

# DENTAL TREATMENT CONSIDERATIONS

for the Dental Care Team



Dental Care and MG:  
FAQs for Patients and Providers

[www.Myasthenia.org](http://www.Myasthenia.org)

## Dental Care and MG: FAQs for Patients and Providers

Myasthenia gravis (MG) is an autoimmune neuromuscular disorder that presents challenges for the dental practitioner, dental staff, and the person with MG. Facial and chewing muscles may be involved and complicate dental care and treatment. Worsening of muscle weakness and fatigue that characterize this disorder can be precipitated by certain treatment procedures and medications used in dentistry. The dental team should be aware of the medication precautions in this population, modify dental care to accommodate existing neuromuscular weakness and drug therapy, and be prepared to manage developing complications occurring in the dental office.

### For The Dental Care Team

The person with MG may require special management considerations. These include modifying dental treatment to accommodate altered muscle strength, identifying and managing myasthenic weakness or crisis, avoiding the potential of harmful drug interactions, and monitoring oral side effects of drugs and therapies used to treat MG.

### Appointment Scheduling

Oral infections and/or stress of anticipating or undergoing dental treatment may precipitate or worsen myasthenic symptoms. Short-duration morning appointments may minimize fatigue and take advantage of the typically greater muscle strength experienced by most people with MG during the morning hours. Appointments are best scheduled approximately one to two hours following oral anticholinesterase (Mestinon) medication so as to benefit from maximum therapeutic effects and decrease the risk of myasthenic weakness or crisis.

## Private Office or Hospital

A stable MG patient with limited or mild neuromuscular involvement may be safely treated in the private dental office setting in most instances. However, if the patient suffers from frequent or significant exacerbations of the pharyngeal and/or respiratory tracts or from generalized weakness, he or she is most safely treated in a hospital dental clinic or other facility with emergency intubation and respiratory support capabilities.



### Dentures

A patient's ability to manage complete dentures may be compromised by the inability of the weak muscles to assist in retaining the lower denture and to maintain a peripheral seal for the upper denture. Over extended and over contoured maxillary dentures with thick flanges that impinge upon muscle and frenal attachments can lead to muscle fatigue and altered salivation. Improperly fitting dentures may exacerbate symptoms of difficulty in closing the mouth, tongue fatigue, a tight upper lip, dry mouth, impaired phonation, dysphagia, and masticatory problems.

### Respiratory Collapse

If respiratory collapse occurs, an open airway and adequate respiratory exchange must be established. Dental staff should be trained in and prepared to do basic life support (CPR) until an ambulance arrives, when needed. Dental suction devices can be used to suction secretions and debris from the oropharynx to prevent aspiration and mechanical blockage of the airway. Manual retraction of the weakened tongue may prevent obstruction of the airway.



## Oral Findings

**Tongue:** Atrophy of the tongue (loss of muscle, replacement with fat) may result in a furrowed and flaccid clinical appearance. In severe cases, it can result in a triple longitudinal furrowing of the tongue.

**Mouth Drop:** Lack of muscle strength in the lower jaw muscles, especially following a sustained chewing effort, may cause the mouth to hang open and may need to be closed by hand.

**Chewing/Swallowing:** Lack of strength of the muscles of chewing can inhibit proper eating of food. Eating can be further inhibited by dysphagia (difficulty swallowing), when the tongue and other muscles used for swallowing are involved; and also by aberrant passage of food or liquids from the nasopharynx into the nasal cavity, when the palate and pharynx muscles are affected. The consequences of this may include poor nutrition, dehydration and hypokalemia (reduced potassium levels).

## Drug Interactions

Many common drugs used in dentistry may have potential complications for MG patients by exacerbating their muscle weakness or interfering with breathing. The following table may be of help to the myasthenic patient and the treating dentist. Please remember that this list cannot cover all potentially dangerous medications and one should consult with their treating physician if there are any questions.

Relatively Contraindicated	Use with Caution	Safe
Procaine (novocaine) <sup>1</sup>	Lidocaine <sup>1</sup> Mepivacaine <sup>1</sup> Bupivacaine <sup>1</sup> Prilocaine <sup>1</sup> Articaine <sup>1</sup>	
	Morphine & derivatives <sup>2</sup> Narcotics <sup>2</sup>	Acetaminophin NSAIDS <sup>4</sup> Aspirin
	Benzodiazepines <sup>2</sup> Hypnotics <sup>2</sup> Barbiturates <sup>2</sup>	N2O/O2 sedation
Erythromycin <sup>1</sup> Gentamicin <sup>1</sup> Neomycin <sup>1</sup> Polymyxin B <sup>1</sup> Bacitracin <sup>1</sup>	Metronidazole Tetracycline Vancomycin	Penicillin & derivatives
Clindamycin <sup>1</sup>		
Ciprofloxacin (Cipro)	Corticosteroids <sup>3</sup>	

Key: 1 = drugs which may acutely potentiate myasthenic weakness  
 2 = use with caution in patients with respiratory difficulty or depression  
 3 = may induce an exacerbation of MG  
 4 = significant drug interaction with cyclosporine

## Monitoring for Oral Side Effects or Drug Interactions of Therapies Used to Treat MG

### 1. Cyclosporine

- May cause gingival hyperplasia (fibrous gum overgrowth). This may begin as early as the first month of drug use and seems to be dependent upon the presence of dental plaque or other local irritants, individual susceptibility, and the dose of cyclosporine used.
- May cause interactions with medications. These include enhanced kidney toxicity or elevated drug levels of cyclosporine.
  - Nephrotoxic interaction: gentamicin, vancomycin, ketoconazole, and the nonsteroidal anti-inflammatory drugs (NSAIDS e.g. ibuprofen, Advil, Aleve, Motrin).

- Cyclosporine levels may increase to possibly toxic levels: (erythromycin, ketoconazole, fluconazole, and itraconazole).

## 2. Azathioprine (Imuran®)

- Suppresses immune system.
- May predispose to oral/wound infection.
- May delay wound healing.
- May need antibiotic treatment after oral surgery.

## 3. Prednisone

- Suppresses immune system.
- May predispose to oral/wound infection.
- May delay wound healing.
- Consider need for antibiotic after oral surgery.
- May cause adrenal gland suppression, depending on dose taken.
- The patient should discuss with both physician and dentist whether there is a need to increase steroid dose before stressful or complicated dental procedures (e.g. multiple extractions or general anesthesia) particularly if the patient has been on daily prednisone of medium to high dose.

## 4. Mestinon®/Prostigmine®

- May cause your saliva flow to increase.
- Dentist should use a low-speed saliva ejector to collect the saliva during dental treatment.
- Dentist should use high-speed evacuation, suction to collect debris and saliva in patient's mouth during treatment.
- When having restorations (fillings) done, a rubber dam should be used to isolate teeth and keep the water and restorative materials from getting near the throat. If an impression for a crown or bridge prosthesis is being done, the

patient may need to ask for an appointment at a time when they have not been having these symptoms or a physician may suggest other medications to dry up secretions temporarily.



## 5. Plasma Exchange (Plasmapheresis)

- If the patient's exchange protocol involves the use of anticoagulants (blood thinners), including heparin or acid-citrate-dextrose solutions, dental treatment should be arranged for a non-exchange day in the treatment sequence.

## Local Anesthetics

General comments concerning local anesthetics:

- Amide type rather than ester type local anesthetics should be used.
- Care should be observed in avoiding intravascular injection of local anesthetic, so aspiration is recommended.
- Use of a vasoconstrictor, such as 1:100,000 epinephrine in combination with lidocaine is beneficial in maximizing anesthesia efficacy and duration of anesthesia at the oral site, while minimizing total anesthetic dosage.
- The periodontal ligament injection and intrapulpal injection techniques do not cause collateral numbness to the lips, tongue, and face and should be considered if the dental procedure warrants their use.
- Nitrous oxide sedation may be helpful in allaying apprehension.
- Intravenous sedation techniques and narcotic analgesics should be used with caution to avoid respiratory depression.



## Myasthenia Gravis Foundation of America

**Our Vision:** A World Without MG

**Our Mission:** Create Connections, Enhance Lives,  
Improve Care, Cure MG

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*Approved by the MGFA Medical Advisory Council*