Crush Syndrome Trauma

**History**
- Entrapped and crushed under heavy load > 30 minutes
- Extremity / body crushed
- Building collapse, trench collapse, industrial accident, pinned under heavy equipment

**Signs and Symptoms**
- Hypotension
- Hypothermia
- Abnormal ECG findings
- Pain
- Anxiety

**Differential**
- Entrapment without crush syndrome
- Entrapment without significant crush
- Altered mental status

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**Scene Safe**

**Call for help / additional resources**
Stage until scene safe

**Peaked T Waves**
- QRS ≥ 0.12 seconds
- QT ≥ 0.46 seconds
- Loss of P wave

**Immediately Prior to Extrication**

**Sodium Bicarbonate**
- 50 mEq IV / IO
- Peds: 1 mEq/kg IV / IO

**Calcium Chloride (or Gluconate)**
- 1 gm IV / IO
- Peds: 20 mg/kg IV / IO

Over 3 minutes

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**Notify Destination or Contact Medical Control**

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This protocol has been altered from the original 2012 NCCEP Protocol by the Johnston County EMS System Medical Director.
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Pearls
- **Recommended exam**: Mental Status, Musculoskeletal, Neuro
- **Scene safety is of paramount importance as typical scenes pose hazards to rescuers. Call for appropriate resources.**
- Avoid Ringers Lactate IV Solution due to potassium and potential worsening hyperkalemia
- Hyperkalemia from crush syndrome can produce ECG changes described in protocol, but may also be a bizarre, wide complex rhythm. Wide complex rhythms should also be treated using the VF/Pulseless VT Protocol.
- Patients may become hypothermic even in warm environments.
- Pediatric IV Fluid maintenance rate: 4 mL per first 10 kg of weight + 2 mL per second 10 kg of weight + 1 mL for every additional kg in weight.