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## Zambia

The following provides a summary of specific guidelines from the country's national TB guidance strategy. Use the jump links in yellow to access details on case definitions, diagnostic methods, standard protocols, and DOTS recommendations. This summary can be downloaded or e-mailed to yourself or a colleague. The original country guidance document can also be found below the jump links for download.

**Patient Population** [Download summary page as PDF](#) [E-mail this page](#)

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### **Adults**

## **TB Screening Frequency for PLHIV:**

All patients suspected or known to be HIV-positive should be examined for tuberculosis, in particular when there is a cough.

Sputum smear is still the first line of diagnosis

## **Screening Recommendations during TB Treatment:**

New Patients:

All patients should have 2 sputum specimens taken for AFB smear at 2, 5 and 8 months in case of an eight month treatment and at 2 and 6 months in case of 6 months treatment.

Results should be available at these visits and must be recorded on the patient treatment cards and in the registers. The continuation phase can only start after 2 months supervised intensive treatment, if the sputum specimens are negative for AFB.

Retreatment patients:

Before the start of the re-treatment regimen, two sputum specimens must be collected and sent as soon as possible to the nearest Reference Laboratory for sputum-smear and culture and drug susceptibility tests.

Should the sputum smear be positive at 3 months, the 4 oral drugs are continued for another 4 weeks. If the patient is still smear positive at the end of the fourth month, all drugs are stopped for 3-4 days, when sputum specimens are taken for culture and sensitivity testing. The patient is then started on the continuation phase.

Sputum specimens should be examined for AFB two months after start of the continuation phase and at the end for confirmation of the treatment result. Patients who are smear positive after the completion of the continuation phase are no longer eligible for the re-treatment therapy.

## **Case definition:**

### **Smear positive pulmonary tuberculosis (PTB+)**

Tuberculosis in a patient with at least one initial smear examinations positive by direct microscopy for Acid Fast Bacilli (AFB+).

### **Smear negative pulmonary tuberculosis (PTB-)**

Tuberculosis in a patient with three initial negative smear examinations by direct microscopy for Acid Fast Bacilli (AFB-) and non-response to a course of broad-spectrum antibiotics, and again three negative smear examinations by direct microscopy, and X-ray abnormalities suggestive of active tuberculosis as determined by the treating Medical Doctor. OR Tuberculosis in a patient with three initial smear examinations negative by direct microscopy but positive by culture for mycobacterium.

## **Diagnostic methods:**

Sputum-smear microscopy

Sputum culture

Tuberculin skin test

## **Standard TB Treatment Protocols:**

### **Category I Patients:**

All new patients (Smear positive, negative and extrapulmonary).

Intensive Phase:

2(RHZE)

Continuation Phase:

6(HE) or 4(RH).

### **Category II Patients:**

All previously treated patients including smear positive retreatment, smear negative retreatment and treatment failures, treatment after default and relapse cases.

Intensive Phase:

2S(RHZE)/ 1(RHZE)

Continuation Phase:

5(RHE)

## **Alternatives:**

Renal Failure:

2 HRZ/4 HR

Liver Disease:

2 S(RHE)/4 (RH) or 2 S(EH)/10 (EH).

## **DOTS Recommendations:**

- Drugs are administered under direct observation of designated trained observer- this may include healthcare worker, community volunteer or trained relative.
- Drug intake is recorded daily immediately after each intake

- The identity and address of the patient is properly recorded
- The patient and his relatives are well aware of the importance of daily observed treatment for the sake of the patient's own health
- Health staff are available for tracing irregular and defaulting patients in collaboration with local community based organisations
- The treatment centre is supervised by the District TB/Leprosy Officer, at least once monthly

## **Children**

### **TB Screening Frequency for PLHIV:**

All patients suspected or known to be HIV-positive should be examined for tuberculosis, in particular when there is a cough.

Sputum smear is still the first line of diagnosis

### **Screening Recommendations during TB Treatment:**

#### **New Patients:**

All patients should have 2 sputum specimens taken for AFB smear at 2, 5 and 8 months in case of an eight month treatment and at 2 and 6 months in case of 6 months treatment.

Results should be available at these visits and must be recorded on the patient treatment cards and in the registers.

The continuation phase can only start after 2 months supervised intensive treatment, if the sputum specimens are negative for AFB.

#### **Retreatment patients**

Before the start of the re-treatment regimen, two sputum specimens must be collected and sent as soon as possible to the nearest Reference Laboratory for sputum-smear and culture and drug susceptibility tests.

Should the sputum smear be positive at 3 months, the 4 oral drugs are continued for another 4 weeks. If the patient is still smear positive at the end of the fourth month, all drugs are stopped for 3-4 days, when sputum specimens are taken for culture and sensitivity testing. The patient is then started on the continuation phase.

Sputum specimens should be examined for AFB two months after start of the continuation phase and at the end for confirmation of the treatment result. Patients who are smear positive after the completion of the continuation phase are no longer eligible for the re-treatment therapy."

### **Diagnostic methods:**

Always look for three important clues to TB in children:

- Contact with an adult or older child with smear-positive PTB.
- Failure to thrive or weight loss (growth faltering). This is a good indicator of chronic disease in children, but is not specific.
- Respiratory symptoms such as cough lasting for more than two to three weeks in a child who has received a course of broad-spectrum antibiotics.

It is important to confirm diagnosis of TB in a child using whatever specimens and laboratory facilities are available.

Specimens can be obtained in the following ways:

1. Expectoration: Sputum should always be obtained in older children (10 years of age or older) who

are pulmonary TB suspects. Among younger children, especially children under 5 years of age, sputum is difficult to obtain and most children are sputum smear-negative. However, in children who are able to produce a specimen, it is worth sending it for smear microscopy (and mycobacterial culture if available). Bacterial yields are higher in older children (more than 5 years of age) and adolescents, and in children of all ages with severe disease. As with adult TB suspects, three sputum specimens should be obtained: an on-the-spot specimen (at first evaluation), an early morning specimen and a second on-the-spot specimen (at a follow-up visit).

2. Gastric aspiration: Gastric aspiration using a naso-gastric feeding tube can be performed in young children who are unable or unwilling to expectorate sputum. Gastric aspirates should be sent for smear microscopy and mycobacterial culture. A gastric aspirate should be obtained on each of three consecutive mornings.
3. Sputum induction: Several recent studies have found that sputum induction is safe and effective in children of all ages and the bacterial yields are as good as or better than for gastric aspirates. However, training and specialized equipment are required to perform this procedure properly.
4. Lymph node aspirates: Lymph nodes should be aspirated with a medium to large bore needle attached to a small syringe. Any material obtained should be sprayed onto a slide, air dried and stained for acid fast bacilli. The tuberculin skin test is valuable as a diagnostic tool in young children. In a child who did not receive a BCG, an induration of 10 mm or more is interpreted as positive. If the child did receive a BCG, the induration should be at least 15 mm to be positive. A positive tuberculin skin test should only be one clue to be interpreted in combination with other findings to favour the diagnosis of TB

Laboratory confirmation:

- Expectoration: Sputum should always be obtained in older children (10 years of age or older) who are pulmonary TB suspects.
- Gastric aspiration
- Sputum induction
- Lymph node aspirates

Suspected pulmonary TB: Chest X-rays are useful in the diagnosis of TB in children.

## **Standard TB Treatment Protocols:**

### **Category I Patients:**

All new patients (Smear positive, negative and extrapulmonary)

Intensive Phase:

2(RHZ)

Continuation Phase:

4(RH)

### **Category II Patients:**

All previous treated patients including smear positive re-treatment, smear negative retreatment and treatment failures, treatment after default and relapse cases.

Intensive Phase:

2S(RHZ)

Continuation Phase:

10(RH)

## **Pregnant and Breastfeeding Women**

# **Standard TB Treatment Protocols:**

### **TB In Pregnancy:**

Pregnant women diagnosed with tuberculosis should start anti-tuberculosis treatment immediately. Women who become pregnant during treatment should continue with their treatment. However, streptomycin should not be used because of the risk of toxicity to the unborn child.

### **Breastfeeding:**

Breastfeeding should not be stopped when the mother is on tuberculosis chemotherapy. There is some transfer of anti-tuberculous drugs in the breast milk and therefore if the baby develops complications that may be caused by tuberculosis drugs, alternative feeding may be necessary.

## **Alternatives:**

A breastfeeding infant has a high risk of infection from a mother with smear-positive pulmonary TB, and has a high risk of developing TB. The infant should receive 6 months of Isoniazid preventive therapy, followed by BCG immunization. Breastfeeding can be safely continued during this period

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