Greater Miami Valley EMS Council

GMVEMSC

2026-2028

Standing Orders

Training Manual for ALL providers

CONTENTS

ABBREVIATIONS

Some abbreviations are self-explanatory while others are context specific. Any word that can be readily abbreviated using a period has been left out of this list. Use of abbreviations must be limited to the abbreviations in this document.

abdomen	**abd**	abdominal aortic aneurysm	**AAA**
abortion	**AB**	acute coronary syndrome	**ACS**
acute myocardial infarction	**AMI**	acute pulmonary edema	**APE**
acute renal failure	**ARF**	acute respiratory distress syndrome	**ARD/ARDS**
administer rectally	**PR**	advanced cardiac life support	**ACLS**
advance directive	**AD**	advanced life support	**ALS**
after	**p**	against medical advice	**AMA**
alcohol	**ETOH**	alert & oriented	**A&O**
alert/verbal/pain/unresponsive	**AVPU**	antecubital fossa	**AC**
arteriosclerotic heart disease	**ASHD**	as necessary or needed	**prn**
as soon as possible	**ASAP**	aspirin	**ASA**
at	**@**	at bedtime	**HS**
atrial fibrillation	**A-fib**	atrial flutter/tachycardia	**AF/AT**
atrioventricular	**AV**	automatic external defibrillator	**AED**
automatic transport ventilator	**ATV**	backboard	**BB**
bag-valve mask	**BVM**	basic life support	**BLS**
before	**a**	below the knee amputation	**BKA**
births, number of	**para**	black	**B**
blood pressure	**BP**	blood sugar	**BS**
body substance isolation	**BSI**	body surface area	**BSA**
bowel movement	**BM**	bradycardia	**brady**
breaths per minute	**bpm**	by mouth	**po**
by or through	**per**	cancer	**CA**
capillary refill time	**CRT**	carbon dioxide	**CO2**
carbon monoxide	**CO**	centimeter	**cm**
cerebral palsy	**CP**	cerebrospinal fluid	**CSF**
cerebrovascular accident	**CVA**	cervical immobilization device	**CID**
cervical spine	**C-spine**	change	**chg**
chest pain	**CP**	chief complaint	**CC**
chronic obstructive pulmonary disease	**COPD**	chronic renal failure	**CRF**
circulatory/sensory/motor	**CSM**	clear to auscultation bilaterally	**CTAB**
complains of	**c/o**	congestive heart failure	**CHF**
coronary artery bypass graft	**CABG**	coronary artery disease	**CAD**
cubic centimeter	**cc**	date of birth	**DOB**
dead on arrival	**DOA**	degree(s)	**deg**
delirium tremens	**DTs**	Dextrose in water - 5%	**D5W**
Dextrose in water - 10%	**D10W**	diabetes mellitus	**DM**
diagnosis	**Dx**	dilation & curettage	**D&C**
discontinue	**D/C**	disease	**dz**
do not resuscitate	**DNR**	drop(s)	**gtt(s)**
dyspnea on exertion	**DOE**	electrocardiogram	**ECG/EKG**
emergency department	**ED/ER**	endotracheal tube	**ETT**
epinephrine	**EPI**	equal to or greater than	≥
equal to or less than	≤	esophageal detector device	**EDD**
esophageal obturator airway	**EOA**	estimated	**est.**
estimated time of arrival	**ETA**	every	**q**
external jugular vein	**EJV**	fever of unknown origin	**FUO**
for example	**e.g.**	foreign body	**FB**
four times a day	**qid**	fracture	**fx**

French (catheter size)	**Fr.**	gallbladder	**GB**
gastrointestinal	**GI**	gauge	**ga**
Glasgow Coma Scale	**GCS**	gram	**g**
greater than	**>**	gunshot wound	**GSW**
hazardous materials	**HazMat**	head, ears, eyes, nose, throat	**HEENT**
headache	**HA**	heart block	**HB**
heart rate	**HR**	history	**Hx**
hypertension	**HTN**	Incident Command	**IC**
increasing	**up**	inferior	**inf.**
insulin-dependent diabetes mellitus	**IDDM**	intercostal space	**ICS**
intracranial pressure	**ICP**	intramuscular	**IM**
intranasal	**IN**	intraosseous	**IO**
intravenous	**IV**	intravenous push	**IVP**
joule	**J**	jugular venous distension	**JVD**
Kendrick Extrication Device	**KED**	kilogram	**kg**
labor & delivery	**L&D**	last normal menstrual period	**LNMP**
left	**(L)**	left lower/upper extremity	**LLE/LUE**
left lower/upper lobe	**LLL/LUL**	left lower/upper quadrant	**LLQ/LUQ**
left bundle branch block	**LBBB**	less than	**<**
lights and siren	**L&S**	liters per minute	**lpm**
liter	**L**	loss or level of consciousness	**LOC**
mass casualty event	**MCE**	mechanism of injury	**MOI**
medial	**med.**	medical control physician	**MCP**
metered dose inhaler	**MDI**	microgram	**mcg**
milliequivalent	**mEq**	milligram	**mg**
milliliter (same as cc)	**ml**	motor vehicle collision	**MVC**
multiple casualty incident	**MCI**	multiple sclerosis	**MS**
myocardial infarction	**MI**	nasal cannula	**NC**
nasopharyngeal airway	**NPA**	nausea & vomiting	**N&V**
newborn	**NB**	nitroglycerin	**NTG**
no known drug allergies	**NKDA**	non-rebreather mask	**NRM**
nonsteroidal anti-inflammatory drug	**NSAID**	normal saline	**NS**
normal sinus rhythm	**NSR**	not applicable/available	**n/a**
nothing by mouth	**NPO**	oxygen % of arterial blood	**SpO2**
obstetrics	**OB**	oropharyngeal airway	**OPA**
over the counter	**OTC**	overdose	**OD**
packs per day	**p/d**	parts per million	**ppm**
past medical history	**PMH**	patient	**pt**
pelvic inflammatory disease	**PID**	penicillin	**PCN**
peptic ulcer disease	**PUD**	peripherally inserted central catheter	**PICC**
pharyngotracheal lumen airway	**PtL**	pregnancies, number of	**gravida**
premature ventricular complex	**PVC**	prior to arrival	**PTA**
pulmonary embolism	**PE**	pulse	**P**
pulse, motor, sensation	**PMS**	pulseless electrical activity	**PEA**
pupils equal, round, reactive to light & accommodation	**PERRLA**	right bundle branch block	**RBBB**
right lower/upper extremity	**RLE/RUE**	right lower/upper lobe	**RLL/RUL**
right middle lobe	**RML**	rapid sequence induction	**RSI**
respiratory rate	**RR**	returned to service	**RTS**
rheumatic heart disease	**RHD**	right	**R**
right lower/upper quadrant	**RLQ/RUQ**	secondary/second degree	**2°**
sedate to intubate	**StI**	sexually transmitted disease	**STD**
shortness of breath	**SOB**	signs/symptoms	**S/S**
sino-atrial	**SA**	sinus bradycardia	**SB**
sinus tachycardia	**ST**	standard operating procedure	**SOP**
standing orders	**SO**	ST elevation MI	**STEMI**

subcutaneous	**SQ**	sublingual	**SL**
sudden infant death syndrome	**SIDS**	supraventricular tachycardia	**SVT**
symptoms	**Sxs**	systolic blood pressure	**SBP**
tachycardia	**tach(y)**	temperature	**T**
temporomandibular joint	**TMJ**	that is	**i.e.**
three times a day	**tid**	tibia	**Tib**
times	**x**	to keep open	**TKO**
tourniquet	**TQ**	tracheal deviation	**TD**
transport	**Tx**	transcutaneous pacing	**TCP**
transfer	**x-fer**	transient ischemic attack	**TIA**
treatment/medication	**Rx**	tuberculosis	**TB**
twice a day	**bid**	unconscious	**unc.**
unequal / not equal	**!=**	Unified command	**UC**
unknown	**unk.**	upper/lower	**U/L**
upper respiratory infection	**URI**	urinary tract infection	**UTI**
ventricular fibrillation	**VF/VFib**	ventricular tachycardia	**VT/VTach**
vital signs	**VS**	warm & dry	**w/d**
week	**wk.**	weight	**wt.**
white	**W**	with	**c̄**
within normal limits	**WNL**	without	**s̄ or w/o**
Wolff-Parkinson-White	**WPW**	year	**yr.**
years old	**y/o or yo**		

RUN DOCUMENTATION REQUIREMENTS

Every crew transporting a patient is expected to provide a full run sheet to the hospital. An abbreviated version of a run report, sometimes called a "quick sheet" may be left at the time of transport, but the hospital MUST receive a full, final copy of the run sheet within three hours (with rare exceptions, e.g., major incidents). When a quick sheet is used, it MUST include (at a minimum) all the following:

- Patient's full name
- Age
- Chief complaint
- History of the Present Illness or MOI
- PMH
- Medications
- Allergies
- Vital signs with times
- Prehospital assessment and interventions along with the timing of any medication or intervention and patient response to such interventions

Use of abbreviations must be limited to the abbreviations in this document.

ADULT PROTOCOL SKILL EVALUATION: OXYGEN ADMINISTRATION

NAME_____ DATE_____

Level: EMR: _____

NON-REBREATHER MASK

STEPS	1st Test	2nd Test	3rd Test
A. List indications for oxygen delivery by nonrebreather mask			
B. Assure regulator is on tank, open tank and check for leaks			
C. Check tank pressure			
D. Attach nonrebreather mask to oxygen			
E. Prefill reservoir			
F. Adjust liter flow to 12 - 15 LPM			
G. Apply and adjust mask to patient's face			

NASAL CANNULA

STEPS	1st Test	2nd Test	3rd Test
A. List indications for oxygen delivery by nasal cannula			
B. Assure regulator is on tank, open tank and check for leaks			
C. Check tank pressure			
D. Attach nasal cannula to oxygen			
E. Adjust liter flow to 4 - 6 LPM			
F. Apply and nasal cannula to patient			

BAG-VALVE-MASK

STEPS	1st Test	2nd Test	3rd Test
A. List indications for oxygen delivery by bag-valve-mask			
B. Assure regulator is on tank, open tank and check for leaks			
C. Check tank pressure			
D. Assemble bag-valve-mask with appropriately sized mask			
F. Connect reservoir and set oxygen at 12 - 15 LPM			
G. Create a proper mask-to-face seal while maintaining open airway position			
H. Ventilate @ appropriate rate and check for chest rise			

ADULT PROTOCOL SKILL EVALUATION CPAP ASSESSMENT AND APPLICATION

NAME:_____ DATE:_____

Level: Paramedic: _____ Advanced: _____ EMT: _____

STEPS	1st Test	2nd Test	3rd Test
Prepares patient:			
Takes or verbalizes appropriate PPE precautions			
Assures adequate blood pressure 100 Systolic			
Positions patient in a position that will optimize ease of ventilation			
Assesses patient to identify indications for CPAP:			
Asthmatic			
Congestive heart failure			
Pulmonary edema			
COPD			
Assesses patient to identify contraindications for CPAP:			
Pt must be age 16 or older			
Unconscious, unresponsive, inability to protect airway or inability to speak			
Inability to sit up			
Respiratory arrest or agonal respiration			
Nausea/vomiting			
Hypotension – Systolic <100			
Suspected pneumothorax			
Cardiogenic shock			
Penetrating chest trauma			
Facial anomalies/trauma/burns			
Closed head injury			
Active upper GI bleeding or history of recent gastric surgery			
Selects, checks and assembles equipment:			
Assembles mask and tubing according to manufacturer instructions			
Coaches patient how to breathe through mask			
Connects CPAP unit to suitable O2 supply and attaches breathing circuit to device			
Turns on oxygen			
Sets device parameters, if applicable (end at 10 cm H_2O)			
Performs procedure:			
Places mask over patients mouth and nose (leave EtCO2 in place, if applicable)			
May start at 5 cm H_2O, but must end at 10 cm H_2O for treatment			
Coaches patient to breathe normally			
Frequently reassesses patient for desired effects			
Decreased ventilatory distress			
SpO2 > 92%			
Decreased adventitious lung sounds			
Absence of reactions (barotrauma, pneumothorax)			
Records settings/readings and documents appropriately			

Use the DISS fitting to connect CPAP to the portable tank

Instructions for application of CPAP:

1. Choose appropriate size mask
2. Attach the tubing to the DISS fitting
3. Fully expand the corrugated tubing

4.Place the mask over patient's nose and mouth

5. Couch the patient to hold the mask to reduce anxiety if possible

6. Clip the lower strap to the

7. Adjust the straps of the mask so that it fits loosely. Overtightening the straps causes the mask to crinkle and cause a leak

8. Adjustable forehead pad can be moved further increase the comfort for the patient

9. To adjust the forehead pad gently squeeze the tabs and move up or down and forward and backward.

10. Adjust the PEEP according to local protocol

11. Monitor patient condition, SpO2 and EtCO2. Check for leaks.

ADULT PROTOCOL SKILL EVALUATION: OROTRACHEAL INTUBATION OF THE NON-TRAUMA PATIENT

NAME_____ DATE_____

Level: Paramedic: _____ Advanced: _____

STEPS	**1st Test**	**2nd Test**	**3rd Test**
A. List the indications for endotracheal intubation, with emphasis on situations in addition to cardiac arrest			
B. List the equipment required to perform endotracheal intubation			
C. List the potential complications of endotracheal intubation			
D. Open the airway			
E. Pre-oxygenate patient during preparations to intubate			
F. Demonstrate the performance of cricoid pressure			
G. Assemble equipment			
H. Insert laryngoscope			
I. Elevate the mandible			
J. Insert the proper size ET tube			
K. Remove the stylet / bougie			
L. Document ETT at Tube size x3 at teeth line / gum line			
M. Inflate the cuff with 5 to 10 ml. of air			
N. Ventilate the patient			
O. Confirm tube placement, using Capnography or Colorimetry. Be able to discuss the indications and limitations of each device. Continuous EtCO2 detection is mandatory for advanced airway confirmation			
P. Confirm tube placement with at least 5 methods of verification and document the outcomes. • Auscultation of epigastrium, anterior chest, midaxillary areas, epigastrium again • Condensation in the ETT • Visualization of tube passing between vocal cords • Document ETT at Tube size x3 at teeth line / gum line • Chest rise and fall • Improvement in patient's color • Improved pulse-ox readings			
Q. Secure tube in place & reassess placement after any movement of patient			
R. Consider applying cervical collar to prevent extubation			

EQUIPMENT:

- Proper size endotracheal tube
- Stylet
- Laryngoscope blade & handle
- Magill forceps
- 10 ml. syringe
- Suction equipment
- Stethoscope
- Gloves & Eye protection
- Commercial tube holder or proper taping method.
- Confirmation Device
- C-collar
- Adult Intubation Manikin

When preparing for this skill evaluation, be sure that you can meet the objectives A, B, C, G, and O. If you need a reminder, the material is readily available in any standard textbook.

ADULT PROTOCOL SKILL EVALUATIO:IN-LINE OROTRACHEAL INTUBATION OF THE TRAUMA PATIENT

NAME_____ DATE_____

Level: Paramedic: _____ Advanced: _____

STEPS	**1st Test**	**2nd Test**	**3rd Test**
A. List the indications for endotracheal intubation, with emphasis on situations in addition to cardiac arrest			
B. List the equipment required to perform endotracheal intubation			
C. List the potential complications of endotracheal intubation			
D. Open the airway using c-spine precautions			
E. Pre-oxygenate patient during preparations to intubate			
F. Demonstrate performance of cricoid pressure			
G. Assemble equipment			
H. Insert laryngoscope			
I. Elevate the mandible			
J. Insert the ET tube			
K. Remove the stylet			
L. Document ETT at Tube size x3 at teeth line / gum line			
M. Inflate the cuff with 5 to 10 ml. of air			
N. Ventilate the patient			
O. Confirm tube placement, using Capnography or Colorimetry. Be able to discuss the indications and limitations of each device. Continuous EtCO2 detection is mandatory for advanced airway confirmation			
P. Confirm tube placement with at least 5 methods of verification and document the outcomes. • Auscultation of epigastrium, anterior chest, midaxillary areas, epigastrium again • Condensation in the ETT • Visualization of tube passing between vocal cords • Document ETT at Tube size x3 at teeth line / gum line • Chest rise and fall • Improvement in patient's color • Improved pulse-ox readings			
Q. Secure tube in place & reassess placement after any movement of patient			
R. Apply cervical collar			

EQUIPMENT:

- Proper size endotracheal tube
- Stylet
- Laryngoscope blade & handle
- Magill forceps
- 10 ml. syringe
- Suction equipment
- Stethoscope
- Gloves & eye protection
- Commercial tube holder or proper taping method.
- Confirmation device
- C-collar
- Adult intubation manikin

When preparing for this skill evaluation, be sure that you can meet the objectives A, B, C, G, and O. If you need a reminder, the material is readily available in any standard textbook.

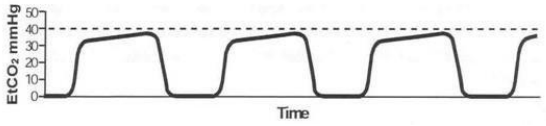
A. List of indications for ET intubation:
    a. Insufficient respiratory rates, less than 10 or greater than 29
        - That are not rapidly controlled by other means
    b. Irregular respiratory rhythm
    c. Abnormal breath sounds
    d. Inadequate chest expansion and respiratory depth
    e. Excessive effort to breathe
    f. Use of accessory muscles
    g. Nasal flaring
    h. Pallor or cyanosis
    i. Cardiac dysrhythmias
B. List of complications of ET intubation:
    a. Esophageal intubation
    b. Bronchospasm
    c. Laryngospasm
    d. Pulmonary aspiration
    e. Trauma to lip, tongue, or teeth
C. Assemble and check equipment used by your department prior to intubation.
D. Confirm tube placement:
    a. Capnography
        - Continuous EtCO2 detection is mandatory for advanced airway confirmation
    b. auscultation of epigastrium, anterior chest, midaxillary areas, epigastrium again
    c. condensation of the tube
    d. visualization of tube passing between vocal cords
    e. Document ETT at Tube size x3 at teeth line / gum line chest rise and fall
    f. improvement in patient's color
    g. improved pulse-ox readings

ELECTRONIC END TIDAL CO2 (EtCO2) MONITOR – CAPNOGRAPHY

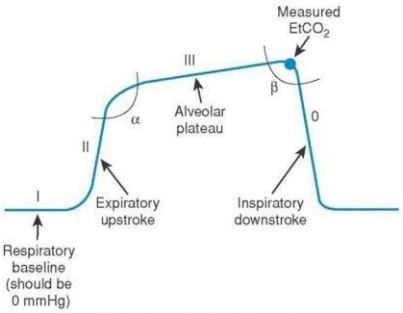
1. Capnography or capnometry is considered the "gold standard" of tube placement confirmation. Waveform EtCO2 is the preferred confirmation device. These devices measure the amount of CO2 in the exhaled ventilations of patients. Capnography can be used on intubated or non-intubated patients. Side stream sensor can be used on patients with or without adequate perfusion.
2. Two types of side stream sensors can be used:

BVM Adaptor

Nasal Cannula Adaptor



Normal Capnograph



Components of Capnograph

Understanding waveforms and how to interpret them can provide a great deal of information.

Intubated Patient

Sudden loss of waveform

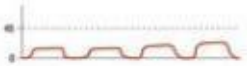
- ET tube disconnected, dislodged, kinked or obstructed
- Loss of circulatory function

Decreasing $EtCO_2$

- ET tube cuff leak
- ET tube in hypopharynx
- Partial obstruction

CPR Assessment

- Attempt to maintain minimum of 10mmHg



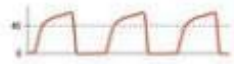
Sudden increase in $EtCO_2$

- Return of spontaneous circulation (ROSC)

Non-intubated Patient

Bronchospasm ("Shark-fin" appearance)

- Asthma
- COPD



Hypoventilation

Hyperventilation

Decreased $EtCO_2$

- Apnea
- Sedation

PEDIATRIC PROTOCOL SKILL EVALUATION: PEDIATRIC OROTRACHEAL INTUBATION

NAME_____ DATE_____

Level: Paramedic: _____ Advanced: _____

STEPS	**1st Test**	**2nd Test**	**3rd Test**
A. List the indications for endotracheal intubation, with emphasis on situations in addition to cardiac arrest			
B. List the equipment required to perform endotracheal intubation			
C. List the potential complications of endotracheal intubation			
D. Open the airway			
E. Pre-oxygenate patient during preparations to intubate			
F. Assemble equipment, select proper size ETT and laryngoscope blade (use length-based tape)			
G. Insert laryngoscope			
H. Elevate the mandible			
I. Insert the ET tube			
J. Remove the stylet			
K. Document ETT at Tube size x3 at teeth line / gum line			
L. Ventilate the patient			
M. Confirm tube placement, using Capnography or Colorimetry. Be able to discuss the indications and limitations of each device. Continuous EtCO2 detection is mandatory for advanced airway confirmation			
N. Confirm tube placement with at least 5 methods of verification and document the outcomes • Auscultation of epigastrium, anterior chest, midaxillary areas, and epigastrium again • Condensation in the ETT • Visualization of tube passing between vocal cords • Document ETT at Tube size x3 at teeth line / gum line • Chest rise and fall • Improvement in patient's color • Improved pulse-ox readings			
O. Secure tube in place & reassess placement after any movement of patient			
P. Consider applying cervical collar/towel roll to prevent extubation			

EQUIPMENT:

- Proper size endotracheal tube
- Laryngoscope blade & handle
- Gloves & Eye protection
- Proper size stylet
- Magill forceps
- Confirmation device
- Suction equipment
- Stethoscope
- C-Collar or towel roll
- Pedi intubation manikin
- Commercial tube holder or proper taping method

When preparing for this skill evaluation, be sure that you can meet the objectives A, B, C, F, and M. If you need a reminder, the material is readily available in any standard textbook.

ADULT PROTOCOL SKILL EVALUATION: NEEDLE CRICOTHYROTOMY

NAME_____ DATE_____

Level: Paramedic: _____

STEPS	1st Test	2nd Test	3rd Test
A. List the indications for needle cricothyrotomy.			
B. List the equipment required to perform needle cricothyrotomy.			
C. List the potential complications of needle cricothyrotomy.			
D. Attempt to oxygenate patient during preparations for cricothyrotomy.			
E. Assemble equipment.			
F. Place patient in supine position.			
G. Palpate cricothyroid membrane.			
H. Prep area with Betadine wash.			
I. Attach angiocath to syringe.			
J. Insert needle (midline over cricothyroid membrane) at a 45 degree angle, directed caudally. • If dealing with a trauma patient, stabilize cervical spine and insert needle at 90 degree angle.			
K. Aspirate for air.			
L. Advance catheter and needle into trachea.			
M. Withdraw the needle.			
N. Attach catheter to oxygen tubing.			
O. Ventilate the patient.			
P. Confirm placement, specifying at least three methods of verification. • Capnography • Chest rise and fall • Auscultation of breath sounds • Improvement in patient's color • Improved pulse-ox readings			
Q. Secure tubing.			
R. Suction oropharynx.			

EQUIPMENT:

- Syringe 10 cc and 3 cc.
- 10 or 14 gauge angiocath.
- Oxygen tubing with Y connector or side port cut in tubing for controlling air flow.
- Oxygen source with rate of 15-30 liters/minute, 50 psi.
- 7.0 ET tube adapter.

When preparing for this skill evaluation, be sure that you can meet the objectives A, B, C, and P. If you need a reminder, the material is readily available in any standard textbook.

Indications for needle cricothyrotomy:

- Inability to ventilate the patient
- Should be reserved for patients that cannot be ventilated by any other means

Required equipment listed on previous page. Below assembly of the needle cric.

Needle cric equipment

Needle cric fully assembled and inserted.

Potential complications:

- May produce hemorrhage at the insertion site, particularly if the thyroid is perforated
- Faulty placement of the cannula into the subcutaneous tissue
- Needle inserted too far may puncture esophagus
- Does not allow for suctioning
- Due to the catheter size, resistance will be felt when bagging.

ADULT PROTOCOL SKILL EVALUATION: CHEST DECOMPRESSION

NAME_____ DATE_____

Level: Paramedic: _____ Advanced: _____

Indication is a hemodynamically unstable patient.

STEPS	**1st Test**	**2nd Test**	**3rd Test**
A. List inclusion criteria: • MOI • Respiratory Distress or Failure • Diminished or absent breath sounds • Hemodynamic instability • Trauma arrest o Potential chest injury MOI with diminished/absent breath sounds • Cardiac arrest in the asthmatic patient with diminished breath sounds either unilateral or bilateral			
B. List exclusion criteria • Lack of inclusion criteria • **Needle decompression is not to be performed unless patient is hemodynamically unstable**			
C. BSI			
D. Prepare equipment			
E. Explain procedure to the patient			
F. Administer high concentration Oxygen			
G. If patient has a sucking chest wound, place non-porous dressing taped on 3 sides over wound so air can escape			
H. Identify landmarks: Angle of Louis or 2nd or 3rd intercostal space at the mid- clavicular line (MCL) on the affected side. 4th or 5th intercostal space mid axillary (MAL)/anterior axillary (AAL) line. Insertion site should be just superior to the rib margin			
I. Prepare the skin with antiseptic			
J. Insert the needle at a 90-degree angle into the pleural cavity, just above the rib margin. Puncture the skin and advance the needle (perpendicular to chest) until you encounter a "pop' or rush of air			
K. Remove the needle, keeping the catheter in place. Securely tape the catheter. Watch for kinks			

L. Reassess the patient for signs of improvement or complications
• Possible complications:
  o Local hematoma
  o Pneumothorax/Hemothorax
  o Infection
NOTE: Insert the needle over (superior to) the rib to avoid striking vital structures such as nerves and vascular structures that lie at the inferior margins of the ribs.			

EQUIPMENT:

- 14 ga 3 ¼" Angio catheter (preferred)
- Safety glasses and gloves
- Stethoscope
- Alcohol preps
- Tape
- 10 ml syringe

A. Together with the inclusion criteria **<u>TWO</u>** of the following should be present to perform chest decompression:

- Respiratory Distress
- Loss of radial pulse
- Decreased LOC

B. Equipment needed:

ADULT PROTOCOL SKILL EVALUATION: AUTOMATED EXTERNAL DEFIBRILLATORS

NAME_____ DATE_____

Level: Paramedic: _____ Advanced: _____ EMT: _____ EMR: _____

STEPS	**1st Test**	**2nd Test**	**3rd Test**
A. Perform an initial assessment of the patient			
B. Begin CPR with 100% oxygen while preparing AED			
• CPR continuously until AED is set-up and attached to patient			
o If witnessed arrest: Defibrillate immediately			
o If unwitnessed arrest: Perform CPR for 2 minutes prior to defibrillation			
C. Turn on the AED			
D. Place the defibrillator pads on the patient			
E. Stop CPR. Allow AED to analyze rhythm			
F. If shock is advised, clear all personnel from around the patient, and administer a shock			
G. Resume CPR with compressions immediately if there is no patient response to the shock			
H. Repeat steps E, F and G in 2 minutes (when prompted by the AED)			

EQUIPMENT:

- A.E.D. per organization type
- Simulator

A. Initial assessment consists of:

- Check for responsiveness
- Look for breathing or only gasping and check pulse (simultaneously). Is pulse felt within 10 seconds?

ADULT PROTOCOL SKILL EVALUATION: INTRAOSSEOUS INFUSION

NAME_____ DATE_____

Level: Paramedic: _____ Advanced: _____

STEPS	**1st Test**	**2nd Test**	**3rd Test**
A. List the indications for intraosseous infusion			
B. List the potential complications of intraosseous infusion			
C. Select the appropriate site for children: Anteromedial aspect of proximal tibial shaft, two fingerbreadths below the tibial tuberosity			
D. Position leg or arm for IO insertion			
E. Prepare the skin with appropriate antiseptic			
F. Demonstrate proper insertion of the needle using the device approved by your department			
G. Remove inner stylet and attach 10 cc syringe with 5 ml IV fluid. Aspirate for blood/marrow. Inject 5 ml of fluid to insure free flow			
H. Attach IV tubing. Infuse fluid or mediation using pressure infuser			
I. Secure the I.O. Tape the tubing to the skin			
J. List the signs of possible infiltration			
K. Indicate proper site and positioning for adult insertion: • Proximal tibia: o Two fingerbreadths below the patella and 1-2 cm medial to tibial tuberosity • Humeral head: o 45^{O} to the frontal plane and 45^{0} towards inferior sternum. • Distal femur—site of last resort: o Anterior midline above external epicondyles, 1-3 cm above femoral plateau.			

EQUIPMENT:

- Bone Marrow Aspiration needle (or BIG, EZ IO)
- Alcohol prep
- Towels
- IV Solution and tubing
- 10 ml. syringe
- Tape, 4x4s
- Gloves & eye protection
- 2 rolls of Kerlix.
- IO manikin

When preparing for this skill evaluation, be sure that you can meet the objectives A, B,C, G, and K. If you need a reminder, the material is readily available in any standard textbook. This skill sheet is a guideline to use; you may tailor it to the appropriate I.O. device carried by your department.

Follow manufacturer's recommendations for the device.

A. Indications of IO use:

- Use of IO is limited to patients who are unresponsive or hemodynamically unstable; and then, only when less invasive means are ineffective or not available.

B. Complications of IO:

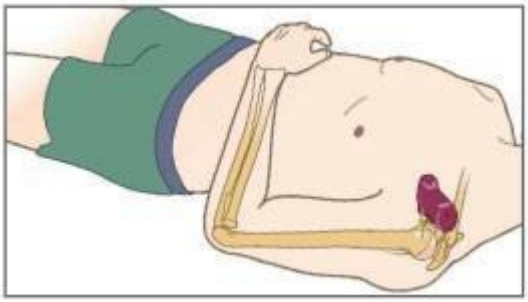
- extravasation
- soft-tissue necrosis
- bone fracture or injury to growth plate
- infiltration of medications
- infection

C. Select appropriate site and size:

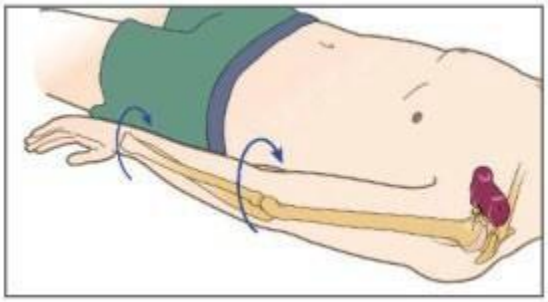
- For adults in cardiac arrest, the preferable order of vascular access is EJ, AC and proximal humeral
- The longer **yellow** (45 mm, >30kg) needle should be used for humeral head or distal femur IO in adults
- if all other routes have failed then access proximal tibia.
- For pediatrics, access the distal femur or proximal tibia in all cases:
- Use the **blue** needle for 3-30 kg
- Use the **pink** needle for 0-3 kg (6.6 lbs. or less)

Arm positioning:

Using either method below, adduct elbow, rotate humerus internally.



Place the patient's hand over the abdomen with arm tight to the body



Place the arm tight against the body, rotate the hand so the palm is facing outward and thumb pointing down.

Landmarking:

Place your palm on the patient's shoulder anteriorly.
- The area that feels like a "ball" under your palm is the general target area
- You should be able to feel this ball, even on obese patients, by pushing deeply

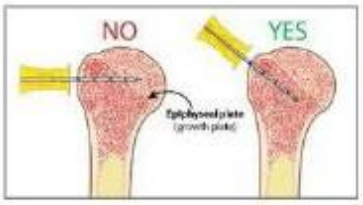
Place the ulnar aspect of one hand vertically over the axilla. Place the ulnar aspect of the opposite hand along the midline of the upper arm laterally

Place your thumbs together over the arm.
- This identifies the vertical line of insertion on the proximal humerus

Palpate deeply as you climb up the humerus to the surgical neck.
- It will feel like a golf ball on a tee – the spot where the "ball" meets the "tee" is the surgical neck.

The insertion site is on the most prominent aspect of the greater tubercle, 1 to 2 cm above the surgical neck.

Point the needle tip at a 45-degree angle to the anterior plane and posteromedial.



PROXIMAL TIBIA

Find the “flat spot” on the medial aspect of the tibial shaft two finger widths below (distal) the tibial tuberosity. Remember “Big Toe IO”, which means to look at the big toe side of the leg for the tibial plateau. Use a similar technique for the pediatric tibial insertion.

IO Insertion at Proximal Tibia Site:

1. Identify the tibial tuberosity by palpating just below the knee
2. Locate the consistent flat area of bone 2 cm distal and slightly medial to the tibial tuberosity (to avoid growth plate).
3. Support flexed knee with towel under calf
4. Prep the skin and insert needle according to manufacturer’s directions
5. Use 10-15 degree caudal angulation to further decrease risk of hitting the growth plate
6. Needle will stand up on its own with proper placement
7. Attach syringe and aspirate bone marrow
8. Connect the IV line. If flow is good and extravasation is not evident secure needle with gauze pads and tape.
9. A pressure bag may facilitate infusion.

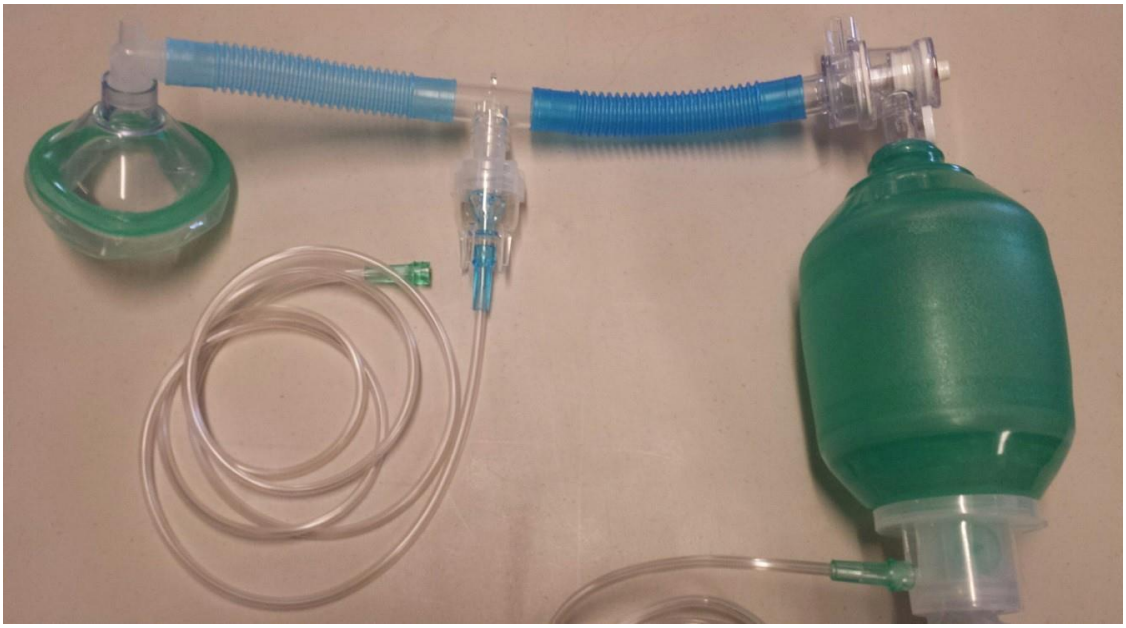
ADULT PROTOCOL SKILL EVALUATION: USE OF NEBULIZER WITH BAG-VALVE DEVICE

NAME_____ DATE_____

Level: Paramedic: _____ Advanced: _____

STEPS	1st Test	2nd Test	3rd Test
A. List the indications for the use of nebulized drugs with bag-valve device			
B. Connect bag-valve to nebulizer unit without mouthpiece as shown in drawing			
C. Connect mask to elbow, then connect elbow to nebulizer as shown in drawing			
D. Place medications and saline solution in the reservoir well of the nebulizer			
E. Connect 1st oxygen supply to nebulizer @ 8-10 LPM. and. 2nd oxygen supply to bag-valve @ 12-15 LPM. (If only one oxygen source, attach it to nebulizer)			
F. Use mask with non-intubated patient or attach elbow to endotracheal tube of intubated patient			
G. Begin bagging patient, being careful to keep reservoir well of the nebulizer in an upright position			
H. If only one oxygen source is available, reconnect oxygen tubing to bag-valve device after medication has been administered			
I. Monitor patient for effects of medications			

Equipment as shown in the illustration:



Note: It is recommended that departments have the inline nebulizer set prepackaged and available for providers**.**

ADULT PROTOCOL SKILL EVALUATION: SPECIAL VENOUS ACCESS - CENTRAL VENOUS CATHETER, DIALYSIS CATHETER, OR PICC LINE

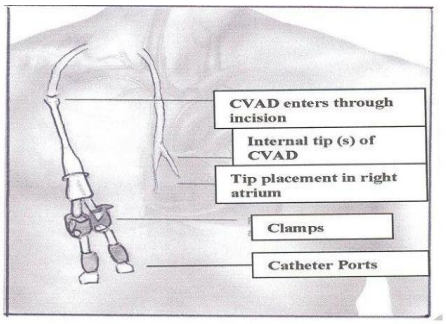
NAME_____ DATE_____

Level: Paramedic: _____

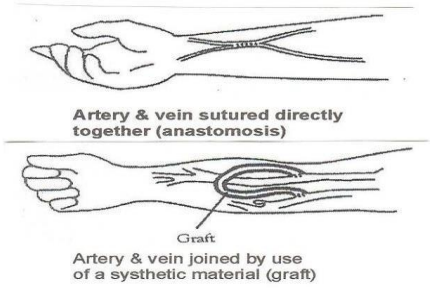
STEPS	**1st Test**	**2nd Test**	**3rd Test**
A. List the indications for accessing a Central Venous Catheter, Dialysis Catheter, or PICC line			
B. Prepare IV fluid and tubing			
C. Cleanse catheter port with alcohol prep thoroughly. State reason for this			
D. Attach 10 ml. or larger Luer lock needleless syringe			
E. Unclamp catheter. Why is this done after attaching the syringe?			
F. Aspirate with very LITTLE force to withdraw 5 ml blood. Why is blood withdrawn?			
G. If you CANNOT aspirate blood, STOP the procedure			
H. Re-clamp catheter. Why is catheter re-clamped before removing the syringe?			
I. Remove blood-filled syringe and discard into a sharps container			
J. Cleanse catheter again with alcohol prep. Why is re-cleansing so important?			
K. Insert 10 ml or larger Luer lock needleless syringe filled with 10 ml NS			
L. Unclamp catheter and flush catheter with 10 ml NS using a pulsating technique			
M. Re-clamp catheter & then remove syringe			
N. Cleanse catheter again with alcohol prep			
O. Attach IV tubing with Luer-lock connector to access port			
P. Unclamp catheter. Why is this done after attaching IV tubing?			
Q. Adjust flow rate			
R. Tape IV tubing securely in place in two places to patient's skin			
S. Administer medications through IV tubing port, if indicated			

EQUIPMENT:

- IV tubing with Luer-lock connector and IV fluid
- Two 10 ml or larger Luer-lock needleless syringes, one with 10 ml NS
- Minimum of 6 alcohol preps



CENTRAL VENOUS ACCESS



VASCULAR ACCESS - HEMODIALYSIS

ADULT PROTOCOL SKILL EVALUATION: SPECIAL VENOUS ACCESS-DIALYSIS FISTULA

NAME_____ DATE_____

Level: Paramedic: _____

STEPS	1st Test	2nd Test	3rd Test
A. List the indications for accessing Dialysis Fistula			
B. Prepare IV fluid and tubing			
C. Do NOT use tourniquet, constricting band, or BP cuff on arm with fistula			
D. Visualize or palpate fistula			
E. Cleanse skin over fistula thoroughly			
F. Insert catheter into fistula as you would into a vein, being careful NOT to puncture the back wall. State why			
G. Withdraw needle holding downward pressure on fistula proximal to needle insertion. State why			
H. Attach IV tubing to catheter while maintaining downward pressure on fistula. This may require two people			
I. Adjust flow rate. Use pressure infuser, BP cuff on IV bag, or IV pump to facilitate flow. State why			
J. Tape IV tubing securely in place			
K. Administer medications through IV tubing port, if indicated			

EQUIPMENT:

- IV tubing and IV fluid
- Angiocath needle
- Alcohol preps
- Pressure infuser, BP cuff, or IV pump

RIGHTS OF MEDICATION ADMINISTRATION

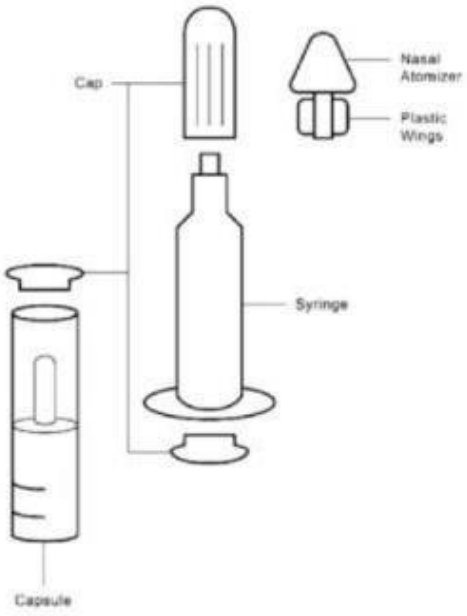
1. **Right Medication**
    a. Make sure that the medication is the correct medication indicated by the GMV Standing Orders and check it against the medication label.
    b. Double-check the generic vs. non-generic names of medications. Many names are similar and have a potential for error. If you aren't sure, reference your SO Manual or Quick Reference Guide!
    c. Check the expiration date on the label.
2. **Right Patient:**
    a. Confirm patient ID and confirm absence of allergies or other contraindications for your patient.
    b. In multiple patient or mass casualty situations, confirm that the medication is being delivered to the correct patient.
3. **Right Dose:**
    a. Check the SO dose against the medication label for the **correct concentration**.
    b. Recheck dosage calculations and verify accuracy.
    c. Confirm that the correct dose has been drawn up.
    d. Use your references!
4. **Right Route:**
    a. Check the standing order and the medication label for the correct route.
    b. Confirm the route of administration for the medication: IM, IV, PO, IN, PR, IO, Neb, ocular.
    c. Confirm that the dose is correct for the chosen route, since some dosages vary depending on the route.
    d. Make sure the route is accessible, e.g., is the IV site patent?
5. **Right Time:**
    a. Give the medication over the proper time duration per the Standing Orders.
6. **Right Documentation:**
    a. Document medication, dose, time of administration and duration of administration, route, and patient response.

ADULT PROTOCOL SKILL EVALUATION: INTRANASAL MEDICATION ADMINISTRATION

NAME:_____ DATE:_____

Level: Paramedic: _____ Advanced: _____ EMT: _____ EMR: _____

STEPS Refer to drug formulary 8033	**1st Test**	**2nd Test**	**3rd Test**
Assures that patient is being ventilated adequately, if necessary			
Selects, checks and assembles equipment			
Medication			
Appropriate syringe, needle and mucosal atomizer device (MAD®)			
Sharps container			
Alcohol swabs			
Sterile gauze			
Administers medication			
Selects correct medication by identifying			
Right patient			
Right medication			
Right dosage/concentration			
Right time			
Right route			
Also checks medication for:			
Clarity			
Expiration date			
Reaffirms medication			
Takes or verbalizes appropriate PPE precautions			
Stops ventilation of patient, if necessary and removes mask			
Inserts mucosal atomizer device into nostril and briskly depresses the syringe plunger (1/2 medication up each nostril)			
Disposes/verbalizes proper disposal of syringe and MAD			
Resumes ventilation of patient, if necessary			
Verbalizes need to observe patient for desired effect and side effects			



ADULT PROTOCOL SKILL EVALUATION: ASSISTING WITH EPIPEN ADMINISTRATION

NAME_____ DATE_____

Level: EMT: _____ EMR: _____

STEPS Refer to drug formulary 8017	**1st Test**	**2nd Test**	**3rd Test**
A. Contact MCP if necessary			
B. Evaluate the patient, with attention to S&S of anaphylaxis			
C. Obtain the patient's EpiPen auto-injector			
D. Assure that it is prescribed to the patient			
E. Check the medication for expiration date and for cloudiness or discoloration			
F. Remove the safety cap			
G. Select the injection site: anterolateral thigh			
H. Push the injector firmly against the site			
I. Properly discard the injector			
J. Monitor the patient and record the results of the treatment.			
K. Record vital signs			

ADULT PROTOCOL SKILL EVALUATION: WITHDRAWING MEDICATION FROM A GLASS AMPULE

NAME:_____ DATE:_____

Level: Paramedic: _____ Advanced: _____ EMT: _____ EMR: _____

STEPS	1st Test	2nd Test	3rd Test
Assures that patient is being ventilated adequately, if necessary			
Selects, checks and assembles equipment			
Syringe			
Filter needle			
20-gauge needle			
Gauze pads or alcohol wipes			
Sharps container			
Medication ampule			
Administers medication			
Selects correct medication by identifying			
Right patient			
Right medication			
Right dosage/concentration			
Right time			
Right route			
Also checks medication for:			
Clarity			
Expiration date			
Clean the neck of the ampule with an alcohol wipe. Allow it to dry			
Remove the syringe from its package and attach the filter needle to the syringe, securing snugly			
Set the syringe on the clean work surface			
Hold the ampule upright and tap the top of the chamber quickly and lightly until all fluid flows to the bottom of the chamber			
Using a clean piece of gauze, or a new alcohol wipe, grasp the neck of the ampule and quickly snap the top off, directing away from you. Place on a flat surface			
Remove the cap of the needle and, tilting the ampule gently, place the tip of the needle inside the ampule to withdraw the medication into the syringe			
Withdraw the syringe and needle, and hold them straight up. Gently tap the side of the syringe to bring any air to the top of the syringe			
Gently push any air out of the syringe and remove any excess medication if you have overdrawn the needed amount			
Replace the cover of the filter needle using a one-handed recap method and discard in the sharps container			
Attach the non-filter needle to the end of the syringe and secure tightly			
Using the alcohol wipe, thoroughly cleanse the injection site and prepare to give an intramuscular injection			

ADULT PROTOCOL SKILL EVALUATION: INTRAMUSCULAR MEDICATION ADMINISTRATION

NAME:_____ DATE:_____

Level: Paramedic: _____ Advanced: _____ EMT: _____ EMR: _____

STEPS	**1st Test**	**2nd Test**	**3rd Test**
Assures that patient is being ventilated adequately, if necessary			
Selects, checks and assembles equipment			
Medication			
Appropriate syringe and needle			
Sharps container			
Alcohol swabs			
Sterile gauze			
Administers medication			
Selects correct medication by identifying			
Right patient			
Right medication			
Right dosage/concentration			
Right time			
Right route			
Also checks medication for:			
Clarity			
Expiration date			
Assemble the syringe			
Draws appropriate amount of medication into syringe and dispels air while			
maintaining sterility			
Reconfirms medication			
Takes or verbalizes appropriate PPE precautions			
Identifies and cleanses appropriate injection site			
Stretches the skin, warns patient and inserts at a 90° angle while maintaining sterility			
Administers correct dose at the proper push rate			
Removes needle and disposes/verbalizes proper disposal of syringe and needle in proper container			
Applies direct pressure to site			
Covers puncture site			
Verbalizes need to observe patient for desired effect and adverse side effects			

ADULT PROTOCOL SKILL EVALUATION: COMPLEX MEDICATION ADMINISTRATIONS

NAME_____ DATE_____

Level: Paramedic: _____ Advanced: _____ EMT: _____

STEPS	**1st Test**	**2nd Test**	**3rd Test**
AMIODARONE			
A. List the indications for Amiodarone, and the "six rights"			
B. List the equipment required to draw up Amiodarone			
C. List the problems with drawing up Amiodarone & administration			
D. Discuss contraindications & precautions regarding Amiodarone			
E. Use large bore (i.e., 19 ga.) needle to draw up Amiodarone to prevent foaming			
F. Discuss the differences in administration in cardiac arrest vs. non-arrest			
MIDAZOLAM			
A. List the indications of Midazolam, and the "six rights"			
B. Discuss contraindications & precautions regarding Midazolam			
C. Discuss the issue of drug concentration (10 mg/2ml) with Midazolam			
D. Using a 1 ml syringe, demonstrate drawing up an appropriate amount of simulated Midazolam, and correct administration: 0.5 ml = 2.5 mg 1.0 ml = 5 mg			
E. Discuss timing for administration of Midazolam (over 2 minutes)			
DUODOTE			
A. List the indications of DuoDote and the "six rights"			
B. Don appropriate PPE. If pt. or public safety worker exhibits symptoms of nerve gas exposure, utilize DuoDote			
C. If nerve agent symptoms are still present after 5 minutes, repeat injections. If symptoms still exist after an additional 5 minutes, repeat injections for a third time. If after the third set of injections, symptoms remain, do not give any more antidotes. Seek medical help			
EPIPEN ADMINISTRATION			
A. Evaluate the patient, with attention to S&S of anaphylaxis			
B. Demonstrate or voice infection precautions			
C. Obtain the EpiPen auto-injector. Indicate when both EpiPens are needed. (Indicate Adult and Pedi doses)			
D. Check the medication for expiration date and for cloudiness or discoloration			
E. Remove the safety cap			
F. Select the injection site			
G. Push the injector firmly against the site			
H. Properly discard the injector			
I. Monitor the patient and record the results of the treatment			
J. Discuss precautions and side effects			

D10			
A. List the indication for use			
B. Demonstrate or voice infection precautions			

C. Indicate dose and administration Adults and Peds			
D. Check the medication for expiration date and for cloudiness or discoloration.			
E. Discuss precautions and side effects (administer in continuously running IV)			
GLUCAGON refer to Drug Formulary 8018.0			
A. List the indication for use			
B. Demonstrate or voice infection precautions.			
C. Indicate dose and administration Adults and Peds			
D. Check the medication for expiration date and for cloudiness or discoloration.			
E. Discuss precautions and side effects			
NALOXONE refer to Drug Formulary 8029.0			
A. List the indication for use			
B. Demonstrate or voice infection precautions.			
C. Indicate dose and administration Adults and Peds			
D. Check the medication for expiration date and for cloudiness or discoloration.			
E. Discuss precautions and side effects			
FENTANYL refer to Drug Formulary 8017.0			
A. List indications for use			
B. Demonstrate or voice infection precautions			
C. Indicate dose and routes of administration for Adults and Peds			
D. Check the medication for expiration date and for cloudiness or discoloration.			
E. Discuss precautions and side effects			
KETAMINE refer to Drug Formulary 8021.0			
A. List indications for use			
B. Demonstrate or voice infection precautions			
C. Indicate dose and routes of administration for Adults and Peds			
D. Check the medication for expiration date and for cloudiness or discoloration			
E. Discuss precautions and side effects			
SOLUMEDROL refer to Drug Formulary 8026.0			
A. List indications for use			
B. Demonstrate or voice infection precautions			
C. Indicate dose and routes of administration for Adults and Peds			
D. Check the medication for expiration date and for cloudiness or discoloration			
E. Discuss precautions and side effects			
NOREPINEPHRINE refer to Drug Formulary 8031.0			
A. List indications for use			
B. Demonstrate or voice infection precautions			
C. Indicate dose and routes of administration for Adults and Peds			
D. Check the medication for expiration date and for cloudiness or discoloration			
E. Discuss precautions and side effects			

ADULT PROTOCOL SKILL EVALUATION: 12-LEAD EKG ACQUISITION

NAME_____ DATE_____

Level: Paramedic: _____ Advanced: _____ EMT: _____

STEPS	**1st Test**	**2nd Test**	**3rd Test**
Demonstrate how to acquire a 12-lead EKG, completing the following steps within two minutes:			
Expose chest			
Limb lead placement, and placement options			
Precordial (chest) lead placement, with no deviation			
Speed (all ten leads must be placed within two minutes)			
When to acquire according to optional Standing Orders			
Interface with hospital: Notify for suspected MI Rapid transport			
Monitor quality vs. Diagnostic quality			
Frequency response Must use printed EKG for ST segment analysis			
Calibration			
Paper speeds			
Various limb lead placements			
Importance of anatomical uniformity with precordial leads			
Need for note on chart and EKG if non-standard position			
Negative complex in a VR as “test” for lead placement			
Hair removal			
Artifact, and what to do about it: skin prep Electrode attachment Patient movement Cable movement Vehicle movement EMI			

The **12-lead ECG** uses 10 electrodes. On most ECG machines, the lead designation is on the electrode wire. The electrodes are of two types: limb and precordial.

Limb Lead Electrodes

The four limb lead electrodes have letter codes that designate their placement:

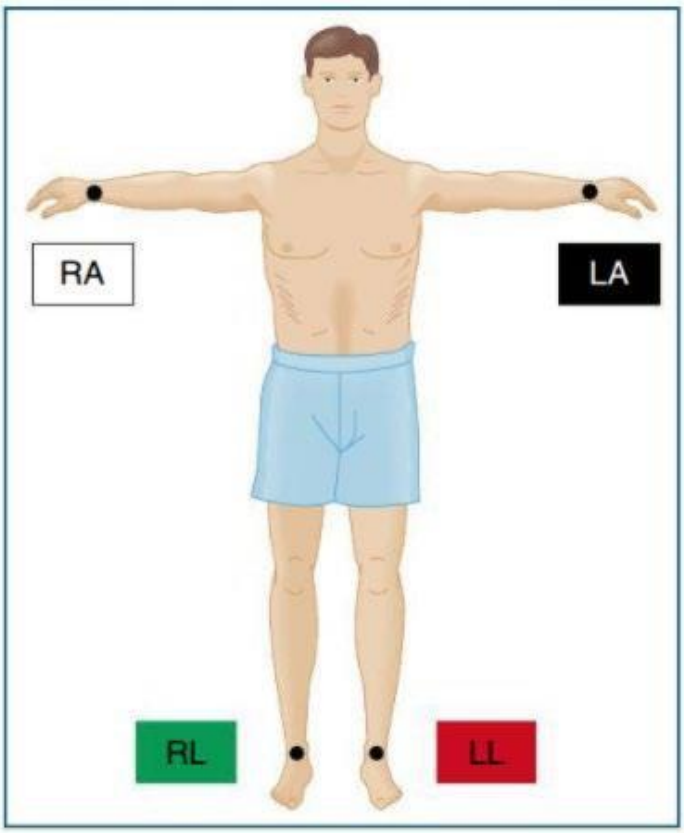
- RA—designates the right arm.
- LA—designates the left arm.
- LL—designates the left leg.
- RL—designates the right leg.

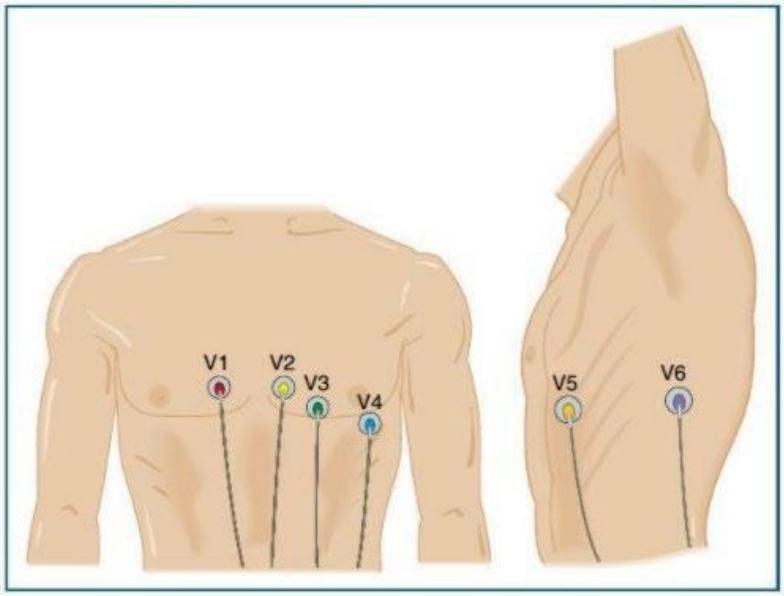
Some 3-lead monitors also use color coding, as follows:

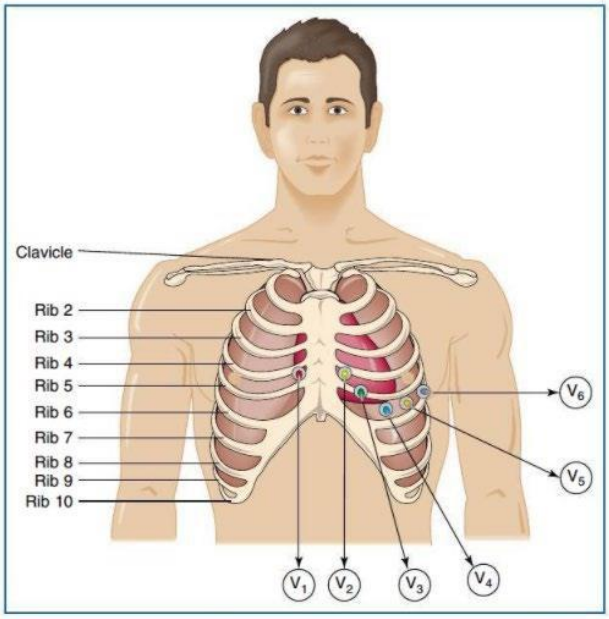
- White—designates the right arm.
- Black—designates the left arm.
- Red—designates the left leg.
- Green—designates the right leg, if a fourth electrode wire is available.

In addition, providers may use mnemonics (memory aids) such as these:

- White to right, and red to bed.
- Salt, pepper, and catsup.
- Smoke over fire (black and white over red).







- V1 and V2 are placed in the fourth intercostal space (ICS) just to the right and left, respectively, of the sternum. This location can be found by counting the ribs from the clavicle. The first rib felt below is rib 2, then rib 3, followed by rib 4. Between ribs 4 and 5 is the fourth intercostal space. Another method of finding the fourth intercostal space is to locate the angle of Louis at the bottom of the manubrium, where the corresponding rib is rib 2. On most adult male patients, this space is at or just above the nipple; rarely is this interspace below the nipple line. Note that the **septum** of the heart lies in this area and so is examined by Leads V1 and V2.
- V3 is placed between V2 and V4, either on the fifth rib or in the fifth interspace.
- V4 is usually next. It is in the fifth intercostal space in the midclavicular line. This easy-to-find landmark is about halfway down the clavicle, between the sternum and the shoulder, just below the nipple. You may have to lift a woman's breast for placement.
- V5 is positioned in the fifth intercostal space at the anterior axillary line. This line can be found by placing the patient's arm by his side and following the crease line from the armpit, down the front of the patient's chest. Lead V5 is positioned where this line intersects the fifth interspace.
- V6 is placed at the fifth interspace mid-axillary line.

ADULT PROTOCOL SKILL EVALUATION: 12-LEAD EKG INTERPRETATION

NAME_____ DATE_____

Level: Paramedic: _____

STEPS	**1st Test**	**2nd Test**	**3rd Test**
Show each paramedic five to ten EKGs. In response to your questions, each paramedic should be able to identify the Components of the EKG with 90% accuracy or better: P-R segment, Q waves, R waves, and S waves, J-point, ST segment, T waves, TP segment, etc. QRS complexes Q waves Pathologic (> or = 40 ms.) vs. physiologic (< 40 ms.) ST elevation			
Paramedics should be able to measure time on the EKG using either seconds or milliseconds, and convert from one to the other with 80% accuracy or better			
Given a series of EKGs with ST elevation, each paramedic should be able to identify the leads with ST elevation, and localize the area of infarct as Anterior, Inferior, Lateral, or Septal with 80% accuracy or better			
Given a series of EKGs with ST elevation, each paramedic should be able to recognize reciprocal changes (ST depression) with 70% accuracy or better			
Given examples, the paramedic should be able to discuss the evolution of a myocardial infarction and the EKG changes over time, including the following phases: Hyperacute Acute Indeterminate			
Given a series of three to five EKGs, each paramedic should be able to recognize the following with 60% accuracy or better. You may give the paramedic a clinical presentation along with the EKG. LBBB RBBB Ventricular rhythms LVH Ventricular aneurysm Benign early repolarization Pericarditis (S&S: sharp, localizable chest pain, radiates to base of neck, between scapulas) Digitalis (ST depression with sag)			

Prior to 12 lead ECG Interpretation make sure that machine is calibrated properly. You should see a horizontal line the length of one large box and a vertical line two large boxes tall at the beginning of every tracing.

Summary of 12-Lead EKG Interpretation

Rate and Rhythm	• Determine rate using the 6-second method (count QRS complexes in a 6-second strip x10) or the small-box method (1500 / number of small boxes between R waves). • Assess regularity of the rhythm and look for a P wave before every QRS complex.
Axis Determination	• Look at leads I and a VF (quadrant method): • Lead I positive, a VF positive = Normal axis • Lead I positive, a VF negative = Left axis deviation (consider entire QRS complex for axis determination) • Lead I negative, a VF positive = Right axis deviation • Lead I negative, a VF negative = Extreme/indeterminate axis
Bundle Branch Blocks	• Look at leads V1 and V6; QRS duration must be > 0.12 sec. • Right Bundle Branch Block (RBBB): RSR' pattern ("rabbit ears") in V1; wide, slurred S wave in lead I and V6. • Left Bundle Branch Block (LBBB): broad, notched/monophasic R wave in leads I, a VL, V5-V6; absent Q waves in lateral leads.
Hemiblocks	• Left Anterior Fascicular Block (LAHB): Left axis deviation, small Q wave and tall R wave in lead I and a VL (QR pattern), small R and deep S wave in II/III/a VF (RS pattern), no other cause of left axis deviation, QRS duration normal or only slightly prolonged. • Left Posterior Fascicular Block (LPHB): Right axis deviation, small R and deep S wave in lead I and a VL (RS pattern), small Q and tall R wave in II/III/a VF (QR pattern), no other cause of right axis deviation (e.g., RVH).
Chamber Enlargement	• Right Atrial Enlargement: Peaked P wave > 2.5 mm tall in lead II (P-pulmonale). • Left Atrial Enlargement: Wide, notched P wave in lead II; biphasic P wave with a large negative deflection in V1 (P-mitral). • Right Ventricular Hypertrophy: Right axis deviation; dominant R wave in V1; deep S wave in V6. • Left Ventricular Hypertrophy: Deep S wave in V1 + tall R wave in V5 or V6 totaling ≥ 35 mm (Sokolow-Lyon criteria); associated ST depression/T wave inversion in lateral leads (LV strain pattern).
Ischemia / Infarction	• Look for ST elevation (injury), ST depression (ischemia/reciprocal change), and pathologic Q waves (> 0.04 sec wide or > 1/3 the height of the QRS — indicating infarction). • Anterior wall (LAD artery): ST elevation in V1-V4. • Septal wall: ST elevation in V1-V2. • Lateral wall (circumflex artery): ST elevation in leads I, a VL, V5-V6; reciprocal changes may appear in inferior leads. • Inferior wall (right coronary artery, usually): ST elevation in leads II, III, a VF; reciprocal ST depression in lead I and a VL. • Reciprocal ST depression in a different territory supports acute infarction rather than a non-ischemic cause of ST elevation. • New left bundle branch block in the setting of a suspicious clinical presentation should be treated as a STEMI equivalent.
Electrolyte Abnormalities	• Hyperkalemia: Tall, peaked ("tented") T waves; progresses to widened QRS, flattened/absent P waves, and a sine-wave pattern as potassium rises further. • Hypokalemia: Flattened or inverted T waves, prominent U waves, ST segment depression, prolonged QT/QU interval. • Hypercalcemia: Shortened QT interval. • Hypocalcemia: Prolonged QT interval.
Pericarditis	• Diffuse (multi-lead) concave-up ST segment elevation not limited to a single coronary artery territory. • PR segment depression, most notable in lead II. • Absence of reciprocal ST depression (other than in a VR and V1), which helps distinguish pericarditis from STEMI.

Note: This reference table was reconstructed from standard paramedic/ACLS 12-lead interpretation criteria. Please review for accuracy against your protocol/medical direction before relying on it for training.

ADULT PROTOCOL SKILL EVALUATION: SUPRAGLOTTIC AIRWAY

NAME_____ DATE_____

Level: Paramedic: _____ Advanced: _____ EMT: _____

STEPS	**1st Test**	**2nd Test**	**3rd Test**
List the indications for insertion of a Supraglottic Airway			
Select correct size Supraglottic Airway (See manufacturer guidelines)			
Takes or verbalizes appropriate PPE precautions			
Opens the airway manually			
Elevates tongue, inserts simple adjunct [oropharyngeal or nasopharyngeal airway]			
NOTE: Examiner now informs candidate no gag reflex is present and patient accepts adjunct			
**Ventilates patient immediately with bag-valve-mask device unattached to oxygen			
**Ventilates patient with room air			
NOTE: Examiner now informs candidate that ventilation is being performed without difficulty and that pulse oximetry indicates the patient's blood oxygen saturation is 85%			
Attaches oxygen reservoir to bag-valve-mask device and connects to high-flow oxygen regulator [12 – 15 L/minute]			
Ventilates patient at a rate of 10 – 12/minute (1 ventilation every 5 – 6 seconds) with appropriate volumes			
NOTE: After 30 seconds, examiner auscultates, and reports breath sounds are present and equal bilaterally and medical direction has ordered insertion of a supraglottic airway. The examiner must now take overventilation.			
Checks/prepares supraglottic airway device			
Lubricates distal tip of the device [may be verbalized]			
NOTE: Examiner to remove OPA and move out of the way when candidate is prepared to insert device.			
Positions head properly			
Performs a tongue-jaw lift			
Inserts device to proper depth			
Secures device in patient [inflates cuffs with proper volumes and immediately removes syringe or secures strap]			
Ventilates patient and confirms proper ventilation [correct proper insertion depth] by auscultation bilaterally over lungs and over the epigastrium			
Adjusts ventilation as necessary [slightly withdraws tube until ventilation is optimized]			
Verifies proper tube placement by secondary confirmation such as capnography, capnometry, or colorimetric device			
NOTE: The examiner must now ask the candidate, "How would you know if you are delivering appropriate volumes with each ventilation?"			
Secures device or confirms that the device remains properly secured			
Ventilates patient at proper rate and volume while observing capnography/capnometry and pulse oximeter			

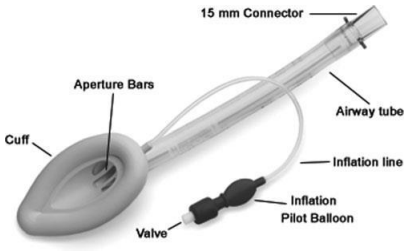
EQUIPMENT:

- Supraglottic Airway Device (correct size)
- Water-soluble lubricant
- Appropriate size syringe
- Bag-valve mask
- Stethoscope
- Secondary confirmation device
- Suction

A. Indications for insertion of a Supraglottic Airway:

- If unable to orally intubate the patient
- Used by EMTs when patient is apneic and pulseless only
- Used as a primary way to secure an airway in a pediatric patient.

Different versions of Rescue Airways.



LMA

King Airway

i-gel

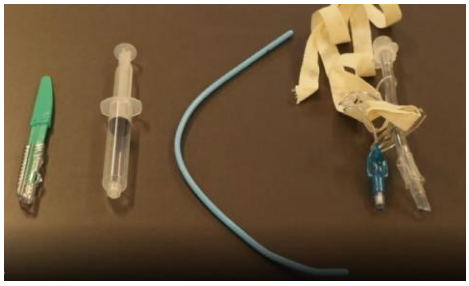
ADULT PROTOCOL SKILL EVALUATION: SURGICAL CRICOTHYROTOMY

Steps	1st Test	2nd Test	3rd Test
A. List indications for surgical cricothyrotomy			
B. List the equipment required to perform surgical cricothyrotomy appropriate for your department			
C. List the potential complications of surgical cricothyrotomy			
D. Attempt to preoxygenate the patient			
E. Maintain in-line stabilization if any possibility of spinal injury			
F. Clean the neck with antiseptic			
G. Identify cricothyroid membrane			
H. Make a 2 cm incision vertically with scalpel at level of cricothyroid membrane			
I. Puncture the membrane and make horizontal incision in both directions			
J. Use the scalpel handle to open the incision hole. Rotate the handle 90 degrees to make a hole big enough to allow insertion of an ET tube			
K. Ensure the cuff is inflated			
L. Confirm placement			
M. Secure the tube in place			

EQUIPMENT:

Scalpel
ET tube (size 6)
Antiseptic solution
Oxygen
Appropriate BVM

Suction Equipment
Commercial tube tie
or proper taping
method
Bougie if the kit is equipped



Indications for surgical cricothyrotomy:

- the patient's airway cannot be controlled by any other means AND
- the risk of not securing airway is greater than surgical airway risk

Relative Indications:

- Significant facial and nasal trauma which make oral or nasal intubation impossible
- Significant midfacial trauma
- Possible trauma to spine which prevents ventilation
- Chemical inhalation injuries
- Anaphylaxis

Equipment list above.

List potential complications and contraindications:

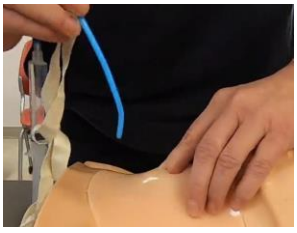
- signs of anatomical abnormality, such as tumor
- age less than 8 years old
- signs of acute laryngeal disease
- evidence of tracheal transection

Identify the cricothyroid membrane

Make a 2 cm incision vertically at the level of cricothyroid membrane

Puncture the membrane and make horizontal incision in both directions

Use the scalpel handle to enlarge the opening in the cricothyroid membrane



If using bougie, insert it in first with preloaded ET tube. Slide the bougie few inches into the trachea.

Slide the et tube over the bougie into the trachea.

The ET tube tie assembly will stop the ET tube from being inserted too far.

Inflate the cuff, confirm placement, secure the tube.

ADULT PROTOCOL SKILL EVALUATION: TASER REMOVAL

NAME_____ DATE_____

Level: Paramedic: _____ Advanced: _____ EMT: _____

STEPS:	**1st Test**	**2nd Test**	**3rd Test**
A. Stabilize the probe with one hand 6 to 8 inches from the probe to avoid injury to self and/or the patient			
B. Grab the probe firmly and quickly pull it straight out. Do not twist the probe as the barbed tip may cause additional injury			
C. If the probes are not going to be collected and maintained for evidence, carefully place used probes sharp tip first into a sharps container, secure in place, and place in a secure location where no one will touch the probes			
D. Check the end of the probe to make sure it is intact			
E. Evaluate the need for medical attention as you would with any other patient			

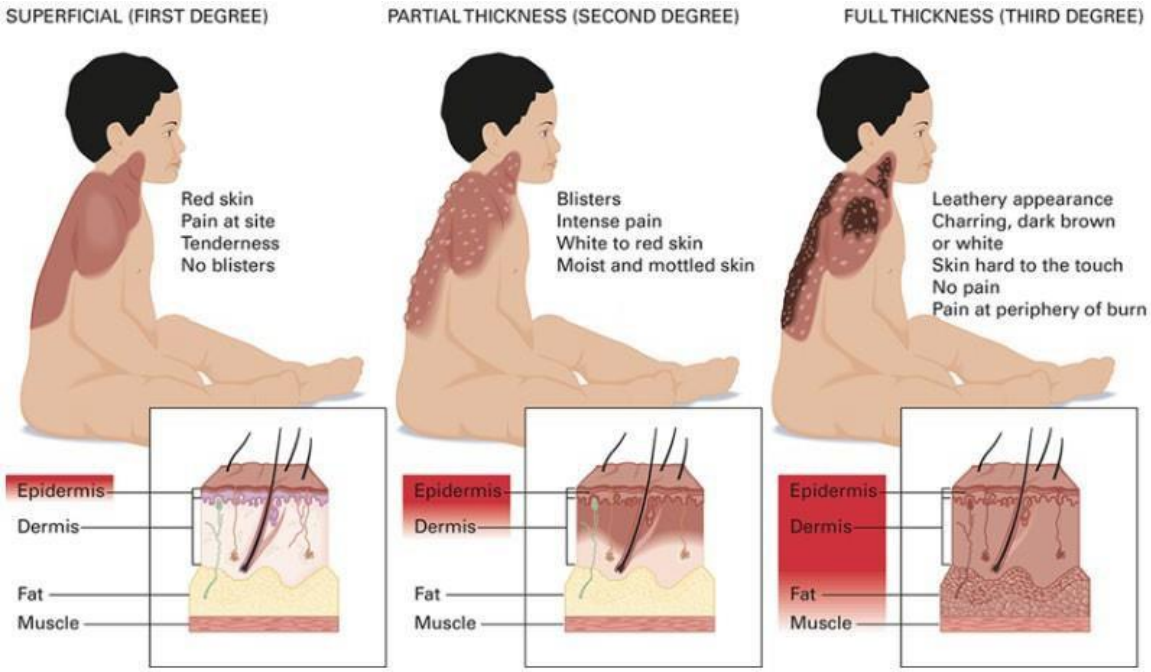
A-B. Grab the probe firmly and quickly pull it straight out. Do not twist the probe as the barbed tip may cause additional injury.

B. Check the end of the probe to make sure it is intact.

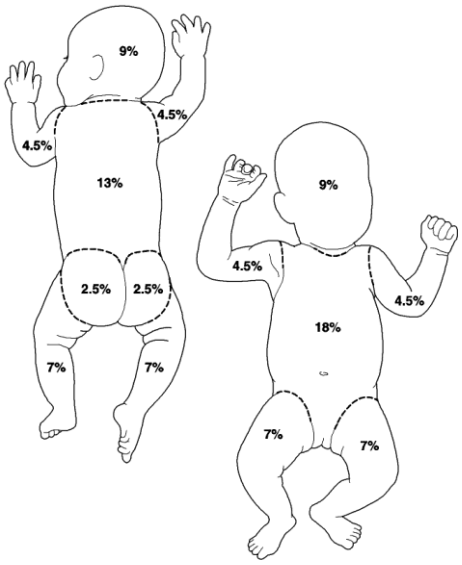
C. Evaluate the need for medical attention.

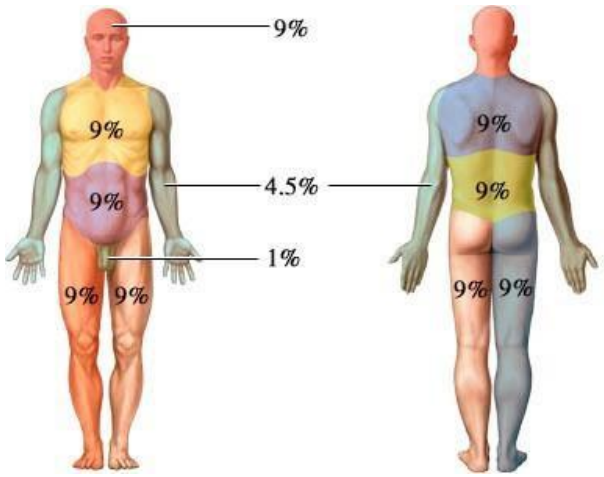
BURNS

Classification of burns by depth:



RULE OF NINES





American Burn Association Classification of Severity Based on BSA

Severity of Burn	Criteria (Considers Only Partial-Thickness or Full-Thickness Burns)
Minor	$< 10\%$ BSA burn in an adult $< 5\%$ BSA burn in young or old $< 2\%$ BSA full-thickness burn
Moderate	10–20% BSA burn in an adult 5–10% BSA burn in young or old 2–5% BSA full-thickness burn High-voltage injury Suspected inhalation injury Circumferential burn Comorbid factor increasing the risk of infection (diabetes mellitus, sickle cell disease, immunosuppressed)
Major	$> 20\%$ BSA burn in adult $> 10\%$ BSA burn in young or old $> 5\%$ BSA full-thickness burn High-voltage burn Known inhalation injury Burn to face, eyes, ears, genitalia, or joints Other significant injuries (fractures) or major trauma

ADULT PROTOCOL SKILL EVALUATION: CYANOKIT ADMINISTRATION

NAME_____ DATE_____

Level: Paramedic: _____

STEPS	1st Test	2nd Test	3rd Test
A. List the indications for CYANOKIT administration, with emphasis on situations in addition to cardiac arrest - Cyanide poisoning from hydrogen cyanide, cyanogenic plants, aliphatic nitriles, and prolonged exposure to sodium nitroprusside - Cyanide poisoning may result from inhalation, ingestion, or dermal exposure to various cyanide containing compounds, including smoke from closed-space fires			
B. List the equipment required for IV administration of CYANOKIT			
C. List equipment needed for IO administration of CYANOKIT			
D. List components that need to be present for treatment of smoke inhalation victims: - Exposure to fire or smoke in an enclosed area - Soot around the mouth, nose, or back of mouth - Altered mental status (e.g. confusion, disorientation)			
E. List precautions and side effects			
F. Prepare medication for administration			
G. Preferred administration of medication should be through IV. No other drugs can be administered through the same IV			
H. Last resort can use IO. No other drugs can be administered with CYANOKIT			
I. Record time, medication, effects on the patient			

EQUIPMENT:

1. CYANOKIT
   a. Medication vial
   b. Vented Tubing
   c. Transfer Spike
   d. Instructions for Administration Card
2. 250 cc bag of Normal Saline
3. Separate IV or IO site for administration.

IV Administration

IO Administration

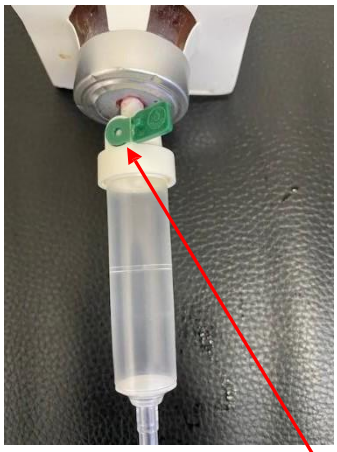
IV AND IO PREPARATION OF THE MEDICATION

Spike the bag with transfer spike. Don't squeeze the bag. Transfer spike does not have a one-way valve. Fluid will leak out

Spike the top of the vial with the transfer spike.

Fill the vial with 200 cc of Normal Saline. Fill line indicated on the vial. Mix the medication by gently rocking it for a minute.

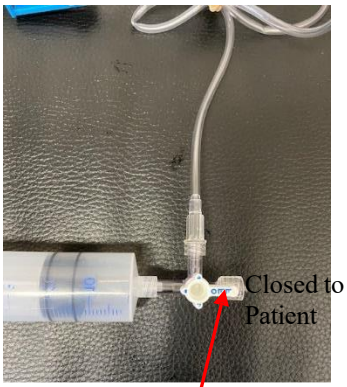
Close the clamp



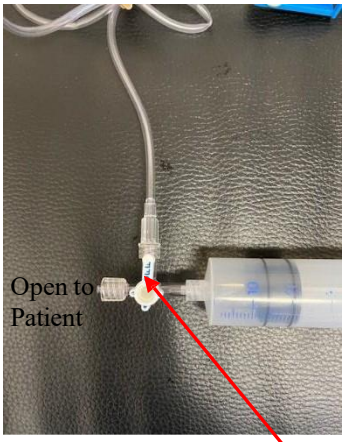
Spike the top of the vial with the IV tubing. Don't forget to open the vent.

The IV tubing provided in the kit, if damaged or missing, can be substituted with vented hospital exchange tubing.

Squeeze the chamber, fill halfway, open the clamp, and bleed the tubing. The medication has a deep red color.



If using an IO, attach 3 way stop cock to the IV tubing, 60 cc syringe and well as the extension to the IO. Close the valve to patient, draw 60 cc of medication. Administer at a rate of 15 cc/min until all the medication is administered.



Open the valve to patient, close to the IV tubing. Administer at a rate of 15 cc/min until all the medication is administered. 200cc over 15 min

ADULT PROTOCOL SKILL EVALUATION: APPLICATION OF TOURNIQUET

NAME_____ DATE_____

Level: Paramedic: _____ Advanced: _____ EMT: _____ EMR: _____

STEPS	**1st Test**	**2nd Test**	**3rd Test**
A. List the indications for use of a tourniquet - Use for uncontrollable bleeding after the application of direct pressure			
B. List the equipment required			
C. List the potential complications - Severe tissue damage			
D. Apply firm direct pressure to the exposed wound			
E. If the bleeding fails to slow or stop, apply tourniquet			
F. Properly position the patient			
G. Initiate steps to prevent heat loss for the patient			
H. Indicate need for immediate transport			

EQUIPMENT:

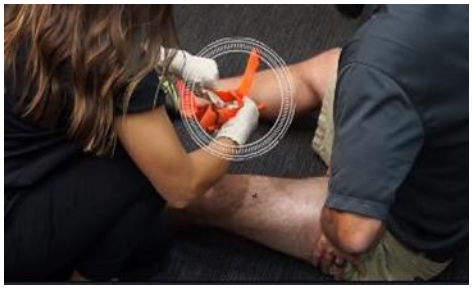
- Bandages
- Tourniquet
- Blankets
- Oxygen

CAT Tourniquet

SOFTT Tourniquet

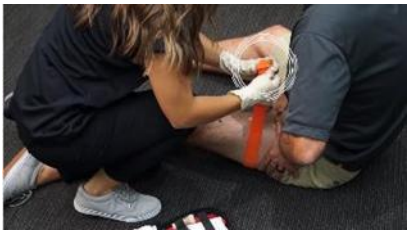
APPLICATION:

Apply firm constant direct pressure to the exposed wound. If very brisk soaking of a trauma dressing and continued heavy flow is present, go to tourniquet.

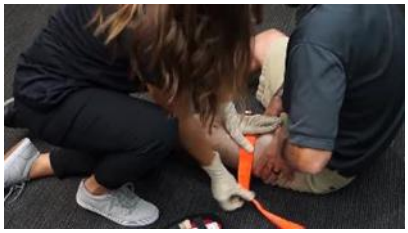


If the wound continues to bleed heavily prepare the tourniquet by pulling the band out of the buckle.

Route the band around the limb, as proximal as possible to the torso.



Pass the band through the buckle.



Pull the band tightly and all the way around and fasten it on itself. But not over the rod clips.

Twist the rod until the bleeding stops and secure the rod in the clips.

The band should be tight enough that the tips of 3 fingers can't slide under the band.

Check for bleeding and distal pulse. If bleeding is not controlled and distal pulse is present, consider tightening the band or apply a second tourniquet right below the first.

The second tourniquet may be necessary for a larger limbed person. Should be applied side-by-side with the rods not interfering with each other.

Reassess, clip the rod in the clip and secure with time strap. Record the time of application with a marker on the time strap.

Never place a tourniquet over a joint, such as a knee or elbow.

Never use a tourniquet over items in clothing.