**Emergency Medical Dispatch:**

In most cases Emergency Medical Care begins when 911 is called. Telecommunications Specialists that are certified in Emergency Medical Dispatch (EMD) with the New Hampshire Bureau of Emergency Communications serve as the "First, First Responders" and are an integral part of the EMS system. They are the first-activated professional link in the chain of survival for cardiac arrest care and provide vital interim care pending EMS arrival. New Hampshire currently uses the Medical Priority Dispatch System (MPDS). Some of the Telecommunication Specialists' functions include:

- Timely notification to local dispatch centers.
- Systematized caller interrogation and pre-arrival instructions using scripted protocols.
- Triage emergency medical calls by level of medical acuity and provide dispatch centers with standardized dispatch determinants (i.e., Omega, Alpha, Bravo, Charlie, Delta, Echo).
- With local medical director approval, each EMS agency may choose what resources and type of response (i.e., lights and siren versus flow of traffic) for each dispatch determinant.

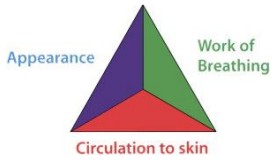
**Respond to Scene in a Safe Manner:**

- Review dispatch information.
- Use lights and sirens and/or pre-emptive devices when responding as appropriate per emergency medical dispatch information and local guidelines.
- Use Incident Management/Command System (IM/CS) for all responses and scene management.

**Scene Arrival and Size-up:** Universal precautions, scene safety, environmental hazards assessment, number of patients, need for additional resources, and bystander safety. Initiate Mass Casualty Incident procedures as necessary.

**Patient Approach:**

- Determine mechanism of injury / nature of illness.
- If patient is in cardiac arrest refer to the Cardiac Arrest Protocol.
- Determine if pediatric protocols apply. "Pediatric Patient" is defined as a child who fits on a length-based resuscitation tape up to 36kg (79 lbs) or 145cm (57 in).
- Establish responsiveness.
- General Impression.




| | Appearance | Work of Breathing | Circulation to Skin |
|---|---|---|---|
| Adult | Awake, speaking, eye opening, agitated, limp, unresponsive | Labored, noisy, fast, slow, equal chest rise | Pink, flushed, pale, ashen, cyanosis |
| Pediatric | Muscle tone, interactiveness, consolability, gaze/look, speech/cry | Airway sounds, body position, head bobbing, chest wall retractions, nasal flaring | Pallor, mottling, cyanosis |

- Determine if DNR/Comfort Care protocol applies (DNR Policy).

**Airway and Breathing:**

- Airway
  - Assess the patient for a patent airway.
  - Open the airway using a head-tilt/chin-lift, or a jaw thrust if suspicious of cervical spine injury.
  - Suction the airway as needed.
  - Treat foreign body obstruction in accordance with current guidelines.
  - Consider an oropharyngeal or nasopharyngeal airway.
  - Consider advanced airway interventions as appropriate and as trained and credentialed to perform.
- Assess breathing: rate, effort, tidal volume, and breath sounds.
  - If breathing is inadequate, ventilate with 100% oxygen using Bag-Valve-Mask.
  - If breathing is adequate, but patient's oxygen saturation is ≤ 94% (≤ 90% for COPD patient) or short of breath, administer oxygen.
    - Both skin signs and pulse oximetry are important in assessing potential hypoxia.
  - Consider quantitative waveform capnography (aka: $EtCO_2$) and/or CO-oximetry, if available.
  - Assess lung sounds and chest.

Protocol Continues

Protocol Continues

**Circulation Assessment**

- Assess patient's pulse, noting rate, rhythm, and quality.
- Control active bleeding using direct pressure, pressure bandages, tourniquets, or hemostatic bandages.
  - Hemostatic bandages must be of a non-exothermic type that can be washed off with 0.9% NaCl (normal saline).
  - Assess patient's skin color, capillary refill, temperature, and moisture.
- Provide IV access and fluid resuscitation as appropriate for the patient's condition.
  - For adult patients, administer fluids to maintain systolic blood pressure per the Shock Protocols 2.20A, 2.21, 4.4.
  - For pediatric patients, administer fluids based on physiological signs and therapeutic end-points per the Shock Protocol 2.20P, 2.21, 4.4.
  - For adult patients with suspected dehydration without shock administer IV fluids as indicated in increments of 250 mL 0.9% NaCl.
  - Consider obtaining a blood sample, per receiving hospital's preference.

NOTE: An IV for the purposes of these protocols is a saline lock or line with 0.9% NaCl (normal saline), unless otherwise specified in an individual protocol.
Routes of medication administration when written as "IV" can also include "IO".

**Disability Assessment:**

- Assess level of consciousness appropriate for age; use Glasgow Coma Scale for trauma.
- Spinal motion restriction by collaring patient, placing flat on cot and securing, if indicated by Spinal Injury Protocol 4.5.
- In general, pediatric patients should not be transported in a passenger safety seat if a cervical/spinal injury is suspected. (See Pediatric Transport 8.12).

**Transport Decision**

- The destination hospital and mode of transport are determined by the prehospital provider with the highest medical level providing patient care; it should not be determined by fire, police or bystanders.
- Refer to the Trauma Triage and Transport Decision 8.17 and Air Medical Transport 8.1 policies as necessary.
- Notify receiving facility as early as possible.
- Lights and sirens should be justified by the need for immediate medical intervention that is beyond the capabilities of the ambulance crew using available supplies and equipment. Use of lights and sirens should be documented on the patient care report. Exceptions can be made under extraordinary circumstances.
- Non emergent medical transports from home or a medical facility with self or caretaker managed devices is an EMT-B level skill. The caretaker must travel with the patient if it is not a self managed device.

**Secondary/Focused Assessment and Treatment**

- Obtain chief complaint, history of present illness, and prior medical history.
- Complete a physical assessment as appropriate for the patient's presentation.
- Refer to appropriate protocol(s) for further treatment options.
- Determine level of pain.
- Consider field diagnostic tests including: cardiac monitoring, blood glucose, temperature, stroke assessment, pulse oximetry, quantitative waveform capnography, etc.
- Dress and bandage lacerations and abrasions.
- Cover evisceration with an occlusive dressing and cover to prevent heat loss.
- Stabilize impaled objects. Do not remove an impaled object unless it interferes with CPR or your ability to maintain the patient's airway.
- Monitor vital signs approximately every 15 minutes (more frequently if the patient is unstable).

Protocol Continues

Protocol Continues

| Ventilation Rates | | |
|---|---|---|
| Patient | Basic Airway | Supraglottic/ETT* |
| Adult | 12 – 20 breaths per minute | 8 – 10 breaths per minute |
| Child | 12 – 20 breaths per minute | 8 – 10 breaths per minute |
| Infant | 20 – 30 breaths per minute | 8 – 10 breaths per minute |

** Ventilation rates should be titrated to goal $EtCO_2$, if available, or patient conditions (e.g. severe asthma, aspirin overdose, traumatic brain injury)*

*Note: In children, pulse oximetry may identify clinically significant hypoxia that may be missed through evaluation of skin signs alone.*

| Percent O2 Saturation | Ranges | General Patient Care |
|---|---|---|
| 94% – 100 % | Normal | Usually indicate adequate oxygenation; validate with clinical assessment (see below) |
| 90% – 93% | Mild hypoxia | Consider $O_2$ to maintain saturation ≥ 94%. Caution in COPD patients |
| Less than 90% | Moderate to severe hypoxia | Give oxygen to maintain saturation ≥ 94%, as needed |

Notes:
- If pulse oximeter's heart rate is not the same as ECG monitor's heart rate, oxygen saturation reading may not be reliable.
- If patient is profoundly anemic or dehydrated, oxygen saturation may be 100%, but patient may be hypoxemic.
- False pulse oximetry readings may occur in the following: hypothermia, hypoperfusion, carbon monoxide poisoning, hemoglobin abnormality (sickle cell anemia), vasoconstriction, and nail polish.

| $EtCO_2$ Reading | Ranges | General Patient Care |
|---|---|---|
| 35 mmHg – 45 mmHg | Normal | Usually indicate adequate ventilation; validate with clinical assessment (see below) |
| Greater than 45 mmHg | Hypercarbia | Consider increasing ventilatory rate, assess adjuncts for occlusions |
| Less than 35 mmHg | Hypocarbia | Consider slowing ventilatory rate |

| Pediatric Respiratory Distress | Pediatric Respiratory Failure |
|---|---|
| • Able to maintain adequate oxygenation by using extra effort to move air.<br>• Signs include increased respiratory rate, sniffing position, nasal flaring, abnormal breath sounds, head bobbing, intercostal retractions, mild tachycardia. | • Hallmarks of respiratory failure are respiratory rate less than 20 breaths per minute for children <6 years old; less than 12 breaths per minute for children <16 years old; and >60 breaths per minutes for any child; cyanosis, marked tachycardia or bradycardia, poor peripheral perfusion, decreased muscle tone, and depressed mental status. |
| Respiratory distress in children and infants must be promptly recognized and aggressively treated as patient may rapidly decompensate. | |

**When a child tires and is unable to maintain adequate oxygenation, respiratory failure occurs and may lead to cardiac arrest.**

| Glasgow Coma Scale | | | | | | |
|---|---|---|---|---|---|---|
| Motor Response | Score | Verbal Response | Verbal - Infants | Score | Eye Response | Score |
| Obeys commands/spontaneous | 6 | Oriented and alert | Babbles | 5 | Open | 4 |
| Localizes pain | 5 | Disoriented | Irritable | 4 | To voice | 3 |
| Withdraws to pain | 4 | Inappropriate words | Cries to pain | 3 | To Pain | 2 |
| Decorticate flexion | 3 | Moans, unintelligible | Moans | 2 | No response | 1 |
| Decerebrate extension | 2 | No response | No response | 1 | | |
| No response | 1 | | | | | |