Musculoskeletal Injuries

Trauma

Medical Director: Benjamin Oei, M.D.

Austin County EMS Protocol & Guideline	
Version:	1.0
Date:	04/2019

Musculoskeletal injuries requiring pharmacological intervention/pain management are generally limited to fractures, amputations, high or low velocity penetrations, lacerations, and crush injuries of the extremities involving the femur, tibia-fibula, humerus, radius ulna or the digits in which there is obvious swelling, deformity and associated pain involved. The key factor to maintain is that we will not totally alleviate the pain in the Pre-Hospital Setting, but have the capability of placing our patients in a state of comfort until we can deliver them to a Higher Level of Care.

EMT

- Airway/Oxygen appropriate for condition
- Bleeding Control; severe bleeding controlled with Quick Clot Gauze, Israeli Bandage, and/or trauma tourniquet as needed. Apply second tourniquet should bleeding persist.
- Spinal Motion Restriction as needed
- Splinting

AEMT

- Establish IV of Normal Saline
- **Tranexamic Acid (TXA)** should all other means to control bleeding fail. Adult: 1 gram IV infusion over 10 minutes. **TXA** should be administered as soon as possible if internal bleeding is considered.

Paramedic

After *10 minutes if pain is 4 or greater*

- **Fentanyl** 2 mcg/kg IV/IN – Max dose 400 mcg
- **Morphine Sulfate** 2-10 mg IVP- ***If allergic to Fentanyl:***
- Consider **Ondansetron** 4 IV/IO mg or **Diphenhydramine** 12.5 -25 mgs IV/IO - to prevent narcotic-induced nausea and vomiting
- **Ketamine** 0.1-0.25 mg/kg IV/IO **OR** 0.5 -1 mg/kg IM: may repeat every 10 minutes as needed

PEARLS

In extreme cases, utilization of Normal Saline, Dopamine and Epinephrine infusions may be necessary. If possible ensure at least 2, if not 3 IV sites to independently flow each treatment, however, if necessary to piggyback, attempt to keep the vasopressors separate. All 3 may be given through 1 IV site if absolutely necessary in consideration of risk/benefit to the patient