



# Mexiletine usage in a chronic pain clinic

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## Introduction

- Intravenous lidocaine infusions have found applications for pain management in multiple settings.
- Mexiletine, a sodium channel blocker analogous to lidocaine, has been used as an adjuvant in neuropathic pain, headache, and erythromelalgia.
- This retrospective cohort study aims to look at the indications, tolerability, duration of treatment, and safety in regards to QTc changes of mexiletine used in our chronic pain clinic.

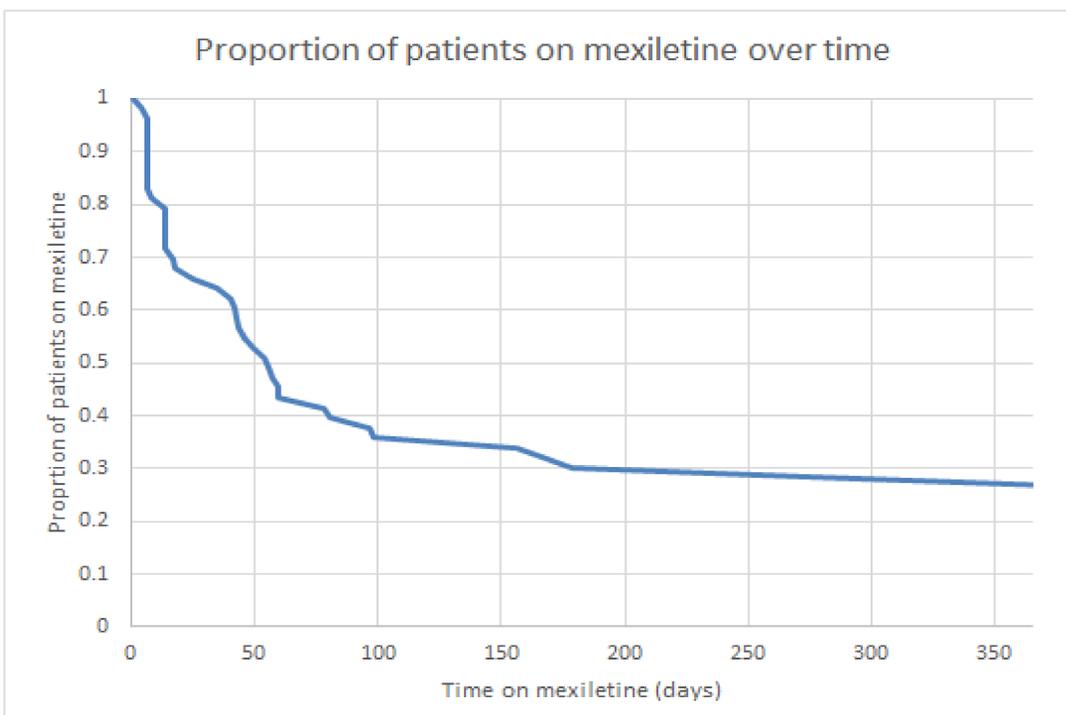
## Methods

We reviewed patient records that were prescribed mexiletine in a multi-physician, three location chronic pain practice. All patients who were written for a mexiletine prescription during the period from August 2015 - August 2016 were queried. Each patient's chart was then reviewed to collect demographic data, diagnosis, QTc changes, reason for stoppage, and length of use. Patients examined for length of use excluded those who never started it, or those who were already on mexiletine at the start of the study period. Chart review occurred in August 2017 to ensure at least one year had passed for all queried patients.

## Results

There were 74 patients identified in our the chronic pain management clinics as receiving a mexiletine prescription over the one-year time period. The demographics of these patients are shown in Table 1. Thirteen of these patients never actually started the mexiletine. Neuropathic pain was the most common diagnosis (64%). QTc change on EKG did not appear clinically significant with an average change of -0.1ms and median change of 1.5ms. Figure 1 shows the Kaplan Meier curve for length of treatment of mexiletine. At six months, approximately 30% of patients remained on therapy, and 28% at one year.

**Figure 1:** Kaplan Meier curve of those on mexiletine over time. Excludes those who never started and those already initiated on mexiletine before the study time period.



**Table 1:** Demographic data and diagnoses

<u>Age, gender, and primary diagnosis</u>	
Average age	48 (range 22-82)
<u>Gender</u>	
Female	50 (68%)
Male	24 (32%)
<u>Diagnosis</u>	
Fibromyalgia	21 (28%)
Neuropathic pain	47 (64%)
Other	6 (8%)

## Discussion

- We did not identify evidence in the literature of mexiletine provoking arrhythmia or prolonging QTc, which is consistent with our findings (1).
- Regarding tolerability, one study found median time to discontinuation of mexiletine at 43 days with fewer than 20% continuing at one year(2). Our study showed higher maintenance at one year (28%), although the had successful prior lidocaine infusions.
- Mexiletine is usually utilized in our practice when several other modalities have failed. It appears reasonably tolerable, likely does not require frequent EKG monitoring, and can be an appropriate adjunct in the chronic pain population.

1) Funasako et al. Pronounced Shortening of QT Interval With Mexiletine Infusion Test in Patients With Type 3 Congenital Long QT Syndrome. Circ J 2016;80:340-345.

2) Carroll et al. Mexiletine Therapy for Chronic Pain: Survival Analysis Identifies Factors Predicting Clinical Success. J Pain Symptom Manage 2008;35:321-326.