

Name of Block	Block –II
Name of Elective	Neonatal hearing screening using otoacoustic emissions (OAE) and brain stem evoked response audiometry (BERA)
Location of hospital Lab or research facility	Dept. of Otorhinolaryngology
Name of internal preceptor (s)	Dr Sanjeev Puri
Name of External Preceptor (if applicable)	
Learning objectives of elective	1. To routinely screen neonates for any hearing disability 2. To examine the neonates and to assist and perform OAE and BERA 3. To interpret the results of OAE and BERA 4. To observe the remedial interventions provided to them
Differential Diagnosis	Neonatal hearing screening Sensori neural hearing loss
Workup	Audiological workup
OPD Investigations	1. Examination with speculum 2. Otoscopy
Specialized ear examination	Microscopic/Telescopic
Special test	Audiological test
Imaging studies	X ray /CT/MRI
Treatment undertaken	
1) Medical	Methyl cobalamine /Vit B12
2) Surgical	Consideration for cochlear implantation
Observe in lab	1. Pre-test sedation 2. Positioning of the neonate 3. Proper placement of the electrodes & ear phones
Number of students that can be accommodated in this elective	
Pre-requisites for elective	Knowledge of i. Internet browsing ii Microsoft Excel/Word

Learning resources required	1. Pub Med User Guide 2. The Medical Research Handbook 3. ENT text book a. Diseases of Ear, Nose and Throat-Dr PL Dhingra b. Diseases of Ear, Nose and throat-Dr Mohan Bansal
Assessment	a) Attendance b) Day to day participation in departmental activity c) Performance of assigned tasks
Other comments	Neonatal hearing screening is a critical procedure to identify hearing impairments in newborns early on; enabling timely intervention that can significantly improve Language, social cognitive development. Two widely used methods for Neonatal hearing screening are OAE (Otoacoustic emissions) BERA (Brain stem evoked Response Audiometry) 1. OAE: Principle: - Measures (emissions) generated by outer hair cells of cochlea in response to an auditory stimulus. It is quick, non invasive, can be done while baby is asleep so, it is ideal for initial screening 2. BERA: It evaluates electrical activity in auditory nerve & brainstem in response to sound stimuli. It access entire auditory pathway from the ear to brainstem unlike OAE is useful for follow up after a failed OAE. These tests are done routinely in ENT OPD at our hospital. Knowledge of such clinical scenarios will prepare students for future exposure & knowledge enhancement

Logbook- cum- Portfolio

Elective Module:II

Neonatal hearing screening using otoacoustic emissions (OAE) and brain stem evoked response audiometry (BERA)

Neonatal screening for hearing disability is a crucial process within the Otorhinolaryngology department, as early identification and intervention play a vital role in preventing speech and language developmental delays. This screening enables timely diagnosis of congenital hearing loss, facilitating appropriate medical or rehabilitative measures to improve the child's long-term auditory and communicative outcomes.

Diagnostic modalities include outpatient otoscopy, microscopy/telescopy and examination with speculum.

The module will provide the student with learning experience in day to day clinical set up i.e. inpatient and outpatient ENT departments. One shall learn to work up, examine and formulate basic management protocols for high risk all neonates. Knowledge of such clinical scenarios will prepare students for their future exposure, as primary health care providers.