Seattle and King County

2012 EMT Patient Care Protocols

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- Glucometry age >1
- CPR Protocols for King County and Seattle Fire Department
- EPI use by EMT or health care professional is an ALS indicator
- Pulse oximetry age >2
- New material on Sepsis
- Call required to hospital for CVA patients

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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.

Mickey Eisenberg, MD
King County Medical Program Director

Michael K. Copass, MD
Medical Director
Medic One
Seattle Fire Department
ADVANCE LIFE SUPPORT (ALS) INDICATORS

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
- 2nd or 3rd degree burns to face/head
- 2nd or 3rd degree burns >20% of body

Cardiac
- Suspected ACS (see page 19)

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
ADVANCE LIFE SUPPORT (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

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
ADVANCE LIFE SUPPORT (ALS) INDICATORS (CONT.)

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

**Other**
- Use of epipen 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
ABDOMINAL COMPLAINTS

ALS Indicators
Signs and symptoms of shock which include:
- Poor skin signs (pale, sweaty)
- Sustained tachycardia (see page 7)
- Hypotension (systolic BP less than 90 mmHg) with an appropriate clinical setting

Unstable vital signs
Positive postural changes (see page 119)
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 7)
- 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
ALTERED LOC (CONT.)

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.
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.
ANAPHYLAXIS

ALS Indicators
Respiratory distress
Signs and symptoms of shock which include:
- Poor skin signs (pale, sweaty)
- Sustained tachycardia (see page 7)
- Hypotension (systolic BP less than 90 mmHg) with an appropriate clinical setting
Unstable vital signs
Use of EpiPen 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
EpiPen for anaphylaxis (see page 13).
Oxygen as needed.
Reassure patient.
Remove stinger by scraping away from puncture site.
Any patient who receives an EpiPen (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

EMTs may deliver epinephrine via an EpiPen injector for ANY case of suspected anaphylaxis (respiratory distress and/or hypotension must be present).

Seattle EMTs

- Patient (any age) has a history of same and a prescription for epinephrine
- Patient is less than 18 years of age with no prescription, but permission is obtained from parent or legal guardian. This may be written, oral or implied.

King County EMTs

There are no requirements for:
- Age
- Having a prescription
- Written/oral permission (beyond standard consent)

If there is doubt about the need for EpiPen, consult with local paramedic or local control doctor.

Dosages

- Adult and children equal to or over 30 kg or 66 lbs: use EpiPen (0.3 mg)
- Child under 30 kg or 66 lbs: use EpiPen Jr. (0.15 mg)
Injection Procedure
Confirm that patient is experiencing anaphylaxis and meets above criteria.

1. Check medication date and that the EpiPen dose matches to patient’s size.
2. Remove clothing and prep area of thigh with alcohol pad.
3. **Remove safety cap** and locate injection site on lateral thigh.
4. Place black tip of injector against thigh and push hard until injector activates.
6. Remove injector, place in sharps container and massage site for 10 seconds.
8. Continue to provide oxygen. Ventilate if necessary.
9. Monitor and document vitals every 5 minutes.
10. Update incoming medics on patient status and response to injection.

**Use of EpiPen by EMT or healthcare professional is an ALS indicator.** Any patient who receives an EpiPen (pre or post EMS arrival) should be transported (mode of transport depends on clinical findings and symptoms) and evaluated in a hospital.
**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 7).

**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 121).
- 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 111).
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 19)
Altered LOC
Use of nitroglycerin
Unstable vital signs

Signs and symptoms of shock which include:
- Poor skin signs (pale, sweaty)
- Sustained tachycardia (see page 7)
- 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
**CHEST DISCOMFORT (CONT.)**

**BLS Care**
- Request paramedics if indicated.
- Provide supplemental oxygen and/or ventilatory assistance as necessary.
- Assist patient with nitroglycerin if indicated (see page 93).
- Provide aspirin if indicated (see Code ACS page 19).
- Position of comfort.
- Reassure patient.
- Monitor vital signs every 5 minutes.
- Monitor ECG if authorized, record strip.

**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 19*
CODE ACS
(ACUTE CORONARY SYNDROME)

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. EMTs should limit on scene time to no more than 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 103).
COLD-RELATED (CONT.)

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.
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.
COLD RELATED (CONT.)

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

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 7)
  - 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.
CONGESTIVE HEART FAILURE (CONT.)

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 121).

Monitor vital signs every 5 to10 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 7)
- 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 31).
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 32). 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 Suggesting Hyperglycemia**
- Recent infection
- Polyphagia (excessive food intake)
- Polydipsia (intense thirst)
- Polyuria (excessive frequency and amount of urine)
- Vomiting, abdominal pain
- "Flu-like" symptoms, nausea
- Insufficient insulin dosage
- Gradual onset
- Normal activity level
DIABETIC (CONT.)

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
GLUCOMETRY

Glucometry is an approved protocol but optional by individual departments.

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.

Under no circumstances should the presence of a blood glucose monitor detract from basic patient care. (e.g., ABCs)
Perform blood glucose evaluation after the ABCs and initial assessment have been completed.

*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
- 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)
- Cardiac or respiratory arrest

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.
Follow resuscitation protocols if cardiac or pulmonary arrest.
Warm aid unit.
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.
EXCITED DELIRIUM (CONT.)

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 111.
- Provide supplemental oxygen and or ventilatory assistance as necessary.
- Wound or trauma care as necessary
- Package patient for ALS transport
- Be vigilant for changes in patient LOC, and ABC’s
- Patients can decompensate quickly, without warning and may suffer cardiac arrest
- CPR as per protocol
HEAT-RELATED

ALS Indicators
- Decreased/altered LOC
- Hot dry skin in the presence of elevated temperature
- Sustained tachycardia (see page 7)
- 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.
HEAT-RELATED (CONT.)

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
OBSTETRIC (CONT.)

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.
OBSTETRIC (CONT.)

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. 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.
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>A</td>
<td>Appearance</td>
<td>Blue, pale</td>
<td>Body pink, extremities blue</td>
</tr>
<tr>
<td>P</td>
<td>Pulse</td>
<td>Absent</td>
<td>Less than 100/minute</td>
</tr>
<tr>
<td>G</td>
<td>Grimace</td>
<td>No response</td>
<td>Grimaces to stimulation</td>
</tr>
<tr>
<td>A</td>
<td>Activity</td>
<td>Limp</td>
<td>Some flexion of extremities</td>
</tr>
<tr>
<td>R</td>
<td>Respiratory Effort</td>
<td>Absent</td>
<td>Slow, irregular</td>
</tr>
</tbody>
</table>
OBSTETRIC (CONT.)

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.
Gynecologic

ALS Indicators
- Decreased/altered LOC
- Hypotension (systolic BP less than 90 mmHg) with an appropriate clinical setting
- Sustained tachycardia (see page 7)
- 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 46)
- Fever/infection with low index of suspicion

**BLS Care**
- Use **Pediatric Assessment Triangle**. (Page 128, 129)
- 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.*
RESPIRATORY

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 EpiPen injector
Sustained tachycardia (see page 7)

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
RESPIRATORY (CONT.)

BLS Care

Provide supplemental oxygen and/or ventilatory assistance as necessary.
Obtain oximetry reading (see page 121).
Reassure patient and urge calmness.
Assist patient with his or her medications.
Administer EpiPen if indicated for anaphylaxis (see page 13).
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
- Respiratory distress
- Respirations greater than 30 per minute
- Signs and symptoms of shock which include:
  - Poor skin signs (pale, sweaty)
  - Sustained tachycardia (see page 7)
  - 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 119)

**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.
**STROKE (cont.)**

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

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
</table>
| **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. |
| **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 normal. |
Selected patients with CVA (cerebral vascular accident—stroke) can benefit from rapid thrombolytic therapy designed to dissolve the clot causing the CVA. 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.
CODE CVA (CONT.)
(CEREBRAL VASCULAR ACCIDENT—STROKE)

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 to be normal?

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 101)

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
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.

If bleeding is uncontrolled by direct pressure and elevation, apply pressure at the appropriate pressure point. Hold pressure only as long as necessary to control bleeding. Reapply pressure if bleeding recurs. If pressure is held for a long period of time, tissue damage can result.

A “pressure device” may be used for control of severe, uncontrolled bleeding when all other methods of bleeding control have failed. When necessary, an oversized blood pressure cuff may be used. Inflate it no more than is necessary to stop bleeding.

Once stopped, you may need to immobilize the extremity and apply cold packs.
DRESSING AND BANDAGING

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
DRESSING AND BANDAGING (CONT.)

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.
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.
HEAD AND NECK (CONT.)
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.

Apply cervical collar and backboard (see page 130). If unable to realign then secure in the original position.

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 and motorcycle 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, skateboard helmets, rollerblade helmets).

If helmet needs to be removed, two EMT’s should stabilize head and neck, remove chinstrap, remove helmet while stabilizing head, and apply cervical collar. Secure the patient to a backboard (see page 130).
ORTHOPOEDIC

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.
ORTHOPAEDIC (CONT.)

Provide supplemental oxygen and/or ventilatory assistance as necessary.

Nothing by mouth.

Gently support injured part (see page 132).

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.

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 133)

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.
SOFT TISSUE

ALS Indicators

Significant head injury
Signs and symptoms of shock which include:
- Poor skin signs (pale, sweaty)
- Sustained tachycardia (see page 7)
- 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 59)
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 59)

Removal of Foreign Objects

Large, easily removed debris, such as glass, splinters, or gravel must be removed before bandaging.
SOFT TISSUE (CONT.)

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.

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.

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.

An oropharyngeal (OP) airway is not necessary if ventilation via BVM is easily accomplished.
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.
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.*
**PROcedures & Policies — Cardiac Arrest**

**King County Emergency Medical Services**

**Cardiac Arrest in Adults and Children ≥ 8 yrs old**

**For Philips AED Agencies**

**Approach to Cardiac Arrest for King County EMS Agencies**

(CAB: Chest compressions à Airway à Breathing)

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 pulse oximeter if available). Immediately begin chest compression, perform 2 minutes of uninterrupted CPR. Do not delay CPR for pulse check or rhythm analysis.

**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.
  - Immediately 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

---

**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.
  - Immediately 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
PROCEDURES & POLICIES — CARDIAC ARREST (CONT.)

Cardiac Arrest (Cont.)

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

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)
Immediately deliver SINGLE shock.
Immediately resume uninterrupted CPR x 2 minutes.
Do not delay CPR for post-shock pulse check or rhythm analysis.

Shock Advised/Indicated (VF or pulseless VT)
Immediately deliver SINGLE shock.
Immediately resume uninterrupted CPR x 2 minutes.

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.
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.

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)
- 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
- 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

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

No Shock Advised/Indicated
If pulse, assess blood pressure, airway and breathing
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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.

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.

PROCEDURES & POLICIES — CARDIAC ARREST (CONT.)
**CARDIAC ARREST (CONT.)**

**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 medics 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 compressions. 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 compressions 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 ventilating (or checking pulse) just before rhythm analysis. That is, any CPR cycle immediately before shock is 30 compressions followed immediately by rhythm analysis and shock.

**F.** Philips AEDs: MRx, ForeRunner AEDs charge simultaneously 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 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. 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.
- In newborns, compress to 1/3 chest depth. Perform 90 compressions and 30 ventilations/minute (compression: ventilation ratio of 3:1), taking ½ second for each compression or ventilation. If cardiac arrest suspected to be of cardiac etiology, may perform 15:2 CPR.
- 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 (CONT.)
CARDIAC ARREST (SEATTLE FD)

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

PROCEDURES & POLICIES — CARDIAC ARREST (SEATTLE FD)

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

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

2 MINUTES OF CPR
ANALYZE and rotate compressor (Repeat cycle)
If “NO SHOCK”, continue to ANALYZE each every 2 minute cycle

“NO SHOCK ADVISED”
- Check for pulse (< 10 seconds)
- Rotate compressor
- If no pulse

2 MINUTES OF CPR
Repeat until Medic arrives (no analysis)

On Medic Arrival
Continue CPR until Medics ready to Charge/Analyze/Shock with LP12

80
CARDIAC ARREST (SEATTLE FD)
Seattle Fire Department
Cardiac Arrest Before Arrival
Adults ≥ 8 Years Old

VERIFY CARDIAC ARREST
2 MINUTES OF CPR
10:1 @ 100 PER MIN
1ST ANALYSIS
ROTATE COMPRESSOR

"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

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

Repeat until Medic arrival
# CPR For Adults

<table>
<thead>
<tr>
<th>MANEUVER</th>
<th>ADULT HCP: Adolescent and older</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RECOGNITION</strong></td>
<td>Unresponsive (for all ages)</td>
</tr>
<tr>
<td></td>
<td>No breathing or no normal breathing (i.e., only gasping)</td>
</tr>
<tr>
<td></td>
<td>No pulse palpated within 10 seconds for all ages (HCP only)</td>
</tr>
<tr>
<td><strong>ACTIVATE:</strong> Emergency Response Number (single rescuer)</td>
<td>Activate when victim found unresponsive</td>
</tr>
<tr>
<td></td>
<td>HCP: if asphyxial arrest likely, call after 5 cycles (2 minutes) of CPR</td>
</tr>
<tr>
<td><strong>CPR Sequence</strong></td>
<td>C-A-B</td>
</tr>
<tr>
<td><strong>Compression Rate</strong></td>
<td>At least 100/min</td>
</tr>
<tr>
<td><strong>Compression Depth</strong></td>
<td>At least 2 inches (5cm)</td>
</tr>
<tr>
<td><strong>Chest Wall Recoil</strong></td>
<td>Allow complete recoil between compressions</td>
</tr>
<tr>
<td></td>
<td>HCP rotate compressors every 2 minutes</td>
</tr>
<tr>
<td><strong>Compression Interruptions</strong></td>
<td>Minimize interruptions in chest compressions</td>
</tr>
<tr>
<td></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>
</tr>
<tr>
<td><strong>Compression-to-ventilation ratio (until advanced airway placed)</strong></td>
<td>30:2</td>
</tr>
<tr>
<td></td>
<td>1 or 2 rescuers</td>
</tr>
<tr>
<td><strong>Ventilations:</strong> When rescuer untrained or trained and not proficient</td>
<td>Compressions only</td>
</tr>
<tr>
<td><strong>Ventilations with advanced airway (HCP)</strong></td>
<td>1 breath every 6-8 seconds (8-10 breaths/min)</td>
</tr>
<tr>
<td></td>
<td>Asynchronous with chest compressions</td>
</tr>
<tr>
<td></td>
<td>About 1 second per breath</td>
</tr>
<tr>
<td></td>
<td>Visible chest rise</td>
</tr>
<tr>
<td><strong>Foreign-body airway obstruction</strong></td>
<td>Responsive: Abdominal thrusts</td>
</tr>
<tr>
<td></td>
<td>Unresponsive: CPR with airway check</td>
</tr>
<tr>
<td><strong>Defibrillation</strong></td>
<td>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.</td>
</tr>
</tbody>
</table>
# CPR For Children and Infants

## MANEUVER

<table>
<thead>
<tr>
<th>CHILD</th>
<th>INFANT Under 1 year of age</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RECOGNITION</strong></td>
<td></td>
</tr>
<tr>
<td>Unresponsive (for all ages)</td>
<td>No pulse palpated within 10 seconds for all ages (HCP only)</td>
</tr>
<tr>
<td><strong>ACTIVATE:</strong></td>
<td></td>
</tr>
<tr>
<td>Emergency</td>
<td>Activate after performing 5 cycles of CPR for sudden, witnessed collapse</td>
</tr>
<tr>
<td>Response Number</td>
<td>For sudden, witnessed collapse, activate after verifying that victim unresponsive</td>
</tr>
<tr>
<td>(lone rescuer)</td>
<td></td>
</tr>
<tr>
<td><strong>CPR Sequence</strong></td>
<td>C-A-B</td>
</tr>
<tr>
<td><strong>Compression Rate</strong></td>
<td>At least 100/min</td>
</tr>
<tr>
<td><strong>Compression Depth</strong></td>
<td>At least 1/3 AP diameter</td>
</tr>
<tr>
<td></td>
<td>About 2 inches (5cm)</td>
</tr>
<tr>
<td><strong>Chest Wall Recoil</strong></td>
<td>Allow complete recoil between compressions</td>
</tr>
<tr>
<td><strong>Compression Interruptions</strong></td>
<td>HCP rotate compressors every 2 minutes</td>
</tr>
<tr>
<td><strong>Airway</strong></td>
<td>Head tilt-chin lift (HCP suspected trauma: jaw thrust)</td>
</tr>
<tr>
<td><strong>Compression-to-ventilation ratio</strong></td>
<td>30:2 (2 rescuers)</td>
</tr>
<tr>
<td>(until advanced airway placed)</td>
<td>15:2 (2 HCP rescuers)</td>
</tr>
<tr>
<td><strong>Ventilations:</strong></td>
<td>Compressions only</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>
</tr>
<tr>
<td>Asynchronous with chest compressions</td>
<td>About 1 second per breath</td>
</tr>
<tr>
<td>Visible chest rise</td>
<td><strong>Ventilations with advanced airway (HCP)</strong></td>
</tr>
<tr>
<td>1 breath every 6-8 seconds (8-10 breaths/min)</td>
<td>Asynchronous with chest compressions</td>
</tr>
<tr>
<td>About 1 second per breath</td>
<td>Visible chest rise</td>
</tr>
<tr>
<td><strong>Foreign-body airway obstruction</strong></td>
<td>Responsive: Abdominal thrusts</td>
</tr>
<tr>
<td>Unresponsive: CPR with airway check</td>
<td>Responsive: CPR with airway check</td>
</tr>
<tr>
<td><strong>Defibrillation</strong></td>
<td>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.</td>
</tr>
</tbody>
</table>
# CPR FOR NEWBORN

<table>
<thead>
<tr>
<th>Maneuver</th>
<th>Newborn</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AIRWAY</strong></td>
<td>Head tilt/chin lift</td>
</tr>
<tr>
<td></td>
<td>(Minimal, only as needed)</td>
</tr>
<tr>
<td></td>
<td>(Suction only as needed)</td>
</tr>
<tr>
<td><strong>BREATHS</strong></td>
<td>2 effective breaths at 1 second/breath</td>
</tr>
<tr>
<td><strong>Initial</strong></td>
<td>(obtain chest rise)</td>
</tr>
<tr>
<td><strong>Rescue breathing</strong></td>
<td>40-60 breaths/minutes</td>
</tr>
<tr>
<td><strong>without chest</strong></td>
<td>(~1 breath every 1 to 1.25 seconds)</td>
</tr>
<tr>
<td><strong>compression</strong></td>
<td></td>
</tr>
<tr>
<td><strong>CIRCULATION</strong></td>
<td>Check pulse at umbilical cord stub or over the heart</td>
</tr>
<tr>
<td><strong>Compression landmarks</strong></td>
<td>Just below the nipple line</td>
</tr>
<tr>
<td><strong>Compression Method</strong></td>
<td>2 rescuers perform skill:</td>
</tr>
<tr>
<td>(allow full recoil)</td>
<td>“two thumb-encircling hands” technique</td>
</tr>
<tr>
<td><strong>Compression Depth</strong></td>
<td>1/3 depth of the chest</td>
</tr>
<tr>
<td><strong>Compression Rate</strong></td>
<td>120 per minute</td>
</tr>
<tr>
<td><strong>Compression/Ventilation Ratio and events/minute</strong></td>
<td>3:1 (2 rescuer) Deliver 90 compressions and 30 vents/minute</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.
- Specific defibrillation/monitoring equipment, which will provide hard copy ECG rhythm strips for use by paramedics and others.
- Medical Program Director approval for addition of ECG monitoring to EMT care plans.

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.
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.
- 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.
EMTs and paramedics are authorized to consult with Group Health (GH) On-Scene Physician Support (OPS) for non-critical Group Health patients. Specifically, OPS is intended for Group Health patients who are stable and do not require immediate paramedic transport. OPS does not replace paramedic contact with medical control doctors for protocol plans care or other required contact.

The OPS program is designed to give EMTs and paramedics in King County telephone access to a consulting GH physician who has immediate access to the patient's full medical record. The physician can assist in determining the most appropriate care, most appropriate destination, and most appropriate transportation. In addition, the physician can arrange a variety of care options including a short-notice appointment at GH clinics, arrangements for medications to be filled at a GH pharmacy, emergency oxygen refills, and visiting nurse services. When consultation is provided by the GH physician, he or she assumes medical responsibility for the decisions made.

The GH consulting physician may be reached 24/7 at 1-800-851-8684.
Identify yourself as a King County EMT/paramedic and provide the following information:

1. Your name, agency
2. Patient name, age, gender, regular doctor, and GH number (if known)
3. Provide the CC and medical history
4. Describe the current clinical situation including vital signs and relevant findings
5. Describe what you have done so far
6. Describe what you think is an appropriate plan of care

Document on the MIRF that consultation was made with the Group Health OPS and what decisions were made.
HELICOPTER PROCEDURES

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 or 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.
MEDICATION ADMINISTRATION (CONT.)

ACTIVATED CHARCOAL
Only administer activated charcoal after conferring with the medical control doctor or paramedic. In addition, feel free to consult with Poison Control at 1-800-222-1222. Recommended dosage is 1 gram/kg.

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
MEDICATION ADMINISTRATION (CONT.)

angina) and systolic BP greater than 100 mmHg. 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
- Patient takes no more than three doses total (5 minutes apart)
- 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
MEDICATION ADMINISTRATION (CONT.)

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).
- 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 Positions 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.
MULTI-CASUALTY INCIDENT (CONT.)

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

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
FIELD TRIAGE ALGORITHM

1. Can you walk?
   Come over here!

2. Open Airway!

3. Decontamination (Haz Mat)
   If yes, then patients must be deconned before any medical care!
   White Triage tape — "Decontaminated/Clean"

4. Hazardous Materials Involved?
   "Level of Consciousness (Is the patient awake?)"
   Yes
   - "Can you walk? Come over here!"
   No
   - Open Airway! Breathing?

5. Mechanism of Incident (Assess for Injury Potential)

PROCEDURES & POLICIES - FIELD TRIAGE ALGORITHM (ABC)
### AVPU

| A | Alert – The patient’s eye open spontaneously as you approach. The patient is aware and responsive to the environment. The patient appropriately follows commands. |
| V | Verbal stimulus response – The patient’s eyes do not open spontaneously. The patient’s eyes open to verbal command and the patient is able to respond in some meaningful way when asked. |
| P | Painful stimulus response – 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. |
| U | Unresponsive – the patient does not respond to any stimulus. |
**GLASGOW COMA SCALE**

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 55).

<table>
<thead>
<tr>
<th>Eye Response</th>
<th>Best Verbal Response</th>
<th>Best Motor Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneously opens 4</td>
<td>Oriented and talking 5</td>
<td>Obey commands 6</td>
</tr>
<tr>
<td>Opens to voice 3</td>
<td>Disoriented and confused 4</td>
<td>Locates pain 5</td>
</tr>
<tr>
<td>Opens to pain 2</td>
<td>Inappropriate words 3</td>
<td>Withdraws from pain 4</td>
</tr>
<tr>
<td>No response 1</td>
<td>Incomprehensible 2</td>
<td>Flexes to pain 3</td>
</tr>
<tr>
<td></td>
<td>No response 1</td>
<td>Extends to pain 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No response 1</td>
</tr>
</tbody>
</table>
NOXIOUS STIMULI

Indications

Any patient with decreased LOC.

The only approved methods of delivering noxious stimuli:

- Firm earlobe pressure (Figure 1)
- Firm pressure behind earlobe (Figure 2)

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

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.

<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>

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 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
OXYGEN DELIVERY (CONT.)

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.
The treatment plan for every patient should include consideration for patient positioning. 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
- 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. (Figure 3, page 109)

The following steps are recommended:

1. Kneel beside the patient and straighten the legs.
2. Place the patient’s arm that is nearest to you at a right angle to body, elbow bent, palm up.
3. Place the other arm across the chest/abdomen (Figure 1, page 108).

*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 (Figure 1).

Place your other hand on the patient's far-side shoulder and roll the patient toward you (Figure 2). Begin moving the patient's uppermost hand toward the patient's nearest cheek.
PATIENT POSITIONING (cont.)

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 (Figure 3). Use chin lift if necessary.

**Figure 3**

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 (Figure 4) 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 (Figure 5). The use of this position will increase venous return to the heart resulting in increased blood pressure.
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.
**Patient Restraint (cont.)**

**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 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.
**PATIENT RESTRAINT (CONT.)**

**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

*Fit tested
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

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 114).
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)

Involves 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

PSYCHIATRIC EVALUATIONS

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
- 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
- Respirations
- Pulse (circulation)
- Mental status
- Skin signs (color, moisture, temperature)
- Body position/obvious trauma

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>
DECIDE
Rapid Transport/ALS
SICK/NOT SICK Medical
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
*NOI - Nature of Illness

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

PROCEDURES & POLICIES — SICK/NOT SICK (ADULT)
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)

**PROCEDURES & POLICIES — SICK/NOT SICK (ADULT)**

**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**
- 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
**SICK/NOT SICK Medical**
Rapid Pediatric Patient Assessment

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

**PROCEDURES & POLICIES — SICK/NOT SICK (PEDIATRIC)**

**DECIDE**
- 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
  - 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
PROCEDURES & POLICIES — SICK/NOT SICK (PEDIATRIC)
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.
SPINAL IMMOBILIZATION (CONT.)

- 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.
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.
SPLINTING (CONT.)

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
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**
- 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**
TASER DART REMOVAL AND CARE (cont.)

- Dispose of darts in sharps container or TASER cartridge
  - Police must be in custody of patient
  - Restrain if needed

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

**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.
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.

Before requesting a private ambulance, always inform the patient that you would like to call for a private ambulance, and that the ambulance company will charge a fee for transportation and service.

When requesting an ambulance for BLS transport, the default mode in King County for ambulance travel to the scene is non-emergency response unless specific written protocols or contracts require code-red response.
TRANSPORT AND DESTINATION (CONT.)

- 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, 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:
     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
TRANSPORT AND DESTINATION (CONT.)

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.

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

■ Transferring Patients At Rendezvous Site

Patients (particularly patients in less populated parts of King County) who are evaluated by EMTs and are in need of paramedic level care, may require transfer of care at a rendezvous site. This should be accomplished in the following fashion:

A. The first arriving EMT team will decide whether paramedic care is required according to EMT protocols. In some instances the dispatch center will have already dispatched paramedics to begin travel toward a rendezvous point.

B. If the EMT team determines paramedic care is not warranted then they will cancel the paramedics according to protocols.

If continued paramedic care is warranted then the EMTs will contact their dispatch center to request a paramedic rendezvous and a suggested site.

Upon meeting at the rendezvous site the paramedics will decide if the patient
should be transferred to the paramedic vehicle for further evaluation and treatment. The paramedics may, depending on the clinical situation, decide to assess the patient in the EMT vehicle. The paramedics will decide on the most suitable mode of transport to the hospital.
# ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AVPU</td>
<td>Alert, Verbal, Pain, Unresponsive</td>
</tr>
<tr>
<td>CHF</td>
<td>Congestive Heart Failure</td>
</tr>
<tr>
<td>CMS</td>
<td>Circulation, Motor, Sensory</td>
</tr>
<tr>
<td>CNS</td>
<td>Central Nervous System</td>
</tr>
<tr>
<td>COPD</td>
<td>Chronic Obstructed Pulmonary Disease</td>
</tr>
<tr>
<td>DNAR</td>
<td>Do Not Attempt Resuscitation</td>
</tr>
<tr>
<td>ETT</td>
<td>Endotracheal Tube</td>
</tr>
<tr>
<td>FBAO</td>
<td>Foreign Body Airway Obstruction</td>
</tr>
<tr>
<td>IOS</td>
<td>Index Of Suspicion</td>
</tr>
<tr>
<td>LOC</td>
<td>Level Of Consciousness</td>
</tr>
<tr>
<td>MDI</td>
<td>Metered-Dose Inhaler</td>
</tr>
<tr>
<td>MGS</td>
<td>Medical Group Supervisor</td>
</tr>
<tr>
<td>MOI</td>
<td>Mechanism Of Injury</td>
</tr>
<tr>
<td>NOI</td>
<td>Nature Of Illness</td>
</tr>
<tr>
<td>NRM</td>
<td>Nonrebreathing Mask</td>
</tr>
<tr>
<td>NTG</td>
<td>Nitroglycerin</td>
</tr>
<tr>
<td>OPA</td>
<td>Oropharyngeal Airway</td>
</tr>
<tr>
<td>OPQRST</td>
<td>Onset, Provocation, Quality, Radiation, Severity, Time</td>
</tr>
<tr>
<td>POLST</td>
<td>Physician Orders for Life Sustaining Treatment</td>
</tr>
<tr>
<td>SAMPLE</td>
<td>Signs/Symptoms, Allergies, Medication, Past history, Last oral intake (meal), Events leading up to complaint</td>
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# Normal Vital Signs by Age

<table>
<thead>
<tr>
<th>Age</th>
<th>Respiration (breaths/minute)</th>
<th>Pulse (beats/minute)</th>
<th>Systolic Blood Pressure (mm Hg)</th>
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<tr>
<td>Newborn: 0 to 1 month</td>
<td>40 to 60</td>
<td>120 to 160</td>
<td>50 to 70</td>
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<tr>
<td>Infant: 1 month to 1 year</td>
<td>30 to 60</td>
<td>100 to 160</td>
<td>70 to 95</td>
</tr>
<tr>
<td>Toddler: 1 to 3 years</td>
<td>24 to 40</td>
<td>90 to 150</td>
<td>80 to 100</td>
</tr>
<tr>
<td>Preschool: 3 to 6 years</td>
<td>22 to 34</td>
<td>80 to 140</td>
<td>80 to 100</td>
</tr>
<tr>
<td>School age: 6 to 12 years</td>
<td>18 to 30</td>
<td>70 to 120</td>
<td>80 to 110</td>
</tr>
<tr>
<td>Adolescent: 12 to 18 yrs</td>
<td>12 to 16</td>
<td>60 to 100</td>
<td>90 to 140</td>
</tr>
<tr>
<td>Over 18 years</td>
<td>12 to 20</td>
<td>60 to 100</td>
<td>90 to 140</td>
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# Temperature Conversions

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<tr>
<td>Degrees F</td>
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<td>106</td>
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<td>103</td>
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<td>75</td>
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<thead>
<tr>
<th>Organization</th>
<th>Address</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bellevue Fire Department</td>
<td>450 110th Avenue NE</td>
<td>(425) 452-6892</td>
</tr>
<tr>
<td></td>
<td>Bellevue, WA 98004</td>
<td>(Phone)</td>
</tr>
<tr>
<td>King County Medic One</td>
<td>7064 South 220th Street #9</td>
<td>(206) 296-8550</td>
</tr>
<tr>
<td></td>
<td>Kent, WA 98032</td>
<td>(Phone)</td>
</tr>
<tr>
<td>Redmond Fire Department</td>
<td>8450-161st Avenue NE</td>
<td>(425) 556-2200</td>
</tr>
<tr>
<td></td>
<td>Redmond, WA 98052</td>
<td>(Phone)</td>
</tr>
<tr>
<td>Seattle Fire Department Medic One</td>
<td>325 Ninth Avenue</td>
<td>(206) 386-1483</td>
</tr>
<tr>
<td></td>
<td>Seattle, WA 98104</td>
<td>(Phone)</td>
</tr>
<tr>
<td>Shoreline Fire Department</td>
<td>17525 Aurora Avenue N.</td>
<td>(206) 533-6500</td>
</tr>
<tr>
<td></td>
<td>Shoreline, WA 98133</td>
<td>(Phone)</td>
</tr>
<tr>
<td>Vashon Island Fire &amp; Rescue</td>
<td>10020 SW Bank Road</td>
<td>(206) 463-2405</td>
</tr>
<tr>
<td></td>
<td>Vashon, WA 98070-1150</td>
<td>(Phone)</td>
</tr>
<tr>
<td>Organization</td>
<td>Address</td>
<td>Telephone</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>------------------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Tri-Med Ambulance</td>
<td>18821 E. Valley Highway Kent, WA 98032</td>
<td>(206) 243-5622 (Phone)</td>
</tr>
<tr>
<td>American Medical Response</td>
<td>13075 Gateway Drive SE Suite 100 Tukwila, WA 98168</td>
<td>(206) 444-4440 (Main) (206) 623-1111 (Dispatch) or 1-800-542-7701</td>
</tr>
<tr>
<td>KC Sheriffs Office Search &amp; Rescue</td>
<td>7300 Perimeter Road S., Room 143 Seattle, WA 98108-3849</td>
<td>(206) 296-3853 (Phone) Special Operations</td>
</tr>
<tr>
<td>Rural/Metro Ambulance</td>
<td>6405 – 218th Street SW Mt. Lake Terrace, WA 98043</td>
<td>(425) 672-1111 (Phone) 1-800-989-9993</td>
</tr>
<tr>
<td>Crisis Clinic of King County</td>
<td>206-461-3222 (206) 461-8368 (Fax)</td>
<td>Mental health resource agency for concerned parents, relatives, etc.</td>
</tr>
<tr>
<td>Domestic Violence Hotlines</td>
<td>- King County</td>
<td>(206) 205-5555 1-800-562-6025 1-800-799-7233</td>
</tr>
<tr>
<td>- Washington State</td>
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<td></td>
</tr>
<tr>
<td>- National</td>
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<td></td>
</tr>
<tr>
<td>Agency</td>
<td>Phone Number</td>
<td>Reason to Call</td>
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<tr>
<td>---------------------------------------------</td>
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<td>-----------------------------------------------------</td>
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<tr>
<td>King County 24 hour Crisis Line</td>
<td>(206) 461-3222</td>
<td>Emotional, Physical or Drug Abuse, Suicide</td>
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<tr>
<td></td>
<td>1-866-427-4747</td>
<td></td>
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<tr>
<td>King County EMS Division</td>
<td>(206) 296-4693</td>
<td>Administration of EMS services</td>
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<tr>
<td>Language Bank American Red Cross</td>
<td>(206) 323-2345</td>
<td>Foreign language translation</td>
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<tr>
<td>Medical Examiner – King County</td>
<td>(206) 731-3232</td>
<td>Report expected natural death; request death investigation</td>
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<tr>
<td>National Suicide Prevention Lifeline</td>
<td>1-800-273-8255</td>
<td>Suicide, emotional, family</td>
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<tr>
<td>Sexual Assault - King County Resource Center</td>
<td>(425) 226-5062</td>
<td>Support for rape victims</td>
</tr>
<tr>
<td></td>
<td>1-888-998-6423</td>
<td></td>
</tr>
<tr>
<td>Seattle Mental Health</td>
<td>(206) 302-2300</td>
<td>All mental health services including 24hr Crisis Response Service</td>
</tr>
<tr>
<td>Washington Poison Center</td>
<td>1-800-222-1222</td>
<td>Ingestion of substances</td>
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### DISPATCH CENTERS

<table>
<thead>
<tr>
<th>Center</th>
<th>Phone</th>
<th>FAX</th>
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<tbody>
<tr>
<td>Airport Communication Center, SeaTac Airport</td>
<td>(206) 433-5229</td>
<td>(206) 439-5167</td>
</tr>
<tr>
<td>Norcom Communications Center</td>
<td>(425) 577-5656</td>
<td>(425) 577-5629</td>
</tr>
<tr>
<td>Enumclaw Police Department</td>
<td>(360) 825-3505</td>
<td>(360) 825-0184</td>
</tr>
<tr>
<td>Seattle Fire Department Dispatch</td>
<td>(206) 386-1493</td>
<td>(206) 684-7276</td>
</tr>
<tr>
<td>Valley Communications Center</td>
<td>(253) 852-2121</td>
<td>(253) 372-1506</td>
</tr>
<tr>
<td>Hospital</td>
<td>City</td>
<td>Telephone</td>
</tr>
<tr>
<td>-------------------------------</td>
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</tr>
<tr>
<td>Auburn Regional Medical Center</td>
<td>Auburn</td>
<td>253-333-2561</td>
</tr>
<tr>
<td>Children's Hospital</td>
<td>Seattle</td>
<td>206-987-2222</td>
</tr>
<tr>
<td>Enumclaw Regional Hospital</td>
<td>Enumclaw</td>
<td>360-802-3208</td>
</tr>
<tr>
<td>Evergreen Hospital</td>
<td>Kirkland</td>
<td>425-899-1711</td>
</tr>
<tr>
<td>Good Samaritan Hospital</td>
<td>Puyallup</td>
<td>253-697-4200</td>
</tr>
<tr>
<td>Group Health - Central</td>
<td>Seattle</td>
<td>206-326-3223</td>
</tr>
<tr>
<td>Group Health - Eastside</td>
<td>Bellevue</td>
<td>425-502-4120</td>
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<tr>
<td>Harborview Medical Center</td>
<td>Seattle</td>
<td>206-744-3074</td>
</tr>
<tr>
<td>Highline Community Hospital</td>
<td>Burien</td>
<td>206-431-5316</td>
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<tr>
<td>Highline Comm. Hospital - Riverton</td>
<td>Tukwila</td>
<td>206-248-4730</td>
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<tr>
<td>Mary Bridge Children's Hospital</td>
<td>Tacoma</td>
<td>253-403-1418</td>
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<tr>
<td>Monroe Valley Hospital</td>
<td>Monroe</td>
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<tr>
<td>Northwest Hospital</td>
<td>Seattle</td>
<td>206-368-1765</td>
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<tr>
<td>Overlake Hospital</td>
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<td>425-688-5100</td>
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<tr>
<td>Hospital Name</td>
<td>City</td>
<td>Phone Number</td>
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<tr>
<td>Providence Hospital – Colby</td>
<td>Everett</td>
<td>425-261-3000</td>
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<tr>
<td>Providence Hospital – Pacific</td>
<td>Everett</td>
<td>425-258-7555</td>
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<tr>
<td>Snoqualmie Valley Hospital</td>
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<td>425-831-2323</td>
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<tr>
<td>St. Clare Hospital</td>
<td>Lakewood</td>
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<tr>
<td>St. Francis Hospital</td>
<td>Federal Way</td>
<td>253-944-7971</td>
</tr>
<tr>
<td>St. Joseph Medical Center</td>
<td>Tacoma</td>
<td>253-426-6963</td>
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<tr>
<td>Swedish Hospital</td>
<td>Edmonds</td>
<td>425-640-4682</td>
</tr>
<tr>
<td>Swedish Hospital - Ballard</td>
<td>Seattle</td>
<td>206-781-6341</td>
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<td>Swedish Hospital - Central</td>
<td>Seattle</td>
<td>206-386-2573</td>
</tr>
<tr>
<td>Swedish Hospital - Providence</td>
<td>Seattle</td>
<td>206-320-2111</td>
</tr>
<tr>
<td>Tacoma General Hospital</td>
<td>Tacoma</td>
<td>253-403-1050</td>
</tr>
<tr>
<td>UW Medical Center</td>
<td>Seattle</td>
<td>206-598-4000</td>
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<tr>
<td>VA Puget Sound Health Center</td>
<td>Seattle</td>
<td>206-762-1010</td>
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<tr>
<td>Valley Medical Center</td>
<td>Renton</td>
<td>206-575-2574</td>
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<tr>
<td>Virginia Mason Hospital</td>
<td>Seattle</td>
<td>206-583-6433</td>
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