UNC HEALTH CARE GUIDELINE

Low-Dose Ketamine for Analgesia in the ED

PURPOSE:

To provide the standardization for administration of low dose ketamine (LDK) for analgesia in adult patients in the Emergency Department. This clinical guideline was developed with the sole intent for the use of ketamine as an analgesic medication and not for the purpose of procedural sedation.

INDICATIONS/RELATIVE CONTRAINDICATIONS:

A. Indications for the use of low dose Ketamine (LDK) include:
   - Patients age 18 or greater presenting with severe/intractable pain not relieved by opiate analgesics
   - Opiate dependent patients
   - By *attending* physician discretion for other adult patients with severe pain

B. LDK can be used in combination with opioid narcotics, NSAIDS, and/or benzodiazepines with the intent of providing improved analgesia through multimodal receptor channel targeted analgesia.

C. Relative contraindications to consider include:
   - patients with known schizophrenia
   - acute globe injury
   - thyroid disorders
   - known intracranial neoplasm
   - significant hypertension
   - history of arrhythmia
   - patients with known stimulant abuse/misuse (cocaine, amphetamine, PCP, bath salts)
   - end stage renal or hepatic disease

PROCEDURES AND MONITORING

A. This guideline is intended for improving analgesia for our patients who present with acute or chronic painful conditions and is not intended to guide procedural sedation practices.

B. IV access and continuous cardiorespiratory monitoring should be obtained and maintained until the time of discharge

C. A history and physical exam will be performed prior to administration

D. Proper dosing of ketamine for analgesia is as follows:
   - **Ketamine for analgesia must be ordered by an attending physician only**
   - **0.1 to 0.15 mg/kg IV slow push**
   - May repeat every 15 minutes to **maximum cumulative dose of 0.3 mg/kg up to 50mg**
   - The ordering provider should select “ketamine 10 mg/mL; 2-mL IV syringe (analgesia) from the ED preference list in Epic. Do not order the 200 mg IV vial.
   - Dual verification should be completed prior to administration

E. Intra-Administration monitoring will include
   - Cardiac monitoring
   - O2 saturation via pulse oximetry
   - Vital signs every 10 minutes for the first 30 minutes after administration
   - Level of consciousness, to include observation for sedation, confusion, and hallucinations
   - Pain score prior to and 10 minutes after administration
   - The patient may leave the ED without monitoring (i.e. for imaging) if he/she has not received any concurrent analgesics or sedatives. If the patient has received other analgesics or sedatives within 60 minutes of ketamine administration, the patient must be on a monitor with pulse oximetry included for the entirety of time spent out of the ED.

F. Discharge Criteria:
   1. Patient must remain monitored for at least 30 minutes post the last ketamine administration prior to being discharged.
   2. Patient must maintain or achieve a return of their baseline vital signs and mental status should they change during administration.

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4. Messenger DW, Murray HE, Dungey PE, van Vlymen J. Sivilotti. Subdissociative-dose ketamine versus fentanyl for analgesia during propofol procedural sedation: a randomized clinical trial. Acad Emerg Med 2008;15:877–86.
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