

# Accredited Drug Shops Training

## *Uganda*

### Module 3: Session 10

### Disorders of the Ear

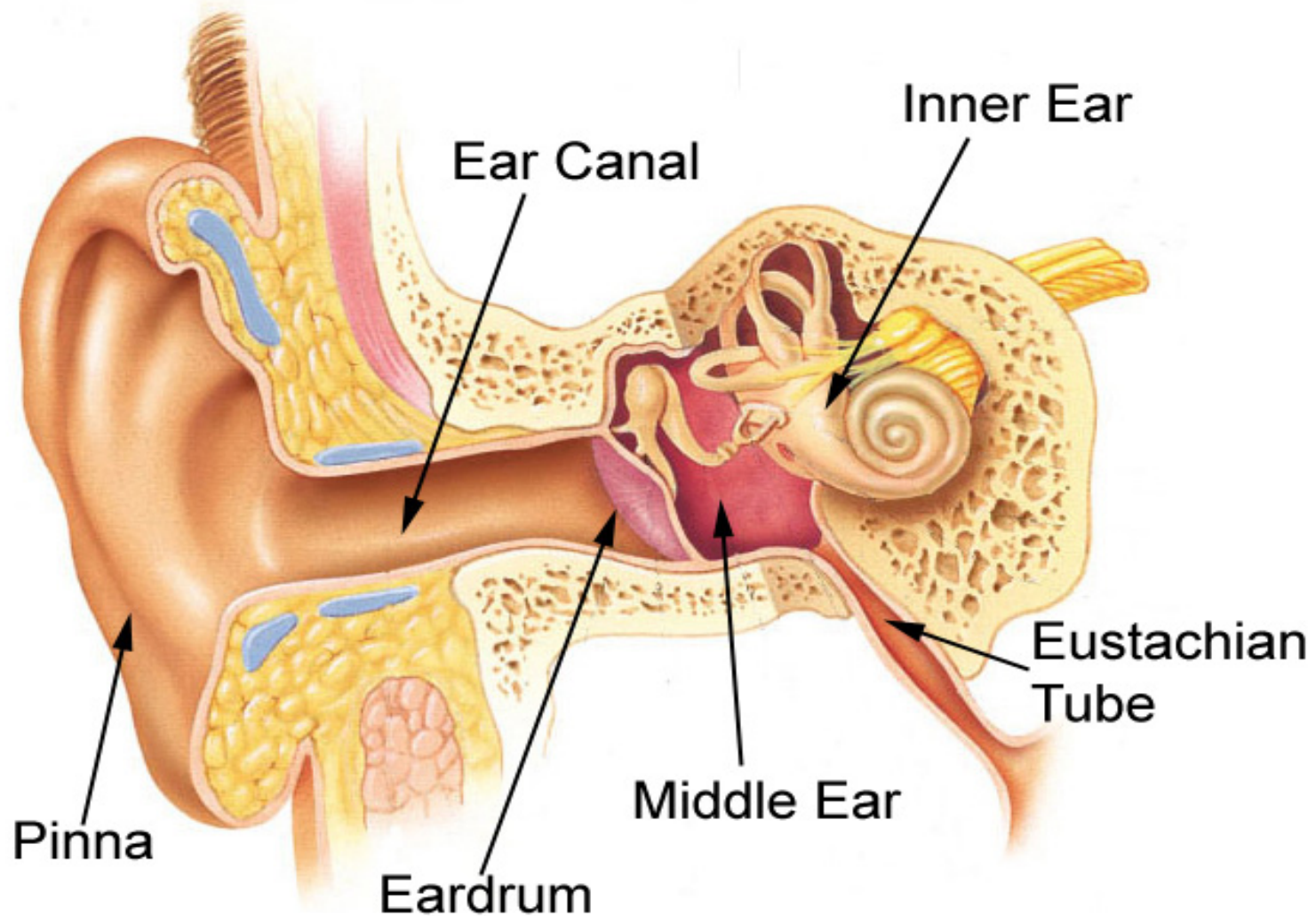


# Objectives

As a result of actively participating in this session, the individual will be able to:

1. Name at least three signs and symptoms of middle ear infection.
2. Name at least three signs and symptoms of outer ear infection.
3. Demonstrate how to assess a client for an ear disorder.
4. Describe how to advise the caregiver or client about treatment for middle ear infection.
5. Describe how to advise the caregiver or client about treatment for outer ear infection.

# Structure of the Ear



# Introduction and Overview

Diseases affecting the ear often present with symptoms such as:

- Pus discharge from the ear
- Running nose and sneezing
- Red eyes
- Fever (sometimes, but not always)

# Client Assessment

Question	Reason for asking
1. Is there pus discharge from the ear?	✓ Helps identify inflammation/infection in the ear.
2. Does the discharge come from the inner or outer part of the ear?	<ul style="list-style-type: none"><li>✓ Discharge from <i>inside</i> the ear is a sign of <u>middle ear infection</u>.</li><li>✓ Discharge from the <i>outer part</i> of the ear is a sign of <u>outer ear infection</u>. The client probably has sores there as well.</li></ul>
3. What colour is the pus discharge?	<ul style="list-style-type: none"><li>✓ A yellow pus discharge in inflammation of the external ear is due to bacterial infection.</li><li>✓ A white or black discharge in inflammation of the external ear is due to fungal infection.</li></ul>

# Client Assessment (cont.)

Question	Reason for asking
4. Is there itching of the ear?	<ul style="list-style-type: none"><li>✓ Infection of the <i>middle ear</i> does <u>not</u> cause itching.</li><li>✓ Infection of the <i>outer ear</i> <u>tends to cause</u> itching on the external part of the ear.</li></ul>
5. How long has pus discharge been present?	<ul style="list-style-type: none"><li>✓ Helps to know whether inflammation of the ear is acute or chronic.</li><li>✓ Helps to choose the medicine and duration of treatment.</li><li>✓ Any case of pus discharge that has lasted for more than 2 weeks or that comes and goes must be referred.</li></ul>
6. What treatment has been given so far?	<ul style="list-style-type: none"><li>✓ Helps to know which treatment to give next.</li><li>✓ It can guide on whether to refer the client.</li></ul>

# Client Assessment (cont.)

If ...	Then ...
Pus discharge comes from <u>inside</u> the ear and there is <u>no itching</u> ...	✓ It is a MIDDLE ear infection.
Pus discharge comes from the <u>outer part</u> of the ear and there is <u>itching</u> ...	✓ It is an OUTER ear infection.
In an <u>outer ear infection</u> , the pus is <u>yellow</u> ...	✓ It is due to a BACTERIAL infection.
In an <u>outer ear infection</u> , the pus is <u>white or black</u> ...	✓ It is due to FUNGAL infection.

# Infection of the Middle Ear

# Definition and Overview

- Infection of the middle ear is caused by a bacterial or viral infection of the middle ear.
- Middle ear infection is more common in children than in adults.
- If middle ear infection is not properly treated, the individual may experience some loss of hearing.

# Signs and Symptoms

For adults and children, symptoms can be:

- Pain in the ear
- Pus discharge from the ear
- Fever
- Nausea and vomiting
- Diarrhoea
- Difficulty sleeping

For children, in addition there can be:

- Pulling or rubbing of the ear with crying

# General Measures

- Encourage the client to drink lots of fluid.
- Continue feeding the child.
- If there is pus discharge, perform daily wicking of the ear to prevent re-infection.  
(See ADS Seller's Manual for details.)

# Antibiotic Treatment

- **Amoxicillin - Children**

AGE	Dose	Dosage
6-12 years	250 mg	8 hourly for 10 days
1-5 years	125 mg	8 hourly for 10 days
< 1 year	62.5 mg	8 hourly for 10 days

- **Cotrimoxazole - Children**

AGE	Dose	Dosage
6-12 years	480 mg (10 ml)	twice daily for 5 days
6 months -5 years	240 mg	twice daily for 5 days

# Pain Killers to Reduce Pain and Fever

- **Paracetamol - Children**

AGE	Dose	Dosage
6-12 years	250 mg (1/2 tablet)	3 times daily for 3 days
1-5 years	120 mg	3 times daily for 3 days
3 months-1 year	60 mg	3 times daily for 3 days

- **Ibuprofen - Children**

AGE	Dose	Dosage
6-12 years	200 mg	3 times daily with food for 3 days
1-5 years	100 mg (1/2 tablet)	3 times daily with food for 3 days

# Guidelines for Referral

## **Refer:**

- Clients who fail to respond to the treatment.
- Children below 1 year.
- Clients with immunosuppression, e.g., HIV infection.
- Clients with chronic pus discharge from the ear.

# Inflammation of the Outer Ear

# Definition and Overview

- Inflammation of the outer ear is a localized infection of the external ear canal.
- May be due to bacteria, fungi, or viruses.
- Most common among children.

# Signs and Symptoms

- Pain and swelling of the ear lobe
- Skin rash and itching
- Sores
- Pus discharge



# General Measures

- Clean the affected ear canal with clean water or normal saline.
- Cut the finger nails short to prevent traumatizing the area during scratching.

# Treatment and Referral

- **Paracetamol – Children**

AGE	Dose	Dosage
6-12 years	250 mg (1/2 tablet)	3 times daily for 3 days
1-5 years	120 mg	3 times daily for 3 days
3 months-1 year	60 mg	3 times daily for 3 days

- **Refer the child or client to a health centre III or IV for management.**

# Accredited Drug Shops Training

## *Uganda*

### Module 3: Session 6

### Skin Diseases in Adults



# Objectives

As a result of actively participating in this session, the individual will be able to:

1. Match the signs and symptoms of common skin diseases affecting adults with those diseases.
2. Locate the guidelines for management of those common skin diseases in the ADS Seller's Manual.
3. Demonstrate how to advise the client about treatment for the skin disease.

# Common Skin Diseases in Adults

1. Athlete's foot
2. Body ringworm
3. Pimples (acne)
4. Herpes zoster
5. Boils

# Athlete's Foot

# Definition and Overview

- Athlete's foot is a fungal infection that affects the webs between the toes (feet).
- It is more common in men who wear closed shoes all the time.
- The fourth and fifth toes are the most commonly affected.
- Athlete's foot usually begins with sweating and smelly feet, which progresses to itching and peeling of the toe webs.

# How Do You Get Athlete's Foot?

- Athlete's foot is transmitted from person to person through:
  - Contact with the infected area
  - Sharing contaminated stockings
- Poor hygiene of the feet can also contribute to the development of athlete's foot.

# Signs and Symptoms

- Itching between the toes.
- Peeling of the skin between the toe webs.
- Skin between toes becomes white.
- Unpleasant smell of the feet.
- Pain on walking.

# Athlete's Foot

Photo of athlete's foot between the toes



# General Measures

Advise clients to:

- Dry their feet after every bathing.
- Use dry cotton stockings.
- Apply antifungal powders to their feet if they are giving off an unpleasant smell.
- Wear open shoes during their free time.

# Drug Treatment

- Apply clotrimazole cream to the affected area after drying twice daily for 4 weeks.

***Or***

- Apply Whitfield's ointment to the affected area after drying twice daily for 4 weeks.

# Guidelines for Referral

Refer:

- Clients who fail to respond to treatment after 4 weeks.
- Clients with diabetes or HIV infection.
- Clients who have developed wounds in the affected area.

# Body Ringworm

# Definition and Overview

- Body ringworm is a highly contagious skin infection caused by a fungus.
- It affects the chest, back, arms and breast, around the waist, and buttocks.
- Poor personal hygiene can lead to the development of body ringworm.

# How Do You Get Body Ringworm?

- Body-to-body contact with an infected person.
- Walking barefoot.
- Sharing unwashed clothes or hairbrushes.
- Poor hygiene practices.

# Signs and Symptoms

- Round shaped skin patches (rings).
- Itchy skin rash.
- Scaling/peeling of the skin.
- Patches slowly grow bigger.

# Body Ringworm

Photo of body ringworm



# General Measures

- Advise clients to:
  - Improve on their personal hygiene.
  - Avoid sharing clothes.
  - Wash and iron their clothes before wearing.
  - Use the medicine as recommended to avoid the disease from coming back.

# Drug Treatment

Apply:

- Whitfield's ointment twice daily for 4 weeks.

***Or***

- Clotrimazole cream twice daily for 4 weeks.

# Guidelines for Referral

Refer:

- All clients who fail to respond to the treatment
- Clients with widespread body ringworm.

# Acne (Pimples )

# Definition and Overview

- Acne is a skin disease common among young people.
- It usually affects the face, back, shoulders, and chest.
- The majority of people with pimples have oily skin.
- Excessive secretion of oil blocks the pores of the skin, leading to the formation of pimples.

# People Most At Risk for Acne

- Young people 14 to 19 years.
- Pregnant women and girls during their menstrual period.
- People who bleach their faces using steroids, such as Mediven, Diprosone, etc.
- Women who use contraceptive pills.
- People with oily skin.

# Signs and Symptoms

- Tiny, pimple-like rash.
- Appears on the face, neck, shoulders, and back.



Adapted from *Common Skin Diseases in Africa: An Illustrated Guide*, by Colette Van

# General Measures

Advise the client:

- Gently wash the face 2 times a day; do not scrub.
- Do not squeeze and pick acne.
- Use cleansers to remove excess oil (e.g., Clear and Smooth).
- Avoid using oily cosmetics if the skin is oily.
- Avoid bleaching the face with steroids (e.g., betamethasone cream/diprosone).
- Treatment for acne takes a long time.
- Treatment may start working after 6-8 weeks.

# Drug Treatment

- Apply salicylic acid preparations (e.g., Seproderm ointment) twice daily, after washing the face with acne soap and warm water, for 3 months.

***Or***

- Apply benzoyl peroxide 5% gel 2 times daily, for at least 3 months.

# Treatment Note

## Advise:

- Clients who use benzoyl peroxide that it may cause:
  - burning sensation
  - peeling of the skin
  - dryness of the skin
- Clients who use salicylic acid preparations or benzoyl peroxide to avoid prolonged exposure to the sun to minimize burning of the skin.

# Guidelines for Referral

Refer:

- Clients who fail to respond to treatment after 3 months of continuous application.
- Clients with widespread pimples on the shoulders and back.
- Pregnant women with pimples.
- Clients who present with pimples containing pus.

# Herpes Zoster

# Definition and Overview

- Herpes zoster is a viral infection of the skin.
- It is common among people living with HIV and AIDS.

# How Do You Get Herpes Zoster?

Herpes zoster occurs when the virus that causes chicken pox becomes activated due to lowering of the immune system of the client.

# Signs and Symptoms

- Burning sensation
- Red, localized skin blisters following a particular pattern
- Pain in the affected area
- Itching of the affected area
- Fever and chills
- Headache
- General body weakness (malaise)

# A Picture of Herpes Zoster



# General Measures

**REFER** all cases of herpes zoster.

Advise the client:

- Keep the affected area clean.
- Clean the affected area with hydrogen peroxide solution or chlorhexidine.
- The pain will subside.
- Get tested for HIV.

# Drug Treatment

- Apply calamine lotion 3 times daily for 7 days.

***Plus***

- Paracetamol 1 g 3 times daily for 3-5 days.

# Boils

# Definition and Overview

- A boil is also referred to as a skin abscess.
- It is a localized bacterial infection deep in the skin.
- Boils affect both adults and children.

# Signs and Symptoms

- One or more acute, tender, painful swellings at the site of infection.
- The site of the boil may feel hot.
- Fever



# General Measures

Refer immediately:

- Clients with fever
- Clients with generalized lymph node swelling

Advise clients to:

- Apply hot soaks or hot packs.
- Take pain killers, such as paracetamol, to relieve pain and refer for further management.

*NOTE: Do not incise the boil because this may spread the infection to other areas.*

# Accredited Drug Shops Training

## *Uganda*

### Module 3: Session 7

### Fever and Pain Management



# Objectives

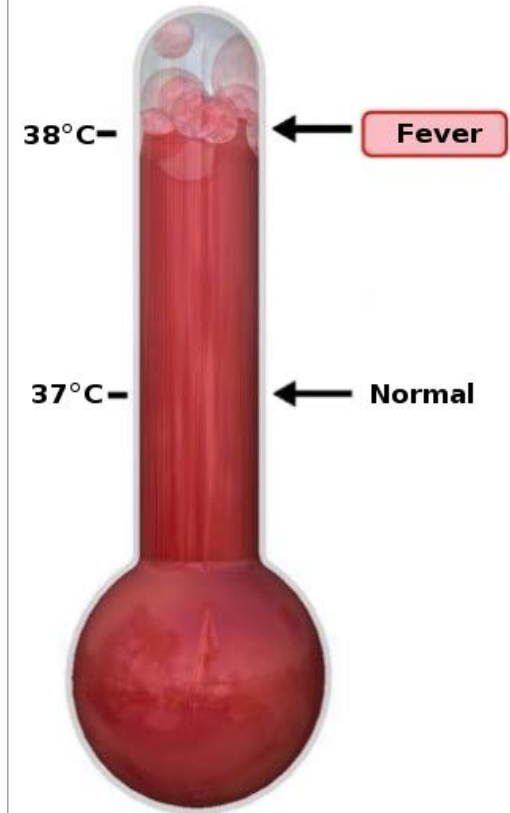
As a result of actively participating in this session, the individual will be able to:

1. State the three goals of fever management.
2. Given short case descriptions, recommend the medicine and dosage regimen that may be used to treat each client.
3. State at least 3 reasons to refer a client with fever.
4. State 3 supportive therapies that are useful for managing fever.

# Fever

## What is fever?

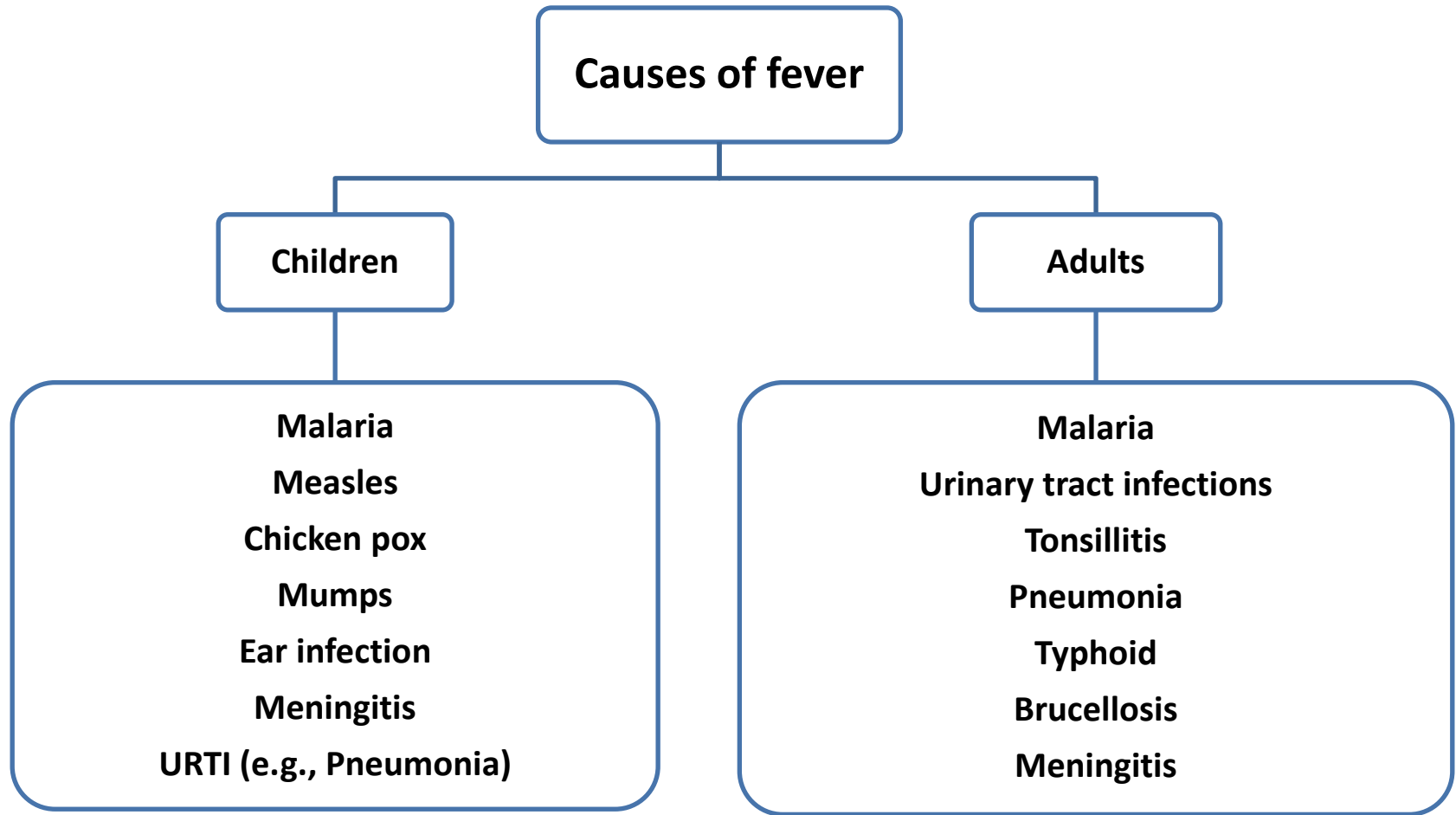
- Fever is an increase in the body's normal temperature.
- Normal average body temperature is 37 degrees Celsius ( $37^{\circ}\text{C}$ ), with a range of  $36.8^{\circ}\text{C}$  to  $37.2^{\circ}\text{C}$ .



# Causes of Fever

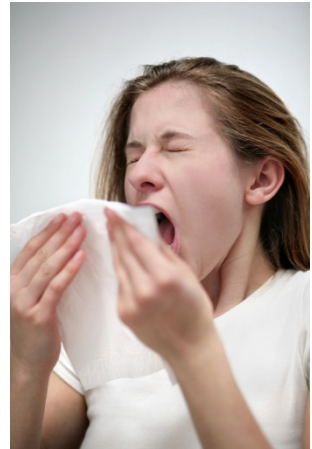
- Infections
  - Malaria
  - Bacterial infection
  - Viral infection
- Medications
- Illicit drugs
- Heat illnesses

# Common Causes of Fever



# Signs/Symptoms in Adults and Children Older than 6 Years

- Feeling hotter or colder than others in the room who feel comfortable.
- Body aches
- Headache
- Difficulty sleeping or sleeping more.
- Shivers and chills alternating with sweating.



# Signs/Symptoms in Infants and Children 2 Months to 5 Years

- Irritable
- Hard to please
- Tired
- Quiet
- Feel warm or hot
- Not feeding/eating normally
- Crying
- Rapid breathing
- Exhibiting changes in sleeping or eating habits
- Elevated body temperature



# Client Assessment

Questions to ask	Remarks
1. How old is the child?  Or  How old are you?	<ul style="list-style-type: none"><li>✓ Use the iCCM Job Aid to assess and treat fever in a child younger than five years.</li><li>✓ Common causes of fever differ in adults and children.</li><li>✓ Age guides on the dose of the medicine to be given to the client.</li></ul>
2. When did the fever start?	<ul style="list-style-type: none"><li>✓ Acute fever may suggest malaria, measles, or any other acute infections.</li><li>✓ Fever lasting more than 3 weeks may suggest typhoid, HIV infection, or brucellosis.</li></ul>
3. Do you have a headache?	<ul style="list-style-type: none"><li>✓ Headache is common with malaria and meningitis.</li><li>✓ Headache with neck stiffness is common in meningitis and clients should be referred immediately.</li></ul>

# Client Assessment (cont.)

Questions to ask	Remarks
4. Do you have a running nose or cough?	<ul style="list-style-type: none"><li>✓ Running nose is associated with flu.</li><li>✓ Cough is common in pneumonia.</li></ul>
5. Do you have pain on urination?	<ul style="list-style-type: none"><li>✓ Pain on urination is associated with urinary tract infections.</li></ul>
6. Do you have lower abdominal pain?	<ul style="list-style-type: none"><li>✓ Fever with lower abdominal pain is common with pelvic inflammatory disease in adults.</li><li>✓ Refer the client immediately to the health center.</li></ul>
7. Is there tender swelling behind the ear?	<ul style="list-style-type: none"><li>✓ Sign of an ear infection.</li></ul>

# Client Assessment (cont.)

Questions to ask	Remarks
8. What treatment has been given so far?	<div>✓ Helps to know the choice of medicine to be given.</div> <div>✓ Can guide on referral.</div>
<b>If the client is a child:</b>	
<p>If the following symptoms are present, the child is likely to have MEASLES.</p> <ul style="list-style-type: none"><li>• Clouding of cornea</li><li>• Deep extensive mouth ulcers</li><li>• Pus draining from eye</li><li>• Mouth ulcers</li></ul> <p><b>REFER a child suspected of having measles right away.</b></p>	

# Management of Fever

Goals:

1. Reduce the body temperature
2. Prevent dehydration
3. Monitor for signs of serious, life-threatening conditions



# Management:

## Children 2 Months-5 Years

Use the iCCM Job Aid

- Helps to identify the cause
- Helps identify the treatment or the need for referral



# Management: Older Children and Adults

## Goal 1: Reduce the fever

- Paracetamol: First-line treatment
- Aspirin: Do NOT use in children younger than 12 years!
- Diclofenac
- Ibuprofen

# Dosage Regimens

## **PARACETAMOL**

### **Presentation:**

500 mg tablets

120 mg/5 ml syrup

### **Indication:**

Light to moderate pain

Light to moderate fever

### **Dosages (for children and adults)**

Children: 2–5: 10 ml every 8 hours

Adult: 500 mg – 1000 mg every 6-8 hours (max. 3 g in 24 hours)

# Dosage Regimens: Ibuprofen

## **IBUPROFEN**

### **Presentation:**

Tablets 200 mg and syrup 100 mg/5 mL

### **Indication:**

Pain and inflammation in rheumatic disease, dysmenorrhoea, fever, and pain in children.

### **Dosages:**

Adult: 200 to 400 mg every 6 to 8 hours per day.

Children: 1-2 years 2.5 ml every 6 to 8 hours per day

3-7 years 5 ml every 6 to 8 hours per day

8-12 years 10 ml every 6 to 8 hours per day

**Caution: Do not give to clients with stomach ulcers.**

# Dosage Regimens: Diclofenac

## **DICLOFENAC**

### **Presentation:**

Tablets 25 mg; 50 mg; 100 mg

### **Indications:**

Severe pain and inflammation in rheumatic disease, other musculoskeletal disorders, acute gout, and postoperative pain.

### **Dosage (for adult):**

50 to 150 mg in 2-3 divided doses per day. Total daily dose by any route should not exceed 150 mg.

**Caution: Do not give to clients with stomach ulcers.**

# Management: Older Children and Adults

## Goal 2: Prevent dehydration

- Encourage the client to drink clear fluids, such as noncarbonated drinks without caffeine (juice, water, or tea).
- Ensure that the client is urinating light-coloured urine at least every four hours.

# Management:

## Older Children and Adults

Goal 3: Monitor for signs of serious or life-threatening illness

- If you have managed to lower the client's temperature and helped the client avoid dehydration, and the client still appears ill, REFER!

# Treating the Cause of Fever

This will be seen in the management of the various common causes of fever.

# Supportive Therapies

- Give the client a sponge bath with warm water.
- Have the client use minimum clothing when indoors.

REFER if fever persists.

# When to Refer a Client With Fever

## Refer the client if:

- Conditions require a doctor's prescription.
- Client's fever has been present every day for more than 7 days.
- Client does not respond to treatment.
- Client has convulsions.
- Client becomes unconscious or is hallucinating.
- Client has complex medical problems or takes prescription medications on a chronic basis (medications taken for more than 2 weeks' duration).

# Pain and Inflammation

- Inflammation is how the body reacts to infection, irritation, or other injury.
- Key features of inflammation are:
  - Redness
  - Warmth
  - Swelling
  - **Pain**

# Pain

- Pain is an unpleasant sensation.
- Pain can be sharp or dull, burning or numbing, minor or major, acute or chronic.
- It can be a minor inconvenience or completely disabling.
- It is what the client says hurts.

# Causes of Pain

- Arthritic conditions
- Back pain
- Sports injuries
- Headaches (tension, migraine, cluster, stress, etc.)
- Muscle pain (spasms, strain, spasticity)
- Neuropathic (nerve-related) pains



# Management of Pain and Inflammation

- Manage the cause of the pain

The following medicines can be used in the management of pain:

- Paracetamol
  - Ibuprofen
  - Diclofenac
- Counsel on supportive management (e.g., resting/sleeping in addition to pain medication).

# Referral

Always refer conditions that are beyond the scope of the ADS.

# Accredited Drug Shops Training

## *Uganda*

### Module 3: Session 8

### Malaria Case Management



# Objectives

As a result of actively participating in this session, the individual will be able to:

1. Explain how to determine whether a client has malaria.
2. Given descriptions of clients with malaria symptoms, classify each case of malaria as *uncomplicated* or *severe*.
3. Describe how to refer a client with severe malaria, including pre-referral treatment.
4. Describe how to manage uncomplicated malaria.
5. Name at least 3 ways to prevent malaria.

**ADS have a  
very important role  
in managing malaria  
in the community.**

# Definition of Malaria

- Malaria is an infection characterised by chills, fever, and sweating.
- Malaria is spread by a mosquito bite.

# Malaria Burden

Malaria contributes to:

- Between one-third to one-half of clients attending outpatient clinics.
- One out of every fifth hospital admission.
- One in ten of every death in a hospital.

# Groups Vulnerable to Malaria

- Malaria can affect any person.
- The following groups of people are at a high risk if they get malaria, especially if it is severe malaria:
  - Children under 5 years
  - Pregnant women
  - People living with HIV and AIDS
  - Travelers from areas with little or no malaria transmission
  - Clients with sickle cell anemia

# Malaria: Signs and Symptoms

## Fever:

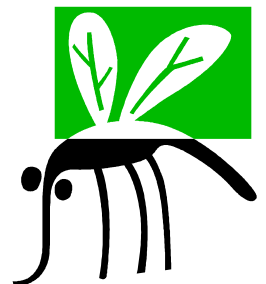
- Raised temperature detected by thermometer or touch
- History of fever

## Mild anaemia:

- Pale palms, eyes, and tongue

## Dehydration:

- Dry mouth
- Coated tongue
- Sunken eyes



# Classification of Malaria

Malaria can be classified as:

- Uncomplicated malaria
- Severe malaria

# Uncomplicated Malaria

Presents with mild symptoms:

- Fever or history of fever
- Loss of appetite
- Weakness
- Nausea/vomiting
- Headache
- Joint pains
- Muscle aches

# Severe Malaria

Presents with severe symptoms, often with one or more danger signs:

- Convulsions or fits within the last two days or at present.
- Not able to drink or breastfeed.
- Vomiting everything
- Altered mental state (lethargy, drowsiness, unconsciousness, or confusion).
- Unable to stand or sit without support.

# Severe Malaria (cont.)

Presents with severe symptoms, often with one or more danger signs:

- Severe respiratory distress or difficult breathing.
- Severe anaemia (severe pallor of palms and mucous membranes).
- Severe dehydration (sunken eyes, coated tongue, lethargy, inability to drink).
- Lethargy
- Loss of consciousness

# Severe Malaria: Loss of Consciousness

- In adults, ask yourself:
  - Is the client awake and attentive?
  - Is the client oriented and interested in or aware of the surroundings?
- In young children, ask yourself:
  - Does the child look at the mother or caretaker?
  - Does the child follow an object moved in front of his/her eyes?
  - Does the child react to loud noises?

***If the answer to any of these questions is no, REFER the client immediately.***

# Children <5 Yrs.: Most Common Symptoms

## Uncomplicated or severe malaria:

- Fever (raised temperature above 37.5°C detected by thermometer or touch) or a history of fever
- Loss of appetite
- Weakness
- Vomiting

## Severe malaria:

The symptoms listed above, plus:

- Lethargy
- Stiff neck

# Assessing for Malaria

1. OBSERVE for malaria signs and symptoms
  - a. If they are there, determine if they are *severe* or *uncomplicated*.
2. ASK the client or caretaker:
  - a. When the illness began.
  - b. How it began.
  - c. Whether any medicines have been taken, especially antimalarials
    - If YES – Find out type, dose, and duration of treatment.
    - If NO – continue with assessment.



# Assessing for Malaria (cont.)

## 3. DO a Rapid Diagnostic Test (RDT).

- This is the only test at the ADS that confirms malaria.
- We will examine how to do the RDT in the next session.

# Why Bother Doing an RDT?

- To match the treatment to the disease
  - RDT confirms that fever is due to malaria.
  - RDT also confirms that a fever is not due to malaria.
- To control costs
  - New and effective antimalarial medicines are expensive.
- To prevent development of resistance
  - Frequent use of those medicines may cause malaria to become *resistant* to them.
  - Then we'd need other medicines, which could be even more expensive.

# Guidelines for Referral

You should **REFER**:

- Pregnant women with malaria
- Infants under 2 months of age
- Children unable to drink or breastfeed
- Children who present with convulsions
- Clients who are vomiting everything
- Adult clients who are confused
- Clients who are extremely weak
- Clients with severe anaemia

# Pre-referral Treatment

If referring for malaria:

1. Administer rectal artesunate.
2. Give the child a sweetened drink/juice to prevent low blood sugar.
3. Give one dose of paracetamol for high temperature (above 38.5 C).
4. **Refer** urgently to hospital.

# Management of Uncomplicated Malaria

First-line treatments:

- Artemether/lumefantrine (an ACT): **Look at the medicine leaflet to determine the dosage to give the client.**
- For children from 2 to 4 months, give oral quinine.

For all clients: If symptoms persist, **REFER** for further management.

# Management of Uncomplicated Malaria (cont.)

Alternative treatment: when Artemether/  
lumefantrine is not available:

- Combined tablets containing artesunate and amodiaquine (another ACT).
- Dose:
  - 4 mg/kg per day artesunate
  - 10 mg/kg per day amodiaquine once a day for three days
  - Refer to manufacturer's instructions.
- Tablets may need to be divided for children younger than one year.
- **NOTE:** There are variations in content with brands.

# Management of Uncomplicated Malaria (cont.)

- Give the full course of treatment:
  - The right number of tablets
  - Over the right number of days

*(NOTE: For children, use weight and/or age to determine the right dose and dosage!)*

- Give the medicine orally, unless the client vomits repeatedly.

# Management of Fever

Give Paracetamol or Ibuprofen

## Paracetamol

AGE	Dose	Dosage
Adult	500 – 1000 mg	3 times daily for 3 days
6-12 years	500 mg (20 ml)	3 times daily for 3 days
2-5 years	250 mg (10 ml)	3 times daily for 3 days
3 mos.-1 year	125 mg (5 ml)	3 times daily for 3 days

If fever is present every day for 7 days, refer for assessment.

# Management of Fever (cont.)

*Give Paracetamol or Ibuprofen*

## **Ibuprofen**

AGE	Dose	Dosage
Adult	200 – 400 mg	3 – 4 times daily with food for 3 days
6-12 years	200 mg (10 ml)	3 – 4 times daily with food for 3 days
3-7 years	100 mg (5 ml)	3 – 4 times daily with food for 3 days
1-2 years	50 mg (2.5 ml)	3 – 4 times daily with food for 3 days

If fever is present every day for 7 days, refer for assessment.

# Management of Fever (cont.)

In children:

- Children with a temperature equal to or above  $38.5^{\circ}\text{C}$  should receive the first dose of ACT while at the ADS.
- Advise the mother to bring the child back in 2 days for follow up *if fever persists*.

# Management of Malaria

- When managing malaria, we aim to:
  - reduce the spread of disease
  - avoid resistance to medicines
- When treating clients, we aim for a full and quick recovery from the malaria episode and avoiding severe disease.

# Counseling Clients with Malaria

Explain to the client or the caretaker:

- The cause of the illness is malaria.
- The client must take the full course of treatment to be totally cured.
- Symptoms may not disappear immediately after the first dose, it may take 2 days.
- Vomiting within 30 minutes of taking the medicine requires taking another dose.

# Counseling Clients with Malaria (cont.)

Explain to the client or the caretaker (cont.):

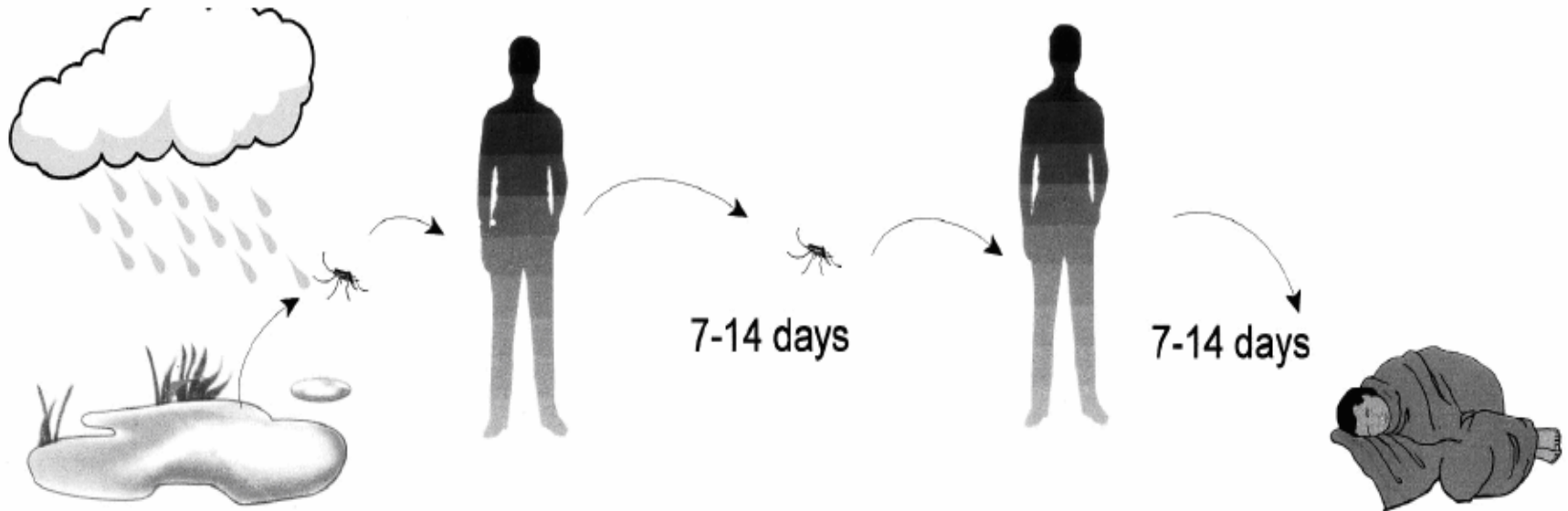
- Consult a health worker immediately if symptoms worsen or if they persist beyond 2 days.
- Return if there are any adverse reactions to the medicine.

# How Malaria Spreads From One Person to Another

- Malaria is caused mainly by the protozoan *Plasmodium falciparum*.
- It is transmitted by an infected female *anopheles* mosquito.

# How Malaria Spreads From One Person to Another (cont.)

The Transmission of Malaria



There is usually a period of 6-8 weeks between the peak of the rainy season and the increase of malaria cases

Rain creates breeding sites for mosquitos which multiply

The mosquito bites a person who harbours parasites (but may be healthy)

The parasite has to develop in the mosquito to infect another person

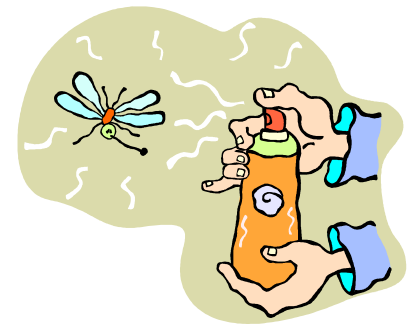
A person is now bitten by an infective mosquito

After 1-2 weeks this person falls ill with malaria

# Control and Prevention of Malaria

To help prevent malaria:

- Sleep under insecticide-treated bed nets (ITN).
- Use screens in houses, like wire mesh in windows and ventilators.
- Keep doors closed in the evening.
- Clear stagnant waters around homes.
- Spray insecticides to destroy mosquitoes.
- Clear bushes located around your house.



# Accredited Drug Shops Training

## *Uganda*

# Module 3: Session 9

## The Use of RDT\* for Malaria



\*RDT = Rapid Diagnostic Tests

# Objectives

As a result of actively participating in this session, the individual will be able to:

1. Demonstrate the RDT testing process.

# Rapid Diagnostic Tests

- We must confirm all suspected cases of malaria by identifying the presence of parasites in the blood.
- In a drug shop setting, we can do this with the use of rapid diagnostic tests (RDT).
- An RDT is accurate, simple to perform, and doesn't require a microscope.

# How to Use an RDT

## 1. Gather your materials

- Instruction sheet (package insert)
- Packaged cassettes
- Lancets
- Blood collection devices (dropper or micro-capillary tubes)
- Reagent buffer
- Swabs (70% alcohol, cotton wool, or gauze)
- Gloves
- Timer (watch or clock)

# How to Use an RDT (cont.)

## 2. Prepare for the test

- a. Read the instructions on how to use the malaria test kit carefully.
- b. Look for the expiry date at the back of the package. *If the test kit has expired, use another cassette.*
- c. Ensure the foil is not damaged by squeezing gently and feel/listen for air leakage. *If the foil is damaged, use another cassette.*
- d. Talk to the client and explain what you want to do.

# How to Use an RDT (cont.)

## 3. Open the packaged cassette

- a. Open the package by tearing along the nick.
- b. Look for the following:

**Desiccant**



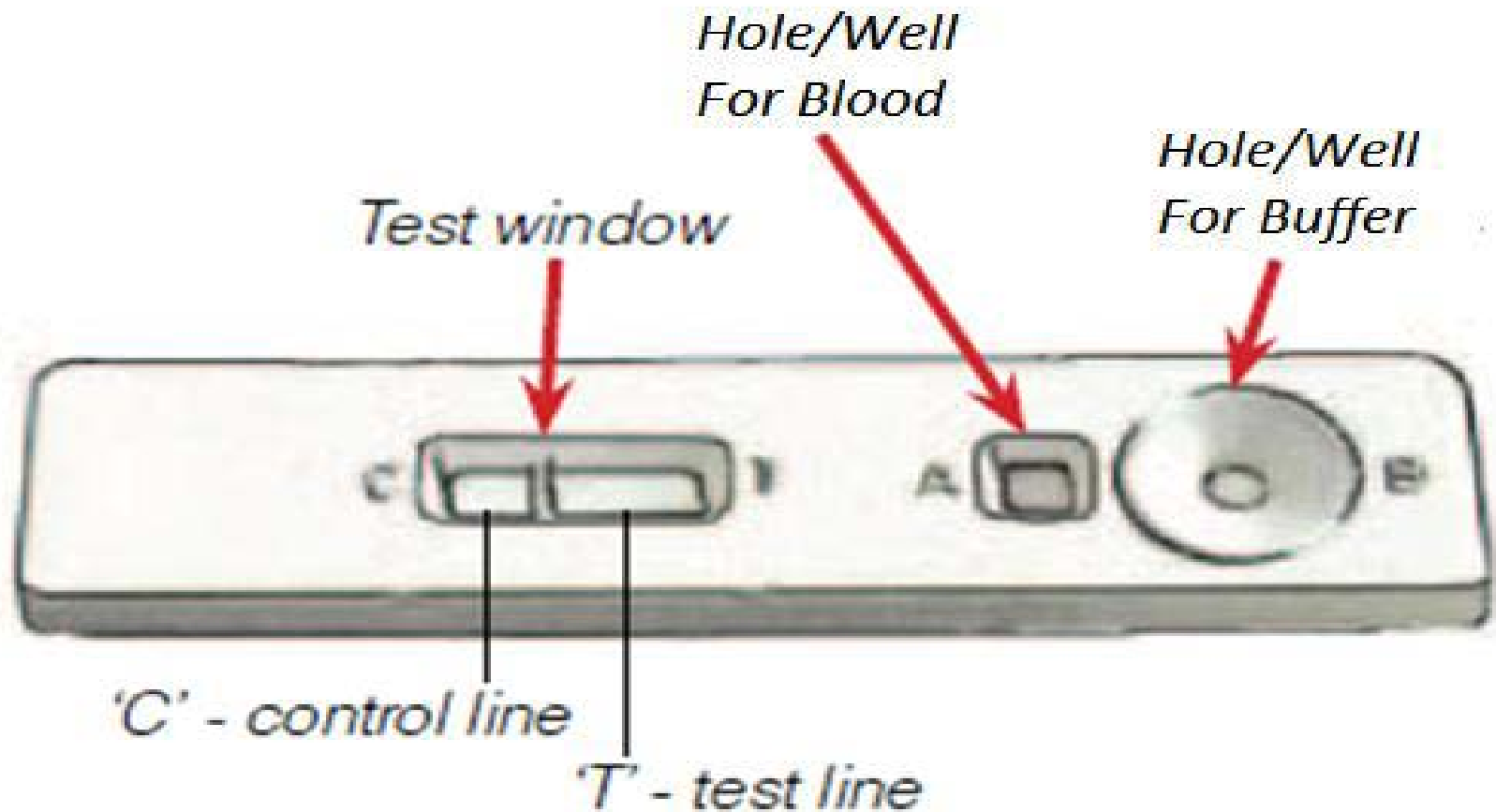
**Cassette**



- c. Throw away the desiccant.

# How to Use an RDT (cont.)

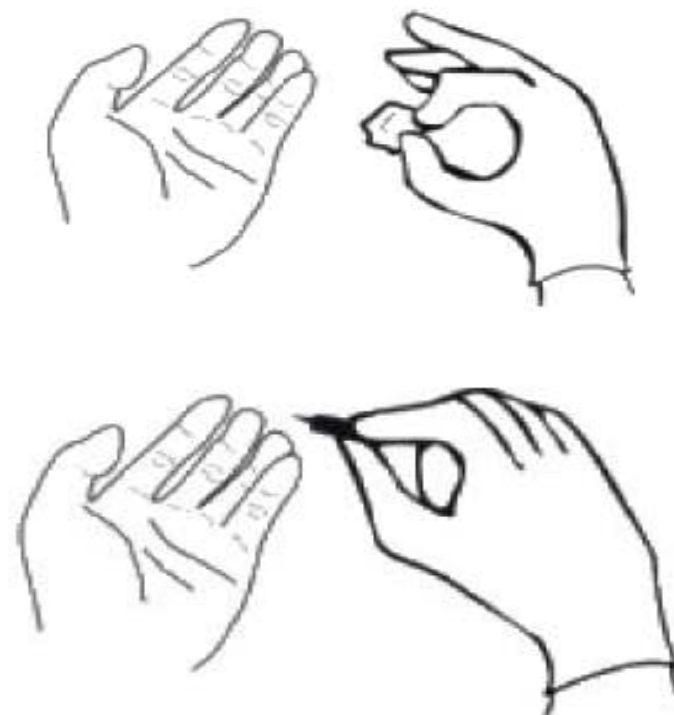
**NOTE:** the opened RDT looks like this:



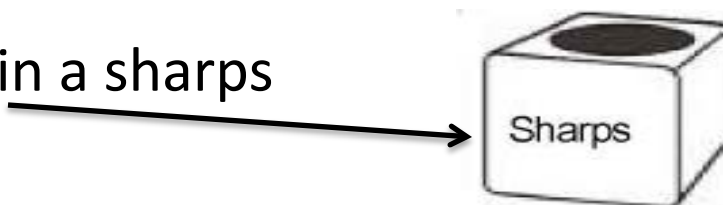
# How to Use an RDT (cont.)

## 4. Draw the client's blood.

- a. Ensure you are wearing gloves.
- b. Clean the client's finger using alcohol swab.
- c. Allow the site to DRY.
- d. Prick the side of the client's finger to get just a very small amount of blood.



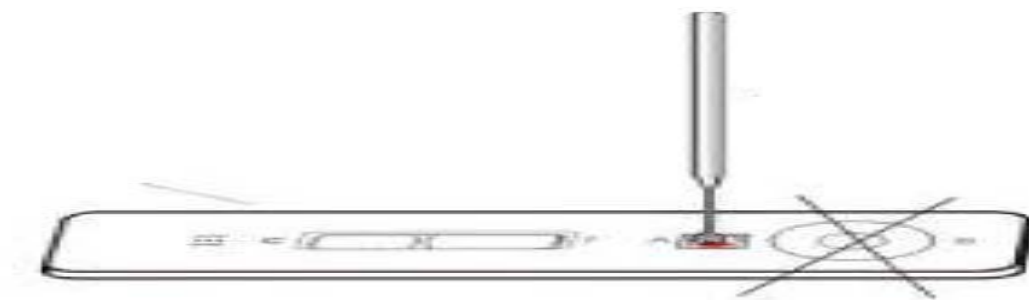
**Note:** Dispose of the lancet in a sharps container.



# How to Use an RDT (cont.)

## 5. Transfer the blood to the cassette pad.

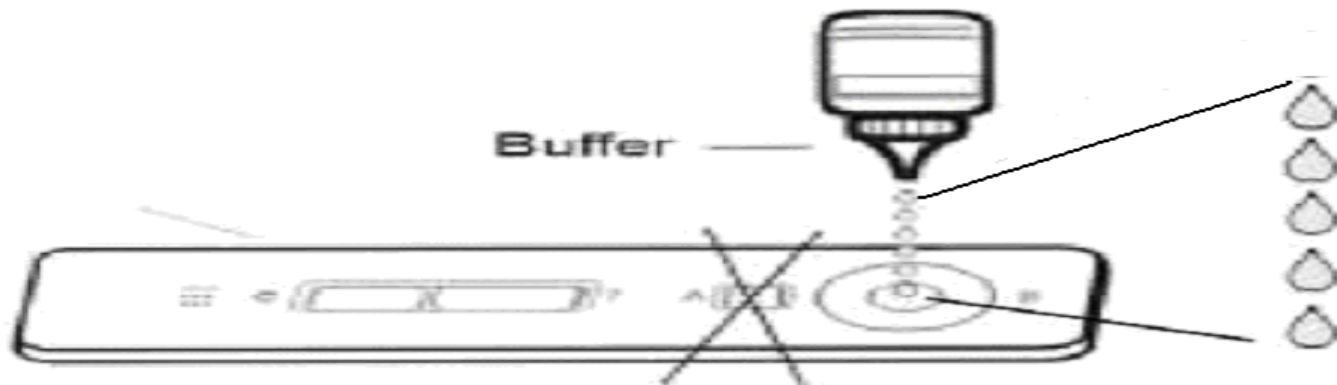
- Immediately touch the tip of the capillary tube with blood in the sample well of the cassette.
- Allow the blood to be drawn onto the cassette pad.
- Place dry cotton wool over the puncture site to stop the bleeding.



**Note:** Dispose of the capillary tube into a sharps container.

## How to Use an RDT (cont.)

**6. Put five (5) drops of buffer into the buffer well.**



# How to Use an RDT (cont.)

6. Set the timer to 15 minutes.
7. Read the results exactly fifteen (15) minutes after adding buffer.



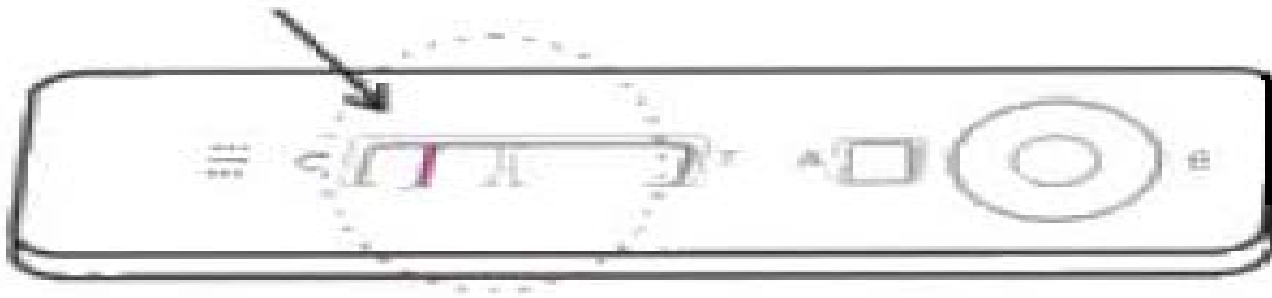
**Note:** Do not read the results before or after fifteen minutes.

# How to Use an RDT (cont.)

## 8. Interpret the results.

- a. Look in the window section of the cassette.
- b. If you see one red control line near mark “C”, the result is **NEGATIVE** – the person does not have malaria.

One control band near mark “C”



# How to Interpret the Results

## 8. Interpret the results (cont.)

- c. If you see two (2) red coloured lines – one test line and one control line – near mark “C”, the result is **POSITIVE** – the person has malaria.
- d. If the control line fails to appear, the test is not valid and must be repeated. (The reagents may have expired or the procedure may have been done incorrectly.)

# Precautions

- Ensure that RDTs are stored at room temperature (4 - 40° C).
- Follow instructions given in the leaflet.
- Use recommended sample and buffer volumes.
- Do not open the foil until you are ready to do the test.