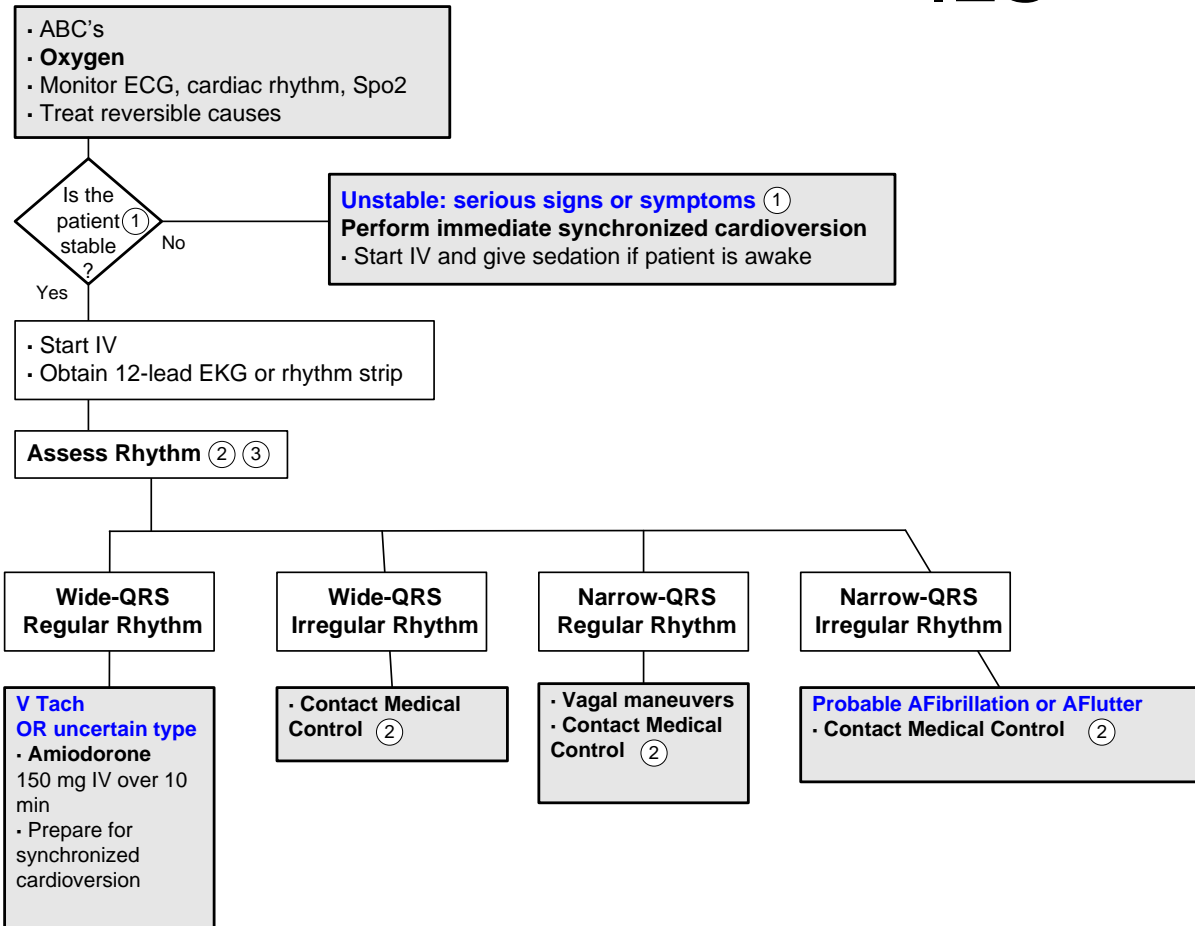


ECEMS PROTOCOLS

ILS

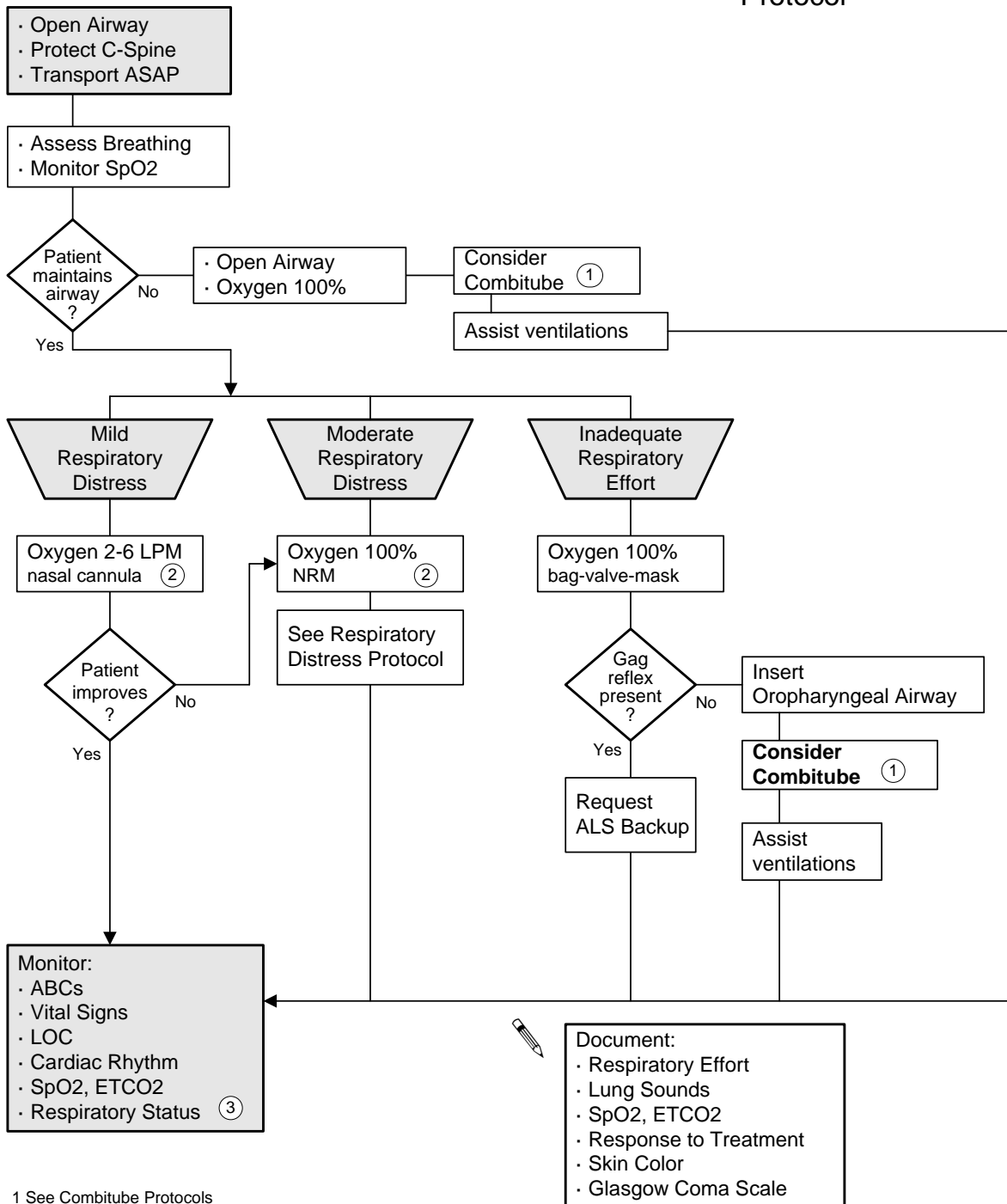
Tachycardia with Pulses

ILS



1 Serious signs and symptoms include: altered mental status, chest pain, hypotension.
 NOTE: rate-related symptoms uncommon if heart rate < 150 bpm.
 2 Contact Medical Control if you have any questions or need expert advise.
 3 Wide-QRS = > 0.12 seconds. Narrow-QRS = < 0.12 seconds.

Airway Management



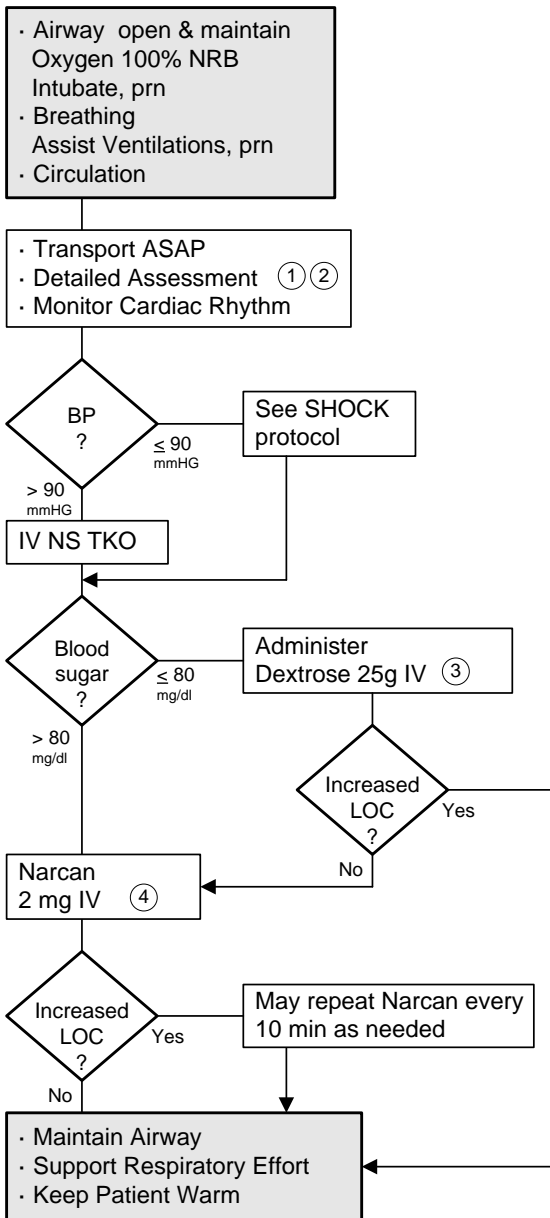
1 See Combitube Protocols

2 COPD patients often use their Hypoxic Drive. In these cases, expect and accept SpO2 readings <90% & >85%. Lower concentrations of oxygen may be indicated, yet never deprive a patient in respiratory distress of Oxygen.

3 IF RESPIRATORY EFFORT OR LEVEL OF DISTRESS CHANGES MOVE TO THE APPROPRIATE ASPECT OR ARM OF THIS PROTOCOL.

Altered Mental Status Coma

ILS Protocol



- Possible causes:
- Head Injury
 - Cardiac Arrest
 - Diabetes
 - Seizure
 - Overdose
 - Hypertension

- Document:
- Glasgow Coma Scale
 - Clinical Response to Dextrose or Narcan
 - Blood Sugar
 - SpO2
 - IV Fluid Totals
 - Medical History
 - Exam
 - Vital Signs
 - Cardiac Rhythm

Eye Opening	Spontaneous	4
	To Voice	3
	To Pain	2
	None	1
Best Verbal Response	Oriented	5
	Confused	4
	Inappropriate words	3
	Incomprehensible words	2
Best Motor Response	None	1
	Obeys Commands	6
	Localizes Pain	5
	Withdraws (Pain)	4
	Flexion	3
	Extension	2
	None	1

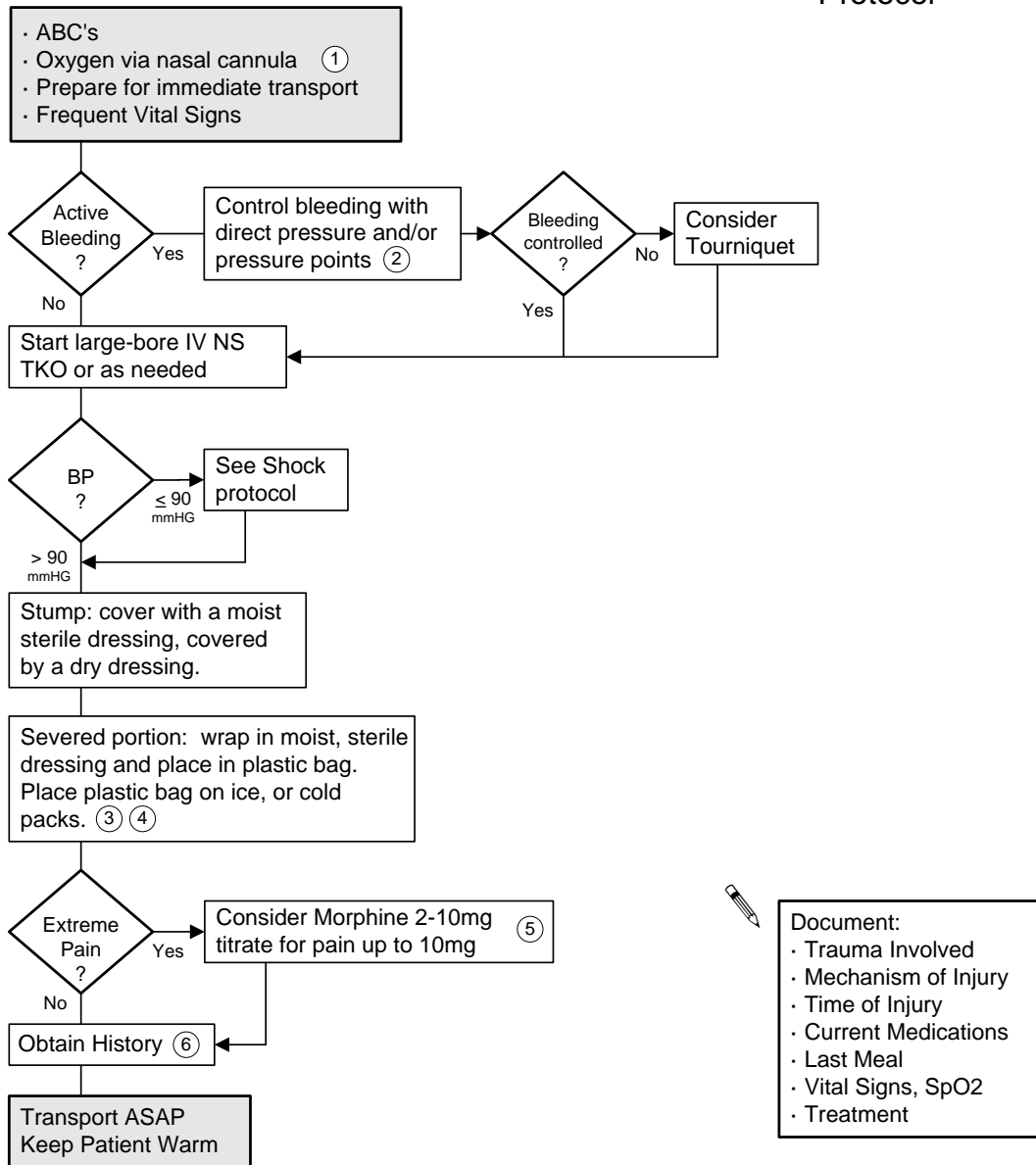
1 Detailed Assessment: Document Glasgow Coma Scale. Check odor on breath. Look for Medical Alert tags, needle tracks, and evidence of trauma.

2 Observe environment closely for signs of potential overdose..

3 Dextrose: Recheck blood sugar 5 minues following Dextrose. If blood sugar remains < 80 mg/dl repeat Dextrose. Pediatric dose is 0.25-0.5 gm/kg IV (use 25% solution in infants, 50% in children).

4 Narcan may be administered prior to Dextrose administration if pupils are constricted, suggestive of narcotic effects. Pediatric dose is 0.1 mg/kg for newborn-5 years old, 2 mg for older children.

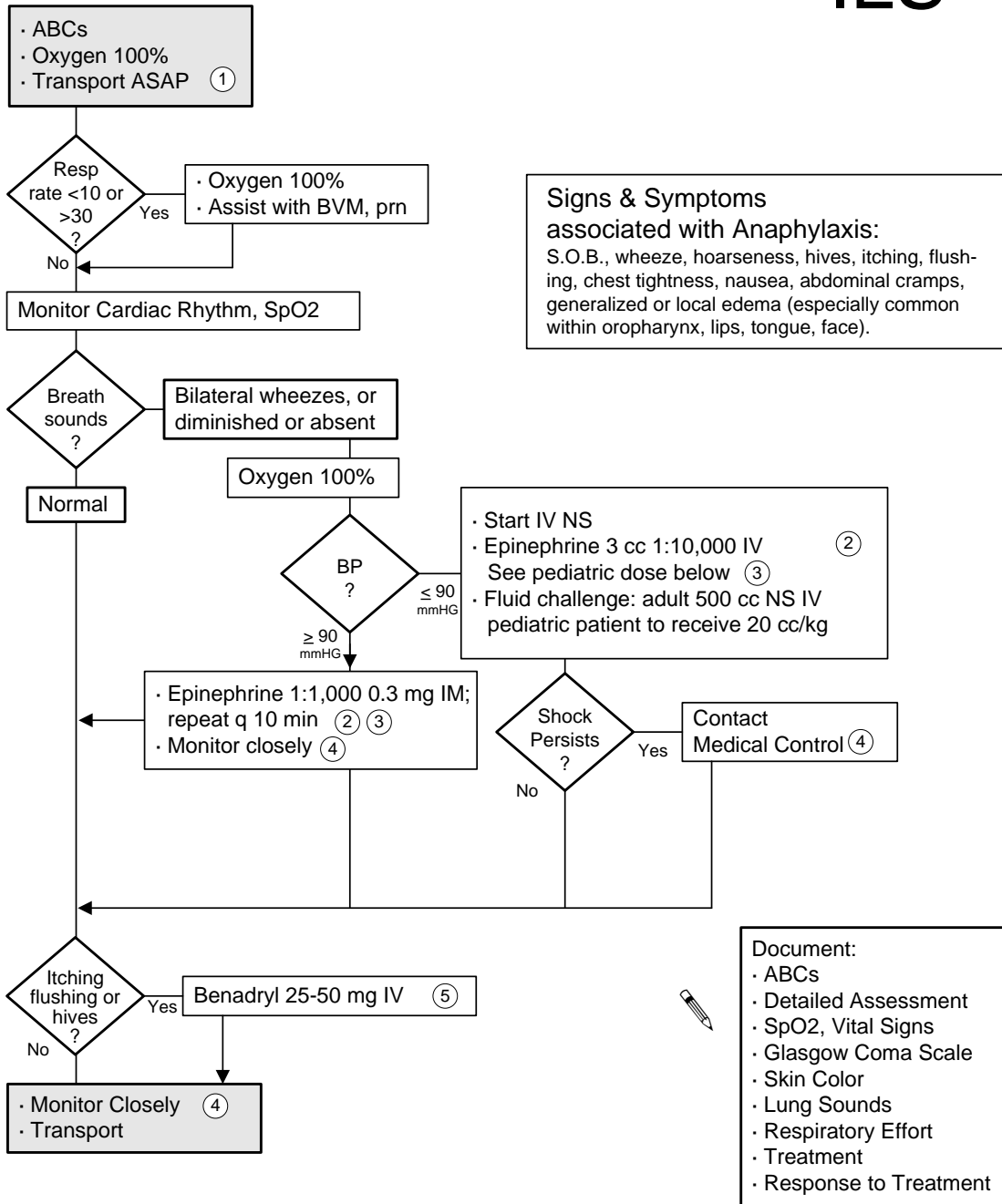
Amputation



- 1 Administer higher concentrations if needed. Use a nonrebreathable mask if active bleeding is present or if the original blood loss was significant.
- 2 Use pressure point proximal to site if direct pressure does not control the bleeding.
- 3 Keep severed part moist. Do not allow to soak in a solution.
- 4 If transport delayed or otherwise extensive (entrapped patient, etc.), consider air transport and/or transporting severed part before patient, to allow early examination and surgical preparation for reimplantation.
- 5 Morphine may cause hypotension.
- 6 History: note time of amputation, mechanism involved, current medications, bleeding disorders. Exam: note anatomical location of amputation. Estimate total blood loss.

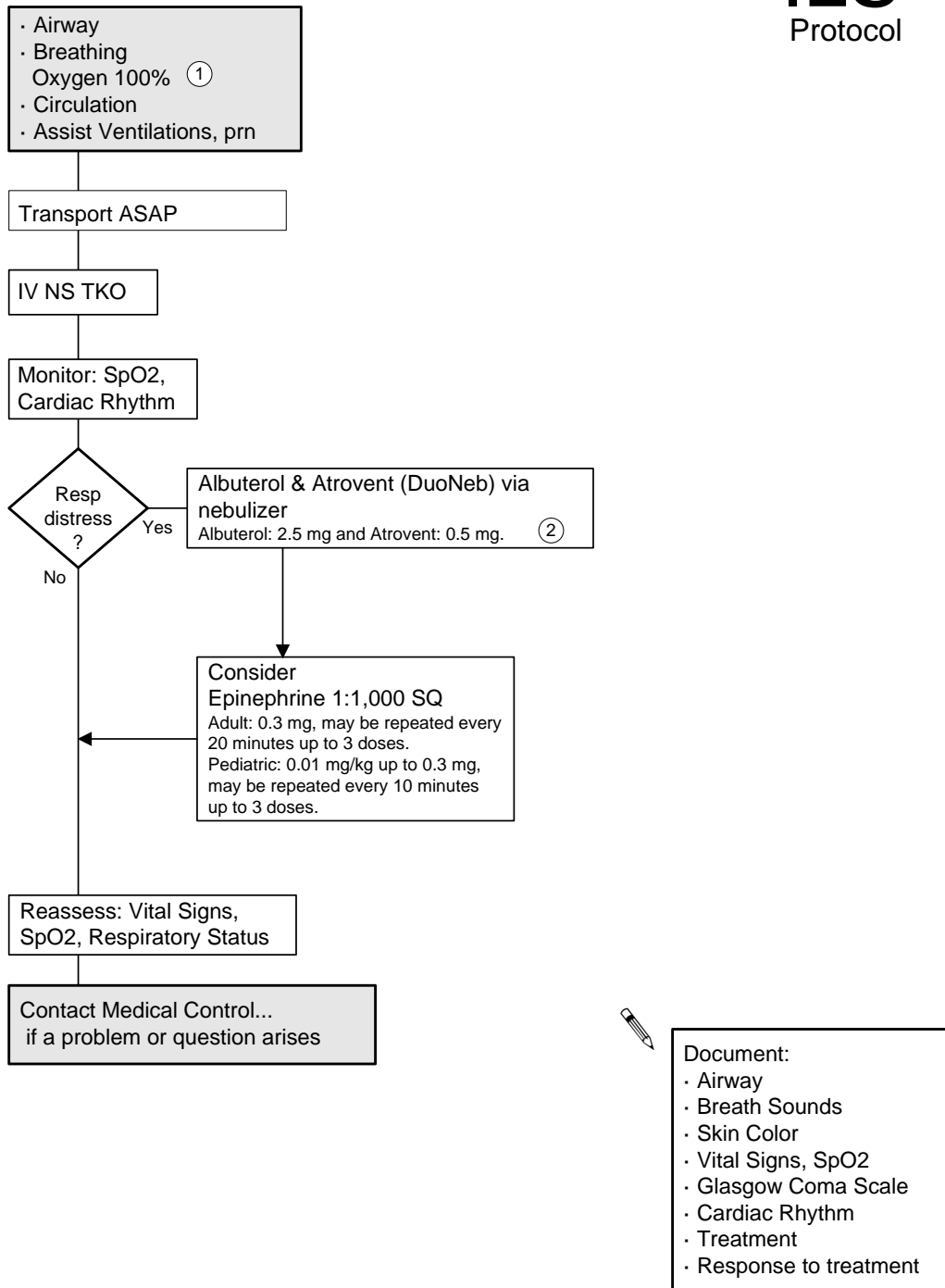
Anaphylaxis

ILS



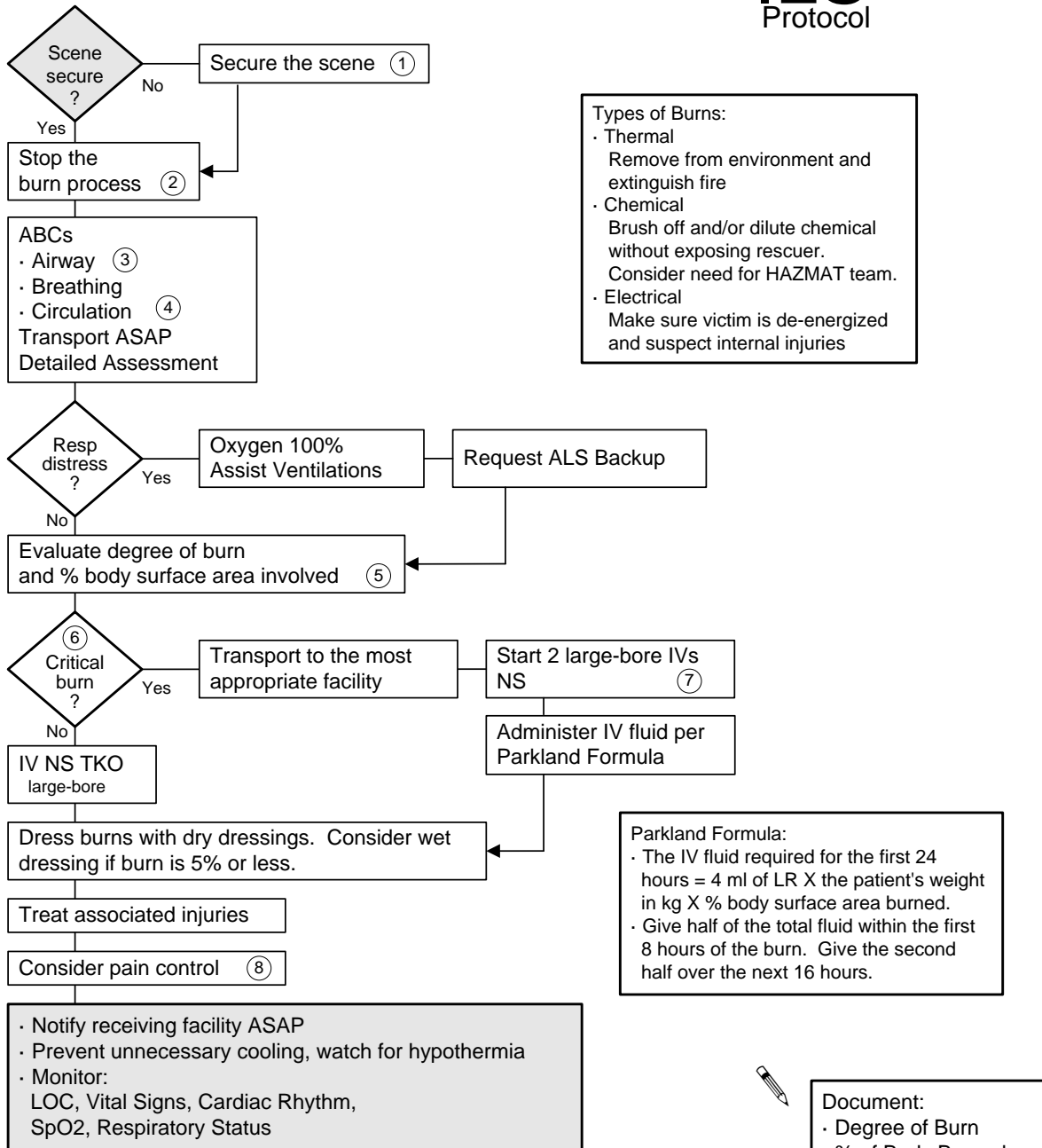
- 1 Bee sting: gently remove stinger if still present.
- 2 Two (2) dilution's of epinephrine are available: 1:1,000 is appropriate for SQ/IM injections, 1:10,000 is for IV use. Be sure to give the appropriate dilution.
- 3 Epinephrine: pediatric dose = 0.01 mg/kg 1:1,000 SQ/IM or 0.01 mg/kg 1:10,000 IV
- 4 Contact Medical Control if symptoms/signs persist.
- 5 Benadryl (Diphenhydramine): pediatric dose = 1-2 mg/kg IM or slow IV.

Asthma



1 If COPD co-exists titrate Oxygen to maintain SpO2 > 90%.
 2 Albuterol & Atrovent (DuoNeb): may repeat only Albuterol every 10 minutes.
 Discontinue use if patient develops chest pain or tachycardia increases.

Burns



Types of Burns:

- Thermal
Remove from environment and extinguish fire
- Chemical
Brush off and/or dilute chemical without exposing rescuer. Consider need for HAZMAT team.
- Electrical
Make sure victim is de-energized and suspect internal injuries

Parkland Formula:

- The IV fluid required for the first 24 hours = 4 ml of LR X the patient's weight in kg X % body surface area burned.
- Give half of the total fluid within the first 8 hours of the burn. Give the second half over the next 16 hours.

Document:

- Degree of Burn
- % of Body Burned
- Respiratory Status
- Singed Nares?
- SpO2
- Type of Burn
- Medical History
- Confined Space?

1 Make sure rescuers can safely help the victim.
 2 Remove clothes, flood with water ONLY if flames or smoldering is present.
 3 Consider Carbon Monoxide poisoning if victim was within a confined space. If potential for CO poisoning exists administer Oxygen 100%.
 4 If shock is present consider underlying causes.
 5 Note: the patient's palm represents 1% of their BSA. Use this as a reference.
 6 Critical burn = · any degree 25% BSA · 3rd degree > 10% · respiratory injury · involvement of face, hands, feet, or genitalia · circumferential burns · associated injuries · electrical or deep chemical burns · underlying medical history (cardiac, diabetes) · age < 10 or > 50 years.
 7 Start IVs within unburned areas if possible. Burned areas may be used if needed.
 8 Morphine 2-10 mg titrate pain up to 10mg. (adult), 0.1-0.2 mg/kg (pediatrics).

Chest Pain / Acute Coronary Syndrome

Suspected Ischemic Chest Pain

ILS
Protocol

- ABCs
- Oxygen 4 LPM NC ①
- Monitor Cardiac Rhythm. Obtain 12 lead ECG and transmit to appropriate hospital.
- IV NS TKO ②
- Transport ASAP to closest appropriate cardiac facility

- SpO2
- Vital Signs
- Obtain Medical History

Assess Circulation

- Is there a Volume problem?
- Pump problem?
- Rate problem?

Consider the following treatment options:

- Aspirin PO 150-325 mg ③
- Nitroglycerin SL 0.4 mg ④ (see box below)
- Morphine IV 2-10mg titrate for pain up to 10mg ⑤
- Fentanyl 50 mcg IV or IM prn ⑥

Nitroglycerin is contraindicated if a patient is using phosphodiesterase inhibitors for erectile dysfunction.

Phosphodiesterase inhibitors include: Cialais, Levitra, Viagra, Revatio, sildenafil, tadalafil, danafil, gildanafil.

Myocardial Infarction

Anterior Wall:

- ST elevation in leads V1-V4

Inferior Wall:

- ST elevation in leads II, III, aVF

Lateral Wall:

- ST elevation in leads I, aVL, V5-6

Posterior Wall:

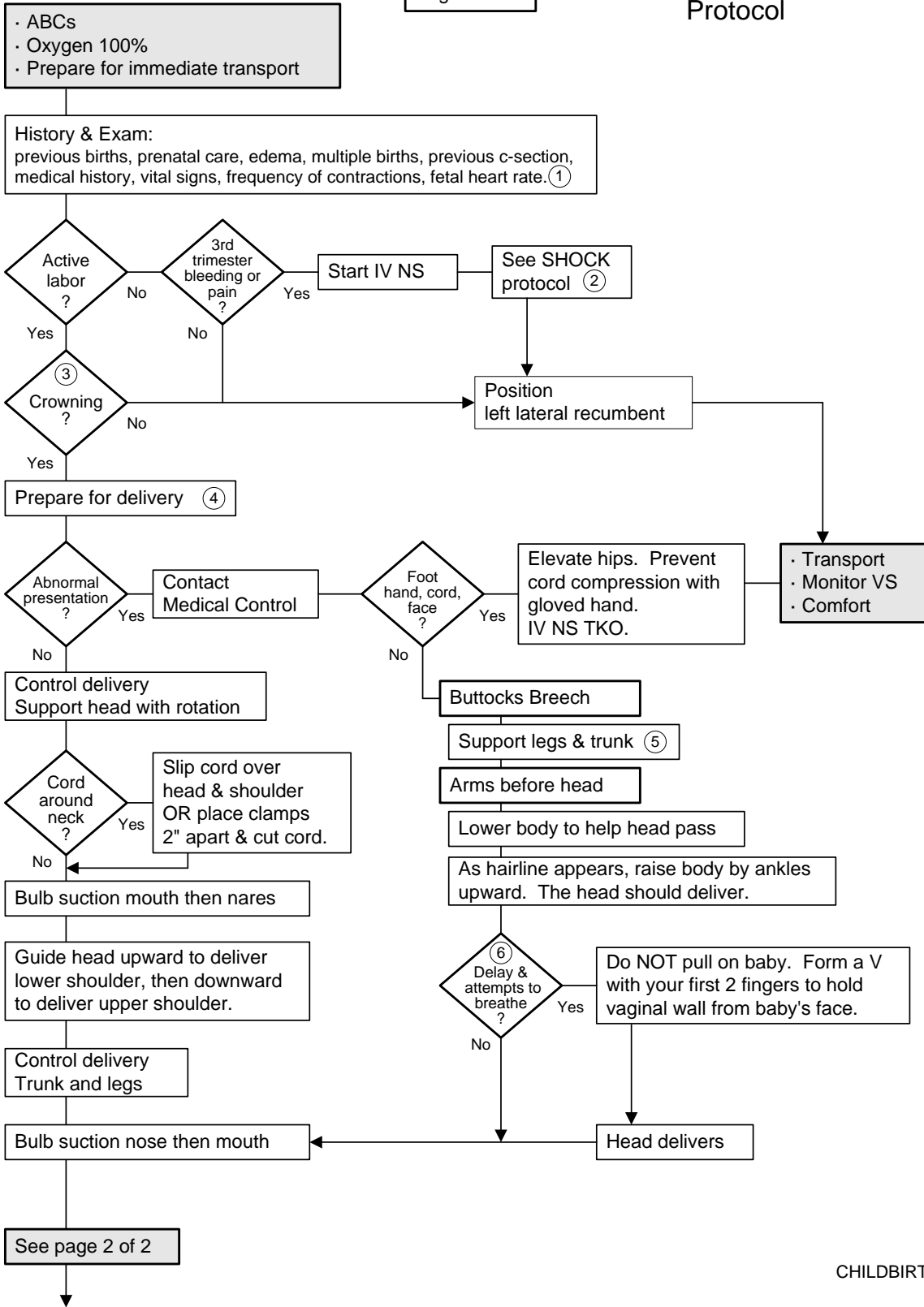
- ST depression and tall, broad (>0.04 sec) R wave in leads V1 and V2 (reciprocal changes)

Document:

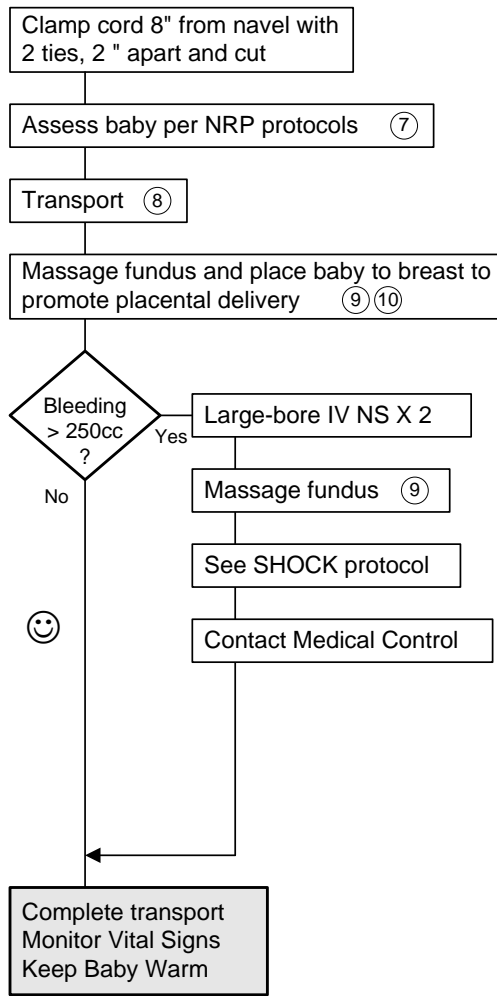
- ABCs
- Medical History
- Signs & Symptoms
- Cardiac Rhythm
- Quality of Pulses
- SpO2, VS
- Glasgow Coma Scale
- Color, Diaphoresis
- Lung Sounds
- Response to Treatment

- 1 Oxygen: adjust flow rate & route of administration as needed. Consider hypoxic drive in COPD and degree of respiratory effort. Non-COPD patients should be able to maintain SpO2 of 97% or higher. Increase oxygen concentration if SpO2 is low.
- 2 IV: Avoid the R wrist as IV site; all other R arm sites are acceptable. Consider and attempt to establish two IV lines.
- 3 Aspirin is relatively contraindicated in patients with active ulcer disease or asthma. Contraindicated in cases of known hypersensitivity to aspirin. Consider holding if pt. takes Aspirin every day.
- 4 Nitroglycerin SL sublingual is contraindicated if systolic BP < 90 mmHg.
- 5 Morphine is indicated for continuing pain and acute pulmonary edema.
- 6 Fentanyl: repeat dose 50 mcg prn (titrate to pain). Physician order required for respiratory depression/compromise, shock or altered mentation.

Childbirth



continued from page two



Apgar Score				
sign	0	1	2	
Heart rate	absent	<100	>100	
Respiratory effort	absent	slow	good, crying	
Muscle tone	limp	some flexion	active	
Reflex irritability	no response	grimace	cough/sneeze	
Color	blue, pale	body pink	completely pink	



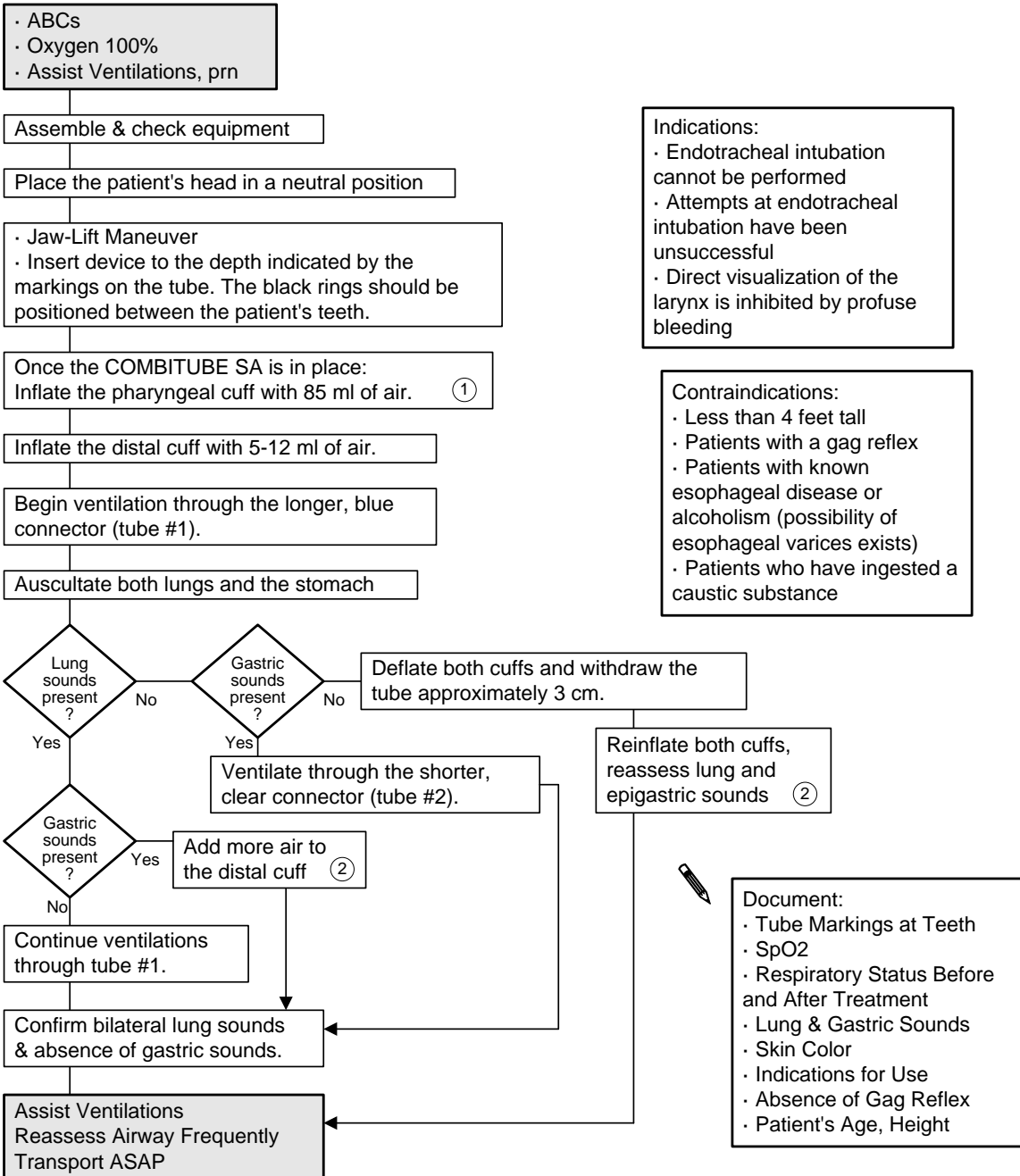
- Document:
- Time of Birth
 - APGAR at 1 Min and 5 Min
 - Time of Placental Delivery
 - Estimated Fluid and Blood Loss
 - Complications if any
 - Care and Supportive Measures
 - Total IV Fluids Infused
 - Oxygen and Other Medications
 - Communication with Medical Control
 - Clinical Assessment and VS

- 1 Normal fetal heart rate = 120-150.
- 2 Do NOT perform a digital exam. Possible placental previa or abruptio placenta.
- 3 Crowning may first appear during a contraction. Look for crowning between _____ and _____ during contractions. NO digital exams. Do NOT allow anyone to perform a _____ digital exam.
- 4 Deliver baby on the scene ONLY if delivery is eminent.
- 5 Do NOT pull on baby.
- 6 If the babies head does not deliver and the baby begins to breath with its face _____ pressed against the vaginal wall, place a gloved hand in the vagina with the palm _____ toward the babies face. Form a "V" with the index and middle finger on either side _____ of the infant's nose and push the vaginal wall away from the infant's face to allow _____ unrestricted respiration.
- 7 Note exact time of birth.
- 8 Keep baby warm. Dry surface, cover head and protect from falls.
- 9 Massage fundus: gentle but firm, intermittent massage.
- 10 Do NOT pull on cord.

References:
 Bledsoe, Bryan: Paramedic Emergency Care. 32:965. 1994
 Caroline, Nancy: Emergency Care in the Streets. 35:775. 1991
 ECEMS, Effective 1/2008
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COMBITUBE SA Airway

ILS Protocol



Indications:

- Endotracheal intubation cannot be performed
- Attempts at endotracheal intubation have been unsuccessful
- Direct visualization of the larynx is inhibited by profuse bleeding

Contraindications:

- Less than 4 feet tall
- Patients with a gag reflex
- Patients with known esophageal disease or alcoholism (possibility of esophageal varices exists)
- Patients who have ingested a caustic substance

Document:

- Tube Markings at Teeth
- SpO2
- Respiratory Status Before and After Treatment
- Lung & Gastric Sounds
- Skin Color
- Indications for Use
- Absence of Gag Reflex
- Patient's Age, Height

1 This seals the device in the posterior pharynx behind the hard palate. More air may be added to the pharyngeal cuff if an inadequate seal is detected during ventilation.

2 At NO time should the patient's airway or ventilatory status be compromised. If placement is unsuccessful, remove the device and return to oropharyngeal airway and assist via bag-valve-mask.

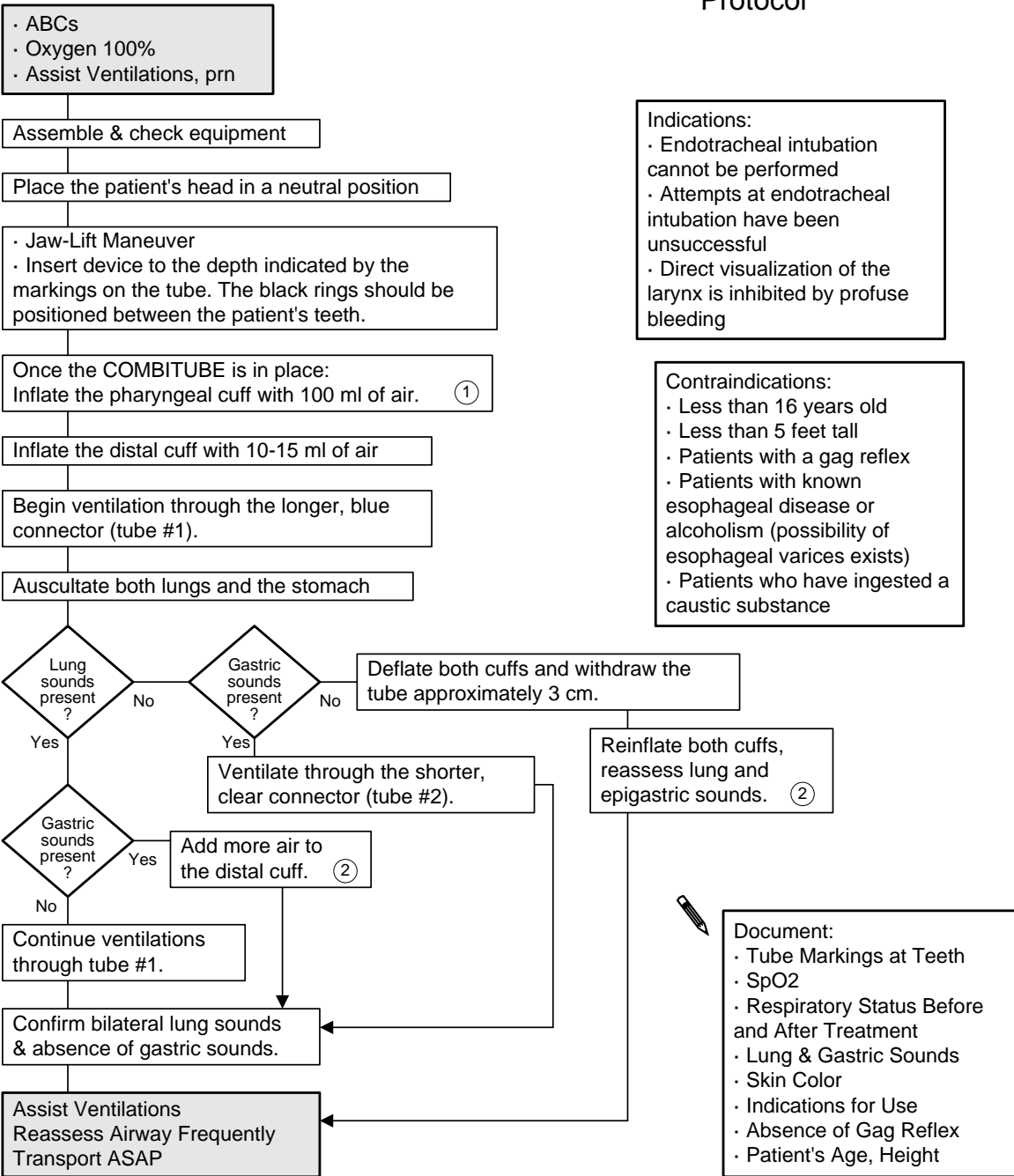
NOTE: This protocol is ONLY to be used with the Combitube SA and does NOT apply to the STANDARD Combitube.

ECEMS, Effective 1/2008

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COMBITUBE Airway
STANDARD Combitube

ILS
Protocol



Indications:

- Endotracheal intubation cannot be performed
- Attempts at endotracheal intubation have been unsuccessful
- Direct visualization of the larynx is inhibited by profuse bleeding

Contraindications:

- Less than 16 years old
- Less than 5 feet tall
- Patients with a gag reflex
- Patients with known esophageal disease or alcoholism (possibility of esophageal varices exists)
- Patients who have ingested a caustic substance

Document:

- Tube Markings at Teeth
- SpO2
- Respiratory Status Before and After Treatment
- Lung & Gastric Sounds
- Skin Color
- Indications for Use
- Absence of Gag Reflex
- Patient's Age, Height

1 This seals the device in the posterior pharynx behind the hard palate. More air may be added to the pharyngeal cuff if an inadequate seal is detected during ventilation.

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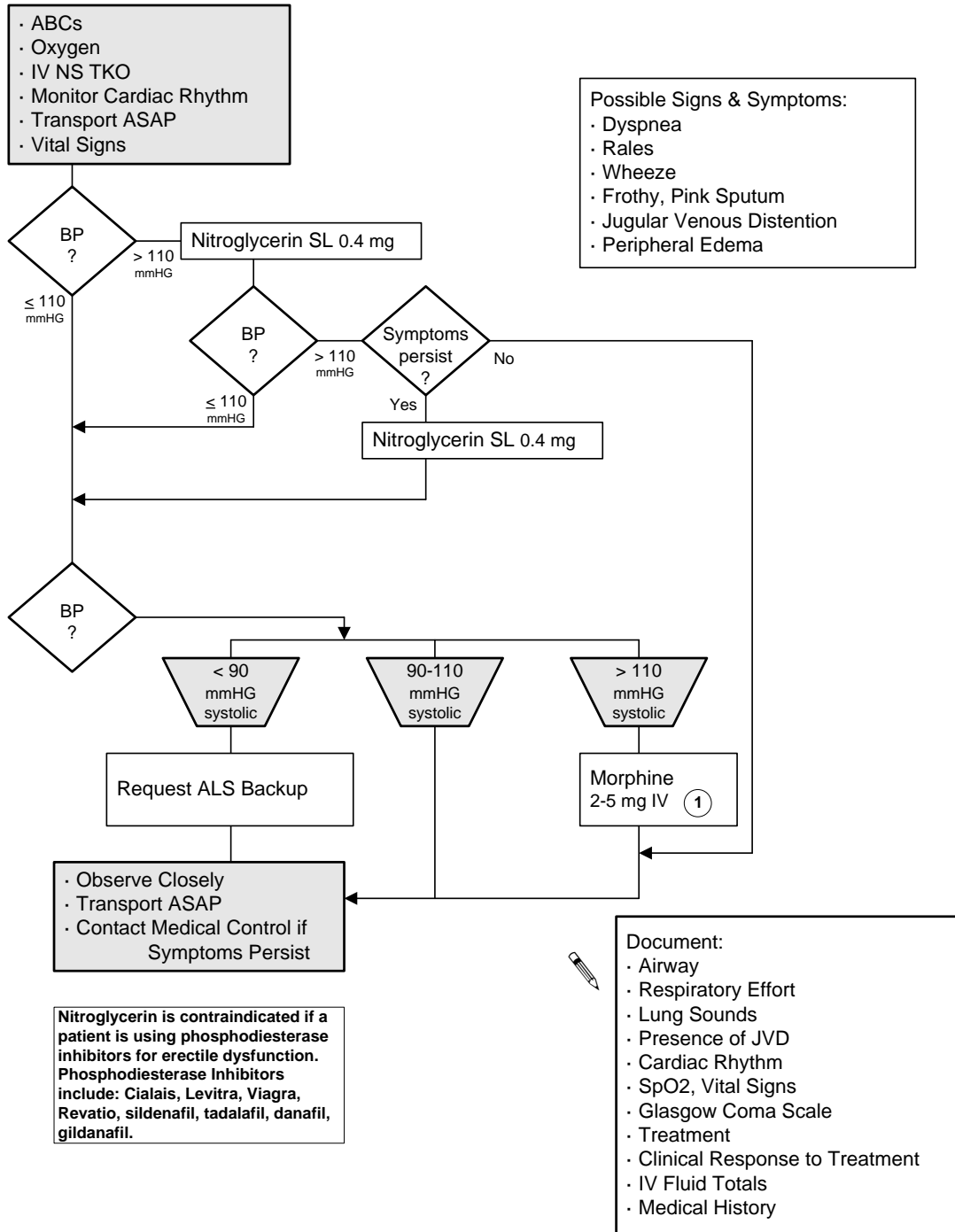
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COMBITUBE

Congestive Heart Failure Pulmonary Edema: Acute

ILS Protocol



1. NOTE: Morphine dose is different from regular dose regime.

COPD with exacerbation

ILS Protocol

- ABCs
- Oxygen 1-2 LPM NC ①
- Assist Ventilations, as needed
- Request ALS Backup if intubation may be needed
- Transport ASAP

- SpO2
- Vital Signs
- Breath Sounds ②

IV NS TKO

Albuterol & Atrovent (DuoNeb) via nebulizer ③ ④
Albuterol: 2.5 mg & Atrovent: 0.5 mg in 3 cc NS

Monitor
Cardiac Rhythm

Reassess Vital Signs,
Respiratory Status

- Transport ASAP
- Contact Medical Control if patient condition becomes worse



Document:

- Breath Sounds
- SpO2
- ETCO2 if Intubated
- Vital Signs
- Respiratory Status
- Detailed Assessment
- Skin Color, Moisture
- Cardiac Rhythm
- Glasgow Coma Scale
- Response to Treatment

1 Oxygen: adjust flow rate & route of administration as needed. Consider hypoxic drive in COPD and degree of respiratory effort.

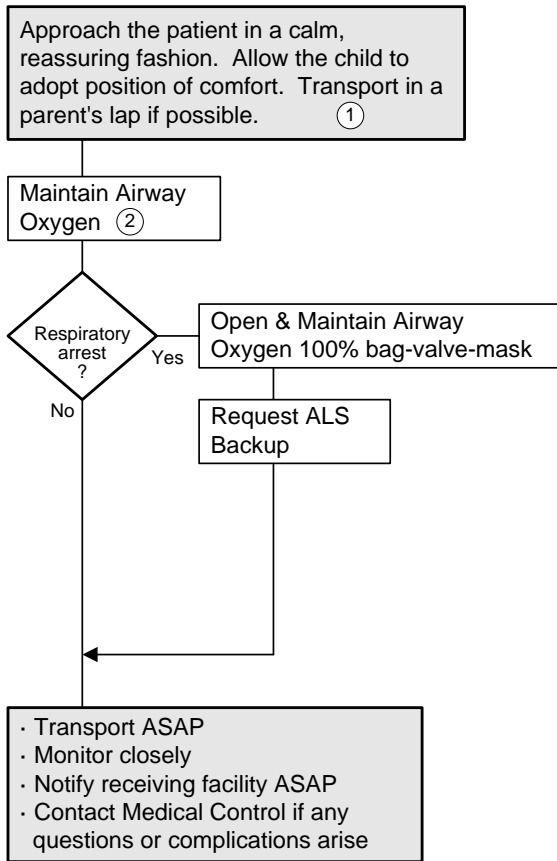
2 Be aware that worsened wheezing in association with underlying COPD may represent CHF, pneumothorax, and/or underlying infection.

3 Albuterol & Atrovent (DuoNeb): may repeat only Albuterol every 10 minutes. Discontinue use if patient develops chest pain or increased tachycardia.

4 May use MDI (Metered Dose Inhaler) instead of nebulizer.

Croup & Epiglottitis

ILS Protocol



- Document:
- ABCs
 - Detailed Assessment
 - Vital Signs
 - SpO2
 - Glasgow Coma Scale
 - Lung Sounds
 - Color
 - Treatment
 - Response to Treatment
 - Communication with Medical Control

Common Characteristics

Epiglottitis:

- Age usually > 2 years
- Onset rapid
- Signs & Symptoms
Fever, often look sick. Air hunger, nasal flaring, restlessness, drooling, retractions. Wants to sit upright.

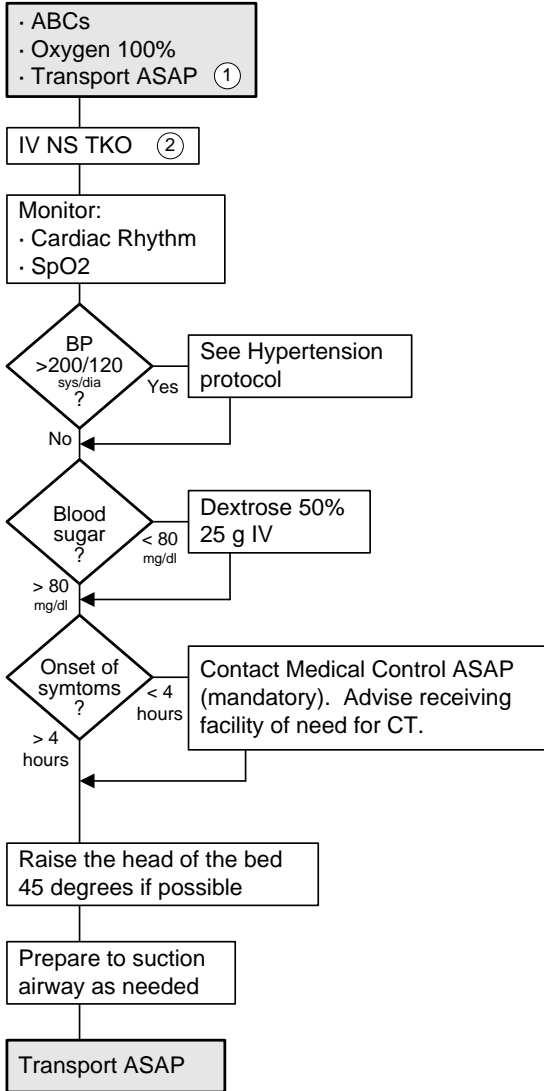
Croup:

- Age 6 months - 3 years
- Onset gradual
- Signs & Symptoms
Often preceded by an upper respiratory infection. Worse at night. May or may not have a fever. Condition varies from mild to severe.


1 Avoid startling the patient. Anxiety is likely to exacerbate the child's condition.
2 Consider blow-by Oxygen. Pediatric patients rarely tolerate a mask.

CVA Stroke
Cerebral Vascular Accident

ILS
Protocol



Glasgow Coma Scale		
Eye	Spontaneous	4
Opening	To Voice	3
	To Pain	2
	None	1
Best Verbal Response	Oriented	5
	Confused	4
	Inappropriate words	3
	Incomprehensible words	2
	None	1
Best Motor Response	Obeys Commands	6
	Localizes Pain	5
	Withdraws (Pain)	4
	Flexion	3
	Extension	2
	None	1

-  Document:
- ABCs
 - Detailed Assessment
 - Vital Signs
 - SpO2
 - Glasgow Coma Scale
 - Neurologic Deficits
 - Lung Sounds
 - Color
 - Treatment
 - Response to Treatment

The Cincinnati Prehospital Stroke Scale

Facial Droop (have patient show teeth or smile):

- Normal--both sides of face move equally
- Abnormal--one side does not move as well as the other

Arm Drift (patient closes eyes and holds arms out):

- Normal--both arms move the same OR both arms do not move at all
- Abnormal--one arm does not move OR one arm drifts down compared with the other

Speech (have the patient say "You can't teach old dogs new tricks"):

- Normal--patient uses correct words with no slurring
- Abnormal--patient slurs words, uses inappropriate words, or is unable to speak

1 Time in the field must be minimized. Consider Code 3 transport if onset < 4 hours.
 2 Glucose-containing solutions should be avoided unless hypoglycemia is documented by rapid glucose test.
 ECEMS, Updated 2/2/2011

Death in the Field

BLS

Procedure

Withholding life support measures

Life support may be withheld if any of the following exists: ①

- Patient qualifies for DNR status
- Decapitation
- Rigormortis in a warm environment
- Dependent lividity:
venous pooling in dependent body parts
- Patient is pulseless and apenic following a blunt traumatic event

To DISCONTINUE resuscitation efforts see page 2.

All hypothermic patients, victims of electrocution, lightning strike, and drowning should receive resuscitation measures and be transported

Cover the body with a sheet.
Contact the appropriate authorities.

Secure the scene:
Do not remove personal property from the body. Do not disturb the scene or leave the body unattended.

Assess need for pastoral services for family/friends if present. Contact appropriate authorities as needed.

Complete your scene report.
Relinquish scene control to the Medical Examiner.



Document:

- All Patient Care/Assessment
- Record EKG Strip on all Non-Traumatic Deaths ②
- Communication with Medical Control
- Time Medical Examiner Notified
- DNR Status if Applicable

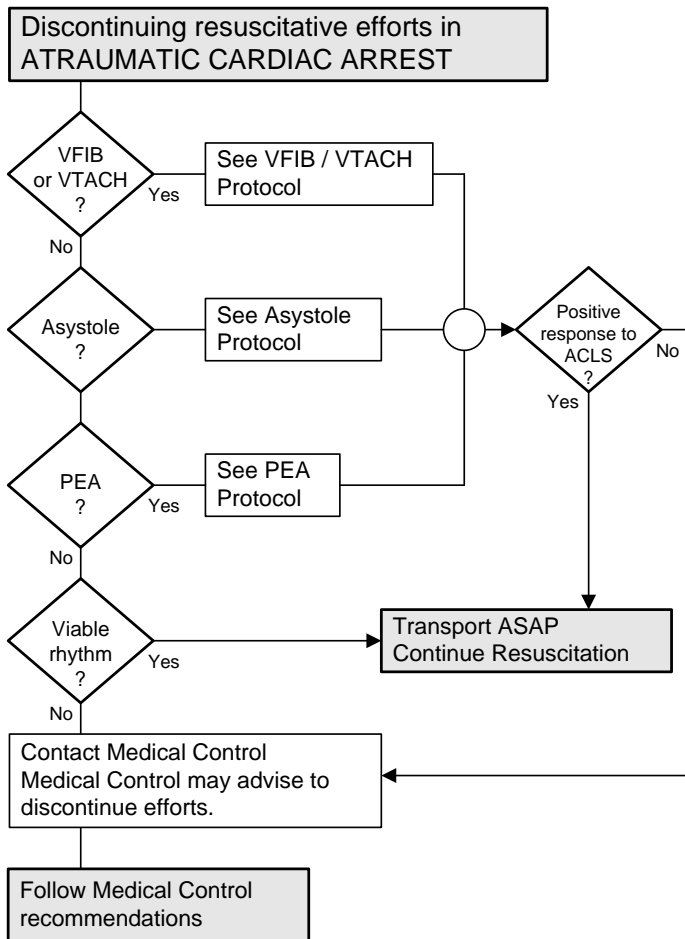
Death in the Field
PAGE 1

1 Contact Medical Control

2 Record calibration of cardiac monitor as well as patient rhythm.

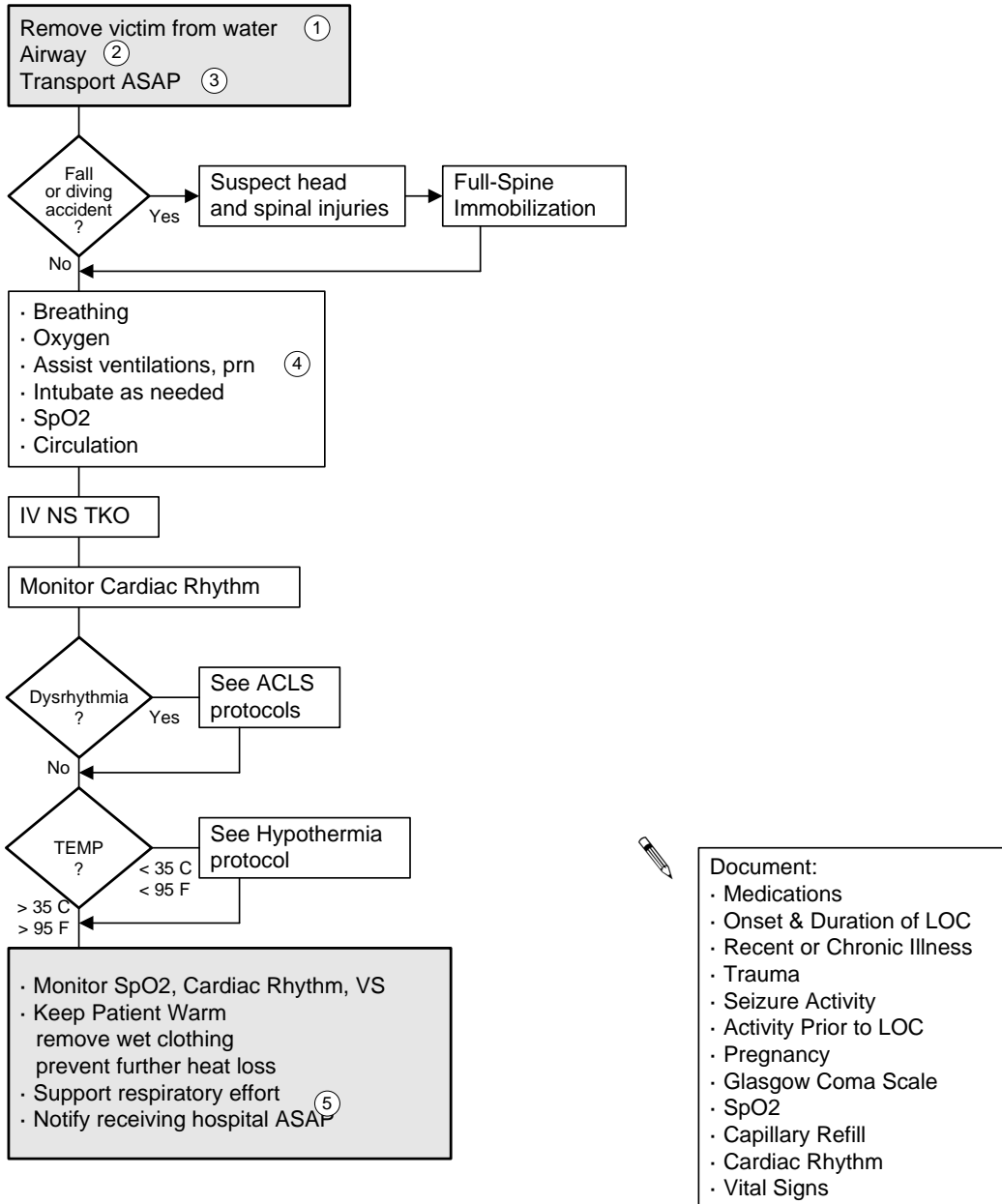
Death in the Field

ILS Protocol



Death in the Field
PAGE 2

Drowning

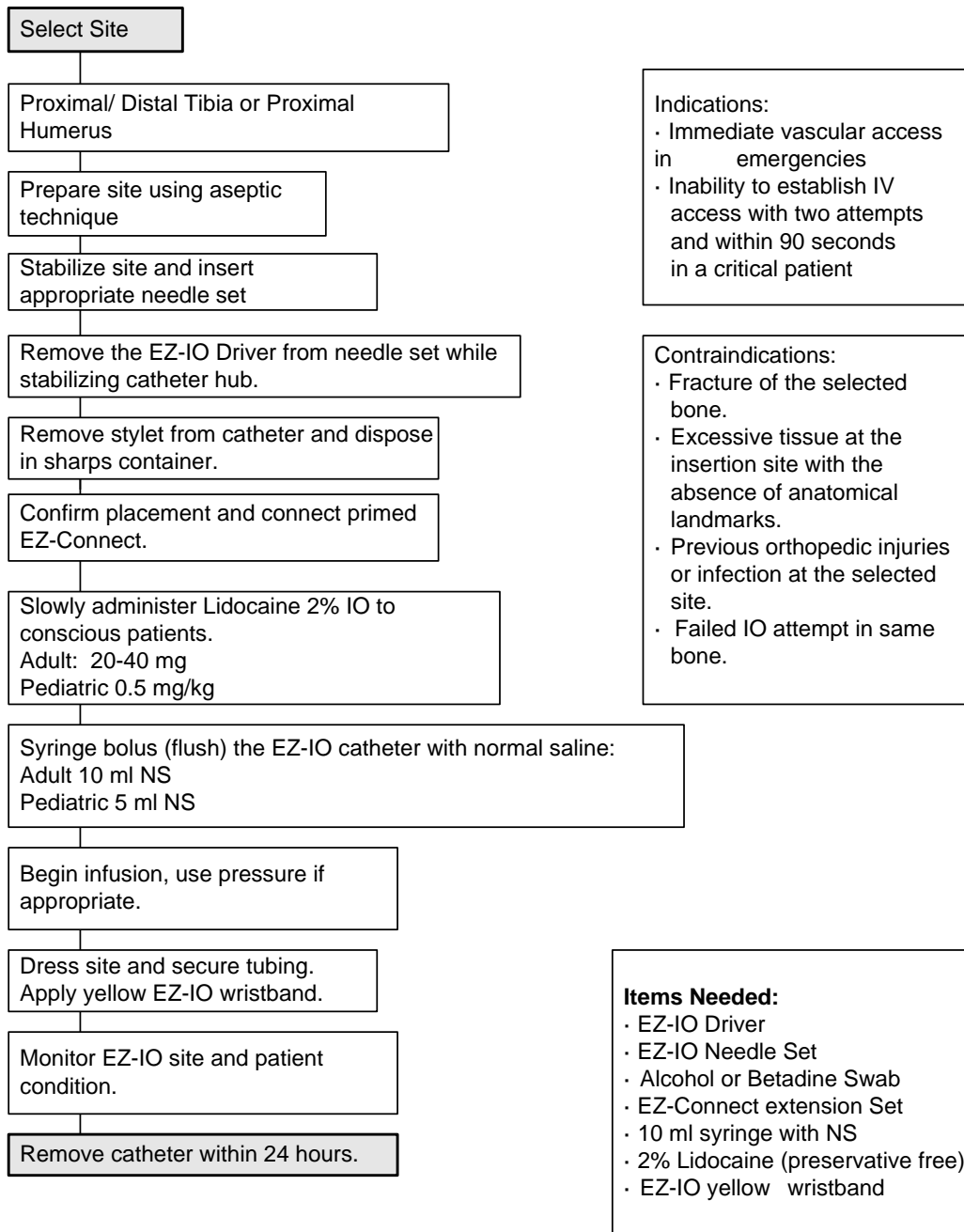


- Document:
- Medications
 - Onset & Duration of LOC
 - Recent or Chronic Illness
 - Trauma
 - Seizure Activity
 - Activity Prior to LOC
 - Pregnancy
 - Glasgow Coma Scale
 - SpO2
 - Capillary Refill
 - Cardiac Rhythm
 - Vital Signs

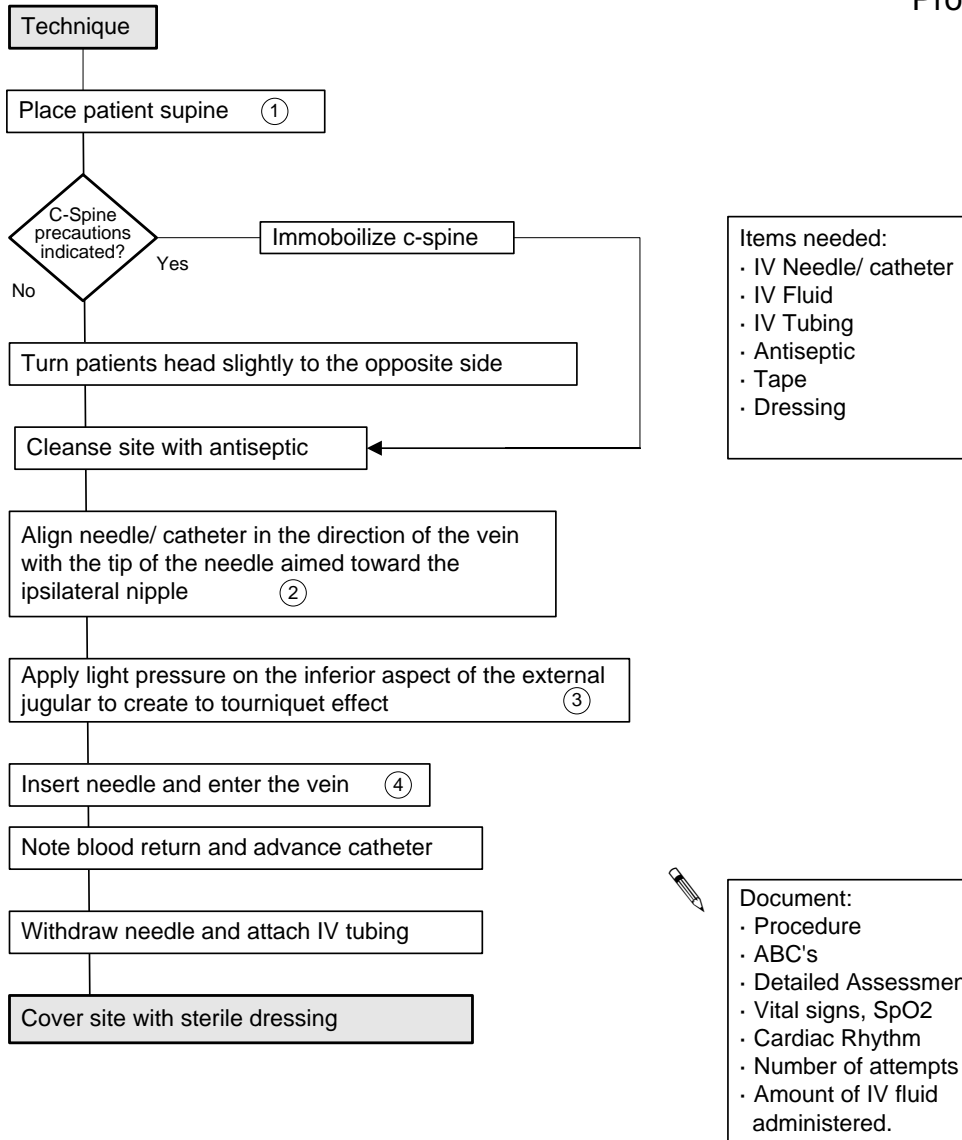
1 To be performed by a trained rescuer with appropriate equipment.
 2 Ventilation should be initiated while the patient is being rescued.
 3 All near-drowning victims should be examined by a physician.
 4 Use PEEP if available.
 5 Observe for Pulmonary Edema. Lasix IV may be indicated. Contact Medical Control.

Intraosseous Infusion EZ-IO

ILS



External Jugular Cannulation



1 Trendelenburg position is an ideal position. This position is not mandatory, yet will help distend the external jugular vein and decrease the likelihood of introducing air into the vein.
 2 Ipsilateral: "on the same side." If you are cannulating the right external jugular vein the needle should be aimed toward the right nipple.
 3 Light pressure below the vein will help distend the vein. This is best done by an able assistant.
 4 Be certain air is not allowed to enter the vein.

Glasgow Coma Scale



Adult & Children

Glasgow Coma Scale		
Eye Opening	Spontaneous	4
	To Voice	3
	To Pain	2
	None	1
Best Verbal Response	Oriented	5
	Confused	4
	Inappropriate words	3
	Incomprehensible words	2
	None	1
Best Motor Response	Obeys Commands	6
	Localizes Pain	5
	Withdraws (Pain)	4
	Flexion	3
	Extension	2
	None	1

Infant & Toddler

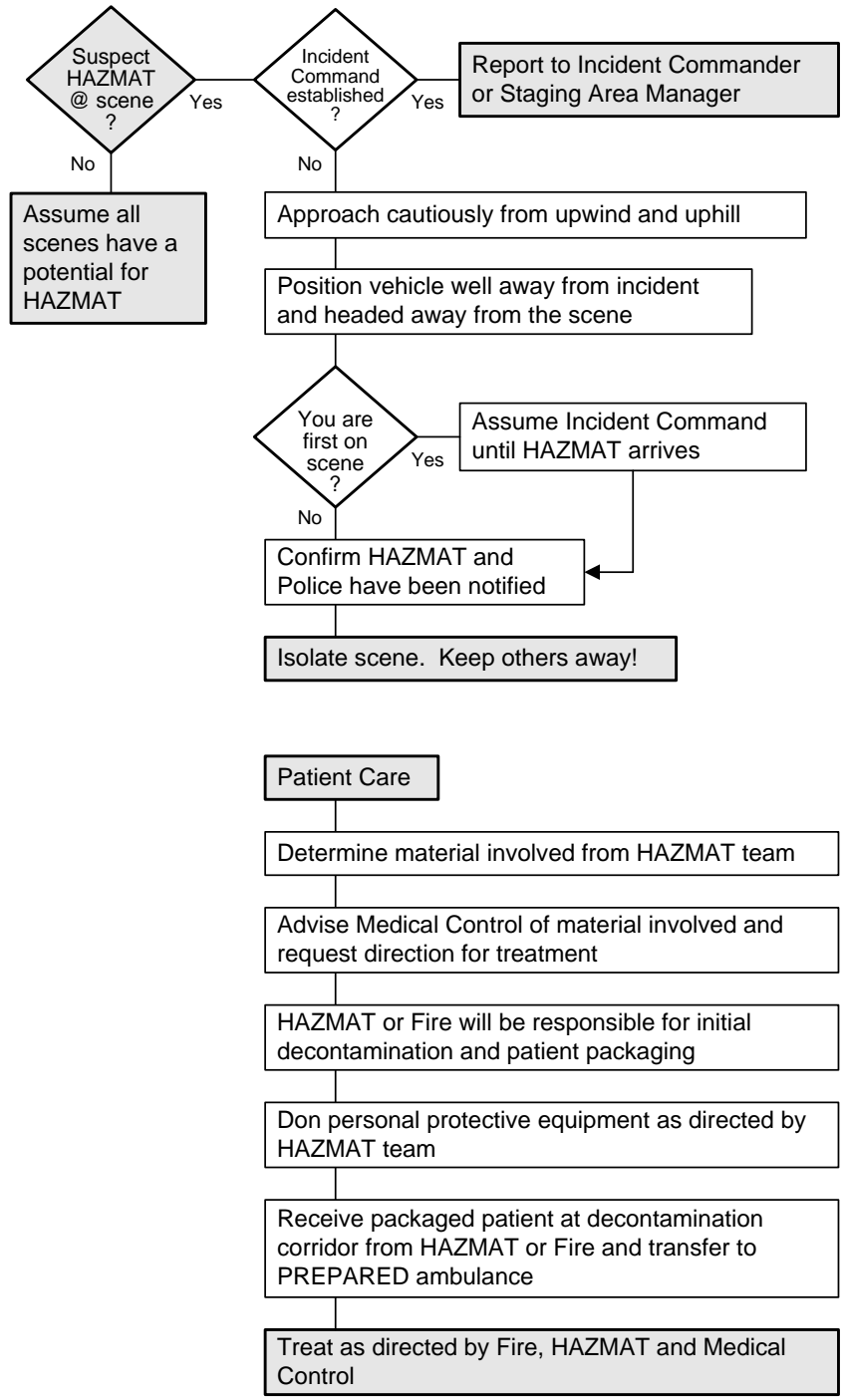
Glasgow Coma Scale		
Eye Opening	Spontaneous	4
	To Voice	3
	To Pain	2
	None	1
Best Verbal Response	Smiles, Interacts	5
	Consolable	4
	Cries to Pain	3
	Moans to Pain	2
	None	1
Best Motor Response	Normal Movement	6
	Localizes Pain	5
	Withdraws (Pain)	4
	Flexion	3
	Extension	2
	None	1

Glasgow Coma Scale

Assess the patient in each category (eye opening, best verbal response, best motor response) and add the scores from each category. Example: if the patient's BEST verbal response is a string of muffled, incomprehensible words give them a 2 for that category. The patient's Glasgow Coma Scale will be the total of all three categories. A Glasgow Coma Scale of 7 indicates coma.

Reassess the patient's score frequently, record each observation and the time it was made.

HAZMAT
For Non-HAZMAT personnel



See page 2 of 2

Ambulance Preparation

Prepare ambulance as directed by HAZMAT or Fire

Remove all non-essential supplies/equipment

Drape interior and floor of vehicle with plastic as directed

Transport

Notify receiving facility: provide relevant information and ask where they would like you to park

Do NOT enter the ER without specific direction from the ER staff

After transferring the patient to ER staff, return to the ambulance and remain inside. Do not move the vehicle or allow others inside.

Contact Incident Commander to determine how and where the vehicle should be decontaminated.

EMS Personnel Exposure

If exposed at scene: remove yourself from further contamination and report incident to Safety Officer or HAZMAT and wait for direction.

If exposed enroute to the hospital: inform ER and await direction.

After decontamination and treatment, receive clearance from HAZMAT Group Supervisor or ER MD AND your supervisor before returning to duty.



- Document:
- Patient care
 - Response to treatment
 - Hazardous Material
 - Communication with ER, Medical Control, HAZMAT
 - Measures taken to limit exposure
 - Decontamination

Hypertension

not related to pregnancy

· ABC's
· Oxygen 2-4 lpm NC ①
· Transport ASAP

IV NS TKO

Monitor:
SpO2
Cardiac Rhythm
Vital Signs

Consider Nitroglycerine IV 5 mcg/ min ② ③

Supportive care
Reassurance

Notify receiving Facility

Hypertensive Crisis =
Systolic BP \geq 200 mmHG
Diastolic BP \geq 130 mmHG
and symptoms of end organ
compromise, i.e., congestive
heart failure, pulmonary edema,
unstable angina, changes in
mental status, CNS changes,
renal disease.

Nitroglycerin is contraindicated if a patient is using phosphodiesterase inhibitors for erectile dysfunction. Phosphodiesterase Inhibitors include: Cialais, Levitra, Viagra, Revatio, sildenafil, tadalafil, danafil, gildanafil.

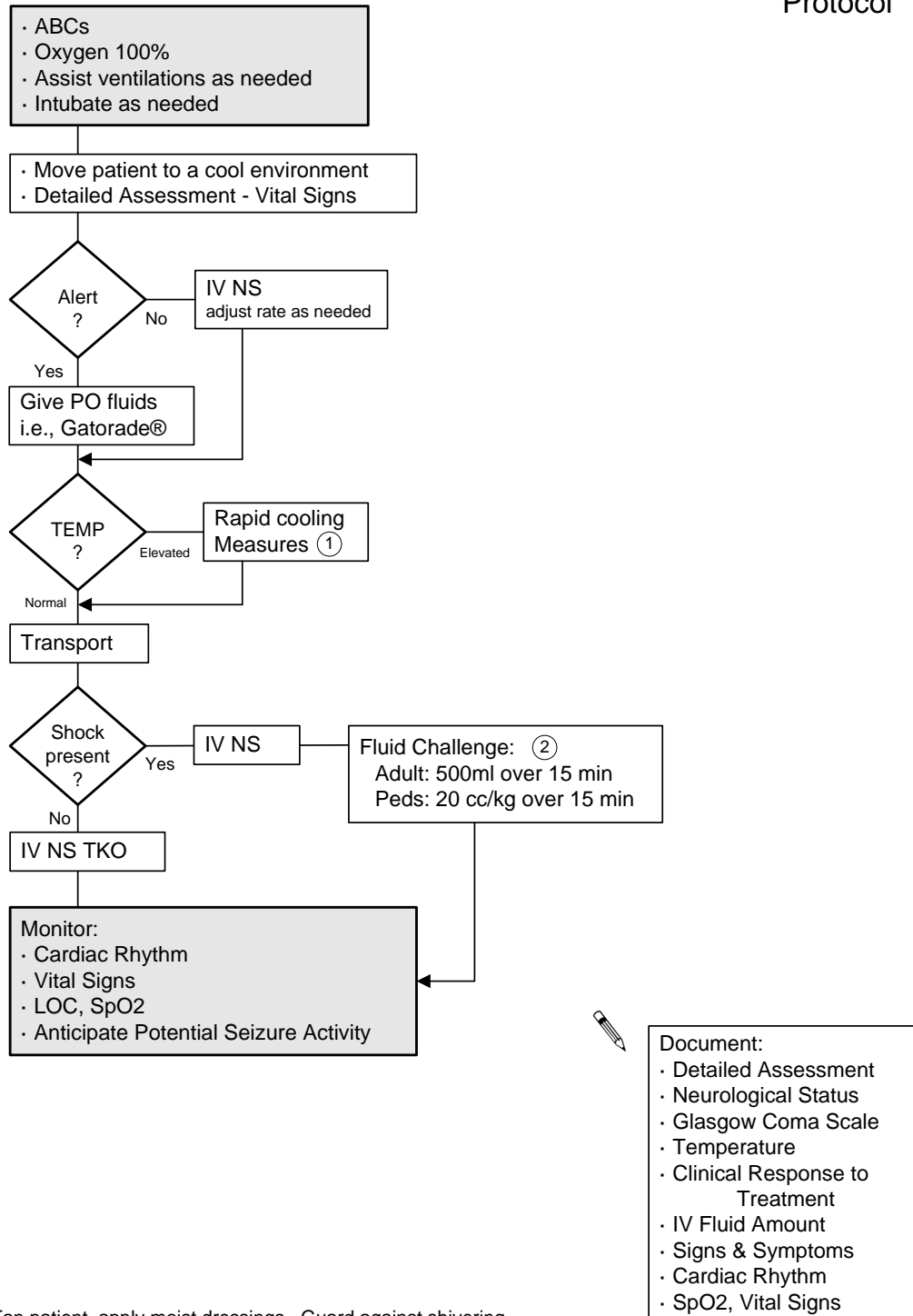


Document:
· Airway
· Cardiac Rhythm
· Vital Signs, SpO2
· Glasgow Coma Scale
· Treatment
· Communication with Medical Control

1 Adjust oxygen concentration to patient needs. Consider hypoxic drive in COPD.
2 The overall goal in pharmacologic therapy is to reduce the patient's blood pressure slowly. Contact Medical Control
3 NTG SL 0.4 mg is option if IV NTG unavailable.

Note: If hypertension is associated with head injury or CVA use medications cautiously.

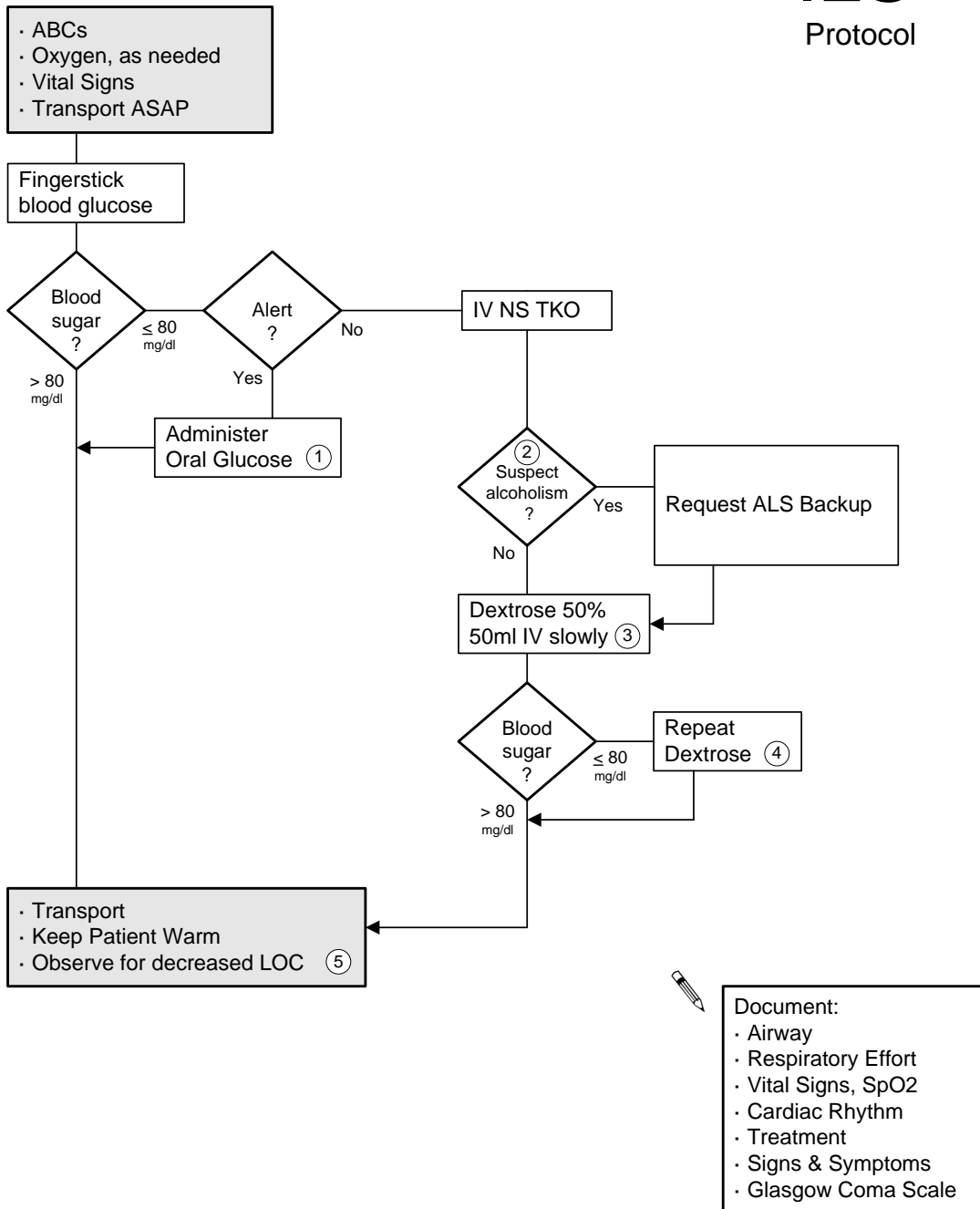
Hyperthermia



1 Fan patient, apply moist dressings. Guard against shivering.

2 Monitor patient response to IV fluids closely. BP will usually return to normal quickly. Administer IV fluids as needed. Do not overload the patient.

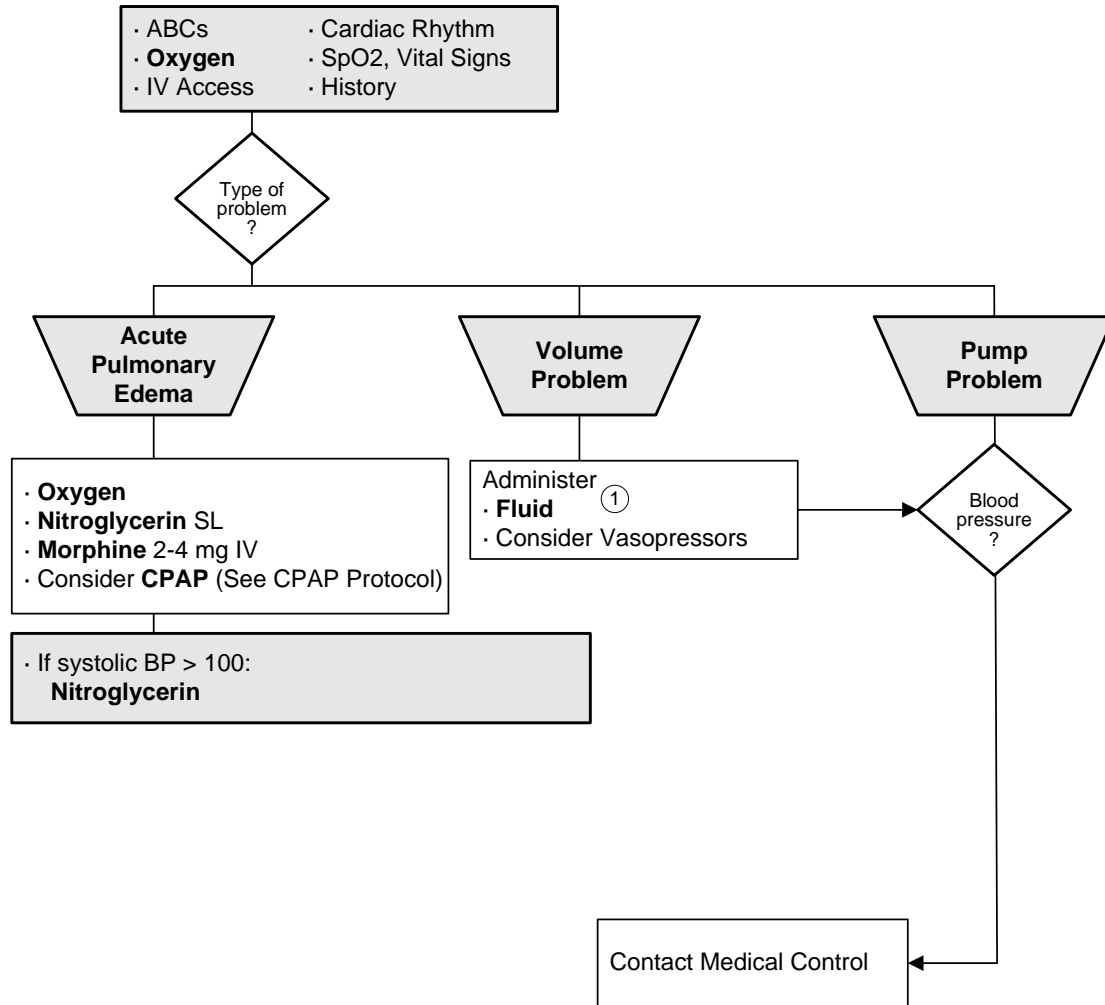
Hypoglycemia



- 1 Full glass of sweetened juice or Glucose Oral Paste 12.5g PO. Must have an intact gag reflex.
- 2 Thiamine is indicated in acute alcoholism, malnutrition, and in chemotherapy therapy.
- 3 Dextrose pediatric dose is 0.25 - 5 gm/kg IV (use 25% solution)
- 4 If unable to gain IV access consider Glucagon 1 mg IM.
- 5 Observe for decreased LOC, focal neurological findings, and hypothermia.

Hypotension, Shock, Acute Pulmonary Edema

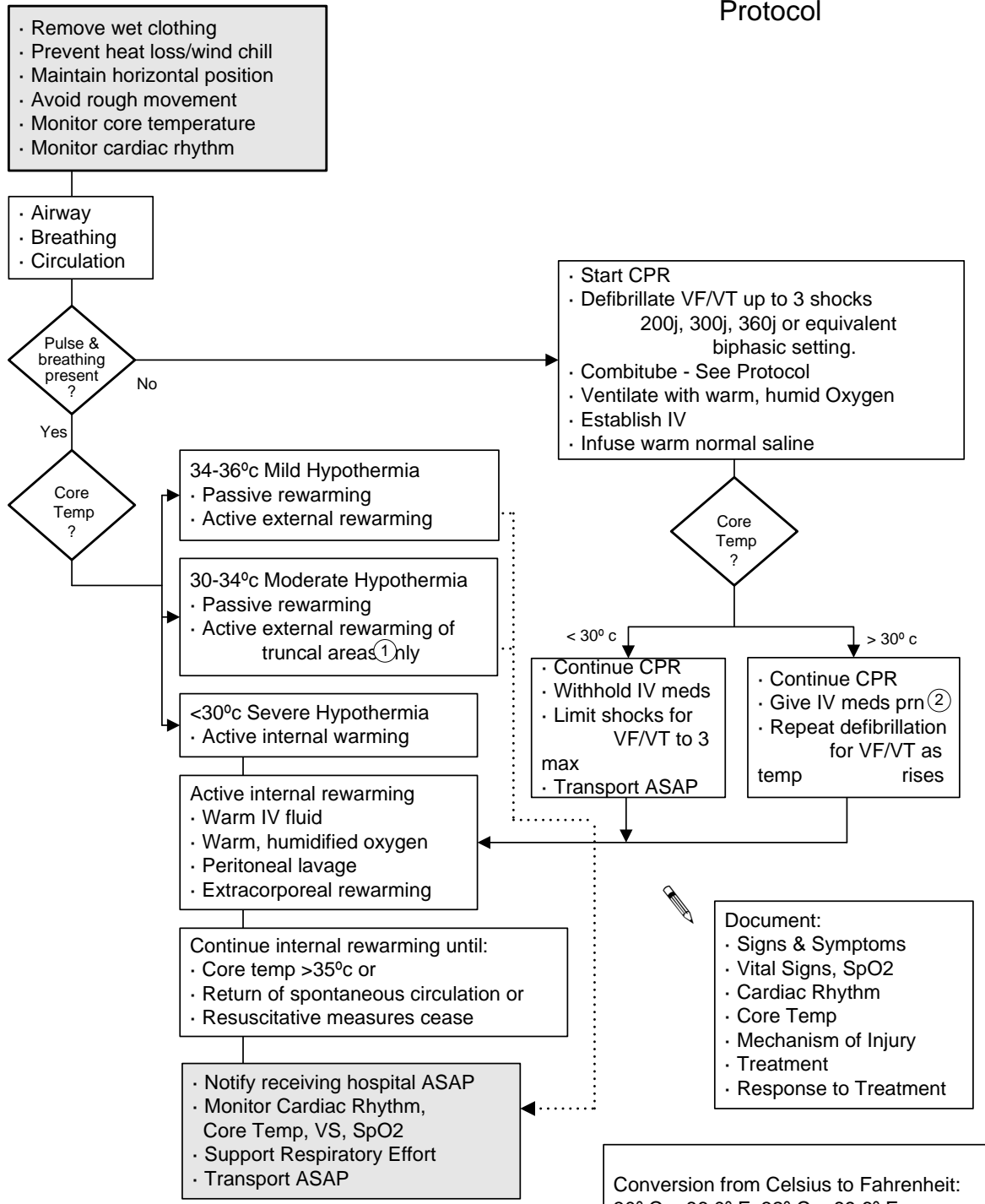
ILS



1 Administer fluids: ensure adequate ventricular filling pressures before introducing vasopressors.

Hypothermia

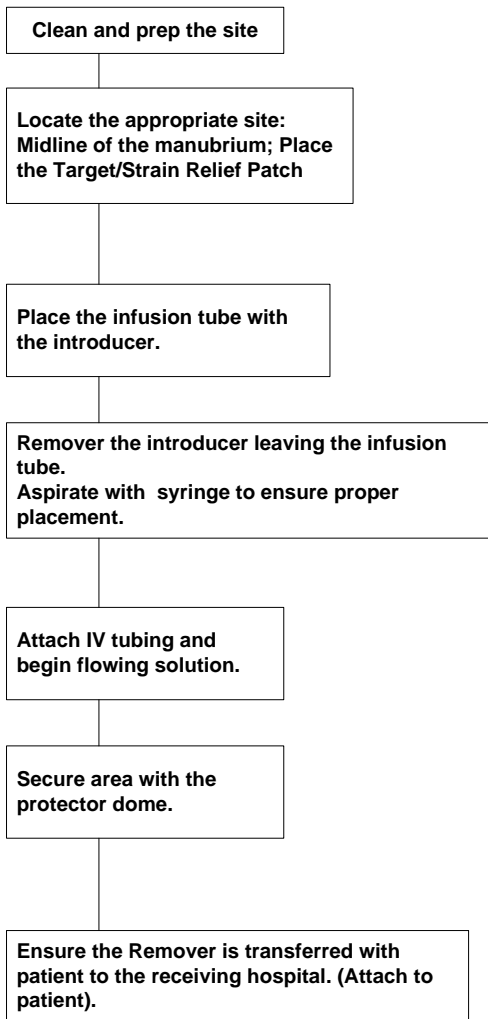
ILS Protocol



1 Methods include: electrical or charcoal warming devices, hot water baths, heating pads, radiant heat sources and warming beds.
2 Give IV medications at longer than standard intervals.

**Adult Intraosseous Infusion
F.A.S.T. 1**

ILS PROTOCOL



Indications:

- * All IV access attempts have failed.
- * Circulatory shock, drug overdose, severe hemorrhage, multi-systems trauma, or serious burns.
- * Without IO access in critical situations, the alternative may be death.

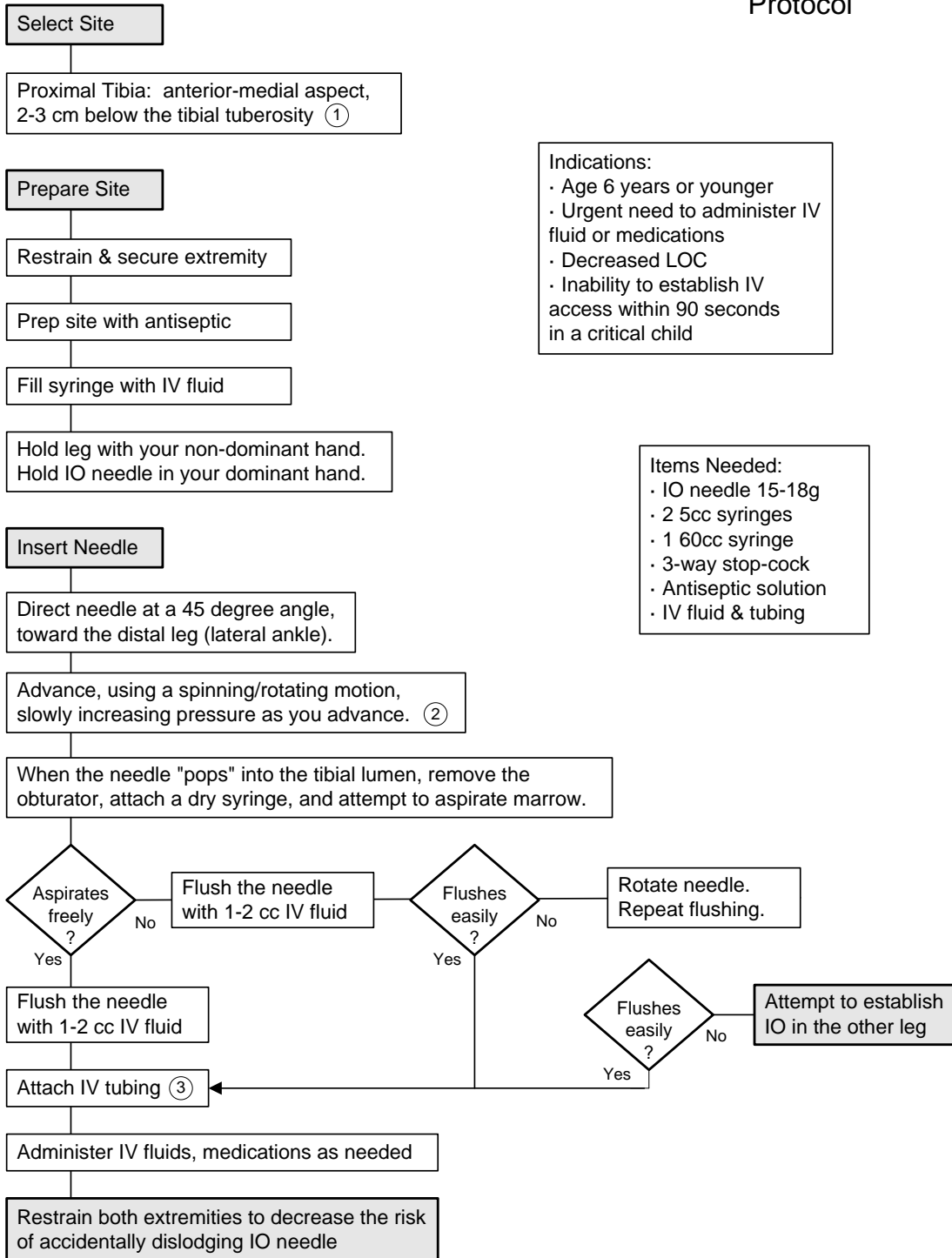
Items needed:

- Introducer
- Infusion Tube
- Target/Strain - Relief Patch
- Protector Dome
- Remover
- IV Solution with tubing

Document:

- * ABC's
- * Detailed Assessment
- * Vital Signs
- * SpO2
- * Glasgow Coma Scale
- * Time of IO Insertion

Intraosseous Infusion: Pediatric



Indications:

- Age 6 years or younger
- Urgent need to administer IV fluid or medications
- Decreased LOC
- Inability to establish IV access within 90 seconds in a critical child

Items Needed:

- IO needle 15-18g
- 2 5cc syringes
- 1 60cc syringe
- 3-way stop-cock
- Antiseptic solution
- IV fluid & tubing

1 Alternate site: distal tibia; anterior-medial aspect, 2-3 cm proximal to the medial malleolus.

2 Avoid a rocking motion!

3 Use a 3-way stop-cock and a 60 cc syringe to administer IV fluid via boluses.

King Airway LT(S)-D

ILS

- ABCs
- Oxygen 100%
- Assist Ventilations, prn
- Transport ASAP

Preparation

Indications:

- Endotracheal intubation cannot be performed
- Attempts at endotracheal intubation have been unsuccessful

Contraindications:

- Responsive patients with an intact gag reflex
- Patients with known esophageal disease
- Patients who have ingested caustic substances

Choose the correct size LT(S)-D:

<u>Patient Height</u>	<u>King LT-D</u>	<u>Inflation</u>	<u>King LTS-D</u>
35-45 inches	Size 2 (Green)	Inflation: 25-35ml	n/a
41-51 inches	Size 2.5 (Orange)	Inflation: 30-40ml	n/a
4-5 feet	Size 3 (Yellow)	Inflation: 45-60ml	Size 3 Inflation: 40-55ml
5-6 feet	Size 4 (Red)	Inflation: 60-80ml	Size 4 Inflation: 50-70ml
> 6 feet	Size 5 (Purple)	Inflation: 70-90ml	Size 5 Inflation: 60-80ml

Test cuff inflation system, remove air from cuff prior to insertion

Apply water-based lubricant to the beveled distal tip and posterior aspect of the tube

Technique

Hold the King LT(S)-D at the connector with dominant hand. With non-dominant hand, open mouth and apply chin lift, unless contraindicated by C-spine precautions or patient position. Using a lateral approach, introduce tip into corner of mouth

Advance the tip behind the base of tongue, while rotating tube back to midline so that the blue orientation line faces chin of patient

Without exerting excessive force, advance tube until base of connector is aligned with teeth or gums

Inflate cuff with appropriate volume of air as indicated by the color code on the syringe

Begin ventilation with 100% oxygen, while bagging patient to assess ventilation, withdraw the LT(S)-D until ventilation is easy and free flowing

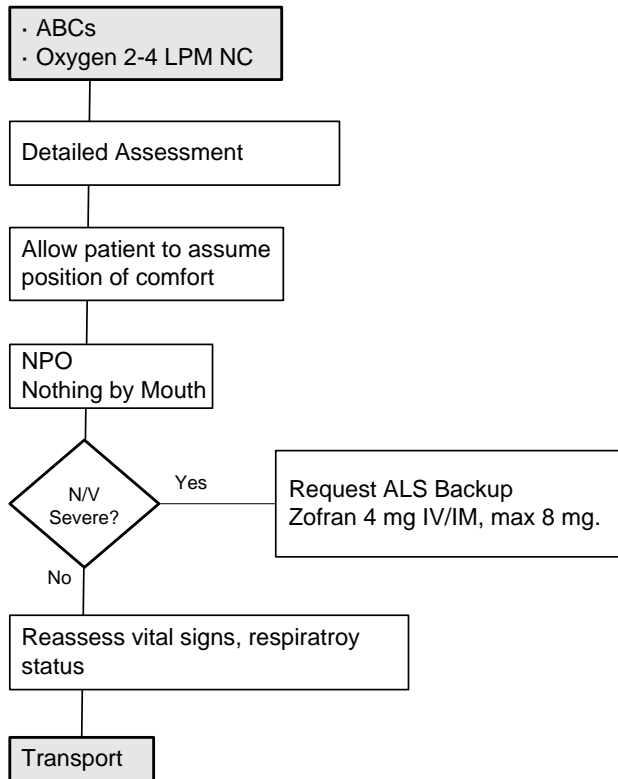
If necessary, add additional volume to cuffs to maximize seal of the airway

Confirm proper placement by auscultation, chest movement, oxygen saturation, and verification of CO2 by capnography.

Assist Ventilations
Reassess Airway Frequently

Nausea/ Vomiting:

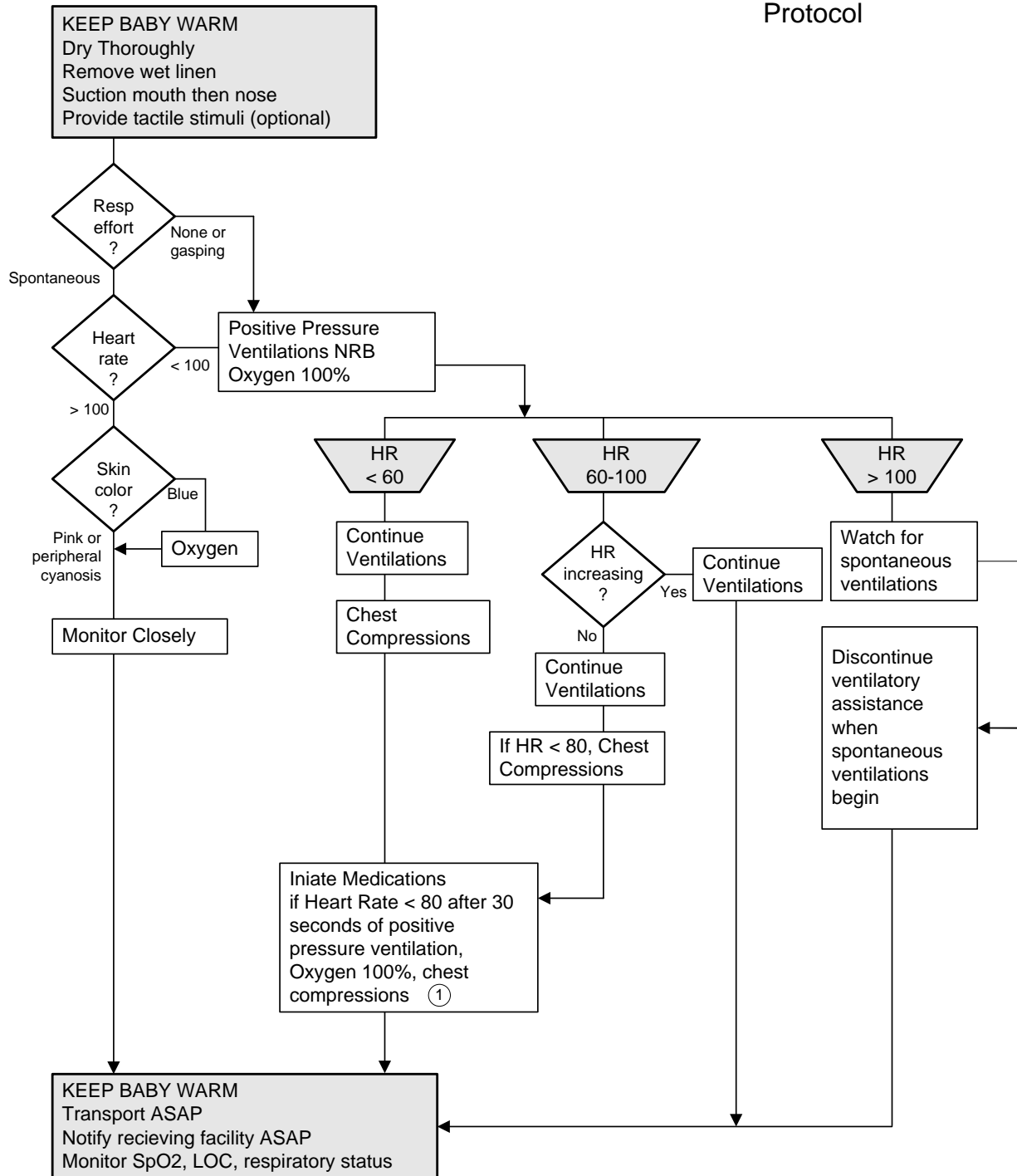
ILS Protocol



- Document:
- Nature of Pain
 - Vital Signs
 - Abdominal signs/symptoms
 - Treatment
 - Response to Treatment

Neonatal Resuscitation

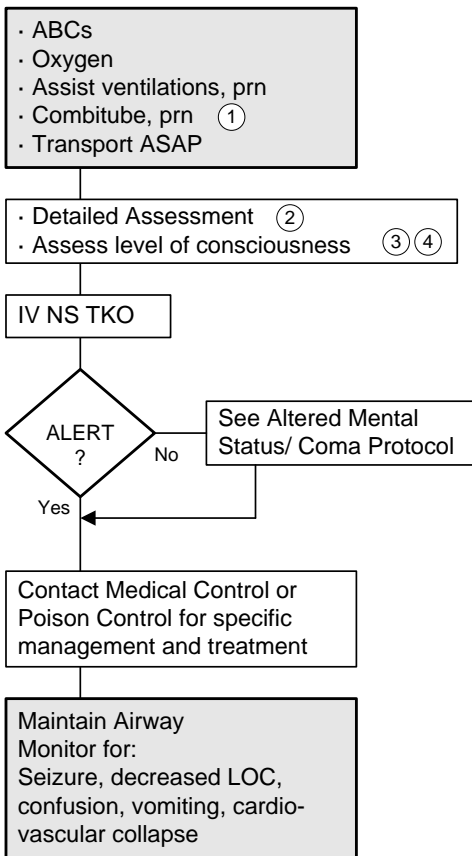
ILS Protocol



1 See Neonatal Resuscitation Medications Protocol. If ALS is not on the scene, request ALS Backup. Transport ASAP.

Overdose and Poisoning General Management

ILS Protocol



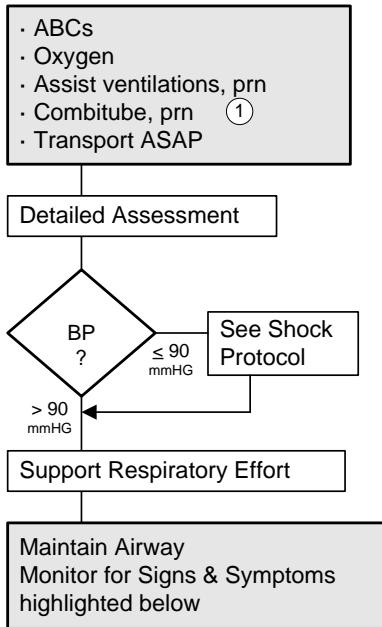
Internal Contamination:
 · What was ingested ?
 · Time of consumption ?
 · Amount consumed ?
 · Past medical history ?
 External Contamination:
 · Protect self and crew
 · Remove contaminated clothing
 · Flush contaminated skin and eyes with copious amount of (5) water

Glasgow Coma Scale		
Eye Opening	Spontaneous	4
	To Voice	3
	To Pain	2
Best Verbal Response	None	1
	Oriented	5
	Confused	4
Best Motor Response	Inappropriate words	3
	Incomprehensible words	2
	None	1
Motor Response	Obeys Commands	6
	Localizes Pain	5
	Withdraws (Pain)	4
	Flexion	3
Motor Response	Extension	2
	None	1

Document:
 · Type of Ingestion, Poisoning
 · Signs & Symptoms
 · Treatment
 · Clinical Response to Treatment
 · Vital Signs, SpO2
 · Cardiac Rhythm
 · Airway Management
 · Conversations with Medical Control and/or Poison Control

- 1 See Combitube Protocol.
- 2 Observe environment closely for signs of potential overdose.
- 3 Pupillary response may indicate type of overdose/poisoning; pinpoint pupils: narcotics, opiates, phenothiazines, cholinergics; dilated pupils: tricyclics, anticholinergics, cocaine.
- 4 Determine and document Glasgow Coma Scale.
- 5 Exceptions include yet are not limited to: phosphorous, sodium metal, phenol, hydrochloric acid, sulfuric acid. Contact Medical Control.

Overdose: Barbiturate



Potential Signs & Symptoms of Barbiturate Overdose:

CNS and respiratory depression, confusion, stupor, coma, ataxia, vertigo, headache, hypotension, cardiovascular collapse, hypothermia, hyperthermia.



Document:

- Signs & Symptoms
- Treatment
- Clinical Response to Treatment
- Vital Signs, SpO2
- Cardiac Rhythm
- Respiratory Status
- Glasgow Coma Scale
- Airway Management
- Conversations with Medical Control and/or Poison Control

Glasgow Coma Scale		
Eye Opening	Spontaneous	4
	To Voice	3
	To Pain	2
	None	1
Verbal Response	Best Oriented	5
	Confused	4
	Inappropriate words	3
	Incomprehensible words	2
Motor Response	None	1
	Best Obeyes Commands	6
	Localizes Pain	5
	Withdraws (Pain)	4
	Flexion	3
	Extension	2
	None	1

1 See Combitube Protocol.

Overdose: Carbon Monoxide Poisoning

ILS Protocol

- ABCs
- Oxygen 100% NRB Mask
- Assist ventilations, prn ①
- Combitube, prn ②
- Transport ASAP

- Detailed Assessment ③
- Assess Level of Consciousness

IV NS TKO ②

Consider need for Hyperbaric Chamber

If air transport is considered, avoid transport via non-pressurized aircraft ④

Maintain Airway
Support Respiratory Effort



Document:

- Signs & Symptoms
- Treatment
- Clinical Response to Treatment
- Vital Signs, SpO2
- Cardiac Rhythm
- Skin Color
- Respiratory Status
- Airway Management
- Conversations with Medical Control and/or Poison Control

Potential Signs & Symptoms of Carbon Monoxide Poisoning:

Mild headache, dyspnea on mild exertion, irritability, fatigue, nausea, vomiting, confusion, ataxia, syncope, seizures, incontinence, respiratory arrest, skin may be bright red in some cases.

Glasgow Coma Scale			
Eye	Spontaneous	4	
	To Voice	3	
	To Pain	2	
Opening	None	1	
	<hr/>		
	Best	Oriented	5
Verbal	Confused	4	
	Response	Inappropriate words	3
		Incomprehensible words	2
None		1	
	<hr/>		
	Best	Obeys Commands	6
Motor	Localizes Pain	5	
	Response	Withdraws (Pain)	4
		Flexion	3
None		2	
		1	

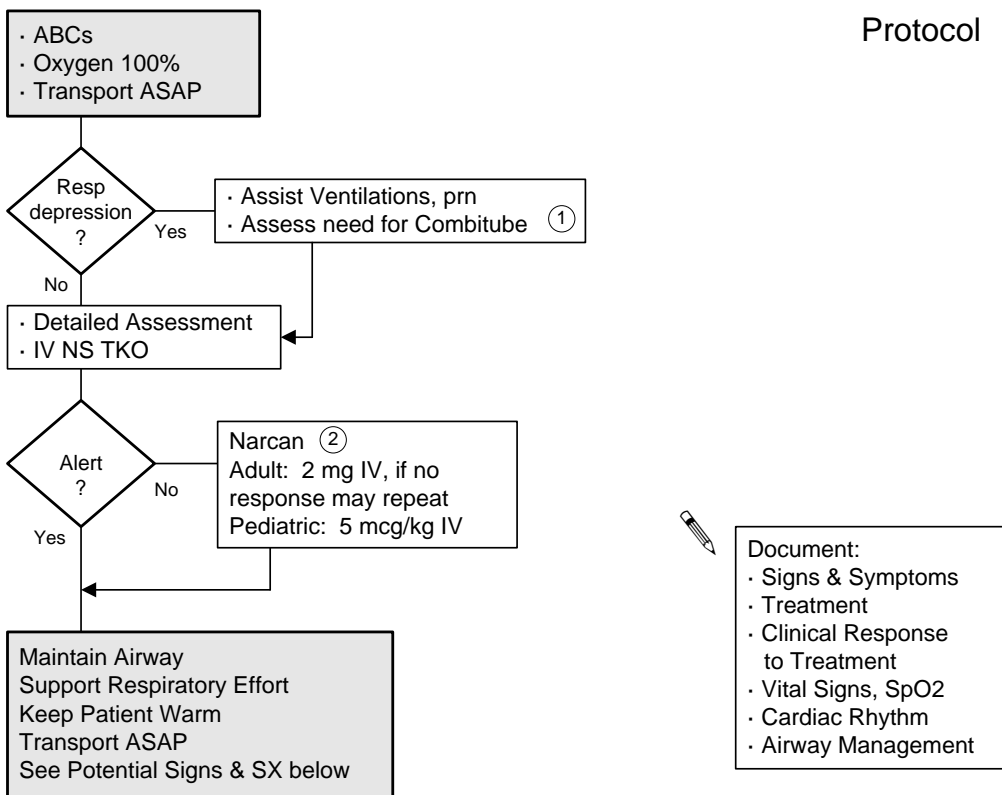
1 PEEP may be beneficial.

2 See Combitube Protocol.

3 A patient with a carboxyhemoglobin level of 15-40% will usually show variable signs and symptoms: confusion, headache, other CNS disturbances. Carboxyhemoglobin levels > 40% will usually leave the patient obtunded. Note: if your carboxyhemoglobin level is 20%, the best possible TRUE SpO2 will be 80% (as 20% of the heme-receptor sites are bound by CO) and yet your SpO2 monitor will read 100%. A SpO2 monitor does not distinguish CO from O2. IMPORTANT: administer 100% Oxygen.

4 Helicopters are not pressurized, yet transport via helicopter (at low altitude) may still be indicated and preferred over ground transport if ground transport is significantly slower. Many but not all fixed-wing air ambulances are pressurized.

Overdose: Narcotic



Potential Signs & Symptoms of Narcotic Overdose:
 CNS & respiratory depression, drowsiness, nausea, vomiting, pinpoint pupils, coma, cyanosis, bradycardia.

Glasgow Coma Scale		
Eye	Spontaneous	4
	To Voice	3
	To Pain	2
Opening	None	1
	Best	5
	Verbal	4
Response	Inappropriate words	3
	Incomprehensible words	2
	None	1
	Best	6
Motor	Obeys Commands	6
	Localizes Pain	5
	Response	4
Response	Withdraws (Pain)	4
	Flexion	3
	Extension	2
	None	1

1 Consider administering Narcan (while assisting ventilations) before using Combitube. A brief trial of Narcan may quickly reverse the patient's condition and eliminate the need for a Combitube. At no time should aggressive and adequate airway management be delayed. A trial of Narcan may be given before using a Combitube only if the airway is secure.
 2 Narcan: half-life is short, 30-80 minutes. Be prepared to repeat treatment as the effect of Narcan may wear off. Anticipate a rapid onset. Be prepared to restrain combative and/or confused patients.

Overdose: Organophosphate Exposure ①

ILS Protocol

- Scene Safety, see Haz-Mat Protocol
- ABCs ②
- Oxygen 100% NRB Mask
- Assist ventilations, prn
- Combitube, prn ③
- Transport ASAP

- Detailed Assessment
- Assess level of consciousness
- Monitor Cardiac Rhythm

IV NS TKO or as needed

Consult with Medical Control for Atropine administration ④

- Maintain Airway
- Support Respiratory Effort
- Transport ASAP

Potential Signs & Symptoms of Organophosphate Exposure:
SLUD:
Salivation, Lacrimation, Urination, Defecation



Document:

- Signs & Symptoms
- Treatment
- Clinical Response to Treatment
- Vital Signs, SpO2
- Cardiac Rhythm
- Respiratory Status
- Airway Management
- Mechanism of Exposure
- Conversations with Medical Control and/or Poison Control

1 Includes Parathion, Malathion.

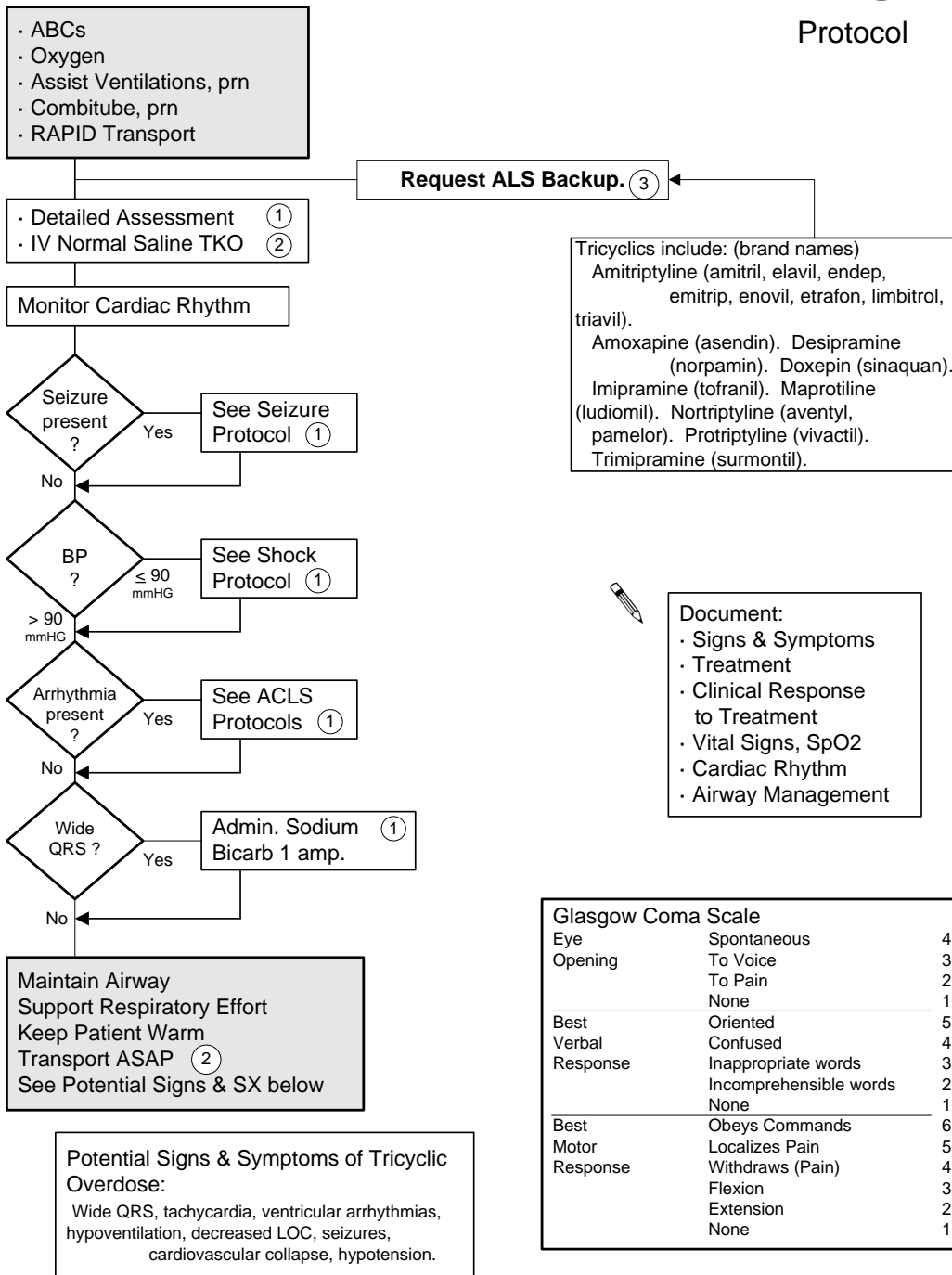
2 If ALS is not on the scene, request ALS Backup.

3 See Combitube Protocol.

4 Large doses of Atropine may be indicated. If unable to reach Medical Control quickly and the patient exhibits any of the signs or symptoms highlighted in "Potential Signs & Symptoms of Organophosphate Exposure" give Atropine 1-2 mg slow IV (adult).

ILS Protocol

Overdose: Tricyclic



1 If ANY of the signs or symptoms listed in "Potential Signs & Symptoms of Tricyclic Overdose" exist, alkalinize the patient by administering 1 amp of Sodium Bicarbonate every 30-60 minutes. Goal of alkalinization is a serum pH of 7.50-7.55. Contact Medical Control prior to administration.

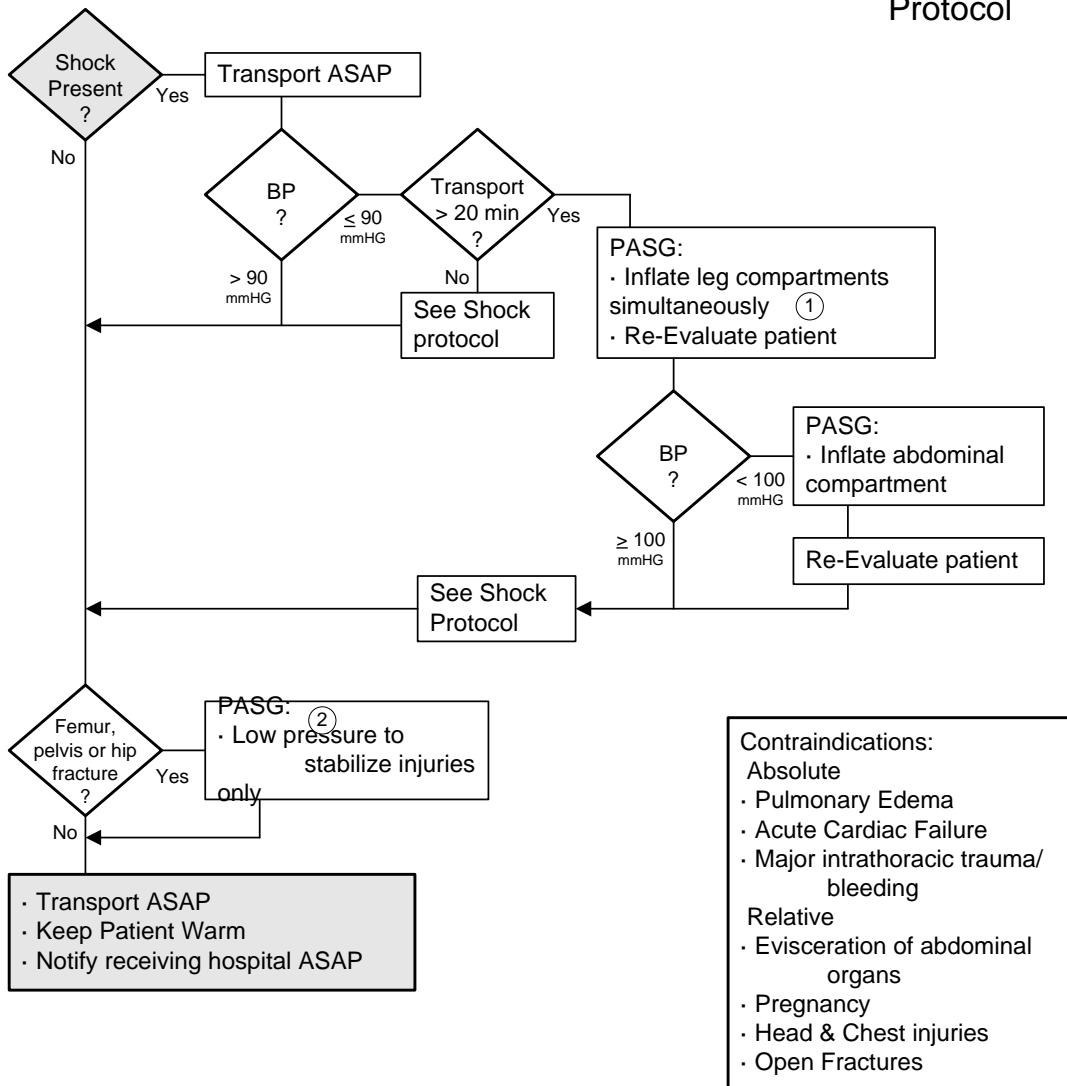
2 Notify receiving facility ASAP especially if hypotensive, arrhythmias, or seizure present.

3. Some medications for this protocol will need ALS Backup

OVERDOSE: TRICYCLIC

PASG Criteria
Pneumatic Anti-shock Garment

ILS
Protocol



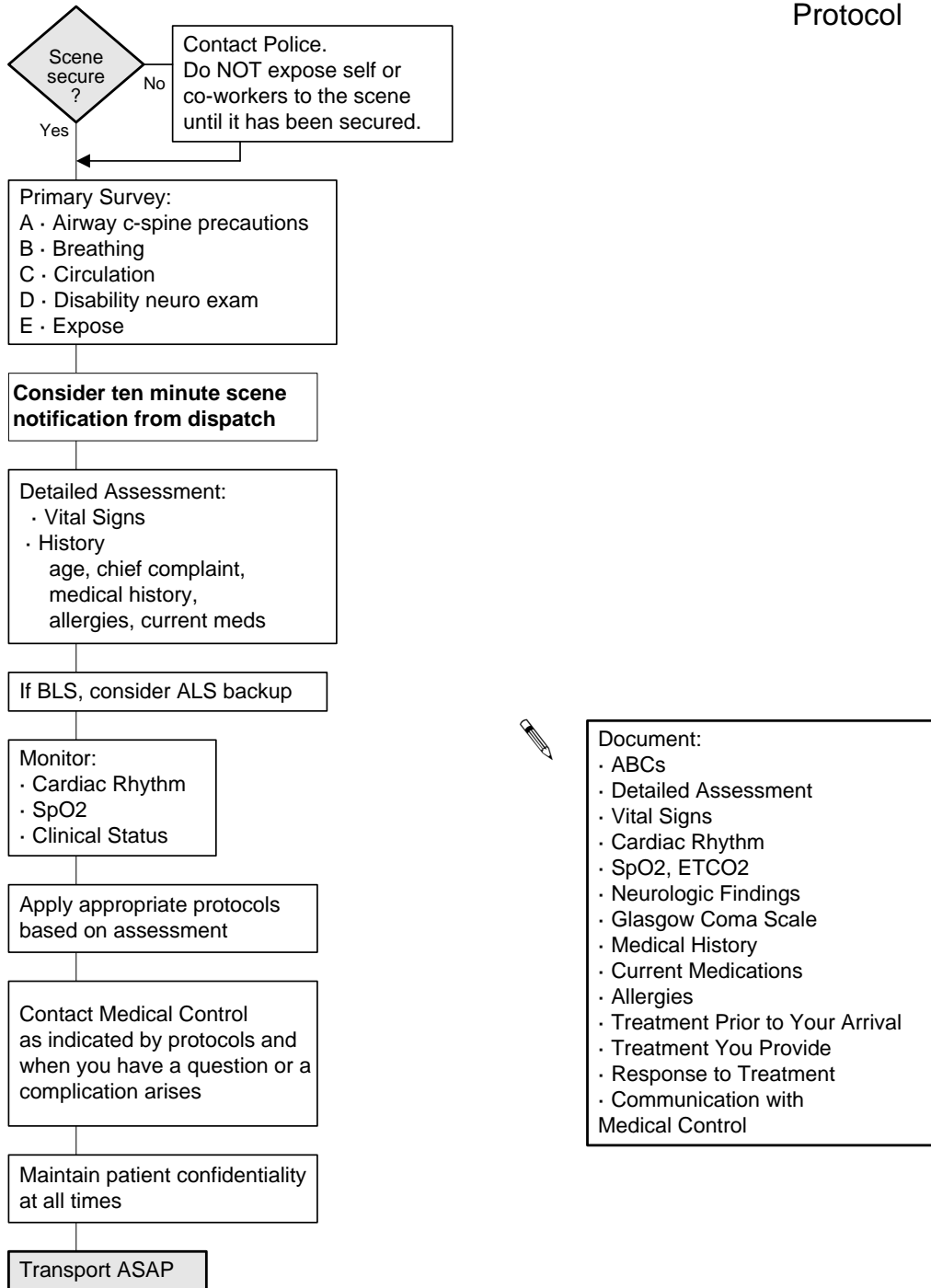
- Contraindications:**
- Absolute**
- Pulmonary Edema
 - Acute Cardiac Failure
 - Major intrathoracic trauma/bleeding
- Relative**
- Evisceration of abdominal organs
 - Pregnancy
 - Head & Chest injuries
 - Open Fractures

- Document:**
- Indications
 - Vital Signs, SpO2
 - Exact time applied
 - BP Before and After PASG
 - Pressure Indicated on Gauges if Present

1 Inflate legs simultaneously until velcro straps start to slip, garment indents slightly or systolic BP reaches 100 mmHG.
2 Maintain the original PASG pressures if PASG have been inflated to treat the patient for shock.

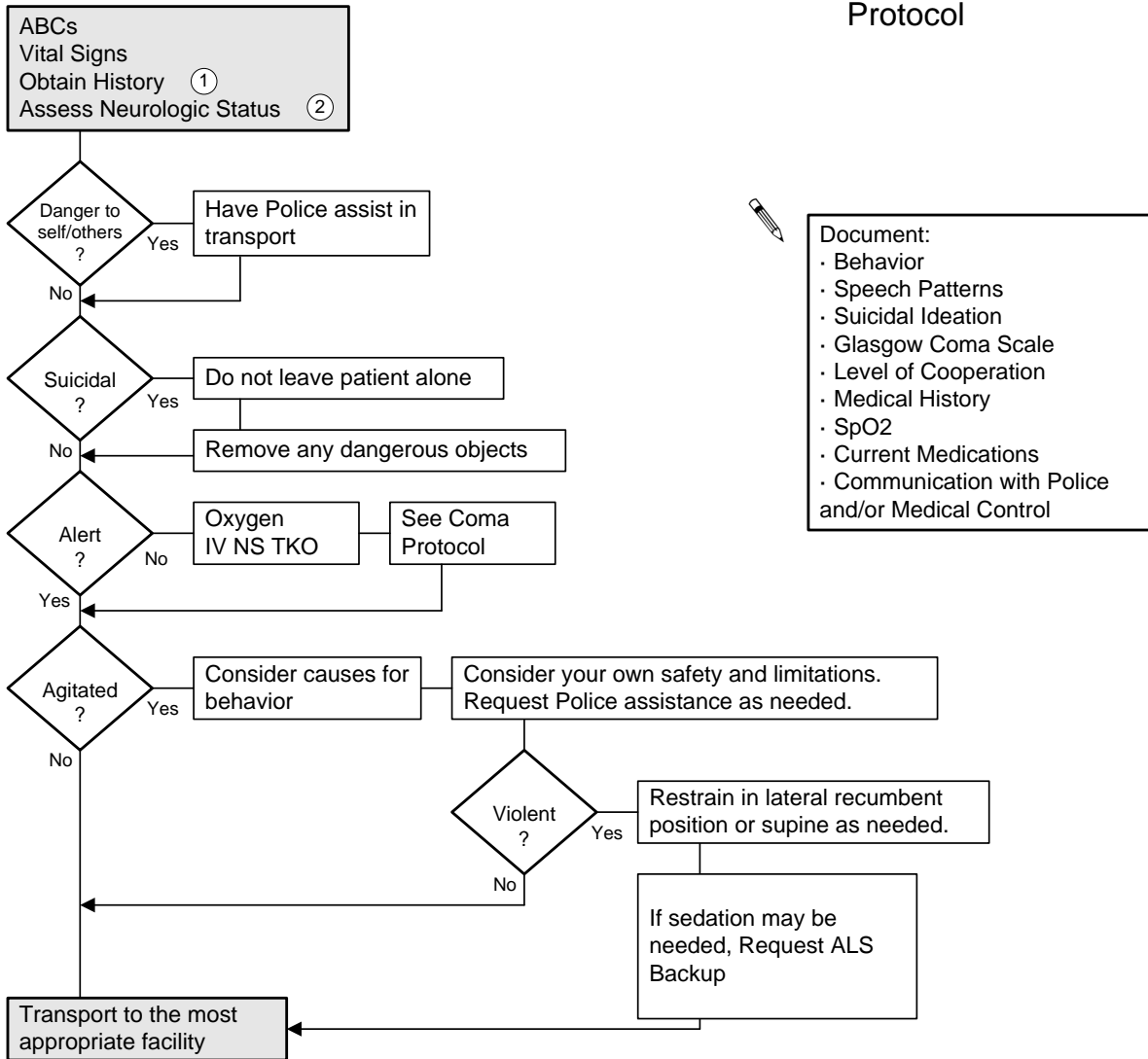
ILS Protocol

Patient Care



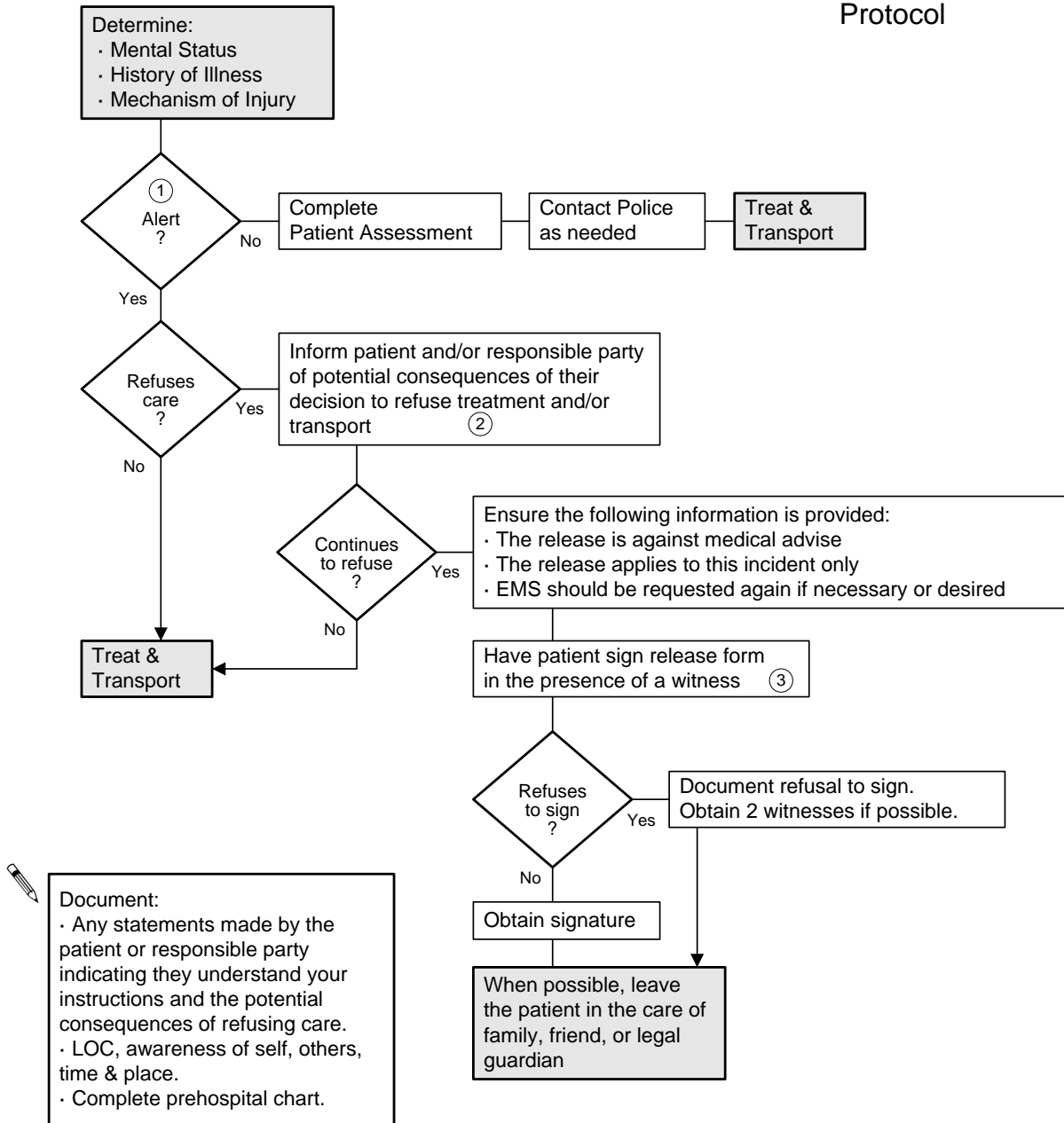
Psychiatric & Behavioral Disorders

ILS Protocol



1 Note: Bizarre behavior, abrupt change in behavior, suicidal ideation, possible drug or alcohol ingestion, history of diabetes, etc. Look for Medic Alert tag.
 2 Consider possibility of hypoglycemia. A low blood sugar can cause agitation, confusion, irritability.

Refusal of Care



NOTE: This protocol assumes it is medically indicated to treat or transport this patient.

1 "Alert" implies the patient is conscious, oriented to person, place, and time. Glasgow Coma Scale = 15.

2 Ensure patient understands these consequences.

3 Witness should be someone other than EMS personnel, if possible, and must sign the release.

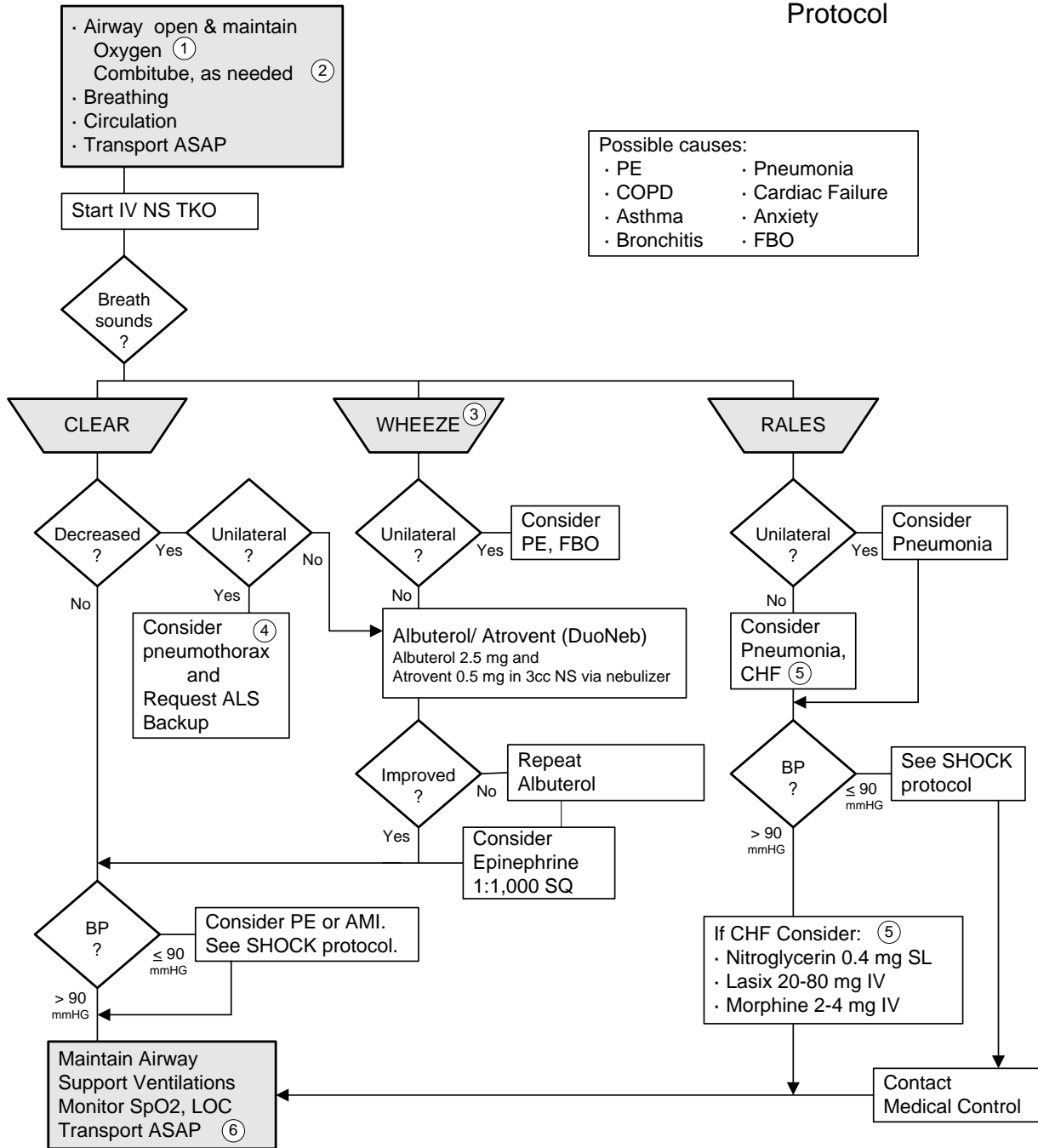
ECEMS, Effective 1/2008

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REFUSAL OF CARE

Respiratory Distress

ILS Protocol

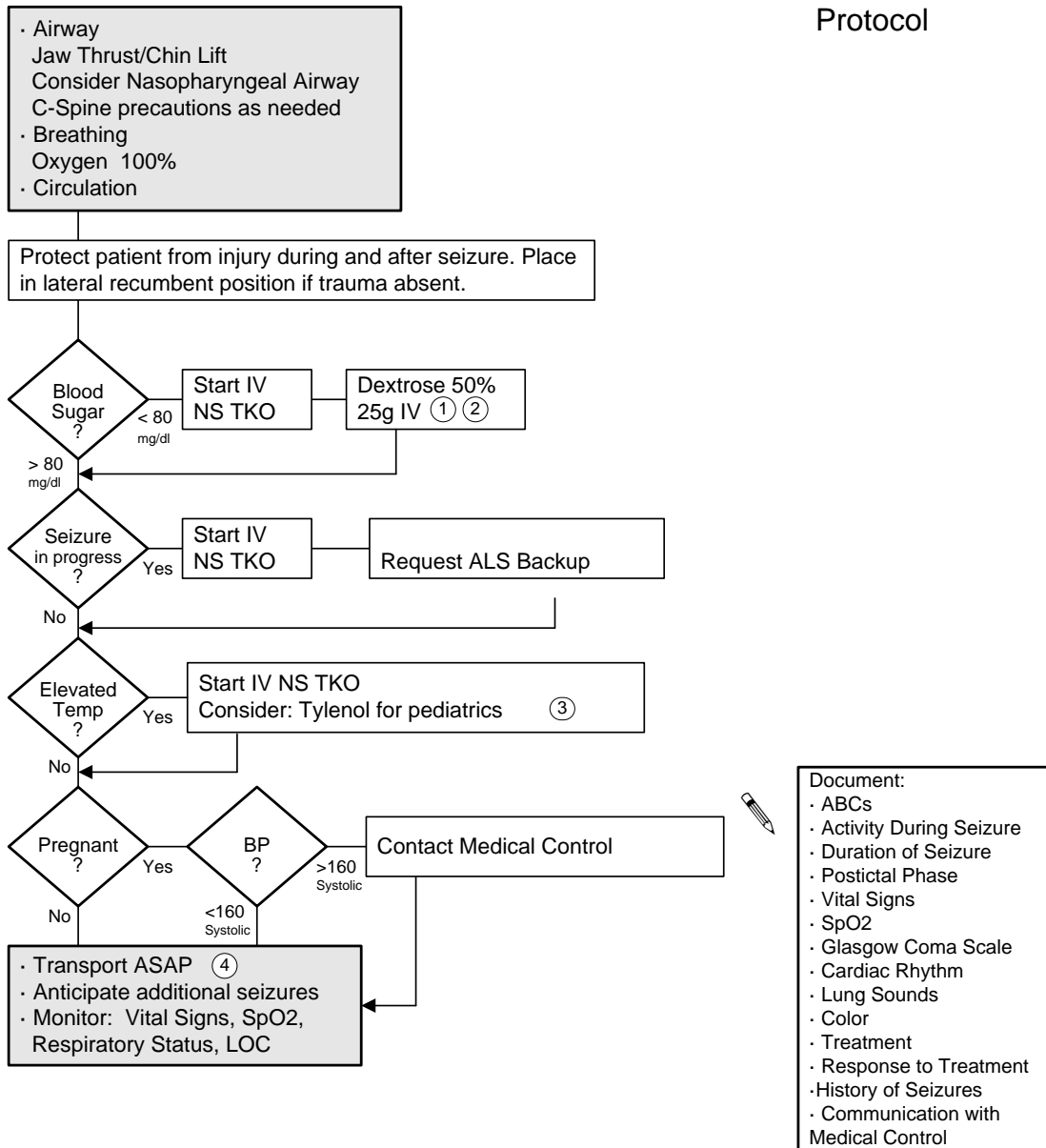


- Possible causes:
- PE
 - COPD
 - Asthma
 - Bronchitis
 - Pneumonia
 - Cardiac Failure
 - Anxiety
 - FBO

1 COPD patients often use their hypoxic drive. In these cases expect & accept SpO2 readings < 90 and > 85%.
 2 See Combitube Protocol.
 3 Wheeze may be caused by: CHF, PE, ASTHMA, aspiration.
 4 ALS May be needed for: Tension Pneumothorax. .
 5 See Congestive Heart Failure/Pulmonary Edema Protocol.

Seizure

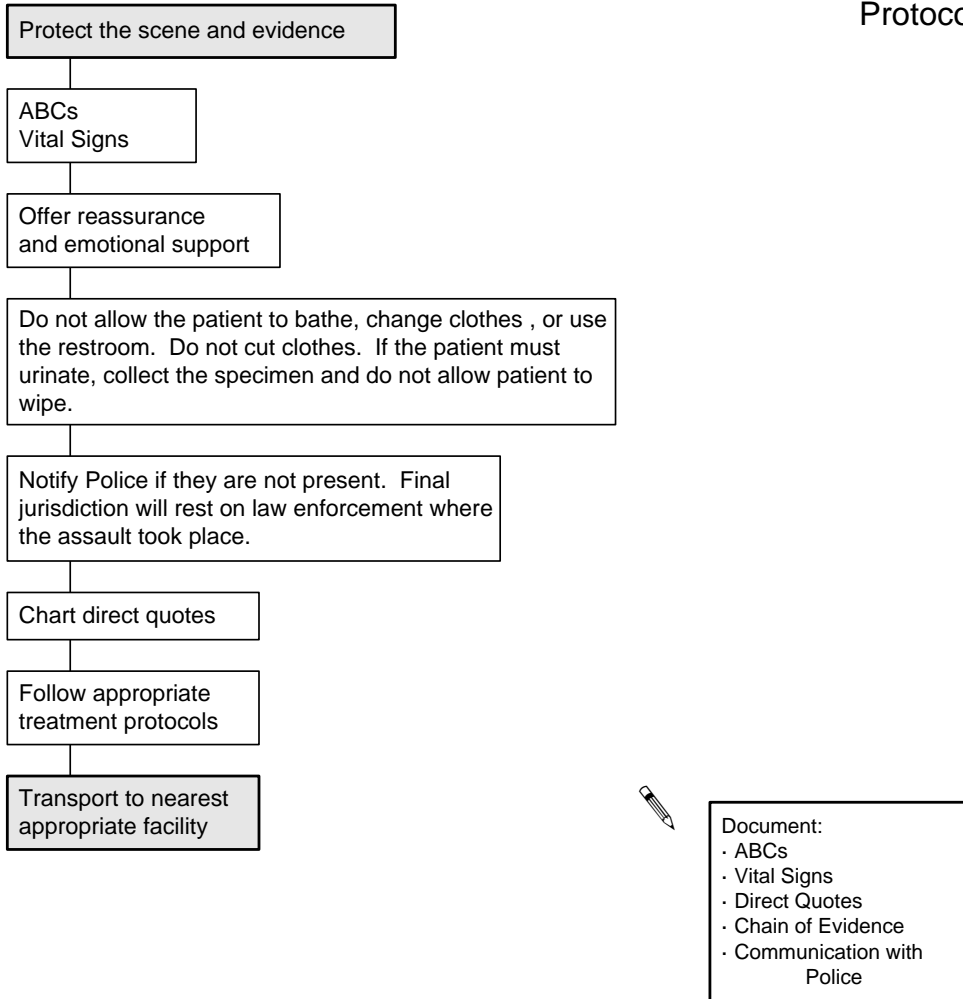
ILS Protocol



1 Administer Dextrose 25% in children (1-12 years), Dextrose 10% in infants (newborn-1 year). Administer Thiamine 100 mg IM prior to Dextrose if you suspect alcoholism or malnutrition.
 2 Blood Sugar: recheck following initial Dextrose dose. If blood sugar remains < 80 mg/dl, repeat initial dose.
 3 Tylenol (acetaminophen): 10 mg/kg PO (if gag reflex is intact). Administer rectal suppository (same dose) if the patient is vomiting, the patient's gag reflex absent or in question, or the patient is not alert.
 4 Provide a quiet, calm environment.

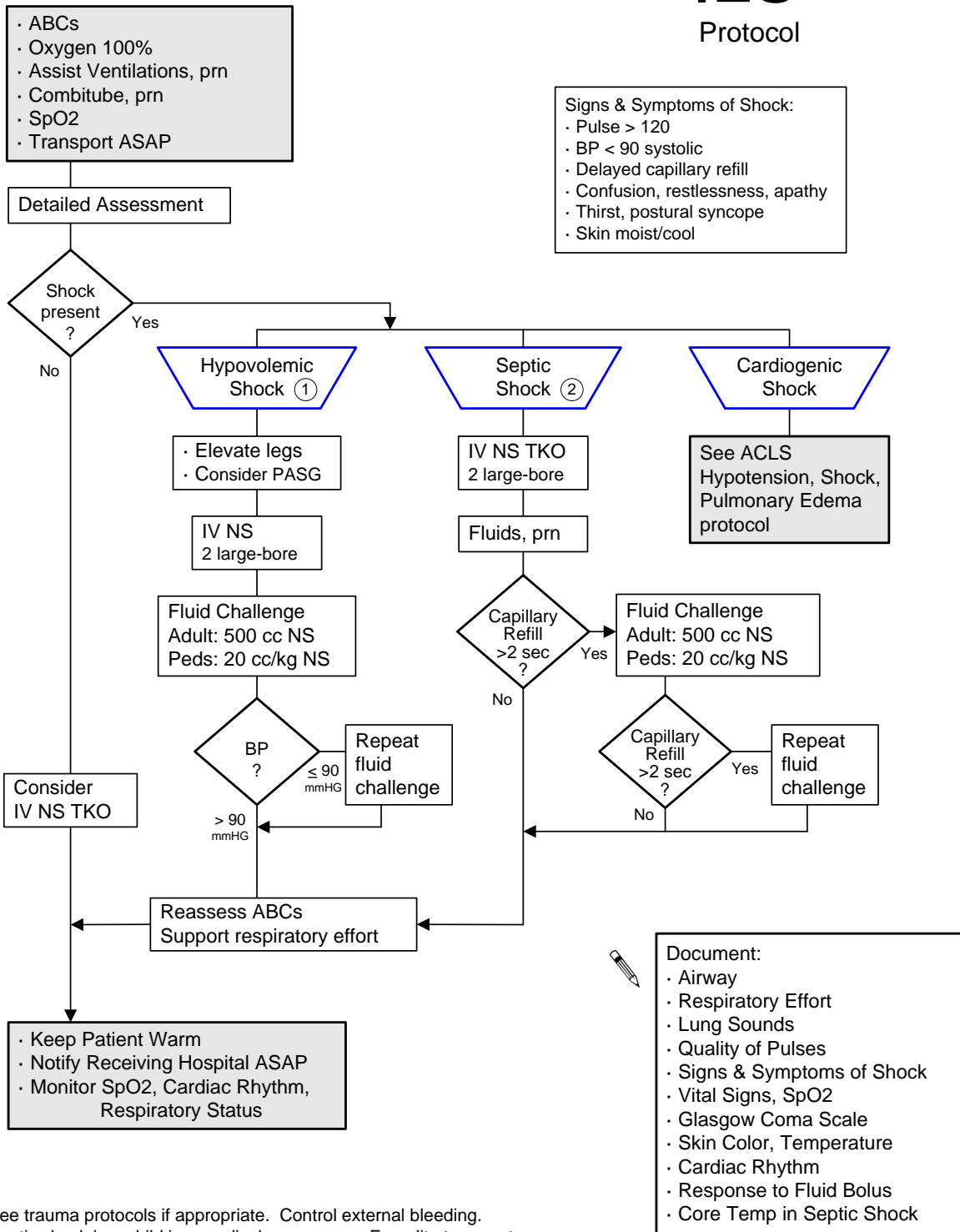
Sexual Assault

ILS Protocol



Shock

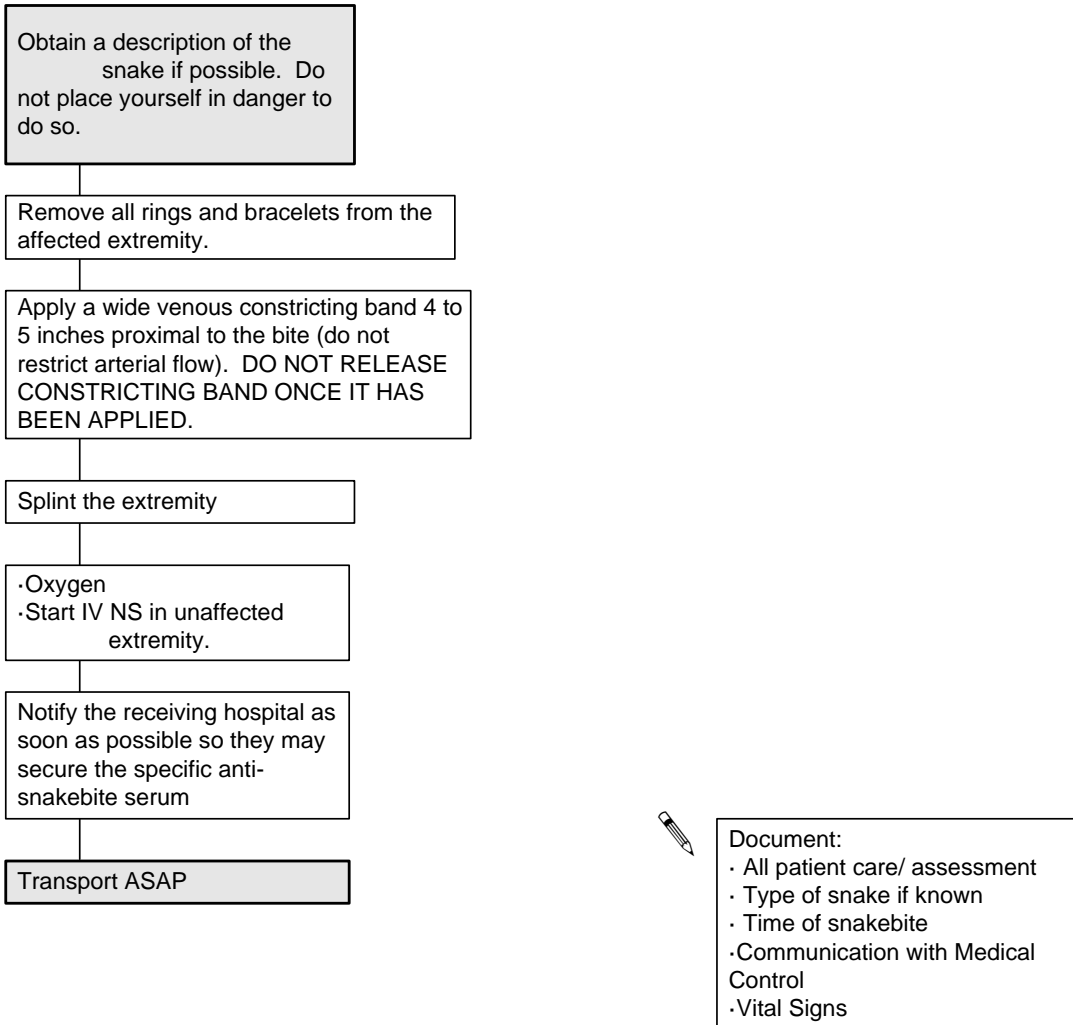
ILS Protocol



1 See trauma protocols if appropriate. Control external bleeding.
2 Septic shock in a child is a medical emergency. Expedite transport.

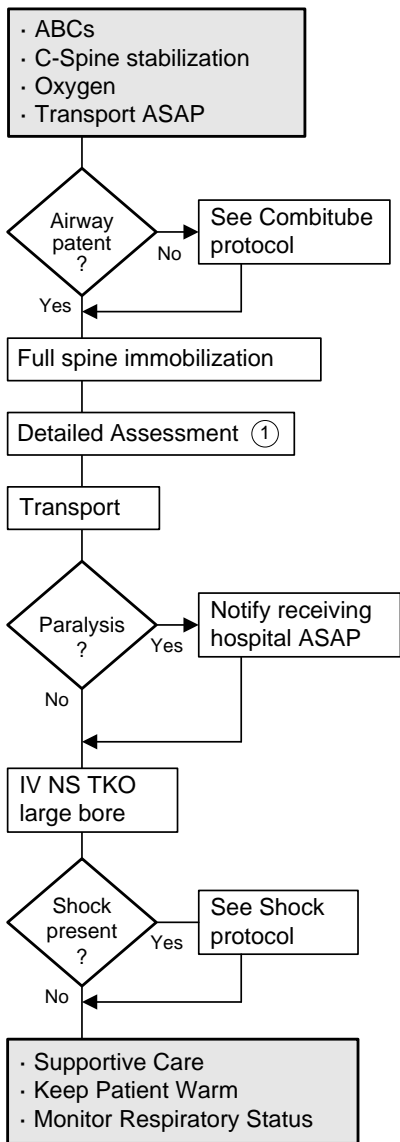
Snakebite

ILS Protocol



Spinal Cord Injury Suspected

ILS Protocol



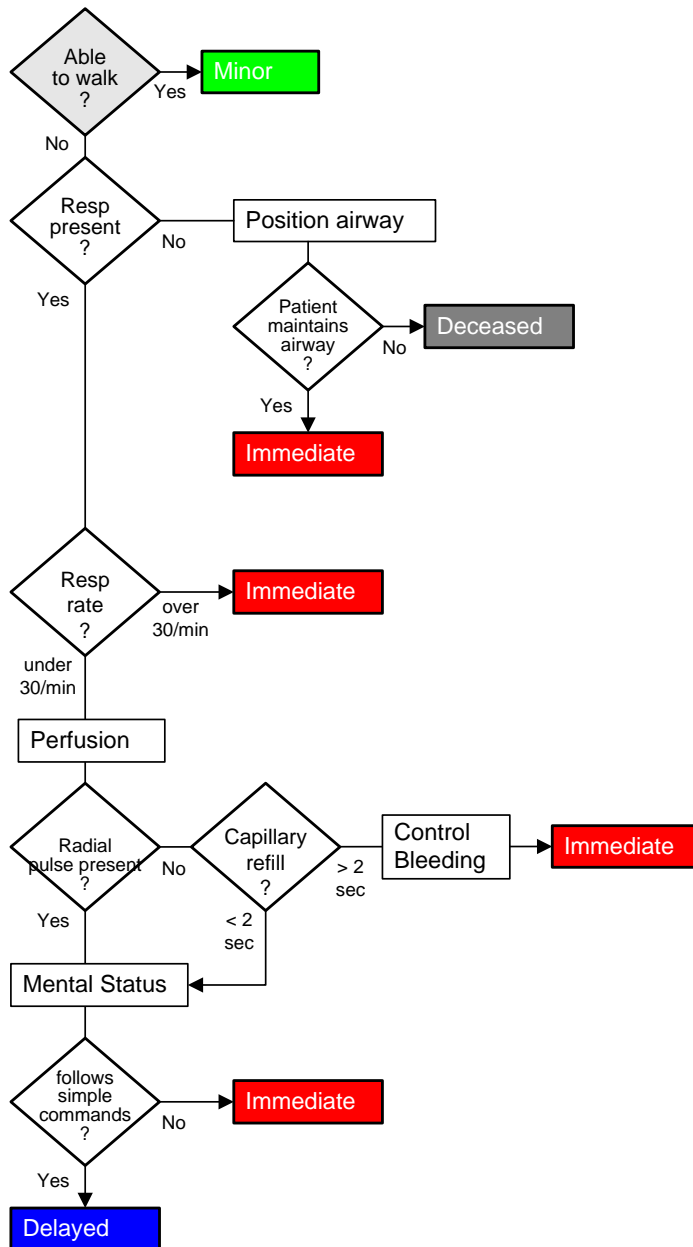
- Significant findings:
- Significant injury above clavicles
 - Loss of consciousness
 - Paralysis, weakness, numbness, tingling within extremities
 - Point tenderness over spine



- Document:
- Airway
 - Glasgow Coma Scale
 - Vital Signs, SpO2
 - Evidence of Paralysis or Paresthesia
 - Loss of Consciousness
 - Mechanism of Injury
 - Presence or Lack of Tenderness Over Spine
 - Treatment

1 Detailed Assessment to include frequent neurological checks. Determine level of injury-dermatome involved.

START Triage

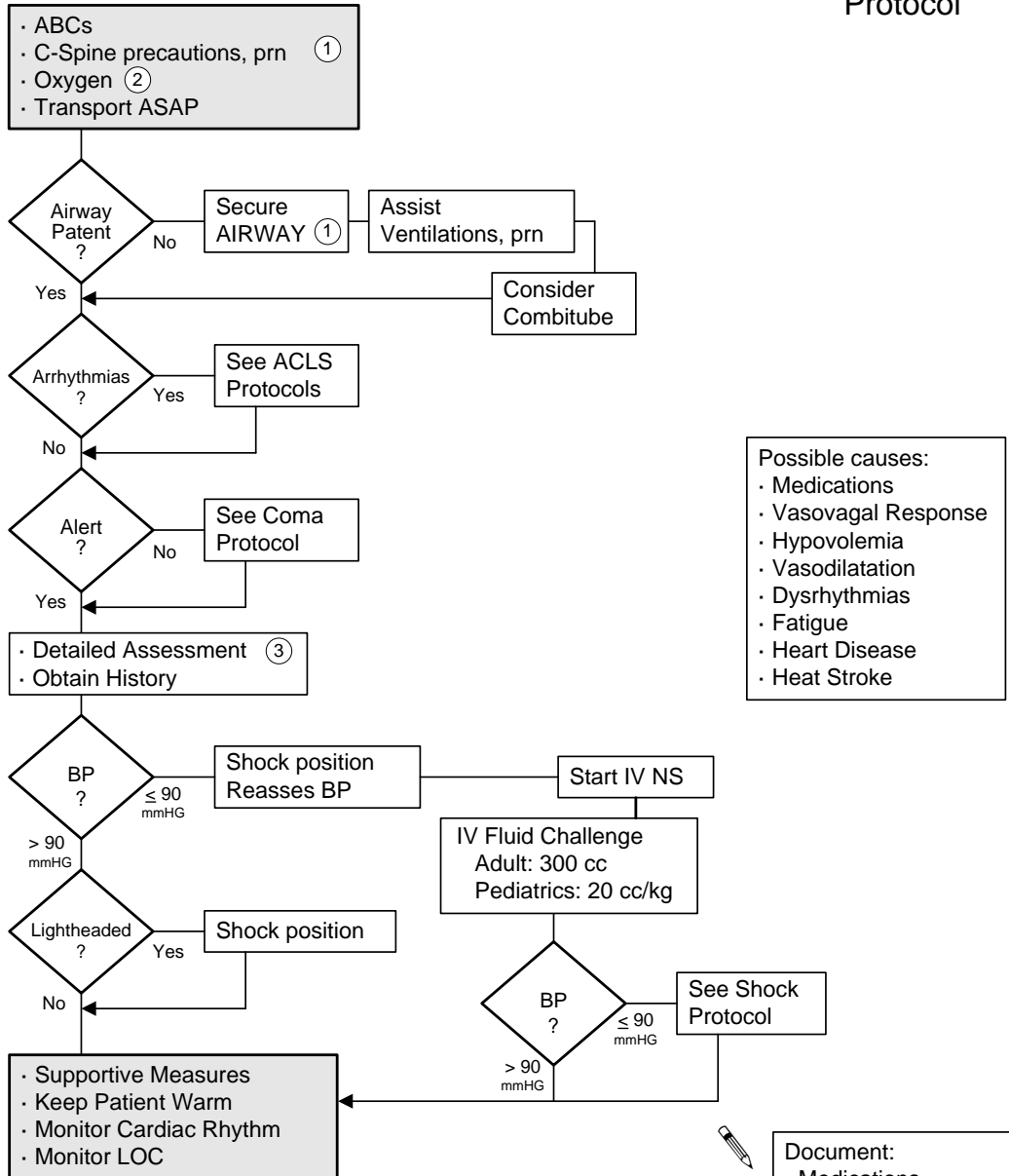


The clinician should view this protocol as an adjunct to your systems disaster plan ONLY if START Triage is a part of that plan. This protocol does not constitute or attempt to substitute for a disaster plan and should only be used in conjunction with a system-wide response, approved in your area.

Adapted from START Triage, originally developed by:
 Hoag Memorial Hospital Presbyterian and
 Newport Beach Fire Department
 ECEMS, Effective 1/2008
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Syncope

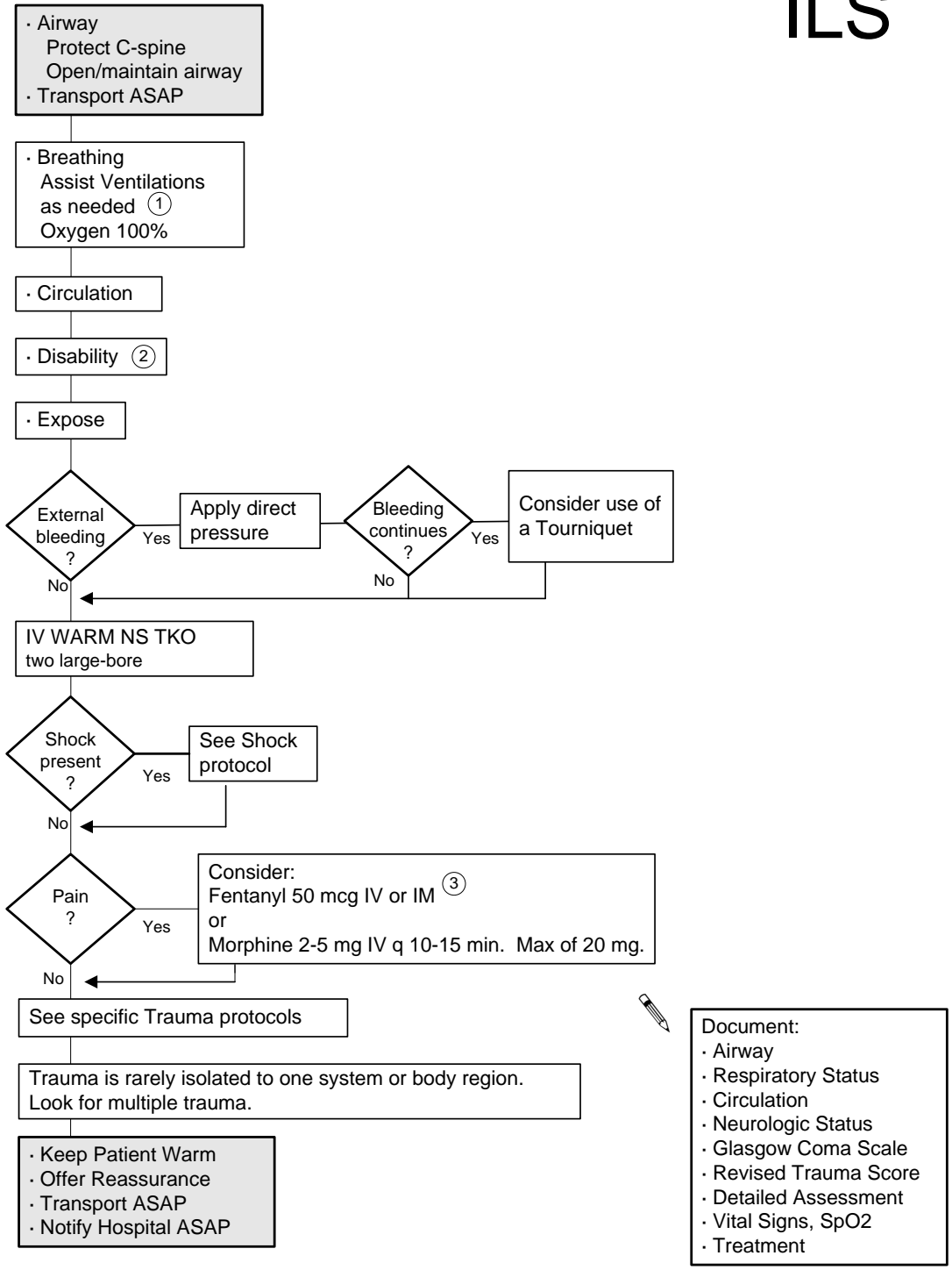
ILS Protocol



1 Establish spinal immobilization if associated with fall or trauma.
 2 High concentration of oxygen may be indicated. Consider hypoxic drive in COPD.
 3 Monitor SpO2, Cardiac Rhythm, Capillary Refill, Glasgow Coma Scale.

Trauma: General Management

ILS



1 See King Airway / Combitube protocols.
 2 Calculate Glasgow Coma Scale and Revised Trauma Score.
 3 Fentanyl: repeat dose 50 mcg prn (titrate to pain). Physician order required for respiratory depression/compromise, shock, or altered mentation.

Trauma Score: Revised

ILS Protocol

Revised Trauma Score		
Respiratory Rate	10-29	= 4
	> 29	= 3
	6-9	= 2
	1-5	= 1
	NONE	= 0
.....		
Systolic BP mmHg	> 89	= 4
	76-89	= 3
	50-75	= 2
	1-49	= 1
	NO PULSE	= 0
.....		
Glasgow Coma Scale	13-15	= 4
	9-12	= 3
	6-8	= 2
	4-5	= 1
	3	= 0
Revised Trauma Score		<input type="text"/>

To calculate the Revised Trauma Score:
 Determine the patient's Respiratory Rate.
 If the RR is greater than 29 breathes per minute the patient receives a score of 3.
 You then calculate the patient's Systolic BP. If the patient's Systolic BP is less than 49 they receive a score of 1 for Systolic BP.
 Now calculate the Glasgow Coma Scale.
 If the patient's GCS is 8, the patient receives a score of 2 in this category.
 Add the 3 scores together. This gives you the patient's Revised Trauma Score. In this example, the RTS would be 6. Lower scores are associated with higher mortality. To see how to calculate a Glasgow Coma Scale, go to the Glasgow Coma Scale Protocol.

Adult & Children

Glasgow Coma Scale		
Eye Opening	Spontaneous	4
	To Voice	3
	To Pain	2
	None	1

Verbal Response	Oriented	5
	Confused	4
	Inappropriate words	3
	Incomprehensible words	2

Motor Response	Obeys Commands	6
	Localizes Pain	5
	Withdraws (Pain)	4
	Flexion	3

	Extension	2
	None	1

Infant & Toddler

Glasgow Coma Scale		
Eye Opening	Spontaneous	4
	To Voice	3
	To Pain	2
	None	1

Verbal Response	Smiles, Interacts	5
	Consolable	4
	Cries to Pain	3
	Moans to Pain	2

Motor Response	Normal Movement	6
	Localizes Pain	5
	Withdraws (Pain)	4
	Flexion	3

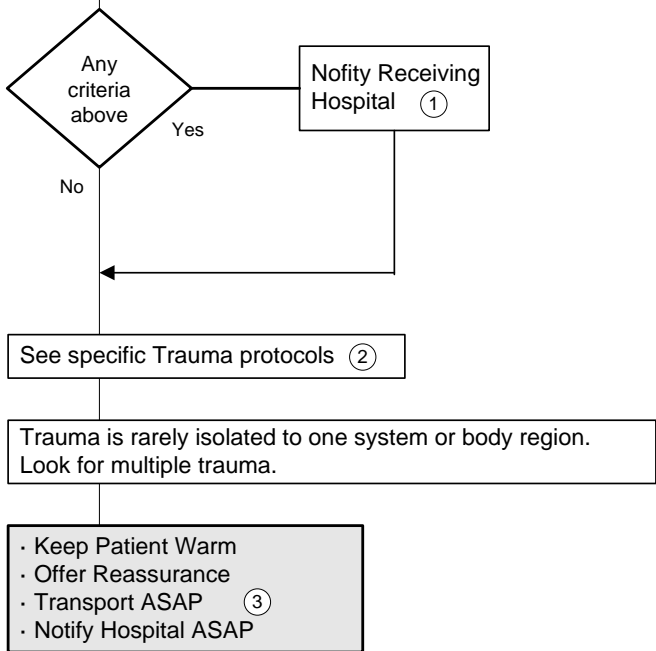
	Extension	2
	None	1

Trauma System Entry

ILS Protocol

- Scene Safety**
- Airway
 - Protect C-spine
 - Open/maintain airway
 - Breathing
 - Assist Ventilations as needed
 - Oxygen 100%
 - Circulation
 - Transport ASAP

Entry Criteria :		
Vital Signs (Mandatory)	Mechanism (Mandatory)	Comorbidity (Discretionary)
*Syst BP <90mmHg	*Death of same car occupant	*Age (<5 or >55)
*Resp. distress w/ rate <10 or >29	*Pt ejected from enclosed vehicle	*Bleeding disorder or anticoagulants
*GCS <12	*Heavy extrication >20min	*Cardiac/Resp. disease, Diabetes, Cirrhosis, or Morbid Obesity
Anatomy (Mandatory)	High Energy Transfer (Discretionary)	*Pregnancy
Penetrating head/neck/torso/ or groin	*Fall > 20ft	*Immunosuppressed
Amputation above wrist or ankle	*Ped. hit @ 20 mph or thrown 15ft.	*Presence of intoxicants
Spinal cord inj w/ paralysis	*Rollover	*Other _____
Flail chest	*MC, ATV, bicycle crash	
2 or more obvious femur or humerus fx	*Significant impact or intrusion	



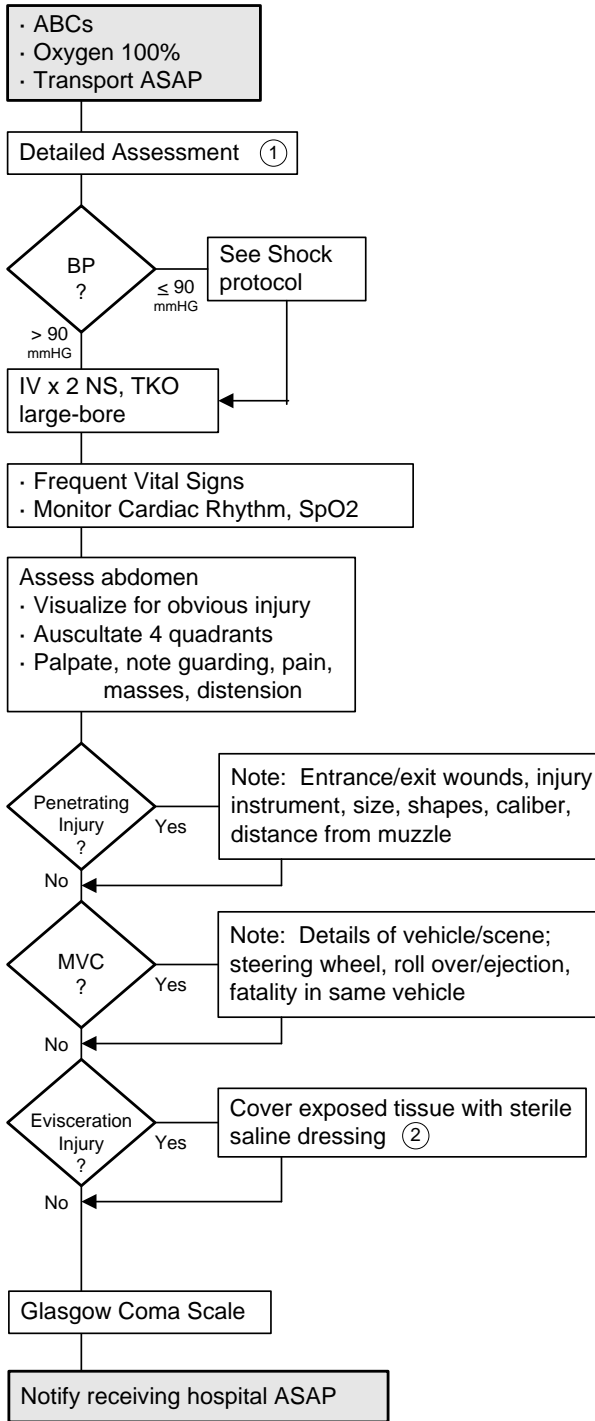
If ALO transports patient, it is the responsibility of the ground agency to contact the receiving hospital and notify them of the trauma system entry. Responding ground agency need to forward a PHCR to the receiving hospital ASAP.


- Document:**
- Airway
 - Respiratory Status
 - Circulation
 - Neurologic Status
 - Glasgow Coma Scale
 - Revised Trauma Score
 - Detailed Assessment
 - Vital Signs, SpO2
 - Treatment
 - Trauma Band Number

1 Advise receiving hospital of trauma criteria met and ETA. Provide any additional pt. information if time and resources permit. Advise receiving hospital if entry is Mandatory or Discretionary
 2 If high index of suspicion but patient does not meet trauma system criteria ensure receiving hospital has adequate patient information to prepare for patient arrival.
 3 Consider ALO if appropriate.

Trauma: Abdominal

ILS Protocol

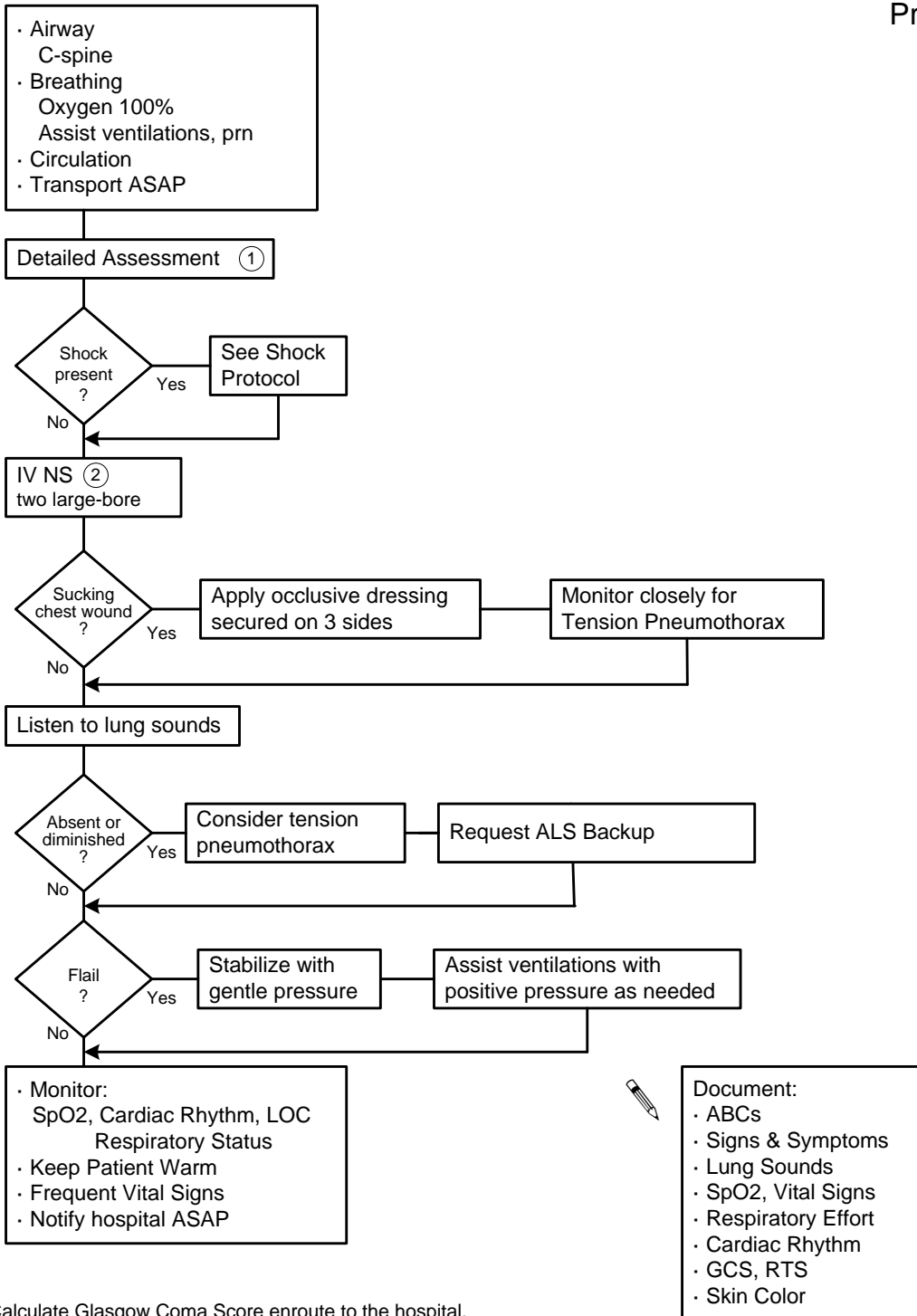


 Document:

- ABCs
- Signs & Symptoms
- Tenderness
- Firmness of Abdomen
- Distention
- Echymosis
- Guarding
- Mechanism of injury
- VS, SpO2, Cardiac Rhythm
- Revised Trauma Score
- Glasgow Coma Score

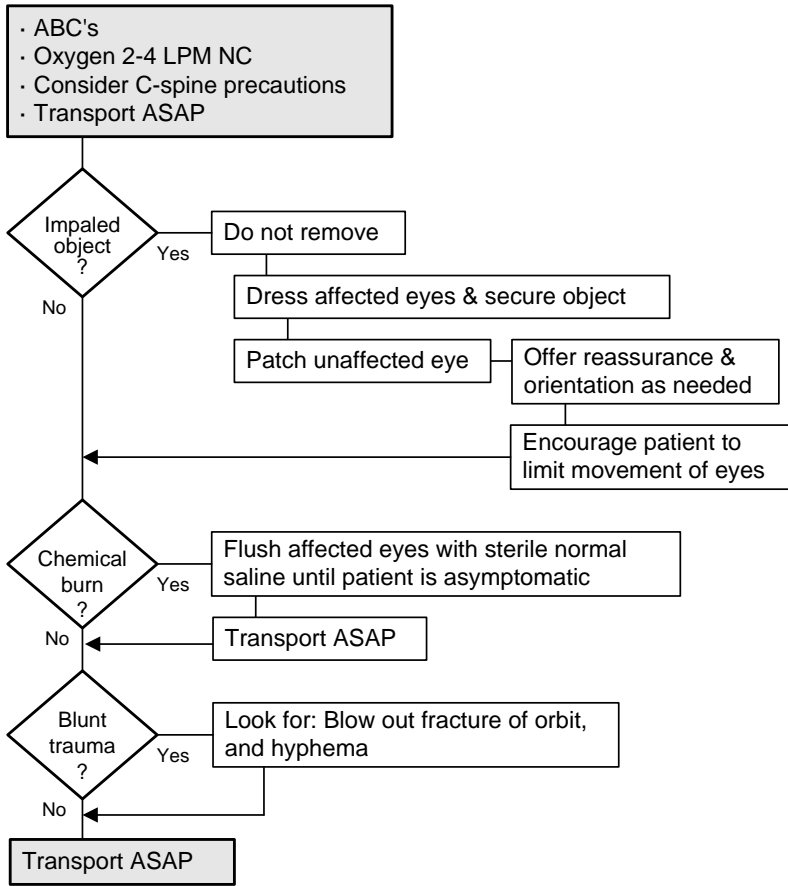
1 Assessment: associate injury site with underlying anatomy. Notify receiving hospital if trauma system criteria is met.
2 Do not reduce or attempt to reinsert abdominal contents.

Trauma: Chest



1 Calculate Glasgow Coma Score enroute to the hospital.
2 Administer IV fluids as needed. Do not overload the patient.

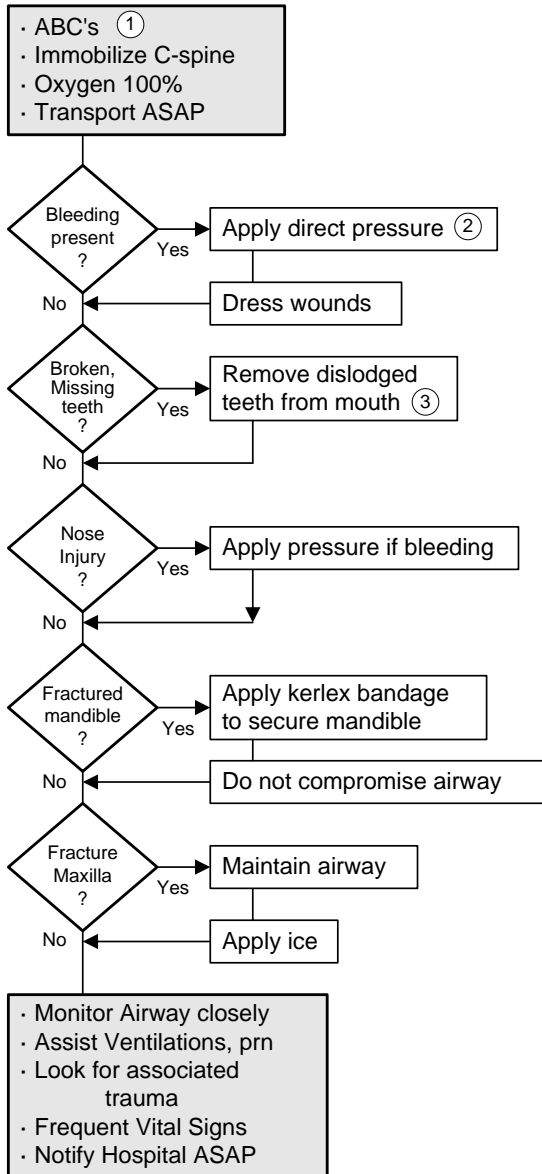
Trauma: Eye Injury



- Document:
- Signs & Symptoms
 - Appearance of Eye
 - Quality, Nature of Pain
 - Pupil, Size, Reaction to Light
 - Treatment
 - Glasgow Coma Scale
 - Revised Trauma Score
 - Mechanism of Injury

Trauma: Facial

ILS Protocol

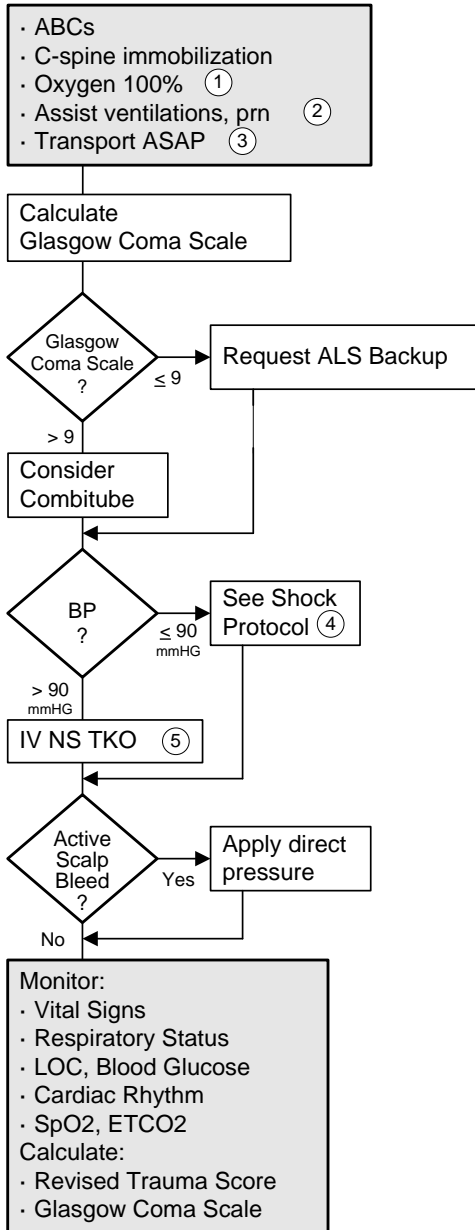


- Document:
- Signs & Symptoms
 - Airway
 - Respiratory Effort
 - Lung Sounds
 - SpO2
 - Pupil: Size, Reaction to Light
 - Eyes Conjugate?
 - Jugular Venous Distention?
 - Trachea, Midline?
 - Fluid from Ears?
 - Fontanel in Infant
 - Treatment
 - Glasgow Coma Scale
 - Revised Trauma Score
 - Mechanism of Injury


1 If you are BLS and the patient has airway problems, respiratory distress or is hemodynamically unstable, request ALS Backup ASAP.
 2 Use pressure point if needed.
 3 If you find an intact missing tooth pick it up by its crown (protect root) and place in NS or milk while enroute to the hospital. If you are more than 20 minute out of the receiving hospital, Contact Medical Control.

Trauma: Head Injury

ILS Protocol



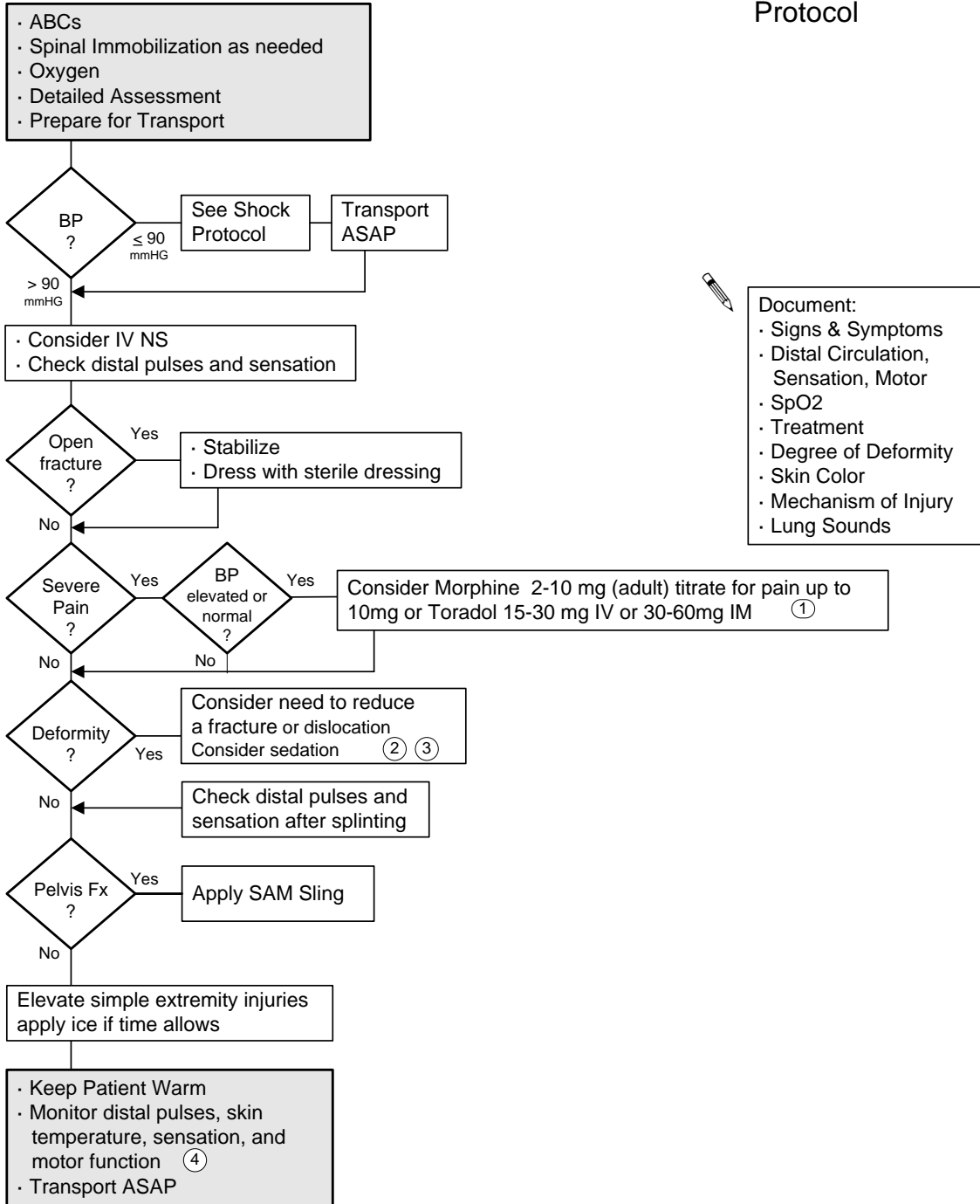
Glasgow Coma Scale			
Eye	Spontaneous	4	
	To Voice	3	
	To Pain	2	
Verbal	None	1	
	Best	Oriented	5
	Confused	4	
Response	Inappropriate words	3	
	Incomprehensible words	2	
	None	1	
	Best	Obeys Commands	6
Motor	Localizes Pain	5	
	Withdraws (Pain)	4	
	Flexion	3	
	Extension	2	
Response	None	1	

-  Document:
- ABCs
 - Signs & Symptoms
 - Glasgow Coma Scale
 - Revised Trauma Score
 - SpO2, ETCO2, VS
 - Cardiac Rhythm
 - Motor/Sensation
 - Lung Sounds
 - Respiratory Effort
 - Skin Color
 - Mechanism of Injury
 - Onset & Duration of LOC

1 Oxygen 100% per non-rebreathable mask or bag-valve-device as needed.
 2 Aggressive ventilatory support may be needed. If the patient's ventilations are not effective secure the patient's airway and assist ventilations.
 3 Every head-injured patient who has had a period of unconsciousness must be evaluated at a hospital.
 4 Treat hypotension. Head injury may cause shock in infants.
 5 Start 2 large-bore IVs.

Trauma: Orthopedic

ILS Protocol



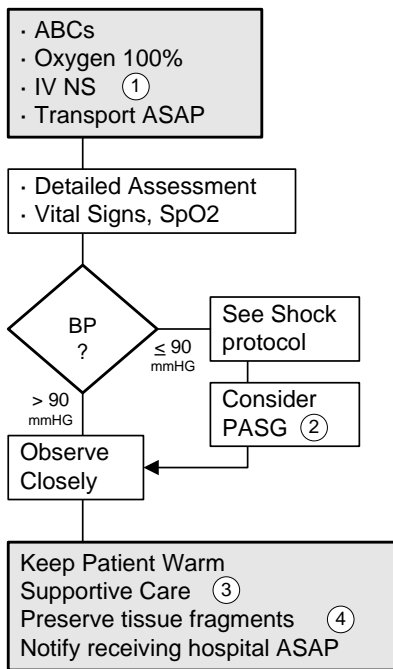
Document:

- Signs & Symptoms
- Distal Circulation, Sensation, Motor
- SpO2
- Treatment
- Degree of Deformity
- Skin Color
- Mechanism of Injury
- Lung Sounds


1 Toradol: Use CAUTION with fractures due to risk of bleeding. Morphine may be a better drug of choice.
 2 Immobilize the joint above & below the injury. IF indicated, realign fractures by applying gentle axial traction: a. To restore circulation distally, b. To immobilize adequately, i.e. realign femur fracture.
 3 Dislocations: Contact Medical Control if circulation is compromised.
 4 SpO2 monitoring may help you confirm circulation within an extremity.

Vaginal Bleeding

ILS Protocol



- Possible causes:
- Miscarriage
 - Placenta previa
 - Trauma
 - Abruptio placenta
 - Infection
 - Ectopic pregnancy

-  Document:
- Gravida ⑤
 - Para ⑥
 - Estimated Blood Loss
 - Color of Blood
 - Presence of Tissue
 - Last Menstrual Period
 - Possibility of Pregnancy
 - Possibility of Assault
 - Vital Signs, SpO2
 - Detailed Assessment

- 1 Large-bore IV. If bleeding is significant start a second IV and adjust IV flow rate to patient condition. If hypotensive, give a fluid bolus of 250-500 cc BSS.
- 2 PASG: Do not inflate the abdominal compartment. Inflating leg compartments may be helpful. Contact Medical Control before applying PASG in this scenario.
- 3 If possibility of assault exists maintain chain of evidence and, if possible, have a female attendant in the patient care area.
- 4 Collect tissue fragments and blood if present.
- 5 Gravid: pregnant, heavy with child. Record the number of times the patient states she has been pregnant, i.e., Gravida, 3 indicates the patient has been pregnant 3 times, including her current pregnancy if she is pregnant at the time of the exam.
- 6 Para: this is the number of live, viable births she has delivered.