


## Technical Specifications for Intra Operative Nerve Monitoring (ENT)

1. Should have minimum of Eight Channel Monitoring.
2. Should be capable of monitoring VII cranial Motor Nerve.
3. EMG signal must have audio and video representation.
4. Should monitor simultaneously during bipolar cautery.
5. Should have Real-time continuous monitoring with Automatic Periodic Stimulation electrode.
6. Should have high sensitivity with reduced interference.
7. Should have artifact detection feature to distinguish between artifact and EMG signals.
8. Should have provision to connect external keyboard.
9. Should have option of surgeon mini screen to display monitoring information on small screen with a provision to mount on an IV pole.
10. Should have high input sensitivity with reduced interference.
11. Should have high input impedance.
12. Should have electrode-checking features.
13. Should have improvised user-friendly interface.
14. Should have constant current type stimulator.
15. Should have capability of deliver current from 0.01 mA to 25mA.
16. Should be able to adjust the stimulation range by the lowest stimulation current that can be delivered.
17. Stimulating monopolar and bipolar probes of different variety should be available.
18. Should be able to save and load custom setting with quick setup.
19. Should be able to log EMG activity throughout a procedure for records.
20. Should be able to get printable case log report for patient records.
21. Should have touchscreen for ease of use, with high contrast, digital graphic colour, visible even in darkness.
22. Should have colour coded channel labeling for easy identification & use.
23. Should have USB port for connection with mass storage devices including compact flash drive.

  
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24. Should have a provision of Barcode Scanner to add the patient data to the device and to the hospital's network.
25. Should have muting option to reduce unwanted signal's and artifacts specially cautery noise.
26. The monitor should continuously measure electrode impedance and warning should be displayed when out of range.
27. Should have upgradation possibility to pelvic Intra operative-monitoring (pIOM) in future with the same system.
28. Disposable/Reusable Consumable: Consumable 4 channel & 8 channel EMG electrodes,
  - a. Bipolar stimulation probe-20 nos (Disposable)
  - b. Monopolar stimulation probe - 20 nos (Disposable)
  - c. Laryngeal electrodes: 8 concentrically aligned contacts, providing 4 channels, for a 360° coverage with electrodes for the case of radial shifting (Disposable) -20 nos.
  - d. Double needle electrodes (Disposable) - 20 nos.
  - e. Single Needle electrodes (Disposable) - 20 nos.
29. Should have an electrode option for reinforcing it the ET tubes already available with the hospital.

**General Requirements:-**

- The system should include 5 years of warranty and 5 years CMC prices should be quoted.
- All other consumable prices should be quoted in option.
- Valid USFDA / European CE certificates should be provided.

  
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