

## Identifying TB Symptomatics

**Try to provide privacy and courtesy;** with only one client in the room,

- Greet, ask their name, and ask what the problem is?

---

**If the patient complains of cough, ask:**

**1. How long have you been coughing?** Ask further questions to know if the cough has been present for more than 3 weeks, for example:

- Has he/she recently had a cough before this?
- If yes, ask for how long?

**2. What other symptoms does s/he have?**

- Does he/she cough up sputum? What colour? Is it stained with blood?
- Does he/she have a fever, if yes, for how long, is it more by day or night?
- How is his/her weight and appetite?

**3. Have you ever been diagnosed of TB before?** Check which drugs have been taken and for how long.

Does any of close contact/family member suffer (has suffered) from TB?

**4. Does he/she smoke?** If yes, for how long? (To exclude cough due to smoking)

**5. Examination – in particular look and listen for these signs:**

- Count the pulse
- Take the temperature
- Count the respiratory rate

**Decide if the patient is very ill, consider other possible diagnoses (Page 2)**

**The patient is TB symptomatic, if:**

1. Cough for 3 weeks or more, or
2. Cough less than 3 weeks and present with one of the following conditions:
  - (1) Blood stained sputum or fever at night or weight loss, or
  - (2) Previous TB in the patient, family or other close contact

If the patient are seeking care at general health facility, refer the patient to dedicated health facility (county CDC / TB dispensary and designated hospitals for TB treatment)

If at county CDC/TB dispensary: 1. Explain the importance of sputum test\*, collect and send 3 samples to laboratory; 2. Send patient for chest X-ray; 3. Fill out patient consulting register.

---

**\* Sending Patient for Sputum Smears, with 3 samples each:**

1. Teach the patient how to produce a good sputum specimen (deeply breath 2-3 times, and cough up sputum with strength)
2. Send patient to laboratory for sputum sample (on spot).
3. Give two sputum containers and ask patient to collect night and the next morning samples, and re-visit the CDC / TB dispensary along with samples and request forms.

## Identifying TB Symptomatics

### SOME KEY PROBLEMS TO CONSIDER IN PEOPLE WITH COUGH

#### Decide the patient is very ill if one or more of following present?

- Impaired consciousness, agitation or lethargy
- Difficulty in breathing at rest or can not talk in full sentences
- Pulse more than 120 per minute
- Breathing more than 30 / minute for adult (or over 40 for child aged between 5-12 )
- Temperature more than 39° C, BP systolic less than 90mmHg
- Lip and face turn to cyanosis

**Advice:** Give appropriate treatment, and arrange referral to hospital.

#### Consider pneumonia if the followings are present:

- Fever (39° C or over), crepitations on auscultation, and rapid breathing

#### **Advice:**

1. Antibiotic treatment for 10-14 days and give appointment for clinical review
2. If cough is not improved at the follow up visit, send patient for 3 sputum smears.

#### Consider asthma attack if:

- Audible wheeze, or auscultatory wheeze

**Advice:** Give salbutamol or other asthma treatment,

1. Observe the response, a positive response suggests asthma,
2. If little or no change consider COPD. Also consider TB and send patient for 3 sputum smears.

#### Consider chronic obstructive pulmonary disease (COPD) (especially for smokers):

- A recent increase in sputum and change in colour to yellow or green,

**Advice:** Give an appropriate antibiotic, encourage s/he quit smoking, and give appointment for a clinical review in 1-2 week, If symptoms persist for more than 3 weeks consider TB and send patient for 3 sputum smears

#### Consider lung cancer when any of the following present, especially if over 40 years old with over 10 years smoking history:

- Continuous blood stained sputum or haemoptysis; and found sputum sm neg
- No specific systemic TB symptoms, like weight loss, arthralgia, tiredness, and limber ache without particular reasons.
- No signs of TB on in chest X-ray (satellite nodules, calcification) and may be lesions or secondary consolidation/ collapse seen (though may look normal). X ray shows thorn or cutting signs on the edge of the focus.

**Advice:** Refer to upper lever hospitals / Recommend for deciduous sputum cell or bronchoscopy examination or CT scan.

## Diagnosing Pulmonary Tuberculosis

### Diagnosing TB patient:

OPD doctors of CDC /TB dispensary diagnose TB symptomatic and formulate treatment regimen

- Request 3 sputum for smear microscopy
- Conduct chest fluoroscope simultaneously

### Decide if smear positive or smear negative pulmonary TB:

1. If two or three positive sputum smears or one positive smear plus M.tuberculosis culture positive, **then diagnose smear positive pulmonary TB**
2. If one positive smear plus the X-ray is consistent with active pulmonary TB, **then diagnose smear positive pulmonary TB\***
3. When three smear negative sputum and
  - (1) If the chest X-ray is consistent with active pulmonary TB, and non-TB pulmonary disease could be excluded, and one of the following additional indicators presents:
    - ① Symptoms of pulmonary tuberculosis, or
    - ② PPD (5TU) skin test  $\geq 15$ mm or pimple, or
    - ③ Plasma TB anti-body positive.

**Then diagnose sputum smear negative pulmonary TB.**

  - (2) If extra-pulmonary tissue pathological test positive, then diagnose extra-pulmonary tuberculosis
  - (3) If the X-ray not consistent with active pulmonary TB, give an antibiotic for 10-14 days and repeat chest X-ray.
4. After the repeated chest X-ray,
  - (1) If no apparent change in chest X-ray, then suspect smear negative pulmonary TB.
  - (2) If X-ray shadows are cleared, then diagnose non-TB illness.
  - (3) If the X-ray is still abnormal but without TB symptoms, refer the patient to hospital specialist as soon as possible.
  - (4) If no abnormal chest X-ray shown, but symptoms persist, ask about other symptoms and examine the patient, refer him/her to upper level hospital if still hard to diagnose

5. Any initially treated smear negative patient fits any of the following condition is defined as severe initial treatment S-:

- (1) X ray shows cavity or miliary erosions, or the erosion has extended to more than one lung;
- (2) HIV+; (3) with complications of diabetics or silicosis; (4) using drugs depressing the immunization system.

Disease site classification: either pulmonary or extra-pulmonary. **If the patient has both pulmonary and extra-pulmonary then classify as pulmonary TB.**

### Classification of TB (in line with national standard TB classification in 1999):

Primary pulmonary TB (type I); Miliary TB (type II); Secondary pulmonary TB (type III); Pleurisy TB (type IV); Other extra-pulmonary TB (type V).

\* If only one sputum smears positive and no abnormal chest X-ray, review the X-ray and sputum test results, if affirmative, repeat the chest X-ray after 7 days antibiotic treatment.

\*\* **Diagnosis of smear negative pulmonary TB can only be made by institutes at county or above levels. Cases should be referred to the upper level if can be clearly diagnosed.**

## Classification of Pulmonary Patient

### Decide the Type of Pulmonary TB Patient:

#### 1. Ask about history of TB treatment?

- TB medication? If yes, for how long? (Verify records as necessary)
- Streptomycin (powder/dry) injections? If yes, for what? For how long?
- Tablets that make urine colour orange? If yes, for how long?

#### 2. Decide the “patient type” basing on history of TB medication:

- ❑ **New Case:** A patient who has never taken anti-tuberculosis drugs or has taken for less than one month in the past
- ❑ **Relapse:** A patient who had previous TB history complete treatment and regarded as cured, again produces smear-positive sputum or have active symptoms.
- ❑ **Transferred In:** A patient who registered at other TB dispensary and being treated transfers in to continue treatment. If has been treated for less than one month, then registered as Other Initial Treatment.
- ❑ **Return after default:** A patient who had been on treatment for one month or more and discontinued treatment for two months or more, returns for treatment.
- ❑ **Initial treatment failure:** A initial treatment patient whose sputum smear is positive on fifth month of treatment
- ❑ **Other:** Other Initial Treatment: A patient has taken less than one-month treatment, returns for treatment. Other Re-treatment: A patient who has taken one month or more treatment and then discontinued treatment for less two months, or whose treatment was failure

#### 3. Decide the Treatment Category:

A TB patient are classified in 4 treatment categories: Initial Treatment S+, Initial Treatment S- (includes Severe Initial Treatment S- and non-S Initial Treatment S-), Retreatment S+ and MDR. Severe Initial Treatment S- includes: (1)X ray shows cavity or miliary erosions, or the erosion has extended to more than one lung; (2) HIV+; (3)with complications of diabetics or silicosis; (4) using drugs depressing the immunization system.

#### Treatment Regimen to be used:

- For Intial Treatment S+ and severe initial treatment S- patients: Initial Treament S+ Regimen.
- For non-severe Initial Treatment S- patients: Initial Treatment S- Regimen.
- For retreatment S+ patients: Retreatment S+ Regimen.
- For MDR patients: Individualised regimen according to mediciation history, sputum culture and drug sensitivity test.
- For treatment of TB patients with complications, ask advice from specialists.

## Choosing Treatment Regimen

### PRESCRIBING DRUGS AND EXPLAINING TREATMENT:

1. Prescribe regimen according to patient's situation and category
2. Consider the presence of any contra-indication
3. Prescribe the TB drugs according to patient weight (page 6)
4. Fill in the Patient Medical Record.
5. Inform the patient that:
  - ✓ He/she is suffering from tuberculosis.
  - ✓ Tuberculosis may be treated, and most tuberculosis is curable.
  - ✓ National fee exemption policy about examination and treatment.
  - ✓ He/she must take TB tablets at least for 6 months (or 8 months for re-treatment cases) and if he/she misses tablets the TB may come back and he/she has to continue treatment for even longer.
  - ✓ His/her treatment will last until..... (say which month it finishes)
6. Ask if he/she has any queries/concerns? If yes, respond.
7. Send the patient to TB coordinator.

### TB treatment explained

1. Abbreviations of TB drugs: Isoniazid is H, Rifampicin is R, Pyrazinamide is Z, and Ethambutol is E, Streptomycin is S.
2. Each drugs' letter has a number after it (H3) which shows that the drug is taken on alternate days.
3. Do not give Ethambutol to children under 14 or disorientated adults; perform streptomycin scratch test in accordance with regulations of local health authority
4. Treatment regimen:

Treatment Category	Intensive Phrase (2 months)	Continuous Phrase (4/6 months)
Initial Treatment S+	2H <sub>3</sub> R <sub>3</sub> Z <sub>3</sub> E <sub>3</sub>	4H <sub>3</sub> R <sub>3</sub>
	Remarks: 1) If sputum smear remains positive by the end of 2nd month then prolong intensive treatment by one month and repeat sputum test by the end of the 3rd month, while continuous treatment remains same. 2) If the 5th months sputum smear is positive then Initial treatment is failed.3) Initial treatment failure case should be re-registered under "Initial Treatment Faliure" and should be treated with Retreatment S+ regimen.	
Retreatment S+	2H <sub>3</sub> R <sub>3</sub> Z <sub>3</sub> E <sub>3</sub> S <sub>3</sub>	6H <sub>3</sub> R <sub>3</sub> E <sub>3</sub>
	Remarks: 1) Prolong intensive treatemnt by one month for patient allergic to streptomycin, i.e. 3H <sub>3</sub> R <sub>3</sub> Z <sub>3</sub> E <sub>3</sub> /6H <sub>3</sub> R <sub>3</sub> E <sub>3</sub> . 2) If sputum smear remains positive by the end of 2nd month then prolong intensive treatment by one month and repeat sputum test by the end of the 3rd month, while continuous treatment remains same. 3) If the 5th month sputum is positive then retreatment is failed, but still need to complete the treatment. 4) <b>Use chronic regimen if for re-treatment failure cases.</b>	
Initial Treatment S-	2H <sub>3</sub> R <sub>3</sub> Z <sub>3</sub>	4H <sub>3</sub> R <sub>3</sub>
	Remarks: If sputum smear turns positive by the end of 2nd month then treat the patient with retreatment S+ regimen	

## Dosage and Administration

Drugs	Daily use			Drugs			
	Adults (g)		Children	Adults			
	<50kg	≥50kg	mg/kg	<50Kg		≥50Kg	
				g	Tablet/ Vial	g	Tablet/ Vial
Isoniazide H/INH	0.3	0.3	10-15	0.5	1+2/3	0.6	2
Streptomycin S/SM	0.75	0.75	20-30	0.75	1	0.75	1
Rifampicin R/RFP	0.45	0.6	10-20	0.6	2	0.6	2
Ethambutol E/EMB	0.75	1.0	—	1.0	4	1.25	5
Pyrazinamide Z/PZA	1.5	1.5	30-40	1.5	3	2.0	4

**Remarks:**

1. One national standard blister of TB drugs contains 2 tablets of Isoniazid, 2 tablets of Rifampicin, 5 tablets of Ethambutol and 4 tablets of Pyrazinamide. A blister is designed for one day's dose of a patient with weight over 50Kg on the intermittent treatment.
2. The Isoniazid is 0.3g/tablet; Rifampicin is 0.3g/tablet; Ethambutol is 0.25g/tablet; Pyrazinamide is 0.5g/tablet; Streptomycin is 0.75g/vial.

# Educating Patient

## 1. TB coordinator at county CDC/TB dispensary educates the patient with the following key messages:

- ✓ Tuberculosis is an infectious disease. TB can infect any parts of the body (lung, lymph nodes, bones, kidneys and etc). Lung is the most common part of infection. Your TB is in the \_\_\_\_\_ (explain the part affected).
- ✓ Cough spreads the TB germs. TB is not spread through plates or clothes (etc.)
- ✓ Cover your mouth when you cough, but no need to cover your mouth at all times. Bury any sputum you've coughed out (with quicklime, plant ash, or earth).
- ✓ Treatment cures TB. You must take TB tablets for 6 (re-treatment 8) months. Your treatment will last until..... (say which month it finishes)
- ✓ TB medicines are free. You may come to county CDC/TB dispensary to fetch your free drugs every month.
- ✓ There is no reason to feel ashamed for having TB.
- ✓ Tuberculosis is not inherited. It is a disease anyone could get. However some people are more likely to get it, such as a weak or malnourished person, and people who are alcoholic or infected with the HIV.
- ✓ You should eat well and not drink alcohol.
- ✓ You should not smoke. Smoking may damage your lung further.
- ✓ Treatment cures tuberculosis. You will soon feel better after treatment starts. However, it is very important to take the pills for the full 6 (8) months. If you stop treatment early the TB will come back and be much harder to treat.

## 2. Reassure patient

- ✓ You may feel sick now, but you will be **most likely** cured if you complete 6/8 months of tablets.
- ✓ You may not work or look after your family at the moment, but if you stick to your treatment, you will feel better in several weeks, and then you can live normal life. However, your tuberculosis is not fully cured at that time, so don't stop medication until completing 6/8 months.

## 3. Explain the treatment to the patient:

- ✓ Show the tablets and explain how much tablets to take each time
- ✓ Explain that treatment supporter will remind he/she to take tablets
- ✓ Do not worry if the urine goes orange, it is normal after taking rifampicin
- ✓ If any side-effects of anti-TB drugs present (see page 12), report to county CDC or TB dispensary

## 4. Ask if he/she has any queries/concerns? If yes, respond.

## Registering Patient and Arranging TB Treatment

### OPD doctor at county CDC/TB dispensary registering the TB patient

#### 1. Inquire, review, and fill out relevant register/card with reference to Patient Medical Record:

- (1) Ask the full address of patient and contact details, note them down on the Treatment Record Card
- (2) Fill out Patient Treatment Record Card, and mark the due date for sputum test 2 months later.
- (3) Fill out the TB Patient Register

#### 2. Explain the TB treatment as below

- (1) Ensuring taking drugs on time each time is critical during the next several months
- (2) It is difficult to do, everyone may forget to take medicine, especially when s/he is feeling better and able to work again
- (3) We will help you choose a treatment supporter who will encourage and observe you take tablets.
- (4) The treatment supporter will supervise you to take right number of tablets at the right time. S/he will support and encourage you to stick to the full treatment course (6/8 months), - so that you get recovered.
- (5) Be sure to inform your treatment supporter if any side effect presents. Let s/he accompany you to the county CDC/TB dispensary/general hospital.
- (6) Every month you should visit the county CDC/TB dispensary for a clinical review. At specific times (the end of 2nd, 5th, 6<sup>th</sup>, 8th months) you will visit the county CDC/TB dispensary for sputum test.
- (7) If you have to be away from home for several days, take enough tablets with you.
- (8) If you are moving, be sure to inform your CDC/ TB dispensary before your movement. **Your former CDC/ TB dispensary will notice the CDC/ TB dispensary where you are moving in.**



## Arranging a Treatment Supporter

To be carried out by the CDC / TB dispensary TB co-ordinator

### 1. Help the Patient to Select the Best Treatment Supporter

#### (1) Say:

- ① You can decide who is the best person to be your Treatment Supporter.
- ② We suggest that the best candidate may be: village/community doctor, relatives in short distance/ neighbours, and who should fulfil the following requirements:
  - ✓ Someone who lives nearby, so you can meet every other day, and
  - ✓ Someone who is available every other day to watch you taking pills, and
  - ✓ Someone who is concerned about your treatment and illness, and
  - ✓ Someone who is reliable and will watch you take the correct number of tablets.

#### (2) Ask:

- ① Can you visit the village doctor every other day? And this doctor is willing to watch you swallow drugs for the whole 6/8 months?
  - ✓ If so, you should put your anti-TB drugs and Patient Treatment Card in your village doctor's home.
  - ✓ You should visit your village doctor every the other day at a time agreed by both of you.
  - ✓ Your village doctor should watch you taking drugs every the other day. After this, the village doctor should record this on the Patient Treatment Card.
- ② If it is difficult for you to go to village doctor to take drugs, you may choose one responsible family member, neighbour or other people as your treatment supporter
  - ✓ If so, you should inform your village doctor about your treatment and treatment supporter
  - ✓ You will see the village doctor (or the village come to see you) once a week to make sure your treatment is ok.

#### (3) Inform your township doctor in charge of preventive treatment

### 2. Note on the Treatment Record Card and tell the patient that

- (1) Your treatment supporter is .....
- (2) Your village doctor is (if not treatment supporter).....
- (3) The doctor responsible for TB control in your township hospital is .....

### 3. Arrange contact with the treatment supporter:

- (1) Issue the patient with anti-TB drugs of one month consumption
- (2) Ask the patient inform his/her treatment supporter to try to come to the county CDC/TB dispensary within the next week

**Note next appointment date on Patient Treatment Card**

## Screening Household Contacts

### MANAGING HOUSEHOLD CONTACTS

To be done by the TB co-ordinator and repeated by the OPD doctor

1. List all household contacts of sputum smear-positive patient.
2. Discuss each contact, if any TB symptomatic, encourage s/he go to county CDC/TB dispensary for further assessment.
3. Do not forget babies and children, or HIV positive contacts
4. Give the following advice for the household contacts of the sputum-positive TB patient: (if the patient is unsure about any detail then let the contact come to county CDC / TB dispensary for advice.)

Household Contact	Additional points	Management
Adult	Person is well: No chest or other TB symptoms present	Educate patient and family contacts to notify in time if symptoms develop.
	Person is unwell: Chest symptoms (cough > 3 weeks) or other TB symptoms present	Advise that s/he should come to the county CDC TB dispensary for sputum smears and chest X-ray
Child	Child is well: No TB symptoms  Enquire about prior BCG (0-1 yrs only)	Educate patient and family contacts to notify in time if symptoms develop.  If < 1yrs and no prior BCG –this child should come to the county CDC / TB dispensary for BCG
	Child is unwell: cough, or fever, or weight loss/failure to thrive	Visit the paediatrician
Child breast-fed by smear positive mother	-	Treat mother; prophylactic treatment for the child with INH (5mg/kg) for 6 months; Stop breast-feeding. Isolate the mother if possible. After completion of 6 months prophylaxis, give PPD test, and BCG to those PPD test negative children.
HIV positive contact	-	Encourage coming for advice early. Refer to upper level CDC or Infectious disease hospital.

## Preparing Treatment Supporter

### Preparing treatment supporter

To be undertaken by county CDC/ coordinator of TB dispensary:

1. **Ask:** do you accept to be a treatment supporter? If yes then:
2. Train the treatment supporter (please refer to page 12, 13, give s/he a copy)
  - (1) Key message of tuberculosis in page 7.
  - (2) Explain TB drugs and tablets by showing the blister to treatment supporter. Explain how to store drugs properly.
  - (3) Show an example of the Patient Treatment Record Card, and explain the steps for observing the drug intake.
  - (4) Demonstrate how to observe the patient take tablets.
  - (5) Note the results of observation on the Patient Treatment Record Card. Explain that X is drawn by the doctor, indicating days that the patient needs to take medicine. After a patient finish his/her medicine, the treatment supporter should draw a circle around it. No circles should be drawn on the specific day when patient does not take medicine.
  - (6) Demonstrate how to make note on Patient Treatment Record Card

### 3. Discuss

The treatment supporter should notice the patient how to keep others from getting infected:

- (1) Keep the patient's room ventilated
- (2) Let the patient not to spit close to people or indoors, not to face others when sneeze or cough.

### 4. Explain the actions to take in the following situations

- (1) Miss one day's drug,
  - Ask the patient to take a full dose within 24 hours.
- (2) Misses two or more days of treatment,
  - Follow-up the patient and try to identify causes. If difficult to decide, report to village doctor, township doctor, and TB coordinator of county CDC/TB dispensary.
- (3) If patient does not agree to continue the treatment,
  - Must inform the health worker at county CDC/ TB dispensary immediately
- (4) If major side-effects or new symptom presents
  - Let the patient see the doctor in county CDC/ TB dispensary
- (5) If patient have to be away for next one or more days
  - Remind the importance of taking medicine. Leave the patient with enough drugs for requested number of days. Make record about the patient's drug taking after s/he is back.

### 5. Support the treatment supporter

- (1) TB coordinator of county CDC/TB dispensary let treatment supporter has his/her office phone numbers
- (2) Arrange township doctors to visit every month treatment supporter and to report any problem
- (3) Arrange village doctor to visit every week the treatment supporter and TB patient, and to report any problem to township doctor

## Preparing Treatment Supporter

### How to be a Treatment Supporter and Observe TB Treatment

1. **Greet** and welcome the patient. Ask how he or she is and listen to the response while you begin to prepare the medicines.
2. **Prepare** for Observed Intake:
  - ✓ Pour a glass of water for your patient.
  - ✓ Take out the Patient Treatment Record Card and check the patient's name, if the patient supporter is responsible for several patients.
3. **Observe** the Intake:
  - ✓ Squeeze the tablets from the blister and put them into the patient's hand (do not touch the tablets).
  - ✓ The tablets must all be taken once at a time, while you, the TB Treatment Supporter, watch your patient swallow them.
  - ✓ If your patient finds it difficult to swallow them one after the other, let him or her take a short breathing space. The medicines must be taken within half an hour to make sure that they work together.
  - ✓ Talk to your patient while he or she swallows the tablets. Make sure (s)he swallows the tablets.
4. **Record** on the Patient Treatment Record Card that the tablet taking has been observed (draw the O around the X)
5. **Also** try to accompany the patient for monthly review at County CDC/TB dispensary.
6. If your patient does not take his/her tablets, you should kindly encourage your patient.
7. If necessary, remind your patient that s/he needs to take all the tablets for the full 6 (8) months to make sure they are cured.
8. **Report** if the patient has missed more than 1 dose.

## Preparing Treatment Supporter

### Do's and Don'ts for the patient and treatment supporter

DO	DO NOT
Make sure the medicines are locked away and safe.	✗ Do not store tablets in damp places.
Keep medicines out of reach of children.	✗ Do not drop tablets on floor. (Throw away tablets that fall on the floor and report to the County CDC/ TB dispensary for replacements).
Know the number and type of tablets name, colour and strength of each tablet.	✗ Do not replace one patient's tablets for another's.
If the patient cannot swallow the tablets, crush them. The patient may swallow the tablets with water.	✗ Do not give only part of the medicines.
Encourage them when they are feeling depressed, or like they are not going to get better, Say that if they take tablets for the full 6 (8) months - they will get completely well.	✗ Do not criticise, ✗ Do not get angry or shout at them - it is not easy being ill and taking tablets for 8 months. Everyone gets frustrated sometimes.
Refer all complications and side effects to the doctor.	✗ Do not treat side effects by yourself.

## Reviewing TB patients

### To be conducted by County CDC/TB Dispensary PD doctor

The patient will be reviewed every month when picking up drugs. The patient should take the Patient Treatment Record Card with him/her. If possible the treatment supporter should come together.

**Remember to demonstrate that you care and respect the patient. Speak clearly and encourage the patient.**

**1. Do physical examination of the patient's chest.**

**2. Ask:**

- Are you having any problems with your TB treatment?
- Are you taking tablets at specified dosage every time?
  - Look at the Patient Treatment Record Card and congratulate for treatments taken.
  - Discuss any missed or unobserved treatments.
- If the Treatment Supporter is a relative ask if they have seen the village Dr weekly.
- Are you suffering from any symptoms?
  - Discuss any symptoms and examine as necessary (Remember symptoms may be due to TB illness that will improve as treatment continues).
- Encourage the patient to continue treatment. Symptoms could also be side-effects or due to co-existing illness such as HIV disease (see tables below for management).

**3. Manage side-effects according to the following guidelines:**

Side Effects	Relevant Drugs	Clinical Symptoms	Principles of Management
Gastro-intestinal intolerance	INH, RFP, PZA	Anorexia, nausea, abdominal pain or diarrhoea	Continue anti-TB drugs and: eating small amount of food before taking drugs; or taking drugs after meal; or split the time of taking drugs in a day
Hepatitis	INH, RFP, PZA	Fatigue, anorexia, nausea, vomiting, upset stomach, dark urine, yellowing of the skin	Stop medicine and treat Hepatitis when any single aminotransferase level is 4 times higher than normal or skin is stained yellow, resume anti-TB treatment when liver function backs to normal
Drug induced allergy	All anti-TB drugs	skin rashes, fever	Give anti-histamine without stopping anti-TB drug if only skin itch presents; Must stop medicine if fever and skin rashes, or allergic shock present, identify allergen subsequently .
Neuropathy	INH, EB	Peripheral neuropathy induced by INH has limb end numbness ; EB causes sight lose and dyschromatopsia.	Peripheral neuropathy may be treated with B6; Must stop medicine if losing sight, take vitmine A and virmine B.
Ear toxicity	SM	Dizziness, hearing impairment, tinnitus	Stop SM injection, give Vitmine and calcium treatment
Arthralgia	PZA	Arthralgia in small joints	Take allopurinol 0.1g/time, 2~3times/day. If heavy gout, stop taking anti-TB drugs.

\*Vomiting repeatedly is a problem because the drugs will not be absorbed. Vomiting with confusion is a very serious sign - of liver failure. Refer a vomiting patient to a physician.

\*\* If orange/ red urine then reassure the patient that this is normal for the drug

3. Transfer details of compliance from Patient Treatment Record Card onto TB Treatment Record. Record problems and solutions in space provided on TB Treatment Record.
4. Record date and place of next visit.
5. If next visit need sputum test, give sputum bottles and instruct patient.

## Sputum Test and Interpreting Results at the end of the Initial Phase

**TB patient should have sputum test and clinical review in 2<sup>nd</sup>/3<sup>rd</sup>, 5<sup>th</sup>, and 6<sup>th</sup>/8<sup>th</sup> month of treatment, this is to be carried out by OPD doctor and TB coordinator of county CDC/TB dispensary**

1. The patient will bring early-morning sputum and late night sputum sample with them from home.
2. The patient will deliver both samples to the laboratory
3. Educate the patient whilst the samples are analysed
4. Inform the patient sputum test results.

**The OPD doctor of county CDC/TB dispensary will:**

1. Examine the patient (including weight) and consider
  - ✓ Compliance
  - ✓ Problems with treatment observation
  - ✓ Side-effects and other symptoms
2. Look at the sputum results and decide on management methods:

**Interpretation of sputum results at the end of the initial phase:**

# Patient will have sputum test at the end of 2nd month. If smear positive patient (including initial and retreatment) appears positive again, then prolong the intensive phase for another month and add another sputum test at the end of the 3rd month.

Sputum result at registration	Smear result at end of intensive phase	Management
Smear-positive	Negative	➤ Start continuation phase
Smear-negative		
Smear-positive	Positive	➤ prolong intensive phase for 1 more month then repeat the sputum smear test ➤ At the end of 3 months start continuation phase irrespective of sputum status but ➤ If result positive at the end of 5 <sup>th</sup> month, then declare treatment failure. ✓ Initial treatment patient start re-treatment regimen ✓ Re-treatment patient continue due course, and no repeated free treatment provided afterward
Smear-negative		Check with laboratory for clerical errors. If the patient was truly smear negative on registration but is smear positive at the end of intensive phase then: ➤ Declare treatment failure. Enter outcome on <i>TB Treatment Card</i> ➤ re-register as re-treatment case and start retreatment regimen ➤ Review supervision procedures ➤ Send sputum for C/S if possible

## Interpreting Results at the end of the Continuation Phase

### Interpretation of sputum results near the end of the continuation phase:

i.e. at *5/6 months* for initial treatment and; at *5/8 months* for retreatment cases (one month later for any patient who had prolonged intensive phase.)

Smear result at end of continuation phase	Treatment regimen	Management and note on TB Patient Register
Smear negative at end of continuation phase	Initial treatment Smear Pos (S+ )	➤ Declare patient <b>cured</b> . Congratulate patient
	Initial treatment Smear Neg (S- )	➤ Declare patient <b>treatment completed</b> . That is, the patient's situation has been under control and no drugs are needed. Congratulate patient
Smear Positive at end continuation phase  (Must confirm result by repeat smears)	Initial treatment Smear Pos (S+ ) *	<ul style="list-style-type: none"> <li>➤ Declare patient <b>treatment failure</b>.</li> <li>➤ Register as a re-treatment case on TB register and restart treatment as retreatment case.</li> <li>➤ Review supervision procedures</li> <li>➤ Send sputum for C/S, if possible</li> </ul>
	Retreat-ment Smear Pos or Neg (S+/- )	<ul style="list-style-type: none"> <li>➤ Declare <b>treatment failure</b>.</li> <li>➤ Send for sputum C/S, if possible</li> <li>➤ Stop all treatment, admit and isolate patient.</li> <li>➤ Refer to upper level CDC or specialist if possible.</li> </ul>

- **Update** the data on Patient Medical Record, Patient Treatment Record Card & TB Register for every patient (i.e. sputum result in three forms; drug prescribed; and date and place of next follow up sputum examination)

\* For this table we consider only those who were sputum positive at the start of treatment and not any sputum negative patients who were placed in category one due to the severity of their illness.



# Retrieving Lost Patients

## RETRIEVING TB PATIENT

It is important that patients who have missed treatment or appointments are identified quickly and retrieved. The treatment supporter, village doctor (if different from treatment supporter), *Township TB doctor* and OPD doctor of *County CDC/TB dispensary* and *TB co-ordinator* all have important roles to play.

### The treatment supporter should:

1. **Recognise if the patient misses 1 days of treatment ask the patient to take a full dose of drugs within 24 hours.** If necessary, visit the patient and try to resolve the problem - if it is difficult, then must report to the village doctor and township doctor as soon as possible.

### The township TB doctor should:

1. Take appropriate action if informed by a treatment supporter that a patient is missing treatment.
2. Inform the TB coordinator of county CDC/ TB dispensary

### The TB co-ordinator at the county CDC/ TB dispensary should:

1. Check the Patient Treatment Record Card and count how many doses have been missed that month since starting treatment. If treatment has been missed then the village doctor should be advised to retrieve the patient, and feed back within 3 days.
2. If the patient already missed doses, manage the patient according to the specification on the next page.
3. Act appropriately to retrieve any patient that treatment supporter has identified as defaulting from treatment or follow up. That is:
  - (1) Call the patient (where feasible) requesting they attend for appointment
  - (2) Co-ordinate with the village doctor in the area
  - (3) Visiting the patient to discuss treatment, defaulting and possible solutions
  - (4) Any other feasible way, suitable to local circumstances.
4. Identify if a patient has failed to come to county CDC/TB dispensary to fetch drugs or have sputum test, then:
  - (1) Send a message to the village doctor to visit the patient and report back within 3 days.
  - (2) Inform the *township TB doctor* and request information about the patient.
  - (3) Visit the patient in person, if possible.

The *township TB doctor* can be contacted by:

- *Township Hospital* ....., *township TB doctor*....., *Tel:* .....
- *Township Hospital* ....., *township TB doctor*....., *Tel:* .....
- *Township Hospital* ....., *township TB doctor*....., *Tel:* .....
- *Township Hospital* ....., *township TB doctor*....., *Tel:* .....

## Managing Treatment Interruption

### MANAGING TREATMENT INTERRUPTION

It is important that patients who have missed treatment are managed appropriately. Actions to take will depend on the total doses that have been missed since starting treatment.

Review missed treatment every month to spot problems early and prevent further missed doses.

1. If the patient has missed just an occasional dose

- ✓ Ask the patient take a full dose within 24 hours.
- ✓ Discuss the reasons and how to prevent this happening again.

2. If the patient has missed several doses, but less than 14 days (7 doses)

- ✓ Do not get angry but make it clear to the patient that you are worried.
- ✓ Congratulate the patient on the tablets he/she has taken but tell him you are worried about the missed tablets.
- ✓ Explain that this is a **very serious problem** and could result in the TB not being cured. As the *treatment supporter* you want to help solve the problem so that the patient will be cured.
- ✓ Discuss what is preventing the patient from taking treatment and how to help he/she continue with TB treatment. Consider stigma, side-effects, time off work and distances to treatment supporter.
- ✓ If possible continue with existing arrangements. If this is not possible then discuss arranging an alternative treatment supporter.

Note: Report these problems to the *TB co-ordinator*, even if you think you have managed to solve the problem.

3. If the patient has missed more than 14 days (7 doses)

- ✓ Do not get angry but make it clear to the patient that you are very worried.
- ✓ Explain that you are pleased the patient has taken some tablets and has come for review but you are very worried about so many missed tablets. Missing so many tablets is **extremely serious and if continues it will result in the TB not being cured.**
- ✓ Discuss the reasons for the missed tablets (as above).
- ✓ Explain that the patient must return to County CDC/TB dispensary **immediately for sputum test**, and they may need a change of treatment regime.

Note: write on the Patient Medical Record the reasons why the patient defaulted. Retrieve the patient together with the *Township TB doctor* if the patient refuses to go back to County CDC/TB dispensary.

4. If the patient has missed more than 14 days the County CDC/TB dispensary will use the table to decide about treatment regimes (see next page)

5. TB coordinator of County CDC/TB dispensary will note the missed the doses on Patient Medical Record

## Managing Treatment Interruption

### Treatment of New Cases Who Interrupted Treatment

Length of treatment before interruption	Length of interruption	Do a smear?	Result of smear	Treatment
< 1 month	< 2 weeks	No	-	Continue on same regimen
	2-8 weeks	No	-	Start again on same regimen
1-2 month	< 2 weeks	No	-	Continue on same regimen
	2-8 weeks	Yes	Positive	Same regimen plus one more month intensive period
			Negative	Continue on same regimen
> 2 month	< 2 weeks	No		Continue on same regimen
	2-8 weeks	Yes	Positive	Start retreat regimen
			Negative	Continue on same regimen

### Treatment for Relapse and Failure Cases Who Interrupted Treatment

Length of treatment before interruption	Length of interruption	Do a smear?	Result of smear	Treatment
< 1 month	< 2 weeks	No	-	Continue on same regimen
	2-8 weeks	No	-	Start again on same regimen
1-2 month	< 2 weeks	No	-	Continue on same regimen
	2-8 weeks	Yes	Positive	Same regimen plus one more month intensive period
			Negative	Continue on same regimen
> 2 month	< 2 weeks	No		Continue on same regimen
	2-8 weeks	Yes	Positive	Start again retreat regimen
			Negative	Continue on same regimen

## Deciding Treatment Outcomes

**This is done by the OPD doctor and TB co-ordinator at County CDC/TB dispensary**

1. For most patients it is decided at the end of the treatment period. However, for a few patients it can be decided earlier (for example transfers out or deaths).
2. The treatment outcome must be recorded on the Patient Medical Record, Patient Treatment Record Card, and TB Patient Register.

### **TB treatment outcomes**

There are 6 treatment outcomes:

1. **Cured:** Initially smear positive patient who has completed the treatment, and is sputum smear negative at the last month of treatment and at least one previous occasion.
2. **Completed:** sputum smear positive cases who completed treatment, and had negative smears at the end of intensive phase, but with no sputum examination at the end of treatment; AND also smear negative cases who received a full course of treatment.
3. **Treatment Failure:** Smear positive patient who remained, or became again, smear positive at the fifth month or later after commencing treatment, **OR** a sputum negative patient found sputum positive at end of 2<sup>nd</sup>/5<sup>th</sup> month.
4. **Transferred Out:** A patient who is transferred to another TB dispensary
5. **Defaulted:** A patient who at any time after registration had not collected drugs for two or more consecutive months, or who stopped treatment for over 2 month, and can not be contacted after doctor's retrieving.
6. **Died:** Patient who dies for any reason during the course of treatment (based on information gathered, verified & recorded by TB co-ordinator).

N.B: For those patients who has interrupted treatment, note the number of missed doses on Patient Medical Record.

## Ensuring Quality of TB Case Management

**The quality of the TB case management depends on all health workers working as a team AND on careful monitoring and reporting.**

### **WORKING TOGETHER AS A TEAM**

#### **1. A monthly review meeting may be held at county CDC/TB dispensary**

- (1) The participants will include OPD doctor, TB co-ordinator, laboratory technicians, X-ray technician, and drug dispensers.
- (2) The monthly review may **include** all/any of the following areas:
  - ✓ Laboratory functioning
  - ✓ Categorization and prescription practices
  - ✓ Monitoring the case finding, sputum conversion and treatment outcomes
  - ✓ Contact screening and management
  - ✓ Record maintenance
  - ✓ Patient compliance and defaulter tracing

#### **2. Quarterly/biannual review meeting held at County CDC/TB dispensary**

- (1) The participants will include TB co-ordinator, township TB doctor, or doctor representatives from local community
- (2) The discussion should be participatory and overall conclusion reflecting opinions from all parties should be drawn thereafter.
- (3) The review should cover the following areas:
  - ✓ Case management
  - ✓ Following-up of TB patients
  - ✓ Patient's compliance and tracing of defaulters
  - ✓ Recording keeping
  - ✓ Coordination between different levels

#### **Quarter reporting done by the TB co-ordinator, which should cover:**

1. Case finding report
2. Sputum conversion report
3. Treatment outcomes report

These reports should be discussed at the next monthly review meetings as well as being sent to the next upper level TB control institute.