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**ABSTRACT TITLE: Continuous Intravenous Ketamine for Pain Control after Tibial or Femoral Osteotomy Abstract**

**PURPOSE**

This case series is to evaluate the potential of continuous intravenous ketamine administration to control pain and reduce opioid requirements after high tibial osteotomies and distal femoral osteotomies.

**METHODS**

We examined the average post-operative Numerical Rating Scale (NRS) pain intensity score from admission to the PACU through 8AM of the first post-operative day (POD1) of four patients who underwent HTO or DFO. Pain scores were analyzed as the time weighted sum of pain intensity differences using the trapezoidal rule of the curve resulting in an area under the curve (AUC) [AUC =  $((h_1+h_2)/2)*d$ ,  $h_1/2$  = successive pain scores,  $d$  = difference in time between successive pain scores in minutes].

**RESULTS**

Patient A had an AUC of 2828 over 1180 minutes with an average pain score of 2.4/10. Patient B had an AUC of 1418 over 1285 minutes with an average pain score of 1.1/10. Patient C had an AUC of 4217 over 1155 minutes with an average pain score of 3.7/10. Patient D had an AUC of 4498 over 1030 minutes with an average pain score of 4.4/10. All were able to go home on post-operative day 1.

**CONCLUSIONS**

This novel perioperative pain pathway including multiple non-opioid pain adjuncts, appropriate regional anesthesia, and a low-dose ketamine infusion is an effective method for pain management in knee periarticular osteotomies.

**LEVEL OF EVIDENCE:** Level 4; Case Series.