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**Objective:**

Upon completion of the lecture, attendees should be better prepared to:

- Identify the factors impacting the quantity of opioids prescribed for outpatient pain management in burn patients
- Examine the relationship between the opioid prescriptions and reported pain control in this population

**Abstract:**

**Introduction:** Pain management remains a critical challenge in the discharge and outpatient management of patients recovering from acute thermal injury. Given the diverse size and depth of the wounds involved, idiosyncratic responses to pain medications, and the evermore salient risks of opioid abuse and dependence; safe and effective outpatient pain management in this population requires highly individualized pain prescriptions. The complexity of the decision-making process and the subjective aspects of the assessment, it is difficult to know precisely which factors are driving providers' opioid prescription choices, or how prescription characteristics actually drive effective pain control.

**Objective:** We seek to a) identify factors influencing providers' opioid prescription choices, and b) determine a relationship between opioid prescription choices and patient-reported pain scores.

**Methods:** Under an institutional review board approved protocol, we performed a retrospective review of all patients presenting to our clinic for follow-up after discharge from our regional burn center from October 2016 to April 2017. Discharge opioid prescriptions were converted into milligram of morphine equivalent (MMEs) and quantified both in total MME prescribed, and MME prescribed per day. Pain scores, discharge prescription, patient, and provider factors were examined for statistically significant associations.

**Results:** No statistically significant correlation was found between the amount of MEEs prescribed and patient race, gender, or insurance status.

Patients treated surgically were prescribed more MMEs on discharge than those treated non-operatively (78.71 vs. 46.01;  $p < 0.01$ ). The total body surface area (TBSA) implicated correlated with more MMEs prescribed on discharge ( $r = 0.37$ ;  $p < 0.01$ ). Pain score reported at discharge also correlated with more MMEs prescribed

( $r = 0.35$ ;  $p < 0.01$ ) as well as pain score at follow-up ( $r = 0.44$ ,  $p < 0.01$ ). Comparing prescription practices by provider writing the prescription, nurse practitioners consistently prescribing more MMEs than resident surgeons (64.79 vs. 40.26;  $p = 0.01$ ).

We found no significant association between MMEs prescribed at discharge and pain scores reported on follow up visit.

**Discussion:** In aggregate, our data indicates that opioid dosing decisions were based primarily on clinical rather than demographic factors.

The finding that surgical treatment was associated with a higher MME prescription raises interesting questions of causality. This may simply reflect the increased severity of injuries in patients treated with surgery. Alternatively, it is possible that the team's decision to treat surgically biased prescribers' assessment of the severity of injury and associated pain.

Our finding of a marked difference in prescription practices between nurse practitioners and surgical residents highlights the impact that culture, experience, and training have on opioid prescribing practices.

The lack of an association between discharge prescriptions and follow-up pain score is particularly interesting, as it lends to a range of interpretations of decidedly different import. On one hand, this may indicate that practitioners are accurately recognizing an increased pain burden in a subset of patients and correcting for that increased pain burden through their dosing adjustments. Conversely, the same finding could be interpreted to suggest that factors being recognized by providers writing these prescriptions for increased MMEs on discharge, reflect underlying determinants of pain experience that do not respond to narcotics. The significant association found between discharge pain scores and pain score reported on follow-up visit, supports the latter interpretation.

**References and Resources:**

Wibbenmeyer L, Oltrogge K, Kluesner K, Zimmerman MB, Kealey PG. An evaluation of discharge opioid prescribing practices in a burn population. *J Burn Care Res.* 2015 Mar-Apr;36(2):329-35.

**Disclosure:**

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