

10 - Evoked potentials

Theory

BAEP (Brain-stem Auditory Evoked Potentials) is a method used eg. in the diagnosis of hearing loss in newborns.

- * Evoked Potentials
- * Stem Evoked Potentials
- * Auditory brain-stem response (ENG Wikipedia)
- * Brain-stem auditors evoked potential (ENG Wikipedia)

Investigation Procedure

First investigate BAEP in one ear of test subject at varying levels of intensity of acoustic stimuli.

Attaching connectors

(Only when they are not connected!)

The first hearing aid - blue
The second electrode cable - white

Setting-up Apparatus

ATTENTION! NEVER ACTIVATE DEMO MODE!

1. Using the round button on the right side, switch on the machine.
The introduction of a new patient - a green icon +
 1. ID:
 - a)The group number (No. 1-10)
 - b)letter A-J
 - c)alphabetical ranking of the student in the team (No. 1-4, Conn. 3)
 - d) Other items are self-explanatory
 - e) Confirm by OK
3. Selection of investigations: ABR
4. Select the ear which will be investigated

The set-up options

(Informative overview of the set-up options for investigation parameters)

1. Stimulus:
 - a)Chirp
 - b)condensation / rarefaction / Alternation
 - c)Masking Yes / No
2. Applied intensities (left, right)
3. Repetition rate:
4. Averages
5. irregularly: Yes / No
6. Parameters of the record:
 - a) Automatic detection J5: Yes / No
 - b) Automatic continuation: Yes / No
 - c) Auto Stop: Yes / No
 - d) Noise criterion:
 - e) The minimum amplitude J5
 - f) Age group: Newborn - Adult

Preparation of the patient

1. Clean and degrease skin with ethanol at the electrode site (placement of electrodes below)
- 2.Placing second electrode
 - a) mastoid process
3. Placement of the electrodes (if electrodes do not stick to the skin, rub it with conductive paste)
 - a)mastoid process bilateral
 - b)vertex or high on forehead, if hair blocked the attachment site (just under the scalp)
4. Attachment of electrodes:
 - a)Black: contralateral mastoid
 - b)Red: ipsilateral mastoid
 - c) White: vertex or forehead
5. Attachment of headphones:
 - a) red: l. Dx.
 - b) blue: l. Sin.
6. Patient is settled comfortably into a chair and ensure maximum tranquility in the room where the examination takes place (try to limit other stimuli in the environment, the patient should ideally be asleep - eg. neonates can be calmed by giving a 20% solution of glucose. The recording quality is displayed during the examination by the EEG panel: black frame is ideally empty. Credibility of a record is shown by the semaphore left of the curve.

Investigations

1. Run tests
2. End of investigation - clicking at intensities of 70 db, then 50 db and 30 db - choose three points on the averaged curves that highlight the waves I, III and V (these waves are constant, waves II and IV have a smaller diagnostic yield):
 - a) On the bottom panel, select the icon representing the EEG curve
 - b) we move the boundary point using the arrow keys (between points for wave I, III and V, by pressing the appropriate icon)
3. Click on OK