

Training Manual for
CAS/ATLCAs



BANGLADESH

Damien Foundation Bangladesh

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PREFACE

This manual is for the CAs & ATLCAAs working in TB and Leprosy clinics under the supervision and guidance of doctors and other level of supervisors.

The possible involvement of Clinic Assistant and Assistant TLCAs in the diagnosis and management of TB and Leprosy is well organized by all the DF projects. In response to their requirements this manual is adopted in a logical manner. The CAs, ATLCAAs would be able to know whom and when to suspect TB or Leprosy, how to diagnose and treat TB and Leprosy.

There is a great concern to ensure high quality services to all TB and leprosy affected people, those who seek care in DF facilities. The first edition of this manual deals extensively on the building up of empathic relationship between the patients and service provider.

Since English is not our first language, we tried to keep the writing style in a simple way. You are welcome to send any comments on the manual. We will use your comments to improve future editions.

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Abbreviations

AFB	= Acid Fast Bacilli
ATLCA	= Assistant – TLCA
BB	= Borderline-Borderline
BC	= Body Charting
BI	= Bacteriological Index
BL	= Borderline-Lepromatous
BT	= Borderline-Tuberculoid
CA	= Clinic Assistant
CC	= Community Clinic
CT	= Completed Treatment
DDS	= Diamino Diphenyl Sulphone
DF	= Damien Foundation
DOT	= Directly Observed Treatment
DOTS	= Directly Observed Treatment Short course
D/W	= Distilled Water
ENL	= Erythema Nodosum Leprosum
EPTB	= Extra Pulmonary Tuberculosis
FDC	= Fixed Dose Combination
FDP	= Fixed DOT Provider
FP	= Family Planning
FWC	= Family Welfare Center
gm.	= gram
HE	= Health Education
HW	= Health Worker
ID	= In Door
IUATLD	= International Union Against Tuberculosis and Lung Disease
kg.	= Kilogram
LL	= Lepromatous-Lepromatous
MB	= Multi Bacillary
MDR	= Multi Drug Resistance
MDT	= Multi Drug Therapy
mg.	= milligram
ml.	= milliliter
MO	= Medical Officer
NFI	= Nerve Function Impairment
OBS	= Observation
OPD	= Out Patients' Department
PB	= Pauci-Bacillary
PN	= Pure Neural
POD	= Prevention Of Deformity
PTB	= Pulmonary Tuberculosis
QMT	= Quick Muscle Test
RD	= Rural Dispensary
ROM	= Rifampicin Ofloxacin Minocycline
RP	= Responsible Person
RR	= Reversal Reaction
SC	= Sub Center
ST	= Sensory Testing
TB	= Tuberculosis
TLCA	= Tuberculosis & Leprosy Control Assistant
TLCO	= Tuberculosis & Leprosy Control Officer
UHC	= Upazila Health Complex
UT	= Under Treatment
VD	= Village Doctor

Leprosy

Reception of Patients

Reception is the first contact with the patient.

By cordial reception, the patient should:

- ❑ Feel comfort.
- ❑ Think worker as a friend, well-wisher and dependable person to express his or her problems.

How patient should be received cordially?

Patient should be received with smiling face and with cordial manner. During receiving a patient we have to consider his/her age group, sex etc.

➤ For older age group of clients:

Addressing – Chacha/Chachi, Kaka/Kaki, Bhai/Apa/Didi etc.

Greetings – Salam/Adab/Nomosker/Good morning and so on.

Physical contact – Hand shake, touching shoulder (among same gender)

Asking – To have a seat.

➤ For same age group of clients:

Addressing – Bhai/Apa/Didi etc.

Greetings – Salam/Adab/Nomosker/Good morning and so on.

Physical contact – Hand shake, touching shoulder (among same gender)

Asking – To have a seat.

➤ For younger age group of clients:

Addressing – By name or Choto Bhai/Choto bone etc.

Greetings – As responded by the recipient.

Physical contact – Touching shoulder. (Among same gender)

Asking – To have a seat.

History taking for Leprosy

What are the main complaints; are there any suggestive signs/symptoms of Leprosy and presence of previous treatment history? It should be found out by taking history from the client. Some points are mentioned below related to history taking for Leprosy:

- 1) Patient's Bio-data: Name, Father's name, Village, Union, Upazila, District, Tracing address etc.
- 2) Main complaints:
 - a) Patch:
 - i) Any patch?
- If yes, how many and their locations.
 - ii) Duration?
 - iii) Itching?
 - iv) Previous treatment history and response to it.
 - b) Other skin lesions, anesthesia on normal looking skin or on palmer surface, plantar surface, muscle weakness/paralysis?
- 3) Contact history:
 - a) Any person from his/her family taken treatment for Leprosy/ or having suspicious features of leprosy?
 - b) Any known leprosy patients in their community?
- 4) How the patient comes to know our address/Referred by whom?

Clinical examination

All the suspected Leprosy patients should be examined thoroughly (Skin, Nerve for thickening and for functional impairment)

Pre-requisite for clinical examination:

- a) Clear explanation to the patient on what we are going to do and why?
- b) Permission from the patient.
- c) Adequate day light.
- d) Maintaining Privacy.
- e) Presence of third person when female patient is to be checked by a male worker.
- f) All required materials should be available. (Cotton, Ball pen, BC sheet, ST-QMT sheet etc.)

How to perform clinical examination?

By maintaining all the pre-requisite:

- ❖ Uncover the patient (As much as applicable)
- ❖ Placing the patient in Anatomical position
 - Stand erect

- Both upper limbs by the side of trunk.
- ❖ Examining (looking for skin lesions) the patient from head to foot. First front side (Right then left), then back side (including buttock and plantar surface)
- ❖ If any lesion found, mark it in the BC.

Examining skin

Examination of the skin Patch:

- ❑ Site
- ❑ Margin – Ill defined/Well defined?
- ❑ Color – Hypopigmented, Erythematous or other color.
- ❑ Hair growth in the patch, Surface dryness.

Examination of the other skin lesions:

- ❑ Thickening of the ear lobe, thickening of the other parts of the body.
- ❑ Presence of nodule.

Sensory testing on skin patch:

Objective: To know the sensory status of the skin patch.

(Complete anesthetic, Hyposthetic - partially loss of sensation or with normal sensation.)

Explanation: Before testing sensation on skin patch the patient should be well explained by the worker.

- ❑ Why sensory need to be tested?
- ❑ What the worker will do?
- ❑ How the patient needs to be responding?

Procedures:

- ❑ Take a piece of cotton and make one edge like a pointer.
- ❑ Explain the patient, that what are we going to do with this piece of cotton.
- ❑ Demonstrate the patient by touching on normal skin and on the patch.
- ❑ Take feed back – if OK; then
- ❑ Ask the patient to close eyes and to show the site/point touched by the cotton.
- ❑ Touch randomly, not orderly, on normal skin, then on patch and so on. (Sensation must be tested all over the lesion including the center of the skin patch).
- ❑ If the patient can show the tested point; the sensation is considered normal. If patient can not show, consider this as anesthetic. In case of doubtful sensation, consult with TLCA or supervisors.

Examination of the Nerve

Sites of nerve examination:

Table shows name, palpation sites and results to damage the respective nerve in leprosy:

Name of the nerve	Palpation sites	Results to damage the nerve
Facial	Not needed	Lagophthalmos (Inability to close eyes in gentle eye closure), Facial paralysis.
Great Auricular	By the side of the Neck, Below mandible	Anesthesia around the area (Neck)
Ulnar	At the elbow joint, medial side, between the two bony bulges	Anesthesia to the medial $\frac{1}{3}$ of palm, Little and medial half of Ring finger. Weakness/paralysis resulting clawing of Little and Ring finger.
Median	Middle of the wrist joint (Flexor surface), between the tendons.	Anesthesia to the lateral $\frac{2}{3}$ of the palm, lateral half of Ring, middle, Index and Thumb. Weakness/Paralysis resulting clawing of Middle, Ring and Thumb.
Radial	Upper arm (middle), Posterior aspect	Anesthesia small area on dorsum of hand, Wrists drop.
Lateral popliteal/Common peroneal	Back of the Knee, Lateral side, and Just neck of the Fibula.	Anesthesia on dorsum of foot and leg, Foot drop.
Posterior Tibial	At the Ankle joint, between medial malleola and tendoachilis.	Anesthesia on the plantar surface, Clawing of the Toes.

The practical aspect of nerve palpation will be demonstrated practically by the facilitator during the training session. It is a matter of practical experience to comment on the status (thickened or not) of nerve on palpation. It is recommended to consider a nerve as thick when it is clearly enlarged and the TLCA/ supervisors should reconfirm this.

Primarily we palpate the nerve at their thickening predilection sites to detect thickening/enlargement of the respective nerve. During palpation of any nerve we have to keep in mind, that all palpable nerves are not necessarily thickened nerves. The thickening/enlargement of nerves should be segmental and consistency will be harder or softer than compare to consistency of normal nerves.

Diagnosis of Leprosy

What is Leprosy?

Leprosy is a chronic, least infectious disease caused by *Mycobacterium leprae*, primarily affects the skin and peripheral nerves. Leprosy is a curable disease.

To diagnose a case of leprosy, finding **of at least one of these three Cardinal signs is a must:**

- Hypopigmented or erythematous skin lesion with absent or reduced sensation.
- Enlargement of peripheral nerve, with associated loss of sensation or muscle power.
- Finding of Acid-Fast Bacilli (AFB) in skin smears.

The ATLCA /CA can diagnosis a clear-cut case with definite sensory loss in the skin patch and put on treatment according to the guidelines. Other cases with hypoesthesia or no sensory loss in the skin lesion or presence of infiltration or only nerve function impairment should be examined by the TLCA/TLCO. Clear-cut non-leprosy cases should be referred to UHC Doctors for further management and all doubtful cases to TLCAs or TLCOs /MOs.

Body charting of Leprosy patients

A body chart is the drawing of the body of patient, showing the different skin and nerve lesions and some of their characteristics.

Frequency of body charting:

- At diagnosis
- At declaring CT
- During suspect Relapse.
- To keep in OBS.

Charting Procedures:

- First select the site of Leprosy lesions.
- Select charting site of the Body charting sheet.
- Draw margin, then color, sensory status and other details (as shown in annex).

Remember that Body charting should represent the exact status of Leprosy lesions of patients' body.

Nerve function Impairment (NFI) testing (Quick Muscle Test – QMT and Sensory Test – ST)

Key facts:

- ❑ NFI in Leprosy is the main cause of deformity, disability and stigma associated with Leprosy.
- ❑ NFI in Leprosy usually improves after early treatment, if it is given within 6 months of onset of the NFI.
- ❑ NFI due to Leprosy is more common in MB (Multi bacillary) cases, among them who already have NFI and with enlarged/thickened nerves.
- ❑ Main treatments are Prednisolone, Rest of the affected part in acute stage, exercise for the respective muscles, care and use protective appliances during working/walking.

In DF projects all MB cases are defined as high-risk group, QMT/ST will be done for such cases monthly during the course of treatment and quarterly for one year after completion of treatment.

Aim of doing QMT/ST:

- ❑ To detect early neuritis (Acute/Silent) and taking measures.
- ❑ To monitor status of nerve function (Improving/Worsening)
- ❑ To design appropriate care plan for the patients.

Time schedule for doing QMT/ST:

- ❑ At the time of diagnosis and declaring CT.
- ❑ Monthly for on treatment MB patients.
- ❑ Quarterly for on treatment PB patients.
- ❑ During starting Prednisolone and in each follow up visits.
- ❑ Any time patients' complaints about NFI.
- ❑ During suspect Relapse.

Before starting QMT/ST what should be done?

- ❑ Explain to the patient what we are going to do, why and how.
- ❑ Patient and worker both should be physically and mentally prepared and relaxed.

ST

- ❑ Explain
- ❑ Demonstrate the procedure on open eyes.
- ❑ Ask patient to close his/her eyes during testing.
- ❑ Use ball pen point to test the sensation.
- ❑ Test ten points for palm and ten points for plantar surface (See ST/QMT sheet)
- ❑ Give pressure at right angle (90° angle) to make a small dimple on the tested point
- ❑ Test randomly, not orderly.
- ❑ Use √ for normal sensation, X for loss of sensation (by red color)

QMT

Grading of muscle strength:

5 grades we are using for grading of muscle strength, namely – Normal, Resistance reduced, weak, movement reduced and paralysis.

Grades for muscles strength grading:

P (Paralysis) = No movement.

M (Movement reduced) = Movement present, but not in full range of movement.

W (Weak) = Full range of movement but can not resist resistance.

R (resistance reduced) = Full range of movement and resist some resistance.

N (Normal) = Full range of movement and can resist fully the resistance.

Summary of QMT grading:

	N	R	W	M	P
Movement	Full	Full	Full	Reduced	No
Resistance	Full	Reduced	No	No	No

Test for the muscle strength of different nerves trunk:

Nerve trunk	Function	Test
Facial	Eye closure (Gentle and strong)	Ask the patient to close his/her eyes gently as in sleep. If there is any gap (>2 mm) between two eyelids, measure the gap and record it on QMT sheet. If no gap ask the patient to close the eyes strongly and you try to open the eyes by pressuring over both upper & lower eyelids by your Index and Thumb. Use only 3 keys as N, W, and P for recording.
Radial nerve	Wrist extension (Wrist up)	Ask patient to hold his/her wrist up, if movement is ok, ask him/her to keep the wrist up strongly and you give pressure by another hand over dorsum of patient's hand to be examined.
Median nerve	Thumb abduction	Ask patient to lift his/her Thumb, if movement is ok, ask the patient to keep the Thumb in position strongly and you give pressure on palmer side of 1 st part (Proximal phalanx) of Thumb by your Index finger.
Ulnar nerve	Little finger abduction	Ask the patient to spread his/her fingers out. If movement is ok ask the patient to hold the little finger in position strongly and give pressure on medial side of 1 st part (Proximal phalanx) of little finger by your Index finger.
Lateral popliteal	Foot dorsiflexion (Foot up)	Ask patient to lift his/her foot up, if movement is ok ask the patient to keep his/her foot in this position strongly and press over the dorsum of the foot by your hand.

Recording:

Write any abnormality in ST/QMT sheet with red color. Write number of normal points out of 10 (For ST). Please write a clinical note for any abnormality, duration of abnormality and management given for that abnormality.

Treatment of Leprosy

Paucibacillary (PB)/Multibacillary (MB) distinction:

According to the National program, distinction between PB and MB is made as follows: PB or MB should be classified depending upon the number of skin lesions, involvement of nerve trunk and the SSS test result.

Classification	Criteria	Treatment regimen
PB with 2-5 skin lesions	2-5 skin lesions less than 2 nerve trunk involvement and slit skin smear negative.	MDT-PB for 6 months
MB with 6 or more skin lesions or clearly enlarged 2 nerve trunks	6 or more skin lesions and/or 2 or more clearly enlarged nerve trunk and/or slit skin smear positive.	MDT-MB for 12 months.
Pure Neural (PN)	Nerve involvement only with associated feature of nerve damage; i. e. Sensory loss or motor loss	MDT-PB for 6 months: If only one nerve trunk or one cutaneous nerve involved (for more than 1 cutaneous nerve involved – consult with MO) and slit skin smear is negative. MDT-MB for 12 months: If two or more nerve trunk involved or SSS result is positive.

Please note also:

- ❑ A smear positive case is always MB.
- ❑ A Relapse case should always be treated as MB.
- ❑ For BI results always consider the highest result, not the average.
- ❑ For skin lesions, only typical Leprosy lesions will be included in the counting.
- ❑ **MO should always be shown the new cases during supervision visit to check the diagnosis and classification made by the clinic staff.**

Leprosy treatment regimens:

Type	Age group	Supervised doses	Self administered	Daily
PB For 6 months	Adult >14 years	Rifampicin = 600 mg Dapsone = 100 mg (Once in each 28 th day)	Dapsone = 100 mg	Daily
	Child 10- 14 years	Rifampicin = 450 mg Dapsone = 50 mg (Once in each 28 th day)	Dapsone = 50 mg	Daily
	Child 5-9 years	Rifampicin = 300 mg Dapsone = 50 mg (Once in each 28 th day)	Dapsone = 25 mg	Daily
MB For 12 months	Adult >14 years	Rifampicin = 600 mg Clofazimine = 300 mg Dapsone = 100 mg (Once in each 28 th day)	Clofazimine = 50 mg Dapsone = 100 mg	Daily
	Child 10- 14 years	Rifampicin = 450 mg Clofazimine = 150 mg Dapsone = 50 mg (Once in each 28 th day)	Clofazimine = 50 mg Dapsone = 50 mg	Alternate day Daily
	Child 5-9 years	Rifampicin = 300 mg Clofazimine = 100 mg Dapsone = 50 mg (Once in each 28 th day)	Clofazimine = 50 mg Dapsone = 25 mg	Twice per week Daily

Monthly supervised dose: This means that the patient swallows the drugs under the direct supervision of MO, Health staff or Local community volunteers.

When to stop MDT?

□ Jaundice

- Complaints about loss of appetite and vomiting
- Yellow urine
- Yellow eyes (Upper part of the eyeball – Sclera - white part)
- Yellow tongue (Lower part)

If you suspect Jaundice stop all the drugs/don't give drugs and consult immediately with TLCA or other supervisors.

□ DDS hypersensitivity

Patients who are taking DDS – may complaints about wide spread itchy rash, fever and some time jaundice – known as “DDS allergy”. **If you suspect DDS allergy stop all the drugs/do not give and consult with TLCA or other supervisor immediately.**

□ Anemia

- Pale lower conjunctiva (inside the lower eyelid – not on eyeball)
- Pale face, overall body
- Short of breath
- Swollen hands/feet.

If you suspect anemia- don't start drug, consult with TLCA or other supervisors.

Reactions in Leprosy

Reaction can happen during the course of the disease:

- Before starting MDT
- During MDT
- After completion of MDT

There are two types of Reactions:

- a) Type I reaction – Known as Reversal reaction (RR)
- b) Type II reaction – Known as Erythema Nodosum Leprosum (ENL) reaction.

a) **Reversal reaction (RR):**

RR reaction occur in both PB and MB patients.

Mild RR:

- ❑ Existing patch/patches is/are mildly inflamed only (Inflammation means – Red, hot, swelling, pain/tenderness).

Severe RR:

- ❑ Existing patch/patches is/are severely inflamed (means huge swelling, red, hot and tender) or bluish color/ulcerating patches;
- ❑ Sudden onset of skin patches with inflammatory signs/symptoms.
- ❑ Skin reaction with onset of NFI (Sensory or Motor)
- ❑ Oedema on face, hands or feet.
- ❑ Inflamed patches on the face.

b) ENL reaction:

ENL occurs in MB (Huge Bacterial load) patients.

Features	Mild	Severe
Skin lesions	A few painful nodule	Many painful nodules.
Fever	Low grade <100° F	High Fever >100° F
Ulceration of nodules	None	Possible
Other complications/ Involvement of other organs	None	Possible Neuritis = Painful tender nerve, NFI Eye = Pain, red, sudden vision impairment, Joint = Swelling, Pain, Hot Oedema = On hands/Feet.

Neuritis:

Inflammation in the nerve is called Neuritis.

Clinical Features:

- Painful/tender nerve.
- NFI (Sensory/Motor – with in the last six months)
 - Palmer/Plantar anesthesia
 - Weakness/paralysis of fingers, hands or feet.
 - Inability to close the eyes.

TLCA or supervisors will always do management. However, for pain or fever CA/ATLCA can provide Paracetamol until patient can meet the TLCA/TLCO. In case patient complains severe pain or new nerve damage or red eye refer them to hospital instead of waiting for TLCA or TLCO.

Prevention of Deformity/Disability (POD) cares

Deformities in Leprosy:

- ❑ Anesthetic Palmer/Plantar surface.
- ❑ Clawing of Fingers/Toes.
- ❑ Wrist drop/Foot drop (can not lift up the hands or feet)
- ❑ Ulcer on Palmer/Plantar surface due to nerve damage in Leprosy.
- ❑ Lagophthalmos (inability to close the eyes) with some other eye complications with/without vision impairment.

Patients with above-mentioned problem should get appropriate treatment/cares to prevent of further worsening or recovery from the problem. So **CAs/ATLCAs should have keen eyes to those patients for cares/taking necessary measures.**

Ulcer

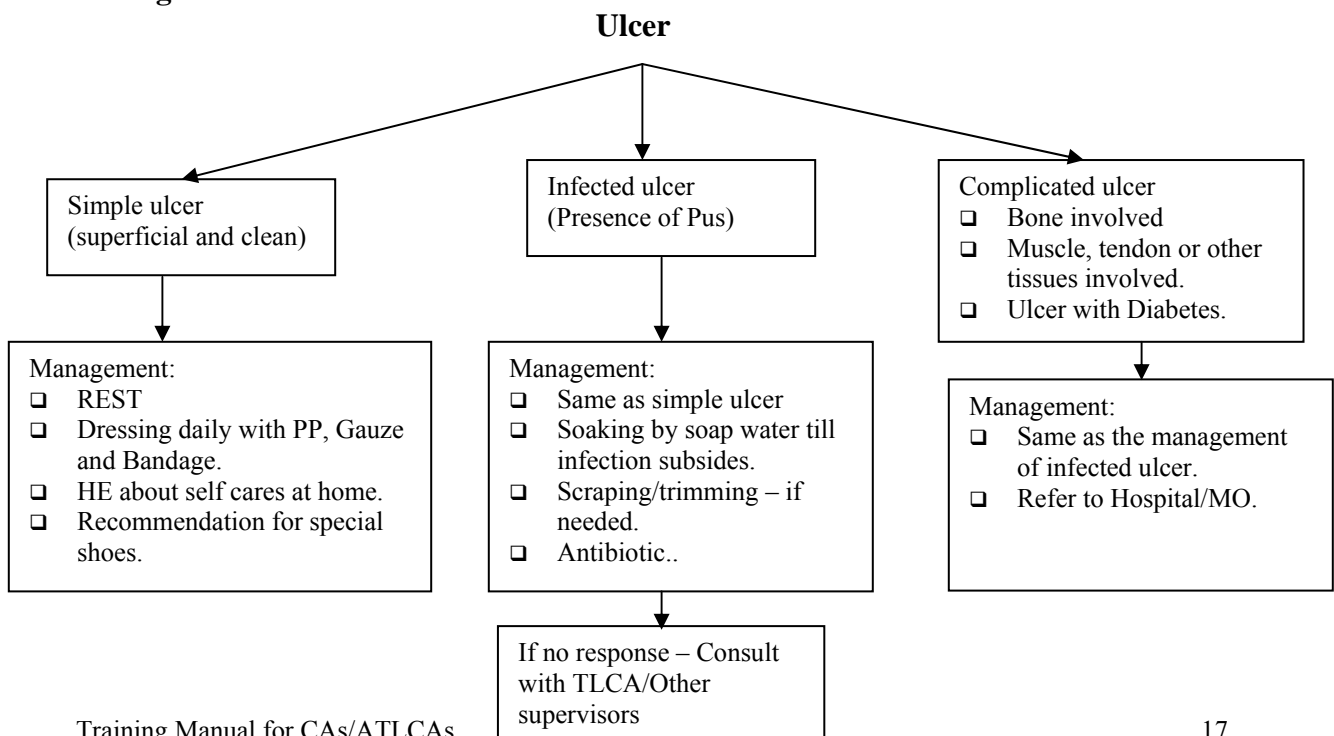
How does Ulcer formed?

In Leprosy most of the Ulcers occur on the Plantar or Palmer surface of Feet and Hands. Nerve damage causes Plantar/Palmer anesthesia, clawing of fingers/toes, wrist drop/foot drop – and that’s why some factors lead to develop Ulcers.

The two most important causes for developing Ulcers in leprosy due to NFI are –

- ❑ Repeated trauma: In case of Leprosy, where there are anesthetic feet/palm patients can not feel pain, so he/she continue to walk or stand in the same posture; as a result the internal tissues close to the bone get injured and formed ulcer.
- ❑ Direct injury: Penetrating objects and burns are example of direct trauma – in this way Ulcer may develop. This is why patient need to wear shoes specially made for anesthetic feet to prevent direct injury.

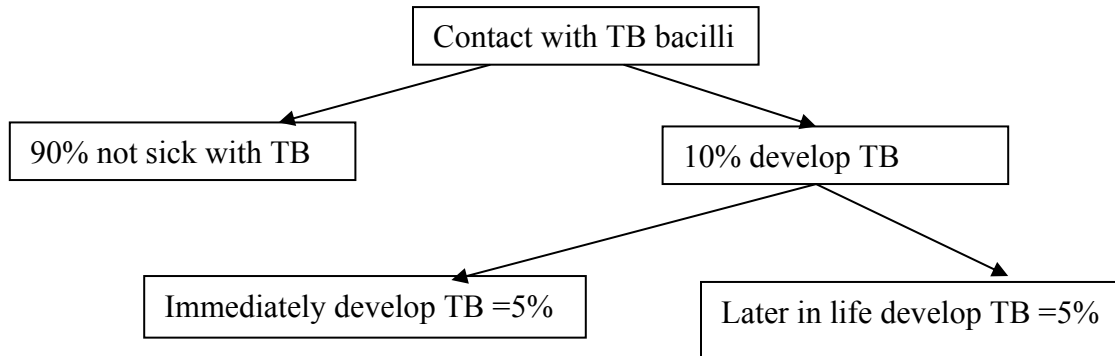
Management



Tuberculosis in Bangladesh:

Tuberculosis (TB) is a major public health problem in Bangladesh. Over 300,000 people develop the disease each year of whom 70,000 die.

Natural history of Tuberculosis:



Source of Infection: The source of infection is the Sputum Smear positive Pulmonary Tuberculosis (PTB) patients before treatment.

How does it spread: The TB bacilli come out of the Lungs while smear positive patients coughing, sneezing, speaking or laughing. These bacilli suspended in the air and inhaled by other person.

Types of TB:

Mainly there are 2 types of TB:

- ❑ Pulmonary Tuberculosis (85%)PTB)
- ❑ Extra pulmonary Tuberculosis (15% EPTB)

History taking for TB

Any person who come to us with the problem of TB (PTB/EPTB) – we have to ask them about symptoms of PTB. So we should ask them – what are the main complaints? Are their any suggestive symptoms of TB and presence of previous treatment history? It should be find out by taking history from the client. Some points mentioned below related to history taking for PTB:

- a) Patient's Bio-data: Name, father's/husband's name, Village, Union, Upazila, District, tracing address etc.
- b) Main complaints:
 - i) Cough? If yes – How many days he/she has been suffering from?
 - ii) Fever? – If yes, when fever starts to rise? Characteristics?
 - iii) Appetite?
 - iv) Chest pain?
 - v) Hemoptysis?
 - vi) Short of breath?
- c) Previous treatment history? – If yes, from where, how long ago, duration of taken treatment and response to it. (You can ask for previous prescription –if available in patient's hand – Try to make the client understand that previous treatment history is very important for giving proper treatment and it will help you to take the appropriate measures for the patient, otherwise may treatment not very effective.)
- d) Contact history
 - i) Any person from his/her family taken treatment for TB/ having features of TB?
 - ii) Any known TB patients in their community?
- e) How the patient's come to know our address/referred by whom?

Suspect for PTB if cough for three weeks or more / haemoptysis for any duration associated with or without other feature. ALL PTB suspects should under go for sputum smear examinations.

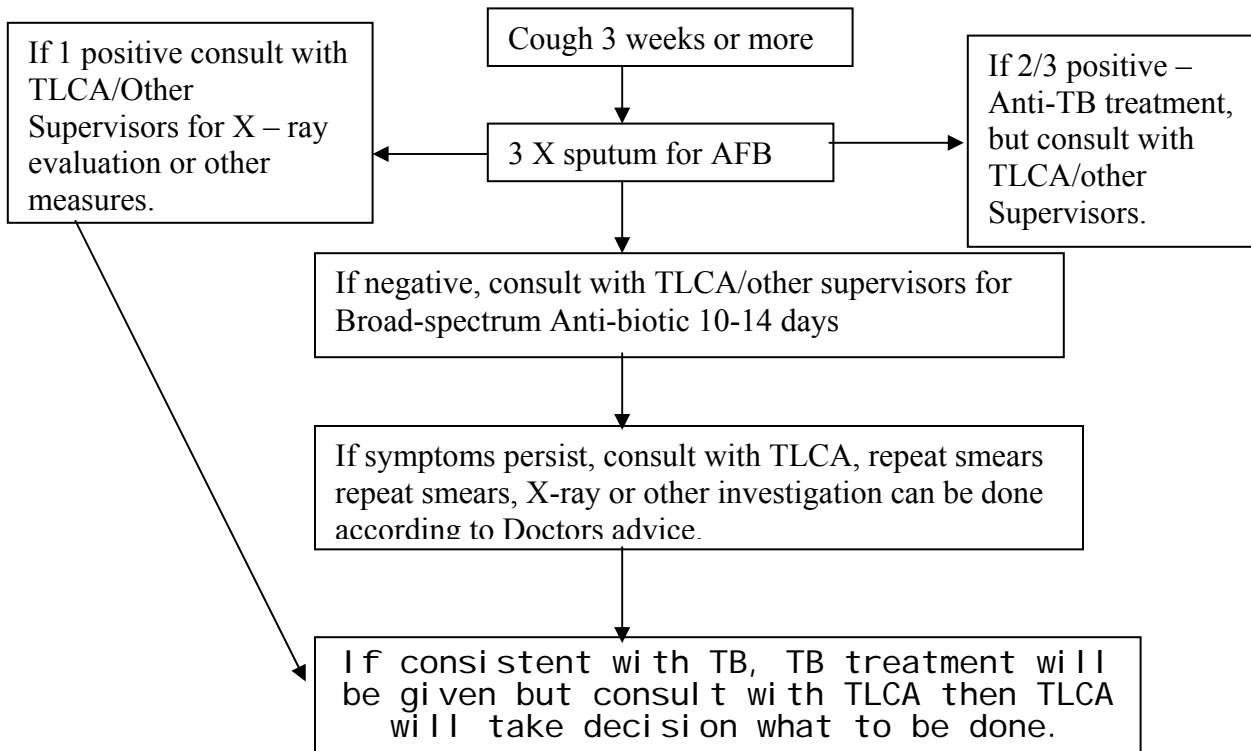
N: B: Always collect 3 samples for examinations of suspect.

Diagnosis of PTB

Diagnosis is certain if at least 2 sputum samples have AFB (any number of bacilli). In case of only 1 sputum sample having bacilli, ask for other specimens.

Suspects with only one sputum having AFB should be referred to Doctor after consult with TLCA/Other supervisors. Incase of all samples are negative refer the patient to Doctor.

Diagnosis of PTB



Cases confirmed through at least two positive smears can put on treatment as per guidelines by the ATLCAs/CAs for other doubtful result wait for TLCA/TLCO or MO.

Extra Pulmonary Tuberculosis (EPTB)

EP includes all organs apart from the Lungs.

Some examples:

- ❑ TB lymphadenitis (Lymph gland): Swelling of lymphnodes.
- ❑ TB arthritis (joint): Pain and swelling of joint.
- ❑ TB of the spine (Spinal cord): Radiological/other finding with/without loss of function.
- ❑ TB Meningitis (covering of Brain): Occurs mostly in children. Head ache, fever, and stiffness of neck and subsequent mental confusion.
- ❑ Miliary TB (TB in blood): TB that has spread quickly all over the body with many organs affected at the same time. Severe general symptoms, fever and shortness of breath. Patients may die quickly if untreated.
- ❑ TB Pleuritis (covering of lungs): It must be suspected in cases with severe pain in the side on inspiration. With a big effusion there will be shortness of breath.

If any person comes to you with the complaints related to any EPTB – should be discussed with TLCA/other supervisors for taking decisions, but sputum samples can be collected for examination.

Sputum examination

The test for the diagnosis of Tuberculosis is very limited. Only reliable diagnosis is possible to see Acid fast bacilli (AFB) in sputum smear under direct Microscopy for PTB patients.

Objective:

To know the presence/absence of AFB in sputum smear under direct microscopy for making reliable diagnosis of PTB and/or getting help to make decision about the patient management (Before starting treatment, during treatment or after completion of the treatment)

For Whom?

Suspects:

For any suspected TB patients (PTB/EPTB) 3 sputum samples (Spot on 1st day, Next Morning and Spot) should be collected and examined.

UT patients:

- Sputum must be examined regularly for the follow up of all smear positive new PTB and re-treatment cases. It will be done at specific time:
 - At the end of the 1st phase, so after 2 months (For cat 1) or after 3 months of treatment (For cat 2). If negative, continuation phase is started. If still positive (at least 4 AFB/100 fields) the 1st phase is continued for 1 more month. Again sometimes after the 1 month of prolongation of the first phase, but this will not lead to another prolongation of the 1st phase even when still positive.
 - At the 3 months of continuation phase.
 - At the end of the treatment (6/7 or 7/8).
- Smear negative PTB: Sputum will be examined only once at the end of the 2nd month of treatment. It should still be negative. If not, the registration must be changed into smear positive PTB and treatment has to be changed to cat 2 but TLCA will take decision consulting with TLCO/MOs (if needed).

For follow up examination, in general only single sputum examination to be done. The patient takes a pot with him/her the week or month before it is required, and bring a morning specimen on the day he/she has to attend in the clinic. So, remember it, supply sputum pot with proper HE to get sputum to be examined during their next visit.

Sputum examination For Multi Drug Resistant TB

(Two sputum samples should be examined in each occasion)

- ❑ At the starting of treatment
- ❑ End of the 1st month
- ❑ End of the 2nd month
- ❑ End of the 3rd month
- ❑ End of the 4th month
- ❑ End of the 6th month
- ❑ End of the 9th month
- ❑ End of the 12th month
- ❑ End of the 15th month

Post MDR:

- ❑ 6 monthly for 2 years.

Supplying pot:

- ❑ For suspects – Supply pot for collection of sputum. Before supplying pot Lab no and sputum sample no should be written at the side of the pot by marker. e. g: (Lab no/Sample no) – 131/1, 131/2, 131/3.
- ❑ For follow up - For follow up examination,. The patient will take a pot with him/her the week or month before it is required, and bring a morning specimen on the day he/she has to attend in the clinic.

Sample strategy/timing:

- ❑ For suspect: We are taking 3 specimens from each suspect, like “On the spot – Early morning – On the spot”; means – one sputum in the spot at the time of suspect, second sputum container is given to the patient to collect an early morning sputum in the next day and third one will be collected when the patient will come with the morning specimen.
- ❑ For follow up: Only one morning sputum sample is sufficient (except MDR)

Explanation and collection of sputum:

- ❑ Explain the patient why and how to collect sputum.
- ❑ Ask the patient to wash his/her mouth before collection of sputum
- ❑ Ask the patient to take deep breath and to cough up from the bottom of Lungs.
- ❑ Try to make the patient understand that we have to examine “Sputum” not just saliva.
- ❑ Ask patient to collect sputum not in the closed room, better to collect in the sun in the out side.
- ❑ Amount of sputum enough, if it is 3-5 ml.
- ❑ Sputum should be thick and mucoid.

Note:

After collection of sputum the sputum pot should be placed in a safe place out of reach of children and sunlight

In the clinic sputum specimen pot should be preserve in a tray orderly (patient and sample wise)

Preparation of slides

Cleaning and numbering:

Take a new slide; write the slide numbers on one short side near the edge. Slide no.: The numbers of the lab register line, followed by a bar (“/”), followed by the number of the column of the result (“1” or “2” or “3”). If done correctly, nothing else must be written on the slide (it has no importance if it was a morning or spot specimen e.g.). Clean the upper sides (the one on which you wrote) of the slide.

Opening the sputum pot:

Open the sputum pot, **KEEPING IT AWAY FROM YOUR FACE**. This will be more effective to prevent infection than wearing a mask.

Selection of materials:

With a bamboo stick, look for the best part of the sputum to be used for the smear. Sputum can be thick and sticky (“mucoid”) or purulent, yellow or often white. It should not be watery, since then it is rather saliva. There may be some blood: avoid this, AFB are not there. If too much blood, ask another sputum. If not possible, try to wash the sputum by adding pure water and mixing, to see better the thick parts.

Best are small, yellowish particles. Or take from the mucoid material, if you see no particles. **DO NOT TAKE TOO MUCH.**

Making smear on slide:

Using the bamboo stick spread this material as evenly as possible on the upper side of the slide, by pushing down and moving around the stick. Spread it on about 3 cm by 2 cm. Or more, if you see that it is still too thick a smear. The result should be a patch with lots of fine stripes, no heavy ones.

Used pot and bamboo stick:

Discard the bamboo in disinfectant or the container for burning. Leave the slide with the smear for drying at the air. This may easily take an hour or more. Do not heat, this makes staining less good afterwards.

Fixation:

Now fix the dry slide, by taking it with forceps or pincer, and passing it slowly 3 times over the flame of a spirit lamp. Good fixation will kill the bacteria in the smear, and make the smear stick to the glass so that it does not come off during staining and washing. It can also be safely transported now.

Stain the slide, hot method of Ziehl Neelsen:

- Arrange the slides on a staining rack, over a sink or bucket or the like. Smear side up!!!
- Cover them one by one completely with 1% carbolfuchsin solution, through a funnel with filter paper to take out the granules. The filter paper can be reused for at least one week.
- Heat slide after slide from below, by holding the flame of the spirit lamp just under each slide. Watch for rising of a bit of steam, then go on to the next slide. **DO NOT HEAT TOO MUCH, THE STAIN SHOULD NOT BOIL!!**
- Leave the warm stain on the slide for 15 minutes, even longer cannot harm. **ONLY SEE TO IT THAT IT DOES NOT DRY OUT ON THE SLIDES.** If stain runs off a slide, then adjust the position of the rack and cover with fresh stain, heat again.
- Now using forceps, tilt the slides one by one so that stain runs off. Thereafter, rinse them briefly with running water, directing the water so that it hits the slide on the short side, on a spot higher than the smear. So the water indirectly flows over the smear. Continue till clear water comes off. Better use a beaker or other container, rather than a tap or washing bottle, for rinsing water: these are easier to clean daily for prevention of contamination. Finally, shake off the excess water from the slide; replace it on the rack and still with the smear on top.
- Cover the whole slide with 10 % solution hydrochloric acid. Leave for 3 to 5 minutes, even more will not harm. Pour off the acid and wash with water as above. Check the color of the smear: if it still looks a bit red, repeat the de-staining with acid. If it continues to look red (even after wiping the underside of the slide clean), it means that the smear was too thick, or that the carbolfuchsin was not filtered well. You may try to prepare another slide from the same sputum. Still, examination of a too red smear is possible.
- Shake off the excess water, and cover with 0.1 % methylene blue solution for 30 seconds to 1 minute
- Wash with clean water

Wipe the **UNDERSIDE** of each slide clean (toilet paper), leave to dry on a drying rack. Avoid leaving them in direct sunlight, and protect them from insects if they are left to dry overnight. **NEVER WIPE THE UPPER SIDE WHEN STILL WET!**

AFB Microscopy

It requires a good microscope: good and clean high power objective, sufficient light (mirror or electricity), a movable stage, better a binocular; and **PATIENCE**. Condenser fully up, diaphragm opens. If sunlight must be used, look first for the best position of the mirror (flat side up) using the 10 x objective.

The slide must be quite dry. Put it on the stage, direct the edge of the smear in the light path (center it under the end of the objective). Focus the field. If not experienced, use the low power (10 x) objective first for focusing before applying oil. If the field cannot be focused even then, but vague blue things are seen, take off the slide again and check if the side with the smear is up (feel with your finger). Probably you have to invert it, otherwise something is very wrong with the microscope.

Turn the revolver so that no objective points to the slide, and put one drop of immersion oil on the slide, in the light path. Turn the revolver further until the immersion objective (x 100) dips into the oil, without another objective passing through it first. Focus if not yet done with 10 x, or focus better now till the image is sharp. Add more oil if this is not easy or if the image blurs immediately again.

Start searching the slide field after field for AFB. They appear as slender red rods, about half the length of a WBC and often quite thin. They lie single, in small groups or sometimes in bigger ones. In the last case, they may make up a string. Everything else should be blue. **HOWEVER, REGULARLY YOU WILL SEE RED THINGS THAT ARE NOT AFB!** The shape should be a typical rod, otherwise do not call it AFB. In dying bacilli, the red staining will be irregular, they are “**granulated**”. Later they fall apart in pieces. At last, one may find only a few of these pieces in the slide. Then it is not possible to be sure that they are AFB, in fact. If you see AFB that you are not sure about to be really TB, better count them as AFB but note “atypical”. The supervisors and lab technicians will then be warned that there may be a contamination (with other non-pathogenic Mycobacterium from water) at your center.

One full length (=150 fields) must be searched, before calling a slide negative for AFB. Different parts of the slides must have been included. This will take easily 15 minutes. When the smear is 3 cm long, it has 150 such fields in its length. Move around over the slide, looking for good spots: areas where there are WBC, and areas with mucoid threads criss-crossing. Concentrate on those, follow the threads along their length, and you will find bacilli more easily. Go fast over empty areas, where there are no cells or mucus, you will not find much there. If the whole slide is like this, empty or with only very big polygonal (not rounded) cells and few WBC, you are looking at saliva. Avoid too dark parts: bacilli are difficult to see there, they may be in a deeper plane of the field and hidden by cells. Use the micrometer screw the whole time in such thick parts, turn back and forth just a bit, it makes the bacilli more visible. When AFB are found, examine sufficient fields in order to be able to estimate their numbers. When there are plenty, 10 to 50 fields are sufficient. When they are few or

scanty, 300 fields must be counted. It is not necessary to really count all bacilli in fairly to heavily positive slides, estimate their number per field or per 10 fields.

Quantification of AFB, scale of the IUATLD and National Program:

NUMBER OF BACILLI	Number of fields to examine	REPORT
NO AFB in one length of 3 cm. i. e: 150 fields	One length of 3 cm (150 fields)	NEGATIVE
1 TO 29 AFB in 300 FIELDS	Two length of 3 cm (300 fields)	Scanty, COUNT AS POSITIVE
30 TO 299 AFB in 300 FIELDS	Two length of 3 cm (300 fields)	1 +
1 TO 9 AFB PER FIELD	100 fields	2 +
10 OR MORE AFB PER FIELD	10 - 50 fields	3 +

This quantification is useful, since it gives an indication of the progress of treatment. During effective treatment, the number will go down quickly and usually reach negative before 2 months.

It is not so much an indication of the severity of the disease, 1 open cavity may already cause heavily positive sputum.

What may go wrong in AFB-microscopy?

We speak of “false positive results”, when the report says positive, and actually there are no AFB in the smear. The reverse is called “false negative”, there are AFB but the report says negative.

Possible causes of:

1. False positive results: many possible causes
 - Usually "artifacts" (deposits of stain, scarred slides): report only red bacilli, use new slides!
 - Other Mycobacteria (contaminated stains or rinsing water) or transfer of TB bacilli to other slides (by applying oil, or staining in a bath...). **Report as AFB nevertheless.**

2. False negative results:

- Usually bad reading of slide: microscopist doesn't know the bacilli, or, **most often, he/she has not taken enough time**
- Too thick (dark) smears are impossible to read
- Staining errors (poor heating after adding fuchsine)

Quality control on sputum-smears for AFB

Over the last years we have developed, and in fact at the same time tested, different system of QC that may be unique. Several changes have been introduced and implemented in the projects. The lasted adopted system has been described here step by step.

TLCAS and CAs/ATLCAs at the peripheral centers: Keep all slides in order [numbering] after examination. Identify all slides with center code and lab serial number. By using tissue paper lightly wiped off the excess oil from all slides after examination. Clearly note the results in lab register, doubtful (scanty) and 1+ result must be noted as number of AFB/300 fields. Note the coordinates (in remarks column) of place when bacilli found one or few spots.

Note: Avoid selection of sites. Make smears 3cm. X 2cm.

Contamination Prevention:

Contamination is a great problem in our country, so it is very important for us to prevent as soon as possible. In that case lab technicians should be careful about the mentioned problem. The following precautions to be taken:

- Check contamination monthly from the sediment of reagents, water containers, funnels, and others materials related to staining.
- Use tube-well water for rinsing.
- Do not use contaminated distilled water for making solution.
- Do not use tube-well water for reagent bottles or dropping bottles for washing.
- If sediment is formed in the bottom of the reagent bottles or in the corks, use only small amount of burning spirit to take out the sediment.

- If contamination is found in source of the reagent bottles or in the water containers, funnels then you should change the reagents immediately and for the containers or for funnels you should keep them into the 6% chlorox or bleach for over night to make the atypical AFB non viable and break into pieces and ensure them free from contamination. A monthly contamination check sheet is given here.

Care of the Microscope:

Microscopes used in clinical practice are light microscopes. A compound light microscope is the most common microscope used in microbiology. It consists of two-lens system to magnify the image. Each lens has a different magnifying power. A common microscope with single eyepiece is called monocular; one with two eyepieces is said to be binocular. The microscopes these are used in our project are binocular. I have given the name of the parts of a microscope in the bellow.

1. Eye piece.
2. Diapter adjustment ring.
3. Binocular tube.
4. Observation tube clamping screw.
5. Revolving nosepiece.
6. Objective.
7. Mechanical stage.
8. Microscope stands.
9. Specimen holder.
10. Fine adjustment knob.
11. Coarse adjustment knob.
12. Mirror.
13. Coaxial low drive control knobs.
14. Base.
15. Hand rest.
16. Iris diaphragm lever.
17. Condenser height adjustment knob.
18. Pre focusing lever.
19. Condenser clamping screw.
20. Filter holder. See the picture as bellow.

Handling a Microscope:

- Keep the microscope in the place where it is out of danger.
- Put your slide on the stage of microscope, on condition that the smear should be up side. Do not put it up side down, if you do like that, the image of the object will not observe through the objectives.
- First of all focus the light through 10x objective turning course adjustment knob and open the diaphragm a little bit to have good image of the object.
- Now turn the 100x objective by giving one or two drops of immersion oil on the slides. Without applying oil, image can not be seen through this objective clearly. In

that situation diaphragm should be completely opened. When you will use 100x, then use fine adjustment knob.

- Condenser should be a little bit bellow from the stage to keep the condenser free from scratches.
- To keep the microscope in good condition you should have to use tissue paper for removing the oil from the objective also it will control the cross contamination.

Microscope Preservation:

Microscope is one of the most important equipment in the laboratory. So it should be in the good condition.

1. Keep the microscope in the locked cupboard.
2. It will have a well-protected wear clothe.
2. Do not put the microscope in the sun light and not for along time without covered.
4. Use 20 to 40w bulbs for it to avoid fungus or humidity.
5. If electricity is not sufficient, use silica zell
6. If silica zell is not available, flat rice can be used.
7. Cupboard should be ventilated.

Name of the Reagents:

1. 1% carbol fuchsin.
2. 10% hydrochloric acid.
3. 0.3% methylene blue
4. Immersion oil.
5. Xylene
6. Savlon
7. Dettol
8. Phenyl
9. Hexisol
10. Vim
11. Soap
12. Rectified spirit
13. Phenol
14. Methanol

15. Methylated spirit

16. TR Benzine/ Iodine

Name of the equipment's and other materials:

1. Microscope

2. Staining rod

3. Sprit lamp

4. Lighter

5. Forceps

6. Reagent bottle

7. Funnel

8. Coplin jar

9. Tray (Plain, Kidney shape)

10. BP handles

11. Beaker

12. Slide rack

13. Cotton drum

14. Filter paper

15. Tissue paper

16. Broom sticks

17. Wooden rack for slides

18. Slides boxes for reported slides

19. Diamond pencil

20. Glass slides

21. Oil pot for dropping

Treatment of Tuberculosis

The role of treatment in TB Control:

Treatment and cure of infectious cases of Tuberculosis will interrupt transmission of TB infection in the community and prevent death of the TB patients.

Different categories and their criteria:

Category	Criteria
Category I	<ul style="list-style-type: none"> ❑ New (who has not taken anti TB drugs previously or taken < 1 month). ❑ Severe type of sputum smears negative PTB or EPTB. (Severe type smear negative PTB – Seriously ill Severe type EPTB – Seriously ill Meningeal, Miliary, Pleural or multi organ TB)
Category II	<ul style="list-style-type: none"> ❑ Smear positive (not new) with a history of taking any anti TB drugs one month or more. ❑ Failure with category – 1 & 3 ❑ Relapse after Cat 1/2/3. ❑ Sputum positive defaulter who has a history of anti TB treatment before of 1 month or more.
Category III	<ul style="list-style-type: none"> ❑ New smear negative PTB or EPTB – the less severe type.

Fixed Dose Combination (FDC) tablets for TB treatment:

The components of the FDC tablets are as follows:

- ❑ 4FDC: Rifampicin (R) 150 mg + Isoniazid (H) 75 mg + Pyrazinamide (Z) 400 mg + Etambutol (E) 275 mg.
- ❑ 3 FDC: R 150 mg + H 75 mg + Z 400 mg
- ❑ 2 FDC: R 150 mg + H 150 mg

The doses of FDC tablets (according to category) for adults are as follows:

Category I

Pretreatment weight (Kg)	Intensive phase – daily during 1 st 2 months	Continuation phase – Three times weekly during last 4 months
	Number of Tablets – 4FDC	Number of Tablets 2 FDC
30 – 37 Kg.	2	2
38 – 54 Kg.	3	3
55 – 70 Kg.	4	4
> 70 Kg.	5	5

Category II

Pretreatment weight (Kg)	Intensive phase – Daily during 1 st 3 months	Intensive phase – Daily during 1 st 2 months	Continuation phase – Three times weekly during last 5 months	Continuation phase – Three times weekly during last 5 months
	Number of FDC	Injection Streptomycin	Number of FDC	Ethambutol 400 mg
30 – 37 kg	2	500 gm	2	2
38 – 54 Kg	3	750 mg	3	3
55 – 70 Kg	4	*1 gm	4	4
> 70 Kg	5	*1 gm	5	5

*The dose of Injection Streptomycin should not exceed 500 mg daily for the people of age 45 years or above.

Category III

Pretreatment weight (Kg)	Intensive phase – daily during 1 st 2 months	Continuation phase – Three times weekly during last 4 months
	Number of Tablets – 3FDC	Number of Tablets 2 FDC
30 – 37 Kg.	2	2
38 – 54 Kg.	3	3
55 – 70 Kg.	4	4
> 70 Kg.	5	5

- **For pregnant women TB treatment must be given. For Category II – Streptomycin should not be given, but Prescription should be made by ATLCA /CA consultation with the MO.**
- **For the Child TB cases please follow the dosage schedule (Annex B & C)**

DOTS (Directly Observed Treatment Short course):

The DOTS is the brand name of WHO recommended policy package to control TB. This package comprises five components:

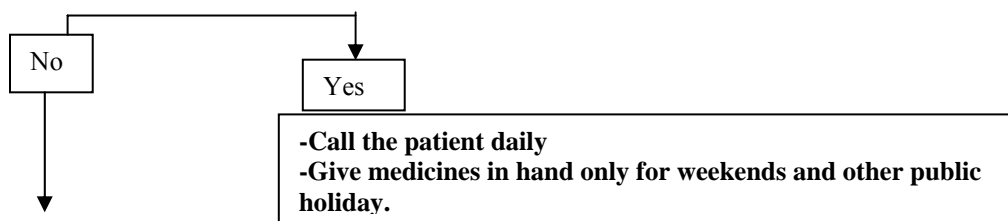
01. Political commitment for support to a strong national program.
02. Case detection through sputum smears microscopy.
03. Directly Observed treatment with short course therapy to all smear positive patients.
04. Ensure regular uninterrupted supply of anti TB drugs.
05. A monitoring system for evaluation of treatment and outcome.

Establish a DOTS network (Fixed DOT Providers) at the community:

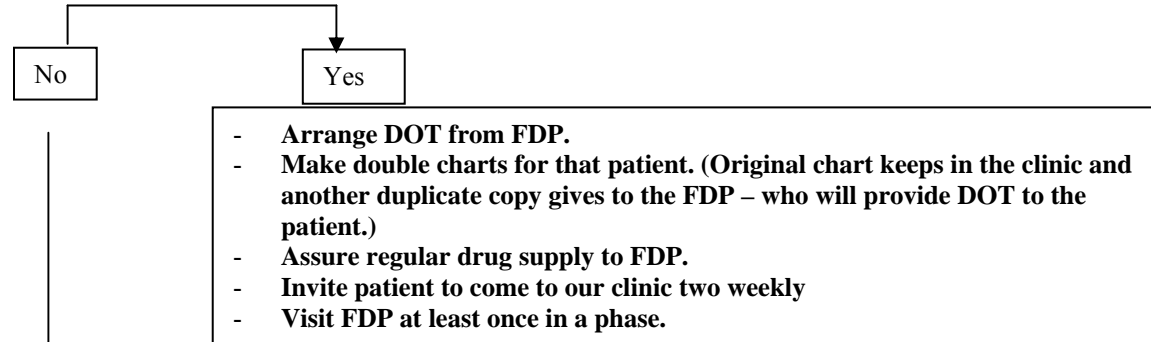
- ❑ Identify partners who can provide DOT. i. e: VDs, SC, CC, Cured patients, Teachers, Religious leader, Scout etc. All of us are responsible to identify DOT provider.
- ❑ Organize one day training on what is expected from them by the TLCAs of respective Upazila.
- ❑ Identify FDP (Fixed DOT provider) in each union.
- ❑ Keep a list of DOT providers with name and location. Prepare a list and follow the list when FDP need to be introduced to the patients.
- ❑ Any patient from the respective village should be sent to FDP for DOT as per list. The FDP should receive medicines timely; 1st time medicines for full intensive phase and 2nd time medicines for full continuation phase.

Steps for DOTs

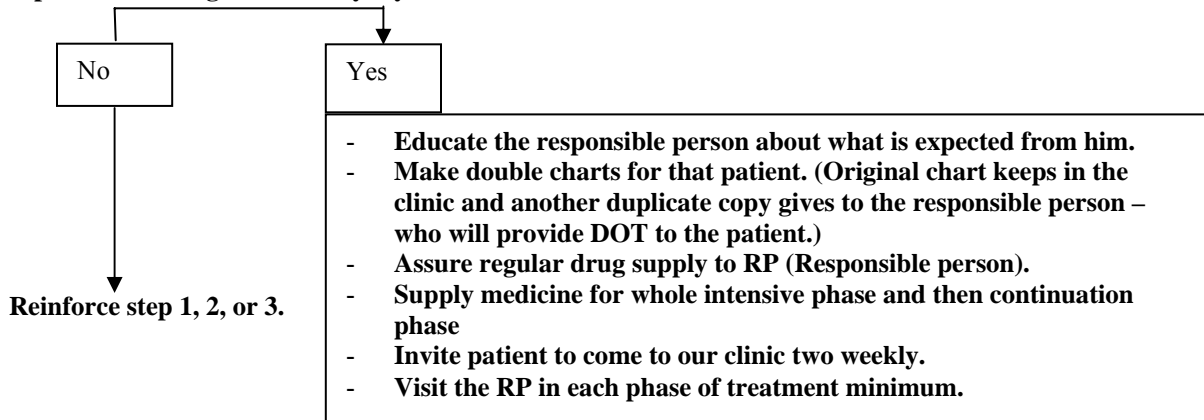
01. Can the patient come to the clinic everyday?



02. Is there a FDP?



03. Are there any non-FDP (HW, FP worker, Patient, Teacher, religious leader, scouts) - who can supervise the drug intake everyday?



Providing DOT

For the new patient:

Give enough explanation to the patient to take regular treatment under DOT and try to make him/her understand the importance of regular treatment under DOT.

For the patients under treatment:

When a patient comes to you for his/her daily dose/schedule visit during the course of treatment ask him/her on:

- How the patient feels now?**
- How many Tablets is he/she taking now?**
- Does he/she face any problem to take medicine? (From the FDP/Other)**
- Does he/she feel any problem? – If yes, what type of problem?**
- What about previous symptoms?**
 - **Cough**
 - **Fever**
 - **Appetite**
 - **Chest pain etc.**
- Any people in his/her family/society with the symptoms of TB?**

Examination/Inquiry:

- Fever**
- Anemia**
- Jaundice**
- Weight**

Recording:

- Recording of supplied drugs/others in patient's card.**

Injection Streptomycin

Pre-requisite for pushing Inj. Streptomycin:

- **Before starting the procedure give enough explanation to the patient.**
- **Make available all necessary materials in hand (i. e: Injection, D/W, spirit, cotton, syringe – one time etc.)**

Site selection:

Buttock – Upper and outer quadrant (Gluteus muscle

Preparation:

- Use every time a new plastic 5 cc sterile syringe.**
- Take 3.5 ml D/W (distilled water) and mix with the Injection streptomycin powder.**

- ❑ **Shake the vial till powder dissolves in water (In the vial solution will be watery)**
- ❑ **Clean the injection site with cotton, soaked in spirit/Hexisol using the same syringe, take the amount according to prescription (2 cc for 500 mg, 3 cc for 750 mg and 4 cc for 1 gm.)**

Pushing:

- ❑ **Push the needle at 90° angle (do not touch the needle with your finger).**
- ❑ **Check – whether the needle is on muscular vessels or muscles by turning back the piston of syringe, if needle takes place on a blood vessel then blood will enter in to syringe; if it happens take out the needle and push again at another site.**
- ❑ **Push the piston slowly.**
- ❑ **After pushing, take off the syringe.**

Cares:

- ❑ **Press antiseptic cotton .at the site of injection.**
- ❑ **Throw the syringe with needle and materials (which should be discarded) in to basket.**

Side effects/complications of TB and it's treatment

Minor:

- ❑ Anorexia, Nausea, Abdominal pain
- ❑ Joint pain
- ❑ Burning sensation in the hand and feet.
- ❑ Orange/Red urine
- ❑ Mild itching on skin
- ❑ Vomiting

Major:

- ❑ Severe itching, Skin rash
- ❑ Jaundice
- ❑ Mental disturbance
- ❑ Loss of vision
- ❑ Deafness
- ❑ Severe vomiting
- ❑ Hemoptysis
- ❑ Short of Breath - Severe
- ❑ Severe chest pain

Health education and Field visit

Health education (Detail in HE manual)

What is Health education?

Health education is a communication activity aimed at enhancing positive health and preventing or diminishing ill health in individuals and groups through influencing their beliefs, attitudes and behavior.

When Health education is needed?

Health education is needed in every aspect of our activities. We have to plan our Health education program on the basis of our expectations and needs of the patients and community.

Health education for case finding

In DF Bangladesh we are practicing different HE program for case finding:

- ❑ HE program at OPD of UHC/Other OPD (FWC/RD/CC etc)
- ❑ HE program at UHC - ID
- ❑ HE program with School teacher/Students
- ❑ HE programs in the clinic with the patients' attendants.
- ❑ Others

Objective of different group HE (For case finding):

After completion of the session the participants will be able to suspect TB/Leprosy, report to clinic voluntarily and refer suspected TB/leprosy cases to the clinic.

Contents:

- Signs/Symptoms of TB/Leprosy
- Why treatment needed?
- Facilities – free of cost examination and treatment.

Materials can be used:

- Flip chart leprosy/TB
- Atlas.

- ❑ HE program at OPD of UHC/Other OPD (FWC/RD/CC etc)

OPD of UHC/other is a busy place; people come to UHC/other centers with their different health problems, so you have to consider this thing before arranging the session. If you request the responsible person – (who gives ticket to the out patients) to stop giving ticket for few minutes to arrange a session then it will be easier to

conduct session. After completion of the session the responsible person can start giving ticket again.

Remember, in the OPD of UHC HE session should be arranged in each working day. For other OPD (FWC, RD, CC etc) HE program should be arranged during field visit - if clinic is open and clients are available.

- ❑ HE program at UHC – ID
HE program in Indoor of UHC (with admitted patients and their attendant) should be arranged weekly 2 (One in female ward, one in Male ward). To arrange HE program you can discuss with on duty nurse.
- ❑ HE program with School teacher/Students
During field visit, you can go to the school, discuss with the Teachers and arrange sessions for them. It is better to arrange session in each class (if students' number is not very few).
- ❑ HE program in the clinic with the patients' attendants
You can make a group comprising all the attendants in the clinic and conduct sessions for them.

Health education for case holding

For Leprosy patients:

- a) Pretreatment HE on the disease, treatment etc.
- b) HE to continue regular treatment/HE for defaulter retrieval
- c) HE at completion of treatment
- d) HE on care for anesthetic palm/sole.
- e) HE on Ulcer care

a) **Pretreatment HE:**

Before starting treatment you have to educate the patient about his/her disease, responsibility and role in the community.

Objective: After completion of the session, the participants (patients) will be able to complete prescribed treatment regularly, report to clinic if any problem and refer TB/Leprosy suspect to the clinic.

Contents:

- ❑ Diagnosis of his/her disease.
- ❑ Cause
- ❑ How to cure?
- ❑ Benefit of regular treatment
- ❑ Store medicines at home.
- ❑ Probable side effects/complications

- ❑ Patients' responsibility to refer suspect (better to give information on the 1st day about the disease by which he/she has been suffering from, another day about other disease TB/Leprosy)
- ❑ Next clinic day.

b) HE to continue regular treatment/defaulter retrieval

Some times some patients may be reluctant to take medicines. In this case you have to find out the real cause why the patient is behaving like that.

Objective: After completion of the session the participants (patients) will be able to complete prescribed doses regularly.

Contents:

- ❑ Find out the reason of irregularities and try to solve them.
- ❑ Benefit of regular treatment.
- ❑ Danger of irregular/incomplete treatment.

c) HE at completion of treatment

Objective:

After completion of the session the participants (patients) will be able to report to clinic if any problem occur (related to the patient's disease – TB/Leprosy) and refer suspect.

Contents:

- ❑ Thanks for completion of treatment at the same time request him/her to disseminate information to the community about availability of TB/Leprosy services and Referral of suspects.
- ❑ Inform Signs and symptoms of reactivation (Relapse/reaction)
- ❑ Reporting

d) HE on care for anesthetic palm/sole.

Objective:

After completion of the session the participant will be able to prevent further worsening of present status of the palm/sole and prevent ulcer.

Contents:

- ❑ Cause explanation.
- ❑ Probable danger for anesthetic part.
- ❑ How to keep the part out of danger.
- ❑ Cares.
- ❑ Reporting to the clinic – if any problem
- ❑ Using protective appliances (For plantar surface – foot wear, for palm gloves or other protective appliances)

e) **HE on Ulcer care**

For caring ulcer you have to keep in mind about **5Cs**.

- C = Cause finding and remove
- C = Clean the ulcer
- C = Cover the ulcer
- C = Crutch (For rest)
- C = Complaint (Reporting to the clinic for any worsening)

Objective:

After completion of the session the participant will be able to care his/her ulcer at home that worsening can be prevented and finally healed.

Contents:

- 5 Cs

For TB patients:

a) **Pretreatment HE:**

Before starting treatment you have to educate the patient about his/her disease, responsibility and role in the community.

Objective: After completion of the session, the participant will be able to complete prescribed treatment regularly, report to clinic if any problem and refer TB/Leprosy suspect to the clinic.

Contents:

- Diagnosis of his/her disease.
- Cause
- How to cure?
- Benefit of regular treatment
- Daily doses from the FDP and its importance.
- Probable side effects/complications
- **Personal hygiene**, Using piece of cloth during coughing, sputum not in the floor, in a pot etc.
- Patient' responsibility to referring suspect (better to give information on the 1st day about the disease by which he/she has been suffering from, another day about other disease TB/Leprosy)
- Next clinic day.

b) **HE to continue regular treatment**

Some patients may be reluctant to take medicines regularly. In this case you have to find out the real cause and **look together with the patient** how to overcome the problem.

Objective: After completion of the session the participant will be able to complete prescribed doses regularly.

Contents:

- ❑ Cause finding and remove.
- ❑ Benefit of regular treatment.
- ❑ Danger of irregular/incomplete treatment.

c) **HE at completion of treatment**

Objective:

After completion of the session the participant will be able to report to clinic if any problem occur (related to the patient's disease – TB/Leprosy) and refer suspect.

Contents: same as before

- ❑ Thanks for completion of treatment.
- ❑ Signs symptoms of reactivation (Relapse)
- ❑ Reporting
- ❑ Disseminate information to the community about availability of TB/Leprosy services.
- ❑ Referral of suspects.

Field visits

People those we are working in TB and Leprosy, we visit field for the following purposes:

- ❑ HE program/Awareness building program/Training/Orientation on TB/Leprosy
- ❑ Absentee/Defaulter visit
- ❑ DOT provider visit
- ❑ Contact with different people (Chairmen, Members, religious leaders, VDs, Cured patients etc.)
- ❑ Visit Sub-center/FWC etc.

Depending upon work schedule we have to visit the field for different purposes. Remember that field visit should be cost effective i.e. multi purpose work in a visit; e.g.: Suppose you want to go to Village “Sundarpur” of “Maigbug “union for visiting a DOT provider and supply medicines to him. You can think about the way you have planned to run; if there are any other DOT providers? – You can visit Any VD or Cured patients? – Visit them, Any FWC or RD? – Think about conducting HE session, any gathering of people? – Try to conduct HE session – If situation permit you. Any absentee/Defaulter patients – Visit.

During field visits if you get any suspect, please refer him/her with good HE to the nearest center.

After coming back from field, report to TLCA/Other supervisor about the activity you have done. You can discuss with TLCA if you faced any problem in the field.

Cleaning, Care of materials and other properties

Cleaning:

CAs/ATLCAs are especially responsible for cleaning related activities.

- ❑ Cleaning of Clinic room, patients' waiting room/space.
- ❑ Cleaning of lavatory and other materials.

Beginning of the day you have to complete all these cleaning related activities.

Burning of infected materials:

CAs/ATLCAs are responsible for burning all the infected materials (those are discarded) at the end of the working hour.

Preparation of requisition for cleaning materials:

As because you are responsible for cleaning related activities, so you have to prepare your requisition in consultation with TLCA.

Preservation and cares of the materials:

All the DF properties should be preserve and use carefully. It is not only CAs/ATLCAs responsibility – but also all the staff member of DF. (For care of the Microscope – see the Sputum examination chapter.)