

Elective - Hands on experience in the Laboratory Diagnosis of Tuberculosis

Name of Block	Block 1
Name of Elective	Hands-on experience in the Laboratory Diagnosis of Tuberculosis
Location of hospital Lab or research facility	Dayanand Medical College & Hospital, Dept of Microbiology
Name of internal preceptor(s)	Dr Eshani Dewan
Name of external preceptor (if applicable)	N/A
Learning objectives of elective	- To observe/assist in the laboratory diagnosis of tuberculosis - To understand NTEP implementation at institute level
Number of students that can be accommodated in this elective	2
Prerequisites for elective	Knowledge about universal precautions & good laboratory practice As applicable to Mycobacteriology lab
Learning resources for students	- SOP of Mycobacteriology laboratory - NTEP guidelines for Microbiology lab
List of activities of student participation	- Sample collection- sputum, ET aspirate, BAL with proper PPE - Sample decontamination & concentration - ZN staining - Conventional culture on Lowenstein Jensen medium - MGIT rapid culture - CBNAAT-MTB/RIF - Line Probe Assay (LPA) - Mantoux test (inoculation and interpretation) - Interferon Gamma release assay (IGRA) - Visit to NTEP center (sample collection, auramine staining and fluorescent microscopy) - Present four cases in department
Log book/Portfolio entries required	- Documentation of lab techniques learned - Documentation of case presentation done - Final Presentation - Completion certificate
Assessment	- Attendance - Successful completion of objectives and log book entry of day-to-day participation in departmental activity, on the basis of pre/post test - Case presentation - Final presentation
Other comments	Nil

Logbook– cum- Portfolio

Elective module: Hands on experience in Laboratory Diagnosis of Tuberculosis

Elective Module - Hands-on experience in the Laboratory Diagnosis of Tuberculosis

Tuberculosis (TB), one of the most ancient diseases of mankind and is one of the ten major causes of mortality worldwide. Almost two-third of the tuberculosis cases was accounted for by eight developing countries with India contributing 27% of 10.4 million cases. Wide spread misuse of anti-tubercular drugs has resulted in emergence of drug resistant TB including Multi Drug Resistant TB (MDR-TB) and Extensively Drug Resistant TB (XDR-TB) globally and these cases poses additional diagnostic dilemma. WHO with its “STOP TB” strategy has given a vision to eliminate TB as a public health problem from the face of this earth by 2050.

Based upon the above stated facts, there is a need to understand the different modalities available for the diagnosis of tuberculosis. During this elective module student will have hands on experience, on the various laboratory investigations available in the microbiology lab and interpretation of laboratory reports of these investigation and their clinical significance. These investigations include the conventional (Smear microscopy & Culture) as well as molecular (CBNAAT & LPA) and other advanced diagnostic procedures (IGRA). In addition student will be posted at the NTEP laboratory situated in the DMCH campus to get hands on experience on the NTEP algorithm used for the diagnosis of tuberculosis and its implementation. Further this module will help to understand the place of various investigations available in the microbiology lab as per NTEP algorithm. Based upon the laboratory investigations and clinical history of the patient, student will also present at least two clinical cases of the tuberculosis.