

## **Loss of Signal in Recurrent Nerve Neuromonitoring: Causes and Management**

### **Content**

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During recurrent laryngeal nerve (RLN) neuromonitoring in thyroid surgery, laryngeal electromyography (EMG) amplitude may be correlated with the number of muscle fibers participating in the polarization and these might be correlated with the function of RLN. If RLN is severely injured during the operation, most nerve fibers do not transmit nerve impulse and substantial decrease of EMG amplitude or loss of signal (LOS) will occur. True LOS at the end of an operation often indicates a postoperative fixed vocal cord, and the surgeon should consider the optimal contralateral surgery timing in patients with planned bilateral thyroid operation to avoid the disaster of bilateral vocal cord palsy. However, LOS recovery and false LOS may occur and may lead to an unnecessary 2<sup>nd</sup> operation. Therefore, a reliable modality for intraoperative LOS evaluation and management would afford the surgeon real-time information that could help guide surgical procedure and planning. The updated causes, algorithm, and management of LOS during RLN neuromonitoring are reviewed and summarized.