

## **Analgesia administration for traumatically injured patients in a Canadian EMS System**

### **ABSTRACT**

**Objectives:** Pain management in the traumatically injured patient is an often delayed component of overall patient care. This study seeks to investigate and describe characteristics of Advanced Care Paramedics' use of a Medical Directive to provide analgesia for patients with isolated hip or extremity trauma.

**Methods:** This is a retrospective analysis of consecutive electronic Patient Care Reports (ePCR) in which an Advanced Care Paramedic responded to a traumatically injured patient in the catchment area of a single Level 2 Trauma Centre. Inclusion criteria are records containing a trauma related ePCR code between December 1, 2014 and May 31, 2015 where at least one responding Paramedic is Advanced Care. Duplicate call numbers where more than one ePCR exists for the same patient and same event were noted and treated as one patient record. Exclusion criteria are patients <18 years, vital signs absent patients, calls where incorrect coding resulted in a record being captured inappropriately (determined by majority of three reviewers), and records with incomplete information. The remaining ePCRs are examined to determine eligibility for and characteristics of implementation of the Medical Directive. Extracted data includes patient characteristics to determine eligibility for the Medical Directive and characteristics of analgesia usage.

**Results:** Between December 1, 2014 and May 31, 2015, there were 688 ePCRs that met search criteria. After determining the actual number of patients those records related to, our eligible study population was 644. 62 (9.6%) met exclusion criteria resulting in a final study population of 582. At this time, Prehospital data analysis has occurred on 217 patients. Based on the analysis to date, 130 (60%) qualified for implementation of the Medical Directive. Of eligible patients, 32 (24.6%) received an analgesic. The most common analgesic administered was Fentanyl (16, 50%), followed by Morphine (10, 31.25%). The mean time from patient contact to first Prehospital analgesic administration was 20.06 minutes. Mean age of patients who received analgesia was 59 (range 19-90). The mean age of patients who qualified for implementation of the Medical Directive but did not receive Prehospital analgesia was 65 (range 19-94).

**Conclusion:** Despite the ability to administer analgesia to patients with isolated hip or extremity trauma, preliminary data analysis shows that Advanced Care Paramedics in this EMS system are administering analgesia to less than a quarter of eligible patients. Further analysis may provide insight into non-modifiable characteristics impacting this rate (i.e. allergies). This data may prove useful to EMS educators when providing education to practitioners on pain and pain management. Further studies are required to better understand the impact of paramedic characteristics on analgesia administration.