTEOMYELITIS

XRAYS do not help in the first week of an acute osteomyelitis

If the joint is hot and swollen, the child is febrile and septic arthritis suspected.

<u>Aspirate</u> taking precautions to be as sterile as possible.
If pus is found – remove as much as possible.

Send a sample for White Cell Count and differential, Gram stain, and if possible culture and sensitivity.

Specific treatment for for SEPTIC ARTHRITIS and OSTEOMYELITIS

Acute osteomyelitis **-**

Give IM/IV antibiotics until fever is settled.

Then orally for a total of 5 weeks.

In septic arthritis

Give parentral antibiotics until fever is settled.

Then oral for a total of 3 weeks.

In sicklers or aged< 3yrs give Ceftriaxone 50-80mg/kg IV od followed by ciprofloxacin orally

If >3yrs old and staphyloccocus suspected give cloxacillin 25mg/kg tds

In a*cute osteomyelitis surgical drainage and removal of dead bone may be needed*

In *septic arthritis* if repeated aspirations do not lead to improvement - a surgical I+D with washout is needed

SUPPORTIVE CARE of SEPTIC ARTHRITIS or OSTEOMYELITIS

If temp >38.5C or in pain give paracetamol

Rest the limb and support with a back splint if necessary

Treat anaemia

Support nutritional and fluid needs

MONITORING of SEPTIC ARTHRITIS or OSTEOMYELITIS

Nurse review every 8 hours

Clinician review daily

TB of bone or joint will not respond
to these treatments,
seldom requires surgery
and responds slowly to TB treatment