Nebraska
Board of Emergency Medical Services
Approved
EMS Model Protocols
Basic and Advanced Life Support
All Provider Levels
2012 Edition

For the most recent updates
CLICK HERE

The Table Of Contents Has A Revised Date Column To Show The Date When That Protocol Or Section Was Revised. Any Updates Will Be In Bold To Assist The Reader.
# Table of Contents

<table>
<thead>
<tr>
<th>Subject</th>
<th>Revised Date</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Protocol Design and Directions for Use</strong></td>
<td>12/7/12</td>
<td>5</td>
</tr>
<tr>
<td><strong>Acknowledgements</strong></td>
<td>12/7/12</td>
<td>6</td>
</tr>
<tr>
<td><strong>Purpose</strong></td>
<td>12/7/12</td>
<td>6</td>
</tr>
<tr>
<td><strong>Scope of Protocols</strong></td>
<td>12/7/12</td>
<td>6</td>
</tr>
<tr>
<td><strong>Physician Medical Director Approval and Authority</strong></td>
<td>12/7/12</td>
<td>6</td>
</tr>
<tr>
<td><strong>Authorization to Function as an Out of Hospital Care Provider</strong></td>
<td>12/7/12</td>
<td>6</td>
</tr>
<tr>
<td><strong>Advanced Level Providers Functioning with a BLS Service</strong></td>
<td>12/7/12</td>
<td>6</td>
</tr>
<tr>
<td><strong>Responsibility of the Licensed Emergency Medical Service</strong></td>
<td>12/7/12</td>
<td>7</td>
</tr>
<tr>
<td><strong>Responsibility of the Licensed Out of Hospital Care Providers</strong></td>
<td>12/7/12</td>
<td>7</td>
</tr>
<tr>
<td><strong>Professionalism and Ethics</strong></td>
<td>12/7/12</td>
<td>7</td>
</tr>
<tr>
<td><strong>Mandatory Reporting Requirements</strong></td>
<td>12/7/12</td>
<td>7</td>
</tr>
<tr>
<td><strong>Confidentiality</strong></td>
<td>12/7/12</td>
<td>7</td>
</tr>
<tr>
<td><strong>Protocol Access</strong></td>
<td>12/7/12</td>
<td>7</td>
</tr>
<tr>
<td><strong>General Principals</strong></td>
<td>12/7/12</td>
<td>8</td>
</tr>
<tr>
<td><strong>Infection Control</strong></td>
<td>12/7/12</td>
<td>9</td>
</tr>
<tr>
<td><strong>Safety</strong></td>
<td>12/7/12</td>
<td>9</td>
</tr>
<tr>
<td><strong>Incident Command</strong></td>
<td>12/7/12</td>
<td>9</td>
</tr>
<tr>
<td><strong>Communications and Documentation</strong></td>
<td>12/7/12</td>
<td>9</td>
</tr>
<tr>
<td><strong>Consent</strong></td>
<td>12/7/12</td>
<td>10</td>
</tr>
<tr>
<td><strong>Guidelines for Refusal</strong></td>
<td>12/7/12</td>
<td>10</td>
</tr>
<tr>
<td><strong>Do Not Resuscitate</strong></td>
<td>12/7/12</td>
<td>11</td>
</tr>
<tr>
<td><strong>Advanced Directives</strong></td>
<td>12/7/12</td>
<td>11</td>
</tr>
<tr>
<td><strong>Family Objections to DNR</strong></td>
<td>12/7/12</td>
<td>11</td>
</tr>
<tr>
<td><strong>OOHECP Ethical Objections</strong></td>
<td>12/7/12</td>
<td>11</td>
</tr>
<tr>
<td><strong>Medical Direction and Physician Orders</strong></td>
<td>12/7/12</td>
<td>11</td>
</tr>
<tr>
<td><strong>Concealed Handgun</strong></td>
<td>12/7/12</td>
<td>11</td>
</tr>
<tr>
<td><strong>Reporting Crimes and Crime Scene</strong></td>
<td>12/7/12</td>
<td>12</td>
</tr>
<tr>
<td><strong>Completion of Call and Preparation for Next Call</strong></td>
<td>12/7/12</td>
<td>12</td>
</tr>
<tr>
<td><strong>Adult Routine Assessment and Care</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Routine Assessment and Care</strong></td>
<td>12/7/12</td>
<td>14</td>
</tr>
<tr>
<td><strong>Scales and Scores</strong></td>
<td>5/27/14</td>
<td>16</td>
</tr>
<tr>
<td><strong>Adult Medical Protocols</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cardiac Arrest – Discontinuing Bystander CPR and Withholding CPR</strong></td>
<td>12/7/12</td>
<td>18</td>
</tr>
<tr>
<td><strong>Cardiac Arrest – AED and CPR</strong></td>
<td>12/7/12</td>
<td>19</td>
</tr>
<tr>
<td><strong>Cardiac Arrest – Advanced Cardiac Life Support</strong></td>
<td>12/7/12</td>
<td>20</td>
</tr>
<tr>
<td><strong>Cardiac Arrest – Special Situations</strong></td>
<td>12/7/12</td>
<td>21</td>
</tr>
<tr>
<td><strong>Cardiac Arrest – Return of Spontaneous Circulation</strong></td>
<td>12/7/12</td>
<td>22</td>
</tr>
<tr>
<td><strong>Cardiac Arrest – Return of Spontaneous Circulation Induced Hypothermia</strong></td>
<td>12/7/12</td>
<td>23</td>
</tr>
<tr>
<td><strong>Cardiac Arrest – Termination of Resuscitation</strong></td>
<td>12/7/12</td>
<td>24</td>
</tr>
<tr>
<td><strong>Cardiac Dysrhythmia Tachycardia</strong></td>
<td>12/7/12</td>
<td>25</td>
</tr>
<tr>
<td><strong>Cardiac Dysrhythmia Bradycardia</strong></td>
<td>12/7/12</td>
<td>26</td>
</tr>
<tr>
<td><strong>Cardiac 12 Lead Findings and Special Treatments</strong></td>
<td>12/7/12</td>
<td>27</td>
</tr>
<tr>
<td><strong>Cardiac STEMI Guidelines</strong></td>
<td>4/27/15</td>
<td>28</td>
</tr>
<tr>
<td><strong>Cardiac STEMI Transport Guidelines</strong></td>
<td>4/27/15</td>
<td>29</td>
</tr>
<tr>
<td><strong>Chest Pain – Discomfort</strong></td>
<td>12/7/12</td>
<td>30</td>
</tr>
<tr>
<td><strong>Chest Pain – Discomfort – Acute Coronary Syndrome</strong></td>
<td>12/7/12</td>
<td>31</td>
</tr>
<tr>
<td><strong>Congestive Heart Failure</strong></td>
<td>12/7/12</td>
<td>32</td>
</tr>
<tr>
<td>Subject</td>
<td>Revised Date</td>
<td>Page</td>
</tr>
<tr>
<td>-----------------------------------------------------------</td>
<td>--------------</td>
<td>------</td>
</tr>
<tr>
<td>CPR Induced Consciousness Sedation Protocol</td>
<td>8/11/16</td>
<td>38</td>
</tr>
<tr>
<td>CVA – Stroke, Scales and Scores</td>
<td>12/7/12</td>
<td>39</td>
</tr>
<tr>
<td>Decreased Level of Consciousness – Decreased Mental Status</td>
<td>8/11/16</td>
<td>43</td>
</tr>
<tr>
<td>Epiglottis</td>
<td>12/7/12</td>
<td>44</td>
</tr>
<tr>
<td>Hypoglycemia – Insulin Shock</td>
<td>12/7/12</td>
<td>45</td>
</tr>
<tr>
<td>Hyperglycemia – Diabetic Coma</td>
<td>12/7/12</td>
<td>46</td>
</tr>
<tr>
<td>GI Hemorrhage</td>
<td>12/7/12</td>
<td>47</td>
</tr>
<tr>
<td>Headache</td>
<td>12/7/12</td>
<td>48</td>
</tr>
<tr>
<td>Nausea – Vomiting – Diarrhea</td>
<td>12/7/12</td>
<td>49</td>
</tr>
<tr>
<td>Non-Traumatic Generalized Pain</td>
<td>12/7/12</td>
<td>50</td>
</tr>
<tr>
<td>Non-Traumatic Nose Bleed</td>
<td>12/7/12</td>
<td>51</td>
</tr>
<tr>
<td>Respiratory Arrest</td>
<td>7/7/16</td>
<td>52</td>
</tr>
<tr>
<td>Respiratory Distress – Asthma</td>
<td>7/7/16</td>
<td>53</td>
</tr>
<tr>
<td>Respiratory Distress – Exacerbation of COPD</td>
<td>12/7/12</td>
<td>54</td>
</tr>
<tr>
<td>Respiratory Distress – Spontaneous Pneumothorax</td>
<td>12/7/12</td>
<td>55</td>
</tr>
<tr>
<td>Respiratory Infections</td>
<td>12/7/12</td>
<td>56</td>
</tr>
<tr>
<td>Renal Dialysis</td>
<td>12/7/12</td>
<td>57</td>
</tr>
<tr>
<td>Seizure and Postictal Period</td>
<td>12/7/12</td>
<td>58</td>
</tr>
<tr>
<td>Toxins – Auto Injector Antidote Kits</td>
<td>12/7/12</td>
<td>59</td>
</tr>
<tr>
<td>Toxins – Inhaled Toxins</td>
<td>12/7/12</td>
<td>60</td>
</tr>
<tr>
<td>Toxins – Overdose</td>
<td>12/7/12</td>
<td>61</td>
</tr>
<tr>
<td>Toxins – Overdose Special Instructions for Specific Toxins</td>
<td>7/7/16</td>
<td>62</td>
</tr>
<tr>
<td>Toxins – Poisons</td>
<td>12/7/12</td>
<td>63</td>
</tr>
<tr>
<td>Shock</td>
<td>4/13/15</td>
<td>64</td>
</tr>
<tr>
<td><strong>Adult Trauma Protocols</strong></td>
<td></td>
<td>65</td>
</tr>
<tr>
<td>Trauma System</td>
<td>12/7/12</td>
<td>66</td>
</tr>
<tr>
<td>Trauma Care Head – Chest – Abdomen</td>
<td>4/13/15</td>
<td>67</td>
</tr>
<tr>
<td>Trauma Care Amputations – Extremity – Soft Tissue</td>
<td>4/13/15</td>
<td>68</td>
</tr>
<tr>
<td>Trauma Care Spinal Stabilization</td>
<td>4/27/15</td>
<td>69</td>
</tr>
<tr>
<td>Bites and Envenomation</td>
<td>4/13/15</td>
<td>71</td>
</tr>
<tr>
<td>Burns</td>
<td>4/13/15</td>
<td>72</td>
</tr>
<tr>
<td>Crush Injury</td>
<td>4/13/15</td>
<td>73</td>
</tr>
<tr>
<td>Environmental Trauma – Exposure to Heat and Cold</td>
<td>4/13/15</td>
<td>74</td>
</tr>
<tr>
<td>SCUBA Diving – Decompression Trauma</td>
<td>4/13/15</td>
<td>75</td>
</tr>
<tr>
<td>Sexual Assault</td>
<td>4/13/15</td>
<td>76</td>
</tr>
<tr>
<td>Trauma During Pregnancy</td>
<td>4/13/15</td>
<td>77</td>
</tr>
<tr>
<td><strong>OB Gynecological Protocols</strong></td>
<td>12/7/12</td>
<td>78</td>
</tr>
<tr>
<td>Gynecological Pain – Vaginal Bleeding</td>
<td>12/7/12</td>
<td>79</td>
</tr>
<tr>
<td>Complications during Pregnancy</td>
<td>12/7/12</td>
<td>80</td>
</tr>
<tr>
<td>Labor</td>
<td>12/7/12</td>
<td>81</td>
</tr>
<tr>
<td>Delivery – Uncomplicated</td>
<td>7/7/16</td>
<td>82</td>
</tr>
<tr>
<td>Delivery – Complicated</td>
<td>12/7/12</td>
<td>83</td>
</tr>
<tr>
<td>Newborn Care</td>
<td>12/7/12</td>
<td>84</td>
</tr>
<tr>
<td><strong>Pediatric General Principals</strong></td>
<td>12/7/12</td>
<td>85</td>
</tr>
<tr>
<td>Protocols</td>
<td>12/7/12</td>
<td>86</td>
</tr>
<tr>
<td>Pediatric Reference and Resuscitation Tape</td>
<td>12/7/12</td>
<td>86</td>
</tr>
<tr>
<td>Recommendations for Pediatric Equipment</td>
<td>4/13/15</td>
<td>86</td>
</tr>
<tr>
<td>Pediatric Assessment Model</td>
<td>12/7/12</td>
<td>87</td>
</tr>
<tr>
<td><strong>Pediatric Routine Assessment and Care</strong></td>
<td>12/7/12</td>
<td>88</td>
</tr>
<tr>
<td>Pediatric Routine Assessment and Care</td>
<td>12/7/12</td>
<td>89</td>
</tr>
<tr>
<td><strong>Pediatric Medical Protocols</strong></td>
<td>12/7/12</td>
<td>92</td>
</tr>
<tr>
<td>Airway – Choking – Foreign Body Airway Obstruction</td>
<td>12/7/12</td>
<td>93</td>
</tr>
<tr>
<td>Airway – Post Airway Obstruction</td>
<td>12/7/12</td>
<td>94</td>
</tr>
<tr>
<td>Subject</td>
<td>Revised Date</td>
<td>Page</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>---------------</td>
<td>------</td>
</tr>
<tr>
<td>Abdominal Pain</td>
<td>12/7/12</td>
<td>95</td>
</tr>
<tr>
<td>Allergic Reaction – Anaphylaxis</td>
<td>12/7/12</td>
<td>96</td>
</tr>
<tr>
<td>Cardiac Arrest – Discontinuing Bystander CPR – Withholding CPR</td>
<td>12/7/12</td>
<td>97</td>
</tr>
<tr>
<td>Cardiac Arrest – AED and CPR</td>
<td>12/7/12</td>
<td>98</td>
</tr>
<tr>
<td>Cardiac Arrest – Advanced Cardiac Life Support</td>
<td>12/7/12</td>
<td>99</td>
</tr>
<tr>
<td>Cardiac Arrest – Special Situations</td>
<td>12/7/12</td>
<td>100</td>
</tr>
<tr>
<td>Cardiac Arrest – Return of Spontaneous Circulation</td>
<td>12/7/12</td>
<td>101</td>
</tr>
<tr>
<td>Cardiac Dysrhythmia Tachycardia</td>
<td>12/7/12</td>
<td>102</td>
</tr>
<tr>
<td>Cardiac Dysrhythmia Bradycardia</td>
<td>12/7/12</td>
<td>103</td>
</tr>
<tr>
<td>Decreased Level of Consciousness – Decreased Mental Status</td>
<td>7/7/16</td>
<td>104</td>
</tr>
<tr>
<td>Epiglottitis</td>
<td>12/7/12</td>
<td>105</td>
</tr>
<tr>
<td>Hypoglycemia – Insulin Shock</td>
<td>12/7/12</td>
<td>106</td>
</tr>
<tr>
<td>Hyperglycemia – Diabetic Coma</td>
<td>12/7/12</td>
<td>107</td>
</tr>
<tr>
<td>Nausea – Vomiting – Diarrhea</td>
<td>12/7/12</td>
<td>108</td>
</tr>
<tr>
<td>Non-Traumatic Nose Bleed</td>
<td>12/7/12</td>
<td>109</td>
</tr>
<tr>
<td>Respiratory Arrest</td>
<td>12/7/12</td>
<td>110</td>
</tr>
<tr>
<td>Respiratory Distress – Asthma</td>
<td>12/7/12</td>
<td>111</td>
</tr>
<tr>
<td>Respiratory Distress – Croup</td>
<td>12/7/12</td>
<td>112</td>
</tr>
<tr>
<td>Respiratory Distress – Spontaneous Pneumothorax</td>
<td>12/7/12</td>
<td>113</td>
</tr>
<tr>
<td>Respiratory Infections</td>
<td>12/7/12</td>
<td>114</td>
</tr>
<tr>
<td>Seizure and Postictal Period</td>
<td>12/7/12</td>
<td>115</td>
</tr>
<tr>
<td>Toxins – Auto Injector Antidote Kits</td>
<td>12/7/12</td>
<td>116</td>
</tr>
<tr>
<td>Toxins – Inhaled Toxins</td>
<td>12/7/12</td>
<td>117</td>
</tr>
<tr>
<td>Toxins – Overdose – Poisonings</td>
<td>12/7/12</td>
<td>118</td>
</tr>
<tr>
<td>Toxins – Overdose Special Instructions for Specific Toxins</td>
<td>12/7/12</td>
<td>119</td>
</tr>
<tr>
<td>Shock</td>
<td>4/13/15</td>
<td>120</td>
</tr>
<tr>
<td><strong>Pediatric Trauma Protocols</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trauma Care Head – Chest – Abdomen</td>
<td>4/13/15</td>
<td>122</td>
</tr>
<tr>
<td>Trauma Care Amputations – Extremity – Soft Tissue</td>
<td>4/13/15</td>
<td>123</td>
</tr>
<tr>
<td>Bites and Envenomation</td>
<td>4/13/15</td>
<td>124</td>
</tr>
<tr>
<td>Burns</td>
<td>4/13/15</td>
<td>125</td>
</tr>
<tr>
<td>Crush Injury</td>
<td>4/13/15</td>
<td>126</td>
</tr>
<tr>
<td>Environmental Trauma – Exposure to Heat and Cold</td>
<td>4/13/15</td>
<td>127</td>
</tr>
<tr>
<td>Child Abuse</td>
<td>4/13/15</td>
<td>128</td>
</tr>
<tr>
<td><strong>Special Situation Protocols</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood and Blood Products</td>
<td>12/7/12</td>
<td>130</td>
</tr>
<tr>
<td>Electronic Control Devices and Requests to Medically Clear Patients</td>
<td>4/13/15</td>
<td>131</td>
</tr>
<tr>
<td>EMR Transport with PMD Approval</td>
<td>4/13/15</td>
<td>132</td>
</tr>
<tr>
<td>EMS Student Practice Guidelines</td>
<td>12/7/12</td>
<td>133</td>
</tr>
<tr>
<td>EMS Temporary Licensee Practice Guidelines</td>
<td>12/7/12</td>
<td>134</td>
</tr>
<tr>
<td>Extra Pair of Hands Concept</td>
<td>12/7/12</td>
<td>135</td>
</tr>
<tr>
<td>Inter-Facility Transport</td>
<td>12/7/12</td>
<td>136</td>
</tr>
<tr>
<td>Pain Management</td>
<td>4/13/15</td>
<td>137</td>
</tr>
<tr>
<td>Restraint</td>
<td>4/13/15</td>
<td>140</td>
</tr>
<tr>
<td>RSI</td>
<td>3/4/13</td>
<td>141</td>
</tr>
<tr>
<td>Triage</td>
<td>12/7/12</td>
<td>146</td>
</tr>
<tr>
<td><strong>Medication Formulary</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medication Formulary</td>
<td>10/4/16</td>
<td>147</td>
</tr>
</tbody>
</table>
Nebraska EMS Model Protocols

Preface

PROTOCOL DESIGN AND DIRECTIONS FOR USE

Individual Protocols are divided based on the level of the out-of-hospital emergency care provider (OOHECP) licensure. Start at the top of each page and proceed as far down the page as your individual licensed level and special PMD approvals allow.

Each OOHECP is expected to know his/her own scope of practice and if applicable special Physician Medical Director (PMD) authorized additional skills.

ALL LEVELS
- Items That Apply to ALL LEVELS
- Generally This Refers to the Routine Assessment and Care Protocol

EMR
- EMR Without Additional PMD Approval Stop at This Section
- Other Levels Consider These Items and Continue

EMR Options if Approved
- EMR With Additional PMD Approval Stop at This Section
  - Reminder the PMD May NOT have Authorized Every Optional Skill/Treatment
  - Other Levels Consider These Items and Continue

EMT
- EMT Without Additional PMD Approval Stop at This Section
  - Reminder the PMD May NOT have Authorized Every Optional Skill/Treatment
  - Other Levels Consider These Items and Continue

EMT Options if Approved
- EMT With Additional PMD Approval Stop at This Section
  - Reminder the PMD May NOT have Authorized Every Optional Skill/Treatment
  - Other Levels Consider These Items and Continue

AEMT
- AEMT Stop at This Section
  - Other Levels Consider These Items and Continue

EMT-I
- EMT-I Stop at This Section
  - Other Levels Consider These Items and Continue

Paramedic
- Paramedic Continue Through All Considerations Including These Items

Use of Multiple Protocols May Be Required:
- The OOHECP may have to use several protocols to meet the needs of the patient.
The Nebraska Board of Emergency Medical Services acknowledges the dedication and extends our gratitude to the hundreds of out-of-hospital emergency care professionals for their service to the citizens of the Great State of Nebraska.

Furthermore the Board extends our appreciation to the Physician Medical Directors who provide the leadership necessary for effective and efficient care of the out-of-hospital patient throughout our Great State.

Purpose
The purpose of these protocols is to assure safe and effective intervention during the out-of-hospital phase of patient care. In consideration of the unique resources, needs, population, and geography of EMS in Nebraska, individual medical directors may choose to enhance or omit portions of these protocols in accordance with current medical practice and standards. Medical directors are responsible to ensure the EMS personnel using these protocols have the training and skills required, and perform quality assurance activities to assure these protocols are used appropriately.

Scope of Protocols
These protocols are applicable to Nebraska Licensed Emergency Medical Services functioning with Emergency Medical Responders (EMR), Emergency Medical Technicians (EMT), Emergency Medical Technician-Intermediates (EMT-I), Advanced Emergency Medical Technician (AEMT), and Paramedics.

Physician Medical Director Approval and Authority
For these protocols to be valid they must be approved by service’s Physician Medical Director (PMD). Certain special skills as listed in these protocols require additional authorization. The Physician Medical Director Authorization document lists the approved protocols, additional skills, and other PMD approved documents which must be signed by the PMD.

The Physician Medical Director retains authority over the medical aspects of the EMS Service and the OOHECP.

Authorization to Function as an Out-of-Hospital Care Provider
To function as an OOHECP under these protocols an individual must;

- Be a member or employee of a Nebraska Licensed Emergency Medical Service; and
- Have a valid Nebraska EMR, EMT, AEMT, EMT-I, Paramedic, Practical Nurse, Registered Nurse, Physician’s Assistant, or Physician license; and
- Have the Authorization of the Physician Medical Director (PMD)

The PMD must authorize the additional skills for the individual OOHECP and the Service (See the Physician Medical Director Authorization document).

Advanced Level Providers Functioning with a Basic Life Support Service
The licensed AEMT, EMT-I, or Paramedic when functioning as a member or employee of a licensed Basic Life Support Service may only perform the skills and treatments listed within these protocols and listed in the Practices and Procedures section of Title 172 NAC 11 for the Emergency Medical Technician.

Practical and Registered Nurses when functioning as a member or employee of a licensed Basic Life Support Service may only perform the skills and treatments listed under the EMR and EMT sections within these protocols and listed in the Practices and Procedures section of Title 172 NAC 11 for the Emergency Medical Technician. Exception nurses functioning under patient specific orders may, during a hospital to hospital transfer, function within the scope of practice of their nursing license.

Mid-level practitioners and Physician members of a licensed Basic Life Support Service may function within the scope of practice of his/her license with PMD Approval.

The Additional skills for the Emergency Medical Technician as listed in Title 172 NAC 11 may be performed by the advance level providers ONLY when these additional skills and the individual provider has prior Physician Medical Director approval.
Responsibility of the Licensed Emergency Medical Service

The EMS service is responsible to have certain PMD approved documents and review these documents with its employees/members. The EMS service may not knowingly allow for unauthorized practice and/or authorize practices and procedures which require PMD approval. The licensed EMS services are expected to comply with Nebraska Rules and Regulations.

Responsibility of the Licensed Out of Hospital Emergency Care Providers and Other Licensed Professionals

The individual licensed OOHECP or other licensed healthcare professionals fulfilling the role of the OOHECP are responsible to maintain knowledge of these protocols and to function within them. Further the OOHECP may not exceed his/her Practice and Procedures as authorized by the EMS Services PMD and the Nebraska Rules and Regulations.

Professionalism and Ethics

Regardless whether the OOHECP is paid or volunteers his/her time, the practice of emergency care is a profession. Our patients have a reasonable expectation to have these services provided in an ethical and professional manner. The guiding document of professionalism and ethics for the OOHECP of ALL LEVELS is the EMT Code of Ethics as approved by the National Association of EMTs.

Mandatory Reporting Requirements

The OOHECP and the Service are expected to comply with mandatory reporting of misdemeanor and felony convictions, limits on practice, disciplinary actions and unprofessional conduct. The full text of the Mandatory Reporting requirement is located in Title 172 NAC 5 – MANDATORY REPORTING BY HEALTH CARE PROFESSIONALS, FACILITIES, PEER REVIEW ORGANIZATIONS, PROFESSIONAL ASSOCIATIONS, and INSURERS. A Summary Table of Mandatory Reporting requirements and the full text of title 172 NAC 5 are available at the Nebraska Health and Human Services Web Site

Confidentiality

The patient has a reasonable expectation that his/her patient information will be kept in confidence. The OOHECP is expected to comply with the EMS Practice Act and the Rules and Regulations.

Excerpt from the Nebraska Emergency Medical Services Practice Act

38-1225. Patient data; confidentiality; immunity. (1) No patient data received or recorded by an emergency medical service or an out-of-hospital emergency care provider shall be divulged, made public, or released by an emergency medical service or an out-of-hospital emergency care provider, except that patient data may be released for purposes of treatment, payment, and other health care operations as defined and permitted under the federal Health Insurance Portability and Accountability Act of 1996, as such act existed on January 1, 2007, or as otherwise permitted by law. Such data shall be provided to the department for public health purposes pursuant to rules and regulations of the department. For purposes of this section, patient data means any data received or recorded as part of the records maintenance requirements of the Emergency Medical Services Practice Act.

Protocol Access

Each EMS service will make available a copy of these protocols at the service’s base of operations AND a copy in the response unit.

The protocols will either be hard paper copy or an electronic/digital copy.
INFECTION CONTROL

Universal Precautions Standard
In many calls the OOHECP will not have sufficient information about the patient and therefore is to follow a universal precautions standard with the use of body substance isolation (BSI) for all patient contact in which exposure to blood and/or body fluids may occur. For situations where an airborne pathogen (disease) is suspected the OOHECP should employ a N95 mask or higher form of respiratory protection.

Infection Control PPE
Personal Protective Equipment (PPE) items used to provide protection for the OOHECP should be readily available.

Hand Washing
After patient contact even if BSI was used each out-of-hospital care provider should thoroughly wash his/her hands. In the absence of soap and water an alcohol based gel or foam hand sanitizer should be used.

Service Infection Control Plan
The services PMD Approved Infection Control/ Sanitation Plan should be consulted for further guidance on infection control.

SAFETY

Vehicle Operations
The Emergency Vehicle Operator is to operate the emergency vehicle with Due Regard for The Safety of Others in all driving situations. Not every call for EMS nor does every patient require the use of lights and/or sirens during response and/or transport.

Safety and Scene Size Up
Every call should be assessed for potential safety hazards beginning from the moment the call is received and continually assessed until the end of the call.

Each responder should take actions that minimize his/her risks of injury. Utilization of personal protective equipment such as reflective vests, specialized rescue apparel, flotation devices and other equipment should be considered based on the incident type and the potential hazards.

When confronted with a hazardous and/or violent scene, the OOHECP should avoid entry into the scene and call for the appropriate resources.

INCIDENT COMMAND AND PRIMARY CARE PROVIDER
For each incident the service is expected to activate an Incident Command System (ICS) that is compliant with the National Incident Management System (NIMS).

For each patient encounter a Primary Care Provider will be indicated on the Patient Care Report (PCR)

COMMUNICATIONS AND DOCUMENTATION
To allow for regional or local variations, the provider may follow a locally established two-way electronic communications policy/procedure. General guidelines for radio communication include;

• Avoid the use of 10 codes or other codes
• Contact the dispatch agency and advise
  The call was received
  When at the incident location
  When at the Hospital (if applicable)
• Contact the destination hospital and advise
  Patient’s Age and Gender
  History of the Situation – Mechanism of Injury
  Treatments Provided
  ETA to Destination Hospital
  Patient’s chief complaint
  Level of Consciousness and Vital Signs
  Special Teams Requests (i.e. Trauma Team)
General Guidelines for Face to Face Patient Report
To allow for regional or local variations, and needs, the provider may follow locally adopted face to face report policy/procedure. In absence of a local policy or procedure when transferring care at the destination facility; or to a transport service; or when tiering with another service the OOHECP should give a face to face verbal report to a representative of the receiving entity. This verbal report should include the:

- Patient’s name
- Complaint(s)
- Mechanism of injury/nature of illness
- Pertinent medical history
- Medications
- Allergies
- Events leading the injury/illness
- Treatments
- Treatment given by EMS
- Results of treatments

At the conclusion of the report check for understand and ask if there are any questions.

Documentation
A Patient Care Report (PCR) will be completed for each patient transport, refusal, cancelled call or standby. The PCR will include at least the minimum data required by rule and regulation. Additionally, the PCR will be completed by the method, within the time frame, and submitted to the Department of Health and Human Services as defined in the Rules and Regulations.

CONSENT

General Consent Guidelines
Whenever possible the OOHECP should obtain at least verbal consent prior to treatment. The very nature of emergency medical care means that at times verbal consent will not be possible and implied consent concept must be employed. Services are to have a consent form available and providers are to obtain a signature from the patient or a patient representative whenever possible. If a signature cannot be obtained, documentation should reflect the reason why.

Minor Defined
An adult is an individual 19 years old or older or who is or has been married (Neb. Rev. Stat. §43-2101). Consent or refusal cannot be signed by a minor.
- A minor is an individual age 18 or under UNLESS the individual is married.
- A minor can be emancipated and given the rights of an adult.

Suicide Attempts or Threats to Harm Self
When the OOHECP is presented with a patient that has attempted or threatened suicide, the provider should contact law enforcement and request emergency protective custody.

GUIDELINES FOR REFUSAL
Any competent adult may refuse care and/or transportation. Also the patient may allow transport but refuse a specific medical procedure;
- To determine if the patient is competent the OOHECP will;
  - Determine the patient is oriented to person, place, events and approximate time
  - Determine the patient has not, in relation to the current situation, attempted or threatened to commit suicide or harm themself
  - A legal guardian or health care power of attorney may consent to or refuse care and/or transportation for an adult or minor patient.

The OOHECP must document refusal of care and/or transport. This documentation is to include;
- All patient data elements to complete the patient care report
- Patient assessment including vital signs and any care the patient allowed
- A signature from the patient or the patients representative acknowledging the refusal of care and/or transport

If the patient refuses to allow vital signs, treatment or provide information the patient care report should have a statement explaining what elements the patient refused.

The OOHECP should reassure the patient that EMS can be called back should the patient wish to seek medical attention at a later time.
DO NOT RESUSCITATE (DNR)

A DNR is a written order by a physician that a patient should not be resuscitated or have CPR performed. A DNR must be signed by a physician, dated, and have the patient's name.

When confronted with a patient with a DNR and the patient has no pulse, agonal breathing or no respirations the OOHECP may honor the DNR and not initiate resuscitation efforts.

When confronted with a patient with a DNR and the patient is nearing death the OOHECP may provide comfort care including supplemental oxygen and pain management. The patient may be transported at the request of the patient, patient's family, patient's physician or medical control.

When confronted with a patient with a DNR and the patient is NOT nearing death the OOHECP may provide the care as directed within these protocols.

ADVANCED DIRECTIVES

Advanced directives are documents that state the patient’s wishes should certain events occur. These documents may be in the form of a “Living Will”. Some of these documents maybe of such a length and complexity that the OOHECP may not be able to determine the wishes of the patient for the situation encountered. In these cases resuscitation efforts should be initiated unless the sign(s) of obvious death are present. If possible the document should be transported with the patient to the hospital.

FAMILY OBJECTIONS TO DNR – ADVANCED DIRECTIVES

In situation where the family objects to a DNR order or an Advanced Directive the OOHECP should initiate resuscitation efforts unless sign(s) of obvious death are present.

OOHECP ETHICAL OBJECTION

Any OOHECP with an ethical objection to following a DNR or Advanced Directive must inform his/her service prior to responding to these types of situations. These individuals should avoid response to these types of calls whenever possible.

MEDICAL DIRECTION AND PHYSICIAN ORDERS

Medical Direction Orders
The OOHECP may consult with on line medical direction and follow the orders given via this method. HOWEVER the OOHECP may only provide treatment within the practices and procedures for their level of licensure and the service’s level of licensure.

Patient Physician Orders
The OOHECP may consult on line with the patient’s physician and follow the orders given via this method. HOWEVER the OOHECP may only provide treatment within the practices and procedures for their level of licensure and the service’s level of licensure. The patient care record will state the name of the physician and the orders given.

Physician on Scene
The OOHECP may follow the orders of a physician on scene. HOWEVER the OOHECP may only provide treatment within the practices and procedures for their level of licensure and the service’s level of licensure. The patient care record will state the name of the physician and the orders given.

CONCEALED HANDGUN

The Nebraska Concealed Handgun Permit Act allows certain individuals to obtain a permit to carry a concealed handgun. The rules and regulations necessary to carry out the act are listed in Title 272 Chapter 21.

The OOHECP’s best action when confronted with a situation in which a patient has a concealed weapon is to have law enforcement take possession of the weapon. When this is not possible the weapon should be secured until it can be turned over to law enforcement.
Mandatory Reporting Certain Suspected Crimes
The OOHECP is directed under the law to report or cause a report to be made to law enforcement the following;

- Abuse and neglect of a child  Refer to Neb. Rev. Stat. § 28-711
- Abuse and neglect of a vulnerable adult  Refer to Neb. Rev. Stat. § 28-378
- Injuries as a result of a crime  Refer to Neb. Rev. Stat. § 28-902

Crime Scenes
The OOHECP will likely care for victim(s) of a crime and therefore should attempt to preserve evidence as best as possible while providing for patient care. Good documentation of the scene and patient’s injuries will also be of benefit in these cases.

COMPLETION OF THE CALL AND PREPARATION FOR NEXT CALL
After the call, the OOHECP should clean and disinfect equipment and the ambulance. The ambulance should be restocked and prepared for the next call.

Providers should consider the call and if needed call for CISM debriefing.
Routine Assessment and Care

Scene Size Up

- Assess Scene Safety – Use Standard/Universal Precautions – Determine # of Patients – Consider Additional Resources
- Determine Nature of Illness/ Mechanism of Trauma

Primary Assessment, Identify and Treat Immediate Life Threats

- If Mechanism of Trauma Indicates – Consider Manually Stabilizing C-Spine
- Form a General Impression
- Determine Level of Consciousness – Utilize AVPU Scale
- If Adult Patient Presents in Cardiac Arrest Start Compressions Unless Obvious Signs of Death are Present
- Assess Airway
  - Foreign Body Airway Obstruction – Clear Obstruction
  - Decreased Level of Consciousness (LOC) and Patient Can Not Maintain Own Airway (No Gag Reflex)
    - Trauma Suspected – Utilize Jaw Thrust Method to Open Airway
    - Medical Patients – Utilize Head Tilt, Chin Left Method to Open Airway
    - ALL LEVELS
      - Consider Oral Airway
    - EMT With Approval, AEMT, EMT-I and Paramedic – May Consider Advanced Non-Visualized Airway
    - EMT-I and Paramedic – May Consider Intubation
  - Decreased LOC and Patient Has Decreased Ability to Maintain Own Airway (Gag Reflex Intact)
    - ALL LEVELS
      - Monitor Closely – Consider One of Simple Airway Maneuvers Above
    - EMT and Above – May Consider Nasal Airway
    - Paramedic – May Consider RSI
  - Suction Oral Airway as Needed
  - Patient Can Maintain Own Airway and No Suction Needed – No Immediate Intervention

- Assess Breathing
  - Absent or Agonal – Begin Ventilations with BVM attached to Oxygen (Alternate May use Mouth to Mask)
  - Assess Quality of Breathing And Lung Sounds
    - Respiratory Rate 10 or Under OR 30 and Above
      - Consider Assisted Ventilations with BVM attached to Oxygen
    - Signs/Symptoms of Severe Respiratory Distress – Impending Respiratory Arrest
      - Consider Oxygen by Non-Rebreather Mask
      - Consider Assisted Ventilations with BVM attached to Oxygen
    - Signs/Symptoms of Moderate Respiratory Difficulty
      - Consider Oxygen by Non-Rebreather Mask
    - Signs/Symptoms of Mild Respiratory Difficulty
      - Consider Oxygen by Nasal Cannula
    - No Signs/Symptoms of Respiratory Difficulty
      - Consider Oxygen Appropriate to Nature of Illness/ Mechanism of Trauma
  - Special Note on Oxygen Administration
    - EMT, AEMT, EMT-I and Paramedic
      - Hyper Oxygenation Should be Avoided for Cardiac and Suspected CVA Patients
      - Utilize Oxygen Saturation and Adjust Oxygen Device and Flow to Maintain Saturation Between 94% and 99% BUT NOT HIGHER
• Assess Circulation
  o Absent Pulse – Begin CPR – Follow Cardiac Arrest Protocols
  o Assess For Bleeding
    ▪ Control External Bleeding with Direct Pressure, Pressure Bandage, Pressure Points and/or Tourniquet
  o Assess Quality of Pulse
    ▪ Weak – Rapid Pulse – Consider Treating for Shock
    ▪ Weak Slow Pulse
      • Assess Airway and Breathing Again and Treat As Appropriate
      • Assess for Possible Cause
    ▪ Irregular pulse
      • Assess for Possible Cause
      • Strength, Rate, And Rhythm Normal – No Immediate Intervention

• Assess Disability – Quick Neuro Exam
  o Obtain Glasgow Coma Scale
  o Utilize a Non-Invasive Stroke Scale to Rule Out Possible Stroke
  o Check Peripheral Circulation, Movement, and Sensory

Obtain Patient History
• Obtain a Chief Complaint
• Obtain SAMPLE History
• Consider Use of OPQRST Pneumonic
• Obtain Pertinent Negatives

Vital Signs
• EMR
  o Pulse
  o Respiratory Rate
  o Manual Blood Pressure
  o Temperature
• EMT, AEMT, EMT-I, Paramedic
  o Pulse
  o Respiratory Rate
  o Manual and Automatic Blood Pressure
  o Pulse Oximetry Reading
  o Non-Invasive CO Reading
  o Temperature

Additional Monitoring as Appropriate to Patient’s Illness/Injury
• EMT-I
  o EtCO2 including Capnography
  o Cardiac Monitoring Lead I,II, and III
• Paramedic
  o All Non-Invasive Monitoring Devices
  o Device to Monitor Airway/Ventilation Pressures
  o Invasive Monitoring if Already Established

Secondary Assessment
• Prepare for Patient Transport
• Expose Patient as Needed
• Medical – Systematic Assessment of Major Body Systems
• Trauma – Systematic Assessment for Injuries

Reassessment
• Repeat Assessment of Patient Based On Condition
• Monitor Vital Signs
• Identify Changes in Patient Condition – Adjust Treatment As Needed
### Scales and Scores

#### Glasgow Coma Score

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Adult/Child</th>
<th>Score</th>
<th>Infant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eye Opening</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spontaneous</td>
<td></td>
<td>4</td>
<td>Spontaneous</td>
</tr>
<tr>
<td>To Verbal</td>
<td></td>
<td>3</td>
<td>To Verbal</td>
</tr>
<tr>
<td>To Pain</td>
<td></td>
<td>2</td>
<td>To Pain</td>
</tr>
<tr>
<td>No Response</td>
<td></td>
<td>1</td>
<td>No Response</td>
</tr>
<tr>
<td><strong>Best Verbal Response</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oriented</td>
<td></td>
<td>5</td>
<td>Coos, Babbles</td>
</tr>
<tr>
<td>Disoriented/Confused</td>
<td></td>
<td>4</td>
<td>Irritable Cry</td>
</tr>
<tr>
<td>Inappropriate Words</td>
<td></td>
<td>3</td>
<td>Cries Only to Pain</td>
</tr>
<tr>
<td>Incomprehensible Moans/groans</td>
<td></td>
<td>2</td>
<td>Moans to Pain</td>
</tr>
<tr>
<td>No Response</td>
<td></td>
<td>1</td>
<td>No Response</td>
</tr>
<tr>
<td><strong>Best Motor Response</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obeys Commands</td>
<td></td>
<td>6</td>
<td>Spontaneous</td>
</tr>
<tr>
<td>Localizes Pain</td>
<td></td>
<td>5</td>
<td>Withdraws from Touch</td>
</tr>
<tr>
<td>Withdraws from Pain</td>
<td></td>
<td>4</td>
<td>Withdraws from Pain</td>
</tr>
<tr>
<td>Abnormal Flexion</td>
<td></td>
<td>3</td>
<td>Abnormal Flexion</td>
</tr>
<tr>
<td>Abnormal Extension</td>
<td></td>
<td>2</td>
<td>Abnormal Extension</td>
</tr>
<tr>
<td>No Response</td>
<td></td>
<td>1</td>
<td>No Response</td>
</tr>
</tbody>
</table>
AIRWAY – CHOKING – FOREIGN BODY AIRWAY OBSTRUCTION

**EMR and EMT**

**Complete Airway Obstruction**

- **Conscious**
  - Perform Abdominal Thrusts

- **Conscious Goes Unconscious**
  - Ease Patient into Supine Position

- **Unconscious**
  - Position Patient Supine Position

- Repeat Back Blows and/or Abdominal Thrusts Until Airway Cleared OR
  - Patient Becomes Unconscious then refer to Next Column

- Perform Chest Compressions

- Repeat Chest Compressions Until Airway Cleared

- Repeat Chest Compressions Until Airway Cleared

- If Airway Does Not Clear Request ALS Intercept

**Partial Airway Obstruction**

- Monitor Patient – Allow Patient to Cough, Be Alert for Complete Obstruction

**EMR Options If Approved**

- Initiate Transport

**EMT**

- Initiate Transport

**EMT Options If Approved**

- Do Not Insert Advanced Airway Unless Airway Cleared And Persistent Decreased Mental Status
- Focus on Clearing Obstructed Airway Prior to Any IV Access Attempts

**AEMT**

- Do Not Insert Advanced Airway Unless Airway Cleared And Persistent Decreased Mental Status
- Focus on Clearing Obstructed Airway Prior to Any IV Access Attempts

**EMT-I**

- Consider Direct Visualization with Laryngoscope and Removal with Forceps

**Paramedic**

- Consider Cricothyrotomy

---

Nebraska EMS Model Protocols
Adult Medical Protocols

2012 Edition
Page 18
AIRWAY – POST AIRWAY OBSTRUCTION

ALL LEVELS
• Routine Assessment and Care

EMR and EMT
• Consider Oral Airway
• Consider Assisted Ventilations for Inadequate Breathing
• Consider Oxygen
• Suction as Needed
• Positioning
  o Decreased Mental Status Position on Side
  o Alert Patient Allow Patient to Assume Position of Comfort
• Be Alert For Loss of Airway Due to Swelling
• Consider ALS

EMR Options If Approved
• Transport Patient in Position of Comfort If Safe To Do So

EMT
• Consider Nasal Airway
• Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
• Transport Patient in Position of Comfort If Safe To Do So

EMT Options and AEMT
• Consider Advanced Airway for Persistent Decreased Mental Status
• Consider IV Access

EMT-I
• Consider Advanced Airway for Persistent Decreased Mental Status
• Consider Bronchodilator for Wheezing
• Consider Cardiac Monitoring

Paramedic
• Consider RSI
Nebraska EMS Model Protocols
Adult Medical Protocols

ABDOMINAL PAIN

ALL LEVELS
- Routine Assessment and Care

EMR and EMT
- Consider Oxygen
- Consider OPQRST Pneumonic for Assessment of Pain
- Additional Assessment Concerns
  - Localize Pain to Abdominal Quadrant If Possible
  - Obtain Bowel and Bladder Habits
  - Female Patients – Obtain Menstrual Cycle History
  - Female Patients – Consider Ectopic Pregnancy
- Allow Patient to Assume a Position of Comfort
- Consider ALS

EMR Options If Approved
- Initiate Transport

EMT
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options
- Consider Advanced Airway for Persistent Decreased LOC
- Consider IV Access

AEMT
- Consider 2 – 4 mg Morphine
- Consider IO Access For Shock and IV Access Can Not Be Obtained

EMT-I
- Consider Cardiac Monitoring

Paramedic
- Consider Anti-Emetic
- Consider Pain Management
- For Suspected Renal Calculus (Kidney Stones)
  - Consider 15 – 30mg Ketorolac IV in addition to Opioid Class Pain Medication
ALL LEVELS

- Routine Assessment and Care

EMR

- Consider Oral Airway
- Consider Assisted Ventilations
- Consider Oxygen
- Assess Severity of Reaction

<table>
<thead>
<tr>
<th>Mild Reaction</th>
<th>Moderate Reaction</th>
<th>Severe Reaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Itching and/or Hives</td>
<td>Inching and/or Hives</td>
<td>Inching and/or Hives</td>
</tr>
<tr>
<td>No Respiratory Symptoms</td>
<td>Mild Respiratory Symptoms</td>
<td>Respiratory Distress</td>
</tr>
<tr>
<td></td>
<td>No Airway Compromise</td>
<td>Airway Compromise</td>
</tr>
</tbody>
</table>

- Consider ALS

EMR Options if Approved

- Consider 0.3 (Adult) Epinephrine Auto Injector For Moderate and Severe Reactions
  - May Repeat in 5 minutes if Symptoms Do Not Improve
- Initiate Transport

EMT

- Consider Nasal Airway
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Consider Assisting Patient with His/Her Prescribed Meter Dosed Inhaler
- Consider Assisting Patient with His/Her Prescribed Epinephrine Auto Injector
  - May Repeat in 5 minutes if Symptoms Do Not Improve
- Initiate Transport

EMT Options if Approved

- Consider 2.5mg Unit Dose Albuterol Nebulizer Treatment For Moderate and Severe Reactions
- Consider 0.3mg (Adult) Epinephrine Auto Injector For Moderate and Severe Reactions
  - May Repeat in 5 minutes if Symptoms Do Not Improve
- Consider IV Access

AEMT

- Consider 0.3mg Epinephrine 1:1000 IM or SubQ For Moderate and Severe Reactions
  - May Repeat in 5 minutes if Symptoms Do Not Improve
- Consider IO Access In Moderate and Severe Reactions When IV Access Fails

EMT-I

- May Consider One of the Other EMT-I Approved Bronchodilators
- May Consider 0.3 mg Epinephrine 1:10,000 IV/IO as Alternate to Epi 1:1000 IM or SubQ
- Consider 25 to 50mg Diphenhydramine IV/IO for Mild, Moderate, and Severe Reactions
- Consider 125 to 250 mg Methylprednisolone IV/IO for Moderate and Severe Reactions
- Initiate Cardiac Monitoring

Paramedic

- Consider RSI
- Consider Vasopressor Agent for Anaphylactic Shock with Hypotension
ALL LEVELS

- Routine Assessment and Care

**EMR and EMT**

- Consider Oxygen
- Assess for Medical or Traumatic Causes for Behavioral Changes
- Attempt Non-Confrontational Verbal Reassurance to Calm Patient – Give Clear Direction
- Combative Patients
  - Contact Law Enforcement
  - Consider Physically Restraining Patient **See Restraint Protocol**
  - Consider Use of Spit Hood
- Consider *Excited Delirium Syndrome*: patients are truly out of control and have a life-threatening medical emergency they will have some or all of the following sx: Paranoia, disorientation, hyperaggression, hallucination, tachycardia, increased strength, hyperthermia
- Consider ALS

**EMR Options if Approved**

- Initiate Transport

**EMT**

- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

**EMT Options If Approved**

- Consider Obtain Blood Glucose Reading

**AEMT and EMT-I**

- In Absence of Other Signs and Symptoms No Additional Protocol Items

**Paramedic**

- Consider IV/IO Access
- Consider Ketamine 4 mg/kg IM (Max 500 mg) for Excited Delirium
- Consider Lorazepam 0.5 mg to 1 mg IV/IO/MAD
  - or-
  - Midazolam 0.05 mb/kg IV/IO/MAD may repeat 1-2 mg every 10 minutes (no max)
- Consider 2.5 to 5mg Haloperidol IV/IO/IM for Combative Patients
- Consider Benzodiazepine for Anxiety
CARDIAC ARREST – DISCONTINUING BYSTANDER CPR AND WITHHOLDING CPR

The EMR or EMT may be presented with patients in which bystander CPR has been started or the patient presents with certain sign/symptoms of obvious death or a valid DNR.

Situations where bystander CPR has been initiated OR EMS arrives and no CPR is initiated:

**Un-Safe Scene**
- If the scene will place the OOHECP “at risk of serious injury or mortal peril”\(^1\) CPR may be discontinued or withheld

**ALL LEVELS**
- Confirm the Patient Has
  - No Pulse
  - No Respirations or Attempts at Respirations

- May Stop CPR or Not Initiate CPR IF the Patient Presents with **At Least One** of the Following:
  - Rigor mortis
  - Decapitation
  - Decomposition
  - Dependent lividity
  - Traumatic cardiopulmonary arrest with injuries incompatible with life; Examples
    - Massive blood loss
    - Displacement of brain tissue
    - Blunt Head/Chest Trauma
  - Valid DNR form
  - Physician authorization

- The following will be included in the Patient Care Report:
  - CPR was or was not being performed prior to EMS arrival; OR
  - If CPR was being performed and the time it was discontinued
  - The patient had No Respirations and No Pulse
  - The additional criteria (from above) use to discontinue or withhold CPR

---

\(^1\) Part 3: Ethics: 2010 AHA CPR and EEC Guild lines Withholding and Withdrawing CPR(Termination of Resuscitative Efforts) Related to Out-of Hospital Cardiac Arrest
CARDIAC ARREST – AED AND CPR

EMR – EMT – AEMT

EMR Options If Approved
- Place Patient On Back/CPR Board
- Initiate Transport
- Call for Intercept from Backup Service

EMT
- Place Patient On Back/CPR Board

EMT Options if Approved and AEMT, Paramedic
After First Cycle of CPR and Shock or No Shock
- Consider an Advanced Airway
- Consider Impedance Threshold Device
- Consider IV Access with Normal Saline or LR

AEMT
- Consider IO Access

EMT/AEMT/Paramedic

- Consider mechanical CPR
Adult Cardiac Arrest Algorithm—2015 Update

1. **Start CPR**
   - Give oxygen
   - Attach monitor/defibrillator

2. **Rhythm shockable?**
   - Yes
   - VF/pVT
     - CPR 2 min
       - IV/IO access

3. **Shock**
   - CPR 2 min
     - IV/IO access
     - Epinephrine every 3-5 min
     - Consider advanced airway, capnography

5. **Shock**
   - CPR 2 min
     - IV/IO access
     - Amiodarone
     - Treat reversible causes

7. **Shock**
   - CPR 2 min
     - IV/IO access
     - Epinephrine every 3-5 min
     - Consider advanced airway, capnography

8. **Rhythm shockable?**
   - Yes
   - CPR 2 min
   - Amiodarone
   - Treat reversible causes

10. **CPR 2 min**
    - IV/IO access
    - Epinephrine every 3-5 min
    - Consider advanced airway, capnography

11. **CPR 2 min**
    - IV/IO access
    - Treat reversible causes

12. **Rhythm shockable?**
    - No
    - Go to 5 or 7
    - Yes
    - If no signs of return of spontaneous circulation (ROSC), go to 10 or 11
    - If ROSC, go to Post-Cardiac Arrest Care

**CPR Quality**
- Push hard (at least 2 inches [5 cm]) and fast (100-120/min) and allow complete chest recoil.
- Minimize interruptions in compressions.
- Avoid excessive ventilation.
- Rotate compressor every 2 minutes, or sooner if fatigued.
- If no advanced airway, 30:2 compression-ventilation ratio.
- Quantitative waveform capnography
  - If P<sub>ETCO</sub> < 10 mm Hg, attempt to improve CPR quality.
- Intra-arterial pressure
  - If relaxation phase (diastolic) pressure < 20 mm Hg, attempt to improve CPR quality.

**Shock Energy for Defibrillation**
- **Biphasic**: Manufacturer recommendation (eg, initial dose of 120-200 J); if unknown, use maximum available. Second and subsequent doses should be equivalent, and higher doses may be considered.
- **Monophasic**: 360 J

**Drug Therapy**
- **Epinephrine IV/IO dose**: 1 mg every 3-5 minutes
- **Amiodarone IV/IO dose**: First dose: 360 mg bolus. Second dose: 150 mg.

**Advanced Airway**
- Endotracheal intubation or supraglottic advanced airway
- Waveform capnography or capnometry to confirm and monitor ET tube placement
- Once advanced airway in place, give 1 breath every 6 seconds (10 breaths/min) with continuous chest compressions

**Return of Spontaneous Circulation (ROSC)**
- Pulse and blood pressure
- Abrupt sustained increase in P<sub>ETCO</sub> (typically >40 mm Hg)
- Spontaneous arterial pressure waves with intra-arterial monitoring

**Reversible Causes**
- Hypovolemia
- Hypoxia
- Hydrogen ion (acidosis)
- Hypo-/hyperkalemia
- Hypothermia
- Tension pneumothorax
- Tamponade, cardiac
- Toxins
- Thrombosis, pulmonary
- Thrombosis, coronary
CARDIAC ARREST – SPECIAL SITUATIONS

ALL LEVELS
- Follow Cardiac Arrest Algorithm With These Special Considerations

CARDIAC ARREST OF THE OBVIOUS PREGNANT PATIENT
EMR, EMT, AEMT
- Place Patient On Backboard and Tilt Patient On Backboard Approximately 30 Degrees to the Patient’s Left

EMT-I and Paramedic
- Alternative to Tilting Patient on Backboard Manually Displace Gravid Uterus to the Patient’s Left

CARDIAC ARREST IN SUSPECTED HYPOMAGNESEMIA
Paramedic
- Identify If Patient Has Torsades de Points Cardiac Rhythm and Consider 1-2 grams Magnesium Sulfate IV/IO

CARDIAC ARREST IN SUSPECTED HYPERKALEMIA
Paramedic
- Identify If Patient Has Tall Spiked T Waves on 12 Lead EKG Or Diagnostic Mode Three Lead
- Consider
  - 15mg Albuterol Nebulized and Ventilated into Patient
  - OR 5 to 10ml of 10% Calcium Chloride IV/IO Over 2-5 Minutes
  - OR 15 to 30ml 10% Calcium Gluconate IV/IO Over 2-5 Minutes

CARDIAC ARREST IN KNOWN TRICYCLIC ANTIDEPRESSANT OVERDOSE
Paramedic
- Confirm Patient Overdosed on Tricyclic Antidepressant
- Consider 50mEq 8.4% Sodium Bicarbonate IV/IO

CARDIAC ARREST IN KNOWN OR HIGH SUSPICION OF CYANIDE POISONING
Paramedic
- Consider 5g diluted in 200ml Hydroxocobalamin IV/IO Infused over 15 minutes

CARDIAC ARREST IN SUSPECTED NARCOTIC – BENZODIAZEPINE – BETA BLOCKER – CALCIUM CHANNEL BLOCKER OVERDOSE
ALL LEVELS
- No Additional Considerations – Antidotes Are Contra-Indicated in Cardiac Arrest

CARDIAC ARREST IN HYPOTHERMIA–DROWNING
EMR and EMT
- Remove Wet Clothing and Passively Warm Patient

EMT IV Options If Approved
- Use Warmed IV Fluids

EMT-I and Paramedic
- May Use Epinephrine in Severe Hypothermia (<87°F)
- Avoid Amiodarone and Lidocaine in Sever Hypothermia (<87°F)

CARDIAC ARREST IN TRAUMA
ALL LEVELS
- If Resuscitation Attempted Follow Appropriate Cardiac Arrest Protocol
ALL LEVELS
- Routine Assessment and Care

EMR and EMT
- Keep AED Attached to Patient
- Assist Ventilations
- Administer Oxygen
- If Gag Reflex Returns Removal of Oral Airway
- Suction as Needed
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94 to 99%
- Consider Obtaining 12 Lead EKG
- Initiate Transport

EMT Options If Approved
- Consider Advance Airway If Not Already In Place During Cardiac Arrest
- Consider Obtain a Blood Glucose Reading
- Consider IV Access

AEMT
- Consider IV or IO Access

EMT-I
- Consider Intubation If Not Already In Place During Cardiac Arrest
- Initiate Cardiac Monitoring
- Treat Cardiac Dysrhythmias
- Adjust Ventilations (Rate, Tidal Volume, FiO2) To Maintain These Goals
  - O2 Saturation 94 to 99%
  - ETCO2 35 to 45 mmHg

Paramedic
- If Patient Intubated
  - Consider Sedative Agent OR
  - Consider Sedative Agent First Then a Non-Depolarizing Paralytic
- Consider Inducing Hypothermia If Patient Meet Criteria
  - ** See Cardiac Arrest Return of Spontaneous Circulation Induced Hypothermia
- Consider Vasopressor Agent for Sustained Hypotension
EMR – EMT – AEMT – EMT-I
- Not Approved for this Protocol

Paramedic
- DO NOT Attempt Hypothermia Unless The Destination Facility Has Capabilities to Maintain/Continue This Process
- For this protocol to be in effect the following criteria must be met.

### Destination Facility and ALS Service Criteria

<table>
<thead>
<tr>
<th>Destination Facility Criteria</th>
<th>ALS Service Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policies and Procedures For Management of Inducing and Maintaining Hypothermia After ROSC</td>
<td>PMD Authorization For This Protocol and RSI Protocol</td>
</tr>
</tbody>
</table>
| Equipment and Supplies To Maintain Hypothermia | Ability To
- Maintain Two 1,000ml IV Bags of NS or LR at 34° to 36° F
- Monitor Body Temperature |
| Facility is Aware and Approves of Service To Induce Hypothermia After ROSC | Medications Availability
- Sedative Agent(s)
- Non-Depolarizing Paralytic(s)
- Vasopressor Agent |

### Patient Criteria

<table>
<thead>
<tr>
<th>Inclusion Criteria</th>
<th>Exclusion Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCS 8 or Less</td>
<td>GCS Over 8</td>
</tr>
<tr>
<td>Age 16 and Above</td>
<td>Under Age 16</td>
</tr>
</tbody>
</table>
| Cardiac Arrest Due To Suspected Cardiac Problem | Cardiac Arrest Due to:
- Trauma
- Toxins/Poisonings
- Status Asthmaticus
- Status Epilepticus |
| Advanced Airway In Place and Confirmed Patent | Patient Obviously Pregnant or Confirmed Pregnant |
| At Least One IV/IO Access Line - Preferably Two | Existing DNR or Terminal Illness |
| EtCO2 of 20mmHg or More | Vegetative or Comatose Patient Prior to Cardiac Arrest |
| Initial Body Temp of 93°F (34°C) or Greater | Anti-Coagulated Patient |

- The Paramedic will Monitor VS Including
  - Temperature
  - SaO2 and EtCO2
  - Cardiac Rhythm
- Verify Inclusion Criteria are Meet and No Exclusion Criteria are Present
- Administer Cold IV Fluid in 500ml Boluses until Patient Temp Reaches 93 to 94°F OR Maximum of 2000ml
- Apply Cold Packs to Groin and Axillary Regions
- Prevent Shivering
  - Administer Sedative Agent First Then Non-Depolarizing Paralytic Agent
- Treat Hypotension with Vasopressor Agent
- Treatment Goals – Adjust Care As Needed
  - Prevent Shivering
  - Body Temp of 93°F But NOT Colder than 93°F
  - O2 Saturation 94% to 99% But Not Above 99%
  - EtCO2 of 35 to 45 mmHg
  - Systolic BP 80 to 100
ALL LEVELS
- Routine Assessment

EMR, EMT and AEMT
- Consider Termination Resuscitation In Accordance With The Following Algorithm
- Consider Consultation with Medical Control or PMD

EMT-I and Paramedic
- Consider Termination Resuscitation In Accordance With The Following Algorithm

Paramedic
- As An Option to Above when ALL Criteria Are Not Met the Paramedic May Consider the Following
  - Patient Presents or Develops Asystole in Three Leads
  - 1mg Epinephrine Administered
  - Advanced Airway Placed – Endotracheal Or Advanced Non-Visualized Airway
  - Consider Termination of Resuscitation
Adult Tachycardia (With Pulse)

1. Assess appropriateness for clinical condition. Heart rate typically ≥150/min if tachyarrhythmia.

2. Identify and treat underlying cause
   - Maintain patent airway; assist breathing as necessary
   - Oxygen (if hypoxemic)
   - Cardiac monitor to identify rhythm; monitor blood pressure and oximetry

3. Persistent tachyarrhythmia causing:
   - Hypotension?
   - Acutely altered mental status?
   - Signs of shock?
   - Ischemic chest discomfort?
   - Acute heart failure?

4. Synchronized cardioversion
   - Consider sedation
   - If regular narrow complex, consider adenosine

5. Wide QRS? ≥0.12 second
   - No
   - Yes

6. IV access and 12-lead ECG if available
   - Consider adenosine only if regular and monomorphic
   - Consider antiarrhythmic infusion
   - Consider expert consultation

Doses/Details

- **Synchronized Cardioversion**
  - Initial recommended doses:
    - Narrow regular: 50-100 J
    - Narrow irregular: 120-200 J biphasic or 200 J monophasic
    - Wide regular: 100 J
    - Wide irregular: defibrillation dose (NOT synchronized)

- **Adenosine IV Dose**:
  - First dose: 6 mg rapid IV push; follow with NS flush.
  - Second dose: 12 mg if required.

- **Antiarrhythmic Infusions for Stable Wide-QRS Tachycardia**
  - **Procainamide IV Dose**:
    - 20-50 mg/min until arrhythmia suppressed, hypotension ensues, QRS duration increases >50%, or maximum dose 17 mg/kg given.
    - Maintenance infusion: 1-4 mg/min. Avoid if prolonged QT or CHF.
  - **Amiodarone IV Dose**:
    - First dose: 150 mg over 10 minutes. Repeat as needed if VT recurs.
    - Follow by maintenance infusion of 1 mg/min for first 6 hours.
  - **Sotalol IV Dose**:
    - 100 mg (1.5 mg/kg) over 5 minutes. Avoid if prolonged QT.

★ **Paramedic Only Medication**
- Procainamide
- Amiodarone Infusion
- Sotalol

◆ **EMT-I Must Have Completed ACLS to Perform**
- Synchronized Cardioversion

© 2010 American Heart Association
Adult Bradycardia
(With Pulse)

1. Assess appropriateness for clinical condition. Heart rate typically <50/min if bradyarrhythmia.

2. Identify and treat underlying cause
- Maintain patent airway; assist breathing as necessary
- Oxygen (if hypoxemic)
- Cardiac monitor to identify rhythm; monitor blood pressure and oximetry
- IV access
- 12-Lead ECG if available; don’t delay therapy

3. Persistent bradyarrhythmia causing:
- Hypotension?
- Acutely altered mental status?
- Signs of shock?
- Ischemic chest discomfort?
- Acute heart failure?

4. Monitor and observe
- No
- Yes

5. Atropine
- If atropine ineffective:
  - Transcutaneous pacing
  - Dopamine infusion
  - Epinephrine infusion

6. Consider:
- Expert consultation
- Transvenous pacing

Doses/Details
- **Atropine IV Dose:**
  - First dose: 0.5 mg bolus
  - Repeat every 3-5 minutes
  - Maximum: 3 mg

- **Dopamine IV Infusion:**
  - 2-10 mcg/kg per minute

- **Epinephrine IV Infusion:**
  - 2-10 mcg per minute

**Paramedic Only Medication/Skill**
- Dopamine Infusion
- Epinephrine Infusion
CARDIAC 12 LEAD FINDINGS AND SPECIAL TREATMENTS

TALL SPIKED T WAVES

Paramedic
- Consider Hyperkalemia
  - Consider Continuous Albuterol Nebulizer Treatments

ST ELEVATION

Paramedic
- Consider STEMI Event **See ACS Protocol
  - ST Elevation In Contiguous Leads
  - No Bundle Branch Block (Unless Paramedic Has a Comparison EKG)
  - Increased Suspicion Of STEMI If Reciprocal to ST Elevation – ST Depression Presents

Lead to Cardiac Wall Chart

<table>
<thead>
<tr>
<th>Lead I</th>
<th>Lead II</th>
<th>Lead III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lateral Wall</td>
<td>aVL</td>
<td>Inferior</td>
</tr>
<tr>
<td>V1 Septal Wall</td>
<td>V2 Septal Wall</td>
<td>V3 Anterior Wall</td>
</tr>
<tr>
<td>V4 Anterior Wall</td>
<td>V5 Lateral Wall</td>
<td>V6 Lateral Wall</td>
</tr>
</tbody>
</table>

- If Patient Presents with ST Elevation in Inferior Leads
  - Consider Use of Right Sided EKG To Determine Right Ventricular Involvement
  - Do Not Delay Transport
- If Patient Presents with ST Elevation in Inferior Leads With T Wave Inversion in V1 and V2
  - Consider Moving V4, 5 And 6 To Position V 7, 8, and 9 To Determine Posterior Involvement
  - Do Not Delay Transport

AXIS DEVIATION

Paramedic
- Extreme Right Axis Deviation – Lead I and aVF Predominantly Negative
  - Be Alert for Ventricular Ectopy Including V-Tach
- Right Axis Deviation – Lead I Predominantly Negative and aVF Predominantly Positive
  - Consider Right Ventricular Hypertrophy
  - Consider Dextrocardia
- Left Axis Deviation – Lead I Predominantly Positive, aVF Predominantly Negative, and Lead II Predominantly Negative
  - Consider Left Sided Heart Hypertrophy
  - Inferior Wall MI
ALL LEVELS
Obtain 12-lead ECG with initial vital signs – GOAL – First medical contact (FMC) to ECG ≤ 10 min, scene time: ≤ 15 minutes *To provide early identification and pre-hospital arrival notification for suspected myocardial infarction or STEMI.

1. Chest pain, pressure, tightness or persistent discomfort above the waist in patients ≥ 35 years of age
2. “heartburn” or epigastric pain
3. Complaints of “heart racing” (HR >150 or irregular and >120) or “heart too slow” (HR < 50 and symptomatic)
4. A syncope or episode, severe weakness, or unexplained fatigue
5. New onset stroke symptoms (< 24 hours old)
6. Difficulty breathing or shortness of breath (with no obvious non-cardiac cause)
7. ROSC (return of spontaneous circulation) post cardiac arrest
8. Recent cocaine, stimulant and/or other illicit drug use (patients of any age)
9. If initial ECG is not diagnostic but suspicion is high for MI and symptoms persist, obtain serial ECG’s at 5-10 minute intervals

EMR
- Transmit 12-lead ECG to facility for interpretation or present to ALS for interpretation
- Alert hospital staff or qualified ALS personnel if ECG monitor interpretive statement infers “acute myocardial infarction” and patient has signs & symptoms suspect of acute myocardial infarction including chest discomfort and symptoms listed above
- Administer O2 based on assessment findings
- Obtain systolic/diastolic blood pressure (BP) in both arms
- Administer chewable aspirin 324 mg by mouth or rectally

EMT – AEMT – EMT-I
- Evaluate if erectile dysfunction or pulmonary hypertension medications taken in the past 24 hours including: sildenafil (Viagra, Revatio), vardenafil (Levitra, Staxyn), or avanafil (Stendra), tadalafil (Cialis, Adcirca). Hold nitrates for 48 hours following the last dose
- Administer nitroglycerin sublingual 0.4 mg every 5 minutes up to 3 doses if chest discomfort present and SBP > 100. Check BP prior to each administering dose. Hold if SBP < 100 mm HG (note: BLS providers are only able to assist patients with self-administration of their own prescribed sublingual nitroglycerin)
- Request ALS intercept per local protocol
- Establish large bore IV (upper extremity preferred) access per protocol – normal saline IV. Establish a 2nd IV line as time allows.

Paramedic
- 12-lead ECG trained to recognize ST segment elevation of ≥ 1 mm in 2 contiguous leads or confirmed interpretation of STEMI transmitted and reviewed by a physician, nurse practitioner or physician assistant
- ECG monitor interpretive statement infers “acute myocardial infarction” with signs & symptoms suspect of acute myocardial infarction including chest discomfort and symptoms listed above
- ACI-TIPI score of 75 or greater
- Clopidogrel (Plavix) 300 mg by mouth if transferring for PPCI after confirmation by PCI receiving facility and local medical control per protocol
- Establish a nitroglycerine IV drip (if appropriate) if chest discomfort is unrelieved. Delivered via pump only. Initiate @ 5 mcg/min & titrate in increments of 5 mcg/min to maintain a systolic BP of 100 mm/HG or greater. Hold nitrates as indicated
- Administer analgesia as needed for discomfort per protocol

*Based on Mission: Lifeline and the American Heart Association
ALL LEVELS

- If FMC to percutaneous coronary intervention (PCI) can be achieved in less than 90 minutes, arrange for ALS (air or ground) intercept and transport directly to PCI capable receiving hospital for primary PCI
- If FMC to PCI is greater than 90 minutes, transport to the closest appropriate non-PCI capable referring hospital for possible fibrinolytic therapy and urgent transfer to a PCI capable receiving facility for reperfusion
- Activate STEMI alert, transmit 12-lead ECG as able, provide report to receiving hospital

Diversion Criteria

If patient demonstrates instability and/or has any one of the following diversion criteria requiring ED evaluation by a practitioner proceed to closest appropriate hospital:

- Possible need of head CT or neurological intervention / confusion
- Emergent intubation immediate circulatory stabilization
- Chest trauma or MVC victims
- Consider DNR status
- Consider scoring with Sgarbossa criteria

Documentation Reminders

- Provide copy of eNARSIS report with verbal report to registered nurse or physician
- If STEMI/AMI alert is requested of the receiving hospital, document the time
- Provide a printed or electronic copy of pre-hospital 12-lead ECG with report to registered nurse or physician

Patient Care Goals

- Provide early identification of patients and early notification of the hospital for suspected AMI or STEMI
- Utilize an assessment tool that may reduce the time from onset of symptoms to receiving definitive cardiac interventions at the receiving hospital
- Prepare patient for immediate transport with indicated medications administered en route to hospital. Attempt to limit the scene time to the shortest time possible

American Heart Association Mission: Lifeline EMS Best Practice Goals

- All patients with non-traumatic chest discomfort, ≥ 35 years of age, treated and transported by EMS receive a pre-hospital 12-lead electrocardiogram
- All STEMI patients transported directly to a STEMI receiving center, receive a first (pre-hospital) medical contact to PCI time ≤ 90 minutes directly or ≤ 120 minutes for interfacility hospital transfers
- All lytic eligible STEMI patients treated and transported to a referring hospital for fibrinolytic therapy receive a door to needle time ≤ 30 minutes

American Heart Association Mission: Lifeline EMS Reporting Measures

- Time from symptom onset to EMS dispatch
- Time from dispatch to EMS vehicle arrival at receiving or referring hospital door
- Number of suspected AMI/STEMI patients treated and transported by ems who receive a 12-lead ECG
- Number of STEMI patients treated and transported to a referring hospital for potential reperfusion by fibrinolysis therapy who receive a fibrinolytic checklist screening en route to identify possible contraindications
- Number of STEMI patients who received a pre-hospital ECG, recognized STEMI, and called for a STEMI alert at the receiving or referring hospital prior to arrival

*Based on Mission: Lifeline and the American Heart Association
CHEST PAIN – DISCOMFORT

ALL LEVELS
- Routine Assessment and Care

EMR
- Consider OPQRST Pneumonic for Assessment of Pain
- Administer Oxygen
  - Minor Distress 2-6 LPM Nasal Cannula
  - Moderate to Severe Distress 10 – 15 LPM Non-Rebreather Mask
- Consider ALS

EMR Options if Approved
- Consider 4 each 81mg (Total 324mg) Aspirin Chewed and Swallowed
- Initiate Transport

EMT
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94 to 99% O2 Saturation
- Consider 4 each 81mg (Total 324mg) Aspirin Chewed and Swallowed
- Consider Obtaining 12 Lead EKG And Transmit/Handoff for Interpretation
- Consider Assisting Patient with His/Her Own Prescribed Nitroglycerin
  - BP Must Be 110 Systolic or Greater
  - May Repeat Every 5 Minutes To Total Of 3 Doses As Long As BP Remains Above 110 Systolic
- Initiate Transport

EMT Options if Approved
- Consider IV Access

AEMT
- Consider 0.4mg Nitroglycerin SL
  - BP Must Be 110 Systolic or Greater
  - May Repeat Every 5 Minutes To Total Of 3 Doses As Long As BP Remains Above 110 Systolic
- Consider Morphine 2 – 4mg IV

EMT-I
- Initiate Cardiac Monitoring
- Manage Dysrhythmia ** See Appropriate Protocol

Paramedic
- Consider 12 Lead Interpretation
- Consider 0.4 mg Nitroglycerin SL
  - May Repeat As Needed For Continued Chest Pain If BP Remains Greater Than 100 Systolic
  - After 1st Dose May Consider Nitroglycerin in Conjunction with Pain Management
- Consider Pain Management
- Consider Anti-Emetic
  - **DO NOT USE** Droperidol (Inapsine)
  - Avoid Phenothiazine Class Anti-Emetics Unless No Other Option is Available, Then Use With Precaution in Inferior Wall AMI or Right Ventricular AMI as Identified on 12 Lead
Nebraska EMS Model Protocols
Adult Medical Protocols

CHEST PAIN – DISCOMFORT – ACUTE CORONARY SYNDROME

**EMT – AEMT – EMT-I Actions**
- Obtain 12 Lead ECG
- Transmit 12 Lead For Interpretation
- OR Present to ALS For Interpretation

**Paramedic Actions**
- Obtain 12 Lead ECG
- Review 12 Lead ECG For STEMI

**Patient's Presentation and 12 Lead ECG Consistent with STEMI (See Below #1 & 2)**
- OR
  - ACI-TIPI Score of Greater Than 75

**YES**

**Follow Chest Pain-Discomfort Protocol**
- Patient Should Be Transported to Closest Appropriate Facility

**NO**

**Does The Patient Have Any of The Following?**
- Contraindications to Thrombolysis
- Severe CHF
- Hypotension

**YES**

**Follow Appropriate Protocol**
- Chest Pain-Discomfort
- Congestive Heart Failure
- Shock Protocol
- Patient Should Be Transported to Closest Appropriate Facility

**NO**

**From the Time of Patient Contact Can the Patient Be Move with ALS Care to a PCI Facility within 120 Minutes**

**YES**

**Transport Patient to a Percutaneous Coronary Intervention Facility**

**NO**

**From the Time of Patient Contact Can the Patient Be Move with ALS Care to a PCI Facility within 120 Minutes**

**YES**

**Additional Guide Lines**

1. **Acute Coronary Syndrome (ACS)**
   - ACS is defined as patients presenting with angina or angina equivalents such as chest, epigastric, arm, or jaw pain and may be associated with diaphoresis, nausea and shortness of breath/difficulty breathing.

2. **12 Lead ECG Inclusion Criteria for STEMI**
   - Anterior – Inferior – Lateral MI: With ST Elevation Greater Than 1mm in Two Or More Contiguous Leads and QRS Complex 0.12 or Narrower
   - Posterior MI – ST Depression Greater Than 1mm in V1 and V2 With An R/S Ratio of Greater Than Or Equal To One AND QRS Complex 0.12 or Narrower
   - New Left Bundle Branch Block: If Patient Has In His/Her Possession a Previous ECG With Narrow QRS Complex To Demonstrate The Current Wide QRS Complex Is New Onset

3. **Notify PCI Facility As Soon As Determination is Made**

4. **If Patient Is To Be Flown: Move Patient To Land Zone/ Staging Area And Manage Until Intercept**
CONGESTIVE HEART FAILURE

ALL LEVELS
- Routine Assessment and Care

EMR
- Administer Oxygen
  - Minor Distress 2-6 LPM Nasal Cannula
  - Moderate to Severe Distress 10 – 15 LPM Non-Rebreather Mask
- Consider Assisted Ventilations
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94 to 99% O2 Saturation
- Initiate Transport

EMT Options if Approved
- Consider IV Access KVO/TKO Rate
- Consider CPAP **See Chart Below for Indications and Contra-Indications

AEMT
- Consider 2.5mg Albuterol Neb Treatment

EMT-I
- Initiate Cardiac Monitoring
- Consider EtCO2 Monitoring
- Manage Dysrhythmia ** See Appropriate Protocol
- Consider 0.4mg Nitroglycerin SL If Systolic BP at Least 100
- May Consider One of the Other Nebulized Bronchodilators

Paramedic
- Consider 12 Lead Interpretation
- Consider CPAP
- Consider Minimal Sedation with Benzodiazepine Class Sedative
- Consider Nitroglycerin **Must have Patent IV/IO Access
  - Systolic BP 180 and Greater  Consider 3 each – 0.4mg Nitroglycerin SL
  - Systolic BP 140 to 180  Consider 2 each – 0.4mg Nitroglycerin SL
  - Systolic BP 100 to 140  Consider 1 each – 0.4mg Nitroglycerin SL
- Consider Vasopressor Agent for Pulmonary Edema and Hypotension
- Consider RSI

<table>
<thead>
<tr>
<th>CPAP</th>
<th>Indications</th>
<th>Contra-Indications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Able To Maintain Own Airway</td>
<td></td>
<td>Patient Under Age 18</td>
</tr>
<tr>
<td>Patient Able to Follow At Least Simple Commands</td>
<td></td>
<td>Patient Unable To Maintain Own Airway</td>
</tr>
<tr>
<td>Patient Complains of Shortness of Breath-Difficulty Breathing</td>
<td></td>
<td>Patient Unable to Follow Simple Commands – Decreased LOC</td>
</tr>
<tr>
<td>Systolic BP At Least 100</td>
<td></td>
<td>Patient Vomiting</td>
</tr>
<tr>
<td>Decreased /Abnormal Lung Sounds</td>
<td></td>
<td>Systolic BP Under 90</td>
</tr>
<tr>
<td>Patient Has Signs Of Respiratory Distress (Not All Must Be Present)</td>
<td></td>
<td>Upper Airway Partial Obstructions (Croup-Epiglottis-Upper Airway Edema-Partial FBAO)</td>
</tr>
<tr>
<td>o Able to Speak Only Short Phrases</td>
<td></td>
<td>Shortness of Breath-Difficulty Breathing With a Suspected/Known Cause of</td>
</tr>
<tr>
<td>o Retractions</td>
<td></td>
<td>o Pneumothorax</td>
</tr>
<tr>
<td>o Tripod Positioning</td>
<td></td>
<td>o Trauma</td>
</tr>
<tr>
<td>Known or Suspected Cause Of Respiratory Distress of</td>
<td></td>
<td>o Respiratory Infection Without Pulmonary Edema</td>
</tr>
<tr>
<td>o Pulmonary Edema – Congestive Heart Failure</td>
<td></td>
<td>Facial Deformities In Which a Mask Seal Can Not Be Obtained</td>
</tr>
<tr>
<td>o Exacerbation of COPD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o Exacerbations of Asthma Not Relieved with Bronchodilator Medication</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CPR INDUCED CONSCIOUSNESS SEDATION PROTOCOL

ALL LEVELS
- Routine Assessment and Care
- Assess for signs of consciousness: Spontaneous eye opening, purposeful movement, verbal response to include moaning

EMR, EMT, AEMT
- Continue CPR
- If tiering is available, requires ALS intercept

Paramedic
- Administer Ketamine Bolus
  IV: 0.5-1.0 mg/kg
  IM: 2-3 mg/kg
- Consider co-administration of midazolam bolus*
  IV: 1 mg
  IM: 2 mg
- May repeat Ketamine bolus after 5-10 minutes if needed for continued sedation or if needed for continued sedation start infusion
  - IV bolus dose: 0.5-1.0 mg/kg OR IM: 2-3 mg/kg
  - IV infusion dose: 2-7 mcg/kg/minute

*Co-administration of benzodiazepines with ketamine has been suggested to decrease myocardial oxygen demand
CVA – STROKE

ALL LEVELS
• Routine Assessment and Care

EMR
• Consider Oxygen
• Utilize A Non-Invasive Stroke Scale
• Obtain Onset Time
• Consider ALS

EMR Options if Approved
• Initiate Transport

EMT
• Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94 to 99% O2 Saturation
• Initiate Transport

EMT Options if Approved and AEMT
• Consider IV Access
• Obtain Blood Glucose Reading – If Abnormal Go to Appropriate Protocol
• Consider Advanced Airway for Persistent Decrease Mental Status

EMT-I
• Initiate Cardiac Monitoring
• Manage Dysrhythmia ** See Appropriate Protocol
• Consider Intubation for Persistent Decrease Mental Status

Paramedic
• Consider 12 Lead
### Cincinnati Stroke Scale

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Considered Positive</th>
<th>If any single assessment elements is positive there is a 72% chance the patient is having a stroke</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Facial Droop</strong> – Ask patient to smile/frown – Observe for both sides of face working equally</td>
<td>Face appears unequal or patient’s smile/frown has one side unequal to the other</td>
<td></td>
</tr>
<tr>
<td><strong>Arm Drift</strong> – Ask patient to close eyes and hold both arms out straight in front of them for 10 seconds – Observe for arm drift</td>
<td>One arm flaccid or one arm drifts down before the other</td>
<td></td>
</tr>
<tr>
<td><strong>Speech</strong> – Have patient say “A rolling stone gathers no moss” or “The sky is blue in Cincinnati” – Listen for speech abnormalities</td>
<td>Patient unable to speak or patient’s speech slurred or patient answers with inappropriate words</td>
<td></td>
</tr>
</tbody>
</table>

### LA Stroke Scale

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Yes</th>
<th>Unknown</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age &lt; 45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No History of Seizures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Symptom &lt; 24 Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Wheelchair-bound or Bedridden at baseline</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glucose between 60 – 400</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assess symmetry in facial movement, hand grip, arm strength</th>
<th>Right</th>
<th>Left</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facial smile/grimace</td>
<td>Normal</td>
<td>Droop</td>
</tr>
<tr>
<td>Grip</td>
<td>Normal</td>
<td>Weak – None</td>
</tr>
<tr>
<td>Arm Strength</td>
<td>Normal</td>
<td>Drifts – Falls</td>
</tr>
</tbody>
</table>

Based on Exam Patient has Only Unilateral (one sided) Weakness | Yes | No
CVA / Suspected Stroke

For further information on current recommendations regarding stroke care, including the rationale to treat or not treat hypertension in the setting of possible stroke, see the current version of “Guidelines for the Early Management of Patients With Acute Ischemic Stroke: A Guideline for Healthcare Professionals From the American Heart Association/American Stroke Association.”

Available at: http://stroke.ahajournals.org/content/early/2013/01/31/STR.0b013e318284056a

### Table: CVA / Suspected Stroke

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Instruction</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facial Palsy</td>
<td>Ask patient to show their teeth (smile)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Absent (symmetrical movement)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Mild (right asymmetrical)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Moderate to Severe (completely asymmetrical)</td>
<td>2</td>
</tr>
<tr>
<td>Arm Motor Function</td>
<td>Extending the arm of the patient 90° (if sitting) or 45° (if supine)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Normal to Mild (limb upheld more than 10 seconds)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Moderate (limb upheld less than 10 seconds)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Severe (patient unable to raise arm against gravity)</td>
<td>2</td>
</tr>
<tr>
<td>Leg Motor Function</td>
<td>Extending the leg of the patient 30° (in supine)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Normal to Mild (limb upheld more than 5 seconds)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Moderate (limb upheld less than 5 seconds)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Severe (patient unable to raise leg against gravity)</td>
<td>2</td>
</tr>
<tr>
<td>Head &amp; Gaze Deviation</td>
<td>Observe eyes and head deviation to one side</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Absent (eye movements to both sides were possible and no head deviation was observed)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Present (eyes and head deviation to one side was observed)</td>
<td>1</td>
</tr>
<tr>
<td>Aphasia (R side)</td>
<td>Difficulty understanding spoken or written words. Ask patient to follow two simple commands: 1. Close your eyes. 2. Make a fist.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Normal (performs both tasks requested correctly)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Moderate (performs only 1 of 2 tasks requested correctly)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Severe (Cannot perform either task requested correctly)</td>
<td>2</td>
</tr>
<tr>
<td>Agnosia (L side)</td>
<td>Inability to recognize familiar objects. Ask patient: 1. “Whose arm is this?” (while showing the affected arm) 2. “Can you move your arm?”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Normal (recognizes arm and attempts to move arm)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Moderate (does not recognize arm or is unaware of arm)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Severe (does not recognize arm and is unaware of arm)</td>
<td>2</td>
</tr>
</tbody>
</table>

If Score >0, Activate Stroke Alert

RACE SCALE TOTAL

---

**Pearls**

- **Recommended Exam:** Mental Status, HEENT, Heart, Lungs, Abdomen, Extremities, Neuro
- **Time of Onset or Last Seen Normal:** One of the most important items the pre-hospital provider can obtain, on which all treatment decisions are based. Be very precise in gathering data to establish the time of onset and report as an actual time (i.e. 13:47 NOT “about 45 minutes ago.”) Without this information patient may not be able to receive thrombolytics at facility. For patients with “Woke up and noticed stroke,” Time starts when patient went to sleep or was last awake and was last known normal.
- Unless there are other compelling mitigating circumstances, EMS should not bypass the closest facility to go to a higher-level facility if such a diversion would add more than 15-20 minutes to the transport time.
- When there are several primary and comprehensive stroke centers all within roughly equal distances and times for patient transport, recommend transportation to the highest-level facility.
- **Air Medical:** Important for EMS to be aware of role of air medical. May be needed to transfer a stroke patient to a geographically distant hospital that is capable of providing an advanced level of stroke care.
- With a duration of symptoms of less than 3.5 HOURS or UNDETERMINED, scene times should be limited to ≤ 15 minutes and the patient should be transported to capable stroke receiving facility. In-field notification of receiving facility should be performed and transport times should be minimized.
- The differential listed on the Altered Mental Status Protocol should also be considered.
- Be alert for airway problems (swallowing difficulty, vomiting/aspiration).
- Hypoglycemia can present as a localized neurologic deficit, especially in the elderly.
- Document the Prehospital Stroke Screen results in the ePCR.
DECREASED LEVEL OF CONSCIOUSNESS – DECREASED MENTAL STATUS

ALL LEVELS
- Routine Assessment and Care
- Consider 0.4 to 2 mg Naloxone IM Auto-Injector/MAD for suspected or known narcotic overdose, or IV/IM/MAD for AEMT and above

EMR
- Consider Oral Airway and Assisted Ventilations
- Administer Oxygen
- Consider 12 Lead ECG acquisition and transmission
- Utilize A Non-Invasive Stroke Scale
- Obtain Onset Time
- Assess for Medical or Traumatic Cause and Utilize Additional Protocols As Needed
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved
- Consider Advanced Airway for Persistent Decreased Mental Status
- Consider IV Access
- Obtain Blood Glucose Reading – If Abnormal Go to Appropriate Protocol

AEMT
- Consider 0.4 to 2 mg Naloxone IV/IM/MAD

EMT-I
- Consider Intubation for Persistent Decreased Mental Status
- Initiate Cardiac Monitoring

Paramedic
- Consider RSI
ALL LEVELS
- Routine Assessment and Care

EMR
- Administer Oxygen By Blow By or Non-Rebreather Mask Humidified if Possible
- Calm Patient
- Allow Patient to Assume a Position Where He/She Can Maintain Own Airway
- If Patient Looses Airway Attempt BVM Ventilations
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved and AEMT
- Defer Attempts at Advanced Airway
- Defer IV Unless Patient Looses Airway

EMT-I
- Initiate Cardiac Monitoring

Paramedic
- Consider Cricothyroidotomy
HYPOGLYCEMIA – INSULIN SHOCK

ALL LEVELS
- Routine Assessment and Care

EMR
- Assess for Stroke
- Assess for Signs and Symptoms of Hypoglycemia
- If No Trauma Position Patient to Protect Airway
- Consider Oxygen
- IF PATIENT CAN FOLLOW SIMPLE COMMANDS AND PROTECT OWN AIRWAY
  - Consider Having Patient Drink Juice, Non-Diet Pop or Milk
  - Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94 %or Better O2 Saturation
- IF PATIENT CAN FOLLOW SIMPLE COMMANDS AND PROTECT OWN AIRWAY
  - Consider 15grams Oral Glucose Gel or Tablets
  - Initiate Transport

EMT Options if Approved
- Obtain Blood Glucose Reading
- Consider IV Access
- Consider Advanced Airway for Persistent Decrease Mental Status

AEMT
- Consider IO Access when:
  - Blood Glucose Level Indicates Hypoglycemia
  - AND Patient’s Mental Status is Decreased to Point Where Patient Can Not Maintain an Airway
  - AND IV Access Can Not Be Obtained
- Consider 12.5 to 25 Grams Dextrose 50% IV or IO
- ALTERNATE Treatments
  - IF PATIENT CAN FOLLOW SIMPLE COMMANDS AND PROTECT OWN AIRWAY
    - Consider Mixing 12.5 to 25 Grams Dextrose 50% in Juice and Have Patient Drink
  - Defer IO and IV and Administer 1mg Glucagon IM or MAD
    - If Glucagon Fails to Resolve Hypoglycemia
      - IF PATIENT CAN FOLLOW SIMPLE COMMANDS AND PROTECT OWN AIRWAY
        - Consider Mixing 12.5 to 25 Grams Dextrose 50% in Juice and Have Patient Drink
      - OR Consider IV Access and 12.5 to 50 Grams Dextrose 50% IV

EMT-I
- Consider Intubation for Persistent Decrease Mental Status After Treatment With Dextrose or Glucagon
  - Consider For Other Causes of Decreased Mental Status
  - Consider Cardiac Monitoring

Paramedic
- Consider 100mg Thiamine Prior to Dextrose 50% When Patient Appears Malnourished or Chronic Alcohol Abuse
HYPERGLYCEMIA – DIABETIC COMA

ALL LEVELS
- Routine Assessment and Care

EMR
- Consider Oxygen
- Assess for Stroke
- Assess for Signs and Symptoms of Hyperglycemia
- If No Trauma Position Patient to Protect Airway
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved
- Obtain Blood Glucose Reading
- Consider IV Access
- Consider Fluid Bolus
  - Signs and Symptoms Indicate Dehydration
  - OR Glucometer Indicates Ketones
- Consider Advanced Airway for Persistent Decrease Mental Status

AEMT
- Consider IO Access When
  - IV Access Can Not Be Obtained
  - AND Blood Glucose Reading is 400 or More

EMT-I
- Consider Cardiac Monitoring
- Consider Intubation for Persistent Decrease Mental Status

Paramedic
- Assess For DKA and Hyperosmolar Non-Ketotic Coma (Syndrome)
GI HEMORRHAGE

ALL LEVELS
- Routine Assessment and Care

EMR
- Consider Oxygen
- Consider OPQRST Pneumonic for Assessment of Pain Complaints
- Assess-Question Patient On Nausea/Vomiting and Bowel/Stools
- Monitor For Shock
- Be Prepared for Suctioning
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved and AEMT
- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider IV Access

AEMT
- Consider IO Access For Profound Shock and IV Access Can Not Be Obtained

EMT-I
- Consider Intubation for Persistent Decrease Mental Status
- Consider Cardiac Monitoring
- Consider NG or OG Tube for Upper GI Hemorrhage

Paramedic
- Consider Anti-Emetic
ALL LEVELS
- Routine Assessment and Care

EMR
- Consider Oxygen
- Consider OPQRST Pneumonic for Assessment of Pain
- Assess Cause of Headache (Stroke, Trauma, etc.)
- Monitor For Shock
- Be Prepared for Suctioning
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved and AEMT
- Consider IV Access for Severe Headache Associated with
  o Nausea and Vomiting
  o Changes in Mental Status

EMT-I
- Consider Cardiac Monitoring

Paramedic
- Consider Anti-Emetic
- Consider Pain Management After Paramedic Level Neuro Assessment
NAUSEA – VOMITING – DIARRHEA

ALL LEVELS
- Routine Assessment and Care

EMR
- Consider Oxygen
- Consider OPQRST Pneumonic for Assessment of Pain
- Assess For Cause
- Assess for Dehydration
- Be Prepared for Suctioning
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Examine if Possible
  - Emesis for Frank Blood or Coffee Ground Type Emesis **See GI Hemorrhage Protocol**
  - Stools for Frank Blood or Tarry Foul Smelling Stools **See GI Hemorrhage Protocol**
- Initiate Transport

EMT Options if Approved and AEMT
- Consider IV Access
- Consider 250 to 500 ml Fluid Bolus(es)

EMT-I
- Consider Cardiac Monitoring

Paramedic
- Consider Anti-Emetic
ALL LEVELS

- Routine Assessment and Care

EMR

- Consider Oxygen
- Consider OPQRST Pneumonic for Assessment of Pain Complaints
- Consider ALS

EMR Options if Approved

- Initiate Transport

EMT

- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved

- Consider IV Access

AEMT

- Consider IO Access If IV Can Not Be Obtained
- Consider 2-4 mg Morphine May Repeat to Total 10mg

EMT-I

- Consider Cardiac Monitoring

Paramedic

- Consider Pain Management
- Consider Anti-Emetic
**NON-TRAUMATIC NOSE BLEED**

**ALL LEVELS**
- Routine Assessment and Care

**EMR**
- Consider Oxygen by Non-Rebreather Mask or Blow By – Humidified if Possible
- Position Patient
  - Sitting Upright
  - Head in Neutral Position
  - Avoid Head Tilt Position
  - If Upright Not Possible Consider Lateral Position
- Pinch Nares Together
- Direction to Patient
  - Spit Blood/Clot Out
  - Try Not to Swallow Blood
  - Do Not Rub – Blow Nose or Sniff
- Suction as Needed
- Consider ALS

**EMR Options if Approved**
- Initiate Transport

**EMT**
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

**EMT Options if Approved**
- Consider IV Access For Sign and Symptoms of Shock
- Consider Fluid Bolus(es)

**AEMT**
- Consider IO Access For Signs and Symptoms of Shock AND If IV Can Not Be Obtained

**EMT-I**
- Consider Cardiac Monitoring

**Paramedic**
- Consider Anti-Emetic
RESPIRATORY ARREST

ALL LEVELS
- Routine Assessment and Care

EMR
- Open Airway
  o Trauma Suspected Use Jaw Thrust Method
  o Non-Traumatic Use Head Tilt-Chin Lift Method
- Consider Oral Airway
- Begin Ventilations at 10-12 times a minute with Bag-Valve-Mask or Mouth to Mask Device Attached to Oxygen
- Suction as Needed
- Verify Pulse Present
- Consider Cause Use Additional Protocols if Needed
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Monitor Oxygen Saturation Adjust Ventilation/Minute to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved
- Consider Advanced Airway
- Consider IV Access
- Obtain Blood Glucose Reading

AEMT
- Consider IO Access If IV Can Not Be Obtained
- Consider Cause Use Additional Protocols if Needed

EMT-I
- Consider Intubation for Persistent Decrease Mental Status
- Utilize EtCO2 Monitoring
- Initiate Cardiac Monitoring
- Consider Cause Use Additional Protocols if Needed

Paramedic
- Consider Cause Use Additional Protocols if Needed
ALL LEVELS
- Routine Assessment and Care

EMR
- Administer Oxygen
- Consider Assisted Ventilations
- Suction as Needed
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Consider Assisting Patient with His/Her Prescribed Metered Dose Inhaler
  - Administer Prescribed Number of Puffs Repeat Two Times Every 5-10 Minutes If Distress Continues
  - Consult Medical Control, PMD, or Patient’s Physician for Additional Doses
- Consider Assisting Patient with His/Her Prescribed Epinephrine Auto-Injector for Status Asthmaticus
  - Consult Medical Control, PMD, or Patient’s Physician for Additional Doses
- Initiate Transport

EMT Options if Approved
- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider 2.5mg in 3 ml Albuterol Nebulizer Treatment Repeat Two Times If Symptoms Do Not Improve OR Patient’s Condition Deteriorates
- Consider CPAP with inline 2.5 mg in 3 ml Albuterol Nebulizer Treatment **See Chart on Next Page for Indications and Contra-Indications
- If Albuterol Nebulizer Treatments Fail to Improve Distress
  - Consider 0.3mg (Adult) Epinephrine Auto-Injector For Status Asthmaticus* (See Below)
- Consider IV Access

AEMT
- Consider IO Access If IV Can Not Be Obtained
- If Albuterol Nebulizer Treatments Fail to Improve Distress
  - Consider 0.3 to 0.5mg Epinephrine 1:1000 IM for Status Asthmaticus* (See Below)

EMT-I
- Consider Intubation for Persistent Decrease Mental Status
  - Consider Ventilating in a Nebulized Bronchodilator
- Consider EtCO2 Monitoring
- Consider Bronchodilator
- Consider Cardiac Monitoring
- Consider 125 -250mg Methylprednisolone IV/IO

Paramedic
- If First Line Pharmaceutical Interventions Have Minimal or No Effect
  - Consider 1 to 2 grams Magnesium Sulfate infused over 10 minutes
  - OR Consider 0.5 to 0.75 ml of a 2.5% Racemic Epinephrine Nebulizer Treatment
  - OR Consider 3 to 5 mls 1:1000 Epinephrine Nebulizer Treatment
  - OR Consider CPAP with Inline Nebulized Bronchodilator
- Consider RSI
  - Consider Ventilating in a Nebulized Bronchodilator

* Status Asthmaticus Means Sustained Asthma Not Relieved By Oxygen, Meter Dose Inhaler, or Nebulizer Treatment
RESPIRATORY DISTRESS – EXACERBATION OF COPD

ALL LEVELS
- Routine Assessment and Care

EMR
- Administer Oxygen
- Consider Assisted Ventilations
- Suction as Needed
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Consider Assisting Patient with His/Her Prescribed Metered Dose Inhaler
  - Administer Prescribed Number of Puffs Repeat Two Times Every 5-10 Minutes If Distress Continues
  - Consult Medical Control, PMD, or Patient’s Physician for Additional Doses
- Initiate Transport

EMT Options if Approved
- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider 2.5mg in 3 ml Albuterol Nebulizer Treatment Repeat Two Times If Symptoms Do Not Improve OR Patient’s Condition Deteriorates
- Consider IV Access
- Consider CPAP with inline 2.5 mg in 3 ml Albuterol Nebulizer Treatment **See Chart below for Indications and Indications and Contra-Indications

AEMT
- Consider IO Access If IV Can Not Be Obtained

EMT-I
- Consider Intubation for Persistent Decrease Mental Status
  - Consider Ventilating in a Nebulized Bronchodilator
- Consider Bronchodilator
- Initiate Cardiac Monitoring
- Consider EtCO2 Monitoring

Paramedic
- Consider CPAP with Inline Nebulized Bronchodilator
  - Consider Minimal Sedation with Benzodiazepine Class Sedative
- Consider RSI
  - Consider Ventilating in a Nebulized Bronchodilator

<table>
<thead>
<tr>
<th>CPAP</th>
<th>Indications</th>
<th>Contra-Indications</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Patient Able To Maintain Own Airway</td>
<td>Patient Under Age 18</td>
</tr>
<tr>
<td></td>
<td>Patient Able to Follow At Least Simple Commands</td>
<td>Patient Unable To Maintain Own Airway</td>
</tr>
<tr>
<td></td>
<td>Patient Complains of Shortness of Breath-Difficulty Breathing</td>
<td>Patient Unable to Follow Simple Commands – Decreased LOC</td>
</tr>
<tr>
<td></td>
<td>Systolic BP At Least 100</td>
<td>Patient Vomiting</td>
</tr>
<tr>
<td></td>
<td>Decreased/Abnormal Lung Sounds</td>
<td>Systolic BP Under 90</td>
</tr>
<tr>
<td></td>
<td>Patient Has Signs Of Respiratory Distress (Not All Must Be Present)</td>
<td>Upper Airway Partial Obstructions (Croup-Epiglottis-Upper Airway Edema-Partial FBAO)</td>
</tr>
<tr>
<td></td>
<td>- Able to Speak Only Short Phrases</td>
<td>Shortness of Breath-Difficulty Breathing With a Suspected/Known Cause of</td>
</tr>
<tr>
<td></td>
<td>- Retractions</td>
<td>- Pneumothorax</td>
</tr>
<tr>
<td></td>
<td>- Tripod Positioning</td>
<td>- Trauma</td>
</tr>
<tr>
<td></td>
<td>Known or Suspected Cause Of Respiratory Distress of</td>
<td>- Respiratory Infection Without Pulmonary Edema</td>
</tr>
<tr>
<td></td>
<td>- Pulmonary Edema – Congestive Heart Failure</td>
<td>Facial Deformities In Which a Mask Seal Can Not Be Obtained</td>
</tr>
<tr>
<td></td>
<td>- Exacerbation of COPD</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Exacerbations of Asthma Not Relieved with Bronchodilator Medication</td>
<td></td>
</tr>
</tbody>
</table>
RESPIRATORY DISTRESS – SPONTANEOUS PNEUMOTHORAX

ALL LEVELS
- Routine Assessment and Care

EMR
- Administer Oxygen
- Consider Assisted Ventilations
- Suction as Needed
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved
- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider IV Access

AEMT
- Consider IO Access If IV Can Not Be Obtained

EMT-I
- Consider Needle Decompression for Signs and Symptoms of Tension Pneumothorax
- Initiate Cardiac Monitoring

Paramedic
- Consider RSI
ALL LEVELS

- Routine Assessment and Care

EMR

- Administer Oxygen
- Suction as Needed
- Consider ALS

EMR Options if Approved

- Initiate Transport

EMT

- Consider Obtaining a Body Temperature
- Consider Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Consider Assisting Patient with His/Her Prescribed Metered Dose Inhaler for Sign and Symptoms of Distress
  - Administer Prescribed Number of Puffs Repeat Two Times Every 5-10 Minutes If Distress Continues
  - Consult Medical Control, PMD, or Patient’s Physician for Additional Doses
- Initiate Transport

EMT Options if Approved

- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider 2.5mg in 3 ml Albuterol Nebulizer Treatment for Sign and Symptoms of Distress
  - May Repeat Two Times If Symptoms Do Not Improve OR Patient’s Condition Deteriorates
- Consider IV Access

AEMT

- Consider IO Access
  - If IV Can Not Be Obtained
  - Patient In Respiratory Distress

EMT-I

- Consider Intubation for Persistent Decrease Mental Status
  - Consider Ventilating in a Nebulized Bronchodilator
- Consider Bronchodilator for Respiratory Distress
- Consider Cardiac Monitoring
- Consider EtCO2 Monitoring
- Consider 125 – 250mg Methylprednisolone

Paramedic

- Consider RSI
  - Consider Ventilating in a Nebulized Bronchodilator
ALL LEVELS
- Routine Assessment and Care

EMR
- Consider Oxygen
- Do Not Use Same Limb For BP Measurement As Active Dialysis Shunt
- Hemorrhage from Shunt Puncture Site
  - Use Direct Pressure and Pressure Bandage
  - As Last Resort Use a Tourniquet
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved
- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider IV Access – DO NOT ATTEMPT TO ACCESS SHUNT
  - Limit Fluid Administration Rate

AEMT
- Consider IO Access If IV Can Not Be Obtained

EMT-I
- Consider Intubation for Persistent Decrease Mental Status
- Initiate Cardiac Monitoring

Paramedic
- Consider 12 Lead
- Evaluate 12 Lead for Tall Spiked T Waves Indicating Hyperkalemia
  - Consider Continuous Albuterol Nebulizer Treatments to Total Dose of 15 mg
- Consider 100mg Thiamine for Signs and Symptoms of Wernicke’s Syndrome
ALL LEVELS
- Routine Assessment and Care

EMR
- Active Seizure
  - Administer Oxygen (Blow By Acceptable During Seizure)
  - Protect Patient – Pads Around Patient
  - Do Not Restrain Patient
  - Do Not Insert Anything Orally
- Postictal Period
  - Consider Oxygen
  - Consider Assisted Ventilations and Oral Airway for Persistent Decreased Mental Status
  - Suction as Needed
- Assess For Trauma and Stroke
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Consider Nasal Airway for Persistent Decreased Mental Status
- Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved
- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider Obtaining Blood Glucose
- Consider IV Access

AEMT
- Consider IO Access
  - If IV Can Not Be Obtained
  - Seizures Reoccur

EMT-I
- Consider Cardiac Monitoring
- Consider 2 – 4mg Diazepam IV/IO
  - Repeat if needed to Maximum of 10mg
  - Contact Medical Control for Additional Doses
- Consider Intubation for Persistent Decrease Mental Status

Paramedic
- Consider Benzodiazepine for Repeat or Continued Seizures
ALL LEVELS
- Routine Assessment and Care

EMR and EMT and AEMT
- May administer auto injector antidote kits to a fellow responder or patients in mass numbers when higher level out-of-hospital care providers are overwhelmed.

The EMT-I and Paramedic
- May administer the auto injector antidote kits

<table>
<thead>
<tr>
<th>Signs And Symptoms</th>
<th>Mild Symptoms</th>
<th>Moderate Symptoms</th>
<th>Severe Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pinpoint pupils (miosis)</td>
<td>Severe chest tightness</td>
<td>Cyanosis</td>
</tr>
<tr>
<td></td>
<td>Excessive sweating</td>
<td>Wheezing</td>
<td>Seizures</td>
</tr>
<tr>
<td></td>
<td>Tearing (lacrimation)</td>
<td>Profuse airway secretions</td>
<td>Coma</td>
</tr>
<tr>
<td></td>
<td>Drooling (salivation)</td>
<td>Respiratory distress</td>
<td>Flaccid paralysis</td>
</tr>
<tr>
<td></td>
<td>Runny nose</td>
<td>Vomiting, abdominal cramps</td>
<td>Respiratory failure</td>
</tr>
<tr>
<td></td>
<td>Mild chest tightness</td>
<td>Diarrhea</td>
<td>Apnea</td>
</tr>
<tr>
<td></td>
<td>Mild shortness of breath</td>
<td>Muscle weakness</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Evacuate To A Safe Area</th>
<th>Do Not Delay</th>
<th>Do Not Delay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administer</td>
<td>One Each – Atropine and Pralidoxime (Mark I)</td>
<td>Two Each – Atropine and Pralidoxime (Mark I)</td>
<td>Three Each – Atropine and Pralidoxime (Mark I)</td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td>OR</td>
<td>OR</td>
</tr>
<tr>
<td>One – Atropine/Pralidoxime (DouDote)</td>
<td>Two – Atropine/Pralidoxime (DouDote)</td>
<td>Three – Atropine/Pralidoxime (DouDote)</td>
<td></td>
</tr>
</tbody>
</table>
ALL LEVELS
- Routine Assessment and Care

EMR
- Assess For Trauma
- Administer High Flow Oxygen
- Consider Assisted Ventilations
- Consider Oral Airway
- Suction as Needed
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Consider Nasal Airway
- Assess CO Level by Non-Invasive Monitor
  - If Elevated Administer High Flow Oxygen
  - If within Normal Values Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- If Non-Invasive CO Monitoring Not Available
  - Administer High Flow Oxygen
- Consider Assisting Patient with His/Her Prescribed Metered Dose Inhaler
  - Administer Prescribed Number of Puffs Repeat
    - May Repeat In 10 Minutes If Distress Continues
    - Total Repeat Doses is Two
  - Consult Medical Control, PMD, or Patient’s Physician for Additional Doses
- Initiate Transport

EMT Options if Approved
- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider 2.5mg in 3 ml Albuterol Nebulizer Treatment
  - May Repeat Two Times If Symptoms Do Not Improve OR Patient’s Condition Deteriorates
- Consider IV Access

AEMT
- Consider IO Access If IV Can Not Be Obtained

EMT-I
- Consider Intubation for Persistent Decrease Mental Status
  - Consider Ventilating in a Nebulized Bronchodilator
- Consider Nebulized Bronchodilator
- Initiate Cardiac Monitoring
- Consider EtCO2 Monitoring

Paramedic
- Consider RSI
  - Consider Ventilating in a Nebulized Bronchodilator
ALL LEVELS
• Routine Assessment and Care

EMR
• Consider Oxygen
• Consider Assisted Ventilations
• Consider Oral Airway
• Obtain Name of Medication/Drug
  o See Next Page for Additional Information
• Consider ALS

EMR Options if Approved
• Initiate Transport

EMT
• Consider Nasal Airway
• Consider Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
• Consider Contacting Destination Facility Via Radio/Phone With Name of Medication/Drug
• Consider Contacting Poison Control
• Initiate Transport

EMT Options if Approved
• Consider Advanced Airway for Persistent Decrease Mental Status
• Consider IV Access

AEMT
• Consider IO Access If IV Can Not Be Obtained

EMT-I
• Consider Intubation for Persistent Decrease Mental Status
• Consider Cardiac Monitoring

Paramedic
• Consider Anti-Emetic
TOXINS – OVERDOSE

SPECIAL INSTRUCTIONS FOR SPECIFIC TOXINS

IF LEVEL NOT LISTED USE THE TOXIN – OVERDOSE PROTOCOL ABOVE

STIMULANTS – COCAINE – METHAMPHETAMINE – ECSTASY

EMR-EMT

- Obtain Temperature
- If Temp Over 102 An Infection Not Suspected Consider Passive Cooling

EMT Options if Approved and AEMT

- Consider Fluid Boluses For Elevated Temps and Signs and Symptoms of Dehydration

EMT-I

- For Patients That Present Awake, Alert with Severe Anxiousness/Anxiety and/or Hallucinations
  - Consider 2 – 4mg Diazepam IV/IO

Paramedic

- For Patients That Present Awake, Alert with Severe Anxiousness/anxiety and/or Hallucinations
  - Consider Benzodiazepine

NARCOTICS – OPIATES – BARBITUATES

EMR-EMT

- Consider 0.4 to 2 mg Naloxone IM Auto-Injector/MAD for suspected or known narcotic overdose, or IM/IV/IO/MAD for AEMT and above

EMT

- Consider 12 Lead ECG acquisition and transmission

AEMT

- Consider Advanced Airway If Naloxone Fails to Improve Respiratory Status

EMT-I and Paramedic

- Consider Intubation If Naloxone Fails to Improve Respiratory Status

TRICYCLIC ANTIDEPRESSANT

Paramedic

- For Patients That Present or Develop Decreased Mental Status, Hypotension and Widen QRS
  - Consider 50mEq 8.4% Sodium Bicarbonate
  - Consider Vasopressor Agent

CALCIUM CHANNEL BLOCKER

Paramedic

- For Known Calcium Channel Blocker Overdose and Patients That Present or Develop Decreased Mental Status, and Hypotension
  - Consider 5ml of 10% Calcium Chloride IV/IO Over 2-5 Minutes
  - OR 15ml of 10% Calcium Gluconate IV/IO Over 2-5 Minutes
  - OR 15ml of 10% Calcium Gluconate IV/IO Over 2-5 Minutes
  - Consider Vasopressor Agent
- ***Avoid Calcium Chloride and Calcium Gluconate when Calcium Channel Blocker Overdose Can NOT be Confirmed OR in Mixed Overdose Situations
ALL LEVELS
- Routine Assessment and Care
- Call For Special Resources to Remove Patient from Hot Zone If Needed

EMR
- Consider Oxygen
- Decontaminate Patient if Needed – Call For Special HAZMAT If Needed
  - Dry Chemicals Brush then Flush from Skin
  - Wet Chemical Flush with Water
- Obtain Name of Toxin and Route(s) of Exposure
- Unless Directed by Medical Control OR Poison Control Do Not Induce/Encourage Vomiting
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Consider Contacting Destination Facility Via Radio/Phone With Name of Toxin
- Consider Contacting Poison Control
- Initiate Transport

EMT Options if Approved
- Consider IV Access
- Consider Advanced Airway for Persistent Decrease Mental Status

AEMT
- Consider IO Access If IV Can Not Be Obtained

EMT-I
- Consider Cardiac Monitoring
- Consider Intubation for Persistent Decrease Mental Status

Paramedic
- Consider Anti-Emetic

SPECIAL INSTRUCTIONS FOR SPECIFIC POISONS
ORGANOPHOSPHATES

EMR – EMT – AEMT
- See Above

EMT-I
- Consider Atropine 1mg IV/IO Repeat until Symptoms Improve

Paramedic
- Consider 600mg to 1200mg Pralidoxime Over 5 Minutes IV/IO or Infusion Over 15 – 30 Minutes

CYANIDE POISONING

EMR-EMT-AEMT-EMT-I
- See Above

Paramedic
- Consider 5g in 200mL NS Hydroxocobalamin over 15 minutes
Nebraska EMS Model Protocols
Adult Medical Protocols

SHOCK

ALL LEVELS
- Routine Assessment and Care

EMR
- Administer Oxygen
- Consider Assisted Ventilations
- Consider Oral Airway
- Assess For Trauma
  - Control External Hemorrhage
  - Manually Stabilize C-Spine and Extremity Deformities
- Assess For Dehydration
- Assess for Potential of Allergic Reaction **Go to Allergic Reaction Anaphylaxis Protocol**
- Position Supine Unless Respiratory Status Does Not Allow For This
- Conserve Body Heat
- Consider ALS

EMR Options if Approved
- If Trauma Present
  - Consider Spinal Stabilization and Extremity Stabilization
- Initiate Transport

EMT
- Consider Nasal Airway
- Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Obtain Temperature and If Fever Present in Absence of Trauma Consider Dehydration/Sepsis
- Initiate Transport

EMT Options if Approved
- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider IV Access
- Consider Fluid Boluses 250ml to 500ml Then Reassess

AEMT
- Consider IO Access If IV Can Not Be Obtained

EMT-I
- Consider Intubation for Persistent Decrease Mental Status
- Initiate Cardiac Monitoring
- Assess for Potential of Cardiogenic Shock

Paramedic
- Assess For Type of Shock
- General Considerations for Shock
  - When Considering Anti-Emetic Choose an Agent With the Least Cardiac Effects
  - When Considering Pain Management Choose an Agent With Least Effect on BP
- Shock Types and Considerations

<table>
<thead>
<tr>
<th>Hypovolemic</th>
<th>Cardiogenic</th>
<th>Obstructive Shock</th>
<th>Distributive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consider 250 to 500ml Fluid Boluses With Frequent Reassessments</td>
<td>Consider Fluid Bolus</td>
<td>Assess for Tension Pneumothorax – Treat with Needle Decompression</td>
<td>Anaphylaxis – Go To Allergic Reaction Anaphylaxis Protocol</td>
</tr>
<tr>
<td></td>
<td>Consider Vasopressor Agent</td>
<td>Assess for Cardiac Tamponade – Alert Destination Facility</td>
<td>Neurogenic (Spine) Shock – Fluid Boluses</td>
</tr>
<tr>
<td></td>
<td>Manage Dysrhythmias</td>
<td></td>
<td>Sepsis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Consider Fluid Boluses</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Consider Vasopressor Agents</td>
</tr>
</tbody>
</table>
The goal of the TRAUMA SYSTEM is to get the injured patient to the most appropriate facility by the most appropriate means in a timely manner. EMS should consult with Medical Control/Local Hospital if any patient meets trauma system guidelines so the patient is transported to the most appropriate facility. In some cases the patient may bypass a local hospital or stop only to be stabilized by the local hospital then transferred on to a regional trauma center.

The Nebraska Trauma System is divided into geographic regions each with its own regional advisory board. Each region and specifically designate trauma centers may have additional trauma system activation guidelines. This protocol presents a general overview for the OOHECP.

**GENERAL TRAUMA SYSTEM (TRAUMA TEAM) GUIDELINES:**

1. Considerations For Trauma System Activation
   - **Vitals And LOC**
     - Adult Heart Rate >130
     - Adult Systolic BP <85
     - Adult Respiratory Rate <10 Or >29
     - **See Pediatric Vital Signs And Ventilation Guidelines**
     - Altered Mental Status
   - **Anatomy Of Injury**
     - Penetrating Trauma To Head, Neck, Torso, Groin
     - Combinations Of Burns >20% Or Face/Airway Burns
     - Amputation At Or Above Wrist/Ankle
     - Spinal Cord Injury
     - Flail Chest
     - Two Or More Proximal Long Bone Injuries
   - **Biomechanics Of Injury**
     - Ejected From Vehicle
     - Auto vs. Pedestrian/Bicycle >5 mph
     - Motorcycle/ ATV Crash
     - Pedestrian Thrown Or Run Over
   - **Other Risk Factors**
     - Provider Impression Of Unstable Patient
     - Extreme(s)
     - Age (<2 >60)
     - Environment (Heat/Cold)
     - Health/Illness (Pregnancy, COPD, CHF, Diabetes)
     - Exposure To Hazardous Materials
   - **High Energy Transfer**
     - Rollover
     - Fall >10 Feet
     - Extrications > 20 Minutes
   - **Burn Injury**
     - 2nd And 3rd Degree Burns Of Face, Hands, Feet, Perineum
     - Significant Electrical Burns
     - Inhalation Injury

2. Procedure:
   - Consult With Medical Control And/or Local Hospital
   - Request Trauma System (Trauma Team) Activation
   - Call For ALS Intercept – If Available
Nebraska EMS Model Protocols
Adult Trauma Protocols

**TRAUMA CARE**
**HEAD – CHEST – ABDOMEN**

**ALL LEVELS**
- Adult Routine Assessment and Care
- Assess For Shock and Treat

<table>
<thead>
<tr>
<th>Head/Neck/Spine</th>
<th>Chest</th>
<th>Abdomen</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EMR</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open Trauma</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open Chest Trauma – Sucking Chest Wound</td>
<td>*Seal Wound With Occlusive Dressing</td>
<td>Open Abdominal Trauma – Eviscerations</td>
</tr>
<tr>
<td>*Bandage Open Wounds</td>
<td>*Consider Stabilizing Fail Sections With Bulky Dressings</td>
<td>*Do Not Attempt to Replace Contents</td>
</tr>
<tr>
<td>*Consider Occlusive Dressing for Open Neck Wounds</td>
<td></td>
<td>*Place Contents On Top of Abdomen</td>
</tr>
<tr>
<td>Closed Trauma</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closed Chest Trauma</td>
<td>*Consider Stabilizing Fail Sections With Bulky Dressings</td>
<td>Closed Abdominal Trauma</td>
</tr>
<tr>
<td>*Consider Cold Pack to Areas of Edema</td>
<td></td>
<td>*Attempt to Localize Pain to an Abdominal Region/Quadrant</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>EMR Options</strong></th>
<th>Consider Spinal Stabilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defer Nasal Airways</td>
<td>Consider Extremity Stabilization</td>
</tr>
<tr>
<td>May Consider Nasal Airway</td>
<td>Initiate Transport</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>EMT</strong></th>
<th>Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation For Signs and Symptoms of ICP AND GCS of 6 and Under – Consider Hyperventilation Of Patient</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EMT Options</strong></td>
<td>Consider Advanced Airway for Persistent Decrease Mental Status</td>
</tr>
<tr>
<td></td>
<td>Consider IV Access</td>
</tr>
<tr>
<td></td>
<td>Assess For Shock and Administer Appropriate Fluid Boluses</td>
</tr>
<tr>
<td><strong>AEMT</strong></td>
<td>Consider IO Access As First Access Route in Unstable Pediatric Patients</td>
</tr>
<tr>
<td></td>
<td>Assess For Shock and Administer Appropriate Fluid Boluses</td>
</tr>
<tr>
<td></td>
<td>Consider Morphine 2 – 4 mg IV/IO/MAD</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>EMT-I</strong></th>
<th>*Consider Cardiac Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>*Initiate Cardiac Monitoring</td>
</tr>
<tr>
<td></td>
<td>*Needle Decompress Patient With Signs and Symptoms of Tension Pneumothorax</td>
</tr>
<tr>
<td><strong>Paramedic</strong></td>
<td>*Consider Cardiac Monitoring</td>
</tr>
<tr>
<td></td>
<td>Consider RSI</td>
</tr>
<tr>
<td></td>
<td>Consider Anti-Emetic</td>
</tr>
<tr>
<td></td>
<td>Consider Pain Management</td>
</tr>
<tr>
<td></td>
<td>Defer Insertion of NG Tube – Use OG Tube In Suspected Head Injury</td>
</tr>
<tr>
<td></td>
<td>Defer Insertion of NG AND OG Tube in Any Patients with Gastric Bypass or Gastric Banding</td>
</tr>
<tr>
<td></td>
<td>Consider 100 mg Thiamine IV/IO for Patients With Gastric Bypass or Gastric Banding</td>
</tr>
</tbody>
</table>

*Special Consideration for Extremity Injuries in Multi-Systems Trauma*
- Consider Utilizing a Full Body Stabilization Device and Splint Injured Extremities to the Device and/or Patient to Allow For Rapid Scene Time and then Splint Extremities enroute to Destination
- Stabilization of Suspected Pelvic and Femur Fractures is a High Priority
### Nebraska EMS Model Protocols

**Adult Trauma Protocols**

**TRAUMA CARE**

**AMPUTATIONS – EXTREMITY – SOFT TISSUE TRAUMA**

#### ALL LEVELS
- Adult Routine Assessment and Care
- Assess For Shock and Treat

<table>
<thead>
<tr>
<th>Amputations</th>
<th>Extremity</th>
<th>Soft Tissue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administer Oxygen</td>
<td><em>Manually Stabilize Painful and/or Deformed Extremity</em></td>
<td><em>Return Avulsion type flaps to anatomic position if possible.</em></td>
</tr>
<tr>
<td>Consider Assisted Ventilations</td>
<td><em>Apply Cold Pack to Extremity</em></td>
<td><em>Bandage Open Wounds</em></td>
</tr>
<tr>
<td>Consider Oral Airway</td>
<td>Consider Spinal Stabilization</td>
<td>Consider Removing Impaled Objects Through the Cheek into the Mouth</td>
</tr>
<tr>
<td>Consider OPQRST Pneumonic for Assessment of Pain</td>
<td><em>Manually Stabilize Painful and/or Deformed Extremity</em></td>
<td><em>For Eye Injuries – Cover Both Eyes</em></td>
</tr>
<tr>
<td>Suction as Needed</td>
<td><em>Consider Traction Type Splint For Femur Injuries</em></td>
<td></td>
</tr>
<tr>
<td>Manually Stabilize Head and Neck</td>
<td><em>Consider Pelvic Splint For Pelvic Injuries</em></td>
<td></td>
</tr>
<tr>
<td>Control External Bleeding</td>
<td><em>Consider Orthopedic Splinting</em></td>
<td></td>
</tr>
<tr>
<td>Stabilize Impaled Objects In Place</td>
<td><em>Consider Spinal Stabilization</em></td>
<td></td>
</tr>
<tr>
<td>Assess CMS</td>
<td>Initiate Transport</td>
<td></td>
</tr>
<tr>
<td>Consider Trauma Team Activation</td>
<td>Initiate Transport</td>
<td></td>
</tr>
</tbody>
</table>

#### EMR

- *Wrap Amputated Part in Dressing and Keep Cool*
- *Do Not Place Tissue Directly On Ice*

#### EMR Options

- Consider Spinal Stabilization
- Consider Extremity Stabilization
- Initiate Transport
- *Consider Traction Type Splint For Femur Injuries*
- *Consider Pelvic Splint For Pelvic Injuries*

#### EMT

- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

#### EMT Options

- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider IV Access
- Assess For Shock and Administer Appropriate Fluid Boluses

#### AEMT

- Consider IO Access As First Access Route in Unstable Pediatric Patients
- Assess For Shock and Administer Appropriate Fluid Boluses
- Consider Morphine 2 – 4 mg IV/IO/MAD

#### EMT-I

- *Consider Cardiac Monitoring*  |  *Consider Cardiac Monitoring*  |  *Consider Cardiac Monitoring* |

#### Paramedic

- Consider RSI
- Consider Anti-Emetic
- Consider Pain Management
- Consider Reduction of Deformed Fractures or Dislocations **ONLY** if there is Loss of Signs of Circulation, Loss of Sensation Distal to the Deformity, or if it is Necessary in Order to Otherwise Care For and Transport the Patient
- *For Stable Patient’s Consider On-Scene Pain Management to Ease Pain of Movement/Splinting*
- Defer Insertion of NG AND OG Tube in Any Patient with Gastric Bypass or Gastric Banding
- Consider 100 mg Thiamine IV/IO for Patients with Gastric Bypass or Gastric Banding

#### Special Consideration for Extremity Injuries in Multi-Systems Trauma

- Consider Utilizing a Full Body Stabilization Device and Splint Injured Extremities to the Device and/or Patient to Allow For Rapid Scene Time and then Splint Extremities in route to Destination
- Stabilization of Suspected Pelvic and Femur Fractures is a High Priority
TRAUMA CARE
SPINAL STABILIZATION

ALL LEVELS
- See Adult Assessment Model
- See General Management of the Trauma Patient Appropriate to Level Of Provider
- EMT and EMR Specific Assessment and Care
  - Obtain GCS Score
  - Consider OPQRST Pneumonic
- Assess for Location, Type and Duration of Pain
- Assess Circulation Sensation and Movement in Extremities
  - Manually Stabilize Head/Neck
  - Control External Bleeding
  - Stabilize Impaled Objects
  - Reassess Circulation Sensation and Movement Distal to Injury
  - For Inadequate Breathing Ventilate Patient at 10 to 12 Times a Minute
- Avoid Hyperventilating Patient Unless Patient has:
  - GCS of Eye Opening 1 – Verbal 2 or Less – Motor 2 or Less AND
  - Serial Increases in BP With Increasing Pulse AND
  - Serial Decreases in Pulse AND
  - Erratic Respiratory Pattern
- Prepare for Transport
- If BLS Service, Consider ALS

EMR Options if Approved
- Consider Spinal Stabilization

EMT, AEMT, EMT-I, and Paramedic
- Consider Spinal Stabilization

Appropriate patients to be stabilized with a backboard may include those with:
- Blunt trauma and altered level of consciousness
- Spinal pain or tenderness
- Neurologic complain (e.g., numbness or motor weakness)
- Anatomic deformity of the spine
- High-energy mechanism of injury and any of the following:
  - Suspected drug or alcohol intoxication
  - Inability to communicate
  - Distracting injury

Patients for whom stabilization on a backboard is not necessary include those with all of the following:
- Normal level of consciousness (Glasgow Coma Score [GCS] 15)
- No spine tenderness or anatomic abnormality
- No neurologic findings or complaints
- No distracting injury
- No suspected drug or alcohol intoxication

Patients with penetrating trauma to the head, neck, or torso and no evidence of spinal injury should not be stabilized on a backboard.
If extrication is required from a vehicle:

- After placing a cervical collar, if indicated, children in a booster seat and adults should be allowed to self-extricate.
- For infants already strapped in a car seat with built-in harness, extricate the child while strapped in his/her car seat.

Spinal precautions can be maintained by application of a rigid cervical collar and securing the patient firmly to the EMS stretcher, and may be most appropriate for:

- Patients who are found to be ambulatory at the scene
- Patients who must be transported for a protracted time, particularly prior to inter-facility transfer
- Patients for whom a backboard is not otherwise indicated

Whether or not a backboard is used, attention to spinal precautions among at-risk patients is paramount. These include application of a cervical collar, adequate security to a stretcher, minimal movement/transfer, and maintenance of in-line stabilization during any necessary movement/transfer.

In situations when utilization of a backboard is indicated:

- Assess circulation sensation and movement distal in extremities
- Select appropriate sized cervical collar and place on patient
- Select and apply spinal stabilization device
- Reassess circulation sensation and movement distal in extremities
  - Consider extremity stabilization
Nebraska EMS Model Protocols
Adult Trauma Protocols
BITES AND ENVENOMATION

ALL LEVELS
- Routine Assessment and Care
- Assess For Shock and Treat

EMR
- Consider Oxygen
- Consider OPQRST For Assessment of Pain
- Control Any External Bleeding
- Consider Manual Stabilization of Affected Extremity
- Human Bites and Animal Bites
  - Bandage Wound
- Snake Bite
  - Attempt to Identify Breed of Snake
  - Slow Venous Return
- Insect Bites
  - Remove Stinger/Venom Sac
- Spider Bites
  - Consider Cold Pack
- Assess for Allergic Reaction Go to Allergic Reaction – **See Anaphylaxis Protocol
- Consider ALS

EMR Options if Approved
- Consider Extremity Stabilization
- Initiate Transport

EMT
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved
- Consider IV Access
  - **Minor Bites Without Associated Sign and Symptoms, IV Should be Deferred

AEMT
- Consider IV Access for Pain Management
- Consider IO Access If IV Can Not Be Obtained
- Consider 2 – 4mg Morphine IV/IO

EMT-I
- Consider Cardiac Monitoring

Paramedic
- Consider Anti-Emetic
- Consider Pain Management
ALL LEVELS

- Routine Assessment and Care
- Assess For Shock and Treat

Burn Type and Treatment Chart

<table>
<thead>
<tr>
<th>Thermal Burns</th>
<th>Electrical Burns</th>
<th>Radiation Burns</th>
<th>Chemical Burns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Think Safety</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stop Burning Process</td>
<td>Verify the electrical source is de-energized</td>
<td>Patient and Radiation Source Need to be Separated</td>
<td>Brush Dry Chemicals From Skin – Flush with Water</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Wet Chemicals Flush with Water</td>
</tr>
<tr>
<td>Do Not Apply Any Ointments or Creams</td>
<td>Assess for Entrance and Exit Wounds</td>
<td>Decontaminate Patient Prior To Transport</td>
<td>Decontaminate Patient Prior To Transport</td>
</tr>
<tr>
<td></td>
<td>Cover Burns/Wounds with Dry Dressings</td>
<td></td>
<td>Wrap Patient with Dry Sheet</td>
</tr>
</tbody>
</table>

EMR

- Administer Oxygen
- Consider Assisted Ventilations
- Consider Oral Airway
- Consider OPQRST For Assessment of Pain
- Consider Manually Stabilize Head/Neck
- Estimate Body Surface Area Burned and Extend of Burn
- Consider Trauma System Activation
- Consider ALS

EMR Options if Approved

- Consider Spinal Stabilization
- Consider Extremity Stabilization
- Initiate Transport

EMT

- Defer Nasal Airway in Facial Burns and Inhalation of Super-Heated Air
- Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved

- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider IV Access

AEMT

- Consider IO Access If IV Can Not Be Obtained
- Consider 2 – 4mg Morphine IV/IO

EMT-I

- Consider Intubation for Persistent Decrease Mental Status
- Initiate Cardiac Monitor for All Electrical Burns – Consider For All Other Burns

Paramedic

- Consider RSI For Burns to Airway – Inhaled Superheated Gases – Inhaled Chemicals
- Consider Anti-Emetic
- Consider Pain Management

Parkland Formula for Fluid Resuscitation in Thermal Burn Patients

\[
4 \text{ml} \times \text{Body Surface Area Burned} \times \text{Patient Weight in Kg} = \text{Total Fluid Over 24 Hours}
\]

Half Given In 1st Eight Hours
Nebraska EMS Model Protocols
Adult Trauma Protocols

CRUSH INJURY

All Levels

- Routine Assessment and Care
- Assess For Shock and Treat

EMR

- Administer Oxygen
- Manually Stabilize Head/Neck
- Consider Oral Airway
- Consider Assisted Ventilations
- Consider OPQRST For Assessment of Pain
- Control External Bleeding
- Consider Trauma System Activation
- Consider ALS

EMR Options if Approved

- Consider Spinal Stabilization
- Consider Extremity Stabilization
- Initiate Transport

EMT

- Consider Nasal Airway
- Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport Once Freed

EMT Options if Approved

- Consider Advanced Airway for Persistent Decrease Mental Status
- Pre – Release
  - Consider Two Large Bore IV Access Sites
  - Administer Fluid Bolus(es) to Maintain 90 Systolic BP
- Release – During Process to Free Patient
  - Administer Fluid Bolus(es) to Maintain 90 Systolic BP
- Post Release
  - Administer Fluid Bolus(es) to Maintain 90 Systolic BP

AEMT

- Consider Single IO Access If Unable to Obtain IV Access
- Consider 2 – 4mg Morphine if BP Stabilizes above 100 Systolic

EMT-I

- Consider Intubation for Persistent Decrease Mental Status
- Initiate Cardiac Monitoring

Paramedic

- Consider RSI
- Consider Anti-Emetic
- Consider Pain Management
- Pre – Release
  - For Entrapment over 60 minutes and Systolic BP 90mmHg or greater
    - Consider Adding 50mEq Sodium Bicarbonate to 1000 ml NS infuse bolus 500 ml then remain 500 ml over 30 minutes
  - Release – During Process to Free Patient
    - Administer Fluid Bolus(es) to Maintain 90 Systolic BP
- Consider Diagnostic Mode 3 lead or 12 Lead and Evaluate for Tall Spiked T Waves Indicating Hyperkalemia
  - Consider Continuous Albuterol Nebulizer Treatments To Total Dose 15mg
ENVIRONMENTAL TRAUMA – EXPOSURE TO HEAT AND COLD

ALL LEVELS

- Routine Assessment and Care
- Assess For Shock and Treat

EMR

- Administer Oxygen
- Manually Stabilize Head/Neck
- Consider Assisted Ventilations
- Consider OPQRST For Assessment of Pain
- Exposure to Cold – Hypothermia
  - Gently Move Patient to Warm Area If No Spinal Injury Suspected
  - Remove Wet Clothing
  - Frozen/ Near Frozen Extremities
    -Expose to Warm Surroundings
    -Consider Dry Dressing to Pad
  - Body Wide Hypothermia
    -Passively Warm Patients With Warm Packs and Blankets
- Exposure to Heat
  - Gently Move Patient to Cool Area If No Spinal Injury Suspected
  - Remove Excessive Clothing
  - Normal Mental Status and Perspiration Intact
    -Passive Cool Patient with Fanning and Cool Dressing
  - Decrease Mental Status and/or No Perspiration
    -Aggressive Cooling with Wet Sheet, Fanning and Col Packs
- Consider Trauma System Activation
- Consider ALS

EMR Options if Approved

- Consider Spinal Stabilization
- Consider Extremity Stabilization
- Initiate Transport

EMT

- Consider Nasal Airway
- Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved

- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider IV Access

AEMT

- Consider IO Access If IV Can Not Be Obtained

EMT-I

- Consider Intubation for Persistent Decrease Mental Status
- Initiate Cardiac Monitoring

Paramedic

- Consider RSI
- Consider Anti-Emetic
- When Passive Warming Frozen Extremities Consider Pain Management
ALL LEVELS
- Routine Assessment and Care
- Assess For Shock and Treat

EMR
- Administer High Flow Oxygen
- Monitor Mental Status – Track/Document AVPU and GCS
- Consider OPQRST For Assessment of Pain
- Assess and Monitor CMS
- Assess Dive History
  o Time of Dive
  o Length of Time of Dive
  o Depth
  o Any Problems with Dive
- Consider ALS

EMR Options if Approved
- Consider Spinal Stabilization
- Initiate Transport

EMT
- Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved
- Consider IV Access

AEMT
- Consider IO Access If IV Can Not Be Obtained
- Consider 2 – 4mg Morphine IV/IO

EMT-I
- Consider Cardiac Monitoring

Paramedic
- Consider Pain Management
**ALL LEVELS**
- Routine Assessment and Care
- Assess For Shock and Treat

**EMR**
- Consider Oxygen
- Consider OPQRST For Assessment of Pain
- Manage Open Wounds
- Stabilize Impaled Objects in Place
- Encourage Patient Not to Wash or Shower
- Consider Trauma System Activation
- If Possible Have EMS Provider of Same Sex as Patient Provide Assessment and Treatment
- Consider ALS

**EMR Options if Approved**
- Consider Spinal Stabilization
- Initiate Transport

**EMT**
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

**EMT Options if Approved**
- Consider IV Access
- Consider Advanced Airway for Persistent Decrease Mental Status

**AEMT**
- Consider IO Access If IV Can Not Be Obtained
- Consider 2 – 4 mg Morphine IV/IO

**EMT-I**
- Consider Cardiac Monitoring

**Paramedic**
- Consider Anti-Emetic
- Consider Pain Management
TRAUMA DURING PREGNANCY

ALL LEVELS

- Routine Assessment and Care
- Assess For Shock and Treat

EMR

- Consider Oxygen
- Consider Assisted Ventilations
- Manually Stabilize Head/Neck
- Monitor Mental Status – Track/Document AVPU and GCS
- Consider OPQRST For Assessment of Pain
- Stabilize Impaled Objects in Place
- Assess and Monitor CMS
- Position Patient on Left Side or Sitting Position
- Consider Trauma System Activation
- Consider ALS

EMR Options if Approved

- Consider Spinal Stabilization
  - Consider Vest Type Device Extrication Device (KED, XP-1) and Position Patient Semi-Fowlers or On Left Side
  - Tilt Backboard Approximately 30 degrees
- Initiate Transport

EMT

- Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved

- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider IV Access

AEMT

- Consider IO Access  If IV Can Not Be Obtained

EMT-I

- Consider Intubation for Persistent Decrease Mental Status
- Consider Cardiac Monitoring

Paramedic

- Consider Anti-Emetic
- Consider Pain Management
GYNECOLOGICAL PAIN – VAGINAL BLEEDING

ALL LEVELS
- Routine Assessment and Care

EMR and EMT
- Consider Oxygen
- Additional Assessment Concerns
  - Localize Pain to Abdominal Quadrant If Possible
  - Assess for Trauma
  - Obtain Bowel and Bladder Habits
  - Obtain Menstrual Cycle History
  - Obtain Gynecological History
  - Consider Ectopic Pregnancy
- Allow Patient to Assume a Position of Comfort
- Consider ALS

EMR Options If Approved
- Transport Patient in Position of Comfort If Safe To Do So

EMT
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Transport Patient in Position of Comfort If Safe To Do So

EMT Options
- Consider Advanced Airway for Persistent Decreased LOC
- Consider IV Access

AEMT
- Consider 2 – 4mg Morphine IV/IM

EMT-I
- Consider Cardiac Monitoring

Paramedic
- Consider Anti-Emetic
- Consider Pain Management
ALL LEVELS
- Routine Assessment and Care

EMR and EMT
- Administer Oxygen
- Obtain Bowel and Bladder Habits
- Obtain Pregnancy History
- Complications
  - Seizures (Eclampsia) – Protect Patient – Call for ALS
  - Hypertension Possible (Pre-Eclampsia) – Monitor Vitals – Reduce Stimuli
  - Hypotension – Place Patient on Left Side
  - Hypoglycemia/Hyperglycemia – See Hypoglycemia or Hyperglycemia Protocol
  - Miscarriage – Monitor for Shock – May Place OB Pad Over Genitals
- Allow Patient to Assume a Position of Comfort
- Consider ALS

EMR Options If Approved
- Initiate Transport

EMT
- Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options
- Consider Advanced Airway for Persistent Decreased LOC
- Obtain Blood Glucose Reading
- Consider IV Access

AEMT
- Consider IO Access IF IV Access Can Not Be Obtain
- Complications
  - Hypoglycemia – Consider 25 Grams Dextrose 50% IV/IO

EMT-I
- Initiate Cardiac Monitoring

Paramedic
- Complications
  - Pre-Eclampsia – Hypertension
    - Consider 1 – 2 grams Magnesium Sulfate Diluted in 25 to 250ml Infused Slowly
  - Eclampsia – Seizures
    - Consider 2 – 4 grams Magnesium Sulfate Diluted in 25 to 250ml Infused Slowly;
    - Contact Medical Control or PMD for Additional Doses Beyond Max Doses
LABOR

ALL LEVELS
- Routine Assessment and Care

EMR and EMT
- Consider Oxygen
- Obtain Pregnancy Status
  - Known Complications
  - Due Date
  - Number Previous Pregnancies
  - Number of Previous Live Births
  - Has Amniotic Fluid Passed (Water Broke)
- Time Contractions
- Prepare for Field Delivery If
  - Contraction Are Regular and 2 minutes or Sooner Together
  - Patient Has Urge to Push
  - Exam Genital Region For Bulging
- Do Not Perform Vaginal Exam
- Consider ALS

EMR Options If Approved
- Initiate Transport

EMT
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options and AEMT
- Consider IV Access

EMT-I and Paramedic
- Consider Cardiac Monitoring
ALL LEVELS
- Routine Assessment and Care
- For Complicated Deliveries (Breech, Limb Presentation or Prolapsed Umbilical Cord) See Delivery Complicated Protocol

EMR and EMT
- Consider Oxygen
- Obtain Pregnancy Status
  - Known Complications
  - Due Date
  - Number Previous Pregnancies
  - Number of Previous Live Births
  - Has Amniotic Fluid Passed (Water Broke)
- Time Contractions
- Do Not Perform Vaginal Exam
- Obtain Field Delivery Kit (OB Kit)
- Uncomplicated Delivery
  - Provide Gentle Pressure/ Support As Head Emerges
  - Suction Nose and Mouth with Bulb Syringe as Head Emerges – Assess For Meconium Staining
  - Examine For Cord Around Neck and Free if Needed
  - Allow Infant’s Head/Shoulders to Turn
  - Support Infant throughout Rest of Birth
  - Suction Nose and Mouth
  - See Neonatal Care Protocol For Care of Infant
- Reassess Mother
  - Prepare for Delivery of Placenta
- Consider ALS

EMR Options If Approved
- Initiate Transport

EMT
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options and AEMT
- Consider IV Access

EMT-I and Paramedic
- Consider Cardiac Monitoring
ALL LEVELS
- Routine Assessment and Care

EMR and EMT
- Consider Oxygen
- Obtain Pregnancy Status
  - Known Complications
  - Due Date
  - Number Previous Pregnancies
  - Number of Previous Live Births
  - Has Amniotic Fluid Passed (Water Broke)
- Time Contractions
- Do Not Perform Vaginal Exam
- Obtain Field Delivery Kit (OB Kit)
- Consider Positioning Patient In Head Down Buttocks Up Position
- Encourage Patient to Breathe Through Contractions
- Consider ALS

EMR Options If Approved
- Initiate Transport

EMT
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Breech Birth
  - Support Buttocks and Body as it Emerges
  - Create Airway –Two Fingers Inserted Vaginally Making a V Shape and Pushing Vaginal Wall From Nose/Mouth
  - Examine For Cord Around Neck and Free if Needed
  - Suction Nose and Mouth with Bulb Syringe as Head Emerges – Assess Form Meconium Staining
  - If Labor Stalls – Head Does Not Deliver Insert Two Fingers Vaginally Create V in Birth Canal Around Infant’s Nose/Mouth – Suction If Possible
- Limb Presentation
  - Support Buttocks and Body as it Emerges
  - Encourage Patient to Breathe Through Contractions
- Prolapsed Umbilical Cord
  - Position Patient In Head Down Buttocks Up Position
  - Insert Two Or Three Fingers Vaginally Provide Gentle Pressure Against Infant’s Head
  - Wrap Cord With Moist Dressing
  - Encourage Patient to Breathe Through Contractions
- Initiate Transport

EMT Options and AEMT
- Consider IV Access On Mother

EMT-I and Paramedic
- Consider Cardiac Monitoring
NEW BORN CARE

APGAR Scale – Score New Born at 1 Minute and 5 Minutes After Birth

<table>
<thead>
<tr>
<th></th>
<th>0 Points</th>
<th>1 Point</th>
<th>2 Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Rate</td>
<td>Absent</td>
<td>&lt;100</td>
<td>&gt;100</td>
</tr>
<tr>
<td>Respiratory Effort</td>
<td>Absent</td>
<td>Slow Irregular</td>
<td>Strong Cry</td>
</tr>
<tr>
<td>Muscle Tone</td>
<td>Flaccid</td>
<td>Some Flexion</td>
<td>Active Motion</td>
</tr>
<tr>
<td>Irritability</td>
<td>No Response</td>
<td>Some</td>
<td>Vigorous</td>
</tr>
<tr>
<td>Color</td>
<td>Blue/Pale Centrally</td>
<td>Body Pink – Extremity Blue/Pale</td>
<td>Fully Pink</td>
</tr>
</tbody>
</table>

Targeted Preductal Spo₂ After Birth

<table>
<thead>
<tr>
<th>Time</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min</td>
<td>60%-65%</td>
</tr>
<tr>
<td>2 min</td>
<td>65%-70%</td>
</tr>
<tr>
<td>3 min</td>
<td>70%-75%</td>
</tr>
<tr>
<td>4 min</td>
<td>75%-80%</td>
</tr>
<tr>
<td>5 min</td>
<td>80%-85%</td>
</tr>
<tr>
<td>10 min</td>
<td>85%-95%</td>
</tr>
</tbody>
</table>

© 2010 American Heart Association

© 2010 American Heart Association
A copy of these protocols should be carried on each ambulance/first responder unit and be in a location that the care provider has access to them.

**PEdiATRic REFERENCE AND REsuscitation TApe**

It is the recommendation of these protocols that each ambulance or first responder unit should have available pediatric specific reference(s) and/or resuscitation tape carried on the unit preferably in a pediatric dedicated response kit/bag.

Examples:
- EMS Field Guide/Handbook with Pediatric Specific Section
- Pediatric Charts – Graphs
- Broselow Tape

**RECOMMENDATIONS FOR PEDIATRIC EQUIPMENT**

It is the recommendation of these protocols that each ambulance or first responder unit should have available pediatric specific equipment.

**ALS and BLS Equipment Recommendations**
- Car Seat Type Device for Safe Transport of Infants and Small Children
- Pediatric Spinal Stabilization Device
- Pediatric C-Collar(s)
- Pediatric Extremity Splints
- Infant Bag Valve Mask
- Child Bag Valve Mask
- Pediatric Sized Oral Airways
- Pediatric Oxygen Mask
- Pediatric Nasal Cannula
- Pediatric Capable AED
- Pediatric Capable Pulse Oximeter
- Selection of BP Cuffs for Children
- IF Approved
  - Pediatric Sized Non-Visualized Advanced Airways
  - 0.15 Epinephrine Auto-Injector

**ALS Equipment Recommendations**
- Selection Endotracheal Tubes Sizes 3 to 5.5
- Selection of Laryngoscope Blades for Pediatric Patients
- Pediatric ET Tube Holder
- Selection of IV Catheters Sizes 20 to 24
- Devices or Means for Measured Flow of IV Fluids
- Arm Board
- IO Device
- Pediatric Capable Monitoring Equipment
Nebraska EMS Model Protocols
Pediatric General Principals

**PEDIATRIC ASSESSMENT MODEL**

- Conduct a Scene Size Up
  - Employ Use of BSI

- Pediatric Assessment Triangle – General Impression
  - Appearance
  - Breathing
  - Circulation

  - Appearance – Normal/Abnormal
  - Mental Status
  - Muscle Tone

  - Work of Breathing – Normal / Abnormal
  - Body Position
  - Increased Effort
  - Audible Breathing Sounds

  - Normal or Abnormal Circulation
  - Skin Color

- Airway Assessment
  - Assume Manual C-spine Stabilization on Suspected Trauma Patients

- Breathing Assessment

- Circulatory Assessment
  - Identify and Control Bleeding

- Level of Consciousness – AVPU

- Expose as Necessary

- Determine Chief Complaint

- Obtain a Patient History

- Obtain Vital Signs

- Conduct a Physical Exam Appropriate to the Complaint/Problem

- Reassess as Appropriate to the Patient’s Condition

**Detect and Manage Life**

**Develop & Carry Out a Treatment**

**Primary Assessment**

**History Taking**

**Secondary Assessment**
Pediatric Routine Assessment and Care
Routine Assessment and Care

Scene Size Up
- Assess Scene Safety – Use Standard/Universal Precautions
- Determine Nature of Illness/Mechanism of Trauma
- Determine Age and Estimated or Stated weight
  - Newborn to 1 Year is Defined as an Infant For Resuscitation
  - 1 year to Onset of Puberty is Defined as a Child For Resuscitation

Primary Assessment, Identify and Treat Immediate Life Threats
- If Mechanism of Trauma Indicates
  - Consider Manually Stabilizing C-Spine
- Form a General Impression
- Determine Level of Consciousness – Utilize AVPU Scale
- If Infant or Child Presents in Cardiac Arrest Begin Chest Compressions
- Assess Airway
  - Foreign Body Airway Obstruction – Clear Obstruction
  - Decreased LOC and Patient Can Not Maintain Own Airway (No Gag Reflex)
    - Trauma Suspected – Utilize Jaw Thrust Method to Open Airway
    - Medical Patients – Utilize Head Tilt, Chin Left Method to Open Airway
    - ALL LEVELS
      - Consider Oral Airway
      - EMT With Approval, AEMT, EMT-I and Paramedic
        - May Consider Appropriate Sized Advanced Non Visualized Airway
      - EMT-I and Paramedic
        - May Consider Intubation
    - Decreased LOC and Patient Has Decreased Ability to Maintain Own Airway (Gag Reflex Intact)
      - Monitor Closely – Consider One of Simple Airway Maneuvers Above
      - EMT and Above
        - May Consider Nasal Airway
      - Paramedic
        - May Consider RSI
  - Suction Oral Airway as Needed
  - Patient Can Maintain Own Airway and No Suction Needed – No Immediate Intervention
- Assess Breathing
  - Absent or Agonal – Begin Ventilations with BVM Attached to Oxygen
  - Assess Quality of Breathing And Lung Sounds
    - Signs/Symptoms of Severe Respiratory Distress – Impending Respiratory Arrest
      - Consider Oxygen by Non-Rebreather Mask
      - Consider Assisted Ventilations with BVM Attached to Oxygen at 5 to 6 Per Minute
    - Signs/Symptoms of Moderate Respiratory Difficulty
      - Consider Oxygen by Non-Rebreather Mask
    - Signs/Symptoms of Mild Respiratory Difficulty
      - Consider Oxygen by Nasal Cannula
    - No Signs/Symptoms of Respiratory Difficulty
      - Consider Oxygen Appropriate to Nature of Illness/ Mechanism of Trauma
  - Assisted Ventilations Chart

<table>
<thead>
<tr>
<th>Age</th>
<th>Ventilations/Minute</th>
<th>Ventilations/Second</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborn</td>
<td>40-60</td>
<td>1 Every Second</td>
</tr>
<tr>
<td>Infant</td>
<td>30-40</td>
<td>1 Every 2 Seconds</td>
</tr>
<tr>
<td>1-6 Years</td>
<td>20-30</td>
<td>1 Every 3 Seconds</td>
</tr>
<tr>
<td>6-12 Years</td>
<td>16-20</td>
<td>1 Every 3 to 4 Seconds</td>
</tr>
<tr>
<td>12-16 Years</td>
<td>12-16</td>
<td>1 Every 5 Seconds</td>
</tr>
<tr>
<td>Adult</td>
<td>10-12</td>
<td></td>
</tr>
</tbody>
</table>

- Assess Circulation
o Absent or Pulse 60 or Less – Begin CPR – Follow Cardiac Arrest Protocols
  o Assess For Bleeding
    ▪ Control External Bleeding with Direct Pressure, Pressure Bandage, Pressure Points and/or Tourniquet
  o Assess Quality of Pulse
    ▪ Weak – Rapid Pulse, Poor Skin Color, Poor Cap Refill
      • Consider Treating for Shock
      • Consider Assisted Ventilations
    ▪ Weak Slow Pulse
      • 60 or Less Begin Compressions
      • Reassess Airway and Breathing – Consider Assisted Ventilations
      • Assess for Possible Cause
    ▪ Irregular pulse
      • Assess for Possible Cause
      • Strength, Rate, Rhythm Normal, and Skin Normal – No Immediate Intervention
  ▪ Assess Disability – Quick Neuro Exam
    o Obtain Glasgow Coma Scale
    o Utilize a Non-Invasive Scales and Scores
    o Check Peripheral Circulation, Movement, and Sensory

Obtain Patient History
  • Obtain a Chief Complaint
  • Obtain SAMPLE History
  • Consider Use of OPQRST Pneumonic
  • Obtain Pertinent Negatives

Vital Signs
  • EMR
    o Pulse
    o Respiratory Rate
    o Manual Blood Pressure
  • EMT, AEMT, EMT-I, Paramedic
    o Pulse
    o Respiratory Rate
    o Manual and Automatic Blood Pressure
    o Pulse Oximetry Reading
    o Non-Invasive CO Reading
    o Temperature

Hypotension Guidelines
  Neonates (0 to 28 Days)  Systolic BP Under 60
  Infants (1 Month to 12 Months)  Systolic BP Under 70
  Child (1 Year to 10 Years)  Systolic BP Under 70 + 2 X Age in Years
  Child (Over 10)  Systolic BP Under 90

Hypotension should be interpreted within the context of the entire Patient Assessment

Additional Monitoring as Appropriate to Patient’s Illness/Injury
  • EMT-I
    o EtCO2 including Capnography
    o Cardiac Monitoring Lead I,II, and III
  • Paramedic
    o All Non-Invasive Monitoring Devices
    o Device to Monitor Airway/Ventilation Pressures
    o Invasive Monitoring if Already Established
Secondary Assessment
- Prepare for Patient Transport
- Expose Patient as Needed
- Medical
  - Systematic Assessment of Major Body Systems
- Trauma
  - Systematic Assessment for Injuries

Reassessment
- Repeat Assessment of Patient Based On Condition
- Monitor Vital Signs
- Identify Changes in Patient Condition Adjust Treatment As Needed

Pediatric Normal Vital Signs

<table>
<thead>
<tr>
<th>Age</th>
<th>Average Heart Rate</th>
<th>Heart Rate Range</th>
<th>Respiratory Range</th>
<th>Average Systolic BP</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborn</td>
<td>140</td>
<td>110 – 180</td>
<td>40 – 60</td>
<td>72</td>
<td>52 – 92</td>
</tr>
<tr>
<td>1 Month</td>
<td>135</td>
<td>90 – 170</td>
<td>30 – 50</td>
<td>82</td>
<td>60 – 104</td>
</tr>
<tr>
<td>1 Year</td>
<td>120</td>
<td>80 – 160</td>
<td>20 – 30</td>
<td>94</td>
<td>70 – 118</td>
</tr>
<tr>
<td>2 Years</td>
<td>110</td>
<td>80 – 130</td>
<td>20 – 30</td>
<td>95</td>
<td>73 – 117</td>
</tr>
<tr>
<td>4 Years</td>
<td>105</td>
<td>80 – 120</td>
<td>20 – 30</td>
<td>96</td>
<td>65 – 117</td>
</tr>
<tr>
<td>6 Years</td>
<td>100</td>
<td>75 – 115</td>
<td>18 – 24</td>
<td>97</td>
<td>76 – 116</td>
</tr>
<tr>
<td>8 Years</td>
<td>90</td>
<td>70 – 110</td>
<td>18 – 22</td>
<td>99</td>
<td>79 – 119</td>
</tr>
<tr>
<td>10 Years</td>
<td>90</td>
<td>70 – 110</td>
<td>16 – 20</td>
<td>102</td>
<td>82 – 122</td>
</tr>
<tr>
<td>12 years</td>
<td>85</td>
<td>60 – 110</td>
<td>16 – 20</td>
<td>106</td>
<td>84 – 128</td>
</tr>
<tr>
<td>14 years</td>
<td>80</td>
<td>60 – 105</td>
<td>16 – 20</td>
<td>110</td>
<td>84 – 136</td>
</tr>
</tbody>
</table>

Glasgow Coma Score

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Adult/Child</th>
<th>Score</th>
<th>Infant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Opening</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spontaneous</td>
<td>4</td>
<td></td>
<td>Spontaneous</td>
</tr>
<tr>
<td>To Verbal</td>
<td>3</td>
<td></td>
<td>To Verbal</td>
</tr>
<tr>
<td>To Pain</td>
<td>2</td>
<td></td>
<td>To Pain</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td></td>
<td>No Response</td>
</tr>
<tr>
<td>Best Verbal Response</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oriented</td>
<td>5</td>
<td></td>
<td>Coos, Babbles</td>
</tr>
<tr>
<td>Disoriented/Confused</td>
<td>4</td>
<td></td>
<td>Irritable Cry</td>
</tr>
<tr>
<td>Inappropriate Words</td>
<td>3</td>
<td></td>
<td>Cries Only to Pain</td>
</tr>
<tr>
<td>Incomprehensible – Moans/groans</td>
<td>2</td>
<td>Moans to Pain</td>
<td></td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td></td>
<td>No Response</td>
</tr>
<tr>
<td>Best Motor Response</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obeys Commands</td>
<td>6</td>
<td></td>
<td>Spontaneous</td>
</tr>
<tr>
<td>Localizes Pain</td>
<td>5</td>
<td></td>
<td>Withdraws from Touch</td>
</tr>
<tr>
<td>Withdraws from Pain</td>
<td>4</td>
<td></td>
<td>Withdraws from Pain</td>
</tr>
<tr>
<td>Abnormal Flexion</td>
<td>3</td>
<td></td>
<td>Abnormal Flexion</td>
</tr>
<tr>
<td>Abnormal Extension</td>
<td>2</td>
<td></td>
<td>Abnormal Extension</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td></td>
<td>No Response</td>
</tr>
</tbody>
</table>
NEBRASKA EMS MODEL PROTOCOLS
PEDiatric medical Protocols
AIRWAY – CHOKING – FOREIGN BODY AIRWAY OBSTRUCTION

EMR and EMT

Complete Airway Obstruction UNDER 1 Year Old

<table>
<thead>
<tr>
<th>Concious</th>
<th>Conscious Goes Unconscious</th>
<th>Unconscious</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perform Black Slaps/Chest Thrusts</td>
<td>Place Patient into a Supine Position</td>
<td>Position Patient into a Supine Position</td>
</tr>
<tr>
<td>Repeat Abdominal Thrusts Until Airway Cleared OR Patient Becomes Unconscious Then Go to Next Column</td>
<td>Repeat Chest Compressions</td>
<td>Repeat Chest Compressions Until Airway Cleared</td>
</tr>
<tr>
<td>Repeat Chest Compressions Until Airway Cleared</td>
<td>Perform Chest Compressions</td>
<td>Repeat Chest Compressions</td>
</tr>
<tr>
<td>If Airway Does Not Clear Request ALS Intercept</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Complete Airway Obstruction 1 Year to Adolescent

<table>
<thead>
<tr>
<th>Concious</th>
<th>Conscious Goes Unconscious</th>
<th>Unconscious</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perform Back Blows Perform Abdominal Thrusts</td>
<td>Place Patient into a Supine Position</td>
<td>Position Patient into a Supine Position</td>
</tr>
<tr>
<td>Repeat Abdominal Thrusts Until Airway Cleared OR Patient Becomes Unconscious Then Go to Next Column</td>
<td>Repeat Chest Compressions</td>
<td>Repeat Chest Compressions</td>
</tr>
<tr>
<td>Repeat Chest Compressions Until Airway Cleared</td>
<td>Perform Chest Compressions</td>
<td>Repeat Chest Compressions</td>
</tr>
<tr>
<td>If Airway Does Not Clear Request ALS Intercept</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Partial Airway Obstruction

Monitor Patient Allow Patient to Cough, Be Alert for Complete Obstruction

EMR Options If Approved
- Initiate Transport

EMT
- Initiate Transport

EMT Options If Approved
- Do Not Insert Advanced Airway Unless Airway Cleared And Persistent Decreased Mental Status
- Focus on Clearing Obstructed Airway Prior to Any IV Access Attempts

AEMT
- Do Not Insert Advanced Airway Unless Airway Cleared And Persistent Decreased Mental Status
- Focus on Clearing Obstructed Airway Prior to Any IV Access Attempts

EMT-I
- Consider Direct Visualization with Laryngoscope and Removal with Forceps

Paramedic
- Consider Cricothyrotomy
**AIRWAY – POST AIRWAY OBSTRUCTION**

**ALL LEVELS**
- Pediatric Routine Assessment and Care

**EMR and EMT**
- Be Alert For Loss of Airway Due to Swelling
- Consider Oxygen
- Considered Assisted Ventilations for Inadequate Breathing
- Positioning
  - Decreased Mental Status Position on Side
  - Alert Patient Allow Patient to Assume Position of Comfort
- Suction as Needed
- Consider ALS

**EMR Options If Approved**
- Initiate Transport
  - Consider Use Of Car Seat Type Restraint Device

**EMT**
- Initiate Transport
  - Consider Use Of Car Seat Type Restraint Device

**EMT Options and AEMT**
- Consider Advanced Airway for Persistent Decreased Mental Status
- Consider IV Access

**EMT-I**
- Consider Advanced Airway for Persistent Decreased Mental Status
- Consider Bronchodilator for Wheezing
- Consider Cardiac Monitoring

**Paramedic**
- Consider RSI For Airway Edema
ABDOMINAL PAIN

ALL LEVELS
• Pediatric Routine Assessment and Care

EMR and EMT
• Additional Assessment Concerns
  o Localize Pain to Abdominal Quadrant If Possible
  o Obtain Bowel and Bladder Habits
• Consider OPQRST Pneumonic for Assessment of Pain
• Allow Patient to Assume a Position of Comfort
• Consider ALS

EMR Options If Approved
• Initiate Transport
  o Consider Use Of Car Seat Type Restraint Device

EMT
• Initiate Transport
  o Consider Use Of Car Seat Type Restraint Device

EMT Options If Approved
• Consider Advanced Airway for Persistent Decreased LOC
• Consider IV Access

AEMT
• Consider IO Access For Shock and IV Access Can Not Be Obtained
• Consider 0.05 to 0.2 mg/kg to 4 mg Max Morphine IV/IO/IM/MAD

EMT-I
• Consider Cardiac Monitoring

Paramedic
• Consider Anti-Emetic
• Consider Pain Management
ALLERGIC REACTION – ANAPHYLAXIS

ALL LEVELS

- Pediatric Routine Assessment and Care

EMR

- Assess Severity of Reaction
  - Itching and/or Hives
  - No Respiratory Symptoms
- Administer Oxygen
- Consider Assisted Ventilations for Severe Reactions
- Consider ALS

EMR Options if Approved

- Consider 0.15mg (Pediatric) Epinephrine Auto Injector For Moderate and Severe Reactions
  - May Repeat in 5 minutes if Symptoms Do Not Improve
- Initiate Transport
  - Consider Use Of Car Seat Type Restraint Device

EMT

- Consider Assisting Patient with His/Her Prescribed Meter Dosed Inhaler
- Consider Assisting Patient with His/Her Prescribed Epinephrine Auto Injector
  - May Repeat in 5 minutes if Symptoms Do Not Improve
- Initiate Transport
  - Consider Use Of Car Seat Type Restraint Device

EMT Options if Approved

- Consider 2.5mg Unit Dose Albuterol Nebulizer Treatment For Moderate and Severe Reactions
- Patient 30kg and Under
  - Consider 0.15mg (Pediatric) Epinephrine Auto Injector For Moderate and Severe Reactions
    - May Repeat in 5 minutes if Symptoms Do Not Improve
- Patient Over 30kg
  - Consider 0.3mg (Adult) Epinephrine Auto Injector For Moderate and Severe Reactions
    - May Repeat in 5 minutes if Symptoms Do Not Improve
- Consider IV Access

AEMT

- Consider 0.01mg/kg (0.01ml/kg) (0.5 ml (0.5 mg) Max Dose) 1:1000 Epinephrine IM For Moderate and Severe Reactions
  - May Repeat in 5 minutes if Symptoms Do Not Improve
- Consider IO Access In Moderate and Severe Reactions

EMT-I

- Consider Bronchodilator
- Consider 1 to 2 mg/kg (50 mg Max Dose) Diphenhydramine IV/IO/IM for Mild, Moderate, and Severe Reactions
- Consider 2 mg/kg (125 mg Max Dose) Methylprednisolone IV/IO for Moderate and Severe Reactions
- Initiate Cardiac Monitoring

Paramedic

- Consider RSI
- Consider Vasopressor Agent for Anaphylactic Shock with Hypotension
The EMR or EMT may be presented with patients in which bystander CPR has been started or the patient presents with certain sign/symptoms of obvious death or a valid DNR.

**Situations where bystander CPR has been initiated OR EMS arrives and no CPR is initiated:**

**Un-Safe Scene**

If the scene will place the OOHECP “at risk of serious injury or mortal peril” CPR may be discontinued or withheld

**ALL LEVELS**

- Confirm the Patient Has
  - No Pulse
  - No Respirations or Attempts at Respirations
- May Stop CPR or Not Initiate CPR IF the Patient Presents with **At Least One** of the Following:
  - Rigor mortis
  - Decapitation
  - Decomposition
  - Dependent lividity
  - Traumatic cardiopulmonary arrest with injuries incompatible with life; Examples
    - Massive blood loss
    - Displacement of brain tissue
    - Blunt Head/Chest Trauma
  - Valid DNR form
  - Physician authorization
- The following will be included in the Patient Care Report:
  - CPR was or was not being performed prior to EMS arrival OR
  - If CPR was being performed the time it was discontinued
  - The patient had No Respirations and No Pulse
  - The additional criteria (from above) use to discontinue or withhold CPR

---

2 Part 3: Ethics: 2010 AHA CPR and EEC Guild lines Withholding and Withdrawing CPR(Termination of Resuscitative Efforts) Related to Out-of Hospital Cardiac Arrest
**Cardiac Arrest – AED and CPR**

**EMR Options If Approved**
- Place Patient On Back/CPR Board
- Initiate Transport
- Call for Intercept from Backup Service

**EMT**
- Place Patient On Back/CPR Board

**EMT Options if Approved and AEMT**
- After First Cycle of CPR and Shock or No Shock
  - Consider an Advanced Airway
  - Consider IV Access with Normal Saline or LR

**AEMT**
- Consider IO Access
CARDIAC ARREST – ADVANCED CARDIAC LIFE SUPPORT
EMT-I and Paramedic

**Pediatric Cardiac Arrest**

**Start CPR**
- Give oxygen
- Attach monitor/defibrillator

1. **Yes**
   - Rhythm shockable?
   - **VF/VT**
     - Shock
   - **CPR 2 min**
     - IO/IV access
   - **Rhythm shockable?**
     - Yes
     - **Shock**
     - **CPR 2 min**
     - Epinephrine every 3-5 min
     - Consider advanced airway
   - **Rhythm shockable?**
     - Yes
     - **Shock**
     - **CPR 2 min**
     - Epinephrine every 3-5 min
     - Consider advanced airway
   - **Rhythm shockable?**
     - No
     - **Asystole/PEA**
     - **CPR 2 min**
     - Epinephrine every 3-5 min
     - Consider advanced airway

2. **No**
   - **Asystole/PEA**
   - **CPR 2 min**
     - Epinephrine every 3-5 min
     - Consider advanced airway

**Doses/Details**

**CPR Quality**
- Push hard (1/2 of anterior-posterior diameter of chest) and fast (at least 100/min) and allow complete chest recoil
- Minimize interruptions in compressions
- Avoid excessive ventilation
- Rotate compressor every 2 minutes
- If no advanced airway, 15:2 compression-ventilation ratio. If advanced airway, 8-10 breaths per minute with continuous chest compressions

**Shock Energy for Defibrillation**
- First shock 2 J/kg, second shock 4 J/kg, subsequent shocks 4-6 J/kg, maximum 10 J/kg or adult dose.

**Drug Therapy**
- **Epinephrine IO/IV Dose:** 0.01 mg/kg (0.1 mL/kg of 1:10 000 concentration). Repeat every 3-5 minutes. If no IO/IV access, may give endotracheal dose: 0.1 mg/kg (0.1 mL/kg of 1:1000 concentration).
- **Amiodarone IO/IV Dose:** 5 mg/kg bolus during cardiac arrest. May repeat up to 2 times for refractory VF/pulseless VT.

**Advanced Airway**
- Endotracheal intubation or supraglottic advanced airway
- Waveform capnography or capnometry to confirm and monitor ET tube placement
- Once advanced airway in place give 1 breath every 6-8 seconds (8-10 breaths per minute)

**Return of Spontaneous Circulation (ROSC)**
- Pulse and blood pressure
- Spontaneous arterial pressure waves with intra-arterial monitoring

**Reversible Causes**
- Hypovolemia
- Hypoxia
- Hydrogen ion (acidosis)
- Hypoglycemia
- Hypo-hyperkalemia
- Hypothermia
- Tension pneumothorax
- Tamponade, cardiac
- Toxins
- Thrombosis, pulmonary
- Thrombosis, coronary
ALL LEVELS
• Follow Cardiac Arrest Algorithm With These Consideration

Cardiac Arrest in Suspected Narcotic – Benzodiazepine – Beta Blocker – Calcium Channel Blocker Overdose – Tricyclic Antidepressant Overdose

ALL LEVELS
• Consider Consultation with Medical Control or PMD
• No Additional Considerations

CARDIAC ARREST IN HYPOTHERMIA–DROWNING

EMR and EMT
• Remove Wet Clothing and Passively Warm Patient

EMT Options If Approved
• Use Warmed IV Fluids

EMT-I and Paramedic
• May Use Epinephrine and Vasopressin in Severe Hypothermia (<87° F)
• Avoid Amiodarone and Lidocaine in Sever Hypothermia (<87° F)

CARDIAC ARREST IN TRAUMA

ALL LEVELS
• If Resuscitation Attempted Follow Appropriate Cardiac Arrest Protocol
ALL LEVELS
- Pediatric Routine Assessment and Care

EMR and EMT
- Keep AED Attached to Patient
- Assist Ventilations
- If Gag Reflex Returns Removal Oral Airway
- Suction as Needed
- Consider Obtaining 12 Lead EKG
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Initiate Transport

EMT Options If Approved
- Consider Advance Airway If Not Already In Place During Cardiac Arrest
- Consider Obtaining a Blood Glucose Reading
- Consider IV Access

AEMT
- Consider IV or IO Access

EMT-I
- Consider Intubation If Not Already In Place During Cardiac Arrest
- Initiate Cardiac Monitoring
- Treat Cardiac Dysrhythmias
- Adjust Ventilations (Rate, Tidal Volume, FiO2) To Maintain These Goals
  - O2 Saturation 94% or Better
  - EtCO2 35 to 45 mmHg

Paramedic
- Consider Vasopressor Agent for Sustained Hypotension
- If Patient Intubated
  - Consider Sedative Agent
  - OR Consider Sedative Agent First Then a Non-Depolarizing Paralytic
CARDIAC DYSRHYTHMIA TACHYCARDIA

EMT-I and Paramedic

Pediatric Tachycardia
With a Pulse and Poor Perfusion

1. Identify and treat underlying cause
   - Maintain patent airway; assist breathing as necessary
   - Oxygen
   - Cardiac monitor to identify rhythm; monitor blood pressure and oximetry
   - IO/IV access
   - 12-Lead ECG if available; don’t delay therapy

2. Evaluate rhythm QRS duration
   - Narrow (<0.09 sec)
   - Wide (>0.09 sec)

3. Evaluate rhythm with 12-lead ECG or monitor

4. Probable sinus tachycardia
   - Compatible history consistent with known cause
   - P waves present/normal
   - Variable R-P; constant PR
   - Infants: rate usually <220/min
   - Children: rate usually <180/min

5. Probable supraventricular tachycardia
   - Compatible history (vague, nonspecific); history of abrupt rate changes
   - P waves absent/abnormal
   - HR not variable
   - Infants: rate usually >220/min
   - Children: rate usually >180/min

6. Search for and treat cause

7. Consider vagal maneuvers (No delays)

8. If IO/IV access present, give adenosine OR
   - If IO/IV access not available, or if adenosine ineffective, synchronized cardioversion

9. Possible ventricular tachycardia

10. Cardiopulmonary compromise?
    - Hypotension
    - Acutely altered mental status
    - Signs of shock

11. Synchronized cardioversion

12. Consider adenosine if rhythm regular and QRS monomorphic

13. Expert consultation advised
    - Amiodarone
    - Procainamide

Doses/Details

- Synchronized Cardioversion:
  - Begin with 0.5-1 J/kg; if not effective, increase to 2 J/kg.
  - Sedate if needed, but don’t delay cardioversion.

- Adenosine IO/IV Dose:
  - First dose: 0.1 mg/kg rapid bolus (maximum: 6 mg).
  - Second dose: 0.2 mg/kg rapid bolus (maximum second dose 12 mg).

- Amiodarone IO/IV Dose:
  - 5 mg/kg over 20-60 minutes

- Procainamide IO/IV Dose:
  - 15 mg/kg over 30-60 minutes
  - Do not routinely administer amiodarone and procainamide together.

★ Paramedic Only Medication
Procainamide
◆ EMT-I Must Have Completed PALS to Perform
Synchronized Cardioversion
**Pediatric Bradycardia**

With a Pulse and Poor Perfusion

1. **Identify and treat underlying cause**
   - Maintain patent airway; assist breathing as necessary
   - Oxygen
   - Cardiac monitor to identify rhythm; monitor blood pressure and oximetry
   - IO/IV access
   - 12-Lead ECG if available; don’t delay therapy

2. **Cardiopulmonary compromise continues?**
   - No
   - Yes

3. **CPR if HR <60/min with poor perfusion despite oxygenation and ventilation**
   - CPR

4. **Bradycardia persists?**
   - No
   - Yes

4a. **Consider assisted ventilations**
   - Support ABCs
   - Give oxygen
   - Observe
   - Consider expert consultation

5. **Epinephrine**
   - Atropine for increased vagal tone or primary AV block
   - Consider transthoracic pacing/transvenous pacing
   - Treat underlying causes

6. **If pulseless arrest develops, go to Cardiac Arrest Algorithm**

---

**Cardiopulmonary Compromise**
- Hypotension
- Acutely altered mental status
- Signs of shock

---

**Doses/Details**

**Epinephrine IO/IV Dose:**
- 0.01 mg/kg (0.1 mL/kg of 1:10 000 concentration). Repeat every 3-5 minutes. If IO/IV access not available but endotracheal (ET) tube in place, may give ET dose: 0.1 mg/kg (0.1 mL/kg of 1:1000).

**Atropine IO/IV Dose:**
- 0.02 mg/kg. May repeat once. Minimum dose 0.1 mg and maximum single dose 0.5 mg.
DECREASED LEVEL OF CONSCIOUSNESS – DECREASED MENTAL STATUS

ALL LEVELS
- Pediatric Routine Assessment and Care
- Consider 0.1mg/kg to Max of 2 mg Naloxone IM Auto-Injector/MAD for suspected or known narcotic overdose, or IM/IV/IO/MAD for AEMT and above

EMR
- Consider Oral Airway and Assisted Ventilations
- Administer Oxygen
- Utilize A Non-Invasive Stroke Scale
- Obtain Onset Time
- Assess for Medical or Traumatic Cause and Utilize Additional Protocols As Needed
- Consider ALS

EMR Options if Approved
- Consider 12 Lead ECG acquisition and transmission
- Initiate Transport

EMT
- Consider Nasal Airway in Older Children
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved
- Consider IV Access
- Obtain Blood Glucose Reading-If Abnormal Go to Appropriate Protocol
- Consider Advanced Airway for Persistent Decreased Mental Status

AEMT
- Consider 0.1 mg/kg to Max of 2 mg Naloxone IV/IM/MAD For Suspected or Known Narcotic Overdose

EMT-I
- Consider Intubation for Persistent Decreased Mental Status

Paramedic
- Consider RSI
ALL LEVELS
- Pediatric Routine Assessment and Care

EMR
- Allow Patient to Assume a Position Where He/She Can Maintain Own Airway
- If Patient Loses Airway Attempt BVM Ventilations
- Administer Oxygen By Blow By or Non-Rebreather Mask Humidified if Possible
- Calm Patient
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved and AEMT
- Defer Attempts at Advanced Airway
- Defer IV Unless Patient Looses Airway

EMT-I
- Initiate Cardiac Monitoring

Paramedic
- Consider Cricothyroidotomy
HYPOGLYCEMIA – INSULIN SHOCK

ALL LEVELS

- Pediatric Routine Assessment and Care

EMR

- If No Trauma Position Patient to Protect Airway
- Consider Oxygen
- Assess for Stroke
- IF PATIENT CAN FOLLOW SIMPLE COMMANDS AND PROTECT OWN AIRWAY
  - Consider For Children Old Enough to Drink From Glass Having Patient Drink Juice, Non-Diet Pop or Milk
  - Consider ALS

EMR Options if Approved

- Initiate Transport

EMT

- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94 % or Better O2 Saturation
- IF PATIENT CAN PROTECT OWN AIRWAY
  - Consider Oral Glucose Gel
    - Infants Rub Small Amounts of Oral Glucose Gel Along Gums
    - Children 7.5 to 15 Grams Oral Glucose Gel
  - Initiate Transport

EMT Options if Approved

- Consider Advanced Airway for Persistent Decrease Mental Status
- Obtain Blood Glucose Reading
- Consider IV Access

AEMT

- Consider IO Access when:
  - Blood Glucose Level Indicates Hypoglycemia
  - AND IV Access Can Not Be Obtained
- Consider Dextrose
  - Infant to age 1 year – 4 ml/kg to a Max 6 grams Dextrose 12.5%
  - Child to age 8 years – 2 ml/kg to a Max 12.5 grams Dextrose 25%
  - Age 8 to Onset Puberty – 1 ml/kg to a Max 25 grams Dextrose 50%
- ALTERNATE Treatments
  - IF PATIENT CAN PROTECT OWN AIRWAY
    - Consider Oral Glucose See EMT Above
  - Defer IO and IV and Administer 0.5mg Under 25kg to 1mg Over 25kg Glucagon IM or MAD
    - If Glucagon Fails to Full Resolve Hypoglycemia See Dextrose Treatment Above

EMT-I and Paramedic

- Consider Intubation for Persistent Decrease Mental Status After Treatment With Dextrose or Glucagon
- Assess for Other Causes of Decreased Mental Status
- Consider Cardiac Monitoring
HYPERGLYCEMIA – DIABETIC COMA

ALL LEVELS
- Pediatric Routine Assessment and Care

EMR
- If No Trauma Position Patient to Protect Airway
- Consider Oxygen
- Assess for Stroke
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved
- Consider Advanced Airway for Persistent Decrease Mental Status
- Obtain Blood Glucose Reading
- Consider IV Access
  - Consider 20ml/kg Fluid Bolus for Dehydration and Shock

AEMT
- Consider IO Access When IV Access Can Not Be Obtained
- OR Blood Glucose 400 or Greater
- OR Dehydration and/or Shock

EMT-I
- Consider Intubation for Persistent Decrease Mental Status
- Consider Cardiac Monitoring

Paramedic
- Assess For DKA
NAUSEA – VOMITING – DIARRHEA

**ALL LEVELS**
- Pediatric Routine Assessment and Care

**EMR**
- Consider Oxygen
- Be Prepared for Suctioning
- Assess For Cause of Nausea
- Assess for Dehydration
- Consider ALS

**EMR Options if Approved**
- Initiate Transport

**EMT**
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

**EMT Options if Approved and AEMT**
- Consider IV Access For Sign and Symptoms of Dehydration
- Consider 20ml/kg Fluid Bolus

**AEMT**
- Consider IO Access For Sign and Symptoms of Dehydration With Decreased Mental Status

**EMT-I**
- Consider Cardiac Monitoring

**Paramedic**
- Consider Anti-Emetic
ALL LEVELS
- Pediatric Routine Assessment and Care

EMR
- Consider Oxygen by Non-Rebreather Mask or Blow By – Humidified if Possible
- Position Patient
  - Sitting Upright
  - Head in Neutral Position
  - Avoid Head Tilt Position
  - If Upright Not Possible Consider Lateral Position
- Pinch Nares Together
- Direction to Patient
  - Spit Blood/Clot Out
  - Try Not to Swallow Blood
  - Do Not Rub – Blow Nose or Sniff
- Suction as Needed
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved
- Consider IV Access For Sign and Symptoms of Shock

AEMT
- Consider IO Access For Signs and Symptoms of Shock AND If IV Can Not Be Obtained

EMT-I
- Consider Cardiac Monitoring

Paramedic
- Consider Anti-Emetic
RESPIRATORY ARREST

ALL LEVELS
- Pediatric Routine Assessment and Care

EMR
- Open Airway
  - Trauma Suspected Use Jaw Thrust Method
  - Non-Traumatic Use Head Tilt-Chin Lift Method
- Consider Oral Airway
- Begin Ventilations with Bag-Valve-Mask or Mouth to Mask Device Attached to Oxygen
  - Infants 1 and Under – 30 Ventilations/Min
  - Child 1 to 8 Years – 24 Ventilations/Min
  - Child Over Age 8 to Onset of Puberty – 15 ventilation/Min
- Suction as Needed
- Consider Cause Use Additional Protocols if Needed
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Monitor Oxygen Saturation Adjust Ventilation/Minute to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved
- Consider IV Access
- Consider Advanced Airway
- Obtain Blood Glucose Reading

AEMT
- Consider IO Access If IV Can Not Be Obtained
- Consider Cause Use Additional Protocols if Needed

EMT-I
- Consider Intubation for Persistent Decrease Mental Status
- Adjust Ventilation (Rate/Tidal Volume/FiO2) to Maintain
  - Oxygen Saturation 94% or Better
  - EtCO2 of 35 to 45 mmHg
- Initiate Cardiac Monitoring
- Consider Cause Use Additional Protocols if Needed

Paramedic
- Consider Cause Use Additional Protocols if Needed
RESPIRATORY DISTRESS – ASTHMA

ALL LEVELS
- Pediatric Routine Assessment and Care

EMR
- Administer Oxygen
- Consider Assisted Ventilations
- Suction as Needed
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Consider Assisting Patient with His/Her Prescribed Metered Dose Inhaler
  - Administer Prescribed Number of Puffs Repeat Two Times Every 5-10 Minutes If Distress Continues
  - Consult Medical Control, PMD, or Patient’s Physician for Additional Doses
- Consider Assisting Patient with His/Her Prescribed Epinephrine Auto-Injector for Status Asthmaticus* (See Below)
  - Consult Medical Control, PMD, or Patient’s Physician for Additional Doses
- Initiate Transport

EMT Options if Approved
- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider IV Access
- Consider 2.5mg in 3 ml Albuterol Nebulizer Treatment
  - May Repeat Two Times If Symptoms Do Not Improve OR Patient’s Condition Deteriorates
- If Albuterol Nebulizer Treatments Fail to Improve Distress
  - Patient 30kg and Under
    - Consider 0.15mg (Pediatric) Epinephrine Auto Injector For Status Asthmaticus* (See Below)
  - Patient Over 30kg
    - Consider 0.3mg (Adult) Epinephrine Auto Injector For Status Asthmaticus* (See Below)

AEMT
- Consider IO Access If IV Can Not Be Obtained
- If Albuterol Nebulizer Treatments Fail to Improve Distress
  - Consider 0.01mg/kg (0.01ml/kg) Epinephrine 1:1000 IM for Status Asthmaticus* (See Below)

EMT-I
- Consider Intubation for Persistent Decrease Mental Status
- Consider Cardiac Monitoring
- If First Line Bronchodilators Nebulizer Treatments Fail to Improve Distress OR Patient Deteriorates
  - Consider 0.01mg/kg (0.01ml/kg) Epinephrine 1:1000 IM
  - Consider 2mg/kg to Max 125mg Methylprednisolone IV/IO

Paramedic
- If First Line Pharmaceutical Interventions Have Minimal or No Effect
  - Consider 25 mg/kg to Max 2 gram Magnesium Sulfate Infused over 10 minutes
  - OR Consider 0.5 to 0.75 ml of a 2.5% Racemic Epinephrine Nebulizer Treatment
  - OR Consider 3 to 5 mg 1:1000 Epinephrine Nebulizer Treatment
- Consider RSI with Inline Nebulized Bronchodilator

*Status Asthmaticus Means – Sustained Asthma Not Relieved by Oxygen, Meter Dose Inhaler, or Nebulizer Treatment
RESPIRATORY DISTRESS – CROUP

ALL LEVELS
- Pediatric Routine Assessment and Care

EMR
- Administer Oxygen
- Consider Assisted Ventilations
- Suction as Needed
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Consider Assisting Patient with His/Her Prescribed Metered Dose Inhaler
  - Administer Prescribed Number of Puffs
- Initiate Transport

EMT Options if Approved
- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider IV Access
- Consider 2.5mg in 3 ml Albuterol Nebulizer Treatment
  - Repeat Two Times If Symptoms Do Not Improve OR Patient’s Condition Deteriorates

AEMT
- Consider IO Access If IV Can Not Be Obtained

EMT-I
- Consider Intubation for Persistent Decrease Mental Status
- Consider Cardiac Monitoring

Paramedic
- May Consider Racemic Epinephrine OR Epinephrine 1:1000 Nebulized as a First Line Therapy
- Consider 0.5 to 0.75 ml of a 2.5% Racemic Epinephrine Nebulizer Treatment
- OR Consider 1:1000 Epinephrine Nebulizer Treatment
  - Age 4 and Under 0.5ml/kg to Max of 2.5ml in 3ml NS Nebulized
  - Age 5 and Older 0.5ml/kg to Max of 5ml in 3 ml NS Nebulized
RESPIRATORY DISTRESS – SPONTANEOUS PNEUMOTHORAX

ALL LEVELS
- Pediatric Routine Assessment and Care

EMR
- Administer Oxygen
- Consider Assisted Ventilations
- Suction as Needed
- Assess For Trauma
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved
- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider IV Access

AEMT
- Consider IO Access If IV Can Not Be Obtained

EMT-I
- Consider Needle Decompression for Signs and Symptoms of Tension Pneumothorax
- Initiate Cardiac Monitoring

Paramedic
- Consider RSI
ALL LEVELS

- Pediatric Routine Assessment and Care

EMR

- Administer Oxygen
- Consider Assisted Ventilations
- Suction as Needed
- Consider ALS

EMR Options if Approved

- Initiate Transport

EMT

- Consider Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Consider Assisting Patient with His/Her Prescribed Metered Dose Inhaler for Sign and Symptoms of Distress
  - Administer Prescribed Number of Puffs Repeat Two Times Every 5-10 Minutes If Distress Continues
  - Consult Medical Control, PMD, or Patient’s Physician for Additional Doses
- Consider Obtaining a Body Temperature
- Assess for Dehydration
- Initiate Transport

EMT Options if Approved

- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider 2.5mg in 3 ml Albuterol Nebulizer Treatment
  - Repeat Two Times If Symptoms Do Not Improve OR Patient’s Condition Deteriorates
- Consider IV Access
  - Administer 20ml/kg Bolus for Dehydration – Reassess

AEMT

- Consider IO Access If IV Can Not Be Obtained

EMT-I

- Consider Intubation for Persistent Decrease Mental Status
- Consider Cardiac Monitoring

Paramedic

- As Alternate for Albuterol In Suspected RSV
  - Consider 0.5 to 0.75 ml of a 2.5% Racemic Epinephrine Nebulizer Treatment
  - OR Consider 3 to 5 mg 1:1000 Epinephrine Nebulizer Treatment
- If Albuterol Does Not Improve Symptoms OR Patient’s Condition Deteriorates
  - Consider 0.5 to 0.75 ml of a 2.5% Racemic Epinephrine Nebulizer Treatment
  - OR Consider 3 to 5 mg 1:1000 Epinephrine Nebulizer Treatment
- Consider RSI with Inline Nebulized Bronchodilator
**ALL LEVELS**
- Pediatric Routine Assessment and Care

**EMR**
- Active Seizure
  - Administer Oxygen (Blow By Acceptable During Seizure)
  - Protect Patient – Pads Around Patient
  - Do Not Restrain Patient
  - Do Not Insert Anything Orally
- Postictal Period
  - Consider Oxygen
  - Consider Assisted Ventilations and Oral Airway for Persistent Decreased Mental Status
  - Suction as Needed
- Assess For Trauma and Stroke
- Consider ALS

**EMR Options if Approved**
- Initiate Transport

**EMT**
- Consider Nasal Airway for Persistent Decreased Mental Status in Older Children
- Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

**EMT Options if Approved**
- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider Obtaining Blood Glucose
- Consider IV Access

**AEMT**
- Consider IO Access
  - If IV Can Not Be Obtained
  - Seizures Reoccur

**EMT-I**
- Consider Intubation for Persistent Decrease Mental Status
- Consider Cardiac Monitoring
- Consider 0.04 to 0.2 mg/kg Max Singe Dose Diazepam IV/IO/Rectal
  - May Repeat if needed to Maximum of 10mg

**Paramedic**
- Consider Benzodiazepine for Repeat or Continued Seizures
ALL LEVELS
- Pediatric Routine Assessment and Care

EMR and EMT and AEMT
- May administer auto injector antidote kits to a fellow responder or patients in mass numbers when higher level OOHECP are overwhelmed.

EMT-I and Paramedic
- May administer the auto injector antidote kits

**Pediatric Auto-Injector Antidote Kit Dosing Chart**

<table>
<thead>
<tr>
<th>Severity</th>
<th>Mild Symptoms</th>
<th>Moderate Symptoms</th>
<th>Severe Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signs And Symptoms</td>
<td>Pinpoint pupils (miosis)</td>
<td>Severe chest tightness</td>
<td>Cyanosis</td>
</tr>
<tr>
<td></td>
<td>Excessive sweating</td>
<td>Wheezing</td>
<td>Seizures</td>
</tr>
<tr>
<td></td>
<td>Tearing (lacrimation)</td>
<td>Profuse airway secretions</td>
<td>Coma</td>
</tr>
<tr>
<td></td>
<td>Drooling (salivation)</td>
<td>Respiratory distress</td>
<td>Flaccid paralysis</td>
</tr>
<tr>
<td></td>
<td>Runny nose</td>
<td>Vomiting, abdominal cramps</td>
<td>Respiratory failure</td>
</tr>
<tr>
<td></td>
<td>Mild chest tightness</td>
<td>Diarrhea</td>
<td>Apnea</td>
</tr>
<tr>
<td></td>
<td>Mild shortness of breath</td>
<td>Muscle weakness</td>
<td></td>
</tr>
</tbody>
</table>

**Treatment**

<table>
<thead>
<tr>
<th>Severe</th>
<th>Evacuate to a Safe Area</th>
<th>Do Not Delay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild Symptoms</td>
<td>Administer</td>
<td>Administer</td>
</tr>
<tr>
<td></td>
<td>One Each – Atropine and Pralidoxime (Mark I)</td>
<td>3 – 7 years old – One Each – Atropine and Pralidoxime (Mark I)</td>
</tr>
<tr>
<td></td>
<td>One – Atropine/Pralidoxime (DouDote)</td>
<td>OR One - Atropine/Pralidoxime (DouDote)</td>
</tr>
<tr>
<td>Moderate Symptoms</td>
<td></td>
<td>8 – 12 years old – Two Each – Atropine and Pralidoxime (Mark I)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OR Two – Atropine/Pralidoxime (DouDote)</td>
</tr>
<tr>
<td>Severe Symptoms</td>
<td></td>
<td>12 and over use adult dose</td>
</tr>
</tbody>
</table>
ALL LEVELS
- Pediatric Routine Assessment and Care

EMR
- Administer Oxygen
- Consider Assisted Ventilations
- Assess For Trauma
- Suction as Needed
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Assess CO Level by Non-Invasive Monitor
  - If Elevated Begin High Flow Oxygen
  - If within Normal Values Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Consider Assisting Patient with His/Her Prescribed Metered Dose Inhaler
  - Administer Prescribed Number of Puffs Repeat Two Times Every 5-10 Minutes If Distress Continues
  - Consult Medical Control, PMD, or Patient’s Physician for Additional Doses
- Initiate Transport

EMT Options if Approved
- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider 2.5mg in 3ml Albuterol Nebulizer Treatment
  - Repeat Two Times If Symptoms Do Not Improve OR Patient’s Condition Deteriorates
- Consider IV Access

AEMT
- Consider IO Access If IV Can Not Be Obtained

EMT-I
- Consider Intubation for Persistent Decrease Mental Status
- Consider Bronchodilator
- Initiate Cardiac Monitoring

Paramedic
- Consider RSI with Inline Nebulized Bronchodilator
ALL LEVELS
- Pediatric Routine Assessment and Care

EMR
- Consider Oxygen
- Obtain Name of Medication/Drug
  - See Next Page for Additional Information
- Consider ALS

EMR Options if Approved
- Initiate Transport

EMT
- Consider Contacting Destination Facility Via Radio/Phone With Name of Medication/Drug
- Consider Contacting Poison Control
- Initiate Transport

EMT Options if Approved
- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider IV Access

AEMT
- Consider IO Access If IV Can Not Be Obtained

EMT-I
- Consider Intubation for Persistent Decrease Mental Status
- Consider Cardiac Monitoring

Paramedic
- Consider Anti-Emetic
EMR-EMT
- Obtain Temperature
- If Temp Over 102° F An Infection Not Suspected Consider Passive Cooling

EMT Options if Approved and AEMT
- Consider Fluid Boluses For Elevated Temps and Signs and Symptoms of Dehydration

EMT-I
- For Patients Over 1 Year Old That Present Awake, Alert with Severe Anxiousness/Anxiety and/or Hallucinations
  - Consider 0.04 to 0.2mg/kg Diazepam IV/IO

Paramedic
- For Patients Over 1 Year Old That Present Awake, Alert with Severe Anxiousness/Anxiety and/or Hallucinations
  - Consider Benzodiazepine

Narcotics – Opiates – Barbituates

ALL LEVELS
- Consider 0.1mg/kg to Max of 2 mg Naloxone IM Auto-Injector/MAD for suspected or known narcotic overdose, or IM/IV/O/MAD for AEMT and above

AEMT
- Consider 0.1mg/kg to Max of 2mg Naloxone IV/IO/MAD
- Consider Advanced Airway If Naloxone Fails to Improve Respiratory Status

EMT-I and Paramedic
- Consider Intubation If Naloxone Fails to Improve Respiratory Status

Tricyclic Antidepressant

Paramedic
- For Patients That Present or Develop Decreased Mental Status, Hypotension and Widen QRS
  - Confirmed Tricyclic Antidepressant Overdose/Poisoning
  - Consider
    - Age 8 and Under 1mEq/Kg 4.2% Sodium Bicarbonate Slow IV/IO
    - Over Age 8 1mEq/kg 8.4% Sodium Bicarbonate Slow IV/IO
  - Consider Vasopressor Agent

Calcium Channel Blocker

Paramedic
- For Patients That Present or Develop Decreased Mental Status, and Hypotension
  - Contact Medical Control/Poison Center for Consult on Calcium Chloride
  - OR Calcium Gluconate
  - Consider Vasopressor Agent

Organophosphates

EMT-I
- Consider 0.02mg/kg Atropine-Minimum Single Dose 0.1mg Max Single Dose 1mg IV/IO
- May Repeat until Symptoms Improve

Paramedic
- Consider 20 to 50mg/kg to Max of 1200mg Pralidoxime IV/IO
**SHOCK**

**ALL LEVELS**
- Pediatric Routine Assessment and Care

**EMR**
- Administer Oxygen
- Assess For Trauma
  - Control External Hemorrhage
  - Manually Stabilize C-Spine and Extremity Deformities
- Assess For Dehydration
- Assess for Potential of Allergic Reaction **Go to Allergic Reaction Anaphylaxis Protocol**
- Position Supine Unless Respiratory Status Do Not Allow For This
- Conserve Body Heat
- Consider ALS

**EMR Options if Approved**
- If Trauma Present
  - Consider Spinal Stabilization and Extremity Stabilization
- Initiate Transport

**EMT**
- Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Obtain Temperature and If Fever Consider Dehydration/Sepsis
- Initiate Transport

**EMT Options if Approved**
- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider IV Access
- Consider Fluid Bolus(es) 20ml/kg Then Reassess and Repeat
  - **EXCEPT Cardiogenic Shock – Consider Fluid Bolus(es) 10 ml/Kg then Reassess and Repeat**

**AEMT**
- Consider IO Access If IV Can Not Be Obtained

**EMT-I**
- Initiate Cardiac Monitoring
- Assess for Potential of Cardiogenic Shock

**Paramedic**
- Assess For Type of Shock
- General Considerations for Shock
  - When Considering Anti-Emetic Choose an Agent With the Least Cardiac Effects
  - When Considering Pain Management Choose an Agent With Least Effect on BP
- Shock Types and Considerations

<table>
<thead>
<tr>
<th>Hypovolemic</th>
<th>Cardiogenic</th>
<th>Obstructive Shock</th>
<th>Distributive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consider 20 ml/kg Fluid Boluses With Frequent Reassessments</td>
<td>Consider 10 ml/kg Fluid Bolus(es) Consider Vasopressor Agent Manage Dysrhythmias</td>
<td>Assess for Tension Pneumothorax – Treat with Needle Decompression Assess for Cardiac Tamponade – Alert Destination Facility</td>
<td>Anaphylaxis – Go To Allergic Reaction Anaphylaxis Protocol</td>
</tr>
<tr>
<td>Neurogenic (Spine) Shock – Consider 20 ml/kg Fluid Boluses</td>
<td>Sepsis – Consider 20 ml/kg Fluid Boluses Consider Vasopressor Agents</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2012 Edition
Page 120
Pediatric Trauma Protocols
Nebraska EMS Model Protocols  
Pediatric Trauma Protocols  
**TRAUMA CARE**  
**HEAD – CHEST – ABDOMEN**

### ALL LEVELS
- Pediatric Routine Assessment and Care
- Assess For Shock and Treat

<table>
<thead>
<tr>
<th>Head/Neck/Spine</th>
<th>Chest</th>
<th>Abdomen</th>
</tr>
</thead>
</table>
| **EMR** | Administer Oxygen  
Consider Assisted Ventilations  
Consider Oral Airway  
Consider OPQRST Pneumonic for Assessment of Pain  
Suction as Needed  
Manually Stabilize Head and Neck  
Control External Bleeding  
Stabilize Impaled Objects In Place  
Assess CMS  
Consider Trauma Team – Trauma System Activation |
| | Open Trauma  
* Bandage Open Wounds  
* Consider Occlusive Dressing for Open Neck Wounds  
Closed Trauma  
* Consider Cold Pack to Areas of Edema |
| | Open Chest Trauma – Sucking Chest Wound  
* Seal Wound With Occlusive Dressing  
Closed Chest Trauma  
* Consider Stabilizing Fail Sections With Bulky Dressings |
| | Open Abdominal Trauma – Eviscerations  
* Do Not Attempt to Replace Contents  
* Place Contents On Top of Abdomen  
* Cover With Thick Moist Dressing |
| | Consider Spinal Stabilization with Pediatric Sized Device  
Consider Extremity Stabilization with Pediatric Sized Device  
Initiate Transport |
| **EMR Options** | Defer Nasal Airways  
May Consider Nasal Airway  
Initiate Transport |
| **EMT** | Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation  
For Signs and Symptoms of ICP AND GCS of 6 and Under – Consider Hyperventilation Of Patient  
Initiate Transport |
| **EMT Options** | Consider Advanced Airway for Persistent Decrease Mental Status  
Consider IV Access  
Assess For Shock and Administer Appropriate Fluid Boluses |
| **AEMT** | Consider IO Access As First Access Route in Unstable Pediatric Patients  
Assess For Shock and Administer Appropriate Fluid Boluses  
Consider Morphine 2 – 4 mg IV/IO/MAD |
| **EMT-I** | * Consider Cardiac Monitoring  
* Initiate Cardiac Monitoring  
* Needle Decompress Patient For Sign* and Symptoms of Tension Pneumothorax |
| **Paramedic** | Consider RSI  
Consider Anti-Emetic  
Consider Pain Management |

### Special Consideration for Extremity Injuries in Multi-Systems Trauma
- *Consider Utilizing a Full Body Stabilization Device and Splint Injured Extremities to the Device and/or Patient to Allow For Rapid Scene Time and then Splint Extremities Enroute to Destination*
- *Stabilization of Suspected Pelvic and Femur Fractures is a High Priority*
Nebraska EMS Model Protocols
Pediatric Trauma Protocols

**TRAUMA CARE**

**AMPUTATIONS – EXTREMITY – SOFT TISSUE TRAUMA**

**ALL LEVELS**
- Pediatric Routine Assessment and Care
- Assess For Shock and Treat

<table>
<thead>
<tr>
<th>Amputations</th>
<th>Extremity</th>
<th>Soft Tissue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administer Oxygen</td>
<td><em>Manually Stabilize Painful and/or Deformed Extremity</em>&lt;br&gt;/Consider OPQRST Pneumonic for Assessment of Pain</td>
<td><em>Return Avulsion type flaps to anatomic position if possible.</em>&lt;br&gt;<em>Bandage Open Wounds</em>&lt;br&gt;<em>Consider Removing Impaled Objects Through the Cheek into the Mouth</em>&lt;br&gt;<em>For Eye Injuries – Cover Both Eyes</em>&lt;br&gt;</td>
</tr>
</tbody>
</table>
BITES AND ENVENOMATION

**ALL LEVELS**
- Pediatric Routine Assessment and Care
- Assess For Shock and Treat

**EMR**
- Consider Oxygen
- Consider OPQRST For Assessment of Pain
- Control Any External Bleeding
- Consider Manual Stabilization of Affected Extremity
- Human Bites and Animal Bites
  - Bandage Wound
- Snake Bite
  - Attempt to Identify Breed of Snake
  - Slow Venous Return
- Insect Bites
  - Remove Stinger/Venom Sac
- Spider Bites
  - Consider Cold Pack
- Assess for Allergic Reaction [Go to Allergic Reaction – Anaphylaxis Protocol](#)
- Consider ALS

**EMR Options if Approved**
- Consider Extremity Stabilization
- Initiate Transport

**EMT**
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

**EMT Options if Approved**
- Consider IV Access
  - **Minor Bites Without Associated Sign and Symptoms IV Should be Deferred**

**AEMT**
- Consider IV Access for Pain Management
- Consider IO Access If IV Can Not Be Obtained
- Consider 0.05 to 0.2mg/kg to max 4mg Morphine IV/IO/MAD

**EMT-I**
- Consider Cardiac Monitoring

**Paramedic**
- Consider Anti-Emetic
- Consider Pain Management
ALL LEVELS
- Pediatric Routine Assessment and Care
- Assess For Shock and Treat

EMR
- Administer Oxygen
- Consider Assisted Ventilations
- Consider Oral Airway
- Consider OPQRST For Assessment of Pain
- Consider Manually Stabilize Head/Neck

Burn Type and Treatment Chart

<table>
<thead>
<tr>
<th>Thermal Burns</th>
<th>Electrical Burns</th>
<th>Radiation Burns</th>
<th>Chemical Burns</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>THINK SAFETY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stop Burning Process</td>
<td>Verify the electrical source is de-energized</td>
<td>Patient and Radiation Source Need to be Separated</td>
<td>Brush Dry Chemicals From Skin Flush with Water</td>
</tr>
<tr>
<td>Do Not Intentionally Rupture Blister</td>
<td>Assess for Entrance and Exit Wounds</td>
<td>Decontaminate Patient Prior To Transport</td>
<td>Wet Chemicals – Flush with Water</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Flush Eyes Continuously</td>
</tr>
<tr>
<td>Cover Burns/Wounds with Dry Dressings</td>
<td>Wrap Patient with Dry Sheet</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Consider Trauma System Activation
- Consider ALS

EMR Options if Approved
- Consider Spinal Stabilization
- Consider Extremity Stabilization
- Initiate Transport

EMT
- Defer Nasal Airway in Facial Burns and Inhalation of Super-Heated Air
- Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Estimate Body Surface Area Burned and Extend of Burn
- Initiate Transport

EMT Options if Approved
- Consider Advanced Airway for Persistent Decrease Mental Status
- Consider IV Access

AEMT
- Consider IO Access If IV Can Not Be Obtained
- Consider 0.05 to 0.2mg/kg to Max Morphine IV/IO/MAD

EMT-I
- Consider Intubation for Persistent Decrease Mental Status
- Initiate Cardiac Monitor for All Electrical Burns – Consider For All Other Burns

Paramedic
- Consider RSI For Burns to Airway – Inhaled Superheated Gases – Inhaled Chemicals
- Consider Anti-Emetic
- Consider Pain Management

Pediatric Modified Parkland Formula for Fluid Resuscitation in Thermal Burn Patients

| 3 ml X Body Surface Area Burned X Patient Weight in Kg = Total Fluid Over 24 Hours Half Given In 1st Eight Hours |

2012 Edition
Page 125
Nebraska EMS Model Protocols
Pediatric Trauma Protocols

CRUSH INJURY

All Levels
- Routine Assessment and Care
- Assess For Shock and Treat

EMR
- Administer Oxygen
- Manually Stabilize Head/Neck
- Consider Oral Airway
- Consider Assisted Ventilations
- Consider OPQRST For Assessment of Pain
- Control External Bleeding
- Consider Trauma System Activation
- Consider ALS

EMR Options if Approved
- Consider Spinal Stabilization
- Consider Extremity Stabilization
- Initiate Transport

EMT
- Consider Nasal Airway
- Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport Once Freed

EMT Options if Approved
- Consider Advanced Airway for Persistent Decrease Mental Status
- Pre – Release
  - Consider Two IV Access Points
  - Administer Fluid 20ml/kg Bolus(es) To Maintain BP within 5 to 10 Points of Normal for Age
- Release – During Process to Free Patient
  - Administer Fluid 20ml/kg Bolus(es) To Maintain BP within 5 to 10 Points of Normal for Age
- Post Release
  - Administer Fluid 20ml/kg Bolus(es) To Maintain BP within 5 to 10 Points of Normal for Age

AEMT
- Single IO Access if Unable to Obtain IO Access
- Consider 0.05 to 0.2 mg/kg to 4 mg Max Morphine if BP Stabilizes with Normal Systolic Range for Patient’s Age

EMT-I
- Consider Intubation for Persistent Decrease Mental Status
- Initiate Cardiac Monitoring

Paramedic
- Consider RSI
- Consider Anti-Emetic
- Consider Pain Management
- Consider Consult with Medical Control for Entrapment over 60 minutes
  - 1mEq/kg Sodium Bicarbonate
- Consider Diagnostic Mode 3 lead or 12 Lead and Evaluate for Tall Spiked T Waves Indicating Hyperkalemia
  - Consider Continuous Albuterol Nebulizer Treatments Age 1 and under Total Dose 2.5mg
  - Consider Continuous Albuterol Nebulizer Treatments Age 1 to Adolescent Total Dose 5mg
  - Consider Continuous Albuterol Nebulizer Treatments Adolescent Total Dose 15mg
ENVIROMENTAL TRAUMA – EXPOSURE TO HEAT AND COLD

ALL LEVELS
• Pediatric Routine Assessment and Care
• Assess For Shock and Treat

EMR
• Administer Oxygen
• Manually Stabilize Head/Neck
• Consider Assisted Ventilations
• Consider OPQRST For Assessment of Pain
• Exposure to Cold – Hypothermia
  o Gently Move Patient to Warm Area If No Spinal Injury Suspected
  o Remove Wet Clothing
  o Frozen/ Near Frozen Extremities
    • Expose to Warm Surroundings
    • Consider Dry Dressing to Pad
  o Body Wide Hypothermia
    • Passively Warm Patients With Warm Packs and Blankets
• Exposure to Heat
  o Gently Move Patient to Cool Area If No Spinal Injury Suspected
  o Remove Excessive Clothing
  o Normal Mental Status and Perspiration Intact
    • Passive Cool Patient with Fanning and Cool Dressing
  o Decrease Mental Status and/or No Perspiration
    • Aggressive Cooling with Wet Sheet, Fanning and Cold Packs
• Consider Trauma System Activation
• Consider ALS

EMR Options if Approved
• Consider Spinal Stabilization
• Consider Extremity Stabilization
• Initiate Transport

EMT
• Consider Nasal Airway
• Administer Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
• Initiate Transport

EMT Options if Approved
• Consider Advanced Airway for Persistent Decrease Mental Status
• Consider IV Access

AEMT
• Consider IO Access If IV Can Not Be Obtained

EMT-I
• Consider Intubation for Persistent Decrease Mental Status
• Initiate Cardiac Monitoring

Paramedic
• Consider RSI
• Consider Anti-Emetic
• When Passive Warming Frozen Extremities Consider Pain Management
CHILD ABUSE

ALL LEVELS
- Routine Assessment and Care
- Assess For Shock and Treat
- Document
  - Factually Injuries
  - Patient Statements
- Report Suspicions to Destination Facility and Law Enforcement

EMR
- Consider Oxygen
- Consider OPQRST For Assessment of Pain
- Manage Open Wounds
- Stabilize Impaled Objects in Place
- Consider Trauma System Activation
- If Possible Have EMS Provider of Same Sex as Patient Provide Assessment and Treatment
- Consider ALS

EMR Options if Approved
- Consider Spinal Stabilization
- Initiate Transport

EMT
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

EMT Options if Approved
- Consider IV Access
- Consider Advanced Airway for Persistent Decrease in Mental Status

AEMT
- Consider IO Access If IV Can Not Be Obtained
- Consider 0.05 to 0.2mg/kg to Max Morphine IV/IO/MAD

EMT-I
- Consider Cardiac Monitoring

Paramedic
- Consider Anti-Emetic
- Consider Pain Management
EMR, EMT, AEMT, and EMT-I

- Not Approved for this protocol

**Paramedic**

- Field Administration – Emergency Administration Due to A Delay in Transport
  - Must Have Medical Control Approval
  - Must Have Type O Negative Blood
  - OR in Cases of Extreme Entrapment Have Type and Matched Blood Delivered to Scene

- Inter-Facility Administration
  - Obtain Order For Transport
  - Obtain Blood – Blood Product

- Blood – Blood Product Administration
  - Obtain Order
  - Obtain Consent for Blood-Blood Product Administration
  - Obtain Blood/Blood Product Verify Type and Assignment to Patient
  - Utilize Blood Y with Filter Administration Set
  - Set up Administration with One Port to Normal Saline and Other Port to Blood
  - Flush Administration Set with Normal Saline
  - Obtain Baseline Vitals Including Temperature
  - Ensure a Patent IV Line Size 18 or Larger
  - Attach Administration Set and Start Flow of Normal Saline to Verify IV is Patent
  - Stop Normal Saline Begin Blood
  - Set Rate
  - Monitor Vital Signs Every 15 Minutes Until 30 Minutes After Blood Completed
  - If Patient Develops Transfusion Reaction
    - Stop Blood
    - Flush IV Site
    - Consider 25 to 50mg Diphenhydramine
  - When Blood Complete Flush Administration Set with Normal Saline
Electronic Control Devices (Taser) is a device that uses an electrical shock to render an individual incapable for a short time to continue physical activity.

Electronic Control Devices may use probes that only have to be placed against the skin or devices in which probes are discharged and impaled into the skin.

**ALL LEVELS**
- Routine Assessment and Care

**EMR**
- Consider Oxygen
- Assess For Trauma
  - Consider Manual Stabilization of Head/Neck
  - Consider Manual Stabilization of Painful/Deformed Extremities
  - Care for Open Wounds
- For Impaled Probes in Breast Face/Neck or Genitals
  - Stabilize in Place
- For Impaled Probes NOT in Breast Face/Neck or Genitals'
  - Place Finger On Each Side Of Probe
  - Pull Probe Straight Outward
  - Control Bleeding and Bandage
- Consider ALS

**EMR Options If Approved**
- Consider Spinal and/or Extremity Stabilization
- Initiate Transport

**EMT**
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- Initiate Transport

**EMT Options and AEMT**
- No Additional Guidance in absence Of Other Signs and Symptoms

**EMT-I and Paramedic**
- Consider Cardiac Monitoring

**REQUESTS TO MEDICALLY CLEAR A PATIENT**

The OOHECP may be approached by law enforcement to medically clear a patient so the officer may transport a patient to a facility other than a hospital.

The OOHECP may be approached at a sports event standby to medically clear a patient for return to play.

**ALL LEVELS**
- May Not Medically Clear a Patient
- When Confronted With These Situations the OOHECP
  - Should Encourage the Patient to Seek Evaluation At the Hospital
  - Conduct an Appropriate Assessment and Care
  - May Obtain a Refusal – See Refusal Guide Lines
Nebraska EMS Model Protocols
Special Situations

**EMR TRANSPORT WITH PMD APPROVAL**

The EMR may initiate transport of a patient. HOWEVER, for the EMR to transport the EMR and the Service must meet certain criteria prior to the call, AND must follow specific criteria during a call AND complete defined criteria after the call.

**CRITERIA THAT MUST BE IN PLACE PRIOR TO THE CALL**

- The individual EMR Must Have the Appropriate Training Including at a Minimum
  - Spinal Stabilization Devices
  - Extremity Stabilization Devices
  - Patient Transport Devices
- The Individual EMR Must Have the Approval of the PMD
- The Service Must Have
  - The Approval of the PMD
  - A Recruitment and Retention Plan with a Budget
  - An Active Schedule Updated Not Less Than Monthly
  - An Automatic Aid Plan
- **See Nebraska Rules and Regulations Title 172 NAC 11 and 12**

**CRITERIA AT THE TIME OF THE CALL**

- An EMT or Higher Level Responder Does Not Respond to The Call
- An EMT or Higher Level Responder Who Responds to the Call MAY NOT:
  - Delegate Transport to an EMR;
  - Drive the Ambulance During the Transport Leaving Only an EMR in the Patient Compartment
- The Automatic Aid Plan has been Initiated and an EMT or Higher Level Responder Staffed Unit Has Been Dispatched
- The EMR Intends to Intercept with the EMT or Higher Level Staffed Service
- The EMR Follows the Protocol Appropriate for the Patient’s Condition/Situation
- The EMR Will Reassess Patient Including Vital Signs
  - Stable Patients Every 15 – 20 Minutes
  - Unstable Patients Every 5 – 10 Minutes
- The EMR Will Provide Intercepting Unit with a Verbal and/or Written Report

**CRITERIA AFTER COMPLETION OF THE CALL**

- The EMR Will Complete a Patient Care Report Compliant with Nebraska Rules and Regulations Title 172 NAC 12
- The Service Must Submit a Report Compliant with Nebraska Rules and Regulations Title 172 NAC 12
EMS STUDENT PRACTICE GUIDELINES

An EMS student enrolled in an approved training agency EMS course defined in titled 172 NAC 13 may perform the practices and procedures of the level of licensure for the EMS course the student is enrolled in.

Student Status means the status when the approved training agency releases the student to begin field clinical hours. Student status ends when the student is terminated from the course by the training agency (Examples; student fails, expelled, drops out, exceeds the time allowed for course completion) OR receives a Certificate of Completion from the training agency.

Supervision of the EMS Student means that a student must be supervised by a licensed OOECP at the same level or higher level of the course the EMS student is enrolled in.

EMR Student Guidelines:
EMR Students may under field supervision perform the Practices and Procedures of an EMR as defined in Title 172 NAC 11-009.01A.

EMT Student Guidelines:
EMT Students may under supervision perform the Practices and Procedures of an EMT as defined in Title 172 NAC 11-009.02A.

AEMT Student Guidelines:
AEMT Students may under supervision perform the Practices and Procedures of an AEMT as defined in Title 172 NAC 11-009.03A.

Paramedic Student Guidelines:
Paramedic Students may under supervision perform the Practices and Procedures of a Paramedic as defined in Title 172 NAC 11-009.05A.
EMS TEMPORARY LICENSEE PRACTICE GUIDELINES

Field Experience means a period of direct supervised experience when a student is mentored by a field supervisor while operating with an emergency medical service that responds to an emergency/medical request and proceeds from observation to providing care commensurate with the student’s training.

Field Supervision means a period of direct supervision or indirect supervision of a temporary licensee by a field supervisor.

Field Supervisor means an individual who is a licensed OOHECP, with an unencumbered license and is the same or higher level of OOHECP as the temporary licensee or same or higher level as the student’s course of study.

Direct Supervision means the field supervisor is present with the patient visually monitoring, providing verbal direction, and overseeing patient care that is being provided by a temporary licensee or student. The field supervisor must visually monitor the practices and procedures of the temporary licensee or student.

Indirect Supervision means the field supervisor is present at the scene and during transport. The field supervisor is located in proximity of the patient and must approve all practice and procedures being performed by the temporary licensee. The field supervisor does not need to witness the procedures as they are performed.

Temporary Licensed EMR:
The temporary licensed EMR must have direct supervision for 10 patient contacts. After 10 patient contacts this individual may have indirect supervision. The temporary licensed EMR may perform all the practices and procedures of an EMR defined in 11-009.01A. **See Temporary Licensee Examination Failure Supervision Below

A temporary licensed EMR DOES NOT qualify for EMR Transport.

Temporary Licensed EMT:
The temporary licensed EMT must have direct supervision for 20 patient contacts. After 20 patient contacts this individual may have indirect supervision. The temporary licensed EMT may perform all the practices and procedures of an EMT defined in 11-009.02A. **See Temporary Licensee Examination Failure Supervision Below

Temporary Licensed AEMT:
The temporary licensed AEMT must have direct supervision for 40 patient contacts. After 40 patient contacts this individual may have indirect supervision. The temporary licensed AEMT may perform all the practices and procedures of an AEMT as defined in 11-009.03A. **See Temporary Licensee Examination Failure Supervision Below

Temporary Licensed Paramedic:
The temporary licensed Paramedic must have direct supervision for 70 patient contacts. After 70 patient contacts this individual may have indirect supervision. The temporary licensed AEMT may perform all the practices and procedures of a Paramedic as defined in 11-009.05A. **See Temporary Licensee Examination Failure Supervision Below

Temporary Licensee Examination Failure Supervision:
Any temporary licensee who fails the licensure examination must have direct supervision for all patient contacts until the licensee has successfully completed the examination process.
EXTRA PAIR OF HANDS CONCEPT

The Nebraska Board of Emergency Medical Services issued this guideline for out-of-hospital emergency care providers (OOHECP) when using assistive personnel as their “extra-pair of hands”. The purpose of this guideline is to give direction to the OOHECP when he/she deems it necessary to request assistance from other individuals in rendering emergency care.

An assistive person means a firefighter, law enforcement officer, ambulance driver or any other available person who is requested to provide assistance in an emergency and who is not licensed/certified as an OOHECP or other health care provider.

When such assistance is needed an OOHECP may use this extra pair of hands if the:
- Assistive person is physically present and in the same proximity or visual field as the OOHECP;
- OOHECP instructs and directs the activity that the assistive person is to perform;
- Ultimate responsibility for assessment, care, and treatment remains with the OOHECP;
- Activity provided by the assistive person does not require such person to exercise knowledge of the nature or to the degree required to initiate, modify or discontinue the emergency care; and
- Activity provided by the assistive person does not require such person to assess the condition of the patient.

Examples of activities an assistive person may perform include but are not limited to:
- Assisting with lifting a patient;
- Holding an IV bag;
- Spiking an IV bag;
- Assist with CPR;
- Applying pressure to a wound;
- Placing straps on transport boards and cots;
- Pumping up a vacuum splint-air splints;
- Assisting with log rolling;
- Holding emesis basin; and
- Obtaining equipment.

When an OOHECP uses an “extra pair of hands”, he/she must remember:
- The OOHECP is accountable for the emergency treatment provided;
- The OOHECP cannot delegate to the assistive person the performance of any skills that requires EMS certification;
- The ultimate responsibility for identification of emergency care must remain with the OOHECP; and
- No task may be given to an assistive person that will cause injury or harm to the patient.

EMR and EMT Assisting AEMT, EMT-I or Paramedic

A licensed EMR or EMT may assist the AEMT, EMT-I or Paramedic with patient care and perform care within the practices and procedures of the EMR or EMT including any PMD authorized additional skills.

The EMR and EMT may assist the AEMT, EMT-I or Paramedic under direction with;
- Spiking an IV Bag;
- Retrieving medications, and other ALS supplies from box/bags/cabinets;
- Witness the waste of controlled medications; and
- The ultimate responsibility any assisted procedure remains with the AEMT, EMT-I or Paramedic.
**INTER-FACILITY TRANSPORTS**

**ALL LEVELS**
- Routine Assessment and Care Adult or Pediatric

**EMR**
- May Assist the EMT, AEMT, EMT-I, Or Paramedic During Inter-Facility Transport

**EMR Options if Approved**
- EMR May Transport from A Nursing Home to Hospital In Emergent Situations
- EMR May Not Transport
  - Hospital to Hospital
  - Hospital to Nursing Home or Patient Residence
  - Nursing Home to Nursing Home

**EMT**
- Obtain Patient Report From Sending Facility Staff and Confirm the Following;
  - Reason For Transport and Destination Facility
  - Any Patient Orders for Care During Transport
  - Patient Orders Do Not Exceed The OOHECP’s Scope of Practice
- Consider Oxygen and Adjust Delivery Device and LPM Flow to Achieve 94% or Better O2 Saturation
- May Monitor But Not Establish
  - Urinary Catheters
  - Gastric Tubes
- Provide Monitoring As Appropriate to Level of Licensure and Patient Conditions
  - Consider Vitals
    - Once For Baseline at Initiation of Transport
    - Every 30 to 60 Minutes for Stable Patients
    - Every 5 to 15 Minutes for Unstable Patients
    - Once At Or Near the End of Transport
- See Appropriate Protocol For Patients That Develop Additional Complaint or Have Changes

**EMT Options if Approved and AEMT**
- Monitor IV At Ordered Rate

**EMT-I**
- Consider Cardiac Monitoring

**Paramedic**
- Consider Anti-Emetic
- Monitor and Adjust Ventilator Settings as Needed
- Administer Ordered Medications By Ordered Route Unless Contraindicated
- Monitor and Adjust Medication Infusions As Needed Examples (Not All Inclusive)
  - Adjust Nitroglycerin Infusion to Maintain Chest Pain/Pressure Control AND Blood Pressure
  - Adjust Vasopressor Agents to Maintain Blood Pressure
  - Generally Anti-coagulants/Anti-platelets Will Not Need Adjustment
- Monitor and Re-dose Sedation, Pain Management and Paralytic Agents
- Administer and/or Monitor Blood/Blood Products
**Nebraska EMS Model Protocols**  
**Special Situations**  
**PAIN MANAGEMENT**

**ALL LEVELS**
- Routine Assessment and Care

**EMR**
- Consider Applying Cold Pack to Painful/Deformed Extremity

**EMR Options if Approved and EMT**
- Consider Stabilization

**EMT Options if Approved**
- Consider IV Access

**AEMT and EMT-I**
- Consider

<table>
<thead>
<tr>
<th>AEMT and EMT-I Pain Management Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assess and Monitor</strong></td>
</tr>
<tr>
<td>• Vital Signs</td>
</tr>
<tr>
<td>o Pulse, BP, Respiratory Rate</td>
</tr>
<tr>
<td>o Pulse Oximetry</td>
</tr>
<tr>
<td>o Consider</td>
</tr>
<tr>
<td>• Electronic EtCO2and Cardiac Monitor</td>
</tr>
<tr>
<td>• Pain Level</td>
</tr>
</tbody>
</table>

| **Preparation**                         |
|• Evaluate patient for potential of difficult airway |
|• Have Intubation Equipment and Supplies Available |
|• Have Alternate Non-Visualized Advanced Airway Available |
|• Have Suction Available                  |
|• Have Naloxone Available                 |

| **Oxygenation**                         |
|• Deliver Oxygen to Maintain O2 Saturations of 94% to 99% |

| **Medication Administration**           |
|• Administer Morphine                    |
|  o Adult – 2 – 4mg IV/IO/ IM or MAD      |
|  o Pediatric – 0.05 – 0.2mg/kg to Max 2mg IV/IO/ IM/MAD |

| **Reassess**                            |
|• Vital Signs                            |
|  o Pulse, BP, Respiratory Rate          |
|  o Pulse Oximetry                       |
|  o Consider – EMT-I                     |
|  • Electronic EtCO2and Cardiac Monitor  |
|• Pain Level                             |

| **Re- Dose For Desired Effect**         |
|• Titrate Morphine                       |
|  o Adult – 2mg IV/IO/ IM or MAD         |
|  o Pediatric – 0.05 – 0.2 mg/kg to Max 2mg IV/IO/ IM/MAD |

| **Reassess and Re-Dose**                |
|**Goal – Reduction of Pain Not Necessarily Elimination of Pain** |
**Paramedic**
The Paramedic may consider minimal to moderate sedation in conjunction with an analgesic to manage the patient’s pain OR analgesic only to manage the pain’s pain. THE PARAMEDIC IS EXPECTED TO RECEIVE TRAINING ON THE MEDICATIONS CARRIED BY THE SERVICE.

**Minimal Sedation** means the patient responds normally to verbal commands. Cognitive function and coordination may be impaired, but respiratory and cardiovascular functions are unaffected.

**Moderate Sedation** means the patient responds purposefully to verbal commands alone or when accompanied by light touch. Protective airway reflexes and adequate ventilation are maintained without intervention. Cardiovascular function remains stable.

### Sedation and Analgesic Option Procedure

<table>
<thead>
<tr>
<th>Procedure Description</th>
<th>Assess and Monitor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Vital Signs</td>
</tr>
<tr>
<td></td>
<td>• Pulse, BP, Respiratory Rate</td>
</tr>
<tr>
<td></td>
<td>• Pulse Oximetry</td>
</tr>
<tr>
<td></td>
<td>• Electronic EtCO2</td>
</tr>
<tr>
<td></td>
<td>• Cardiac Rhythm</td>
</tr>
<tr>
<td></td>
<td>Pain Level</td>
</tr>
</tbody>
</table>

### Analgesic Only Option Procedure

<table>
<thead>
<tr>
<th>Procedure Description</th>
<th>Assess and Monitor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Vital Signs</td>
</tr>
<tr>
<td></td>
<td>• Pulse, BP, Respiratory Rate</td>
</tr>
<tr>
<td></td>
<td>• Pulse Oximetry</td>
</tr>
<tr>
<td></td>
<td>• Consider</td>
</tr>
<tr>
<td></td>
<td>• Electronic EtCO2 and Cardiac Monitor</td>
</tr>
<tr>
<td></td>
<td>Pain Level</td>
</tr>
</tbody>
</table>

## Preparation

- Evaluate patient for potential of difficult airway
- Have Intubation Equipment and Supplies Available
- Have Alternate Non-visualized Advanced Airway Available
- Have Suction Available
- Have Naloxone Available

## Oxygenation

- Deliver Oxygen to Maintain O2 Saturations of 94% to 99%

## Medication Administration

- Administer Sedative  **See Approved Sedative Chart**
- Administer Analgesic  **See Approved Analgesic Chart**
- Consider Anti-Emetic
  - Preferred
    - Ondansetron (Zofran)
    - Dolasetron (Anzemet)
  - Acceptable But Monitor For EPR and Cardiac Effects
    - Promethazine (Phenergan)
    - Prochlorperazine (Compazine)

## Medication Administration

- Administer Analgesic  **See Approved Analgesic Chart**
- Consider Anti-Emetic
  - Preferred
    - Ondansetron (Zofran)
    - Dolasetron (Anzemet)
  - Acceptable But Monitor For EPR and Cardiac Effects
    - Promethazine (Phenergan)
    - Prochlorperazine (Compazine)

## Reassess

- Vital Signs
  - Pulse, BP, Respiratory Rate
  - Pulse Oximetry
  - EtCO2
  - Cardiac Rhythm
  - Adjust Oxygen Delivery as Needed
  - Pain Level

## Reassess

- Vital Signs
  - Pulse, BP, Respiratory Rate
  - Pulse Oximetry
  - Consider
  - Electronic EtCO2 and Cardiac Monitor
  - Pain Level

## Re-Dose For Desired Effect

- Titrate Sedative
- Titrate Analgesic

## Re-Dose For Desired Effect

- Titrate Analgesic

## Reassess and Re-Dose

## Reassess and Re-Dose

## Goal

- Obtain Minimal to Moderate Sedation Level Using The Least Amount of Medication
- Reduction of Pain

## Goal

- Reduction of Pain Not Necessarily Elimination of Pain
**APPROVED SEDATIVE CHART**

**Use lowest dose in the elderly or patients with impaired hepatic and or renal function**

<table>
<thead>
<tr>
<th>Medication Name</th>
<th>Adult Dose</th>
<th>Pediatric Dose *Maximum Does Not To Exceed Adult Dose</th>
<th>Special Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Benzodiazepine – Most Class Preferred Class</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diazepam (Valium)</td>
<td>2.0- 4.0mg IV/IO/Rectal May repeat to maintain sedation</td>
<td>0.04 -0.2 mg/kg IV./IO/ Rectal (6 Mo to 12 years) May repeat to maintain sedation</td>
<td>Reversal Agent – Flumazenil (Romazicon) Use with caution as rapid reversal may lead to seizures especially in patient with history of seizure disorder</td>
</tr>
<tr>
<td>Lorazepam (Ativan)</td>
<td>0.5 - 1.0mg IV/O May repeat to maintain sedation *Approved to be given by MAD but due to viscosity of may be an ineffective method of administration</td>
<td>0.05 mg/kg (6 Mo to 12 years) May repeat to maintain sedation IV/IO</td>
<td></td>
</tr>
<tr>
<td>Midazolam (Versed)</td>
<td>1.0- 2.0mg IV/IO/MAD May repeat to maintain sedation</td>
<td>0.1 mg/kg (6 Months and Older) May repeat to maintain sedation</td>
<td></td>
</tr>
<tr>
<td><strong>Carboxylated Imidazole Derivative Class – Most Preferred Alternative to Benzodiazepine Class for Adult Sedation Acceptable Alternative to Benzodiazepine Class for Certain Pediatric Patients</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Etomidate</td>
<td>0.1 – 0.15 mg/kg IV/IO 0.05 mg/kg every 3 to 5minutes to maintain sedation</td>
<td>0.1 – 0.2 mg/kg IV/IO 0.05 mg/kg every 3 to 5 minutes to maintain sedation</td>
<td>Avoid if patient 10 years old or younger May cause adrenal suppression</td>
</tr>
<tr>
<td><strong>NMDA Receptor Antagonist Class – Most Preferred Alternative to Benzodiazepine Class for Pediatric Sedation Acceptable Alternative to Benzodiazepine Class for Adult Sedation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ketamine</td>
<td>1.5 – 2.0mg/kg IV/IO 0.25 – 0.5 mg/kg every 5 to 10 minutes to maintain sedation</td>
<td>For Patient’s Over 6 Months Old 2.0 – 4.0 mg/kg IM 1.0 – 2.0 mg/kg IV/IO 0.25 – 0.5 mg/kg every 5 to 10 minutes to maintain sedation</td>
<td>Consider Atropine for increased secretions 0.02 mg/kg with a minimal dose of 0.1 mg and a maximum of 0.5 mg for Pediatric 0.5mg Single Dose for Adults</td>
</tr>
<tr>
<td><strong>Phenothiazine Class Least Desirable Alternative – Reserved To Incidents When No Other Alternatives Are Available</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prochlorperazine (Compazine)</td>
<td>5mg IV/O May Repeat Once</td>
<td>Not Approved May cause dystonic reactions</td>
<td>Use Lowest possible dose to prevent extra pyramidal reactions For EPR consider Diphenhydramine (Benadryl) 12.5 to25mg Peds 25 to50mg Adults</td>
</tr>
<tr>
<td>Promethazine (Phenergan)</td>
<td>25 mg IV/O May Repeat Once</td>
<td>Not Approved May cause dystonic reactions</td>
<td></td>
</tr>
</tbody>
</table>

**APPROVED ANALGESIA CHART**

<table>
<thead>
<tr>
<th>Medication Name</th>
<th>Adult Dose</th>
<th>Pediatric Dose *Maximum Does Not To Exceed Adult Dose</th>
<th>Special Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opioid Class</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morphine</td>
<td>2 – 4 mg IV/IO/IM/MAD</td>
<td>0.05 – 0.2mg/kg IV/IO/IM/MAD</td>
<td></td>
</tr>
<tr>
<td>Fentanyl</td>
<td>25 to 100 mcg IV/IO/IM/MAD</td>
<td>1.0 – 2.0 mcg/kg IV/IO/IM/MAD</td>
<td>Reversal Agent – Naloxone (Narcan)</td>
</tr>
<tr>
<td>Hydromorphone (Dilaudid)</td>
<td>0.2 – 0.6 mg IV/IO</td>
<td>0.03 to0.08mg/kg IV/IO Over 6 Months</td>
<td></td>
</tr>
<tr>
<td>Nalbuphine (Nubain)</td>
<td>10 to 20mg IV/IO</td>
<td>0.05 to 0.1mg/kg IV/IO</td>
<td></td>
</tr>
<tr>
<td>Stadol</td>
<td>0.5mg to 2mg IV/IO</td>
<td>Not Approved Under Age 18</td>
<td></td>
</tr>
<tr>
<td><strong>Opioid Class Least Desirable Alternative – But Acceptable</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meperidine (Demerol)</td>
<td>50 – 100mg IV/IO/IM</td>
<td>1mg/kg IV/IO/IM</td>
<td>Reversal Agent – Naloxone (Narcan)</td>
</tr>
<tr>
<td><strong>NSAID Class</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ketorolac (Toradol)</td>
<td>15 to30mg IV/IM *Preferred treatment for suspected Kidney Stone as a single medication or in conjunction with an opioid class medication</td>
<td>0.5mg/kg to maximum dose of 30mg</td>
<td>Defer in suspected CVA, GI Bleeding, or other indications of internal bleeding and external bleeding not easily controlled with direct pressure</td>
</tr>
</tbody>
</table>

**Routes of Administration**

- **IV** – Intravenous
- **IO** – Intraosseous
- **IM** – Intramuscular
- **MAD** – Mucosal Atomization Device
Nebraska EMS Model Protocols
Special Situations

RESTRANT

EMR
- Non-Combative Patients
  - Calm and Reassure Patient
  - Give Clear Explanations and Directions
- Combative Patients
  - Contact Law Enforcement
  - Consider Physically Restraining Patient
    - Supine
    - Physically Restrain One Arm Above Head
      - If Injury or Limited Range of Motion Restrain Arm at Patient's Side
    - Physically Restrain Second Arm at Side
    - Physically Restrain Each Leg Just Above Knee
    - Consider Use of Commercially Available Spit Hood

EMR Options, EMT, AEMT and Paramedic
- Combative Patients
  - Restrain Patient
    - Supine On to Transport or Stabilization Device
    - Use Self Adhering Bandage or Commercial Restraint Device
      - Restrain One Arm Above Head
        - If Injury or Limited Range of Motion Restrain at Patient’s Side
      - Restrain Second Arm at Side
    - Restrain with a Minimum of Three Straps
      - One Across Upper Chest
      - One Across Waist
      - One Across Lower Thigh Just Above Knees
    - Consider Use of Commercially Available Spit Hood
  - Handcuffs Are Only to be Applied by Law Enforcement and Generally Should Be Avoided

ALL LEVELS – DO NOT
- Restrain Patient Prone
- “Hog Tie” Patient and Place Prone
- Place Gauze or Tape Over or In Mouth
- “Sandwich” Patient between Stabilization Devices
Paramedic Only

RSI Decision Making Algorithm

**Patent Meets At Least One Indication Criteria**
- Patient Unable to Protect Airway With or Without Trismus
- GCS ≤ 8 or Rapid Decreasing GCS
- Respiratory Failure/ Rapidly Decreasing Respiratory Status
- Impending Airway Compromise
- Head Injuries, Major CVA with Decreased LOC and Inability to Protect Airway

Yes – Patient Meets Criteria

No – Patient Does Not Meet Criteria

**Risk vs. Benefit – Incident Assessment Considerations**
- Delay of RSI will lead to Aspiration, Respiratory Collapse, and/or Hypoxia
- Distance/Time to Receiving Hospital is extended
- Short Scene/Transport Times Scene is Such That Rapid Transport is Delayed Rarely Require RSI

Yes – Risk Benefit Acceptable

No – Risk vs. Benefit is Unacceptable

**Risk vs. Benefit – Difficult Intubation Assessment Considerations**
- This Factors all Increase the Risk of An Unsuccessful of Procedure
- Pediatric Patients
- Bariatric Patients
- Entrapped Patients
- Decreased Visualization of Uvula
- Mouth Opening Under Three Fingers Widths
- Tip of Chin to Neck without Displacing Tissue under Three Finger Widths
- Base of Mandible to Hyoid without Displacing Tissue under Three Finger Widths

Yes – Risk Benefit Acceptable

No – Risk vs. Benefit is Unacceptable

**Intubation Providers Available and Skill Level**
- Skill Level of Provider Is Adequate for This Patient

Yes – Provider Criteria Met

No – Provider Criteria Not Met

**Backup Advanced Airway Options Available**
- An Advanced Non-Visualized Airway of the Appropriate Size for the Patient is Immediately Available

Yes – Back Up Criteria Met

No - Backup Criteria Not Met

Consider RSI Procedure

Do Not Perform RSI Procedure
The **Paramedic** may consider RSI for patients of sufficient size and/or age in which the **Paramedic** has immediately available to a correctly sized advanced non-visualized airway to be used in event the intubation procedure fails.

<table>
<thead>
<tr>
<th>Rapid Sequence Intubation Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Criteria For Procedure</strong></td>
</tr>
<tr>
<td>- GCS (&lt; 8)</td>
</tr>
<tr>
<td>- Patient Unable to Protect Airway With or Without Trismus</td>
</tr>
<tr>
<td>- Respiratory Failure/ Rapidly Decreasing Respiratory Status</td>
</tr>
<tr>
<td>- Head Injuries, Major CVA with Decreased LOC and Inability to Protect Airway</td>
</tr>
<tr>
<td>- Impending Airway Compromise – Such as Airway Burns, Edema, Trauma to Larynx</td>
</tr>
<tr>
<td><strong>Assess and Monitor</strong></td>
</tr>
<tr>
<td>- For Difficult Airway – Intubation</td>
</tr>
<tr>
<td>- Risk vs. Benefit of Procedure</td>
</tr>
<tr>
<td>- Monitor Patient’s Vital Signs</td>
</tr>
<tr>
<td>- Pulse, BP, Respiratory Rate</td>
</tr>
<tr>
<td>- Pulse Oximetry, EtCO2, Cardiac Rhythm</td>
</tr>
<tr>
<td><strong>Prepare</strong></td>
</tr>
<tr>
<td>- Intubation Equipment and Select Tube Size</td>
</tr>
<tr>
<td>- Alternate Correctly Sized Non-visualized Advanced Airway Available</td>
</tr>
<tr>
<td>- If Alternate Advanced Airway is Not Available - DO NOT Attempt Procedure</td>
</tr>
<tr>
<td>- Surgical or Needle Cricothyrotomy Equipment Available</td>
</tr>
<tr>
<td>- Suction Available</td>
</tr>
<tr>
<td>- Establish IV or IO Access</td>
</tr>
<tr>
<td>- Consider Anti-emetic</td>
</tr>
<tr>
<td><strong>Oxygenation</strong></td>
</tr>
<tr>
<td>- Pre – Oxygenate with 100% FiO2 for 2-3 minutes By BVM</td>
</tr>
<tr>
<td>- Consider Cricoid Pressure – Sellick’s Maneuver</td>
</tr>
<tr>
<td>- OR Pre-Oxygenate with 100%FiO2 for 5 minutes by Non-Rebreather Mask</td>
</tr>
<tr>
<td><strong>Pre-Sedation/Induction Medication Considerations</strong></td>
</tr>
<tr>
<td>- For Signs and Symptoms/ High Index ofSuspicion of Increased ICP</td>
</tr>
<tr>
<td>- Consider Lidocaine 1.0-1.5mg/kg</td>
</tr>
<tr>
<td>- For Pediatric Patients</td>
</tr>
<tr>
<td>- Consider Atropine 0.01 to 0.02mg/Kg to a maximum of 0.5mg (Minimum Dose 0.1mg)</td>
</tr>
<tr>
<td>- When Using Ketamine as Sedative/Induction Agent</td>
</tr>
<tr>
<td>- Consider Atropine 0.01 to 0.02mg/Kg to a maximum of 0.5mg for Pediatric Patients</td>
</tr>
<tr>
<td>- Consider Atropine 0.5 mg for Adult Patients</td>
</tr>
<tr>
<td><strong>Administer Sedation/Induction Agent – MUST HAVE SEDATION/INDUCTION MEDICATION ON BOARD PRIOR TO PARALYTIC AGENT</strong></td>
</tr>
<tr>
<td>- Administer Sedative/Induction Agent – See Chart</td>
</tr>
<tr>
<td><strong>Administer Paralytic Agent</strong></td>
</tr>
<tr>
<td>- Administer Succinylcholine</td>
</tr>
<tr>
<td>- 1.5 mg/kg IV/IO – Adult</td>
</tr>
<tr>
<td>- 2.0 mg/kg IV/IO – Small Children</td>
</tr>
<tr>
<td>- May Consider Rocuronium 0.6 – 1.0mg/kg When</td>
</tr>
<tr>
<td>- Succinylcholine is Contra-indicated</td>
</tr>
<tr>
<td>- Succinylcholine is Unavailable</td>
</tr>
<tr>
<td>- OR PMD has authorized Rocuronium As Primary Agent</td>
</tr>
<tr>
<td><strong>Assess</strong></td>
</tr>
<tr>
<td>- For Jaw Relaxation and Apnea</td>
</tr>
<tr>
<td>- Decreased Resistance to BVM Ventilations</td>
</tr>
<tr>
<td><strong>Intubation</strong></td>
</tr>
<tr>
<td>- Perform Oral Intubation</td>
</tr>
<tr>
<td>- If NOT Successful in 15 Seconds Perform BVM Ventilation and Reattempt</td>
</tr>
<tr>
<td>- If Unsuccessful After 3 Attempts Use Alternate Advanced Airway</td>
</tr>
</tbody>
</table>
Confirm Placement
- Visualized Tube Pass Through Vocal Cords
- Observe Chest Rise and Fall
- Auscultate For Lung Sounds – No Epigastric Sounds
- Secondary Devices
  - Free Air Pull/Inflate on Esophageal Detector Device (EDD)
  - Positive EtCO2

Ventilate and Secure Tube
- Ventilate Patient At Appropriate Rate and Depth
  - Goals – O2 Sat 94 to 99% and EtCO2 35 to 45
  - Consider Use of PEEP and PIP If Available
- Secure Tube with Commercial Device or Other Method
- Place Rigid C-Collar Even If No Trauma to Assist in Maintaining Neutral Position
- Consider Soft Restraints to Patient's Arms to Prevent Unplanned Extubation

Reassess
- Vital Signs
- Adjust Rate and Depth of Ventilations as Needed
  - Goals – O2 Sat 94 to 99% and EtCO2 35 to 45
  - Consider Use of PEEP and PIP If Available
- Tube Placement after Each Patient Move

Administer Paralytic
- If Succinylcholine Used As Initial Paralytic Agent
  - Consider Vecuronium 0.1mg/kg Initial Dose and Maintain at 0.01 to0.05mg/kg;
  - OR Consider Rocuronium 0.6 – 1.2 mg/kg Initial Dose and Maintain at 0.1 – 0.2 mg/kg;
  - OR Consider Pancuronium 0.04 – 0.1 mg/kg
- If Rocuronium Used As Initial Paralytic Agent
  - Consider Rocuronium0.6 – 1.2 mg/kg Initial Dose and Maintain at 0.1 – 0.2 mg/kg;
  - OR Consider Vecuronium 0.1mg/kg Initial Dose and Maintain at 0.01 to0.05mg/kg;
  - OR Consider Pancuronium 0.04 - 0.1 mg/kg

Reassess and Maintain
- Reassess Vitals
- Titrate to Maintain Sedation **It is unethical to chemically paralyze a patient without sedation**
- Consider Pain Management See Chart
- Consider Bronchodilator Medication For Bronchospasms/ Exacerbation of COPD/Anaphylaxis
- Re-dose Non-Depolarizing Paralytic
### Approved Sedative/Induction Agents Chart

<table>
<thead>
<tr>
<th>Medication Name</th>
<th>Adult Dose <strong>DOSE FOR RSI</strong></th>
<th>Pediatric Dose *Maximum Dose Not To Exceed Adult Dose</th>
<th>Special Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Benzodiazepine Class</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diazepam (Valium)</td>
<td>5 to 10mg IV/IO, May repeat 2 to 4mg IV/IO to maintain sedation</td>
<td>0.04 – 0.2 mg/kg IV./IO (6 Mo to 12 years) May repeat to maintain sedation</td>
<td>Reversal Agent – Flumazenil (Rozemicon) Use with caution as rapid reverse may lead to seizures especially in patient with history of seizures</td>
</tr>
<tr>
<td>Lorazepam (Ativan)</td>
<td>2.0 – 4.0 mg IV/IO, May repeat 1 to 2mg to maintain sedation</td>
<td>0.1 mg/kg to max of 4 mg May repeat ½ initial dose to maintain sedation</td>
<td></td>
</tr>
<tr>
<td>Midazolam (Versed) <em>Most Preferred of this Class</em></td>
<td>2.0mg – 6mg IV/IO, May repeat 2mg to maintain sedation</td>
<td>0.2 to 0.3mg/kg (6 Mo and Older) May repeat ½ initial dose to maintain sedation</td>
<td></td>
</tr>
<tr>
<td><strong>Carboxylated Imidazole Derivative Class – Most Preferred Alternative to Benzodiazepine Class for Adult Sedative/Induction Acceptable Alternative to Benzodiazepine Class for Pediatric Sedative/Induction</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Etomidate</td>
<td>0.3 mg/kg IV/IO, May Repeat 0.1 -0.15 mg/kg to maintain sedation</td>
<td></td>
<td>Avoid if patients 10 years old or younger</td>
</tr>
<tr>
<td><strong>NMDA Receptor Antagonist Class – Acceptable Alternative to Benzodiazepine Class for Adult and Pediatric Sedative/Induction</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ketamine</td>
<td>2.0 – 4.0mg/kg IV/IO, 0.25 – 0.5 mg/kg every 5 to 10 minutes to maintain sedation</td>
<td>For Patient’s Over 6 Months Old 2.0 – 4.0 mg/kg IM 1.0 – 2.0 mg/kg IV/IO 0.25 – 0.5 mg/kg every 5 to 10 minutes to maintain sedation</td>
<td>To Prevent Hypersalivation Consider administration of Atropine 0.02 mg/kg with a minimal dose of 0.1 mg and a maximum of 0.5 mg for Pediatric 0.5mg Single Dose for Adults</td>
</tr>
<tr>
<td><strong>General Anesthesia/Sedative/Hypnotic Class – Acceptable Alternative to Benzodiazepine Class</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propofol</td>
<td>1 – 2 mg/kg IV/IO, 0.05mg – 0.1kg/min infusion to maintain sedation</td>
<td>1 – 2 mg/kg IV/IO, 0.05 – 0.1mg /kg/min infusion to maintain sedation</td>
<td>May cause hypotension – Avoid in hypotensive patients or patients with a high risk of developing hypotension</td>
</tr>
<tr>
<td><strong>Barbiturate Class – Acceptable Alternative to Benzodiazepine Class When One of The Above Alternative Are Not Available</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methohexital (Brevital)</td>
<td>1 – 1.5 mg/kg IV/IO – 1% Solution 0.5 mg/kg every 4-7 minutes to maintain sedation</td>
<td>6.6 to 10 mg/kg IM 5% Solution 25MG/Kg Rectal 1% Solution Over 1 Month of Age Consider another agent to maintain sedation</td>
<td></td>
</tr>
<tr>
<td><strong>Phenothiazine Class – Least Desirable Alternative – Reserved To Incidents When No Other Alternative Are Available</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prochlorperazine (Compazine)</td>
<td>5 – 10mg IV/IO, May Repeat Once</td>
<td>Not Approved</td>
<td>Use lowest possible dose to prevent extrapyramidal reactions For EPR consider Diphenhydramine (Benadryl) 12.5 to25mg Peds 25 to50mg Adults</td>
</tr>
<tr>
<td>Promethazine (Phenergan)</td>
<td>25 – 50mg IV/IO, May Repeat Once</td>
<td>0.5 – 1.0 mg/kg to max of 25mg IV/IO Single Dose Only</td>
<td></td>
</tr>
</tbody>
</table>
### Approved Neuromuscular Blocking Agents Chart

<table>
<thead>
<tr>
<th>Medication Name</th>
<th>Dosage (Paralytic)</th>
<th>Dosage (Defasciculating)</th>
<th>Onset</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Depolarizing Class</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Succinylcholine</td>
<td>RSI: 1 to 2 mg/kg</td>
<td></td>
<td>30 to 60 seconds</td>
<td>4 to 6 minutes</td>
</tr>
<tr>
<td>Vecuronium (Norcuron)</td>
<td>RSI: 0.1 mg/kg</td>
<td>M: 0.01 – .05 mg/kg</td>
<td>0.01 mg/kg</td>
<td>2.5 to 5 minutes</td>
</tr>
<tr>
<td>Pancuronium (Pavulon)</td>
<td>RSI: 0.04 – 0.1 mg/kg</td>
<td>M: 0.01 mg/kg</td>
<td>0.01 mg/kg</td>
<td>2.5 to 5 minutes</td>
</tr>
<tr>
<td>Rocuronium (Zemuron)</td>
<td>RSI: 0.6 – 1.2 mg/kg</td>
<td>M: 0.1 – 0.2 mg/kg</td>
<td>1 – 3 minutes</td>
<td>30 minutes</td>
</tr>
</tbody>
</table>

### Approved Pain Management Chart for RSI

<table>
<thead>
<tr>
<th>Medication Name</th>
<th>Adult Dose</th>
<th>Pediatric Dose</th>
<th>Special Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opioid Class</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morphine</td>
<td>2 – 4 mg IV/IO</td>
<td>0.05 – 0.2 mg/kg IV/IO</td>
<td>Reversal Agent – Naloxone (Narcan)</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>25 to 100 mcg IV/IO</td>
<td>1.0 – 2.0 mcg/kg IV/IO</td>
<td></td>
</tr>
<tr>
<td>Hydromorphone (Dilaudid)</td>
<td>0.2 – 0.6 mg IV/IO</td>
<td>0.03 to 0.08 mg/kg IV/IO</td>
<td>Over 6 Months</td>
</tr>
<tr>
<td>Nalbuphine (Nubain)</td>
<td>10 to 20 mg IV/IO</td>
<td>0.05 to 0.1 mg/kg IV/IO</td>
<td></td>
</tr>
</tbody>
</table>

**Opioid Class – Least Desirable Alternative – But Acceptable**

<table>
<thead>
<tr>
<th>Medication Name</th>
<th>Adult Dose</th>
<th>Pediatric Dose</th>
<th>Special Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meperidine (Demerol)</td>
<td>50 – 100 mg IV/IO/IM</td>
<td>1 mg/kg IV/IO/IM</td>
<td>Reversal Agent – Naloxone (Narcan)</td>
</tr>
</tbody>
</table>
The START Triage method is the adopted triage method for multiple patient incidents.

Triage Colors:
- Green /Minor – Walking type wounded requiring little or no care
- Yellow/Delayed – Unable to ambulate and require care
- Red/Immediate – Unable to ambulate and require immediate care
- Black – Patient without a pulse or injuries incompatible with life
# Nebraska EMS Medication Formulary Sorted By Class

<table>
<thead>
<tr>
<th>Class</th>
<th>Medication Name</th>
<th>Other Name</th>
<th>EMR</th>
<th>EMT</th>
<th>EMT-I</th>
<th>Paramedic</th>
<th>Special Information</th>
<th>Adult Dose</th>
<th>Pediatric Dose Maximum Dose Not to Exceed Adult Dose</th>
<th>Route(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analgesic</td>
<td>Fentanyl</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25 to 100 mcg</td>
<td>1.0 to 2.0 mcg/kg</td>
<td>IV/IO/IM/MAD</td>
</tr>
<tr>
<td></td>
<td>Hydromorphone</td>
<td>Dilaudid</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.2 to 0.6 mcg</td>
<td>ONLY 0.01 mg/kg</td>
<td>IV/IO/IM/MAD</td>
</tr>
<tr>
<td></td>
<td>Morphine</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>Antidote - Naloxone</td>
<td>2 – 4 mg May Repeat</td>
<td>0.05 to 0.2 mg/kg May Repeat</td>
<td>IV/IO/IM/MAD</td>
</tr>
<tr>
<td></td>
<td>Nalbuphine</td>
<td>Nubain</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10 to 20 mg</td>
<td>0.05 to 0.1 mg/kg</td>
<td>IV/IO</td>
</tr>
<tr>
<td></td>
<td>Stadol</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>0.5 to 2 mg</td>
<td>Not Approved Under Age 18</td>
<td>IV/IO</td>
</tr>
<tr>
<td></td>
<td>Ketorolac</td>
<td>Toradol</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15 to 30 mg</td>
<td>0.5mg/kg</td>
<td>IV/IO</td>
</tr>
<tr>
<td></td>
<td>Adenosine</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>6 mg May Repeat at 12 mg</td>
<td>0.1 mg/kg May Repeat at 0.2 mg/kg</td>
<td>IV</td>
</tr>
<tr>
<td></td>
<td>Amiodarone</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>150 mg - Stable Wide Complex Tach</td>
<td>EMT-I May Not Give for Stable Wide Complex Tach</td>
<td>IV/IO</td>
</tr>
<tr>
<td></td>
<td>Amiodarone Infusion</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>300 mg - V-Fib /V-Tach May Repeat at 150mg</td>
<td>5mg/kg - V-Fib/V-Tach May Repeat at same dose to Max 15 mg/kg</td>
<td>IV/IO</td>
</tr>
<tr>
<td></td>
<td>Atropine</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>0.5 mg - Symptomatic Bradycardia May repeat to Max 3mg</td>
<td>0.02 mg/kg Minimum Dose 0.1 mg May Repeat Once</td>
<td>IV/IO</td>
</tr>
<tr>
<td></td>
<td>Diltiazem</td>
<td>Cardizem</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.25 mg/kg Over 2 Minutes May Repeat Once After 15 Minutes 0.35 mg/kg Over 2 Minutes - Consult Medical Control, PMD, Or Transport Orders for Infusion</td>
<td>Not Approved</td>
<td>IV/IO</td>
</tr>
<tr>
<td></td>
<td>Lidocaine 2%</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>1 to 1.5 mg/kg - V-Fib /V-Tach May Repeat at 1/2 Initial Dose to Max 3mg/kg</td>
<td>1.0 mg/kg - V-Fib /V-Tach May Repeat at 1/2 Initial Dose to Max 3mg/kg</td>
<td>IV/IO</td>
</tr>
<tr>
<td></td>
<td>Lidocaine 2%</td>
<td></td>
<td>X*</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>1 to 4 mg/min Infusion</td>
<td>20 - 50 mcg/min Infusion</td>
<td>IV/IO *EMT-I Must Have ACLS Training</td>
</tr>
<tr>
<td></td>
<td>Metoprolol</td>
<td>Lopressor</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5 mg IV. May be repeated every 5 minutes for a total of three (3) doses.</td>
<td>Not approved</td>
<td>IV</td>
</tr>
<tr>
<td></td>
<td>Procainamide Infusion</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20 - 30 mg/min to Maximum of 17mg/kg STOP II QRS Widens &gt;50%</td>
<td>Seek Medical Control /PMD Consult</td>
<td>IV/IO</td>
</tr>
<tr>
<td></td>
<td>Sotalol</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.5mg/kg IV/IO over 5 minutes</td>
<td>Not Approved</td>
<td>IV/IO</td>
</tr>
<tr>
<td></td>
<td>Verapamil</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.5 to 5 mg over 2 minutes - Consult Medical Control, PMD, Or Transport Orders for Infusion</td>
<td>Not Approved</td>
<td>IV/IO</td>
</tr>
</tbody>
</table>

*Special Situations And/or Additional Training and PMD Approval Required

2012 Edition
Page 148
## Nebraska EMS Medication Formulary Sorted By Class

<table>
<thead>
<tr>
<th>Class</th>
<th>Medication Name</th>
<th>Other Name</th>
<th>EMR</th>
<th>EMT</th>
<th>AEMT</th>
<th>EMT-I</th>
<th>Plasma</th>
<th>Special Information</th>
<th>Adult Dose</th>
<th>Pediatric Dose</th>
<th>Maximum Dose Not to Exceed Adult Dose</th>
<th>Route(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antidote</td>
<td>Naloxone</td>
<td>Narcan</td>
<td>#</td>
<td>#</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>0.4 to 2mg</td>
<td></td>
<td>0.1 mg/kg</td>
<td>IV/IO/MAD AEMT and above; #MAD/auto injector only EMT &amp; EMT</td>
</tr>
<tr>
<td>Antidote</td>
<td>Pralidoxime</td>
<td>2-Pam</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>600 to 1200 mg Over 5 Minutes OR as an Infusion Over 15-30 Minutes</td>
<td></td>
<td>20-50 mg/kg Max 1200mg Over 15 to 30 Minutes After 15 Minutes May Consider 10 – 20 mg/kg/hr infusion</td>
<td>IV/IO</td>
</tr>
<tr>
<td>Antidote</td>
<td>Atropine - Pralidoxime Separate Auto Injectors</td>
<td>2-Pam</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>X</td>
<td>X</td>
<td>Antidote Kit Mark I</td>
<td>Mild Symptoms – One Each Moderate Symptoms – Two Each Severe Symptoms – Three Each</td>
<td>Mild Symptoms One Each (All Ages) Moderate and Severe Symptoms Age 3 to 7 years – One Each Age 8 – 12 years – Two Each Over 12 years – Use Adult Dosing</td>
<td>Auto-Injector</td>
<td></td>
</tr>
<tr>
<td>Antidote</td>
<td>Atropine-Pralidoxime Auto-Injector</td>
<td>DouDote</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>X</td>
<td>X</td>
<td>Antidote Kit DouDote Kit</td>
<td>Mild Symptoms – One Moderate Symptoms – Two Severe Symptoms – Three</td>
<td>Mild Symptoms One (All Ages) Moderate and Severe Symptoms Age 3 to 7 years – One Age 8 – 12 years – Two Over 12 years – Use Adult Dosing</td>
<td>Auto-Injector</td>
<td></td>
</tr>
<tr>
<td>Antidote</td>
<td>Hydroxocobalamin</td>
<td>Cyanokit</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5g in 200mL NS over 15minutes</td>
<td></td>
<td></td>
<td>Physician Order Only</td>
</tr>
<tr>
<td>Anti-Emetic</td>
<td>Dolasetron</td>
<td>Anzemet</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Preferred Anti-Emetic Agents</td>
<td>12.5 mg May Repeat</td>
<td></td>
<td>Not Approved</td>
</tr>
<tr>
<td>Anti-Emetic</td>
<td>Ondansetron</td>
<td>Zofran</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4 to 8 mg May Repeat</td>
<td></td>
<td>Under 40kg 0.1 mg/kg Over 40kg 4.0 mg</td>
<td>IV/IO</td>
</tr>
<tr>
<td>Anti-Emetic - Sedative</td>
<td>Promethazine</td>
<td>Phenergan</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Anti-Emetic</td>
<td>12.5 to 25 mg May Repeat Once</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anti-Emetic - Sedative</td>
<td>Prochlorperazine</td>
<td>Compazine</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Least Desirable Class For Sedation</td>
<td>5 mg – Sedative – May Repeat Once Reserved to Incidents When No Other Alternative is Available</td>
<td></td>
<td>Not Approved</td>
</tr>
</tbody>
</table>

* **Special Situations And/or Additional Training and PMD Approval Required**
<table>
<thead>
<tr>
<th>Class</th>
<th>Medication Name</th>
<th>Other Name</th>
<th>Paramedic</th>
<th>EMT-1</th>
<th>Special Information</th>
<th>Adult Dose</th>
<th>Pediatric Dose</th>
<th>Route(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antihistamine</td>
<td>Diphenhydramine</td>
<td>Benadryl</td>
<td>X</td>
<td>X</td>
<td>25 to 50 mg</td>
<td>1 to 2mg/kg</td>
<td></td>
<td>IV/IO/IM</td>
</tr>
<tr>
<td>Anti-Psychotic</td>
<td>Haloperidol</td>
<td>Haldol</td>
<td>X</td>
<td></td>
<td>2.5 to 5 mg</td>
<td>Not Approved</td>
<td></td>
<td>IV/IO/IM</td>
</tr>
<tr>
<td>Benzodiazepine</td>
<td>Diazepam</td>
<td>Valium</td>
<td>X</td>
<td>X</td>
<td>2 to 4 mg Seizure May Repeat</td>
<td>0.05 /kg - Seizures May Repeat</td>
<td></td>
<td>IV.IO/Rectal **Pediatric Dose are for Ages 6 Months and Older</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 to 4 mg Sedation May Repeat</td>
<td>0.05 /kg - Sedation May Repeat</td>
<td></td>
<td>IV.IO/MAD **Pediatric Dose are for Ages 6 Months and Older</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5 to 10 mg Induction (Paramedic) May Repeat 2-4mg to Maintain Sedation</td>
<td>0.1 mg/kg – Induction May Repeat 1/2 Initial Dose to Maintain Sedation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lorazepam</td>
<td>Ativan</td>
<td>X</td>
<td></td>
<td>2 to 4 mg Seizures May Repeat</td>
<td>0.1 mg/kg -Seizures May Repeat</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 to 4 mg Induction May Repeat 1 to 2 mg to Maintain Sedation</td>
<td>0.2 mg/kg -Sedation May Repeat</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Midazolam</td>
<td>Versed</td>
<td>X</td>
<td></td>
<td>Preferred Agent for RSI Sedation</td>
<td>2.5 mg Unit Dose May Repeat</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Albuterol</td>
<td>Proventil</td>
<td>*</td>
<td>X</td>
<td>Preferred Agent</td>
<td>2.5 mg Unit Dose May Repeat</td>
<td></td>
<td>Nebulized</td>
</tr>
<tr>
<td></td>
<td>Albuterol For Hyperkalemia</td>
<td></td>
<td>X</td>
<td></td>
<td>For Hyperkalemia Confirmed By Diagnostic 3 lead or 12 lead with Tall Spiked T waves 15mg (6 ea. Unit Dose) Nebulized</td>
<td>Physician Order Only</td>
<td></td>
<td>Nebulized</td>
</tr>
<tr>
<td></td>
<td>Albuterol/ Ipratropium</td>
<td>DuoNeb</td>
<td>X</td>
<td></td>
<td>3mg -0.5mg Unit Dose May Repeat</td>
<td>3mg -0.5mg Unit Dose May Repeat</td>
<td></td>
<td>Nebulized</td>
</tr>
</tbody>
</table>

* * Special Situations And/or Additional Training and PMD Approval Required"
<table>
<thead>
<tr>
<th>Class</th>
<th>Medication Name</th>
<th>Other Name</th>
<th>EMR</th>
<th>EMT</th>
<th>AEMT</th>
<th>Paramedic</th>
<th>Special Information</th>
<th>Adult Dose</th>
<th>Pediatric Dose Maximum Dose Not to Exceed Adult Dose</th>
<th>Route(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronchodilator</td>
<td>Ipratropium</td>
<td>Atrovent</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>0.5mg Unit Dose</td>
<td>125 to 250 mcg 1/4 to 1/2 Unit Dose</td>
<td>Nebulized</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Epinephrine 1:1000</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>Alternate for Racemic Epinephrine</td>
<td>3 to 5mg Diluted in 1 to 3 ML NS</td>
<td>Age 4 and under 0.5ml/kg to Max 2.5ml Age 5 and Older 0.5ml/kg to Max 5ml</td>
<td>Nebulized</td>
</tr>
<tr>
<td></td>
<td>Metaproterenol 5%</td>
<td>Alupent</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>10 to 15mg in 3 ml NS</td>
<td>Age Under 2 – 0.1 ml in 3 ml NS Age 2 to 9 – 0.2 ml in 3 ml NS Age Over 9 – Use Adult Dose</td>
<td>Nebulized</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Epinephrine - Racemic Epinephrine 2.5%</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Consider As A First Line Agent For Pediatric RSV and Croup</td>
<td>0.5 to 0.75ml in 3 ml NS</td>
<td>0 -20 kg – 0.25 ml in 3 ml NS 20 to 40kg – 0.5 ml in 3 ml NS Over 40kg 0.5 to 0.75 ml in 3 ml NS</td>
<td>Nebulized</td>
</tr>
<tr>
<td></td>
<td>Terbutaline</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>0.25 mg</td>
<td>0.005 to 0.01mg/kg (5 to 10 mcg/kg)</td>
<td>SubQ</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aminophylline</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>Second Line Therapy For Exacerbations of COPD</td>
<td>5mg/kg added to 50 to 250 NS infused over 20 to 30 minutes</td>
<td>Not Approved</td>
<td>IV/IO</td>
</tr>
<tr>
<td>Diuretic</td>
<td>Furosemide</td>
<td>Lasix</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>20 to 80 mg</td>
<td>Physician Order Only</td>
<td>IV/IO Slowly</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Calcium Chloride 10%</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>Known Calcium Channel Blocker Overdose 5ml (500mg) over 2-5 Mins Avoid In Mixed Ods OR Situations Where Calcium Channel Blocker OD Can Not be Confirmed</td>
<td>Physician Order Only</td>
<td>IV/IO</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Calcium Gluconate 10%</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>Known Calcium Channel Blocker Overdose 15ml over 2-5 Mins Avoid In Mixed Ods OR Situations Where Calcium Channel Blocker OD Can Not be Confirmed</td>
<td>Physician Order Only</td>
<td>IV/IO</td>
<td></td>
</tr>
</tbody>
</table>

* Special Situations And/or Additional Training and PMD Approval Required
# Nebraska EMS Medication Formulary Sorted By Class

<table>
<thead>
<tr>
<th>Class</th>
<th>Medication Name</th>
<th>Other Name</th>
<th>EMR</th>
<th>EMT</th>
<th>AEMT</th>
<th>Paramedic</th>
<th>Special Information</th>
<th>Adult Dose</th>
<th>Pediatric Dose Maximum Dose Not to Exceed Adult Dose</th>
<th>Route(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrolyte</td>
<td>Magnesium Sulfate</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Torsades 1 to 2 Grams</td>
<td>Physician Order Only</td>
<td></td>
<td>IV/IO</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pre-Eclampsia 1 to 2 Grams</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Eclampsia 2 to 4 Grams</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Bronchospasm 1 to 2 Grams over 10 Mins</td>
<td>25 to 50mg/kg over 10 Minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glucose Agent</td>
<td>Sodium Bicarb 4.2%</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>See Below</td>
<td>Age 8 and Under 1mEq/kg 4.2%</td>
<td></td>
<td>IV/IO</td>
</tr>
<tr>
<td></td>
<td>Sodium Bicarb 8.4%</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>50 m Eq 8.4%</td>
<td>Over Age 8 1mEq/kg 8.4%</td>
<td></td>
<td>IV/IO</td>
</tr>
<tr>
<td></td>
<td>Dextrose 12.5%</td>
<td>X X X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12.5 to 25 grams OR Consider D50% May Consider Orally if Patient Maintains Own Airway</td>
<td>Age 0 to 1 year – 4ml/kg max 6 Grams</td>
<td></td>
<td>IV/IO</td>
</tr>
<tr>
<td></td>
<td>Dextrose 25%</td>
<td>X X X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12.5 to 25 grams OR Consider D50% May Consider Orally if Patient Maintains Own Airway</td>
<td>Age 1 to 8 years – 2ml/kg Max 12.5 grams May Consider Orally if Patient Maintains Own Airway</td>
<td></td>
<td>IV/IO</td>
</tr>
<tr>
<td></td>
<td>Dextrose 50%</td>
<td>X X X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12.5 to 25 grams May Consider Orally if Patient Maintains Own Airway</td>
<td>Age 8 to Onset Puberty 1ml/kg to Max 25 grams May Consider Orally if Patient Maintains Own Airway</td>
<td></td>
<td>IV/IO</td>
</tr>
<tr>
<td></td>
<td>Glucagon</td>
<td>X X X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 mg</td>
<td>Under 25 kg – 0.5 mg 25kg and Over – 1 mg</td>
<td></td>
<td>SubQ/IM/MAD</td>
</tr>
<tr>
<td>NSAID</td>
<td>Acetylsalicylic Acid</td>
<td>* X X X X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4 Each – 81mg Chewed and Swallowed</td>
<td>Not Approved</td>
<td></td>
<td>PO</td>
</tr>
<tr>
<td>Oxygen – All Devices</td>
<td>Oxygen – BVM</td>
<td>X X X X X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10 – 15 LPM</td>
<td>10 – 15 LPM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxygen – Nasal Cannula</td>
<td>Oxygen – Non-Rebreather</td>
<td>X X X X X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10 to 15 LPM</td>
<td>10 to 15 LPM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxygen – Venturi</td>
<td>Oxygen – Venturi</td>
<td>X X X X X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Flow By % Required Per Patient</td>
<td>Flow By % Required Per Patient</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Special Situations And/or Additional Training and PMD Approval Required

2012 Edition
Page 152
### Nebraska EMS Medication Formulary Sorted By Class

<table>
<thead>
<tr>
<th>Class</th>
<th>Medication Name</th>
<th>Other Name</th>
<th>EMR</th>
<th>EMT</th>
<th>AEMT</th>
<th>PMT</th>
<th>Special Information</th>
<th>Adult Dose</th>
<th>Pediatric Dose</th>
<th>Maximum Dose Not to Exceed Adult Dose</th>
<th>Route(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depolarizing Paralytic</td>
<td>Succinylcholine</td>
<td>Anectine</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>RSI: 1 to 2 mg/kg Once Only</td>
<td>RSI: 1 to 2 mg/kg Once Only</td>
<td>IV/IO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Polarizing Paralytic</td>
<td>Pancuronium</td>
<td>Pavulon</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>RSI: 0.04 to 0.1 mg/kg Maintain: 0.01 mg/kg</td>
<td>RSI: 0.04 to 0.1 mg/kg Maintain: 0.01 mg/kg</td>
<td>IV/IO</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rocuronium</td>
<td>Zemuron</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td>RSI: 0.6 to 1.2 mg/kg Maintain: 0.1 to 0.2 mg/kg</td>
<td>RSI: 0.6 to 1.2 mg/kg Maintain: 0.1 to 0.2 mg/kg</td>
<td>IV/IO</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vecuronium</td>
<td>Norcuron</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td>RSI: 0.1 mg/kg Maintain: 0.01 to 0.05 mg/kg</td>
<td>RSI: 0.1 mg/kg Maintain: 0.01 to 0.05 mg/kg</td>
<td>IV/IO</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Etomidate</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Induction: 0.3 mg/kg Maintain: 0.1 to 0.15 mg/kg</td>
<td>Above 10 Years Old Induction: 0.3 mg/kg Maintain: 0.1 to 0.15 mg/kg</td>
<td>IV/IO</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ketamine</td>
<td>Ketalar</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td>1.5 to 2 mg/kg sedation and induction 0.25 to 0.5 mg every 5 to 10 minutes to maintain sedation. 1-2 mg/kg IV/IO for sedation and induction. 0.25 to .5 mg every 5 to 10 minutes to maintain sedation.</td>
<td>Age 6 months and older 2 to 4 mg/kg IV/IO for sedation and induction 0.25 to 0.5 mg/kg every 5 to 10 minutes to maintain sedation.</td>
<td>IV/IO/IM</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Methohexital</td>
<td>Brevital</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>1 to 1.5 mg/kg IV/IO of 1% Solution Induction 0.5mg/kg every 4 to 7 Mins to Maintain Sedation</td>
<td>Age 1 Month and Older 6.6 to 10 mg/kg IM (5% Solution) 25mg/kg Rectal 1% Solution Consider Another Agent to Maintain Sedation</td>
<td>**Approved for RSI and NOT for Pain Mgt And Sedation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Propofol</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>1 to 2 mg/kg IV/IO Induction 0.05 to 0.1 mg/kg/min Infusion to maintain Sedation Must Be On a Pump</td>
<td>1 to 2 mg/kg IV/IO Induction 0.05 to 0.1 mg/kg/min Infusion to maintain Sedation Must Be On a Pump</td>
<td>**Approved for RSI and NOT for Pain Mgt And Sedation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Methylprednisolone</td>
<td>Solu-Medrol</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>125 to 250mg</td>
<td>2 mg/kg to Max of 125Mg</td>
<td>IV/IO</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Special Situations And/or Additional Training and PMD Approval Required**
<table>
<thead>
<tr>
<th>Class</th>
<th>Medication Name</th>
<th>Other Name</th>
<th>EMR</th>
<th>EMT</th>
<th>AEMT</th>
<th>Paramedic</th>
<th>Special Information</th>
<th>Adult Dose</th>
<th>Pediatric Dose Maximum Dose Not to Exceed Adult Dose</th>
<th>Route(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sympathomimetic</td>
<td>Epinephrine - 0.15mg Auto-Injector</td>
<td>EpiPen Jr</td>
<td>*</td>
<td>*</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Adults Use 0.30 mg Epinephrine Auto Injector</td>
<td>30 kg and Under Use 0.15 mg Epinephrine Auto Injector</td>
<td>SubQ</td>
</tr>
<tr>
<td></td>
<td>Epinephrine - 0.3mg Auto-Injector</td>
<td>EpiPen</td>
<td>*</td>
<td>*</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Adults Use 0.30 mg Epinephrine Auto Injector</td>
<td>Over 30 Kg Use 0.30 mg Epinephrine Auto Injector</td>
<td>SubQ</td>
</tr>
<tr>
<td></td>
<td>Epinephrine 1:10,000</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>1 mg Cardiac Arrest 0.3 mg IV/IO Allergic Reaction</td>
<td>0.01 mg/kg Cardiac Arrest</td>
<td>IV/IO and ET in Cardiac Arrest</td>
</tr>
<tr>
<td></td>
<td>Epinephrine 1:1000</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>0.3mg</td>
<td>0.01 mg/kg</td>
<td>IM</td>
</tr>
<tr>
<td>Vasodilator</td>
<td>Nitroglycerin</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>0.4 mg Every 5 mins for Chest Pain. Total dose 3 for EMT, AEMT, and EMT-I. Paramedics may give additional doses 0.4 mg every 5 mins for Chest Pain. Paramedics may give additional doses for CHF in distress with systolic BP 180 and greater – 3 each 0.4 mg <em>, 140 to 180 – 2 each .04 mb</em>, 100 to 140 – 1 each 0.4 mg* (Must have IV/IO Access). Nitroglycerin may be mixed in D5W or NS. Begin the nitroglycerin drip at 5 mcg/min and increase IV/IO by 5 mcg/min at 5 min intervals if chest pain persists and systolic blood pressure remains above 100mmHg.</td>
<td>Not Approved</td>
<td>SL, IV/IO* *Paramedic Only</td>
</tr>
<tr>
<td></td>
<td>Dobutamine</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td>2 to 20 mcg/kg/min</td>
<td>2 to 20 mcg/kg/min</td>
<td>IV/IO</td>
</tr>
<tr>
<td></td>
<td>Dopamine</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td>2 to 20 mcg/kg/min</td>
<td>2 to 20 mcg/kg/min</td>
<td>IV/IO</td>
</tr>
<tr>
<td></td>
<td>Norepinephrine</td>
<td>Levophed</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td>0.5 to 30 mcg/min</td>
<td>Physician Order Only</td>
<td>IV/IO</td>
</tr>
<tr>
<td></td>
<td>Thiamine</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td>100 mg IV/IO</td>
<td>100mg For Adolescent Patient with Gastric Bypass or Gastric Banding And Trauma – Otherwise by Physician Order</td>
<td>IV/IO</td>
</tr>
<tr>
<td></td>
<td>Plavix</td>
<td>Clopidogrel</td>
<td>X*</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>300 mg Loading Dose Patients Age ≤ 75 75 mg for Patients &gt;75</td>
<td>Not Approved</td>
<td>PO</td>
</tr>
</tbody>
</table>

* Special Situations And/or Additional Training and PMD Approval Required
### Recent Updates:

<table>
<thead>
<tr>
<th>Protocol Updated</th>
<th>Date Updated</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moved Cincinnati and LA Stroke Scales</td>
<td>4/24/17</td>
<td>40</td>
</tr>
<tr>
<td>Added Suspected Stroke Protocol</td>
<td>4/24/17</td>
<td>41-42</td>
</tr>
<tr>
<td>Medication Formulary</td>
<td>10/4/16</td>
<td>144</td>
</tr>
<tr>
<td>Cardiac Arrest – AED and CPR</td>
<td>10/4/16</td>
<td>24</td>
</tr>
<tr>
<td>Cardiac Arrest – Advanced Cardiac Life Support</td>
<td>10/4/16</td>
<td>25</td>
</tr>
<tr>
<td>Cardiac Arrest – Special Situations</td>
<td>10/4/16</td>
<td>26</td>
</tr>
<tr>
<td>Behavioral Emergencies</td>
<td>8/11/16</td>
<td>22</td>
</tr>
<tr>
<td>Decreased Level of Consciousness – Decreased Mental Status</td>
<td>8/11/16</td>
<td>40</td>
</tr>
<tr>
<td>Airway – Choking – Foreign Body Airway Obstruction</td>
<td>7/7/16</td>
<td>18</td>
</tr>
<tr>
<td>Respiratory Arrest</td>
<td>7/7/16</td>
<td>49</td>
</tr>
<tr>
<td>Respiratory Distress – Asthma</td>
<td>7/7/16</td>
<td>50</td>
</tr>
<tr>
<td>Toxins – Overdose Special Instructions for Specific Toxins</td>
<td>7/7/16</td>
<td>59</td>
</tr>
<tr>
<td>Delivery – Uncomplicated</td>
<td>7/7/16</td>
<td>79</td>
</tr>
<tr>
<td>Decreased Level of Consciousness – Decreased Mental Status</td>
<td>7/7/16</td>
<td>101</td>
</tr>
</tbody>
</table>