

***Anesthesiology Rounds*  
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**The use of muscle relaxants in patients with neuromuscular diseases**

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**Objectives:**

In this issue of *Anesthesiology Rounds*, we review the management of patients with neuromuscular pathologies. More specifically, the objectives are to:

- Describe the anatomical bases of neuromuscular disorders, dividing their impact into three different levels of functional damage
- Describe the risk of adverse events that can follow the absence of a prior diagnosis of neuromuscular disease if a muscle relaxant is used
- Suggest a perioperative conduct in the use of muscle relaxants in order to minimize the related risk of complications

**Questions: (one answer only)**

1. Which of the following is the most exact?
  - a. The histological substratum relevant to neuromuscular diseases (NMD) is composed of synaptic and postsynaptic structures
  - b. The use of depolarizing muscular agents in a patient with NMD prolongs the duration and increases the depth of blockade
  - c. The two major causes of death and morbidity related to the use of muscle relaxants with NMD are: arrhythmias and respiratory insufficiency
  - d. All NMD are characterized by the appearance of an exacerbated loss of muscle tone in patients following the use of muscle relaxants.
2. Which of the following is the most exact?
  - a. Presynaptic damage is characterized by upper and lower motoneuron lesions
  - b. Upper motoneuron damage induces: hypertonia and hyperreflexia, lower motoneuron damage induces: fasciculation and weakness
  - c. Friedreich's ataxia involves the same risk of hyperkalemic response as the Guillain-Barré syndrome
  - d. The risk period following denervation can last one week to one year.

3. Which of the following is the most exact?
- a. Myasthenia gravis (MG) is characterized by rapid weakness and complete recovery
  - b. The involvement of cranial nerves induces palpebral ptosis and diplopia
  - c. There is no bulbar lesion with MG
  - d. In the perioperative treatment of MG, pyridostigmine must be maintained until induction.
4. Which of the following is the most exact?
- a. More than 50% of pulmonary carcinomas are associated with the Eaton-Lambert myasthenic syndrome (ELMS)
  - b. Oropharyngeal involvement is exceptional
  - c. Exercise will gradually deteriorate performance
  - d. ELMS is caused by abnormal presynaptic calcium channels
5. Which of the following is the most exact?
- a. Postsynaptic damage is characterized by the absence of functional proteins or by ion-channel dysfunction
  - b. Despite an unpredictable duration of action, the onset time of muscle relaxants is not modified
  - c. In Steinert's myotonia patients, contractures appear only when succinylcholine is used
  - d. In paramyotonia, the environment can trigger contractions

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