

<b>Crush Injury/Syndrome</b>	
<b>ADULT</b>	<b>PEDIATRIC</b>
<b>BLS Procedures</b>	
Perform spinal precautions as indicated Determine Potential vs. Actual Crush Syndrome Administer oxygen as indicated Maintain body heat	
<b>ALS Standing Orders</b>	
Potential for Crush Syndrome <ul style="list-style-type: none"> <li>• IV/IO access</li> <li>• Release compression</li> <li>• Monitor for cardiac dysrhythmias</li> </ul>	
<b>Communication Failure Protocol</b>	
Crush Syndrome <ul style="list-style-type: none"> <li>• Initiate 2<sup>nd</sup> IV/IO access</li> <li>• <b>Normal Saline</b> <ul style="list-style-type: none"> <li>○ IV/IO bolus – 1 Liter                             <ul style="list-style-type: none"> <li>• Caution with cardiac and/or renal history</li> </ul> </li> </ul> </li> <li>• <b>Sodium Bicarbonate</b> <ul style="list-style-type: none"> <li>○ IV/IO mix – 1 mEq/kg                             <ul style="list-style-type: none"> <li>• Added to 1<sup>st</sup> Liter of Normal Saline</li> </ul> </li> </ul> </li> <li>• <b>Albuterol</b> <ul style="list-style-type: none"> <li>○ Nebulizer – 5 mg/6 mL                             <ul style="list-style-type: none"> <li>• Repeat as needed</li> </ul> </li> </ul> </li> <li>• <b>Morphine</b> – Per Policy 705 - Pain Control</li> <li>• Release compression</li> <li>• Monitor for cardiac dysrhythmias</li> <li>• For cardiac dysrhythmias:                             <ul style="list-style-type: none"> <li>○ <b>Calcium Chloride</b> <ul style="list-style-type: none"> <li>• IV/IO – 1 g over 1 min</li> </ul> </li> </ul> </li> </ul> For continued shock <ul style="list-style-type: none"> <li>• <b>Repeat Normal Saline</b> <ul style="list-style-type: none"> <li>○ IV/IO bolus – 1 Liter</li> </ul> </li> </ul>	Crush Syndrome <ul style="list-style-type: none"> <li>• Initiate 2<sup>nd</sup> IV/IO access if possible or establish IO</li> <li>• <b>Normal Saline</b> <ul style="list-style-type: none"> <li>○ IV/IO bolus – 20 mL/kg                             <ul style="list-style-type: none"> <li>• Caution with cardiac and/or renal history</li> </ul> </li> </ul> </li> <li>• <b>Sodium Bicarbonate</b> <ul style="list-style-type: none"> <li>○ IV/IO mix– 1 mEq/kg                             <ul style="list-style-type: none"> <li>• Added to 1<sup>st</sup> Liter of Normal Saline</li> </ul> </li> </ul> </li> <li>• <b>Albuterol</b> <ul style="list-style-type: none"> <li>○ <b>Patient less than 30 kg</b> <ul style="list-style-type: none"> <li>• Nebulizer – 2.5 mg/3 mL</li> <li>○ Repeat as needed</li> </ul> </li> <li>○ <b>Patient greater than 30 kg</b> <ul style="list-style-type: none"> <li>• Nebulizer – 5 mg/6 mL</li> <li>○ Repeat as needed</li> </ul> </li> </ul> </li> <li>• <b>Morphine</b> – Per Policy 705 - Pain Control</li> <li>• Release compression</li> <li>• Monitor for cardiac dysrhythmias</li> <li>• For cardiac dysrhythmias:                             <ul style="list-style-type: none"> <li>○ <b>Calcium Chloride</b> <ul style="list-style-type: none"> <li>• IV/IO – 20 mg/kg over 1 min</li> </ul> </li> </ul> </li> </ul> For continued shock <ul style="list-style-type: none"> <li>• <b>Repeat Normal Saline</b> <ul style="list-style-type: none"> <li>○ IV/IO bolus – 20 mL/kg</li> </ul> </li> </ul>
<b>Base Hospital Orders only</b>	
For persistent hypotension after fluid bolus: <ul style="list-style-type: none"> <li>• Epinephrine 10 mcg/mL                             <ul style="list-style-type: none"> <li>○ 1 mL (10 mcg) q 2 minutes, slow IV/IO push</li> <li>○ Titrate to SBP of greater than or equal to 90 mm/Hg</li> </ul> </li> </ul> Consult with ED Physician for further treatment measures	For persistent hypotension after fluid bolus: <ul style="list-style-type: none"> <li>• Epinephrine 10 mcg/mL                             <ul style="list-style-type: none"> <li>○ 0.1 mL/kg (1 mcg/kg) q 2 minutes, slow IV/IO push</li> <li>○ Max single dose of 1 mL or 10 mcg</li> <li>○ Titrate to SBP of greater than or equal to 80 mm/Hg</li> </ul> </li> </ul> Consult with ED Physician for further treatment measures
Additional Information: <ul style="list-style-type: none"> <li>• Refer to VCEMS Policy 735 for additional information on preparing push dose epinephrine solution. Potential Crush Syndrome – Continuous crush injury to torso or extremity above wrist or ankle for 2 hours or less.</li> <li>• Crush Syndrome – Continuous crush injury to torso or extremity above wrist or ankle for greater than 2 hours.</li> <li>• If elderly or cardiac history is present, use caution with fluid administration. Reassess and treat accordingly.</li> <li>• Dysrhythmias are usually secondary to Hyperkalemia. ECG monitor may show: Peaked T-waves, Absent P-waves, widened QRS complexes, bradycardia</li> <li>• Calcium Chloride and Sodium Bicarbonate precipitate when mixed. Strongly consider starting a second IV (if feasible) for administration of Calcium Chloride</li> </ul>	

Effective Date: March 1, 2019  
Next Review Date: January 30, 2021

Date Revised: January 10, 2019  
Last Reviewed: January 10, 2019



VCEMS Medical Director