SNOHOMISH CO.

FIRE DISTRICT 1

# Checklists

## Clinical

- Anaphylaxis
- Asthma
- Cardiac Arrest
  - Post Arrest/ROSC
- Chest Pain
- CHF / Pulmonary Edema
- COPD
- Seizure
- Sepsis
- Stroke
- Syncope
- Trauma

## Procedural

- Cardioversion
- RSI

## Guides

- Downgrade
- Non-Transport
- Free Standing ED

# Anaphylaxis

## START - IMMEDIATE ACTION ITEMS

1. Epi 1:1,000 0.3mg IM
   (Ped 0.01mg/kg, Max 0.3mg)
2. IV fluids / 1-2 liters titrated to LOC, HR, End organ perfusion
3. Cardiac monitoring
4. 12 Lead EKG
5. Interpret and Monitor $EtCO_2$

## KEY CONSIDERATIONS

- Follow-up doses of Epi q 3-5 minutes prn
- Albuterol with respiratory involvement
- Diphenhydramine 25-50 IV or IM
  (Ped 1mg/kg)
- Methylprednisolone 125mg IV
  (Ped 2mg/kg)

## OTHER CONSIDERATIONS

- Epi 1:10:000-0.1-0.3mg SIVP only when severe hypotension and/or hypoxia justify the cardiovascular risk of IV Epi administration
- Epi 1:1,000 drip for refractory hypotension 2-10mcg/min, Discontinue >110mmHg
- In a small percentage of cases anaphylaxis may present without oral swelling or urticaria, presenting only with unexplained hypotension
- Biphasic and Protracted reactions occur in up to 20% of cases; hours after resolution of initial reaction and without re-exposure to allergen

**Document all checklist action items executed in ePCR**

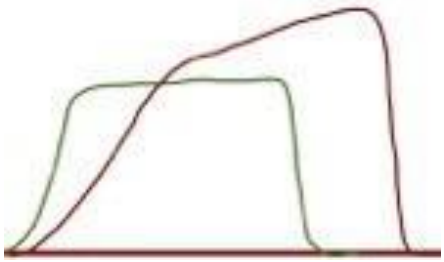
# Asthma

## START - IMMEDIATE ACTION ITEMS

1. Administer Albuterol 5mg / Atrovent 0.5mg nebulizer
2. Interpret and monitor $EtCO_2$
3. Administer Methlyprednisolone 125mg IV (Ped 2mg/kg)
4. Consider Epi 1:1,000 0.3mg IM (Ped 0.01mg/kg, Max 0.3mg)
5. Consider CPAP (Unless BP < 90)

## KEY CONSIDERATIONS

- Magnesium 2gm in 100 ml NS 15 min
- Repeat Albuterol 5mg Nebulizer
- Consider intubation
- 12 Lead EKG
- Notify ED
  - CPAP
  - Intubation



Green: Normal
Red: Abnormal

## OTHER CONSIDERATIONS

- With CPAP use lowest possible pressure
- Contraindications to CPAP include pneumothorax, respiratory arrest or inadequate respirations, unconscious or inability to protect airway, shock or BP<90, penetrating chest trauma, persistent nausea or emesis, facial trauma or abnormalities, or recent GI surgery or bleeding
- $EtCO_2$ should be monitored for trending and waveform indicators (Ex: Bronchoconstriction)

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# Cardiac Arrest

## START - IMMEDIATE ACTION ITEMS

1. Initiate High Performance CPR, resuscitation triangle positions
2. Initiate uninterrupted chest compressions
3. Announce CPR in progress over radio
4. Ventilate on 10th upstroke; max 10 per min
5. Pre-charge for shock/minimize peri-shock pause<10sec VF/VT(Ped 2J/kg, 4J/kg, 4J/kg)

## KEY CONSIDERATIONS

- POLST / DNR?
- Epi IV/IO: 1mg every 3-5 min
  (Ped 0.01mg/kg, Max 1mg)
- Vasopressin 40 units, may be substituted for 2nd dose of Epi
- Amiodarone IV/IO: Refractory VF/VT
  1st dose: 300mg bolus (Ped 5mg/kg)
  2nd dose: 150mg bolus
- Continue Asystole/PEA resuscitation for a min of 45 minutes if $EtCO_2$ is above 20
- When ROSC occurs - Immediately initiate ROSC checklist

## OTHER CONSIDERATIONS

Tenants of HPCPR

- 2 min compression cycles
- Rate target 110 cpm
- Depth & recoil are important
- Clear identification of leader and position
- Advanced procedures should be subordinate to high quality CPR
- Deliver shock within 2 seconds of CPR pause

LIFEPAK in "PADDLE" view

Potential Reversible Causes

- Hypovolemia
- Hypoxia
- Hydrogen ion - acidosis
- Hyperkalemia / Hypokalemia
- Hypothermia
- Tablets (drug OD, poisoning)
- Tamponade (cardiac)
- Tension pneumothorax
- Thrombosis, coronary (ACS)
- Thrombosis, pulmonary (embolism)

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# Post Arrest-ROSC

## START - IMMEDIATE ACTION ITEMS

1. Maintain triangle and assign pulse monitor
2. Begin 10 min ROSC stabilization period
3. Obtain vital signs
4. Consider advanced airway
5. Titrate to lowest $FiO_2$ while maintaining $SaO_2 \geq 94\%$
6. Set tidal volume at 6-8 ml/kg
7. Optimize ventilation - $EtCo_2$ Target 35
8. 12 lead EKG
9. IV fluids and vasopressors if hypotensive
10. Consider sedative over paralytics
11. Check blood sugar
12. Contact ED physician

## OTHER CONSIDERATIONS

- Prophylactic anti-arrhythmics are not recommended. Contact Medical Control
- Assign one team member to monitor pulses until destination
- Assure minute ventilation is adequately increased to compensate for severe acidosis (ex: ASA overdose, DKA) or $CO_2$ retention
- Tidal volume should be based on ideal body weight

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# Chest Pain

## START - IMMEDIATE ACTION ITEMS

1. 12 Lead EKG<10 minutes
2. If CODE STEMI - Announce CODE STEMI and PROCEED TO CHECKLIST BELOW
3. Administer aspirin or document reason not administered
4. Establish IV
5. Administer NTG unless contraindicated

## CODE STEMI

1. Identify nearest PCI capable Open Cath Lab
2. Notify ED of a Code STEMI
3. Administer aspirin or document reason not administered
4. Establish IV
5. NTG, MS, fentanyl considered
6. Consider 2nd IV
7. Serial 12 Lead EKGs
8. Limit scene time <15 min, Code Transport

## OTHER CONSIDERATIONS

- Ensure pre-hospital EKGs are submitted to ED Physician
- NTG is contraindicated in male or female patients who have recently taken any of the following: sildenafil (Viagra,Revatio), vardenafil (Levitra, Staxyn), tadalafil (Cialis, Adcirca), and riociguat (Adempas)

**Document all checklist action items executed in ePCR**

# CHF / Pulmonary Edema

## START - IMMEDIATE ACTION ITEMS

1. Consider CPAP (Unless BP<90)
2. Establish IV
3. Administer NTG unless contraindicated q 3-5 min prn
4. Interpret and Monitor $EtCO_2$
5. 12 Lead EKG

## KEY CONSIDERATIONS

- Aspirin w/chest pain
- Consider early intubation
- If hypotensive (cardiogenic shock) initiate IVFs and/or vasopressors
- Consider morphine 2-20mg IV (fentanyl if allergic) 50-100mcg
- Low dose Lasix if signs of total body fluid overload 20-40mg IV
- Notify ED
  - CPAP
  - STEMI
  - Intubation

## OTHER CONSIDERATIONS

- With CPAP use lowest possible pressure
- Contraindications to CPAP include pnuemothorax, respiratory arrest or inadequate respirations, unconscious or inability to protect airway, shock or BP<90, penetrating chest trauma, persistent nausea or emesis, facial trauma or abnormalities, or recent GI surgery or bleeding
- NTG is contraindicated in male or female patients who have recently taken any of the following: sildenafil (Viagra,Revatio), vardenafil (Levitra, Staxyn), tadalafil (Cialis, Adcirca), and riociguat (Adempas)

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# COPD

## START - IMMEDIATE ACTION ITEMS

1. Administer Albuterol 5mg/Atrovent 0.5mg nebulizer
2. Interpret and monitor $EtCO_2$
3. Consider CPAP (Unless BP<90)
4. Administer Methyprednisolone 125mg IV/IM

## KEY CONSIDERATIONS

- Repeat Albuterol 5mg nebulizer
- 12 Lead EKG
- Consider intubation
- Notify ED

CPAP

Intubation

Green: Normal
Red: Abnormal

## OTHER CONSIDERATIONS

- With CPAP use lowest possible pressure
- Contraindications to CPAP include pneumothorax, respiratory arrest or inadequate respirations, unconscious or inability to protect airway, shock or BP<90, penetrating chest trauma, persistent nausea or emesis, facial trauma or abnormalities, or recent GI surgery or bleeding
- $EtCO_2$ should be monitored for trending and waveform indicators and documented (Ex: Bronchoconstriction)

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# Seizure

## START - IMMEDIATE ACTION ITEMS

1. Assess blood glucose level
2. Benzodiazepine best available route
3. Diazepam SIVP, IO 2-10mg, Max 20mg
   (Ped 0.2mg/kg SIVP, 0.5mg/kg PR)

   Lorazepam SIVP, IM, IO 1-2mg, Max 6mg
   (Ped 0.05mg/kg, Max 2mg)

   Midazolam 1-2mg IV, IO, Max 5mg
   (Ped 0.1mg/kg, Max 2mg)
   (Intranasal 0.2mg/kg, Max 10mg)

## KEY CONSIDERATIONS

- $EtCO_2$ and $SaO_2$
- Status and 1st time seizures require paramedic level assessment
- Consider

  Febrile seizure / fever protocol
  Eclampsia (Mag 4G/250cc over 20 min)
  Overdose / poisoning

## OTHER CONSIDERATIONS

- Use medication calculators for pediatric medications - check twice
- Document duration of seizure and when it stopped
- Benzodiazepines should not be mixed with other agents
- Administer through proximal end of IV tubing and flush well
- Status Seizure: Witnessed seizure activity continuing >10 minutes or multiple seizures that reoccur without return to full mental capacity

**Document all checklist action items executed in ePCR**

# Sepsis

## START - IMMEDIATE ACTION ITEMS

1. Assess for Sepsis Criteria and determine if Code Sepsis
2. $EtCO_2$ measurement
3. Initiate fluid resuscitation
4. Contact medical control for all patients who meet Code Sepsis
5. If Code Sepsis, limit scene time and Code Transport

## KEY CONSIDERATIONS

- Reassess mental status, circulatory and pulmonary function after every 500cc bolus
- Consider vasopressors after fluid resuscitation of 20ml/kg
- 12 Lead EKG
- Consider intubation
- Identify potential source of sepsis

## OTHER CONSIDERATIONS

Sepsis Criteria:
Suspected infection plus 2 or more of the following;

- HR>90
- RR>20
- Fever >38.0c (100.4f) or <36.0c (96.8f)

Code Sepsis:
Meets above Sepsis Criteria plus one of the following;

- Hypotension
- Altered LOC
- $EtCO_2 \leq 25$ / Lactate $\geq 2$

Beta Blockers may mask vital signs

DOCUMENTATION
Primary condition
Select fever/infection
Flow chart, Select "Other", Select "Sepsis Notification" and also document Sepsis in narrative section

**Document all checklist action items executed in ePCR**

# Sepsis Checklist©

# Stroke

## START - IMMEDIATE ACTION ITEMS

1. Assess F.A.S.T.
2. Check Blood Sugar
3. Announce Code Stroke
4. Establish Time Last Seen Normal
5. Limit Scene Time < 15 Min

## KEY CONSIDERATIONS

- Establish IV Enroute
- Determine Destination

  0.0-3.5 Hrs=Code-Closest

  OR

  3.5-6.0 Hrs=Code-Closest+Contact Physician

  OR

  6.0+ Hrs=Non Code-Closest
- Notify ED of Code Stroke

## OTHER CONSIDERATIONS

- Do not delay transport to establish IV
- All stroke patients should be transported ALS, unless transport will be delayed
- It is important to accurately obtain time of onset

**Document all checklist action items executed in ePCR**

# Syncope

## START - IMMEDIATE ACTION ITEMS

1. Thorough history and physical exam
2. Blood glucose check
3. 12 Lead EKG
4. $EtCO_2$
5. Non-transport requires physician contact

## KEY CONSIDERATIONS

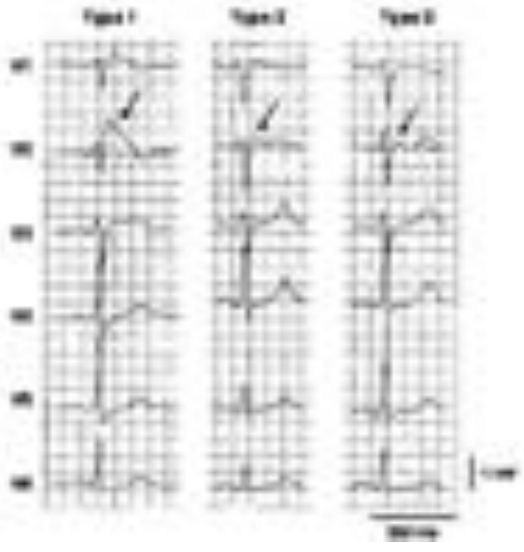
ALS transport if any evidence of the following

- $EtCO_2 \leq 31$
- History concerning for life threatening cause of syncope
- Hypotension or other abnormal vitals
- Family history of sudden death
- Congenital heart conditions/murmur/aortic stenosis
- History of CHF/CAD
- Pregnancy

Concerning EKG findings

- Arrhythmias/BBB/bradycardias
- LVH
- Preexcitation
- Prolonged QT
- Brugada changes
- Signs of prior MI or ischemia

Brugada



## OTHER CONSIDERATIONS

- Syncope is a common cause of EMS activation as well as ED use. It is a condition that can be confused with other distinct conditions such as seizures, vertigo or states of altered mental status
- Etiologies range from the benign to life threatening
- Pre-syncope has the same risk as syncope for adverse outcomes

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# Trauma

## START - IMMEDIATE ACTION ITEMS

1. Request 10 Minute Timer, Scene Time < 10 min
2. Control airway/breathing/and life threatening bleeding as needed
3. Rapid trauma exam and history incl anticoagulant use
4. Expose (remove clothing), but keep patient WARM
5. $EtCO_2$ target 35-40, if herniation is imminent 30-35
6. Transport to appropriate level Trauma Ctr, w/in 30 min

## KEY CONSIDERATIONS

### 1. Measure vital signs and level of consciousness

- GCS ≤13
- Systolic BP <90
- Respirations <10 or >29 breaths/min (<20 in infant<1 year)

### 2. Assess anatomy of injury

- Penetrating injuries to head, neck, torso, exts above elbow/knee
- Crushed, degloved, mangled, or pulseless extremity
- Chest wall instability
- 2≥long-bone fractures, skull fracture, pelvic fracture
- Amputation above wrist or ankle
- Paralysis

# KEY CONSIDERATIONS CONT.

## 3. Assess mechanism of injury

- Adults >20 ft fall (one story=10 ft)
- Children >10 ft fall or 2x-3x height
- >12" intrusion in compartment
- >18" intrusion any site
- Ejection (partial or complete)
- Death in same compartment
- Struck >20 mph
- Motorcycle crash >20 mph
- Anticoagulants in head injuries
- Pregnancy >20 weeks

## 4. Assess special patient or system considerations

Older Adults

- Risk of injury/death increases after age 55 years
- SBP <110 may represent shock after age 65
- Low impact mechanisms (ex. ground level falls) may result in severe injury

Children

- High sensitivity for pediatric trauma transport to Harborview

Anticoagulants and bleeding disorders

- Patients with head injury are at high risk for rapid deterioration

Pregnancy >20 weeks

EMS provider judgment

Trauma Checklist©

FIRE DISTRICT 1

# Cardioversion

## START - IMMEDIATE ACTION ITEMS

1. Confirm indication - hypotension, poor perfusion, active chest pain, altered mental status and/or shock
2. Palpate pulse
3. Select energy
4. Sync - ensure R wave capture
5. Clear
6. Cardiovert

| Energy Levels | |
|---|---|
| Afib | 120-200J |
| Monophasic VT | 100J |
| SVT/Flutter | 50-100J |
| Polymorphic VT | 200J |
| Ped Dose | 0.5-1J/Kg |
| Max Dose | 2J/Kg |

## KEY CONSIDERATIONS

- Establish IV
- Sedation and analgesia, if time allows
- Prepare for decompensation and defibrillation
- Sync not necessary for wide complex irregular rhythm

## OTHER CONSIDERATIONS

Sedation - midazolam 1-2mg IV, IO, Max 5mg (Ped 0.1mg/kg, Max 2mg)

Analgesia - Fentanyl 25-200mcg IV (Ped 1mg/kg, Max 100mcg) recommended

Adult combo patches to be used on all pediatric patients > 15kg

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# RSI

## START - IMMEDIATE ACTION ITEMS

1. Preoxygenate (NRB and NC at 15 lpm)
2. Evaluate airway and verbalize back-up plan
3. Set up suction and airway adjuncts
4. Optimize patient position
5. Etomidate 0.3mg/kg (Severe Shock 0.15mg/kg)
6. Succinylcholine 1.5mg/kg
7. Verify $EtCO_2$ numeric and waveform
8. Check cuff and note number at teeth
9. Check BP following intubation

## KEY CONSIDERATIONS

- Monitor and document $SaO_2$ and $EtCO_2$ pre/during/post intubation
- Do not ventilate post induction unless $SpO_2 < 93\%$
- Post intubation sedation/analgesia
- Failed airway:

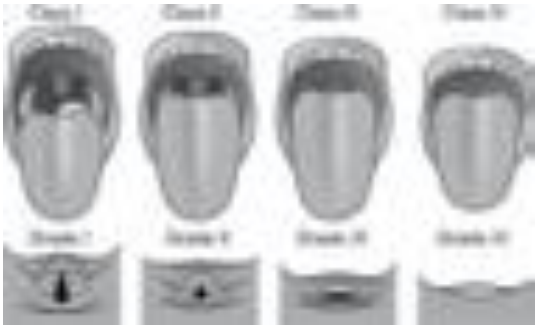
  $SpO_2 < 90\%$ after 1 attempt with failure to oxygenate/ventilate

  3 failed ETT attempts

## OTHER CONSIDERATIONS

- Etomidate contraindications: Age<2 years and pediatrics with septic shock
- Succinylcholine contraindications: Known or suspected rhabdomyolysis, skeletal muscle myopathies, hypersensitivity, history of malignant hyperthermia, major burns or crush injury > 24 hours, long term immobilization (ex: spinal cord injury or debilitating stroke)
- Assure minute ventilation is adequately increased to compensate for severe acidosis (Ex: ASA overdose, DKA) or $CO_2$ retention

Sternal Notch
Flat vs Raised



**Document all checklist action items executed in ePCR**

# RSI Checklist©

FIRE DISTRICT

# Downgrade

## CONSIDERATIONS

- Dispatched ALS provider will remain w patient until arrival of another EMS provider whose level of training is commiserate with level of care as determined by the ALS provider
- ALS provider shall perform full assessment and exam. ALS assessment will be checked on the ePCR
- Assessment and decision to transfer care to lower level service will be documented on the EPCR
- Any abnormal vital signs are addressed may include as indicated: HR, RR, BP, $O_2$ sat, $EtCO_2$, Blood Sugar (high or low), and Temp
- If EKG is done, document interpretation on ePCR and send a copy with transporting unit
- Consider contacting medical control
- Paramedic is responsible for the appropriateness of care
- There is no reasonable expectation the patient will require a higher level of care
- Law Enforcement has NO authority in transport decisions

- If Law Enforcement elects to take a patient into custody they must be informed they are responsible for all liability and system consequences
- Patients requiring NRB to maintain $SaO_2$ > 94% = high probability for respiratory failure

Reference SCEMS Protocols:

- Patient Care Responsibility
- Transfer of Care Responsibility and Delegation

**Document all checklist action items executed in ePCR**

# Downgrade

# Non-Transport

## CRITERIA

Assessment of Patient:

- Oriented to Person–Place–Time–Situation
- Patient is of age of consent or meets state req for a minor's ability to consent
- Full patient evaluation/exam performed
- If applicable, perform blood sugar check, 12 Lead EKG and/or $EtCO_2$

Ability to Refuse:

- No evidence of head injury
- No altered level of consciousness
- No evidence of Hypoglycemia
- No evidence of Hypoxia
- No evidence of impairment from alcohol or drug ingestion by exam or history
- No evidence of suicidal tendencies or obvious psychiatric disorders
- No evidence of a communication barrier

Contact Outside Resources as Necessary:

- Consider contacting Law Enforcement
- Consider contacting Medical Control document physician's name
- Consider having Medical Control speak with the patient

Patient Advised (If applicable):

- Medical treatment and transport needed
- Further harm, death, or disability could result without medical treatment/transport
- Patient advised to call 911 if they change their mind to accept care or their condition changes in any way
- Of any abnormal vitals (HR, BP, RR, Temp, $O_2$ sat, $EtCO_2$), exam findings, or diagnostics
- Potential problems of blood sugar <80 or >300
- Pre-hospital EKG findings are preliminary and final interpretation is required by a physician

Refusal form signed and witnessed

Age of Consent Definitions:

- 18 years of age for general medical conditions
- 13 years of age for pregnancy/stds/mental health/substance abuse treatment
- Any age for minors married to an adult or emancipated minor
- All pregnant minors are emancipated

**Document all checklist action items executed in ePCR**

# Non-Transport

# Free Standing ED

## EXCLUSIONARY CRITERIA

- Heart Rate >150
- Systolic BP <90 or >180
- $SaO_2$ <95%
- Respiratory Rate >24
- Temp>100 F (38C) in < 3 month old
- Altered Level of Consciousness (unresolved)
- Trauma: Patients on backboards
- Fracture: Open fracture, suspected hip fractures, and extremity fracture with neurovascular compromise
- Stroke
- Sepsis/Severe infection
- Vascular emergency
- Abdominal pain in elderly
- Blood in stool or emesis (GI related)
- Potential cardiac chest pain
- Overdose (unresolved)
- Seizure
- Syncope

NOTES

SNOHOMISH CO.
FIRE 1
DISTRICT

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