Seattle and King County

2015 EMT Patient Care Guidelines
INTRODUCTION

These patient care protocols are intended to help you in your job. Additional information and documents are on the EMS training site at: www.emsonline.net. These protocols define best practices for EMT care in Seattle & King County. It is important to realize that adherence to these protocols provides quality care to patients and protects you and your department.

You have a very challenging job - but a very rewarding one. There can be nothing more satisfying than providing help to the wounded, sympathy to the distressed, relief to the anxious, comfort to the frightened, and most importantly therapy and aid to the sick and injured. Your skills and training literally bring life back from the brink of death. We applaud the fine job you do.

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ACKNOWLEDGEMENTS

Thanks to all of the EMS providers for their help in the development of these protocols. Special thanks to Betty Hurtado for formatting and production.

Thanks to Jonathan Nolan for his meticulous review of the protocols, and to the training officers of Seattle and King County fire departments for their helpful comments.
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UPDATES AND NEW CONTENT IN THE 2015 SEATTLE AND KING COUNTY PATIENT CARE PROTOCOLS

- CPR — Children & Infants
- Backboard Policy
- Use of Nitroglycerin
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ALS INDICATORS (CONT.)

Hypothermia
- Temperature <95 degrees oral or tympanic
- Hypothermia with significant co-morbidity (e.g. elderly, illness, circumstances, trauma, alcohol, drugs)

LOC
- GCS < or = 12
- Hypoglycemia with decreased LOC
- Abnormal behavior with unstable vitals
- Abnormal behavior associated with possible drug or alcohol overdose, or trauma

Pulse / BP
- Hypotension (systolic <90 with appropriate clinical settings)
- Signs of shock: pulse generally >120/minute, BP <90
- Positive posturals (decrease in systolic BP >20 or increase in pulse >20)
- Sustained tachycardia (generally >120/minute in appropriate clinical setting)
- Systolic >200 or diastolic >110 with associated symptoms
- Pregnancy with systolic <90 or >140
- Hypotension and severe bradycardia

OB/GYN
- Female with severe unremitting pelvic pain
- Excessive vaginal bleeding
- Possible ectopic pregnancy
- Dispatched to birthing center/midwife
- Pregnancy complications: placenta previa, abruptio placenta, diabetes, multiple birth, breech or limb presentation, prolapsed cord, shoulder dystocia, uncontrolled postpartum hemorrhage
- Imminent birth
The following list is offered as a summary guide and is not comprehensive. Nor does it take into account your IOS or the MOI

**Abdominal Pain**
- Discomfort or pain or unusual sensations between the navel and jaw if the patient is > or = to 40 y/o and/or has cardiac history
- Severe unremitting abdominal pain

**Breathing**
- Respirations >30 min
- Failure to respond to repeated inhalers
- Asthma attack with history of previous intubation
- Audible wheezing not improved with inhaler
- Abnormal respiratory patterns
- Respiratory related with patient in the tripod position

**Burns**
- Burns with possible airway involvement
- Burns with associated injuries: electrical shock, fracture, airway
- 2\textsuperscript{nd} or 3\textsuperscript{rd} degree burns to face/head
- 2\textsuperscript{nd} or 3\textsuperscript{rd} degree burns >20% of body

**Cardiac**
- Suspected ACS (see page 18)

**CVA**
- Progression of stroke symptoms

**Diabetic**
- Diabetic that is unable to swallow
- Diabetic with rapid respirations
- Diabetic that fails to respond to oral glucose
- Suspected ketoacidosis
**ALS Indicators (Cont.)**

- Pregnancy 3rd trimester with abdominal trauma
- Pregnancy with significant MOI.

**Other**
- Use of epinephrine IM by EMT or healthcare professional
- Suspected meningitis

**Sepsis**
- Decreased LOC
- Respiratory distress
- Respirations greater or RR > 30 per minute
- Signs and symptoms of shock

**Seizure**
- Multiple seizures
- Single seizure >5 minutes or >15 minutes postictal with no LOC improvement
- Pregnant female
- Severe headache
- Associated with trauma
- Associated with drugs or alcohol
- Associated with hypoglycemia

**Trauma**
- Falls >2 times the body height
- Thrown >10-15 feet
- Penetrating injury to the head, eyes or box
- Pelvic fx, bilateral femur fx, or multisystem fx
- Femur fx with excessive swelling
- Open fx except hands and feet
- Severe pain
- Any underwater rescue
- Paresis and or paresthesia due to trauma
- Significant intrusion, ejection, death in same vehicle
ABDOMINAL COMPLAINTS

ALS Indicators
- Signs and symptoms of shock which include:
  - Poor skin signs (pale, sweaty)
  - Sustained tachycardia (see page 6)
  - Hypotension (systolic BP less than 90 mmHg)
    with an appropriate clinical setting
- Unstable vital signs
- Positive postural changes (see page 102)
- Evidence of ongoing bleeding
- Severe unremitting pain

BLS Indicators
- Stable cardiac and respiratory functions
- Stable vital signs

BLS Care
- Request paramedics if indicated.
- Provide supplemental oxygen and/or ventilatory assistance as necessary.
- Position of comfort (Shock Position if hypotensive).
- Prepare to suction patient if vomiting, estimate volume and describe character (color and consistency) of vomitus.
- Reassure patient.
- Monitor vital signs every five minutes.
**ALTERED LOC**

**ALS Indicators**
- Decreased LOC
- Respiratory distress or airway compromise
- Signs and symptoms of shock which include:
  - Poor skin signs (pale, sweaty)
  - Sustained tachycardia (see page 6)
  - Hypotension (systolic BP less than 90 mmHg) with an appropriate clinical setting
- Unstable vital signs
- Multiple seizures (status seizures)
- Single seizure longer than five (5) minutes or with more than 15 minutes postictal with no improvement in LOC
- Cyanosis
- Hypoglycemia with decreased LOC
- Seizure in pregnant female
- Seizure with severe headache
- Seizure associated with trauma
- Drug or alcohol related seizures

**BLS Indicators**
- Adequate respirations
- Transient symptoms including seizure with stable vital signs
- First time or typical seizure pattern for the patient with stable vital signs

**BLS Care**
- Provide supplemental oxygen and/or ventilatory assistance as necessary.
- Protect patient from injury, remove objects from mouth and upper airway, do not restrain patient during seizure, remove hazardous objects near patient.
**ALTERED LOC (CONT.)**

- Position patient in position of comfort if alert and airway is secure; if not, then use recovery position.
- Perform blood glucometry.
- Loosen restrictive clothing
- Retain relevant drug containers and notes for transport with patient
ALS Indicators
- Respiratory distress
- Signs and symptoms of shock which include:
  - Poor skin signs (pale, sweaty)
  - Sustained tachycardia (see page 6)
  - Hypotension (systolic BP less than 90 mmHg) with an appropriate clinical setting
- Unstable vital signs
- Use of Epi 1:1,000 IM by EMT or healthcare professional.

BLS Indicators
- Bite or sting with local reaction or usual reaction to medication or food
- Stable vital signs
- No anaphylaxis

BLS Care
- Epi 1:1,000 IM for anaphylaxis (see page 12).
- Oxygen as needed.
- Reassure patient.
- Remove stinger by scraping away from puncture site.
- Any patient who receives an Epi 1:1,000 IM (pre or post EMS arrival) should be transported (mode of transport depends on clinical findings and symptoms) and evaluated in a hospital.
**Indications For Use**

Anaphylaxis is a severe life threatening allergic reaction. EMTs are authorized to administer Epinephrine 1:1,000 IM if the following conditions are present:

1. Known or suspected trigger (commonly food allergy, insect sting, drug allergy)
2. Plus one or more of the following symptoms must be present:
   a) Respiratory distress including oral swelling;
   b) Hypotension;
   c) Diffuse and progressive hives

Patients with signs of anaphylaxis who are elderly, have hypertension, or ischemic heart disease should be given Epi with caution. If there is doubt or ambiguity about the diagnosis call paramedics or local ED.

**Dosages:**

- **Adult** (30 kg or 66 lbs and heavier): 0.3 mg Epi 1:1,000 IM
- **Child** (Under 30 kg or 66 lbs): 0.15 mg Epi 1:1,000 IM

**Injection Procedure**

Confirm that patient is experiencing anaphylaxis and meets above criteria.

1. Confirm correct medication and check expiration date.
2. Prep patient’s skin.
3. **Confirm medication is in syringe.**
4. **Confirm correct dose with partner.**
5. Insert needle into medication vial, draw up desired dose and remove all air bubbles from syringe.
ANAPHYLAXIS: EPINEPHRINE (CONT.)

6. Insert needle into patient’s anterior lateral mid-thigh at a 90-degree angle to the skin surface. Retract plunger to check for blood.

7. Inject medication.

8. Remove needle and engage needle safety device and place needle/syringe into sharps container.

9. Massage injection site for at least 15 seconds.

10. Reassure patient and monitor for response/side effects and vital signs every 3-5 minutes.

11. Document: Medication, dose, site, time, vitals before/after, and patient response to therapy.

Use of Epinephrine by EMT or healthcare professional is an ALS indicator. Any patient who receives Epinephrine (pre or post EMS arrival) should be transported (mode of transport depends on clinical findings and symptoms) and evaluated in a hospital.

CAUTION
Prior to injection, you must confirm the presence of fluid in the syringe and verify the dosage.
ASTHMA

ALS Indicators
- Decreased LOC
- Extreme anxiety and agitation
- Ashen color, cyanosis
- Failure to respond to repeated inhalers
- History of previous intubation
- Respiratory distress—unable to speak normally
- Labored respirations regardless of rate when found with other indicators
- Audible wheezing not improved with inhalers
- Sustained tachycardia (see page 6).

BLS Indicators
- Responds to self-administered metered-dose inhaler (MDI)
- Normal vital signs
- Able to speak normally

BLS Care
- Assist patient with his or her medications.
- Provide supplemental oxygen and/or ventilatory assistance as necessary.
- Reassure patient and urge calmness.
- Obtain oximetry reading (see page 104).
- Monitor vital signs every five to ten minutes.
**BEHAVIORAL**

**ALS Indicators**
- Decreased LOC
- Abnormal behavior with unstable vitals
- Abnormal behavior with serious co-morbidity (e.g., drug or alcohol OD)

**BLS Indicators**
- Abnormal behavior with stable vital signs

**BLS Care**
- Secure safety of personnel and patient.
- Provide support, reassurance to patient.
- Provide supplemental oxygen and/or ventilatory assistance as necessary.
- Wound or trauma care if indicated.
- Call police if necessary (if patient refuses transport but EMTs feel patient needs further evaluation).
- Use restraints when warranted (see page 95).
- Monitor patient behavior and physiological changes, do not leave patient alone or unobserved.

Incapacitated or impaired patients or patients with mental or behavioral problems should be evaluated in local hospital emergency departments.
**CHEST DISCOMFORT**

**ALS Indicators**

- Chest pain or discomfort of suspected myocardial ischemia (angina or MI)
- (See Code ACS page 18)
- Altered LOC
- Use of nitroglycerin
- Unstable vital signs
- Signs and symptoms of shock which include:
  - Poor skin signs (pale, sweaty)
  - Sustained tachycardia (see page 6)
  - Hypotension (systolic BP less than 90 mmHg) with an appropriate clinical setting
- Discomfort, pain, or unusual sensations between the navel and the jaw if the patient is 40 years old or older and/or has a history of heart problems

**BLS Indicators**

- Apparent non-cardiac or minor traumatic chest pain if patient is less than 40 years old and no cardiac history and stable vital signs and no associated symptoms
- Stable/normal vital signs

**BLS Care**

- Request paramedics if indicated.
- Provide supplemental oxygen and/or ventilatory assistance as necessary.
- Assist patient with nitroglycerin if indicated (see page 80).
- Provide aspirin if indicated (see Code ACS page 18).
- Position of comfort.
- Reassure patient.
- Monitor vital signs every 5 minutes.
- Monitor ECG if authorized, record strip.
CHEST DISCOMFORT (CONT.)

Special Instructions For Chest Pain

- Patients with possible cardiac chest pain require ALS evaluation
- Maintain high index of suspicion that atypical chest pain may be cardiac in origin
- Elderly patients, women, and diabetics may present with atypical findings such as fatigue, weakness, shortness of breath, or syncope

See Code ACS page 18
Acute coronary syndrome (ACS) requires rapid assessment by EMTs and paramedics and expedited transport to a cath-ready hospital.

This policy applies to all patients presenting with possible ACS and who are initially evaluated by EMTs.

**Evaluation for ACS**

1. Patient exhibits any of the following signs or symptoms:
   a. Uncomfortable pressure, fullness, squeezing or pain in the center of the chest that lasts more than a few minutes, or goes away and comes back.
   b. Pain that spreads to the shoulders, neck, or arms.
   c. Chest discomfort with lightheadedness, fainting, sweating, nausea, or shortness of breath.

   **-OR-**

2. Patient exhibits any of the **two** following signs or symptoms, when ACS is suspected:
   a. Atypical chest pain, stomach, or abdominal pain. This may include discomfort that can be localized to a point, that is “sharp” in nature, that is reproducible by palpitation, or that is in the “wrong” location (such as the upper abdomen).
   b. Unexplained nausea (without vomiting) or lightheadedness (not vertigo) without chest pain.
   c. Shortness of breath and difficulty breathing (without chest pain).
d. Unexplained anxiety, weakness, or fatigue.
e. Palpitations, cold sweat, or paleness.

**Administer Aspirin** (currently not authorized for Seattle EMTs)

1. Administer one 325 mg aspirin tablet (or four 81 mg baby aspirins) for patients with ACS. Patients may chew or swallow (with a small amount of water) the aspirin(s). Do not use enteric coated aspirin.
2. Be sure that the patient is alert and responsive and meets indications and has no contraindications.

**Contraindications For Use**

1. Patient is allergic to aspirin.
2. If they have taken 325 mg aspirin within 60 minutes for this event, do not administer additional aspirin.
4. Active or suspected GI bleeding.

**Additional Procedures**

1. If the patient has his/her own nitroglycerin and meets the criteria for administration, do not delay assisting with nitroglycerin administration.
2. Request paramedics if not already dispatched.
3. Record your actions, including the dosage and the time of administration.
4. Record the time of onset of symptoms. The time of onset should be the time that symptoms began which prompted the patient to call 911.
5. The total EMS on scene time should be <15 minutes.
COLD-RELATED

ALS Indicators
- Decreased/altered LOC
- Temperature less than 95° F (35°C) oral or tympanic
- Cessation of shivers in a cold patient
- Significant co-morbidities (e.g., elderly, illness, circumstances, trauma, alcohol, drugs)
- Cardiac arrest
- Hypotension (systolic BP less than 90 mmHg) with an appropriate clinical setting

BLS Indicators
- Cold exposure, temperature greater than 95°F, normal vital signs and no abnormal LOC
- Frostbite with temperature greater than 95°F, normal vital signs and no abnormal LOC

BLS Care (Hypothermia)
- Remove patient from the cold environment and protect the patient from further heat loss.
- Provide supplemental oxygen and/or ventilatory assistance as necessary.
- Provide high flow oxygen via NRB or bag-valve mask (see page 89).
- Remove wet clothing.
- Position of comfort. If decreased LOC, place in recovery position.
- Warm the patient.
- Warm the aid unit.
- Monitor patient’s vital signs, use ECG monitor if authorized, repeat temperature measurements

BLS Care (Hypothermic Cardiac Arrest Or Profound Bradycardia)
- If no pulse is detected after one minute, begin CPR and apply AED. If breathing, assume there is cerebral perfusion. Therefore, “NO” CPR.
COLD-RELATED (CONT.)

- If AED states “Shock Indicated”, follow cardiac arrest protocol.

If pulse is present, withhold CPR regardless of rate or BP.

BLS Care (Frostbite)

- Protect cold-injured part from further injury.
- Remove any constricting or wet clothing or shoes and replace with a dry bulky dressing.
- Splint the affected extremity and do not let the patient walk on or use it.
- Remove constricting jewelry (e.g., rings, watchbands).
- Do not rub or massage injured tissue.
- Transport to an emergency room.

Do not rewarm frozen tissue unless transport time will exceed two hours and it is certain that the thawed tissue will not refreeze. Obtain medical direction prior to initiating rewarming. Rewarming should be done with 100°F - 105°F water.

Do not use dry heat; it heats unevenly and may burn frozen tissue. Stop rewarming when the tissue turns red-purple and becomes pliable.
Congestive heart failure (CHF) can range from the very mild to very severe (pulmonary edema). Usually patients with congestive heart failure call EMS for worsening shortness of breath and/or worsening fatigue.

**ALS Indicators**
- Decreased LOC
- Signs and symptoms of shock which include:
  - Poor skin signs (pale, sweaty)
  - Sustained tachycardia (see page 6)
  - Hypotension (systolic BP less than 90 mmHg) with an appropriate clinical setting
- Extreme anxiety and agitation
- Unable to lie flat
- Ashen color, cyanosis
- Respiratory distress—unable to speak normally
- Respirations greater than 30 per minute
- Labored respirations regardless of rate

**BLS Indicators**
- Normal vital signs without respiratory distress
- Able to speak normally

**BLS Care**
- Provide supplemental oxygen and/or assist ventilation with a BVM as necessary.
- Position patient upright with legs dangling (dependent) unless hypotensive.
  **If hypotensive, place patient in supine position.**
- Reassure patient and urge calmness.
- Obtain oximetry reading (see page 104).
- Monitor vital signs every 5 to 10 minutes depending on patient’s condition.
ALS Indicators

- Altered LOC
- Absent or depressed gag reflex, as indicated by inability to swallow
- Patient unable to protect airway
- Unstable vital signs
- Rapid respiration
- Signs and symptoms of shock which include:
  - Poor skin signs (pale, sweaty)
  - Sustained tachycardia (see page 6)
  - Hypotension (systolic BP less than 90 mmHg) with an appropriate clinical setting
- Failure to respond to oral glucose unit with continued glucose <60 despite repeated treatment.
- Suspected diabetic ketoacidosis (glucometry reading >400 or “high” with associated symptoms)
- Seizures

BLS Indicators

- Normal or mild reduction in LOC
- Gag reflex intact, as indicated by swallowing
- Patient can protect airway
- Normal vital signs
- Symptoms of hypoglycemia relieved by oral glucose
- Hyperglycemia with normal vital signs

BLS Care

- Request paramedics if indicated. Perform blood glucometry (see page 26).
- Provide supplemental oxygen and/or ventilatory assistance as necessary.
- If hypoglycemic and patient is able to swallow, position upright and give oral glucose.
If hypoglycemic, and patient is unable to swallow, position on side, give oxygen, ventilation and await paramedics.

- Maintain normal body temperature.
- Monitor vital signs in response to sugar.
- Diabetic patients with symptom of hyperglycemia should be evaluated in an emergency room.

Transport decision based on clinical presentation.

*If in doubt whether symptoms are due to hypoglycemia and swallowing ability is intact, position upright and give oral glucose.*

**Special Instructions For Diabetic Patients**

Patients with hypoglycemia who have responded to oral glucose may be left at scene (see page 27). These patients must have a repeat glucose level of 60 mg/dl or higher documented and **after-care instructions** must be left with the patient.

Distinguishing hyperglycemia from hypoglycemia can be difficult without a blood glucose. Recent medical history can help.

**History Suggesting Hypoglycemia**

- Insufficient food intake
- Excessive insulin dosage
- Normal to excessive activity level
- Rapid onset
- Absent thirst
- Intense hunger
- Headache
- May have seizures

**History Suggestion Hyperglycemia**

- Recent infection
- Polyphagia (excessive food intake)
- Polydipsia (intense thirst)
**DIABETIC (CONT.)**

- Polyuria (excessive frequency and amount of urine)
- Vomiting, abdominal pain
- “Flu-like” symptoms, nausea
- Insufficient insulin dosage
- Gradual onset
- Normal activity level

**Signs and Symptoms of Diabetic Coma (Hyperglycemia with Ketoacidosis)**

- Altered LOC (restless to coma)
- Warm and dry skin
- Hypotension (systolic BP less than 90 mmHg) with an appropriate clinical setting
- Sustained tachycardia
- Reduced circulation in extremities
- Vomiting
- Sweet, fruity breath
- Kussmaul breathing (deep, rapid)
- High blood glucose
  - Greater than 200 mg/dl (mild hyperglycemia)
  - Greater than 300 mg/dl (moderate hyperglycemia)
  - Greater than 400 mg/dl (severe hyperglycemia)

**Signs and Symptoms of Hypoglycemia**

Hypoglycemia may be due to excessive insulin or decreased food intake, or increased activity.

- Irritability, confusion, seizures or coma
- Pale, moist skin
- Normal or rapid pulse
- Low blood glucose (usually less than 60 mg/dl) with glucometry
**Indications For Use**

- Any time an EMT encounters a patient with an altered level of consciousness. This may include patients with the following:
  - Unconsciousness
  - Suspected diabetic-related problem
  - Signs and symptoms of stroke
  - Suspicion of drug or alcohol intoxication
- Any time EMTs feel that the blood sugar level may assist patient care.

**Contraindications**

Children less than 1 (one) year of age.

**Use and application**

Perform the testing procedure as outlined in the instructions for your specific device. All reading should be recorded on the incident response form.

*If a patient is treated with oral glucose you must perform a second glucose level check.*

Patients on oral hypoglycemic agents who are initially found to be hypoglycemic should be strongly advised to seek further evaluation by a physician due to the high likelihood of repeated hypoglycemia secondary to long medication half-life.
Patients on insulin may be safely left at home when **ALL THREE** of the following conditions are met:

1. Patient is able to eat and drink normally.
2. Patient responds completely as evidence by BOTH:
   - Blood glucose reaches greater than 60 mg/dl, AND
   - Patient is conscious and alert with appropriate behavior.
3. A responsible person can remain with the patient.

*These patients must receive **after-care instructions** if they are not being transported to the hospital. You must document pre and post treatment glucose and that after-care instructions were given to patient.*

*If glucometry is available*
DROWNING

ALS Indicators
- Any underwater rescue
- Altered LOC or Respiratory distress
- Labored breathing
- Hypotension (systolic BP less than 90 mmHg) with an appropriate clinical setting
- Temperature less than 95°F
- Significant co-morbidity (e.g., injury, intoxication)

BLS Indicators
Water-related accident including aspiration of water, injury in diving or swimming, with normal CNS function and vital signs

BLS Care
- Request paramedics if indicated.
- Remove the victim from the water; do not become a victim.
- Neutral in-line cervical stabilization during removal from water with a backboard if spine injury is suspected or patient is unresponsive.
- If there is no suspected spinal injury, consider recovery position.
- Provide supplemental oxygen and/or ventilatory assistance as necessary.
- Prepare suction, expect vomiting.
- Warm aid unit and monitor vital signs.

All immersion incidents should be transported to the hospital for further evaluation.

Care For Scuba Diving Accidents
- Request paramedics
- High flow oxygen by NRM and/or BVM as necessary
- Position patient flat (supine) or on side to avoid cerebral edema
**Excited Delirium**

**Definition**
A state of extreme mental and physiological excitement, characterized by extreme agitation, hyperthermia, hostility, exceptional strength and endurance without apparent fatigue. This condition is usually associated with illicit stimulant drug use and is associated with in-custody deaths.

**ALS Indicators**
- Extreme agitation, disorientation
- Hyperthermia, diaphoresis, seeking water
- Stripping off of clothing, or no clothing
- Shouting, or keening (making animal noises), unintelligible speech
- Eyes wide open, lid lift
- Paranoia, hallucinations
- Panic
- Violence toward others
- Unexpected physical strength and stamina
- Insensitivity to pain
- Violence or attraction to glass, reflection or lights

**BLS Indicators**
No BLS indicators if Excited Delirium is suspected. ALS must evaluate these patients.

**BLS Care**
- Secure safety of personnel, assure scene safety before proceeding
- Request Police if not already on scene
- Restrain patient as necessary. See use of Restraints page 95.
- Provide supplemental oxygen and or ventilatory assistance as necessary
HEAT-RELATED

ALS Indicators
- Decreased/altered LOC
- Hot dry skin in the presence of elevated temperature
- Sustained tachycardia (see page 6)
- Hypotension (systolic blood pressure less than 90 mmHg)
- Positive postural changes

BLS Indicators
- Heat related cramps
- Minor to moderate heat-related complaint with stable vital signs

BLS Care
- Request paramedics if indicated.
- Remove patient from the hot environment and place patient in a cool environment (back of air-conditioned transport vehicle or aid unit with air conditioner running on high).
- Reassure and cool patient.
- Provide supplemental oxygen and/or ventilatory assistance as necessary.
- Loosen or remove clothing.
- Apply cool packs to neck, groin and armpits for the heat-stroke patient.
- Keep skin wet by applying cool water with sponge or wet towels.
- Fan aggressively.
- Place patient in Shock position.
- If patient is responsive and not nauseated, have patient drink water.
- If the patient is vomiting, place in recovery position.
- Monitor patient’s vital signs and temperature (oral or tympanic).
ALS Indicators
- Imminent birth
- Decreased/altered LOC of mother/newborn baby
- Abnormal blood pressure (less than 90 mmHg systolic or greater than 140 mmHg systolic) with neurologic symptoms
- Complications with this pregnancy such as:
  - Placenta previa
  - Abruptio placenta
  - Diabetes
- Excessive vaginal bleeding
- Suspected ectopic pregnancy
- Any abdominal trauma to mother during third trimester
- Trauma with significant MOI
- Known or anticipate delivery of twins or more
- Breech or limb presentation
- Prolapsed cord
- Shoulder dystocia
- Uncontrolled postpartum hemorrhage
- Seizures
- Dispatch to birthing center/midwife

BLS Indicators
- Early pregnancy, pain or bleeding with stable vital signs
- Childbirth has occurred and there are no complications and mother and baby stable

BLS Care
- Request paramedics if indicated.
- Protect patient’s dignity.
- Offer reassurance and emotional support.
- Monitor vital signs.
- Provide supplemental oxygen and/or ventilatory assistance as necessary.
Nothing by mouth.
Allow patient to choose position of comfort. *Supine hypotension may occur if patient is flat on back. Place patient onto left side to relieve pressure on the vena cava and place pillow between knees for comfort.*

**Imminent Delivery Instructions**

- Prepare delivery area (out of public view).
- Position mother in semi-reclining position.
- Provide supplemental oxygen and/or ventilatory assistance as necessary.
- Encourage mother to breathe deeply between contractions and push with contractions.
- Prepare OB equipment and don sterile gloves, gowns, and eye protection.
- As baby crowns, support head with gentle pressure to avoid explosive birth.
- If membrane is still intact, rupture with your fingers to allow amniotic fluid to leak out.
- If cord is around the baby’s neck, gently slip it over the head. **Do not force it!**
  - **If the cord is too tight to slip over the head, apply umbilical cord clamps and cut.**
- As soon as baby’s head emerges, suction the mouth and nose with bulb syringe.
- Allow the mother to push and support the head as it rotates.

  **Caution:** Babies are slippery as they exit the birth canal; be careful and alert.
- After delivery, wait for cord pulsation to cease, then place two clamps on the cord two inches apart and six inches away from the baby. Cut the cord between the clamps.
OBSTETRIC (CONT.)

- Re-suction the baby’s mouth and nostrils only if baby is not breathing or is having respiratory distress.
- Dry and inspect the cord for bleeding.
- Wrap baby in warm blanket.
- Place baby on its side to facilitate drainage.
- Inform the mother of the baby’s gender.
- Note the time of birth, APGAR score of baby and gender.

Post Delivery Instructions

- Observe perineum for bleeding.
- Normally there should be a small to moderate amount of bloody material that will ooze from the vagina.
- Apply oxygen to the mother as indicated via nasal cannula or nonrebreather mask to mother.
- Do not pull on the umbilical cord.
- The placenta should be delivered spontaneously within 20 minutes. If delivered, wrap the placenta in the bag supplied in the OB Kit and send with the mother and baby to the hospital.
- Massage the uterus with moderate firmness on the lower abdomen to stimulate uterine contraction.
- Monitor vital signs of both mother and infant.
- Maintain body temperature of both patients.
- BLS transport of mother and baby to hospital, if no ALS indicators.
## Apgar Scoring

### Score at 1 and 5 minutes after birth

<table>
<thead>
<tr>
<th>Clinical Sign</th>
<th>0 points</th>
<th>1 point</th>
<th>2 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Blue, pale</td>
<td>Absent</td>
<td>Completely pink</td>
</tr>
<tr>
<td>Pulse</td>
<td>Absent</td>
<td>Less than 100/minute</td>
<td>More than 100/minute</td>
</tr>
<tr>
<td>Grimace</td>
<td>No response</td>
<td>Grimaces to stimulation</td>
<td>Cries</td>
</tr>
<tr>
<td>Activity</td>
<td>Limp</td>
<td>Some flexion of extremities</td>
<td>Active motion</td>
</tr>
<tr>
<td>Respiratory Effort</td>
<td>Absent</td>
<td>Absent</td>
<td>Strong cry or respirations</td>
</tr>
</tbody>
</table>

### Apgar Scoring

- **A**: Appearance
- **P**: Pulse
- **G**: Grimace
- **A**: Activity
- **R**: Respiratory Effort
ALS Indicators
- Decreased/altered LOC
- Hypotension (systolic BP less than 90 mmHg) with an appropriate clinical setting
- Sustained tachycardia (see page 6)
- Moderate to severe hypertension (140 mmHg systolic or greater) in a pregnant woman with neurologic symptoms
- Seizures
- Severe unremitting pelvic pain
- Excessive vaginal bleeding
- Possible ectopic pregnancy

BLS Indicators
- Limited vaginal bleeding with stable vitals
- Pelvic pain or discomfort with stable vitals

BLS Care
- Request paramedics if indicated.
- Protect patient’s dignity.
- Offer reassurance and emotional support.
- Monitor vital signs.
- Direct pressure over lacerations.
- Provide supplemental oxygen.
- Obtain focused history.
- Allow patient to choose position of comfort.
Peds Fever and Infection

ALS Indicators
- Decreased LOC
- Respiratory distress
- Seizure
  - Respiratory distress or airway compromise
  - Recurrent seizure
  - Prolonged, depressed LOC
- Fever/Infection
  - High index of suspicion for sepsis or meningitis

BLS Indicators
- Febrile seizure (generalized tonic/clonic—see page 37)
- Fever/infection with low index of suspicion

BLS Care
- Use Pediatric Assessment Triangle. (Page 110,111)
- Request paramedics if indicated.
- Provide supplemental oxygen and/or ventilatory assistance as necessary.
- Monitor vital signs.
- Position of comfort.
- For seizures, place child on side to protect airway.
- May assist caregiver with medication to reduce temperature (e.g., Tylenol [acetaminophen], not aspirin).
- If febrile, attempt to reduce patient’s temperature with cool towels.
- Remove clothes. Cover loosely with one layer. Do not allow to chill.
Special Instructions for Febrile Seizures

- Patient with a history of a previous febrile seizure, who is now neurologically intact with stable vital signs, and a competent caregiver requests home care, may be left at home with a suggestion to follow-up with a physician.
- First time febrile seizures must be evaluated in an emergency department.
- Febrile seizures are always generalized tonic/clonic in nature. Any focal seizure is not a febrile seizure until proven otherwise.
ALS Indicators
- Decreased LOC
- Extreme anxiety and agitation
- Tripod position
- Respiratory distress—unable to speak normally
- Respirations greater than 30 per minute
- Ashen color, cyanosis, retractions
- Failure to respond to usual treatments
- Labored respirations regardless of rate when found with other indicators
- Audible wheezing, rales when found with other indicators
- Use of Epi 1:1,000 IM
- Sustained tachycardia (see page 6)

BLS Indicators
- Respiratory complaints due to common causes such as a cold, flu, bronchitis
- Respiratory complaints of a chronic but stable nature
- Respiratory complaints with normal vital signs and adequate oxygenation with treatment
- Patent airway

BLS Care
- Provide supplemental oxygen and/or ventilatory assistance as necessary.
- Obtain oximetry reading (see page 104).
- Reassure patient and urge calmness.
- Assist patient with his or her medications.
- Administer Epinephrine if indicated for anaphylaxis (see page 11).
- Monitor vital signs every 5 to 10 minutes depending on patient’s condition.
SEIZURES

ALS Indicators
- Multiple seizures (status seizures)
- Single seizure longer than five (5) minutes or more than 15 minutes postictal with no improvement in LOC
- Seizure due to hypoglycemia
- Seizure due to hypoxia
- Seizure following head trauma
- Drug or alcohol associated seizures

BLS Indicators
- History of seizure, and seizure is similar to prior episodes and patient is awake

BLS Care
- Seizures that last more than 5 minutes require paramedic care.
- After patient awakens, perform exam to determine if any injuries occurred or if any neurologic abnormalities exist.
- During seizure, position the patient on his/her side.
- During and after seizure, provide oxygen.
- Perform blood glucometry.
- Obtain oximetry reading after seizure.
SEPSIS

Sepsis is severe infection with many symptoms; it is common and requires early identification and aggressive resuscitation.

Sepsis patients have very high mortality. Sepsis is more common in the elderly. EMT’s should have a high index of suspicion for sepsis in patients that are infirm and are residents of long term care facilities.

EMT’s should be alert for the following signs and symptoms.

- Hot to the touch? Assume fever indicating infection.
- Skin rash
- Cough with thick sputum
- Abnormal breath sounds
- Headache
- Abdominal pain.
- Muscle aches.
- Diarrhea

Signs of sepsis should be suspected if 2 or more of the following signs are present:

- Hot to the touch?
- HR > 90
- RR > 20
- HR > Systolic BP

If the HR > SBP, consider volume depletion and measure orthostatic vital signs. See indications for postural vital signs per patient care protocols and treat patients appropriately.

ALS Indicators

- Request Paramedics for all “Sick” patients.
- Decreased LOC
- Airway problems
SEPSIS (CONT.)

- Respiratory distress
- Respirations greater than 30 per minute
- Signs and symptoms of shock which include:
  - Poor skin signs (pale, sweaty)
  - Sustained tachycardia (see page 6)
  - Hypotension BP < 90 or positive postural vital signs (20 point drop in SBP or 20 beats per minute increase in HR) with appropriate clinical setting. (see page 102)

BLS indicators
- “Not Sick” patients.
- Conscious and alert
- Stable airway
- Stable vital signs
- No orthostatic changes in vital signs

BLS Care
- Use PPE
- Maintain airway, provide supplemental oxygen as necessary
- Monitor vital signs
- Place patient in position of comfort
- Notify transport agency and or receiving hospital of possible sepsis patient
- Document findings of infection and possible sepsis on MIRF
STROKE

ALS Indicators
- Unconsciousness
- Decreased LOC
- Severe hypertension (blood pressure greater than 200 mmHg systolic or 110 mmHg diastolic with neurologic signs)
- Hypotension and severe bradycardia
- Seizures
- Severe headache/vomiting
- Uncontrolled airway and respiratory problems
- Progression of stroke symptoms

BLS Indicators
- Vital signs and condition stable
- Stroke history
- Stroke signs
- Airway secure

BLS Care
- Call paramedics if indicated.
- Determine time onset of stroke if possible
- Position patient in upright position.
- Open and manage airway.
- Deliver oxygen and/or ventilatory assistance as necessary.
- Maintain normal body temperature.
- Protect paralyzed limbs.
- Monitor vital signs.
- Perform FAST exam.
- Perform blood glucometry.

STROKE PLAN
- Revascularization by clot dissolving medication should be initiated within several hours of a stroke. EMTs should attempt to limit scene times to fifteen (15) minutes.
STROKE (CONT.)

- If a stroke is of recent onset, very short scene times and transport times are critical.
- Precisely document the time of onset of symptoms or time when the patient was last seen normal.
- In general, arrival at hospital within several hours of onset of symptoms is critical as it will allow the ED to determine possible eligibility for thrombolytic or other therapy.
- For patients with possible stroke, you must call the hospital ED and confer with a nurse or physician about the proper destination. Depending upon access to specialty care, the hospital may advise transport to their ED or may recommend another facility.
**STROKE: FAST EXAM (CONT.)**

The **FAST** exam is used in the field to detect stroke. An abnormal finding strongly indicates a stroke.

<p>| | |</p>
<table>
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| **Face** | *Ask the patient to show teeth or smile*  
  Normal: Both sides of the face move equally.  
  Abnormal: One side of the face does not move as well as the other or not at all. |
| **Arm** | *Ask the patient to close eyes and extend both arms straight out, palms up, for 10 seconds*  
  Normal: Both arms move the same, or both arms do not move at all.  
  Abnormal: One arm drifts down compared to the other. |
| **Speech** | *Ask the patient to say "The sky is blue in Seattle"*  
  Normal: The patient says correct words with no slurring of words  
  Abnormal: The patient slurs words, says the wrong words, or is unable to speak |
| **Time** | *Determine* the time of onset of symptoms or when the patient was last known well. |
**STROKE: CODE CVA**

Selected patients with CVA (cerebral vascular accident—stroke) can benefit from rapid thrombolytic therapy designed to dissolve the clot causing the CVA. The *on scene time should be <15 minutes.* For thrombolytic therapy to be effective, it generally should be given within 4.5 hours of the onset of the stroke. Since the hospital requires one hour for evaluation and CT this means that symptoms onset to arrival at hospital should generally be <3.5 hours. Patients who present with longer duration of symptoms may be eligible for other types of therapy including intra-arterial therapy. All hospitals in King County are designated as level I, II, or III stroke centers. You must call ahead to your usual receiving hospital and inform the staff of a code CVA patient.

The following policy is designed to assist EMTs in their evaluation of possible stroke patients. The policy stresses the need for *rapid evaluation* and *rapid transport.* For the stable patient not requiring paramedic evaluation, the EMTs should expedite transport to the hospital. Expedite does not mandate code red but rather requires rapid decision making, patient loading into the aid vehicle, and notification of hospital while enroute. You may transport code red when confined by traffic or transport time is > 15 minutes.

You must document the following information in your narrative:

1. Face: Is it symmetrical? YES or NO
   - Arm: Symmetrical strength? YES or NO
   - Speech: Is it slurred or abnormal? YES or NO
   - Time: What time was the patient last known well?
2. Is the patient on coumadin (Warfarin)?
3. Glucometry. Glucose should be over 60. Severe hypoglycemia can present like a stroke.
4. Glasgow Coma Scale Score (see page 87)
5. Time of hospital notification
6. Time you left the scene enroute to hospital

The following information must be provided to the destination hospital:
- Incoming CVA patient, age, gender
- Time of last known normal
- Vital signs and symptoms
- ETA
If a patient’s condition and time permits, perform dressing and bandaging as follows:

- Maintain body substance isolation (BSI) by wearing appropriate personal protective equipment.
- Control bleeding with direct pressure or pressure points. Use a pressure device or pressure dressing for severe, uncontrolled bleeding. Military style trauma dressing may also be considered.
- Do not remove the dressing once applied. If bleeding continues, put new dressings over the blood-soaked ones.
- Secure the dressing with a bandage that is snug but does not impair circulation.
- Large, easily removed debris, such as glass, splinters, or gravel can be removed before bandaging. Secure large, deeply imbedded fragments or projectiles in place with the bandage.
- If possible, leave patient’s fingers or toes exposed.
- Check circulation by feeling for a distal pulse or checking capillary refill.
- Elevate or immobilize the injured extremity, if possible.
- Cover eviscerated abdominal contents with a large multi-trauma dressing soaked with sterile saline (or clean water if saline unavailable). Then apply an occlusive dressing, if available, to retain heat and moisture. Secure with tape.
AMPUTATION
- Wrap amputated parts in sterile dressings.
- Place amputated part in a watertight container and then in a second container.
- Place the container on ice.
- *Do not submerge the amputated part in water or place directly on ice.*
- Rapid transport of the patient and the severed part is critical to the success of re-implantation. If transport of a patient is delayed, consider sending the amputated part ahead to be surgically prepared.
- Do not use dry ice to cool a severed part. Ice and chemical cold packs are acceptable.

BURNS
- For burned areas, easily removed debris should be taken off the burn. Cover the area with dry, sterile dressings.
- Remove wet chemicals, such as acid, with repeated flushing. Remove dry substance by first brushing the area and then flushing.
BLEEDING CONTROL

To stop external bleeding:

- Apply direct pressure on the open wound with sterile gauze or clean material.
- Apply additional pressure if bleeding continues. A pressure dressing can be used to apply direct pressure. If blood soaks through the dressings, add new dressings—do not remove the old dressings.
- If not contraindicated by the injury, elevate the bleeding extremity above the level of the heart.
- A “pressure device” may be used for control of severe, uncontrolled bleeding when all other methods of bleeding control have failed. When necessary, a properly applied extremity tourniquet may be used.
- Once stopped, you may need to immobilize the extremity and apply cold packs.
BURNS

ALS Indicators
- Possible airway involvement including singed facial hair, soot in mouth/nose or hoarseness
- Burns with associated injuries: electrical shock, fracture, or respiratory problems
- Second or third degree burns to face/head
- Second or third degree burns covering greater than 20% of the body
- Severe pain (request ALS for pain control)

BLS Indicators
- All other burns

BLS Care
- First degree burn
  - Cool, moist pads
- Second degree burn
  - Cover with dry dressing (commercial burn sheets are acceptable)
  - **DO NOT** apply ointment or creams

Always be alert to possible airway involvement.
**EYE INJURIES**

**ALS Indicators**
- Major mechanism of injury
- Penetrating injuries to eye

**BLS Indicators**
- Minor mechanism of injury
- Eyelid laceration with intact vision
- Ultraviolet burns

**BLS Care**
- Request paramedics if indicated.
- Stabilize an impaled object in place and bandage both eyes.
- Flush chemical burns to the eyes for 15 minutes with normal saline or water if saline is not available.
- Ultraviolet burns to the eyes: treat with cool compresses over closed eyes.
**HEAD AND NECK**

**ALS Indicators**
- Compromised airway
- Abnormal respiratory patterns
- Major mechanism of injury
- Glasgow Coma Scale of 12 or less
- Decreased LOC, unstable vital signs
- Paresis (partial or complete paralysis) and/or paresthesia (abnormal sensation, e.g., tingling)
- Evidence of injury to brain or spinal cord
- Significant alcohol or drug use

**BLS Indicators**
- Minor mechanism of injury
- Intact airway, stable vital signs
- No evidence of injury to brain or spinal cord
- No significant drug or alcohol use

**BLS Care**
- Request paramedics if indicated.
- Ensure a patent airway.
- Provide supplemental oxygen and/or ventilatory assistance as necessary.
- Provide neutral, in-line cervical stabilization with proper sized cervical collar and padding.
- Secure to backboard.
- Bandage as necessary.
- Monitor vital signs and neurologic status.

**Special Instructions For Suspected Cervical Injury**
- Suspected cervical injury with non-alignment
  One attempt to realign neck to the neutral, in-line position unless new pain, additional numbness, tingling or weakness, additional compromise of airway or ventilation or resistance encountered.
**HEdA AND NECK (CONT.)**

- **Helmet Removal**
  As long as the airway is not affected and remains patent *AND* the c-spine can be secured in a neutral, in-line position, leave football helmets on. Pad the backboard/torso to maintain neutral alignment.

  All other non-fitted helmets may be removed as soon as possible (e.g., bicycle helmets, motorcycle helmets, skateboard helmets, rollerblade helmets).

  If helmet needs to be removed, two EMTs should stabilize head and neck, remove chinstrap, remove helmet while stabilizing head, and apply cervical collar. Secure the patient to a backboard (see page 112).
ALS Indicators
- Decreased/altered LOC
- Signs or symptoms of shock
- Excessive uncontrolled bleeding
- Pelvic fracture, bilateral femur fracture, or multi-system injury/fractures
- Femur fracture with excessive swelling
- Open fractures except for hands and feet
- High index of suspicion based on mechanism of injury
- Contact paramedic for severe pain (patient needs pain control)

BLS Indicators
- Single extremity fracture with stable vital signs
- Single joint injury with stable vital signs

BLS Care
- Request paramedics if indicated.
- Protect cervical spine if indicated.
- Reassure and maintain normal body temperature.
- Apply direct pressure and sterile dressing over major bleeding.
- Provide supplemental oxygen and/or ventilatory assistance as necessary.
- Nothing by mouth.
- Gently support injured part (see page 116).
- Allow patient to choose position of comfort.
- Check and record distal circulation, motor, and sensory (nerve function) before and after splinting.
- Immobilize and splint if indicated.
- Apply cold/ice pack to injured part (for closed tissue injury only).
- Elevate fractured limb.
ORTHOPAEDIC (CONT.)

- Prepare patient for transport (backboard).
- Monitor patient’s vital signs every 5 to 10 minutes.

Realignment of Long Bone Fractures

- Attempt to realign (open or closed) long bones that are angulated in the middle 1/3 then splint.
- Long-bone fractures, which occur in the proximal or distal 1/3, that may or may not involve a joint, may be realigned if compromise of distal circulation or nerve function is detected and definitive care is delayed.
- Realignment may sometimes be necessary to facilitate packaging for transport.
- Check and document CMS before and after splinting and/or realignment.

Pelvic Fractures (see page 117)

Multiple Extremity Fractures

- These patients should be secured to a backboard which will serve as a general body splint for several sites.

Rapid packaging and transport of the unstable patient or patient with multiple fractures takes priority over definitive splinting at the scene.

Falls In Elderly Patients

In addition to consideration of orthopaedic injuries, consider head trauma and possible CNS bleeding (especially if they are on coumadin). Elderly patients on coumadin with head injury or suspected head injury MUST be evaluated in an emergency department.
ALS Indicators
- Significant head injury
- Signs and symptoms of shock which include:
  - Poor skin signs (pale, sweaty)
  - Sustained tachycardia (see page 6)
  - Hypotension (systolic BP less than 90 mmHg) with an appropriate clinical setting
- Soft tissue injuries that might compromise the airway
- Excessive uncontrolled bleeding
- Altered LOC
- High index of suspicion based on mechanism of injury

BLS Indicators
- Conscious and alert
- Stable vital signs
- Soft tissue injuries limited to the superficial layer of the skin (epidermis and dermis)
- Single digit amputations (see page 48)
- Soft tissue injuries, with bleeding controlled by direct pressure and/or elevation

BLS Care for OPEN Soft Tissue Injuries
- Request ALS if indicated.
- Provide supplemental oxygen and/or ventilatory assistance as necessary.
- Maintain an open airway.
- Ensure adequate breathing.
- Control bleeding.
- Maintain normal body temperature.
- Monitor vital signs.
- Cervical spine protection, if indicated.
Special Instructions for OPEN Soft Tissue Injuries

- Control bleeding with direct pressure on the area or upon pressure points. Use pressure dressings or pressure device (like a BP cuff) for severe, uncontrolled bleeding. Military style trauma dressing may also be considered.
- Amputation (see page 48)

Removal of Foreign Objects

- Large, easily removed debris, such as glass, splinters, or gravel must be removed before bandaging.
- Large, deeply imbedded fragments or projectiles must be secured in place by the bandage.

Decontamination

- Remove wet chemicals (e.g., acid) by repeated flushing with water.
- Remove dry substances by first brushing the area and then by flushing with water.

Burns

- Easily removed debris should be taken off the burned area, then cover the area with dry, sterile dressings.
- Remove rings for hand burns.
**OROPHARYNGEAL (OP) AIRWAY**

An oropharyngeal airway rests in the patient's oropharynx, lifting the tongue away from the back of the throat preventing it from occluding the airway. The OP airway is used only on unconscious patients and generally those without respirations.

**Do not use this device if a patient gags when inserted. Use of an airway on a patient with a gag reflex may cause retching, vomiting, or spasm of the vocal cords.**

To size an oropharyngeal airway:
- Choose correct size by measuring from the corner of the mouth to the ear lobe or from the chin to the angle of the jaw.
- In infants and children, insert the airway tip down or sideways along with a tongue blade. Rotate down when you are halfway in the mouth or approaching the curve on the tongue.

**SUCTIONING**

The Yankauer suction tip is preferred for most suctioning. If the holes on the Yankauer get plugged repeatedly, remove the tip and use larger bore tubing.

**To suction with a Yankauer tip:**
- Measure the same as for an oropharyngeal airway—approximately from the corner of the mouth to the ear lobe.
AIRWAY MANAGEMENT (CONT.)

- Do not suction while inserting; suction only after the Yankauer (or similar device) is in place and as you withdraw.
- Suction for no more than 15 seconds at a time.
- *In rare cases, copious vomiting that threatens the airway may require a longer period of suctioning.*
- Oxygenate the patient well before and after suctioning.
Successful ventilation with a BVM requires a good seal between the mask and the patient's face and maintaining an open airway.

**Correct ventilation generates only modest chest rise.**

To properly place a BVM:
- Choose appropriate size for the patient.
- Place the apex of the mask on the bridge of the nose (between the eyebrows).
- Settle the base of the mask between the lower lip and the prominence of the chin.

**TECHNIQUE**
- Kneel with a knee on each side of the patient's head.
- Hold the mask firmly in position by placing the heel of the hand on top of the mask, extending the fingers and thumb forward forming a “C”, and grasping the lower jaw with the middle two or three fingers.
- Squeeze the bag to ventilate.
- If necessary, a second EMT may be needed to secure seal and assist with bagging.
- *Each ventilation should take one second and achieve chest rise.*
In the patient who is unconscious/unresponsive, not breathing normally and in whom no pulse is detected, immediately perform chest compressions, while turning on and attach defibrillator (AED). Once AED is applied, give verbal report and count compressions. At completion of 30 compressions, analyze rhythm, clear patient and shock if indicated. Resume chest compressions and continue for ~2 minutes before next rhythm analysis. Always complete any started cycle of 30 compressions prior to any rhythm analysis and always resume chest compressions immediately after rhythm analysis/shock. Do not create an added pause by ventilating immediately before any rhythm analysis. Palpate femoral pulse (or carotid pulse if femoral pulse is inaccessible) during CPR and particularly prior to and during any pause in CPR.

### Polices & Procedures — Cardiac Arrest

**Begin CAB.** If unconscious/unresponsive, not breathing normally and no pulse immediately perform chest compressions, turn on and attach defibrillator. Complete 30 compressions; analyze rhythm.  
**Exception:** When the patient goes into VF while monitored or attached to an AED a defibrillatory shock may be administered immediately.

**Shock Advised/Indicated (VF or pulseless VT)**  
Immediately deliver SINGLE shock. \nImmediately resume uninterrupted CPR x 2 minutes.  
Do not delay CPR for post-shock pulse check or rhythm analysis.

**No Shock Advised/Indicated**  
Immediately begin chest compression.  
Perform 2 minutes of uninterrupted CPR  
Do not delay CPR for pulse check.

After 2 minutes of CPR, Analyze rhythm  
Check femoral pulse while analyzing rhythm.
After 2 minutes of CPR, analyze rhythm
Check femoral pulse while analyzing rhythm

Shock Advised/Indicated (VF or pulseless VT)
Immediately deliver SINGLE shock.
Immediately resume uninterrupted CPR x 2 minutes.
Do not delay CPR for post-shock pulse check or rhythm analysis.

No Shock Advised/Indicated
If pulse, assess blood pressure, airway, and breathing
If no pulse, perform 2 minutes of uninterrupted CPR

Call Hotline after every cardiac event:
1-800-607-2926
Provide your name, agency, company, date, time, medic unit, patient age and gender, and your call back number.

After 2 minutes of CPR, analyze rhythm
Check femoral pulse while analyzing rhythm

Shock Advised/Indicated (VF or pulseless VT)
Immediately deliver SINGLE shock.
Immediately resume uninterrupted CPR x 2 minutes.
Do not delay CPR for post-shock pulse check or rhythm analysis.

No Shock Advised/Indicated
If pulse, assess blood pressure, airway, and breathing
If no pulse, perform 2 minutes of uninterrupted CPR
In the patient who is unconscious/unresponsive, not breathing normally and in whom no pulse is detected, immediately perform chest compressions while turning on and attach defibrillator (AED). Once AED is applied, give verbal report and count compressions. At completion of 30 compressions, analyze rhythm. If shock is advised/indicated perform 30 chest compressions while AED is charging, clear patient, and shock. Resume chest compressions and continue for ~2 minutes before next rhythm analysis. Always complete any started cycle of 30 compressions prior to any rhythm analysis and always resume chest compressions immediately after rhythm analysis/shock. Do not create an added pause by ventilating immediately before any rhythm analysis.

When possible palpate femoral pulse (or carotid pulse if femoral is inaccessible) during CPR and particularly prior to and during any pause in CPR.

**Begin CAB.** If unconscious/unresponsive, not breathing normally and no pulse immediately perform chest compressions, turn on and attach defibrillator. Complete 30 compressions; analyze rhythm.

**Exception:** When the patient goes into VF while monitored or attached to an AED a defibrillatory shock may be administered immediately.

**No Shock Advised/Indicated**
Immediately begin chest compression. Perform 2 minutes of uninterrupted CPR. Do not delay CPR for pulse check.

**Shock Advised/Indicated (VF or pulseless VT)**
Charge AED. Perform 30 chest compressions during AED charging. Deliver SINGLE shock. Immediately resume uninterrupted CPR x 2 minutes. Do not delay CPR for post-shock pulse check or rhythm analysis.

After 2 minutes of CPR, Analyze rhythm. Check femoral pulse while analyzing rhythm.
After 2 minutes of CPR, analyze rhythm
Check femoral pulse while analyzing rhythm

No Shock Advised/Indicated
If pulse, assess blood pressure, airway, and breathing
If no pulse, perform 2 minutes of uninterrupted CPR

Shock Advised/Indicated (VF or pulseless VT)
Charge AED. Perform 30 chest compressions during AED charging
Deliver SINGLE shock. Immediately resume uninterrupted CPR x 2 minutes.
Do not delay CPR for post-shock pulse check or rhythm analysis.

No Shock Advised/Indicated
If pulse, assess blood pressure, airway, and breathing
If no pulse, perform 2 minutes of uninterrupted CPR

Call Hotline after every cardiac event:
1-800-607-2926
Provide your name, agency, company, date, time, medic unit, patient age and gender, and your call back number.

After 2 minutes of CPR, analyze rhythm
Check femoral pulse while analyzing rhythm
A. If age is not known, the presence of secondary sexual characteristics (development of axillary hair in males and breast tissue in females) define a child who has reached puberty and who should be treated as an “adult”. In ages < 8yrs (see below) continue uninterrupted CPR until med- ics arrive. If a public access defibrillator (PAD) is attached prior to your arrival, you may use it.

B. CAB refers to “Chest compressions followed by Airway followed by Breathing” interventions, and has displaced “ABC” in 2010.

C. If no pulse felt within 10 seconds, begin chest compres- sions. Count out loud for chest compressions.

D. Each CPR cycle (including the very first) begins with chest compression (at 100/min, ≥ 2 inches, with full recoil and 50%/50% compression/recoil duty cycle). Except in obvious cases of asphyxia (e.g. known drowning victim), opening the airway and ventilation (2 breaths) are not performed until completion of the first 30 chest compres- sions or after rhythm analysis.

E. To minimize the hands off (no chest compression) interval before a rhythm analysis/shock, complete 30 chest compressions, but do not create an added pause by ventilat- ing (or checking pulse) just before rhythm analysis. That is, any CPR cycle immediately before shock is 30 com- pressions followed immediately by rhythm analysis and shock.

F. Philips AEDs: MRx, ForeRunner AEDs charge simultane- ously while analyzing rhythm (unless the “Pause (for CPR)” soft key is pressed). If a shock is advised during analysis, proceed to immediate shock, then resume CPR.

Physio Control AEDs: If shock is advised, resume CPR for 30 compressions while AED is charging. Then pause CPR briefly for shock, and immediately resume CPR thereafter.

G. 2 minutes in this protocol refers to 2 minutes or slightly longer depending on when 30 compressions before a rhythm analysis are complete. During 2 minute CPR cycles, give 2 breaths (each over 1 sec) after every 30
CARDIAC ARREST (CONT.)

compressions. Periods of CPR should not be interrupted except in cases of need to manage airway (emesis, etc.)

H. Whenever possible, a designated provider should maintain a finger(s) on the femoral pulse (or carotid pulse if femoral pulse is inaccessible) during CPR. This permits a qualitative assessment of the adequacy of chest compressions and an immediate pulse check without a pulse “hunt” (by already having a hand on its location) whenever CPR is paused for rhythm analysis, or at any other time that the protocol calls for a pulse check.

Additional Points:

- Any patient found unconscious, unresponsive with a pulse but with systolic BP <60 should have CPR initiated and an AED attached as soon as possible. If a pulse is detected during resuscitation but systolic blood pressure < 60, resume CPR.

- In children 1-8 yrs (absence of secondary sexual characteristics; usually <55 lbs), perform chest compressions at 100/min, ≥ 2 inches or 1/3 of chest depth at compression to ventilation ratio of 15:2

- In infants < 1 yr compress chest at 100 min, to 1½ inches or 1/3 of chest depth with compression to ventilation ratio of 15:2 without advanced airway and 10:1 with advanced airway.

- In newborns, compress 1/3 chest depth. Perform chest compressions at 100 min. with a compression to ventilation ratio of 15:2 (without advanced airway and 10:1 with advanced airway).

- If at anytime 3 consecutive “no shocks” are advised and there is no pulse, continue CPR without interruption until medics arrive.

- Cardiac arrest protocols may change. Always follow current agency protocols.
# Cardiac Arrest (Seattle FD)

## Seattle Fire Department
Cardiac Arrest AFTER Arrival
Adults ≥ 8 Years Old

## Policies & Procedures — Cardiac Arrest (Seattle FD)

<table>
<thead>
<tr>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VERIFY CARDIAC ARREST</strong></td>
<td></td>
</tr>
<tr>
<td><strong>APPLY LP500</strong></td>
<td></td>
</tr>
<tr>
<td><strong>BEGIN CPR 10:1 @ 100 PER MIN</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ANALYZE AS SOON AS POSSIBLE</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Shock Advised

- 30 Compressions while LP500 charges
- SHOCK (no pulse check)

### No Shock Advised

- Check for pulse (< 10 seconds)
- Rotate compressor
- If no pulse

**2 MINUTES OF CPR**

- ANALYZE and rotate compressor (Repeat cycle)
- If “NO SHOCK”, continue to ANALYZE each
  - 2 minute cycle

**2 MINUTES OF CPR**

- Repeat until Medic arrival
  - (no analysis)

---

**On Medic Arrival**

Continue CPR until Medics ready to Charge/
Analyze/Shock with LP12
# Cardiac Arrest (Seattle FD)

**Seattle Fire Department**  
Cardiac Arrest Before Arrival  
Adults ≥ 8 Years Old

## Policies & Procedures

<table>
<thead>
<tr>
<th>“Shock Advised”</th>
<th>“No Shock Advised”</th>
</tr>
</thead>
</table>
| 30 Compressions while LP500 charges  
SHOCK (no pulse check) | Check for pulse (< 10 seconds)  
Rotate compressor  
If no pulse |

## CPR Instructions

1. **Verify Cardiac Arrest**
2. **2 Minutes of CPR**
   - 10:1 @ 100 PER MIN
3. **1st Analysis**
   - Rotate compressor

### “Shock Advised”
- **2 Minutes of CPR**
  - Analyze and rotate compressor (Repeat cycle)
  - If “No Shock”, continue to analyze each 2 minute cycle

### “No Shock Advised”
- **2 Minutes of CPR**
  - Repeat until Medic arrival (no analysis)

---

**On Medic Arrival**

Continue CPR until Medics ready to Charge/Analyze/Shock with LP12
CARDIAC ARREST (SEATTLE FD)
Seattle Fire Department
Cardiac Arrest
Pediatrics < 8 Years Old
(Adults ≥ 8 use LP500)

- Check for pulse (less than 10 seconds)
- Rotate compressor
- If no pulse

2 MINUTES OF CPR

VERIFY CARDIAC ARREST

BEGIN CPR 10:1 @ 100 PER MIN

Repeat until Medic arrival
# CPR FOR ADULTS

## Manuver | Adult
---|---
**Recognition** | Unresponsive (for all ages)
No breathing or no normal breathing (ie, only gasping)
No pulse palpated within 10 seconds for all ages (HCP only)
**Activate:** Emergency Response Number (lone rescuer) | Activate when victim found unresponsive
HCP: if asphyxial arrest likely, call after 5 cycles (2 minutes) of CPR
**CPR Sequence** | C-A-B
**Compression Rate** | At least 100/min
**Compression Depth** | At least 2 inches (5cm)
**Chest Wall Recoil** | Allow complete recoil between compressions
HCP rotate compressors every 2 minutes
**Compression Interruptions** | Minimize interruptions in chest compressions
Attempt to limit interruptions to <10 seconds
**Airway** | Head tilt-chin lift (HCP suspected trauma: jaw thrust)
**Compression-to-ventilation ratio (until advanced airway placed)** | 30:2
1 or 2 rescuers
**Ventilations:** When rescuer untrained or trained and not proficient | Compressions only
**Ventilations with advanced airway (HCP)** | 1 breath every 6-8 seconds (8-10 breaths/min)
Asynchronous with chest compressions
About 1 second per breath
Visible chest rise
**Foreign-body airway obstruction** | **Responsive:** Abdominal thrusts
**Unresponsive:** CPR with airway check
**Defibrillation** | Attach and use AED as soon as possible. Minimize interruptions in chest compressions before and after shock; resume CPR beginning with compressions immediately after each shock.
# CPR For Children And Infants

<table>
<thead>
<tr>
<th>MANUVER</th>
<th>CHILD HCP: 1 year to Adolescent</th>
<th>INFANT Under 1 year of age</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RECOGNITION</strong></td>
<td>Unresponsive (for all ages)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No breathing or only gasping</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No pulse palpated within 10 seconds for all ages (HCP only)</td>
<td></td>
</tr>
<tr>
<td><strong>ACTIVATE:</strong></td>
<td>Activate after performing 5 cycles of CPR</td>
<td>For sudden, witnessed collapse, activate after verifying that victim unresponsive</td>
</tr>
<tr>
<td>Emergency Response Number</td>
<td>(lone rescuer)</td>
<td></td>
</tr>
<tr>
<td><strong>CPR Sequence</strong></td>
<td>C-A-B</td>
<td></td>
</tr>
<tr>
<td><strong>Compression Rate</strong></td>
<td>At least 100/min</td>
<td></td>
</tr>
<tr>
<td><strong>Compression Depth</strong></td>
<td>At least 1/3 AP diameter</td>
<td>At least 1/3 AP diameter</td>
</tr>
<tr>
<td></td>
<td>About 2 inches (5cm)</td>
<td>About 1 ½ inches (4cm)</td>
</tr>
<tr>
<td><strong>Chest Wall Recoil</strong></td>
<td>Allow complete recoil between compressions</td>
<td>HCP rotate compressors every 2 minutes</td>
</tr>
<tr>
<td></td>
<td>HCP rotate compressors every 2 minutes.</td>
<td></td>
</tr>
<tr>
<td><strong>Compression Interruptions</strong></td>
<td>Minimize interruptions in chest compressions</td>
<td>Attempt to limit interruptions to &lt;10 seconds</td>
</tr>
<tr>
<td><strong>Airway</strong></td>
<td>Head tilt-chin lift (HCP suspected trauma: jaw thrust)</td>
<td></td>
</tr>
<tr>
<td><strong>Compression-to-ventilation ratio (until advanced airway placed)</strong></td>
<td>15:2</td>
<td>10:1</td>
</tr>
<tr>
<td><strong>Ventilations:</strong></td>
<td>Compressions only</td>
<td></td>
</tr>
<tr>
<td>When rescuer untrained or trained and not proficient</td>
<td>1 breath every 6-8 seconds (8-10 breaths/min)</td>
<td>1 Asynchronous breath every 10th Compression</td>
</tr>
<tr>
<td><strong>Ventilations with advanced airway (HCP)</strong></td>
<td>10:1</td>
<td></td>
</tr>
<tr>
<td><strong>Foreign-body airway obstruction</strong></td>
<td>Responsive: Abdominal thrusts</td>
<td>Responsive: Back slaps and chest thrusts</td>
</tr>
<tr>
<td></td>
<td>Unresponsive: CPR with airway check</td>
<td>Unresponsive: CPR with airway check</td>
</tr>
<tr>
<td><strong>Defibrillation</strong></td>
<td>Not performed on children less than 8 years</td>
<td></td>
</tr>
</tbody>
</table>
# CPR FOR NEWBORN

<table>
<thead>
<tr>
<th>Maneuver HCP = Health Care Provider</th>
<th>Newborn</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AIRWAY</strong></td>
<td>Head tilt/chin lift (Minimal, only as needed) (Suction only as needed)</td>
</tr>
<tr>
<td><strong>BREATHS</strong></td>
<td></td>
</tr>
<tr>
<td>Initial</td>
<td>2 effective breaths at 1 second/breath (obtain chest rise)</td>
</tr>
<tr>
<td>Rescue breathing without chest compression</td>
<td>40-60 breaths/minutes (~1 breath every 1 to 1.25 seconds)</td>
</tr>
<tr>
<td><strong>CIRCULATION</strong></td>
<td></td>
</tr>
<tr>
<td>Check pulse at umbilical cord stub or over the heart</td>
<td></td>
</tr>
<tr>
<td>Compression landmarks</td>
<td>Just below the nipple line</td>
</tr>
<tr>
<td>Compression Method (allow full recoil)</td>
<td>2 rescuers perform skill: “two thumb-encircling hands” technique</td>
</tr>
<tr>
<td>Compression Depth</td>
<td>1/3 depth of the chest</td>
</tr>
<tr>
<td>Compression Rate</td>
<td>100 per minute</td>
</tr>
<tr>
<td>Compression/ Ventilation Ratio and events/minute</td>
<td>15:2 until advanced airway placed 10:1 with advanced airway</td>
</tr>
<tr>
<td><strong>DEFIB: AED</strong></td>
<td>Not performed on children less than 8 years</td>
</tr>
</tbody>
</table>
ECG MONITORING

The indications for ECG monitoring include: chest pain, arrhythmia, congestive heart failure, syncope or hypotension.

For BLS providers to perform ECG monitoring the following criteria must be met:

- An approved course in ECG monitoring
- Techniques and rhythm recognition.
- Medical Program Director approval for
- addition of ECG monitoring to EMT care plans.
EMTs have the responsibility to determine a patient’s resuscitation wishes, and honor them if possible.

**Resuscitation efforts may be withheld or stopped in ANY of the following:**

- Injuries incompatible with life
- Lividity, rigor mortis
- A Do Not Attempt Resuscitation (DNAR) directive. This directive may be in the POLST (Physician Orders For Life-Sustaining Treatment) format. This is based on patient’s wishes.

- “Compelling reasons” to withhold resuscitation can be invoked when written information is not available, yet the situation suggests that the resuscitation effort will be futile, inappropriate, and inhumane. A resuscitation effort may be withheld when the following two conditions are BOTH met:
  - End stage of a terminal illness
  - Family indicates that the patient would not wish to have a resuscitation effort

If a resuscitation effort has been initiated and the EMT is provided with a DNAR directive or compelling reasons that such an effort should be withheld, the resuscitation should be stopped.

Documentation is important. On the Incident Report Form, describe the patient’s medical history, presence of a DNAR directive if any, or verbal request to withhold resuscitation efforts.

“Do not attempt resuscitation” does not mean “do not care.” A dying patient for whom no resuscitation effort is indicated can still be provided with supportive care, which may include the following:

- Clear the airway (including stoma) of secretions with suction device.
END OF LIFE ISSUES (CONT.)

- Provide oxygen using a cannula or non-rebreather.
- Control any bleeding.
- Provide emotional support to patient and family.
- Contact the patient’s private physician.
- Contact hospice if involved.
- Paramedics should be called if additional judgment or support is needed.

When in doubt, initiate resuscitation.
EPISTAXIS (NOSEBLEED)

- Stop a non-traumatic, “everyday” nosebleed by asking the patient to sit, leaning forward. This prevents blood from being swallowed or aspirated into the lung.
- Apply direct pressure by pinching just below the bridge of the nose.
- Apply pressure for 10 to 15 minutes.
- Additionally, you can apply a cold pack to the bridge of the nose.
The following are guidelines for the use of medical helicopters. In King County, Airlift Northwest is the primary medical helicopter.

The use of medical helicopters may be considered when estimated ground transport times are likely to be excessive, due to traffic, distance.

Use of medical helicopters may be considered for any critical ill of injured patient requiring care at a facility outside of the local area when transport times are likely to be excessive.

A medic unit must be dispatched anytime a medical helicopter is being considered.

It is suggested that consultation with the responding medic unit take place prior to requesting a medical helicopter. Requests for helicopters are made through dispatch.

Normally, there should only be one patient per helicopter. If two patients need to be flown, request a second helicopter.
ASSISTING WITH ADMINISTRATION OF PRESCRIBED MEDICATION

- Initiate assessment and treatment of the patient as indicated by the signs and symptoms.
- Verify the following when possible:
  - medication has been prescribed by a physician for the patient
  - medication inside the container is the one indicated on the prescription label
  - medication has not passed the expiration date on the prescription label
- Determine the last time the patient self-administered the medication and the number of doses taken.
- If in doubt, contact a medical control doctor, patient’s personal physician, or paramedic for medical direction. Administer the medication as directed.
- Document the administration of the medication by recording the drug, dose, method, time and name of physician ordering the assistance with medication.
- After five (5) minutes, reassess and document the patient’s vital signs and any changes.

INHALERS (MDIs)

- Patients with chronic respiratory diseases such as asthma and COPD will often have prescriptions for bronchodilator, anticholinergic, and/or steroid inhalers.
The EMT may locate the inhaler and hand it to the patient. The patient should be able to self-administer the medication.

EMTs are authorized to assist in one treatment only. If the patient has already used the medication in excess of the prescription, do not assist in additional treatment. If the patient is unable to self-administer the medication, you should focus on airway management and oxygenation. This would qualify as an ALS indicator.

**NITROGLYCERIN**

*The patient should not have taken Viagra or Levitra within the past 24 hours or Cialis within the past 48 hours.*

- The patient may be assisted in taking prescribed nitroglycerin (NTG or nitro) if the pain is the same type of pain for which he or she normally takes nitroglycerin (i.e., typical angina) and systolic BP greater than 100 mmHg at all times. The EMT may locate the nitro (pill or spray), open the container, and offer it to the patient. Do not administer the drug into the patient's mouth. If in doubt, consult with the medical control doctor or paramedic before assisting with nitro.

**The following conditions must be met before assisting with nitro:**

- Complaint of pain similar to that normally experienced as angina or cardiac pain
- Blood pressure greater than 100 mmHg systolic at all times
- Patient takes no more than three doses total (5 minutes apart)
MEDICATION ADMINISTRATION (CONT.)

- Prescription expiration date should not have passed
- Patient should be sitting or lying down before assisting with nitro
- Must be the patient’s prescribed nitroglycerin

ORAL GLUCOSE

- Prompt recognition and treatment of hypoglycemia is an important EMT skill.
- **Indications for oral glucose:**
  - Suspected hypoglycemia in a diabetic (confirm through blood glucometry when available)
  - Patient is awake and able to swallow

Contraindications for oral glucose:

- Unconsciousness
- Patient is unable to swallow

Procedure

- Help the patient sip or chew any sugar containing substance such as honey, orange juice, candy, or granulated sugar or place a bead of the commercial sugar preparation under the patient’s tongue.
- Monitor patient’s response to the sugar.
- Repeat blood glucometry (when available).
- If the patient is left at home, you must leave aftercare instructions.
MULTI-CASUALTY INCIDENT

MEDICAL GROUP SUPERVISOR (MGS)

Major Responsibilities of the MGS:
Assign triage, treatment, and transportation team leaders.

The MGS may initiate specific tasks:
- Notify Disaster Medical Control Center (DMCC). Primary (DMCC) is Harborview Medical Center: 206-744-3074 Call and ask for the “Charge Nurse.” In the event that HMC is unavailable, the secondary (DMCC) is Overlake: 425-455-6941
- Consider initiating the call-up of off-shift personnel and the activation of Special Assignment Units through the IMS.
- Request additional supplies and equipment through the IC.
- Maintain records.

MEDICAL POSTIONS WITHIN THE MCI PLAN

The Medical team leaders include:
- Triage Team Leader
- Treatment Team Leader
- Transportation Team Leader

THE TRIAGE TEAM

Major Responsibilities:
- Triage may be accomplished using “Sick or Not Sick”, or agency specific triage method.
- Obtaining the initial patient count for the IC.
- Performing the initial triage of all patients and applying tape.
- Confirming patient count and triage colors.
TREATMENT TEAM LEADER

Major Responsibilities:
- Set up treatment areas: red, yellow, and green.
  Assign leaders to each.
- Assure that all patients are triaged and taped.
- Direct and supervise treatment area.
- Prioritize patients for transportation.

TRANSPORTATION TEAM LEADER

Major Responsibilities:
- Set up ambulance staging area.
- Designate an Ambulance Staging Manager.
- Maintain medical communications.
- Document patient destination.

Communication with DMCC should be brief but should include:
- What patient color or colors are loaded in each transport vehicle and are ready to transport
- Special information (pediatric, pregnant, burns, or OB trauma).
- Confirm hospital destination
FIELD TRIAGE ALGORITHM

1. If yes, then patients must be decontaminated before any medical care!
2. White Triage tape — "Decontaminated/Clean"

Mechanism of Incident (Assess for Injury Potential)

Decontamination (Haz Mat)

Level of Consciousness (Is the patient awake?)

Open Airway! Breathing?

Hazardous Materials Involved?

Yes

“Can you walk? Come over here!”

No
FIELD TRIAGE ALGORITHM (CONT.)

King County Fire Chiefs Association
2002
## Neurological Assessment

<table>
<thead>
<tr>
<th>AVPU</th>
<th>Alert</th>
<th>Verbal stimulus response</th>
<th>Painful stimulus response</th>
<th>Unresponsive</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>The patient’s eye open spontaneously as you approach. The patient is aware and responsive to the environment. The patient appropriately follows commands.</td>
<td>The patient’s eyes do not open spontaneously. The patient is able to respond in some meaningful way when asked.</td>
<td>The patient does not respond to your questions but moves or cries out when a painful (noxious) stimulus is applied: earlobe pinch or pressure behind earlobe.</td>
<td>The patient does not respond to any stimulus.</td>
</tr>
<tr>
<td>V</td>
<td>The patient’s eyes open to verbal command and the patient is able to respond in some meaningful way when asked.</td>
<td>The patient’s eyes do not open spontaneously. The patient is able to respond in some meaningful way when asked.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>The patient does not respond to your questions but moves or cries out when a painful (noxious) stimulus is applied: earlobe pinch or pressure behind earlobe.</td>
<td>The patient does not respond to your questions but moves or cries out when a painful (noxious) stimulus is applied: earlobe pinch or pressure behind earlobe.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>U</td>
<td>The patient does not respond to any stimulus.</td>
<td>The patient does not respond to any stimulus.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The **Glasgow Coma Scale** (GCS) is a means of measuring and monitoring level of consciousness by calculating a score based on the best eye, verbal, and motor response. The lowest score possible is 3, the highest is 15. The GCS is part of Code CVA (see page 45).

<table>
<thead>
<tr>
<th>Eye Response</th>
<th>Best Verbal Response</th>
<th>Best Motor Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneously opens</td>
<td>Oriented and talking</td>
<td>Obey commands</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Opens to voice</td>
<td>Disoriented and confused</td>
<td>Locates pain</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Opens to pain</td>
<td>Inappropriate words</td>
<td>Withdrawing from pain</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>No response</td>
<td>Incomprehensible</td>
<td>Flexes to pain</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>No response</td>
<td>Extends to pain</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No response</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>
Indications
Any patient with decreased LOC.

The only approved methods of delivering noxious stimuli:
- Firm earlobe pressure (Left)
- Firm pressure behind earlobe (Right)

Apply firm pressure to the earlobe for up to five seconds in order to assess a response to painful stimulation. This stimulation may be applied once or twice for no longer than 15 seconds during the initial evaluation and infrequently thereafter, if monitoring of the level of consciousness is necessary.

Prolonged application of stimuli, excessive applications, chemical stimuli, sternal rubs or eyeball pressure are not indicated nor approved by the Medical Program Director.
OXYGEN DELIVERY

USE OF SUPPLEMENTAL OXYGEN

- Oxygen is mandatory at high flow rates for patients with smoke inhalation or suspected carbon monoxide (CO) poisoning due to inaccurate readings from the hemoglobin being saturated by the CO molecule.

- Oxygen is indicated in the following clinical situations when the initial percent saturation is less than 95% or is unobtainable. The target goal is 95% or greater oxygen saturation as indicated on a pulse oximeter.
  - Shock
  - Complicated labor,
  - Newborn persistent cyanosis or respiratory distress,
  - Decompression illness or suspected decompression illness,
  - Mismatch between the oximetry and clinical signs—for example tachypnea with normal oximetry or dusky, bluish appearance with normal oximetry

- For all other clinical situations rational oxygen therapy should be guided by the patient’s clinical appearance and/or pulse oximetry. If the oxygen saturation is <95%, then oxygen is indicated. When the patient’s oxygen saturation is 95% or greater, do not administer oxygen.

The amount of oxygen given and the method of administration depend on many factors including a patient’s medical history and the type of problem.
CONSCIOUS PATIENT WITHOUT RESPIRATORY DISTRESS
Begin with 2 liters per minute via nasal cannula as history is obtained. If no contraindications, you may increase to 4 liters per minute. Some patients may not require oxygen at all (e.g., a lacerated finger), but it is always best to provide oxygen when in doubt.

CONSCIOUS PATIENT WITH RESPIRATORY DISTRESS
Increase oxygen delivery according to the patient’s condition moving from nasal cannula to nonrebreathing mask. Use respiratory rate, effort, exchange, ease of speaking, skin signs, and level of consciousness as a guide. When using a nonrebreathing mask, remember to use a liter flow that is high enough to keep the bag inflated at least 1/3 full with the patient’s deepest inspiration.

CONSCIOUS PATIENT WITH SEVERE RESPIRATORY DISTRESS
Patients in severe respiratory distress may need assistance to breathe, as provided by a BVM with high flow oxygen. These patients may present with inability to speak, extreme exhaustion, minimal air movement, cyanosis, agitation, sleepiness, or a

<table>
<thead>
<tr>
<th>Flow</th>
<th>Volume</th>
<th>Device</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low flow</td>
<td>2 - 4 liters/minute</td>
<td>Nasal cannula</td>
</tr>
<tr>
<td>High flow</td>
<td>10 - 15 liters/minute</td>
<td>Nonrebreathing mask</td>
</tr>
<tr>
<td>High flow with ventilation</td>
<td>15+ liters/minute</td>
<td>Bag-valve mask with reservoir</td>
</tr>
</tbody>
</table>
OXYGEN DELIVERY (CONT.)

decreasing LOC. Examples include patients with chest or throat injury, airway obstruction, CHF, COPD, asthma, and near drowning. To assist respirations in a conscious patient, first explain the treatment to the patient then gently place the mask over the patient's nose and mouth and begin ventilations. Observe chest and abdomen and time the assisted breaths to coincide with the patient's or coach the patient to breathe with bag compressions.

UNCONSCIOUS PATIENT WITH SUFFICIENT RESPIRATORY EFFORT
Oxygen delivery may range from low-flow with a nasal cannula to high-flow with a nonrebreathing mask. Patient’s level of consciousness and vital signs (especially respiratory rate and effort), color, and nature of illness should determine oxygen flow level. Continually evaluate respiratory rate and effort and do not hesitate to assist respirations if necessary.

UNCONSCIOUS PATIENT WITH INSUFFICIENT OR NO RESPIRATORY EFFORT
Ventilate patient or assist ventilations with a BVM and high flow oxygen. If the patient resists the attempts to ventilate, try to time breaths with the patient's by compressing the bag as the patient inhales.

SPECIAL NOTE: COPD (emphysema, bronchitis, asthma)
The physiology of a person with COPD differs from that of a healthy person in that the primary stimulus to breathe comes from a decrease of oxygen in the blood rather than an increase in carbon dioxide.
Providing the COPD patient with high concentrations of oxygen could theoretically depress their respiratory drive. Therefore, it is advisable to provide COPD patients with lower levels of oxygen initially, as long as they are not in severe respiratory distress. Two liters per minute by nasal cannula is usually sufficient in this situation. If a patient with COPD presents in respiratory distress and does not improve with low levels of oxygen, increase oxygen up to four (4) liters per minute.

EMTs have the option of using a non-rebreather if nasal cannula at four (4) liter per minute is inadequate or patient has signs of hypoxia.

A COPD patient whose respiratory drive is diminished due to excessive oxygen may present with increasing lethargy, confusion, and decreasing respiratory rate and effort. If this occurs, be prepared to assist ventilations.

**If a COPD patient becomes unresponsive and/or stops breathing, ventilate via BVM with a high flow oxygen.**

*CAUTION:* Over ventilation may worsen ‘air trapping’ and could cause pneumothorax.

**SPECIAL NOTE: Infant And Young Child**

For an infant or young child with mild to moderate respiratory distress consider the “blow-by” technique. Hold the end of a supply tube or a nonrebreather mask approximately two inches away from the patient’s face. Another method to supply “blow-by” is with a paper cup. This can be done by pushing a supply tube through the bottom of the cup. Set the flow rate to 4-6 liters per minute.
Proper positioning can reduce pain, improve physiological function, and improve the patient’s sense of well-being.

There are three positions to consider:
- Recovery, Semi-reclining, and Shock position

**RECOVERY POSITION**

This position is used for non-traumatic patients who are unresponsive but breathing. It protects the airway from vomit and secretions. (Top Figure, page 94)

The following steps are recommended:
- Kneel beside the patient and straighten the legs.
- Place the patient’s arm that is nearest to you at a right angle to body, elbow bent, palm up.
- Place the other arm across the chest/abdomen
  If the patient is small, bring this arm farther across so that the back of the hand can be held against the patient’s nearest cheek.
- Grasp the patient’s far-side thigh above the knee; pull the thigh up towards the patient’s body. (Left)
- Place your other hand on the patient’s far-side shoulder and roll the patient toward you. Begin moving the patient’s uppermost hand toward the patient’s nearest cheek. (Right) Adjust the leg you are holding until both the hip and knee are bent at right angles.
- Tilt the patient’s head back and place the uppermost hand under the patient’s cheek. Use
this hand to maintain head tilt. Use chin lift if necessary.

**Monitor respirations closely.**

In suspected spinal cord trauma/injury first immobilize the patient with the appropriate size c-collar and backboard. If the patient is unconscious, monitor and protect the airway, if necessary, turn patient and backboard 90 degrees to facilitate drainage.

**SEMI-RECLINING (SEMI-FOWLER’S)**

In the semi-reclining position (Left) a patient is usually sitting at a forty-five degree angle. A gentle knee bend adds comfort and helps to maintain the upright position. Additional pillows behind the head and knees may improve comfort. Patients with mild to moderate respiratory symptoms may benefit from this position.

**SHOCK POSITION**

In this position the feet are elevated up to twelve inches and the patient is supine (Right).
**Patient Restraint**

If the reason for use of a device is to prevent movement and it is done without the consent of the patient, it is a restraint.

Generally, restraints are used in the prehospital environment whenever dangerous behavior (especially danger to self or others) is encountered. The provider has a clear duty to exercise increased vigilance for the safety of the patient, because the patient is unable to self protect while restrained. Likewise, the safety of the responders should be ensured.

**Process of Restraint**

*Safety and the prevention of injuries* are the major concerns in the process of restraint application. It is imperative to maximize the patient's self-control before deciding to apply restraints.

- **Self-control.** The first step is to encourage the patient to exercise all the self-control he or she possesses. A statement such as "I know you don't want to hurt yourself or anyone else. I want you to try to stay in control. I know you can do it" is an example.

- **Offer to help.** Anxiety can interfere with concentration and an offer of assistance should reduce anxiety. A statement such as "I want to assure you that we will help you. We will not let you hurt yourself or someone else" is an example of an offer to help.

- **Be ready and able to overpower patient.** Never attempt physical restraint without the resources needed to safely overpower a patient.

- **Physical restraint.** This is the time when most injuries tend to occur. Plan the actions so that each provider involved clearly understands his or
PATIENT RERAINT (CONT.)

her role. Typically, one person is assigned to each limb. One provider should communicate with the patient continuously. Once a decision is made to restrain, act quickly. Use only the force necessary for restraint. Depending on local requirements, it may be helpful to have the police present during restraint. EMTs should be aware of their own personal safety.

TYPES OF RESTRAINTS
The kinds of restraints used in the prehospital environment vary tremendously. Handcuff and cable ties should only be applied and removed by law enforcement personnel.

Once a patient is restrained, he or she should be carefully monitored to avoid airway obstruction. An NRM with appropriate oxygen flow may be applied to protect the EMS personnel from spit. Alternatively a “spit sock” may be used.

DOCUMENTATION
It is important to document the behavior that made restraints necessary as well as the restraint technique used. The documentation must reflect continual concern for the patient's safety and well-being as well as descriptions of the patient’s ongoing mental status and behavior.

Do not remove restraints until directed by the hospital emergency department personnel.
INFECTIOUS DISEASE PREVENTION

HANDWASHING

*Handwashing is the most effective way to prevent transmission of infectious disease.*

Wash Hands

- After patient contact
- Before eating, drinking, smoking or handling food
- Before & after using the bathroom
- After cleaning or checking equipment

PERSONAL PROTECTIVE EQUIPMENT (PPE)

*Gloves and eye protection must be worn for every patient.*

FULL PPE for possible infectious contacts

- **Donning Sequence (MEGG)**
  - Mask* > Eye Protection > Gown > Gloves
  - Mask patient (if possible)
- **Doffing (removal) Sequence**
  - Gloves > Gown > Hand cleaner
  - Eye Protection > Mask > Hand cleaner
  - Handle as contaminated waste
  - Decon Eye Protection

INFECTIOUS DISEASE

- **Febrile Respiratory Illness**
  - Dispatchers will notify units of - Infectious symptoms or locations
  - Dispatch info or fever w/ cough or illness or possible infectious disease

*Fit tested*
PERSONAL PROTECTIVE EQUIPMENT (PPE) (CONT.)

- Full PPE (MEGG)
  - Mask*, Eye Protection, Gowns, Gloves
  - Mask patient (if possible)
  - Limit patient contacts

- After Patient Contact
  - Remove PPE – (approved sequence)
  - Dispose of PPE as contaminated waste
  - On scene decon - eye protection & equipment w/ germicidal cleaner
  - Hospital decon - eye protection, equipment and apparatus

- At station
  - Decon affected equipment & contacts (kits, BP/steth, radios, clipboards, etc.)
  - Wash hands before leaving apparatus floor.

*Fit tested
**Bloodborne Exposure**

This is an exposure or potential exposure to **Bloodborne Pathogens** such as Hepatitis B, Hepatitis C, HIV or other pathogens that may be transmitted through contaminated body fluids or tissues. Examples include: blood, bloody body fluids including semen, vaginal secretions, cerebrospinal fluid, synovial, pleural, pericardial, and amniotic fluids.

**An exposure only occurs if:**

- There is a needle stick or cut with a possibly contaminated needle or object.
- There is contact with non-intact skin (e.g. skin that is cut, chapped, abraded, or afflicted with dermatitis.)
- There is fluid contact with your mucous membranes such as eyes, nose, mouth.

**Steps to take following exposure:**

- **Initiate self-care** which includes washing the site thoroughly with soap and water. Flush mucous membranes with water only.
- **Immediately report exposure** to immediate supervisor and exposure control officer for risk assessment and follow-up.

Follow individual department’s exposure control policy. (see also PPE page 97).

For all other exposures follow your department’s infection/exposure control policy.
Child Abuse
Signs and Symptoms of suspected abuse and neglect include:
- Multiple bruises in various stages of healing
- Bilateral/symmetrical injuries and/or bruises
- Injury inconsistent with mechanism described
- Repeated calls to the same patient or address
- New suspicious injuries
- Parents, guardian or caregiver inappropriately concerned
- Conflicting stories
- Fear on the part of the patient to discuss the incident
- Lack of proper supervision of the patient
- Malnourished appearance
- Unsafe living environment
- Untreated chronic illness

Vulnerable Adults
Defined as adults age 60 and older who cannot care for themselves and adults age 18 and older who, have a legal guardian, are developmentally delayed, live in a DSHS licensed facility, receive in home care services, or have personal care aide who is paid for their services.
Signs of abuse and neglect include:
- Unexplained injuries or behavior
- Reports of physical, mental, or sexual abuse
- Reports of being abandoned or deserted without basic necessities
- Failing to provide basic life necessities, not taking action to prevent harm or pain
- Failure to provide safe living conditions
- Untreated injuries or health problems
Intentionally taking advantage of a vulnerable adult either financially, or personally
- Undue influence or coercion

By Washington state law, Fire Fighters, Paramedics, and EMT’s are mandatory reporters.

REPORT NEGLECT/ABUSE OF VULNERABLE ADULTS TO DSHS:
1-866-363-4276 (1-866-ENDHARM)

Involve local Police in all suspicious cases. Call 911.
**POSTURAL VITAL SIGNS**

**Indications For Measurement Of Posturals**
- Acute volume loss (such as suspected GI bleeding or internal hemorrhage)
- Generalized weakness
- Complaint of dizziness, lightheadedness, or fainting
- Prolonged vomiting or diarrhea

**Contraindications**
- Symptomatic hypotension while supine (systolic blood pressure less than 90 mmHg)
- Third trimester bleeding
- Trauma patients
- Patient with suspected cardiac chest pain

**To Check For Postural Vital Signs**
- Obtain blood pressure and heart rate after two (2) minutes in supine position. Then bring patient to seating position.
- Next, stand patient upright slowly (**caution**: lay down patient promptly if he or she becomes dizzy or lightheaded when seated or standing).
- After patient stands for one (1) minute obtain blood pressure and heart rate.
- If fainting or light headedness develops return patient to supine position.

**Positive findings**
- Increase in pulse of 20/minute or more or a 20 mmHg or more drop in systolic BP from supine to standing with associated symptoms
- Dizzy, lightheaded, or fainting while sitting or standing

*A positive postural is an ALS indicator in an appropriate clinical setting*
Assisting Police
Police may call EMS for assistance in determining whether a psychiatric patient is stable enough to go to jail. Your evaluation must be based on Sick/Not Sick and MOI and IOS. You must document vital signs.
Pulse oximetry is an approved protocol but optional by individual departments.

**Indications For Use**
Pulse oximetry may be used anytime oxygen is in use or is to be administered to a patient based upon complaint or condition. This may include:
- Shortness of breath
- Chest pain
- Altered level of consciousness (LOC)
- Pregnancy/active labor
- Chest trauma
- Any time the EMT believes the oxygen saturation level needs to be assessed

**Contraindications**
- Patients less than 2 (two) years of age.

**Use and Administration**
Place the probe on a clean digit. This should be accomplished simultaneously with the initial administration of oxygen allowing for a “room air” estimate.

Under no circumstances should oxygen administration be delayed to obtain an oximetry reading.

**NOTE**
Pulse oximetry is inaccurate in the following clinical situations:
- Cardiac arrest
- Shock
- Hypothermia
- Carbon monoxide poisoning
PULSE OXIMETRY (CONT.)

- Jaundice
- Presence of nail polish

Decisions about patient care should be based on a patient’s complaint and presentation and should not be based solely on a pulse oximeter reading.

Pulse Ox device should NOT be used to acquire distal pulse readings. This should always be done by palpating the radial pulse.

Under no circumstances should the presence of a pulse oximeter detract from patient care.
SICK/NOT SICK

The SICK/NOT SICK approach to rapid patient assessment has become a mainstay in determining the physiologic status of a patient in Seattle/King County. Whether it is medical or trauma, adult or pediatric, SICK/NOT SICK is the tool of choice for rapid patient assessment and appropriate patient care.

This revised edition of the Patient Care Protocols incorporates the SICK/NOT SICK approach which leads to the early recognition of critical (Sick) and non-critical (Not Sick) patients and, ultimately, rapid and appropriate patient care.

The clinical indicators used in the adult SICK/NOT SICK approach provide clarity and offer clear and CONCISE indicators for determining a patient’s physiologic stability. Often, these indicators are observable from across the room without even touching the patient.

Additional considerations that need to be incorporated into your SICK/NOT SICK decision-process include: mechanism of injury (MOI), nature of illness (NOI) and index of suspicion (IOS). These CONSIDERATIONS will help you in determining SICK/NOT SICK and may alone determine into which category the patient is placed.

NOTE
- MOI - Mechanism of Injury
- NOI - Nature of Illness
- IOS - Index of Suspicion

Adult SICK/NOT SICK Clinical Indicators:
- Chief complaint and MOI/NOI/IOS
- Respiration
- Pulse (circulation)
- Mental status
The pediatric SICK/NOT SICK approach uses an innovative triad of indicators collectively called the “pediatric assessment triangle.” The triangle defines key indicators of physiologic stability, allowing the EMS provider to make an accurate and timely decision on the status of a pediatric patient.

First, determine the chief complaint and consider MOI, NOI, IOS

Then assess the elements of the Pediatric Assessment Triangle:

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Work of Breathing</th>
<th>Circulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alertness</td>
<td>Retractions</td>
<td>Color</td>
</tr>
<tr>
<td>Color</td>
<td>Nasal flaring</td>
<td>Temperature</td>
</tr>
<tr>
<td>Distractibility</td>
<td>Body position</td>
<td>Capillary refill time</td>
</tr>
<tr>
<td>Consolability</td>
<td>Abdomen sounds</td>
<td>Pulse</td>
</tr>
<tr>
<td>Eye contact</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech/cry</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SICK/NOT SICK Medical
Rapid Patient Assessment

Considerations: BSI, scene size-up, family member, additional staffing

**Chief Complaint/NOI***
- Respirations
- Pulse
- Mental Status
- Skin Signs/Color
- Body Position

(Primary Assessment)

The Clinical Picture

**SICK**

- Short report to incoming units
- Treat any life-threatening conditions immediately
- 100% O₂ nonrebreather mask or BVM

History Taking
- Baseline vitals
- Rapid medical survey
- SAMPLE history

Appropriate Position

Rapid Transport/ALS

Secondary Assessment
Includes a complete set of vitals

Reassessment

**DECIDE**

**NOT SICK**

Low/Moderate Flow O₂

Care for any obvious conditions as needed

History Taking
- Baseline vitals
- Rapid medical survey
- SAMPLE history
- OPQRST

Secondary assessment
*Includes a complete set of vitals

Appropriate Treatment

Appropriate Transport

Reassessment

*NOI - Nature of Illness
SICK/NOT SICK Trauma

Rapid Patient Assessment

Considerations: BSI, scene size-up, family member, additional staffing

The Clinical Picture

Chief Complaint/MOI*
Respirations
Pulse
Mental Status
Skin Signs/Color
Obvious Trauma
(Primary Assessment)

DECIDE

SICK

Short report to incoming units
Rapid extrication
Treat any life-threatening conditions immediately
History Taking
- Baseline vitals
- Rapid trauma survey
- SAMPLE history
Immobilize spine
Rapid Transport/ALS
Secondary Assessment
Includes a complete set of vitals
Reassessment

NOT SICK

Low/Moderate Flow O₂
Spinal stabilization
Care for any obvious or additional injuries as needed
History Taking
- Baseline vitals
- Rapid medical survey
- SAMPLE history
Secondary assessment
*Includes a complete set of vitals
Appropriate Treatment
Appropriate Transport
Reassessment

*MOI—Mechanism of Injury
Policies & Procedures — Sick/Not Sick (Pediatric)

SICK/NOT SICK

Medical

Rapid Pediatric Patient Assessment

Considerations:
Scene size-up/NOI*
Family member
Additional staffing

Pediatric Triangle
(Primary Assessment)

Appearance

Breathing

Circulation/Skin Color

SICK

Short report to incoming units
Treat any life-threatening conditions immediately

100% O₂ nonrebreather mask or BVM

History Taking
• Baseline vitals
• Rapid medical survey
• SAMPLE history

Appropriate Position

Rapid Transport/ALS

Secondary Assessment
*Includes a complete set of vitals

Reassessment
(Keep Warm)

NOT SICK

DECIDE

Low/Moderate Flow O₂

Care for any obvious conditions as needed

History Taking
• Baseline vitals
• Rapid medical survey
• SAMPLE history
• OPQRST

Secondary assessment
Includes a complete set of vitals

Request ALS. Short Report to incoming units

Appropriate Treatment

Appropriate Transport

Reassessment

*NOI - Nature of Illness
SICK/NOT SICK  Trauma
Rapid Pediatric Patient Assessment

DECIDE

SICK

- Short report to incoming
- Rapid extrication
- Treat any life-threatening conditions immediately
- History Taking
  - Baseline vitals
  - Rapid trauma survey
  - SAMPLE history
- Immobilize spine
- Rapid Transport/ALS
- Secondary Assessment
  Includes a complete set of vitals
- Reassessment
  (Keep Warm)

NOT SICK

- Spinal stabilization
- Care for any obvious or additional injuries as needed
- History Taking
  - Baseline vitals
  - Rapid medical survey
  - SAMPLE history
- Secondary assessment
  Includes a complete set of vitals
- Appropriate Treatment
- Appropriate Transport
- Reassessment
  (Keep Warm)

Considerations:
Scene size-up/MOI*
Forcible entry
Family member
Additional staffing

*MOI—Mechanism of Injury

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Long Spine Board Immobilization Guidelines: Seattle and King County

These guidelines are to be used for patients with trauma or suspected injury.

Long spine boards (LSB) have both risk and benefits. Elderly patients do not tolerate the board well and patients with respiratory diseases may fare poorly on a board. Therefore LSBs should be used when indicated. The best use of the LSB may be for extricating an unconscious (or difficult to move) patient, or providing a firm surface for cardiac compressions. However, other devices may be appropriate for patient extrication and movement. If the patient would normally be stabilized on a LSB but has a previously existing condition that makes securing the patient to the backboard impractical (such as kyphosis) the EMT should use their best judgment to secure the patient to the stretcher with the goal of minimizing movement of the spine.

Clinical Indications for LSB:

1. Immobilize patients with a LSB and cervical collar for any of the following conditions:
   - Blunt trauma and altered level of consciousness
   - Thoracic or lumbar spinal pain or tenderness
   - Neurologic complaint (e.g. numbness or motor weakness) following trauma
   - Anatomic deformity of the spine following trauma
   - High energy mechanism of injury AND:
     - Alcohol intoxication or drug induced impairment
- Inability to communicate
- Distracting injury
  - GSW to head or neck (in general stab wounds do not require LSB)

1. Patients complaining of isolated cervical pain or tenderness following trauma who have a GCS of 15 can be managed by application of a cervical collar and securing the patient firmly to the stretcher. This may include patients who are found ambulatory at the scene following the accident.

2. Immobilization on a LSB and cervical collar is not necessary when all of the following conditions are met:
   - Normal level of conscious (GCS-15)
   - No thoracic or lumbar spine tenderness or anatomic abnormality
   - No neurologic findings or complaints
   - No intoxication or drug induced impairment

3. These guidelines do not preclude use of LSB for extrication or moving the patient.
The following summary of spinal immobilization assumes that the ABCs and a distal circulation, motor, and sensory (CMS) exam have been assessed before and after splinting and treated accordingly.

Certain parts of this procedure may need to be modified in a critically injured patient whose airway, breathing, or circulation problems need to be treated immediately.

This summary also assumes that a patient is sitting upright in a car. The procedure will need to be modified if a patient is found in a different position or situation.

- Stabilize head in neutral, in-line position. (Do not release stabilization until the patient is completely secured to a long backboard, as described below, or until another EMT takes over. There should be no pulling or traction taken.)
- Measure and apply, properly-sized cervical collar.
- Apply extrication device, using a short backboard, long board, or other device. The technique used will depend on the equipment available and the patient’s condition.
- Extricate, maintain spinal alignment with head and neck stabilization in a neutral, in-line position.
- Place patient on a long backboard and immobilize chest by crisscrossing over shoulders, across chest to the hips.
Assess ventilation after tightening straps to ensure that respiratory effort is not impaired.

Immobilize the pelvis by crisscrossing or by strapping straight across. Use caution with pelvic or abdominal injuries.

Put one strap across the thighs above the knees and one strap across the lower extremities. An additional strap may be placed across the feet.

Stabilize the patient's head using a commercial immobilization device, rolled towels, or blankets. Secure patient's head to the backboard with two-inch adhesive tape across forehead.

Check CMS before and after immobilization.

Continue to monitor airway, breathing, circulation, vital signs, and level of consciousness.
SPLINTING

Appropriate splinting can reduce or minimize dislocation, motion, hemorrhage, swelling, and pain.

GENERAL PRINCIPLES

The following general principles apply to splinting:

- Remove or cut away clothing.
- Dress and bandage significant wounds, using a sterile dressing.
- Check CMS distal to injury before and after splinting.
- Immobilize joints above and below injured bones.
- For joint injuries, leave in place and immobilize the bone above and below the joint.
- It may be necessary on a mid-shaft (center 1/3) fracture to realign angulated injuries.
- Pad splints well.
- Elevate extremity after splinting, if possible.
- Monitor CMS after splinting.

GUIDELINES FOR SPECIFIC INJURIES

- Realignment of Long Bone Fractures
  - Attempt to realign (open or closed) long bones that are angulated in the middle 1/3 then splint.
  - *Long-bone fractures, which occur in the proximal or distal 1/3, that may or may not involve a joint, may be realigned if compromise of distal circulation or nerve function is detected and definitive care is delayed.*
  - Realignment may sometimes be necessary to facilitate packaging for transport.
  - Check and document CMS before and after splinting and/or realignment.
Dislocations/Sprains
Splint dislocations or other joint injuries in the position found. Exception: Loss of a distal pulse and neurological function and definitive care is delayed. In that case, attempt to straighten into anatomical position until the pulse returns, excessive pain is felt, or resistance is encountered. Support with blanket, pillow, or well-padded splint. Elevate the limb. Pack the injured area in ice or use an ice pack.

Pelvic Fractures
- Immobilization of these fractures can be accomplished by use of a bed sheet, disposable blanket, or a commercial device.
- Fold sheet lengthwise into 8” to 14” width.
- Place beneath patient; twist then wrap ends around patient, crossing over pelvic area.
- Secure sheet with square knot, tape, or zip ties.
- Secure the ends to the backboard.

TRACTION SPLINTING
A lower extremity traction splint stabilizes fractures of the femur. This reduces motion, hemorrhage, swelling, and pain. Traction splints are indicated in midshaft femoral fractures without involvement of the hip joint, knee, or lower leg.

General Guidelines For Applying A Traction Splint
- At least two EMTs are required to apply a traction splint.
- Remove or cut away clothing. Dress and bandage significant wounds using a sterile
dressing. Manually immobilize the injured extremity prior to dressing/bandaging. Check distal CMS before and after manipulation.

Objectives:
- Determine SICK/NOT SICK
- Control Bleeding
- Properly measure splint
- Apply traction
- Apply splint
- Reassess CMS and vital signs
TASER DART REMOVAL AND CARE

The TASER dart usually penetrates the skin only a few millimeters. EMTs can safely remove a dart simply by pulling it out. The only exception is involvement of the eye, face, neck, breast or groin. In this case, leave the dart in place and transport the patient to the hospital for dart removal.

Consider scene safety and measures to protect yourself and other rescuers from a potentially violent patient in situations when a TASER gun has been used. You do not need to transport a person to the hospital based solely on TASER dart exposure. If a patient has no need for further medical evaluation, you can leave him or her in police custody.

This skill may be performed by EMTs and ALS providers. (Depending on local protocol.)

ALS Indicators
- Compromise in ABCs

BLS Indicators
- Taser dart imbedded in skin

BLS Care
- Patient must be in custody of police
- Restrain if needed
- Assure the scene is safe
- Wear PPE including gloves and eye protection—consider mask and gown if blood is present
- Remove TASER cartridge from gun or cut wires before removing darts
  - Darts are a sharp hazard—treat as contaminated needle
  - Dispose of darts in sharps container or TASER cartridge
**TASER DART REMOVAL AND CARE (CONT.)**

**Removal Procedure**

- **DO NOT** REMOVE darts if:
  - Patient is **not** under control
  - Eye, face, neck, breast or groin are involved—patient must be transported to hospital for dart removal in this case
- Grasp firmly with one hand and pull to remove, one dart at a time
- Reassess patient
- Consider medical or behavioral problems as the original cause of violent behavior
  - Drug/alcohol intoxication
  - Behavioral problems
  - Trauma, etc.
- Bandage wounds as appropriate
- Document situation and patient contact thoroughly

**Patient Disposition**

- Release to law enforcement if indicated
- Transport with law enforcement support if:
  - Eye, face, neck, breast or groin are involved
  - ALS indicated
  - Law enforcement officer requires medical evaluation. Police protocol may require transport. This may be by PD or ambulance.
- Follow Patient Care Guidelines regarding restraint of aggressive or violent patients
TASER DART REMOVAL AND CARE (CONT.)

Burn Hazard

When a TASER is used in the presence of pepper spray propellant, there is a burn hazard. Electrical arcing from imperfect (but effective) dart contact can ignite the propellant. The resulting combustion may not be visible, but can lead to complaints of heat and burning. If a patient complains of heat or burning, evaluate for possible minor burns.

TEETH

Place avulsed/dislodged tooth/teeth in milk or patient saliva and transport.
TOURNIQUET

Indications

- A tourniquet may be used to control severe bleeding when other means of bleeding control have failed.

Precautions

- Use proper PPE
- Incorrect application of a tourniquet can worsen bleeding or cause more tissue damage.

Procedure

- Attempt to control bleeding using direct pressure, pressure dressing and/or elevation
- If unable to control bleeding, apply the tourniquet as follows:
  - Expose wound by removing clothes on affected limb (when possible)
  - Position tourniquet webbing proximal/above the wound
    * 2 inches above visible wound
    * When clothing can’t be removed and wound can’t be visualized, apply the tourniquet at the most proximal point of that extremity (armpit or groin).
    * Tighten tourniquet by pulling out the slack in the webbing
    * Twist the handle (windlass) until bleeding has stopped
    * Secure the handle (windlass) in the triangle ring
    * Note the tourniquet application time on the tourniquet time label or on the patient’s forehead
    * Re-assess frequently for bleeding control
TRANSPORT AND DESTINATION

Transport Options
In deciding what is best for the patient, you have several transport options:

- Paramedic Transport
- All “Sick” patients and all patients with unstable vital signs should be transported by medic unit (when available). If no medic unit is available, begin transport and rendezvous. All patients transported by paramedics must go to a hospital.
- BLS Transport (via private ambulance or fire department BLS unit). Stable patients who require medical attention or oxygen during transport may be transported with a BLS vehicle. In deciding whether to call for private ambulance or transport via fire department BLS unit, departmental policies should be followed.

Private Vehicle Transport
- Patients with minor alterations in vital signs and stable conditions not requiring oxygen may be advised that travel to the hospital or clinic via private vehicle is safe. Obviously the patient should not be the driver.

Taxi Transport
- Some departments utilize a taxi voucher program for patients who travel to a clinic, urgent care clinic, free-standing emergency department,
TRANSPORT AND DESTINATION (CONT.)

hospital based emergency department. These patients must meet the following criteria:
1. Paramedic care is NOT required
2. Patient is ambulatory
3. Patient has a non-urgent condition (clinically stable) including low index of suspicion for:
   a. Cardiac problem
   b. Stroke
   c. Abdominal aortic aneurysm
   d. GI bleed problems
   e. Major mechanism of injury
4. Patient must not have
   a. Need for a backboard
   b. Uncontrolled bleeding
   c. Uncontrolled pain
   d. Need for oxygen (except patient self administered oxygen)
5. The EMT considers a taxi to be an appropriate and safe method of transportation for the particular clinical problem.
6. Patient should be masked if there are respiratory symptoms.

Final Disposition Options
In deciding what is best for the patient you have four disposition options:
1. Leave at Scene
   - Generally, patients with normal vital signs and minor injuries or illness may be left at the scene. Always caution the patient to seek medical care (or call 911) if the condition should worsen.
2. Urgent Care Clinic
   - Selected patients may be transported to a clinic or urgent care clinic by fire department EMTs if they meet the following criteria:
TRANSPORT AND DESTINATION (CONT.)

A. Paramedic care is NOT required
B. Patient is ambulatory
C. Patient has a non-urgent condition
   (clinically stable) including
   a. Low index of suspicion for:
      ■ Cardiac problem
      ■ Stroke
      ■ Abdominal aortic aneurysm
      ■ GI bleed problems
   b. Low index of suspicion for major
      mechanism of injury
D. Patient must not have
   a. Need for a backboard
   b. Uncontrolled bleeding
   c. Uncontrolled pain
   d. Need for high flow oxygen

For guidance regarding transport decisions
EMTs may consult with paramedics or with
emergency department personnel at the medical
control hospital. The EMT must notify the
destination facility of the clinical problem and the
facility must agree to accept the patient.

3. Free-standing Emergency Department
   Selected patients may be transported to a free-standing
   emergency department by EMTs if they meet the
   following criteria:
   ■ Paramedic care is NOT required
   ■ Patient has a non-urgent condition (clinically
     stable) including:
     A. Low index of suspicion for cardiac, stroke,
        abdominal aortic aneurysm, or GI bleed
        problems
     B. Low index of suspicion for major
        mechanism of injury
     C. Patient is willing to be transported to the
        free-standing emergency department.
TRANSPORT AND DESTINATION (CONT.)

For transport decisions guidance EMTs may consult with paramedics or with emergency department personnel at the medical control hospital. If a free-standing emergency department destination is selected, that facility must be notified prior to transport and agree to accept the patient.

4. Hospital Emergency Department
   • All other patients requiring transportation.
## Abbreviations

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<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>AVPU</td>
<td>Alert, Verbal, Pain, Unresponsive</td>
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<td>CHF</td>
<td>Congestive Heart Failure</td>
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<tr>
<td>CMS</td>
<td>Circulation, Motor, Sensory</td>
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<td>CNS</td>
<td>Central Nervous System</td>
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<td>COPD</td>
<td>Chronic Obstructed Pulmonary Disease</td>
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<td>DNAR</td>
<td>Do Not Attempt Resuscitation</td>
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<td>ETT</td>
<td>Endotracheal Tube</td>
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<td>FBAO</td>
<td>Foreign Body Airway Obstruction</td>
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<td>IOS</td>
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<td>MDI</td>
<td>Metered-Dose Inhaler</td>
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<td>MOI</td>
<td>Mechanism Of Injury</td>
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<td>NRM</td>
<td>Nonrebreathing Mask</td>
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<td>NTG</td>
<td>Nitroglycerin</td>
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<td>Oropharyngeal Airway</td>
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<td>OPQRST</td>
<td>Onset, Provocation, Quality, Radiation, Severity, Time</td>
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<td>Physician Orders for Life Sustaining Treatment</td>
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**Normal Vital Signs by Age**

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**Temperature Conversions**

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“Whoever saves one life has saved an entire world”