Introduction: Treatment of chronic muscle spasm with trigger point injec-
tions has typically sought to identify a focal trigger point for that muscle. Spontaneous Electrical Activity (SEA) often referred to as end plate noise has been found to be present at trigger points.

Objective: Develop an effective injection technique for symptomatic chronic muscle spasm using EMG guided chemodenervation agents.

Method: EMG guided interrogation was performed of symptomatic chronically spastic muscle. Chemodenervation was performed with dilute OnabotulinumtoxinA 100u/20ml or Phenoxybenzamine 0.25%/Lidocaine 1%. Injection only at the most active sites was found not to provide acute symptomatic relief. Patients were asked to perform movements that caused discomfort at various stages of the injection technique until symptomatic relief was obtained. Injection extending outward from the most active site until all adjacent muscle tissue demonstrating SEA was eliminated provided acute and subsequent prolonged relief. For relatively small segments of spastic muscle, redirection of the original needle puncture to cover 360 degree and at various depths and angles was adequate. However, additional skin punctures following the tract of the SEA were commonly required.

Results: Only complete resolution of SEA by EMG guided chemodenervation with various agents provided adequate acute and subsequent prolonged relief of symptomatic chronic muscle spasm.

Conclusion: Novel trigger point injection technique utilizing EMG guided chemodenervation was found to be superior to focal trigger point injec-
tion at the site of maximum SEA.

Coletti, R.H., Novel Injection Technique For Chemodenervation of Symptomatic Chronic Muscle Spasm - 2014

Needle Electromyographic Identification of Chronic Muscle Spasm - 2016

Safety of Phenoxybenzamine Chemodenervation with Repeated Injections - 2017

Debunking the Myth: Denervated Muscle Is the Solitary Cause Of Muscle Spontaneous Electrical Activity - 2017

Successful Treatment of Longstanding Chronic Muscle Spasm with EMG Guided Chemodenervation - 2017

Proposed New Diagnostic Entity of Acquired Chronic Muscle Spasm - 2018

Limitations of EMG and Nerve Conduction Studies in Clinical Practice - 2017