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May 2nd, 12:00 AM

### Retrospective Analysis on the Susceptibility of Opiate Addiction Based on Prescribed Medications and Chronic Pain Diagnoses

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Ayub, Momna and Jermyn, Richard D.O., "Retrospective Analysis on the Susceptibility of Opiate Addiction Based on Prescribed Medications and Chronic Pain Diagnoses" (2019). *Stratford Campus Research Day*. 27.

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# Retrospective Analysis on the Susceptibility of Opiate Addiction Based on Prescribed Medications and Chronic Pain Diagnoses

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## ABSTRACT

**Introduction:** Opioid medications have been increasingly prescribed in recent years, particularly to treat individuals with chronic pain. In the U.S., opioid abuse has been declared an epidemic by the Department of Health and Human Services as the number of opioid-related overdoses in 2010 exceeded 16000<sup>1</sup> and alarmingly continued to rise 15% from 2015 to 2016.<sup>2</sup> Due to opioid dependence and abuse, opioids are a gateway to subsequent drug addiction.

**Objective:** The goal of this project was to identify a link between certain prescribed opiates and a susceptibility for abuse or misuse in patients with chronic pain through a retrospective analysis. Additionally the various opiate dosages were recorded to identify a potential correlation between higher dosing and a tendency for abuse.

**Methods:** The study population was 67 previous patients of the NeuroMusculoskeletal Institute who had abused or misused opiates and were discharged from clinics for their abuse. The patients' demographic information, diagnoses, and medications were collected and analyzed.

**Results:** Oxycodone HCl had the highest frequency of misuse or abuse in patients discharged from rehabilitation clinics. Among the different dosages, 15mg/day Oxycodone HCl was most frequently abused. Additionally highest rates of abuse and misuse occurred in 44-66 year old patients.

**Conclusion:** Older adults (44-66y.o) with chronic pain syndrome are at a higher risk of abusing or misusing their opiate medications, particularly if they are prescribed Oxycodone HCl.

## INTRODUCTION

Opioid medications have been increasingly prescribed in recent years, particularly to treat individuals with chronic pain. In the U.S., opioid abuse has been declared an epidemic by the Department of Health and Human Services as the number of opioid-related overdoses in 2010 exceeded 16000<sup>1</sup> and alarmingly continued to rise 15% from 2015 to 2016.<sup>2</sup> Due to opioid dependence and abuse, opioids are a gateway to subsequent drug addiction. Studying what may predispose individuals to developing an addiction can help to prevent opiate addiction from developing and can shape the medication regimens and care provided to patients with chronic pain.

### SPECIFIC AIM

The aim of this study was to conduct retrospective reviews of electronic medical records to identify any factors that may increase the risk or susceptibility of developing an opiate addiction based on which medications were being prescribed and their subsequent dosages.

## METHODS

### PARTICIPANTS

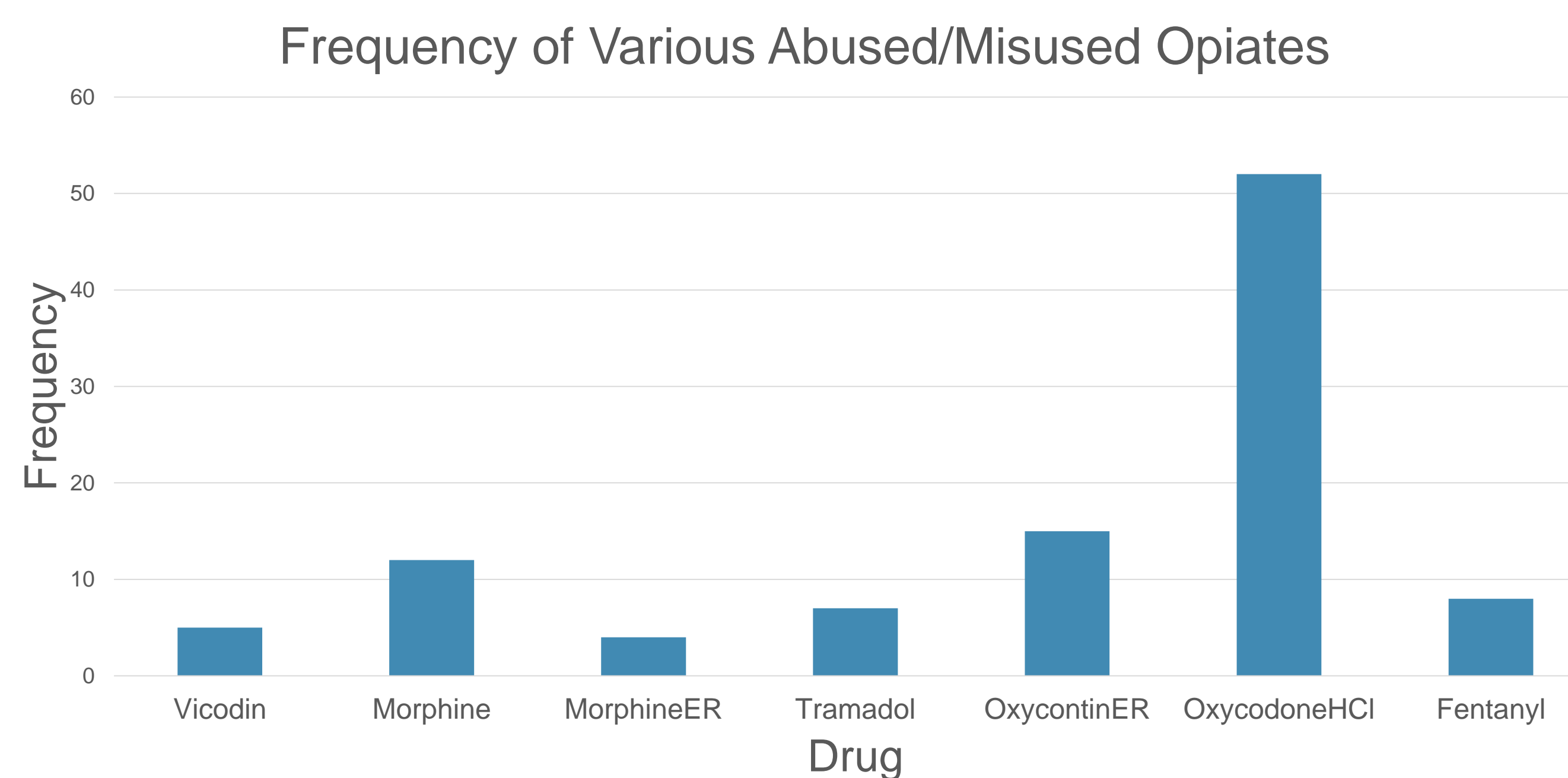
- Inclusion Criteria:** Patient data was collected from 67 charts irrespective of age, gender, or ethnicity. The study required discharged chronic pain patients with continued opiate abuse/misuse.
- Exclusion Criteria:** Patients were excluded only if they were not discharged from a rehabilitation clinic for abuse/misuse. All charts were used without exception or comorbidity.

## PROCEDURES

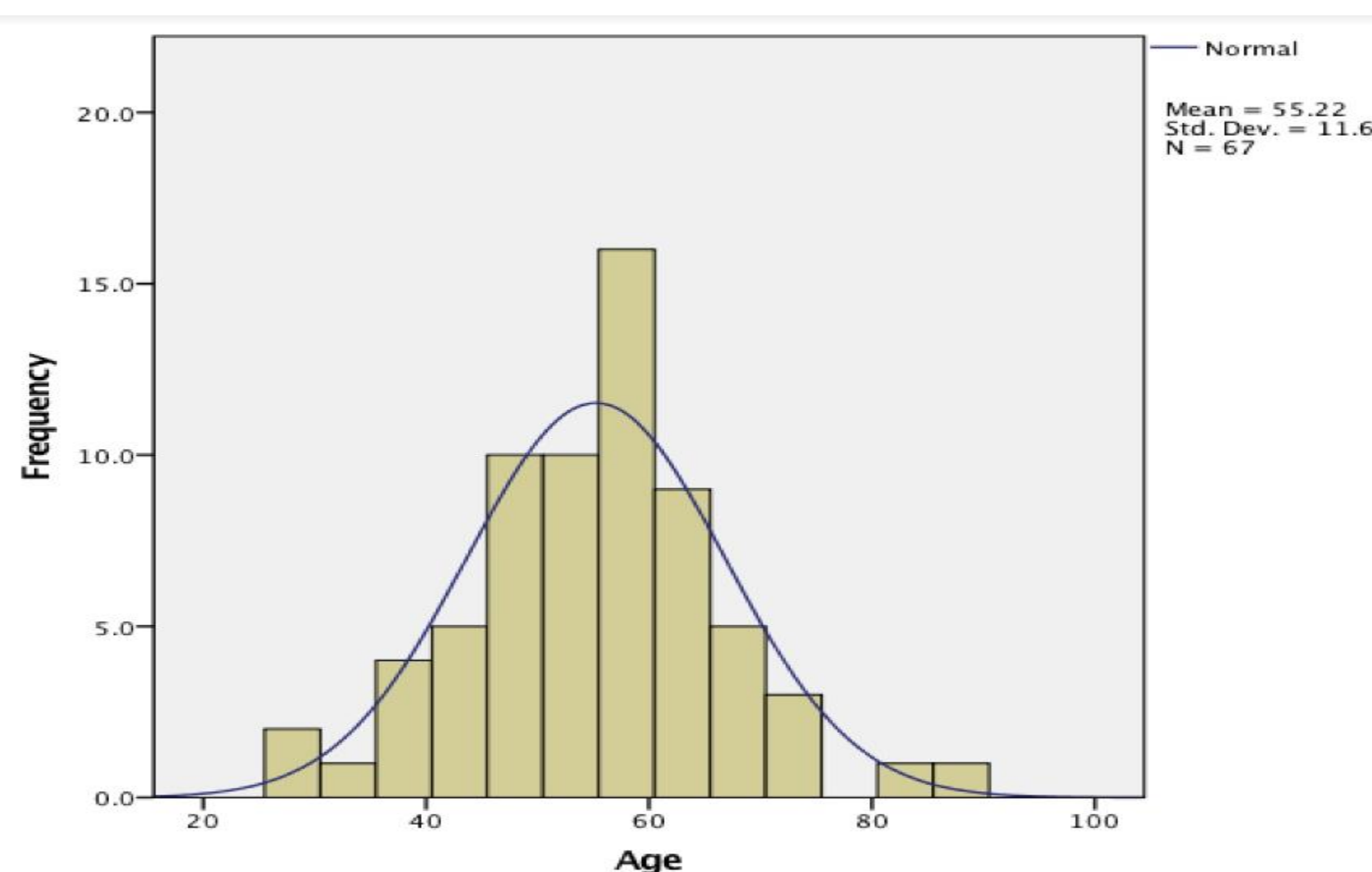
- 67 electronic medical records reviewed.
- Factors investigated were: patients' age, sex, ethnicity, diagnosis, and prescription regimen as some patients were taking a combination of opiate medications. Morphine equivalents of each individuals opiate intake was calculated in mg/day.

## RESULTS

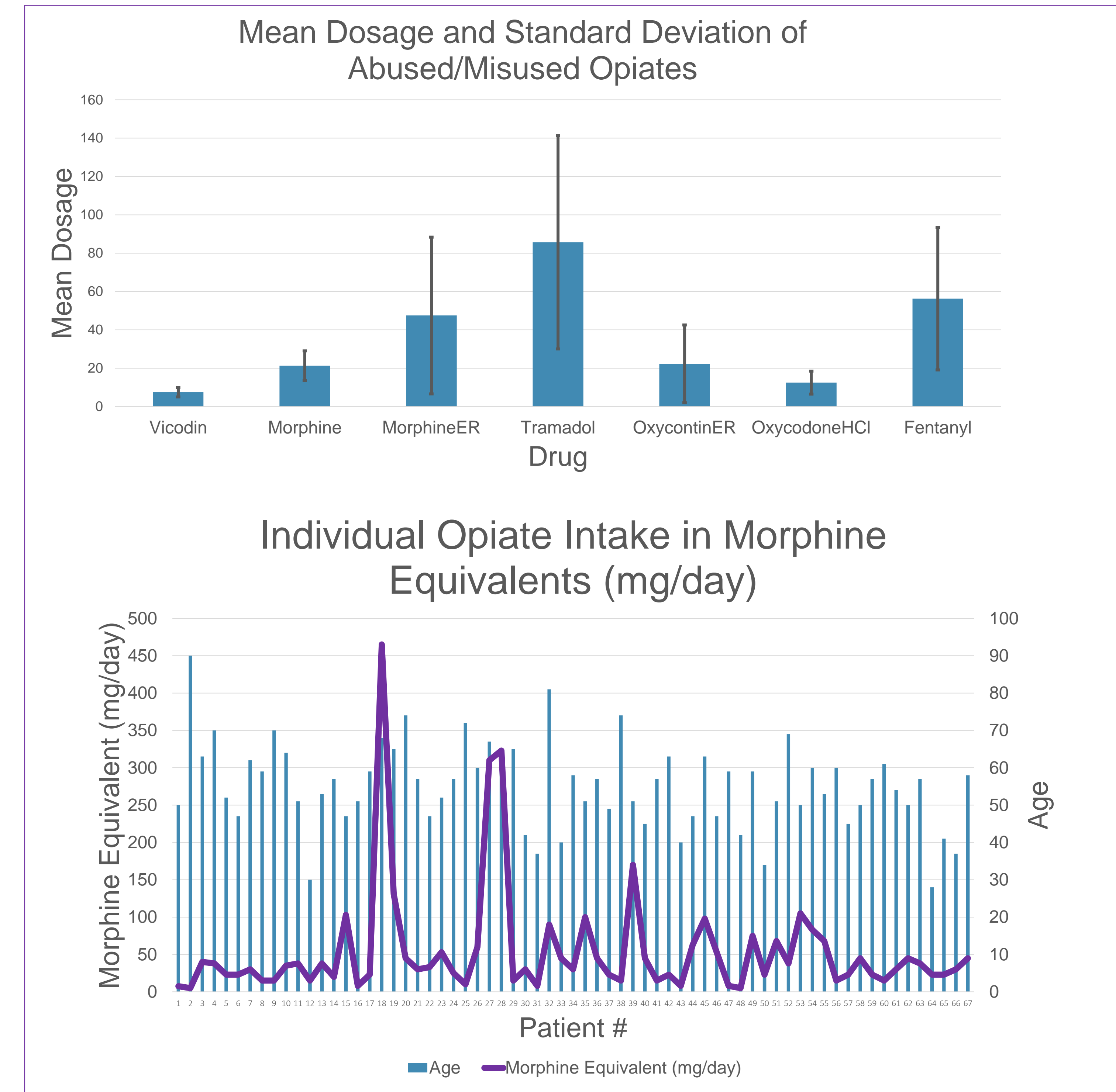
- Specific opiate misuse frequencies:** Oxycodone HCl had the highest frequency of abuse at 77.6% and Morphine Extended Release had the lowest frequency at 6.0%.



- Age:** With an N=67 and an age range of 28-90 years old, the mean age of patients with opiate abuse or misuse was 55.22 with a standard deviation of 11.6.



- Dosaging:** The drugs misused at the highest mean dosages in morphine equivalents were Tramadol (mean=85.7mg/day, stdev=55.6), Fentanyl (mean=56.3mg/day, stdev=37.2), and Morphine Extended Release (mean=47.5, stdev=40.9). Oxycodone HCl, which was misused with the highest frequency had a mean dosage of 12.5 mg/day with a standard deviation of 6.0.



## CONCLUSIONS

- No statistical difference was found in opiate abuse/misuse among sex or ethnicity. However, with a mean age of 55, this study concluded older individuals from age 44-66 with chronic pain on opiate therapy are at a significantly higher risk of abuse.
- Oxycodone HCl is the opiate most likely to be abused. Individuals being prescribed Oxycodone HCl are more susceptible to becoming addicted even if the drug is given at lower mean dose such as 12.5mg/day as was the case in this study.
- Future analyses of these data will help to guide treatment plans when prescribing opiates to patients with chronic pain and may also aid in prevention of addiction in susceptible populations.

## REFERENCES

- Conroy, S., Hill, D. Failure to identify or effectively manage prescription opioid dependence acted as a gateway to heroin use—buprenorphine/naloxone treatment and recovery in a surgical patient. *BMJ Case Reports*, 2014.
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Funding for this project was provided by the NeuroMusculoskeletal Institute