Greater Miami Valley EMS Council

GMVEMSC

2022 Standing Orders

Training Manual for ALL providers

ABBREVIATIONS

Some abbreviations are case sensitive while others are content sensitive. Any words that can be re**a**dily abbreviated using a period have been left out of this list.

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	p.r.
advanced cardiac life support	ACLS
advanced directive	AD
advanced life support	ALS
after	p̄
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	h.s.
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	ā
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	CO_2
carbon monoxide	CO
centimeter	cm.
cerebral palsy	CP
cerebrospinal fluid	CSF
cerebrovascular accident	CVA
cervical immobilization device	CID
cervical spine	C-spine
change	Δ
chest pain	CP
chief complaint	CC
chronic obstructive pulmonary disease	COPD
chronic renal failure	CRF
circulatory/sensory/motor	CSM
clear to auscultation bilaterally	CTAB
complaining 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
decreasing	↓
degree(s)	°
delirium tremens	DTs
Dextrose in water – 50%	D50
Dextrose in water - 10%	D10
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 detection device	EDD
esophageal obturator airway	EOA
estimated	Est.
estimated time of arrival	ETA

every	q̄
external jugular vein	EJV
fever of unknown origin	FUO
for example	e.g.
foreign body	FB
four times a day	qid
fracture	fx
French	Fr.
gallbladder	GB
gastrointestinal	GI
gauge	Ga
Glasgow Coma Scale	GCS
gram	g or gm
greater than	>
gunshot wound	GSW
hazardous materials	HazMat
head, ears, eyes, nose, throat	HEENT
Headache	H/a
heart block	HB
heart rate	HR
history	Hx
hypertension	HTN
Incident Command	IC
increasing	↑
inferior	inf.
insulin dependent diabetes	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
nitroglycerine	NTG
no known drug allergies	NKDA/NKA
non-rebreather mask	NRM
nonsteroidal anti-inflammatory	NSAID
normal saline	NS
normal saline lock	NSL
normal sinus rhythm	NSR
not applicable / available	n/a
nothing by mouth	NPO
O2 % 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
peripheral inserted central cath	PICC
pharyngo tracheal lumen airway	PtL
pregnancies, number of	Gravida
premature ventricular complex	PVC
prior to my arrival	PTA
pulmonary embolism	PE
pulse	P
pulse, motor, sensation	PMS
pulseless electrical activity	PEA
pupils (=), 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	×
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	$\overline{c}$
within normal limits	WNL
without	$\overline{s}$ 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 has to be limited to the abbreviations in this document.

GREATER MIAMI VALLEY EMS COUNCIL YEAR 2021 SKILL SHEETS

SKILLS TESTERS: Record Pass/Fail on Individual's Test Summary Sheet. Use these and additional adult/pediatric mega code sheets as guidelines for grading. It is only necessary to make enough copies of this packet for testers (those who have gone through Skills Evaluator sessions).

Use these skill sheets and protocol to study for Skills Testing.

ADULT PROTOCOL SKILL EVALUATION
SUBJECT: OXYGEN ADMINISTRATION

NAME_____ DATE_____

LEVEL: _____EMR

NONREBREATHER 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: ____EMT____AEMT_____Paramedic

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

YouTube Video that can be used for set up:

https://www.youtube.com/watch?v=2rSU58VXnDg

Instructions for application of CPAP:

1. Choose appropriate size mask
2. Attach the tubing to the DISS fitting
3. Expand the corrugated tubing fully

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 mask

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
SUBJECT: OROTRACHEAL INTUBATION OF THE NON-TRAUMA PATIENT

NAME_____ DATE_____

_ LEVEL: _____Paramedic _____AEMT

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.			
L. Document ETT at 21-23 cm at front teeth.			
M. Inflate the cuff with 5 to 10 ml. of air.			
N. Ventilate the patient.			
O. Confirm tube placement, using Capnography, Colorimetry or EDD. Be able to discuss the indications and limitations of each device.			
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 **A** Depth of insertion of 21-23 cm marking at the teeth • 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:

1. Proper size endotracheal tube
2. Stylet
3. Laryngoscope Blade & handle
4. Magill forceps
5. 10 ml. syringe
6. Suction equipment
7. Stethoscope
8. Gloves & Eye protection
9. Commercial tube holder or proper taping method.
10. Confirmation Device
11. C-collar
12. Adult Intubation Manikin

When preparing for this skill evaluation, be sure that you are able to 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 EVALUATION
SUBJECT: IN-LINE OROTRACHEAL INTUBATION OF THE TRAUMA PATIENT

NAME_____ DATE_____

_ LEVEL: _____Paramedic _____AEMT

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 21-23 cm at front teeth.			
M. Inflate the cuff with 5 to 10 ml. of air.			
N. Ventilate the patient.			
O. Confirm tube placement, using Capnography, Colorimetry, or EDD. Be able to discuss the indications and limitations of each device.			
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 **A** Depth of insertion of 21-23 cm marking at the teeth • 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:

1. Proper size endotracheal tube
2. Stylet
3. Laryngoscope blade & handle
4. Magill forceps
5. 10 ml. syringe
6. Suction equipment
7. Stethoscope
8. Gloves & eye protection
9. Commercial tube holder or proper taping method.
10. Confirmation device
11. C-collar
12. Adult intubation manikin

When preparing for this skill evaluation, be sure that you are able to 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
    b. Irregular respiratory rhythm
    c. Abnormal breath sounds
    d. Inadequate chest expansion and respiratory depth
    e. Excessive effort to breath
    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
    b. auscultation of epigastrium, anterior chest, midaxillary areas, epigastrium again
    c. condensation of the tube
    d. visualization of tube passing between vocal cords
    e. depth of insertion of 21-23 cm marking at the teeth
    proper depth placement of tracheal tube in the pediatric patient can be calculated by the following formula: depth of insertion (length of tube at teeth or gum line) = tube size x 3
    f. chest rise and fall
    g. improvement in patient's color
    h. improved pulse-ox readings
    i. AHA ACLS Confirm ET Tube Placement
    https://www.youtube.com/watch?v=Mvnlh9gDWX0
    .

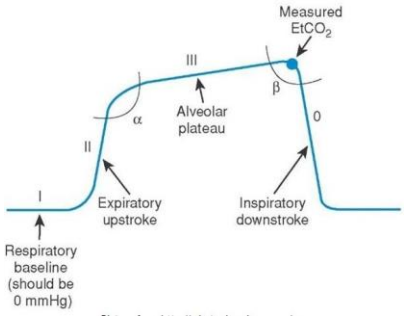
ELECTRONIC END TIDAL CO2 (EtCO2) Monitor – Capnography

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 nonintubated patients. Mainstream sensor can be used on patients with or without adequate perfusion.
2. Two types of sensors can be used:

Mainstream Adaptor

Sidestream Adaptor

Normal Capnograph

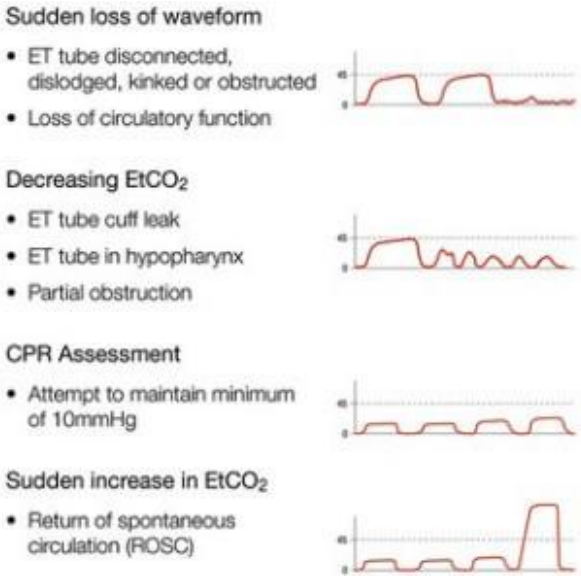


Components of Capnograph

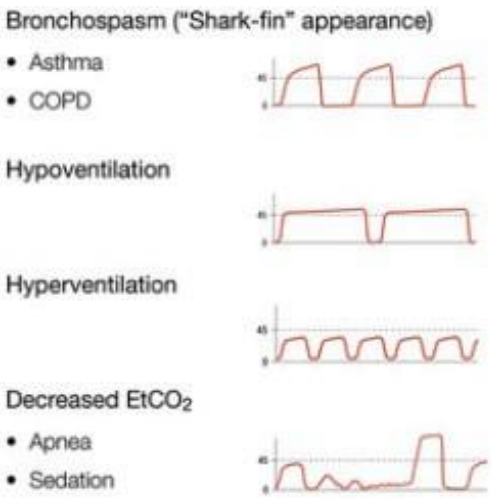
End Tidal Capnography Review:
https://www.youtube.com/watch?v=XvKmdNJpI4k

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

Intubated Patient



Non-intubated Patient



END TIDAL CO2 DETECTOR (EtCO2) – Colorimetric

Qualitative capnometric device

- Colorimetric EtCO2 detector.
- A piece of specially treated litmus paper
- Changes color when exposed to CO2

Purple for EtCO2 <3 mmHg

Tan for 3 to 15 mmHg

Yellow for >15 mmHg

Limitations:

1. The colorimetric EtCO2 detector may be utilized as a confirmation device for patients in cardiac arrest, IF it shows the presence of CO2 (color change to yellow). If there is no color change, use other confirmation methods. The absence of color change may be caused by a lack of perfusion, but it may also indicate esophageal intubation.
2. Secretions, emesis, etc. can ruin the device.
3. A patient with large amounts of carbonated beverages (e.g. beer) in their stomach can give false positive result. The device may sense the CO2 given off by that beverage and indicate that the tube is in the trachea when it is in the esophagus.
4. The device can be used for no more than two hours.
5. Follow manufacturer's recommendations for weight restrictions.
6. Medication issues:
    - intravenous sodium bicarbonate will produce more carbon dioxide enhancing the color

ESOPHAGEAL DETECTOR DEVICE

This device confirms tube placement mechanically. It is based on the principle that the esophagus is a collapsible tube, while the trachea is rigid. An EDD looks like a bulb syringe.

Instruction for use:

- Collapse the bulb first
- Place on the end of the ET tube prior to first ventilation
- As the bulb tries to refill with air, it creates suction
    - If the tube is in the esophagus
        - The soft tissues will collapse around the holes in it preventing expansion of the bulb
        - When the bulb does not refill (or refills very slowly), the tube is presumed to be in esophagus
    - If the tube is in the trachea, there is nothing to occlude the movement of air
        - The bulb will rapidly refill, indicating that the ET tube is properly placed

Limitations:

- A cold device may give false negative result. If the rubber bulb is stiff from the cold, it will fail to fill with air. The ETT will seem to be in the esophagus, when it is actually in the trachea.
- It cannot be used continuously. It must be removed after confirmation, though it may be used again after patient movement.
- Use only for confirmation of endotracheal tube placement, not for any other airways (LMA, King, etc.)
- EDD may only be used on pediatric patients who are older than 5 years of age who weigh at least 20 kg (44 pounds)

ADULT PROTOCOL SKILL EVALUATION
SUBJECT: NASOTRACHEAL INTUBATION

NAME_____ DATE_____
_ LEVEL: Paramedic

STEPS	**1st Test**	**2nd Test**	**3rd Test**
A. List the indications for nasotracheal intubation.			
B. List the equipment required to perform nasotracheal intubation.			
C. List the potential complications of nasotracheal intubation.			
D. Open the airway.			
E. Pre-oxygenate patient during preparations to intubate.			
F. If patient's condition is potentially due to trauma, maintain C-spine precautions.			
G. Assemble equipment, select the appropriate ET tube. (Usually 7.0 or larger)			
H. As you insert the ET tube into the most patent nostril.			
I. Pass the tube along the floor of the nostril until it passes into the back of the throat.			
J. Advance tube slowly forward monitoring air flow via tube and from the patient's mouth. (Use BAAM device if available, listen for increased sounds of whistle)			
• If using an Endotrol, flexing the tube with its control loop will help align it with the trachea.			
• If the tube enters into the esophagus, there will be no air flow through the tube, air flow will continue through the mouth. The patient may gag.			
• If the tube enters into the trachea, air flow will continue through the tube. There may be slight flow through the mouth. The patient may cough. Have the patient take in a deep breath.			
K. If using BAAM, there should be a definite increase in the sound of the whistle. Document and remove the BAAM.			
• Once the tube is in the trachea, inflate the cuff with 5-10 ml of air. Tape the ETT in place after assuring proper position.			
L. Ventilate the patient.			
M. Confirm tube placement, specifying at least 5 methods of verification: • Auscultation of epigastrium, anterior chest, midaxillary areas, epigastrium again • Condensation in the ETT • Visualization of tube passing between vocal cords **A** Depth of insertion ~ 25 cm marking at the nares • Chest rise and fall • Improvement in patient's color • Improved pulse-ox readings			
N. Secure tube in place & reassess placement after any movement of patient.			
O. Consider application of a cervical collar.			

EQUIPMENT:

1. Proper size endotracheal tube (7.0, 7.5, 8.0)
2. Lubricant
3. Laryngoscope blade & handle
4. Magill forceps
5. 10 ml. syringe
6. Suction equipment
7. Stethoscope
8. Gloves & eye protection
9. Commercial tube holder or proper taping method.
10. Confirmation device
11. C-collar
12. Adult intubation manikin
13. BAAM device

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

A. Indications for nasotracheal intubation:

- Inability to intubate orally because of:
  - Inability to adequately open the patient's mouth due to clenching of the teeth, mandibular fractures, oral cavity soft tissue inflammation
  - Inability to adequately visualize the vocal cords because of apparent or suspected neck injury or deformity to the neck
  - If intubation is required in an awake patient and/or patient can't be placed in the supine position
- Patient has to breath on his/her own

B. Potential complications or relative contraindications:

- facial fractures
- head injury
- use of anticoagulants

C. You should use an endotrol et tube or prepare the tube by inserting distal end of the tube into its proximal opening, thus molding it into a formed circle.

Endotrol – commercial ET tube made for performing nasotracheal intubation

Prep for other type ET tube: Prepare 2 tubes, thus having access to the second one immediately.

Prior to insertion prepare the patient with (reference in GP 1008.1)

- Lidocaine 100 mg IN (half in each nostril) or nebulized with 8-10 LPM O2
- Lubricate the distal end of ET tube with lidocaine jelly
- Place BAAM on the proximal end of the ET tube.

BAAM – Beck Airway Airflow Monitor
Small plastic device that attaches to the ET tube. It emits a whistle sound when the patient inhales and exhales which should become notably louder with cuff inflation.

- When the nasotracheal tube is correctly placed, there is often an inch or so between the nose and the ET adapter. That requires physical assessment, including depth of the tube, and auscultation.

- If a commercial ET tube tie for nasotracheal intubation is not available you can use IV tubing. Cut of the chamber and any ports, use just the plastic tube.

i. Make a bight in the middle of the tubing

ii. Pull the ends through the bite

iii. Create a loop around the ET tube.

iv. Bring the ends of the tubing around patient's face and base of the head secure in place.

Here is the link to a short video to show the procedure of securing ET tube described above:

https://s3.amazonaws.com/tsresources.targetsolutions.com/59D5FAEB-7358-7783-D5CA-212D21CFF0C6.mp4

NOTE:

If the patient is resisting the tube after the confirmed intubation and SBP>100

- Consider Midazolam 2 mg slow IV push

If the patient is resisting the tube after the confirmed intubation and SBP<100

- Consider Ketamine 100 mg slow IV push

PEDIATRIC PROTOCOL SKILL EVALUATION
SUBJECT: PEDIATRIC OROTRACHEAL INTUBATION

NAME_____ DATE_____

LEVEL: _____Paramedic _____AEMT

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 depth at front teeth. Tube marking at teeth = 3 x tube size			
L. Ventilate the patient.			
M. Confirm tube placement, using Capnography, Colorimetry, or EDD. Be able to discuss the indications and limitations of each device. • EDD is contraindicated in pregnancy, or children under 5 y/o or 20 kg			
N. 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 **P** Depth of insertion = tube size x 3 • 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:

1. Proper size endotracheal tube
2. Proper size stylet
3. Laryngoscope blade & handle
4. Magill forceps
5. Suction equipment
6. Stethoscope
7. Gloves & eye protection
8. Commercial tube holder or proper taping method.
9. Confirmation Device
10. C-collar or towel roll
11. Pedi intubation manikin

When preparing for this skill evaluation, be sure that you are able to 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
SUBJECT: NEEDLE CRICOTHYROTOMY

NAME_____
LEVEL: Paramedic DATE_____

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:

1. Syringe 10 cc and 3 cc
2. 10 or 14 gauge angiocath
3. Oxygen tubing with Y connector or side port cut in tubing for controlling air flow.
4. Oxygen source with rate of 15-30 liters/minute, 50 psi.
5. 7.0 ET tube adapter.

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

A. Indications for needle cricothyrotomy:

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

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

Needle cric equipment

Needle cric fully assembled and inserted.

C. 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

O. Due to the catheter size, resistance will be felt when bagging.

Please use the video below as a reference only. Always use your local protocols for proper performance:

Needle Cricothyrotomy for Medics:
https://www.youtube.com/watch?v=ycyxcDsR4Io

ADULT PROTOCOL SKILL EVALUATION
SUBJECT: CHEST DECOMPRESSION

NAME_____ DATE_____

LEVEL: _____Paramedic _____AEMT

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:
1. 14 ga 3 ¼" Angiocatheter (preferred)
2. Safety glasses and gloves
3. Stethoscope
4. Alcohol preps
5. Tape

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

- Respiratory Distress
- Loss of radial pulse
- Decreased LOC

B. Equipment needed:

C. The following video can be used as a reference for performing chest decompression:

https://www.youtube.com/watch?v=czFJDg-EaoY

ADULT PROTOCOL SKILL EVALUATION
SUBJECT: AUTOMATED EXTERNAL DEFIBRILLATORS

NAME_____ DATE_____

LEVEL: _____Paramedic _____AEMT _____EMT ____First Responder

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			
○ If witnessed arrest: Defibrillate immediately.			
○ If unwitnessed arrest: Perform CPR for 2 minutes prior to defibrillation.			
• CPR continuously until AED is attached to patient.			
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:

1. A.E.D. per organization type
2. Simulator

A. Initial assessment consists of:
- Check for responsiveness
- Look for breathing or only gasping and check pulse (simultaneously). Is pulse definitely felt within 10 seconds?

The following video can be used as a reference for this skill:

Lifepak 1000 AED Demonstration:
- https://www.youtube.com/watch?v=VtlbTe_fGTE

PROTOCOL SKILL EVALUATION
SUBJECT: INTRAOSSEOUS INFUSION

NAME_____ DATE_____

_ LEVEL: _____Paramedic _____AEMT

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 • Distal tibia: o Flat portion of the distal tibia, just proximal to medial malleolus • 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:

1. Bone Marrow Aspiration needle (or BIG, EZ IO)
2. Alcohol prep
3. Towels
4. IV Solution and tubing
5. 10 ml. syringe
6. Tape, 4x4s
7. Gloves & eye protection
8. 2 rolls of Kerlix.
9. IO manikin

When preparing for this skill evaluation, be sure that you are able to 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 (e.g. IM Glucagon, IN Narcan or Versed).

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, refer to GP 1012.0:

- 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 IO in adults
    - if all other routes have failed then access proximal tibia.
- For pediatrics, access the proximal tibia in all cases:
    - Use the **blue** needle for 3-30 kg
    - Use the **pink** needle for 0-3 kg

Below video can be used as a reference for <u>Proximal Humerus</u> insertion:

RT Clinic: Quick Hit Tutorial – Intraosseous IO Access Placement
https://www.youtube.com/watch?v=LQaxLXwgaJs

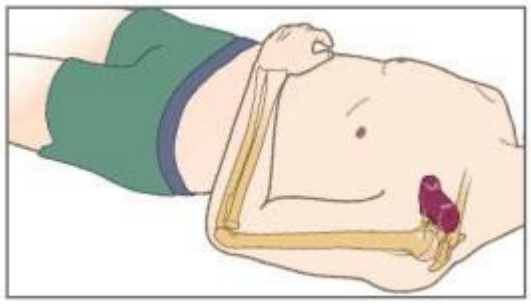
or

Adult Proximal Humerus Site ID and Insertion Video
https://p.widencdn.net/x5ktzs/VA_IO_Prox-Humerus-Anim_VI_MC-000308

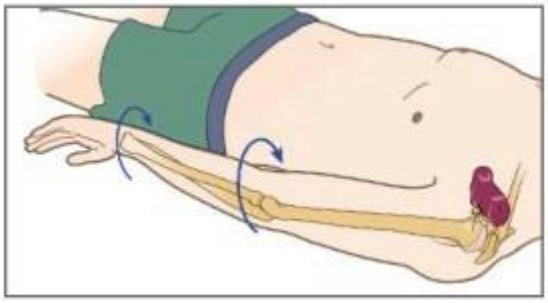
PROXIMAL HUMERUS

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, 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.

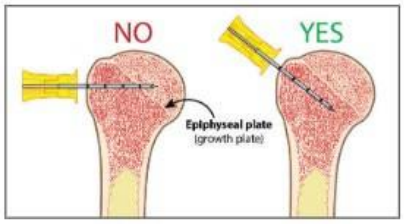
- This identifies the vertical line of insertion on the proximal humerus

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.



DISTAL TIBIA

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

Below video can be used as a reference for <u>Proximal Tibia</u> insertion:

Arrow EZ-IO System – Proximal Tibia Site ID (infant/child, animation)
https://www.youtube.com/watch?v=99DVtJSKi6k

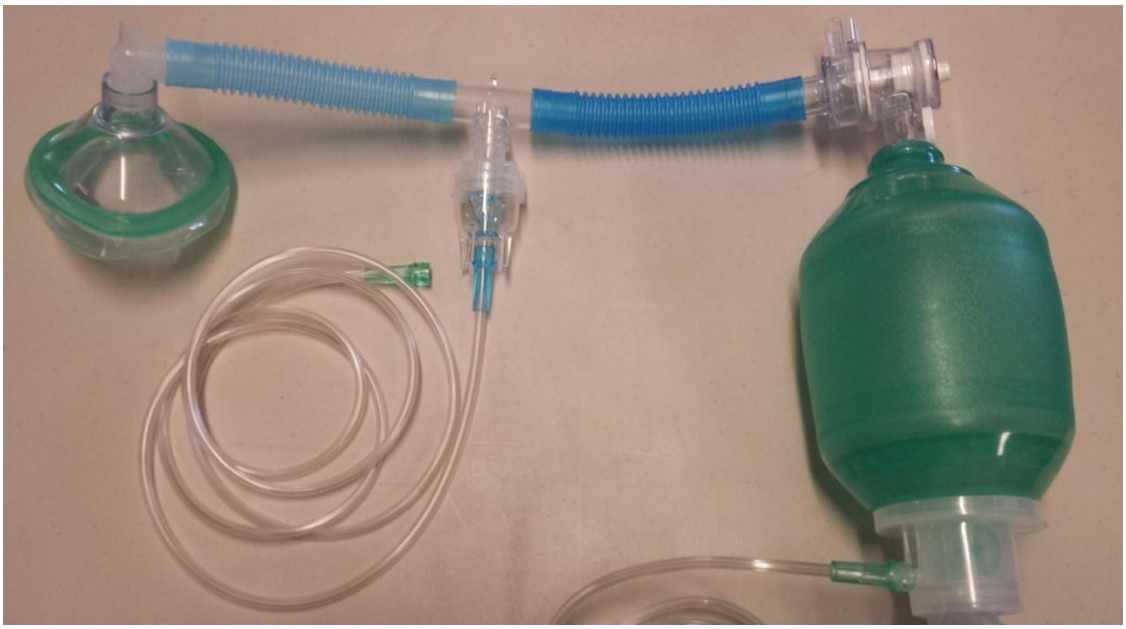
ADULT PROTOCOL SKILL EVALUATION
SUBJECT: USE OF NEBULIZER WITH BAG-VALVE DEVICE

NAME_____ DATE_____

_ LEVEL: _____Paramedic _ _____AEMT

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
SUBJECT: SPECIAL VENOUS ACCESS - CENTRAL VENOUS CATHETER, DIALYSIS CATHETER, OR PICC LINE

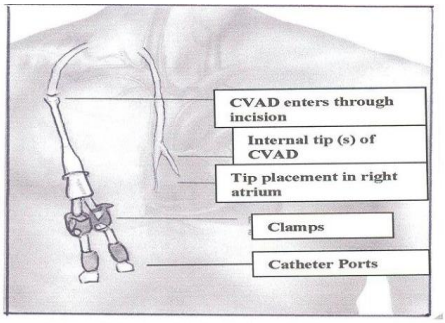
NAME_____ DATE_____

_ LEVEL: Paramedic

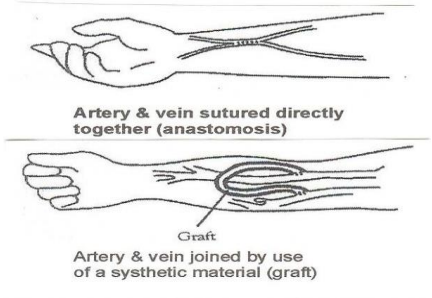
STEPS	**1st Test**	**2nd Test**	**3rd Test**
A. List the indications for accessing a Central Venous Catheter, Dialysis Catheter, or PICC line.			
B. Prepare IV fluid and tubing.			
C. Cleanse catheter port with alcohol prep thoroughly. State reason for this.			
D. Attach 10 ml. or larger Luer lock needleless 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. Reclamp catheter. Why is catheter reclamped before removing the syringe?			
I. Remove blood-filled syringe and discard into a sharps container.			
J. Cleanse catheter again with alcohol prep. Why is recleansing 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. Reclamp 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:

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



CENTRAL VENOUS ACCESS



VASCULAR ACCESS - HEMODIALYSIS

Use the video below as a reference for accessing a PICC line:

https://s3.amazonaws.com/tsresources.targetsolutions.com/3C0D78E8-8A13-EAF3-E8B9-6CE640AF909D.mp4

ADULT PROTOCOL SKILL EVALUATION
SUBJECT: 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:

1. IV tubing and IV fluid
2. Angiocath needle
3. Alcohol preps
4. Pressure infuser, BP cuff, or IV pump

RIGHTS OF MEDICATION ADMINISTRATION

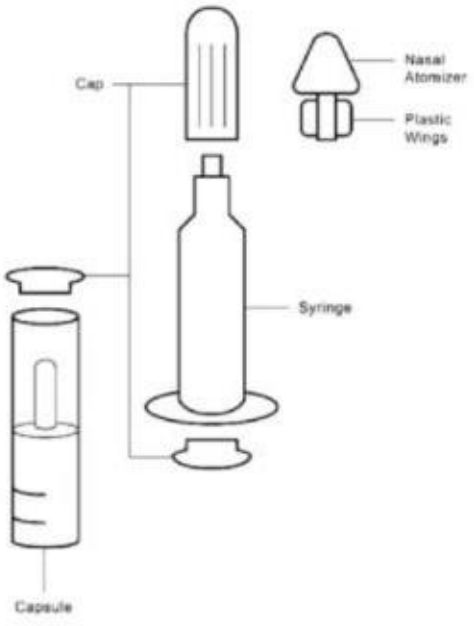
1. **Right Medication**
    a. Make sure that the medication is the correct medication indicated by the GMV Standing Orders and check it against the medication label.
    b. Double-check the generic vs. non-generic names of medications. Many names are similar and have a potential for error. If you aren't 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: EMR_____EMT_____Advanced_____Paramedic_____

STEPS Refer to drug formulary 8029.0	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 verbalized 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
SUBJECTS: ASSISTING WITH EPIPEN ADMINISTRATION

NAME_____ DATE_____

LEVEL: _____EMT _____ EMR

STEPS Refer to drug formulary 8015.0	**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
SUBJECT: COMPLEX MEDICATION ADMINISTRATIONS

NAME_____ DATE_____

LEVEL: _____Paramedic _____AEMT _____EMT

STEPS	**1st Test**	**2nd Test**	**3rd Test**
AMIODARONE refer to Drug Formulary 8003.0			
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 refer to Drug Formulary 8027.0			
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 TB syringe, demonstrate drawing up an appropriate amount of simulated Midazolam, and correct administration: 0.4 ml = 2 mg 0.8 ml = 4 mg			
E. Discuss timing for administration of Midazolam (over 2 minutes).			
DUODOTE refer to Drug Formulary 8014.0			
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 refer to Drug Formulary 8015.0			
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 refer to Drug Formulary 8009.0			
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 (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			

Revised:

ADULT PROTOCOL SKILL EVALUATION

SUBJECT: 12-Lead EKG Acquisition

NAME_____ DATE_____

LEVEL: _____Paramedic ____AEMT ____EMT

STEPS	**1st Test**	**2nd Test**	**3rd Test**
Student will 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 if you or machine suspect 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 aVR 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			

Use the video below as a reference for 12 Lead – Lead Placement:

https://www.youtube.com/watch?v=HHCoSyKlPaE

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:

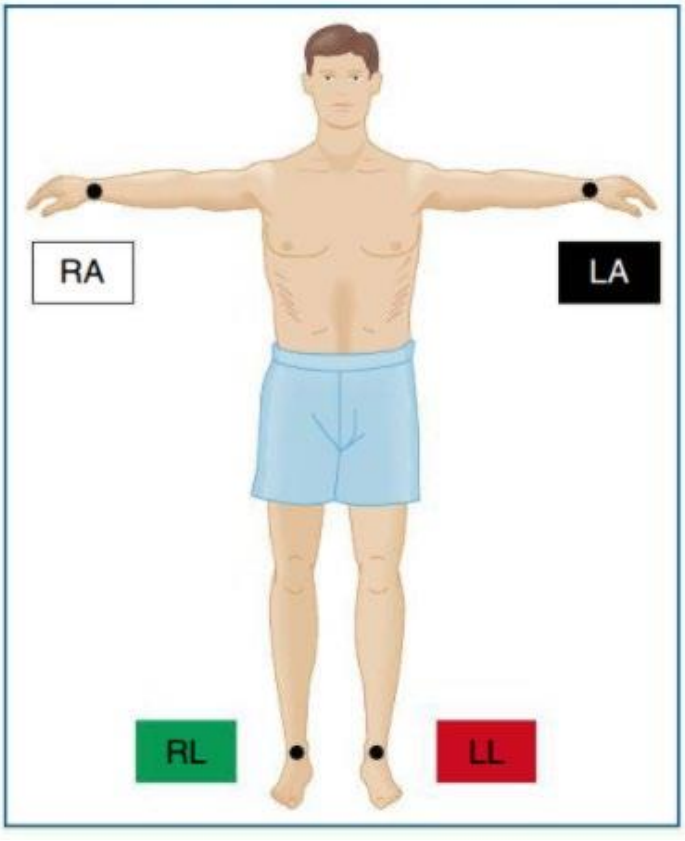
- RA—designates the right arm.
- LA—designates the left arm.
- LL—designates the left leg.
- RL—designates the right leg.

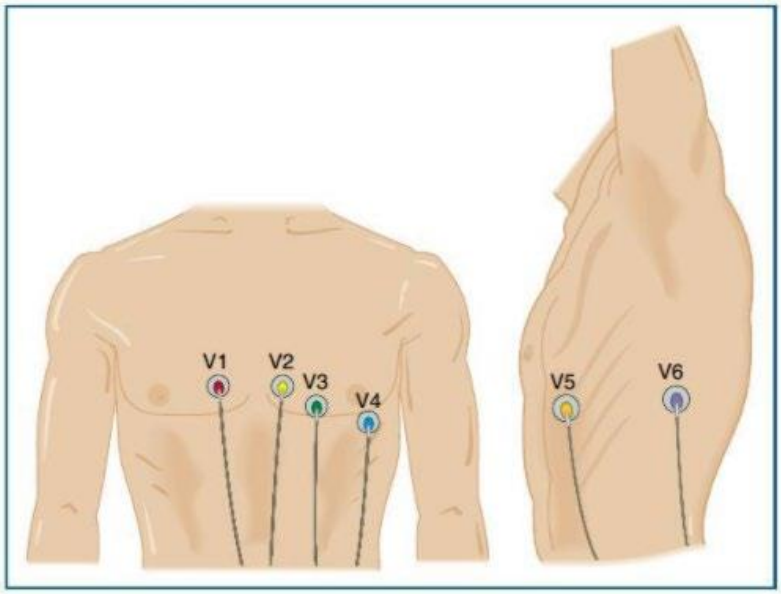
Some 3-lead monitors also use color coding, as follows:

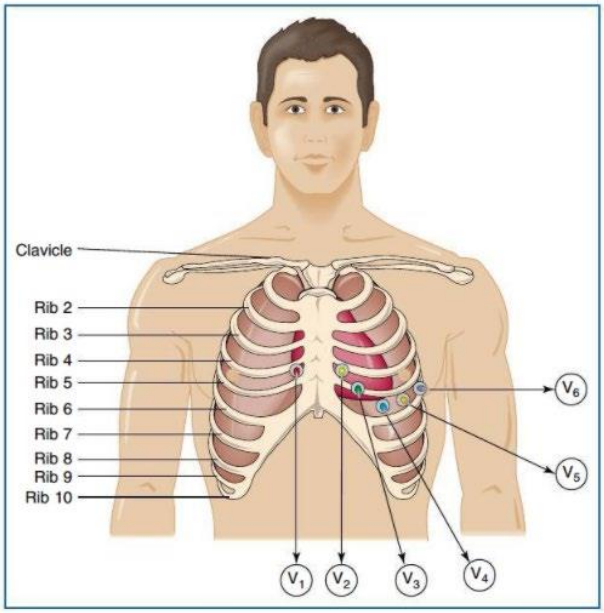
- White—designates the right arm.
- Black—designates the left arm.
- Red—designates the left leg.
- Green—designates the right leg, if a fourth electrode wire is available.

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
SUBJECT: 12-Lead EKG Interpretation

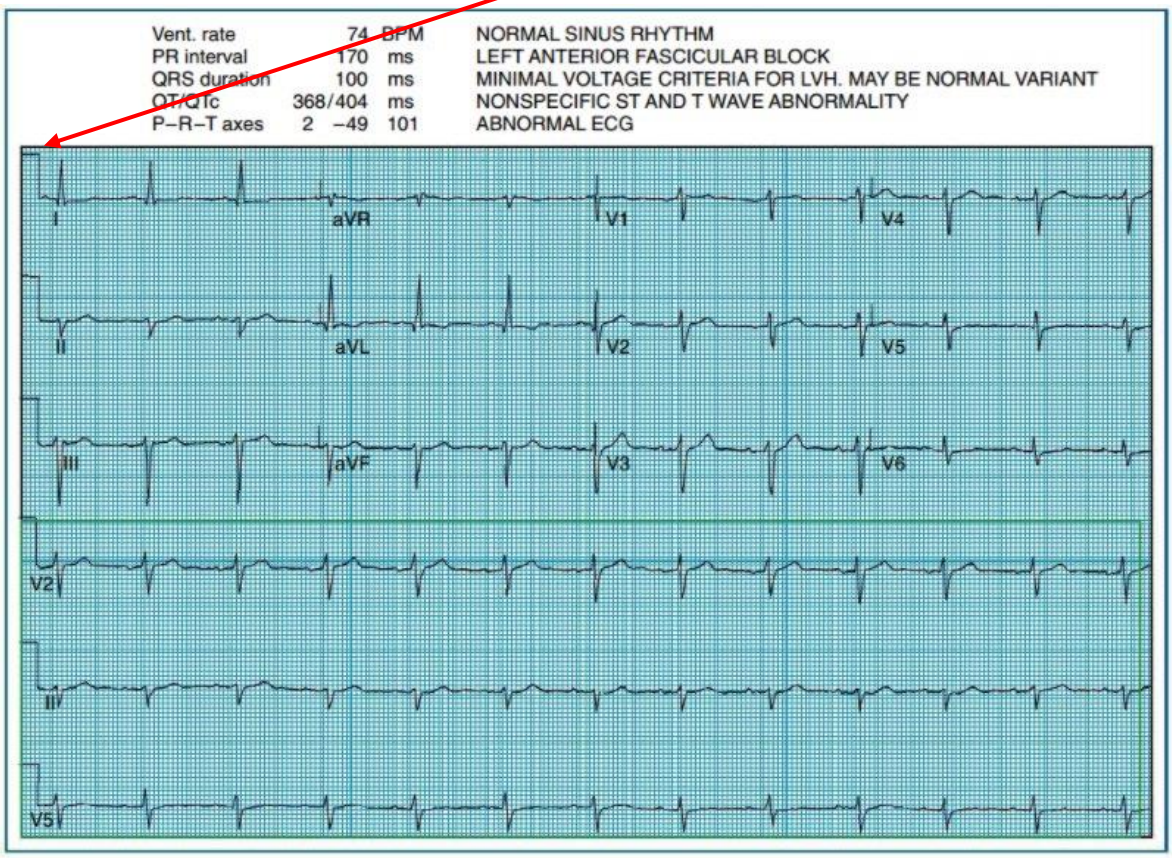
NAME_____ DATE_____

_ 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 following 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 converting 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 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)			

Steps in EKG Interpretation	Steps in 12 lead EKG Interpretation
1. Determine the rhythm and regularity	1. Rhythm
2. Calculate the rate	2. Axis
3. Evaluate P wave	3. Bundle branch block
4. Calculate PR interval	4. Enlargement of chamber
5. Analyze QRS complex	5. Ischemia or infarction
6. Examine T wave	6. Other abnormalities
7. Calculate QT interval	
8. Look for other characteristics	

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 Interpretations

Rate and Rhythm	• Six second method • Counting small box method • Presence of PQRST and its characteristics • Look for intervals		
Axis	look at lead I and aVF (*consider entire QRS complex for axis determination*)		
	Vertical axis (Consider Lead I and aVF)	Normal axis	Lead I and aVF positive
		Right axis	Lead I negative and aVF positive
		Left axis	Lead I positive and aVF negative
	Horizontal axis (Look at V1, V2 and V5, V6)	Anterior axis	Positive V1 and V2
		Posterior axis	Positive V5 and V6
Bundle branch block	• Look at lead I, V1 and V6 (*only last half of the QRS complex*) • It require QRS duration > 0.12 sec		
	RBBB	Negative lead I and V6 and positive V1	
	LBBB	Negative lead V1 and positive lead I and V6 (R or R')	
Hemiblock	look at lead I and aVF		
	Left anterior hemiblock (LAHB)	Left axis deviation	Lead I positive and aVF negative
		qR complex in the lateral limb leads	Lead I and aVL
		rS complex in the in inferior leads	Lead II, III and aVF
		Delayed intrinsicoid deflection (time for R wave peak)	In aVL >0.45 seconds
		Do not diagnose LAHB in presence of inferior infarct (prominent Q in lead II, III and aVF)	
	Left posterior hemiblock (LPHB)	Right axis deviation	lead I negative and aVF positive
		rS pattern in lead I and aVL tall R waves in II, III and aVF	This goes with right axis deviation
		Looks similar to S1Q3T3 pattern as in pulmonary embolism	
Chamber enlargement	Right atrial enlargement	Narrow and tall P wave in lead II and V1	P pulmonale
	Left atrial enlargement	Wide P wave with notching in lead III, aVF and V1	
	Right ventricular hypertrophy	Tall R waves in V1, V2 and deep S waves in V5 and V6	
		Right axis deviation	Negative lead I and positive aVF
	Left ventricular hypertrophy	Left axis deviation)	(Positive lead I and negative aVF
		Down sloping ST and inverted T wave in lateral leads	LV Strain pattern
		R in aVL plus S in V3 > 28 mm in men and >20 mm in	Cornell criteria

Ischemia	**ST segment depression and T wave inversion**	**Lead I, aVL, V5 and V6**	**Lateral wall (Left circumflex artery)**
		Lead II, III and aVF	**Inferior leads (Right coronary artery)**
		Lead V1, V2, V3 and V4	**Anterior wall (LAD territory)**
Infarction	**Acute myocardial infarction**	**ST segment elevation in the target area with ST segment depression and T wave inversion in the opposite area**	**Reciprocal changes**
	Old myocardial infarction	**Presence of large Q waves in target areas**	**At least > 1 mV**
Other abnormalities	**Pulmonary embolism**	**Prominent S in lead I, Q wave and inverted T wave in lead III**	**S1Q3T3 pattern**
		Right ventricular strain pattern	**ST depression in V1-V3**
		Sinus tachycardia	
		New incomplete RBBB	
	Hyperkalemia (depending on serum level)	**Tall peaked T waves**	
		ST segment depression	
		Various bundle branch block	
		Severe bradycardia with AV block	
		V tach/V-Fib	
	Pericarditis	**PR segment depression**	
		Generalized ST segment elevation	
	Hypocalcaemia	**prolonged QTc**	
		Flat or inverted T waves	
		Prolonged ST segment without increase in T wave duration	
	Hypercalcemia	**Short QTc**	
		PR segment prolongation	
	Hypomagnesaemia	**Peak T wave**	
		Prominent T wave	
		prolonged QRS	
		ST segment depression	
		Polymorphic ventricular tachycardia	
	Pericardial effusion or Cardiac tamponade	**Low voltage EKG**	
		Electrical alternance	**Beat to beat change in amplitude**

SUPRAGLOTTIC AIRWAY DEVICE

NAME_____ DATE_____

LEVEL: _____Paramedic _____AEMT _____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 over ventilation.			
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 lumen and proper insertion depth] by auscultation bilaterally over lungs and over the epigastrium			
Adjusts ventilation as necessary [ventilates through additional lumen or slightly withdraws tube until ventilation is optimized]			
Verifies proper tube placement by secondary confirmation such as capnography, capnometry, EDD 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			

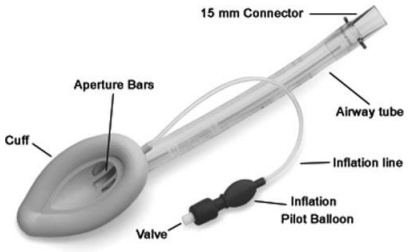
EQUIPMENT:

1. Supraglottic Airway Device (correct size)
2. Water-soluble lubricant
3. Appropriate size syringe
4. Bag-valve mask
5. Stethoscope
6. Secondary confirmation device
7. 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

Combitube

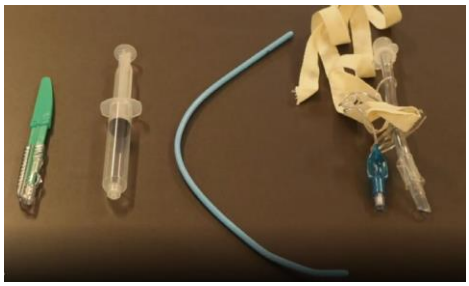
King Airway

ADULT PROTOCOL SKILL EVALUATION
SUBJECT: 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 preoxyginate 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 cricothoroid membrane			
I. Pucture 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:

1. Scalpel
2. ET tube (size 6)
3. Antiseptic solution
4. Oxygen
5. Appropriate BVM
6. Suction Equipment
7. Commercial tube tie or proper taping method
8. Bougie if the kit is equipped



A. 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

B. Equipment list above.

C. List potential complications and contraindications:

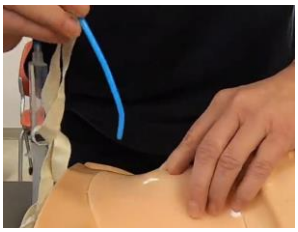
- signs of an anatomical abnormality, such as tumor
- age less than 8 years old
- signs of acute laryngeal disease
- evidence of tracheal transection

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 scapel 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.

Use the videos below as a reference when reviewing surgical cricothyrotomy:

Emergency Bougie Cricothyrotomy Procedure Explained
https://www.youtube.com/watch?v=2uDCcEkqm2s&t=2s

Surgical Airway (Cricothyrotomy) Performed by Ram Pareh
https://www.youtube.com/watch?v=1iPRrzO26eI

ADULT PROTOCOL SKILL EVALUATION
SUBJECT: TASER REMOVAL

NAME_____ DATE_____

LEVEL: _____Paramedic _____AEMT _____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.

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

E. Evaluate the need for medical attention.

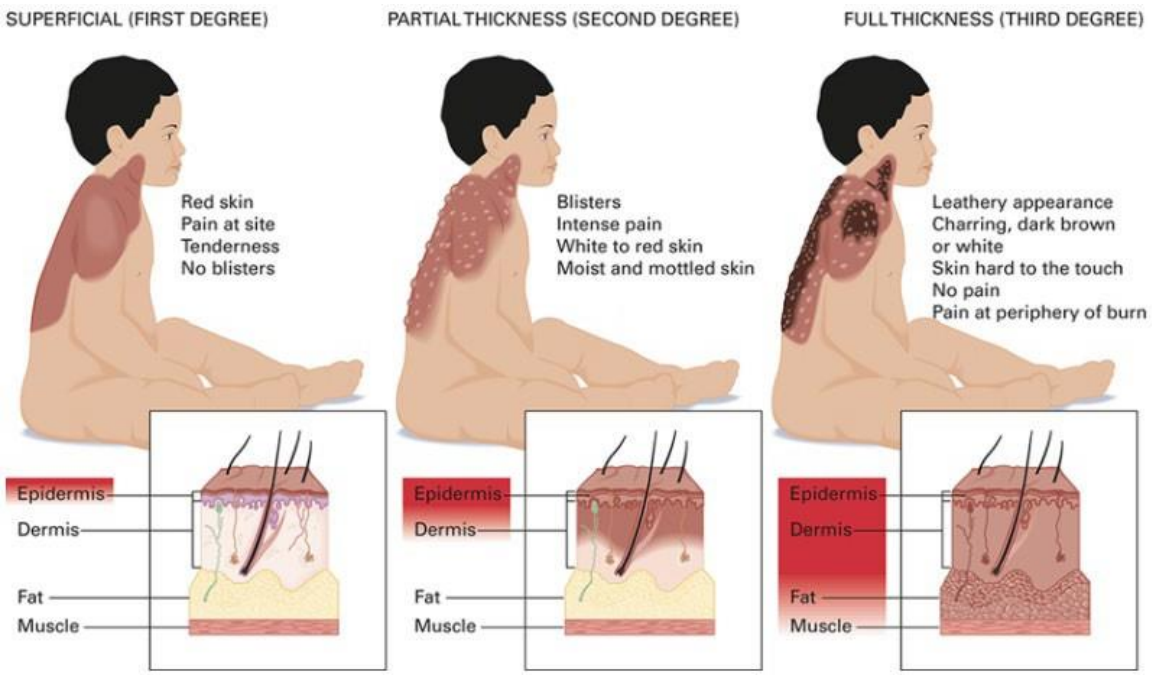
Use the videos below as a reference for taser removal.

TASER Probe Removal:
https://www.youtube.com/watch?v=2tBsFtV2zXU

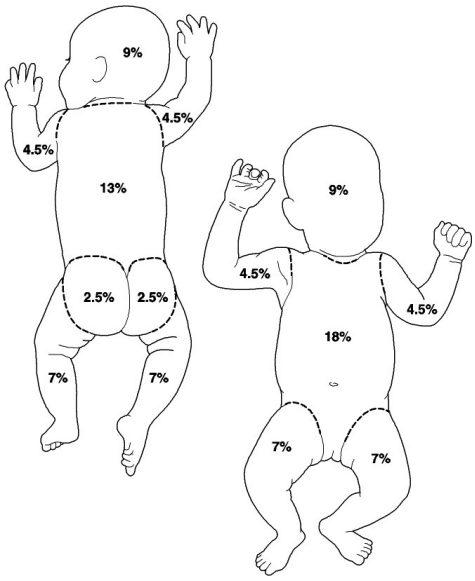
TASER X26 Probe Removal
https://www.youtube.com/watch?v=9BlEjp93r5o

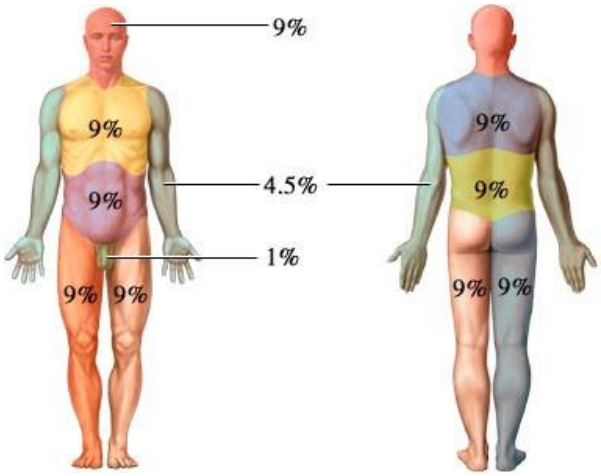
BURNS

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
SUBJECT: 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

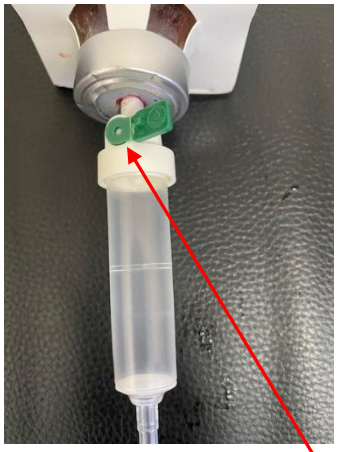
IV and IO Preparation of the medication

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.

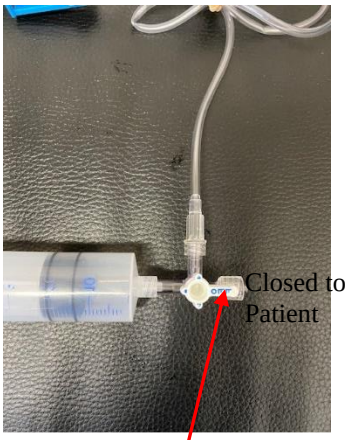
Close the clamp



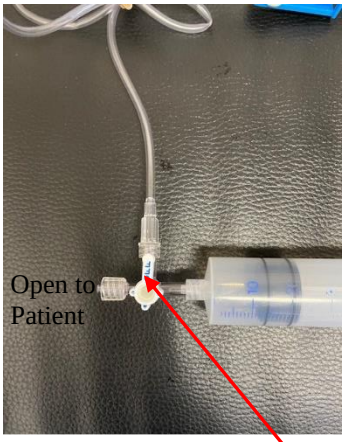
Spike the top of the vial with the IV tubing. Don't forget to open the vent.

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 13.33 cc/min until all the medication is administered.



Open the valve to patient, close to the IV tubing. Administer at a rate of 13.33 cc/min until all the medication is administered. 200cc over 15 min

ADULT PROTOCOL SKILL EVALUATION
SUBJECT: Application of Tourniquet

NAME_____ DATE_____

LEVEL: ____ EMR ____ EMT ____ AEMT ____P

STEPS	**1st Test**	**2nd Test**	**3rd Test**
A. List the indications for use of 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 positions the patient.			
G. Administer high concentration oxygen			
H. Initiate steps to prevent heat loss for the patient.			
I. Indicate need for immediate transport.			

EQUIPMENT:

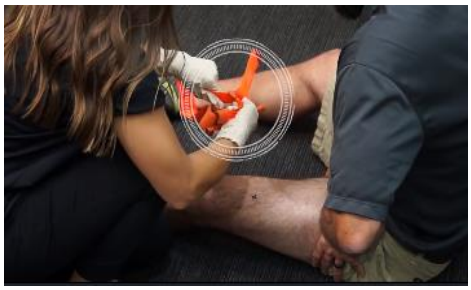
1. Bandages 2. Tourniquet 3. Blankets 4. Oxygen

CAT Tourniquet

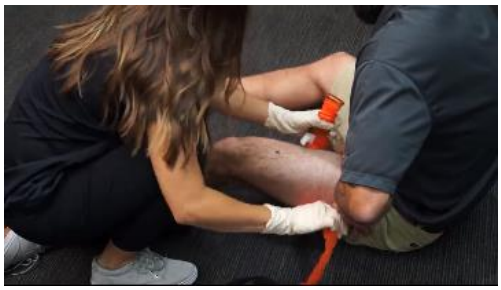
SOFTT Tourniquet

APPLICATION:

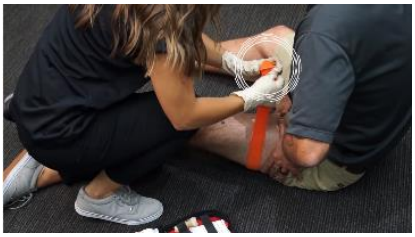
Apply firm constant direct pressure to the exposed wound. If very brisk soaking of a trauma dressing and continued heavy flow is present, go to tourniquet.



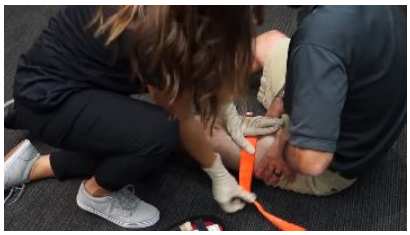
If the wound continues to bleed heavily prepare the tourniquet by pulling the band out of the buckle.



Route the band around the limb, 2 to 3 inches above the wound.



Pass the band *through t*he 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 above 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.