

Airway

Circulation

Exposure

A

B

C

D

E

Breathing

Disability

ABCDE

Dr. Céline Jacobs

Emergency Medicine Physician

Seed Global Health



Emergency medicine is
pattern recognition and
knowledge translation, as
well as the guts to take
action, based on limited
information

– *Unknown*

BACK

TO

BASICS

Airway

Circulation

Exposure

A

B

C

D

E

Breathing

Disability

Why the ABCDE approach?



Simple



Systematic



Recognize life-threatening conditions
early



Do the most critical interventions first
- fix problems before moving on



SAFETY FIRST



A close-up photograph of a person's hands performing chest compressions on a medical training mannequin. The mannequin is lying on its back on a blue mat, wearing a blue long-sleeved shirt and white pants with pink cuffs. A yellow AED pad is visible on the mannequin's chest. The background is a blurred indoor setting.

NO signs of life: Start CPR

Airway

Circulation

Exposure

A

B

C

D

E

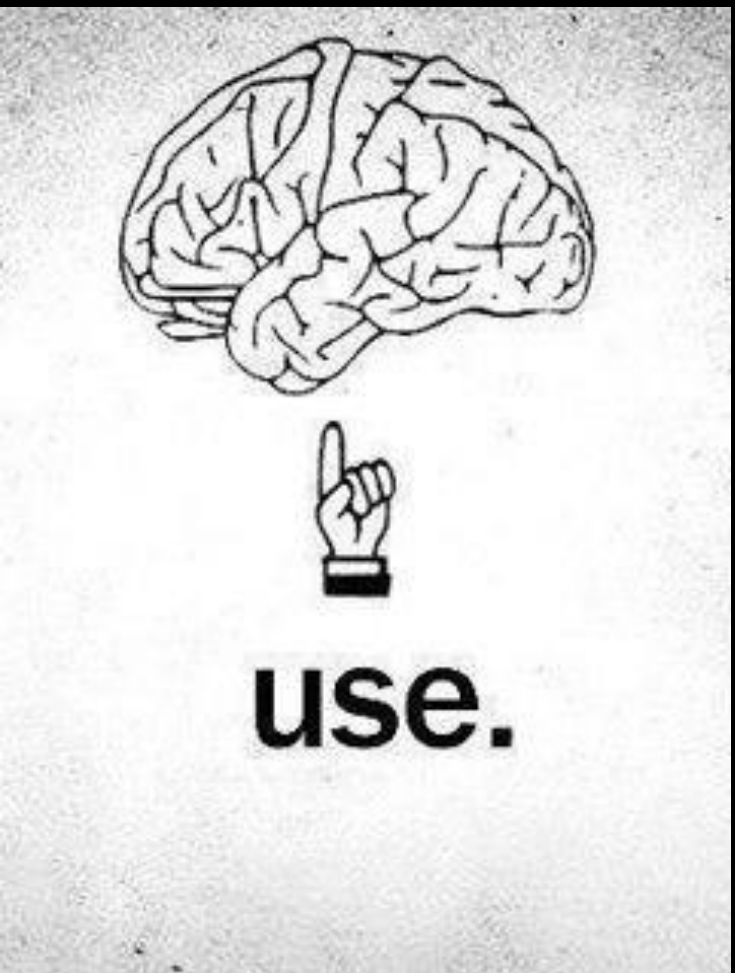
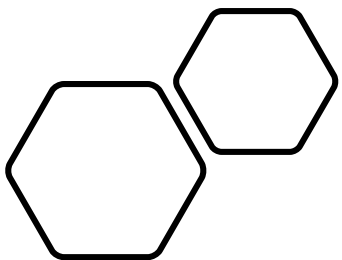
Breathing

Disability

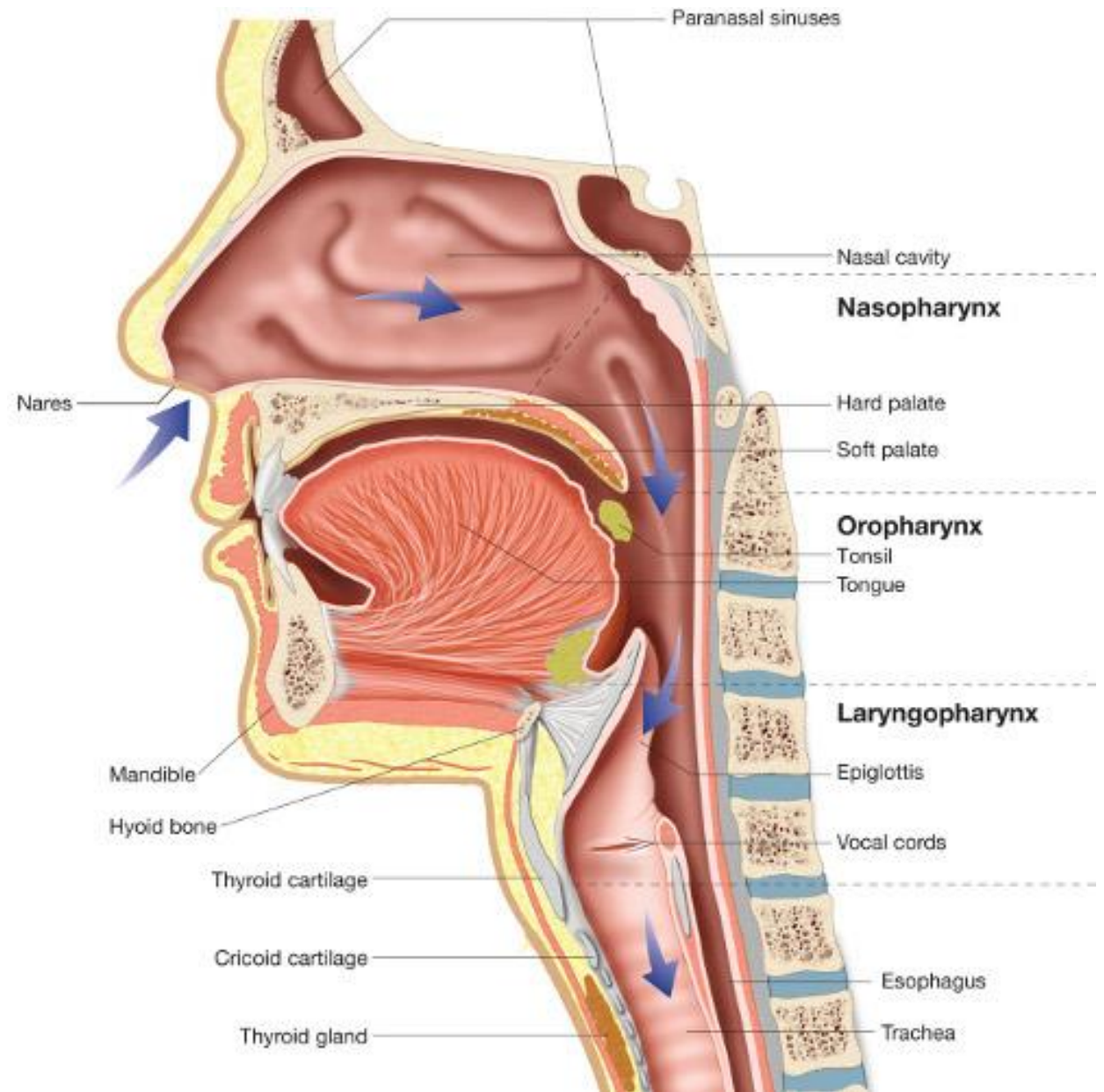
ABCDE

Any problem identified must be addressed immediately before moving on to the next step.



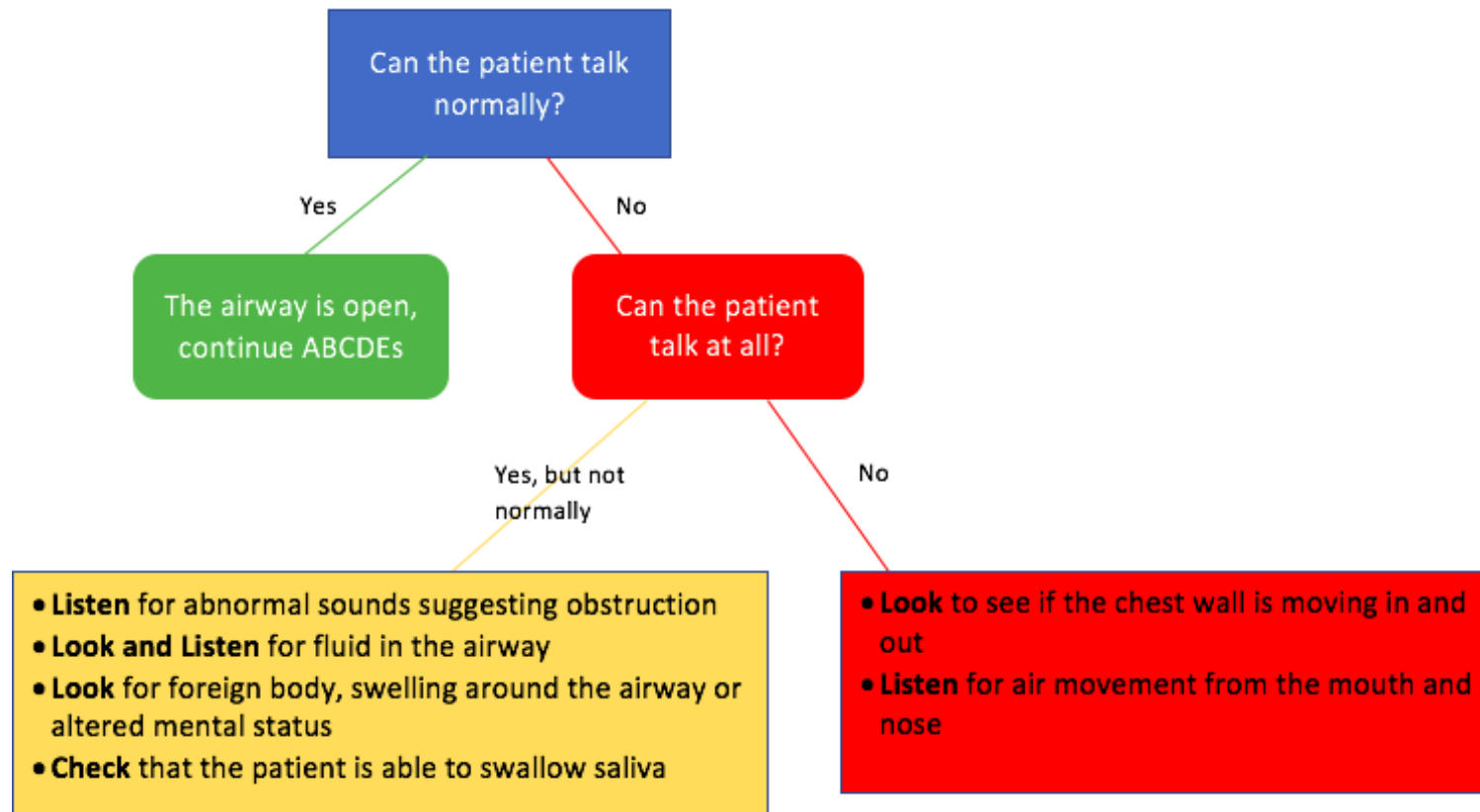


A is for Airway



Step 1: Recognize a threatened airway!

Airway Assessment



If you
identify an
issue:
stop and
address it!





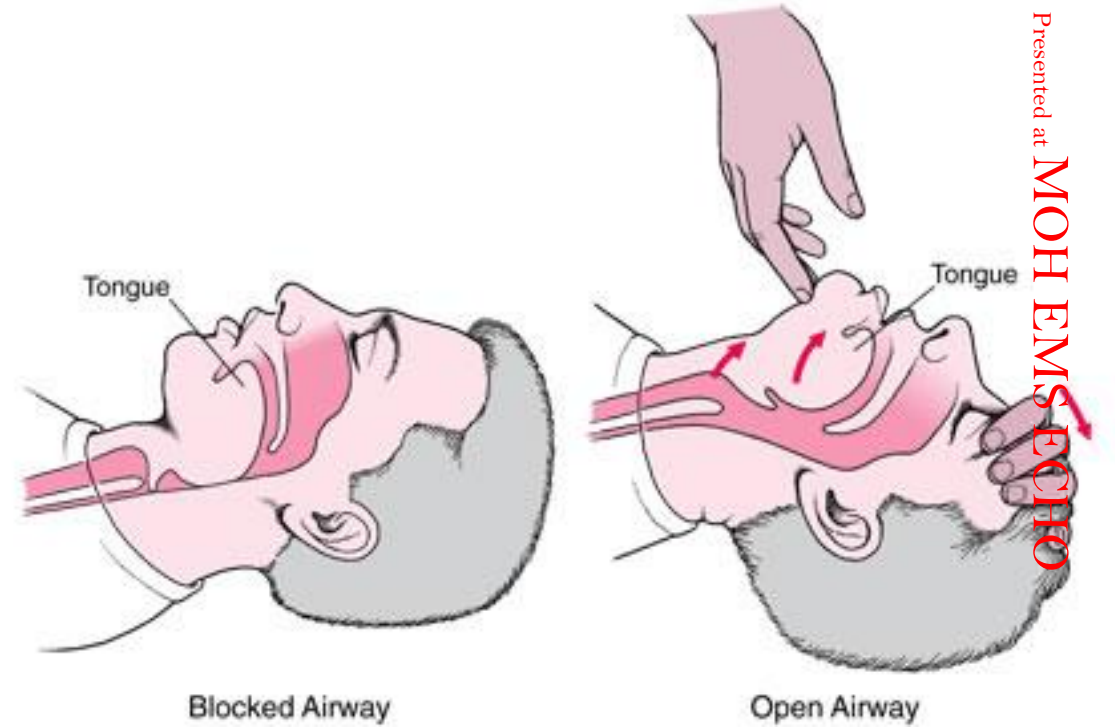
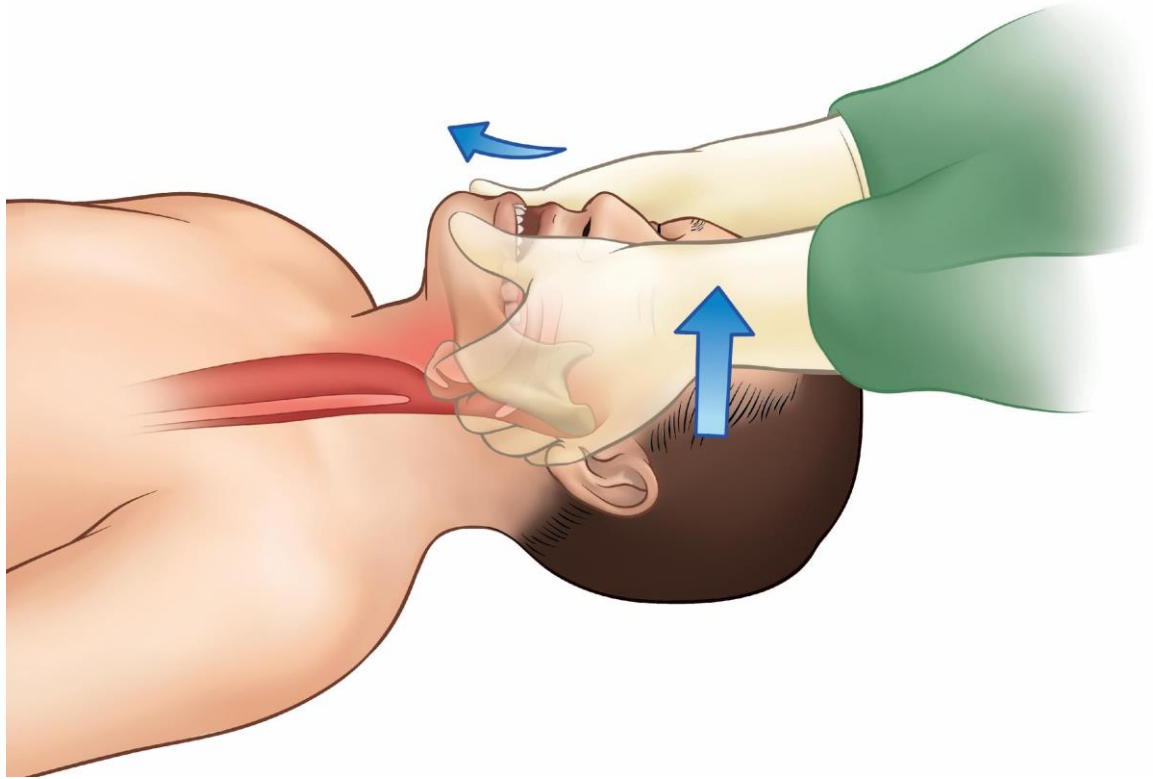
Immobilize C-Spine



Airway Management

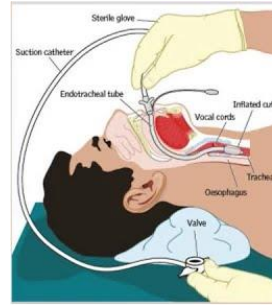
- 1) Open the Airway
- 2) Clear the Airway
- 3) Maintain the Airway
- 4) Protect the Airway

Open the Airway



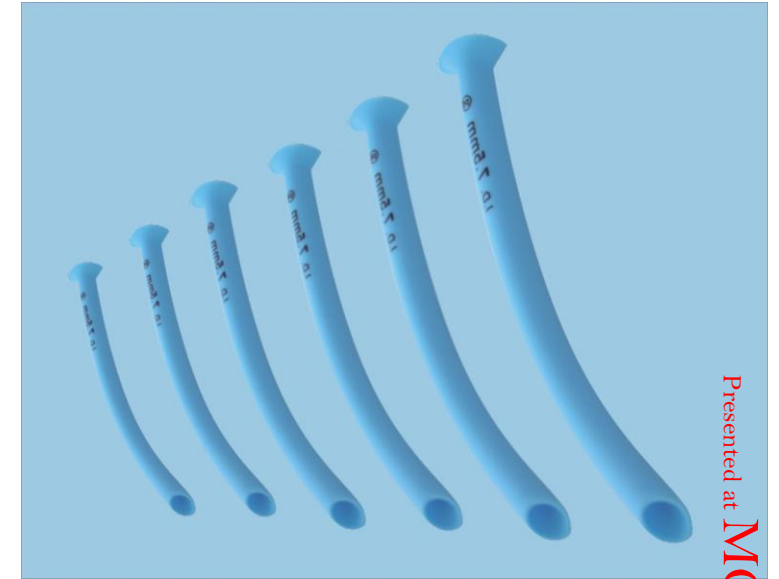
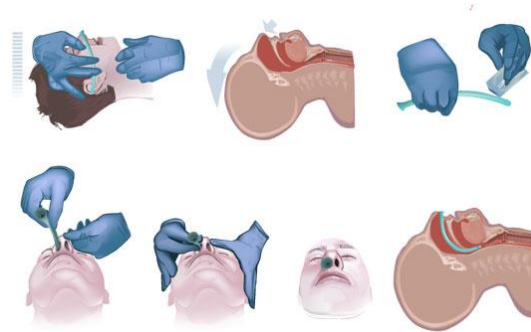
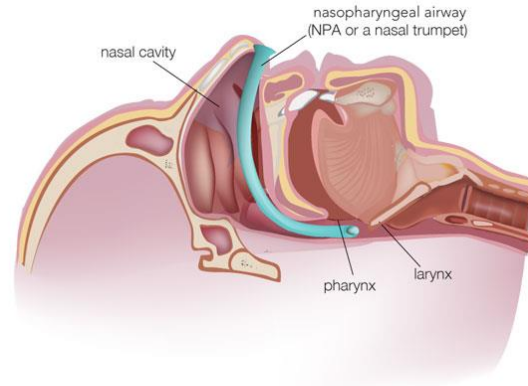
Jaw Thrust

Clear the Airway



Suctioning

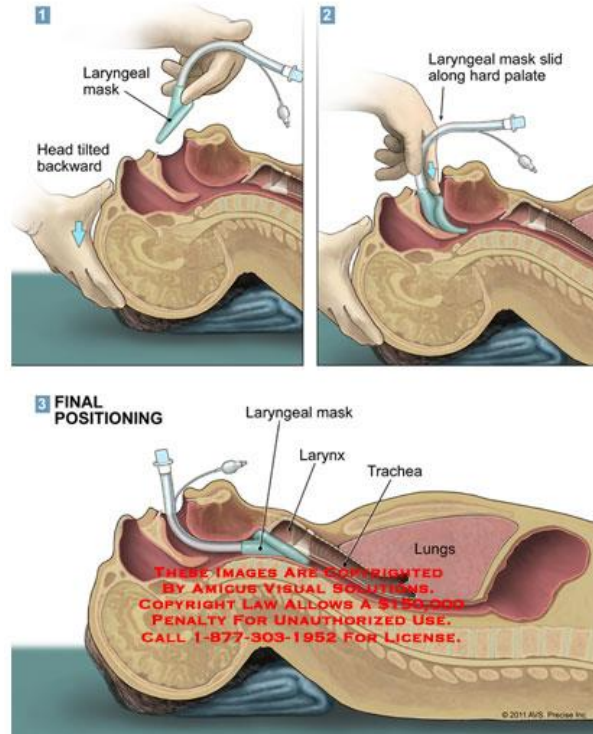




Presented at MOH EMS ECHO

Maintain the Airway

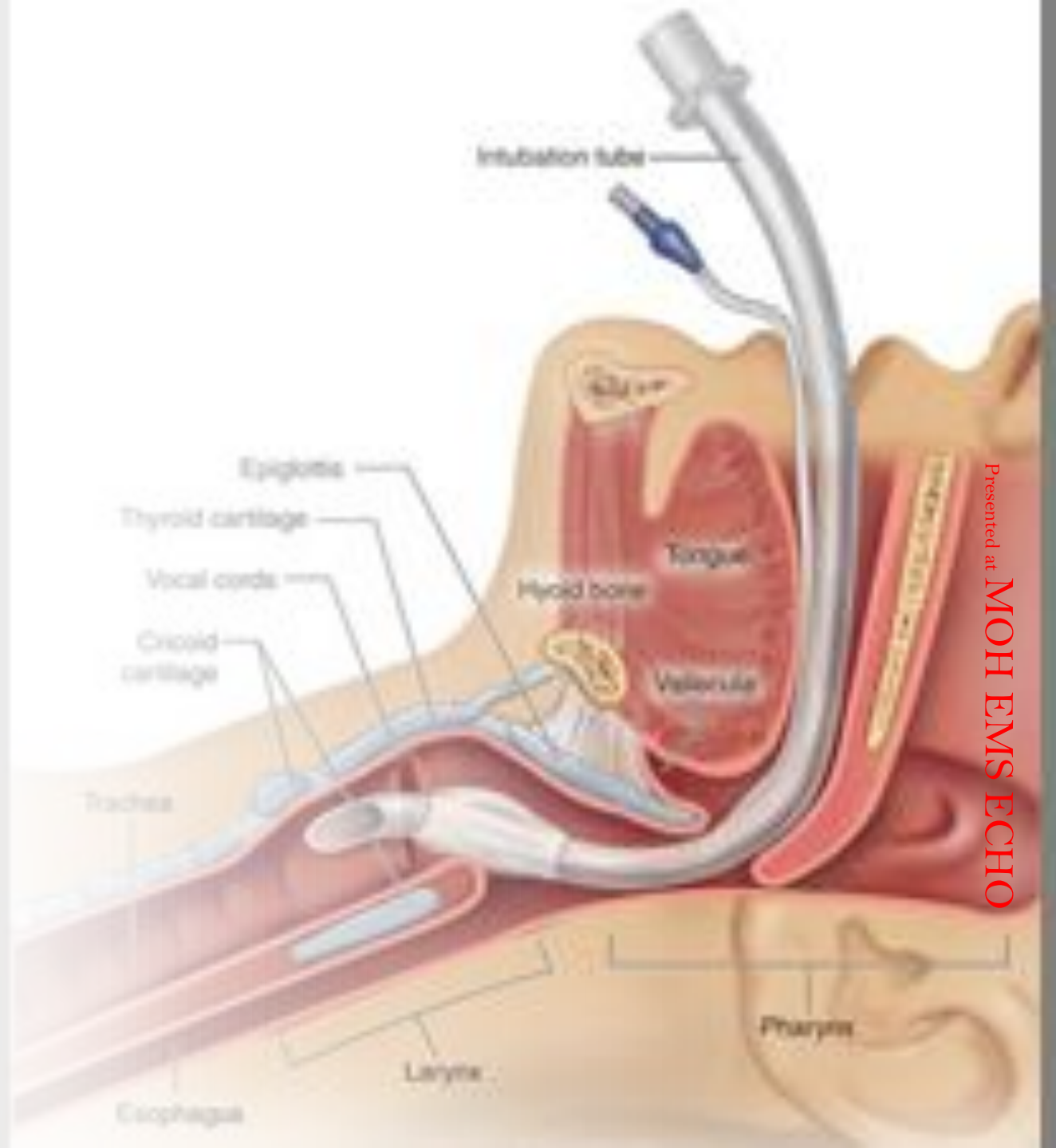
Laryngeal Mask Airway (LMA)



Presented by MOH EMS ECHO

LMA: LARYNGEAL MASK AIRWAY

Protect the Airway: Advanced Skill





B is for Breathing

Breathing: Assessment



Look, listen and feel

Look, listen and feel to see if the patient is breathing.



Assess

Assess if the breathing is very fast, very slow or very shallow.



Look

Look for increased work of breathing.



Listen

Listen for abnormal breath sounds.

Count the
respiratory rate!






If you
identify an
issue:
stop and
address it!



BACK

TO

BASICS

A red toolbox filled with various tools, including a hammer, pliers, and a saw, with a white glove resting on top. The toolbox is open, and the tools are visible inside. The background is dark and out of focus.

Most Important Tools in Managing Airway and Breathing?

Most Important Tools in Managing Airway and Breathing?







Bag-mask Ventilation



1-hand technique for BVM



2-hand technique for BVM

Hyperventilation does not treat hypoxia

An anatomical illustration of the human circulatory system, showing the heart and the network of arteries and veins throughout the torso and neck. The heart is centrally located, with red arteries branching out to the left and right sides of the body, and blue veins returning blood to the heart. The background is a dark blue gradient.

C is for Circulation



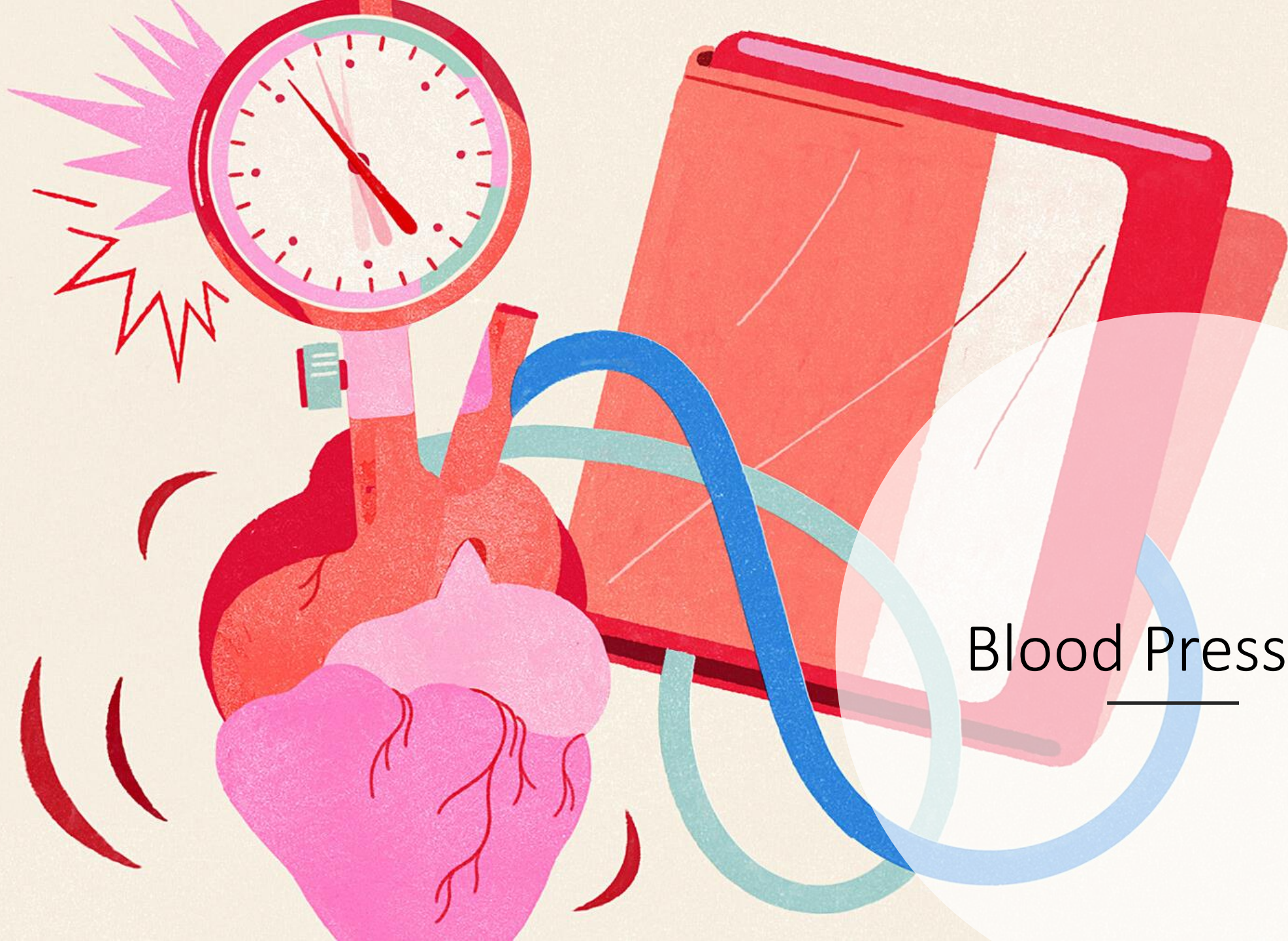
Assessing Circulation

Assess organ perfusion:

- Level of Consciousness
- BP
- HR
- Skin colour and temperature
- Pulse rate and character
- Peripheral pulses
- CRT



Heart Rate



Blood Pressure

Presented at MOH EMS ECHO

Capillary Refill Time

JAMA | Original Investigation | CARING FOR THE CRITICALLY ILL PATIENT

Effect of a Resuscitation Strategy Targeting Peripheral Perfusion Status vs Serum Lactate Levels on 28-Day Mortality Among Patients With Septic Shock The ANDROMEDA-SHOCK Randomized Clinical Trial

Glenn Hernández, MD, PhD; Gustavo A. Ospina-Tascón, MD, PhD; Lucas Petri Damiani, MSc; Elisa Estenssoro, MD; Arnaldo Dubin, MD, PhD; Javier Hurtado, MD; Gilberto Friedman, MD, PhD; Ricardo Castro, MD, MPH; Leyla Alegría, RN, MSc; Jean-Louis Teboul, MD, PhD; Maurizio Cecconi, MD, FFICM; Giorgio Ferri, MD; Manuel Jibaja, MD; Ronald Pairumani, MD; Paula Fernández, MD; Diego Barahona, MD; Vladimir Granda-Luna, MD, PhD; Alexandre Biasi Cavalcanti, MD, PhD; Jan Bakker, MD, PhD; for the ANDROMEDA-SHOCK Investigators and the Latin America Intensive Care Network (LIVEN)

OBJECTIVE To determine if a peripheral perfusion–targeted resuscitation during early septic shock in adults is more effective than a lactate level–targeted resuscitation for reducing mortality.

DESIGN, SETTING, AND PARTICIPANTS Multicenter, randomized trial conducted at 28 intensive care units in 5 countries. Four-hundred twenty-four patients with septic shock were included between March 2017 and March 2018. The last date of follow-up was June 12, 2018.

INTERVENTIONS Patients were randomized to a step-by-step resuscitation protocol aimed at either normalizing capillary refill time (n = 212) or normalizing or decreasing lactate levels at rates greater than 20% per 2 hours (n = 212), during an 8-hour intervention period.

MAIN OUTCOMES AND MEASURES The primary outcome was all-cause mortality at 28 days. Secondary outcomes were organ dysfunction at 72 hours after randomization, as assessed by Sequential Organ Failure Assessment (SOFA) score (range, 0 [best] to 24 [worst]); death within 90 days; mechanical ventilation–, renal replacement therapy–, and vasopressor–free days within 28 days; intensive care unit and hospital length of stay.

RESULTS Among 424 patients randomized (mean age, 63 years; 226 [53%] women), 416 (98%) completed the trial. By day 28, 74 patients (34.9%) in the peripheral perfusion group and 92 patients (43.4%) in the lactate group had died (hazard ratio, 0.75 [95% CI, 0.55 to 1.02]; $P = .06$; risk difference, -8.5% [95% CI, -18.2% to 1.2%]). Peripheral perfusion–targeted resuscitation was associated with less organ dysfunction at 72 hours (mean SOFA score, 5.6 [SD, 4.3] vs 6.6 [SD, 4.7]; mean difference, -1.00 [95% CI, -1.97 to -0.02]; $P = .045$). There were no significant differences in the other 6 secondary outcomes. No protocol-related serious adverse reactions were confirmed.

CONCLUSIONS AND RELEVANCE Among patients with septic shock, a resuscitation strategy targeting normalization of capillary refill time, compared with a strategy targeting serum lactate levels, did not reduce all-cause 28-day mortality.

Presented at NOH IN S E C T I O



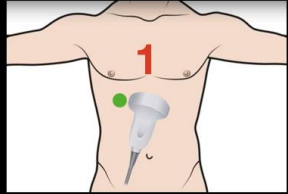
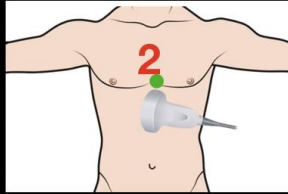
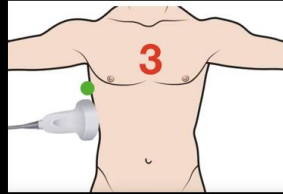

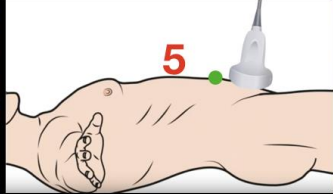
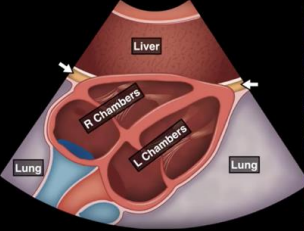
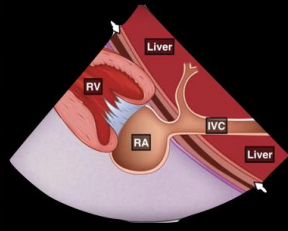
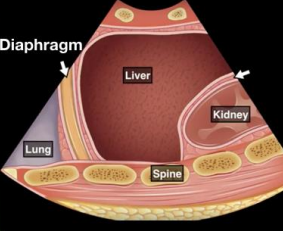
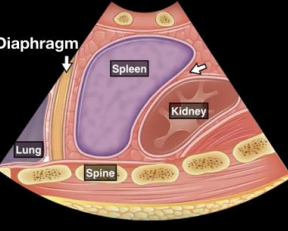
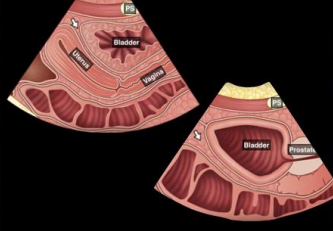

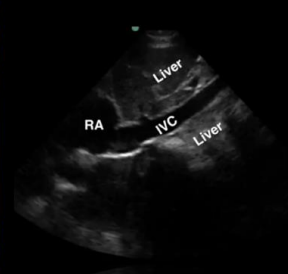


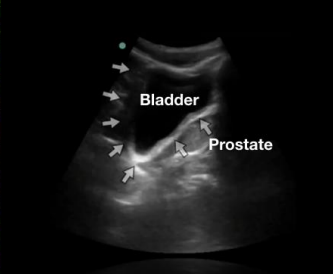
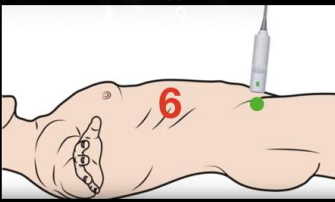
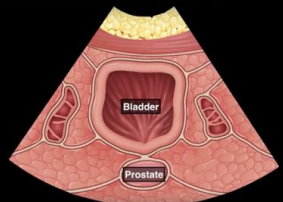
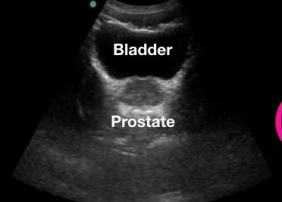
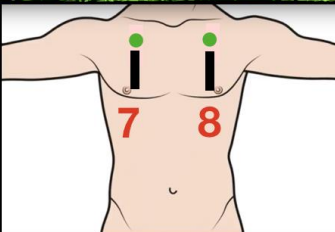
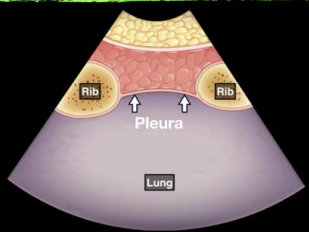
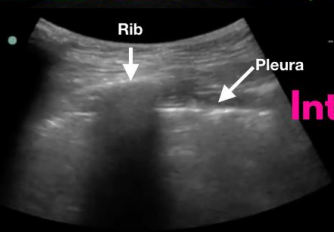
Assess Volume Status

Is the patient hypovolemic,
normovolemic, or hypervolemic?

Look for Signs of Bleeding



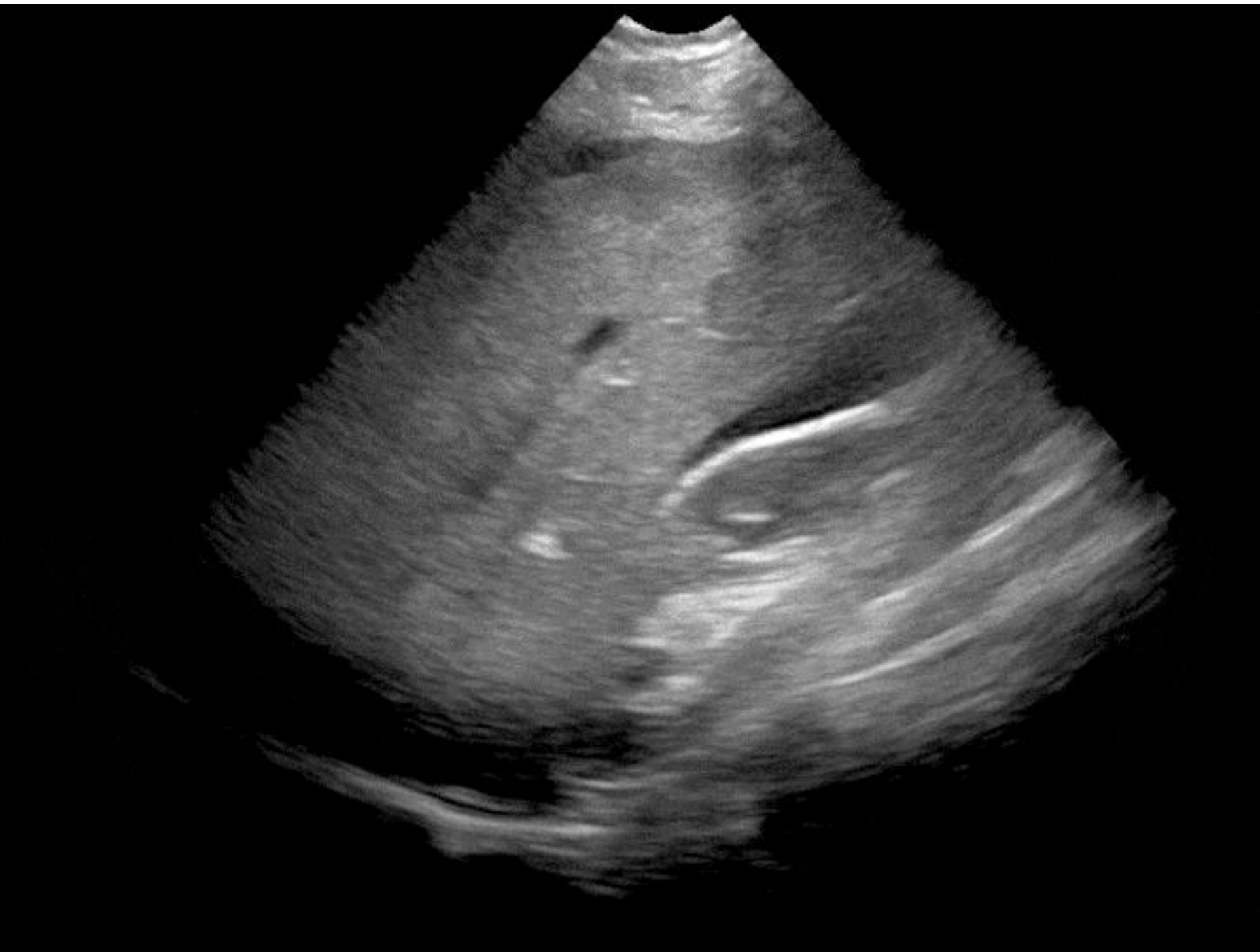
PoCUS

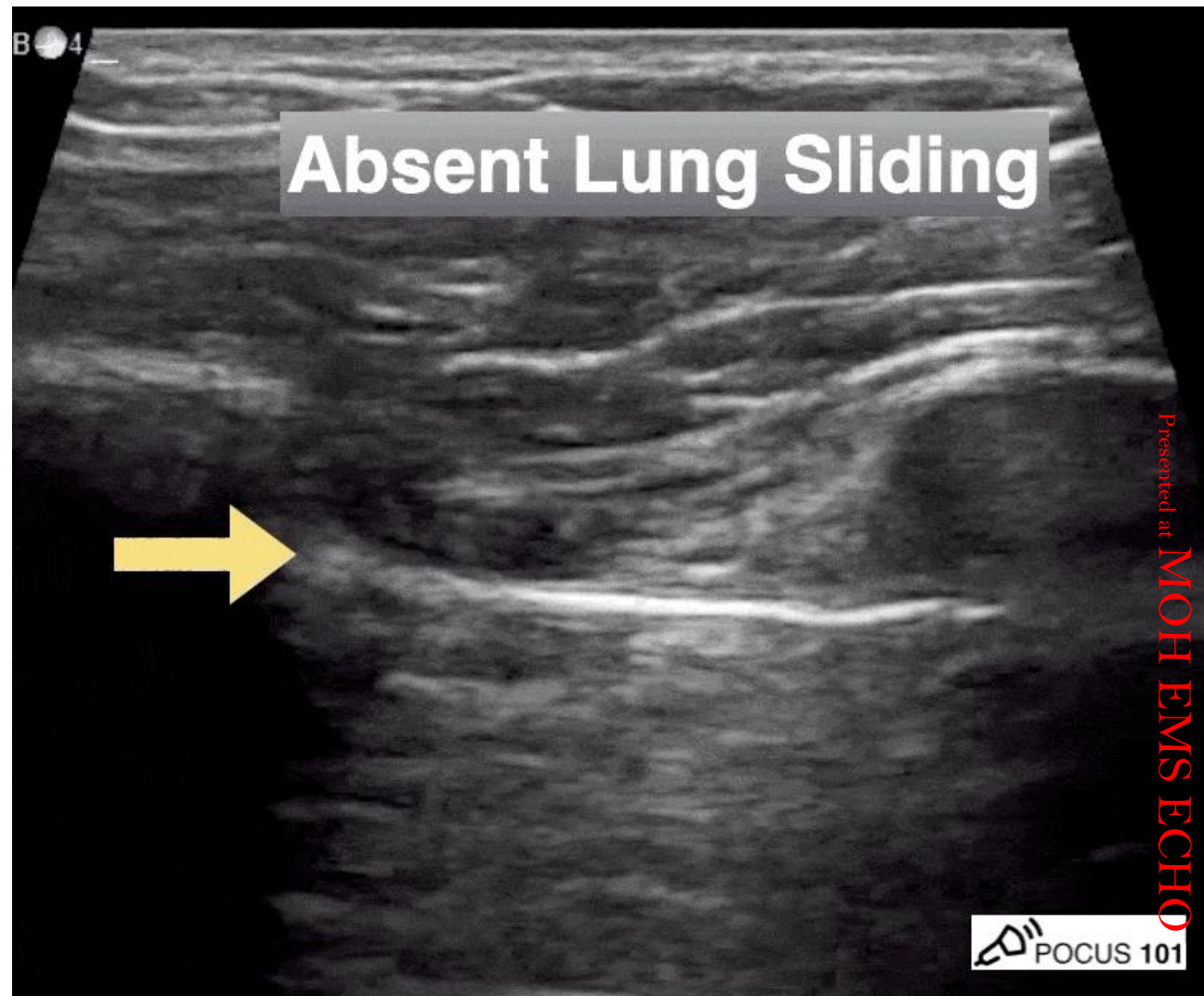
Subcostal	IVC	RUQ	LUQ	Pelvis (sagittal)	
					Schematic
					US Schematic
					US Image
Schematic	US Schematic	US Image			
			Pelvis (Transverse)		
			Intercostal		

eFAST Exam
 Ultrasound Cheats

CRITICALCARE
NORTHAMPTON.COM
 REVIEWING CRITICAL CARE, JOURNALS & FOAMED
 @wilkinsonjonny

#ULTRASOUNDREELS





If you
identify an
issue:
stop and
address it!



BACK

TO

BASICS

C is for Circulation

Circulatory resuscitation is an attempt to correct the shock by improving perfusion.

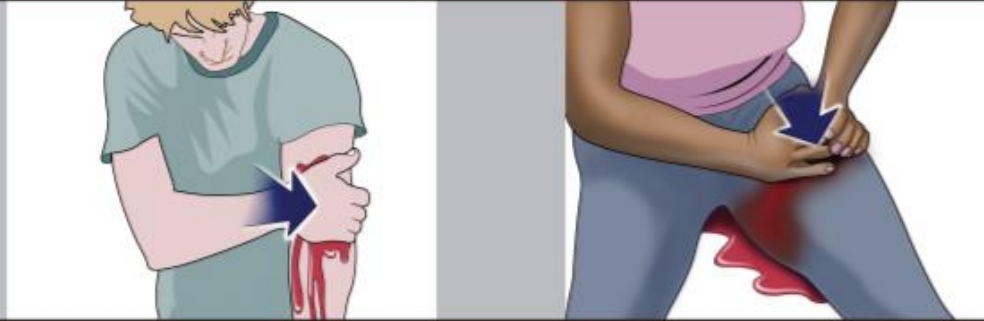




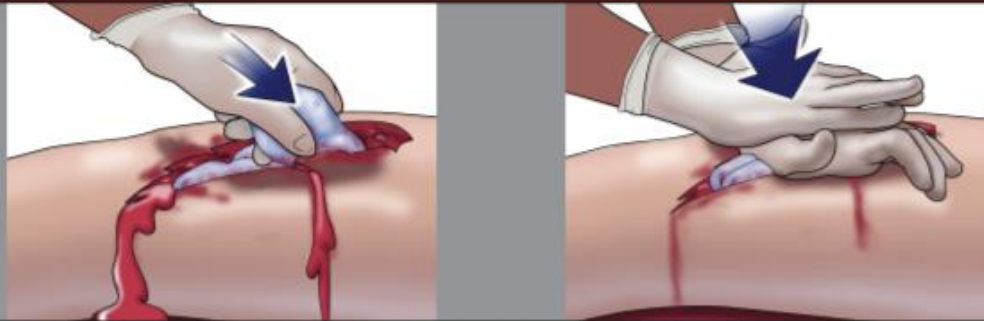
STOP
THE BLEED[®]

SAVE A LIFE

1 APPLY PRESSURE WITH HANDS



2 APPLY DRESSING AND PRESS



3 APPLY TOURNIQUET



WRAP

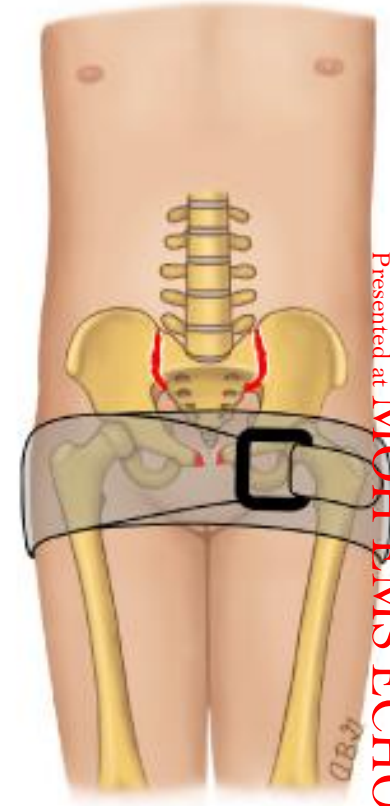
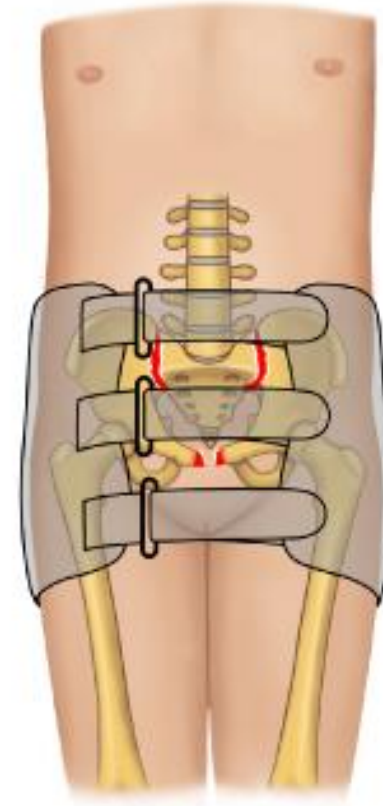
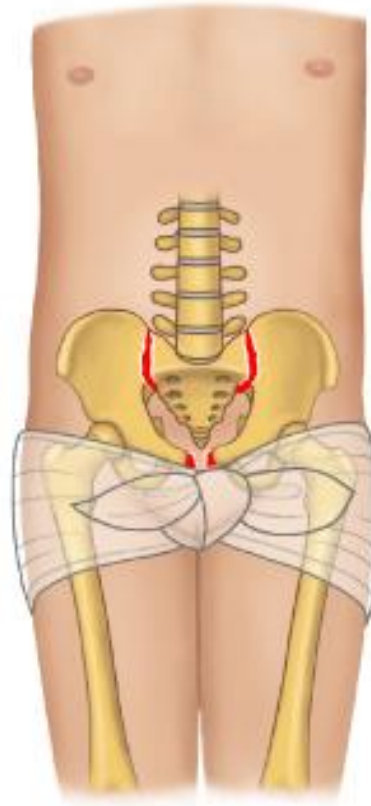
WIND

SECURE

TIME

CALL 911

Pelvic Binder



Procedure Pearls

IV CATHETER SIZES AND FLOW RATES

ORANGE	14G			240 ML/MIN 1 LITER = ~4 MINUTES
GRAY	16G			180 ML/MIN 1 LITER = ~5.5 MINUTES
GREEN	18G			90 ML/MIN 1 LITER = ~11 MINUTES
PINK	20G			60 ML/MIN 1 LITER = ~17 MINUTES
BLUE	22G			36 ML/MIN 1 LITER = ~28 MINUTES
YELLOW	24G			20 ML/MIN 1 LITER = ~50 MINUTES
VIOLET	26G			13 ML/MIN 1 LITER = ~77 MINUTES





Fluids

D is for Disability

Disability Assessment

- **Assess** level of consciousness (AVPU or GCS)
- **DEFG**: don't ever forget glucose.
- **Check** pupil size, equality and reactivity to light
- **Check** movement and sensation in all four limbs

A

The patient
is awake.

V

The patient responds
to verbal stimulation.

P

The patient responds
to painful stimulation.

U

The patient is completely
unresponsive.

Glasgow Coma Scale		
BEHAVIOR	RESPONSE	SCORE
Eye opening response	Spontaneously	4
	To speech	3
	To pain	2
	No response	1
Best verbal response	Oriented to time, place, and person	5
	Confused	4
	Inappropriate words	3
	Incomprehensible sounds	2
	No response	1
Best motor response	Obeys commands	6
	Moves to localized pain	5
	Flexion withdrawal from pain	4
	Abnormal flexion (decorticate)	3
	Abnormal extension (decerebrate)	2
	No response	1
Total score:	<i>Best response</i>	15
	<i>Comatose client</i>	8 or less
	<i>Totally unresponsive</i>	3



DEFG: Don't ever
forget glucose



Check Pupils



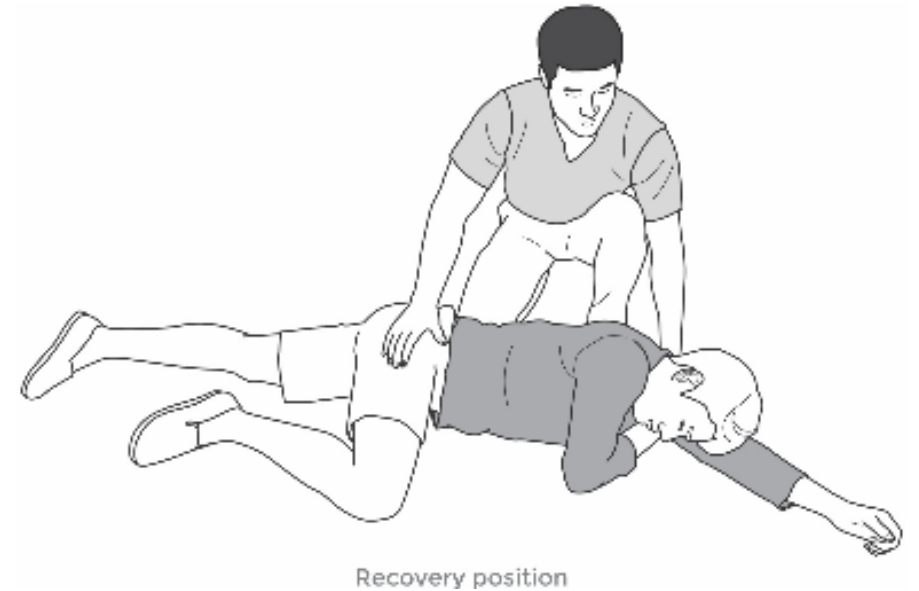
Rapid Neuro Assessment

If you
identify an
issue:
stop and
address it!

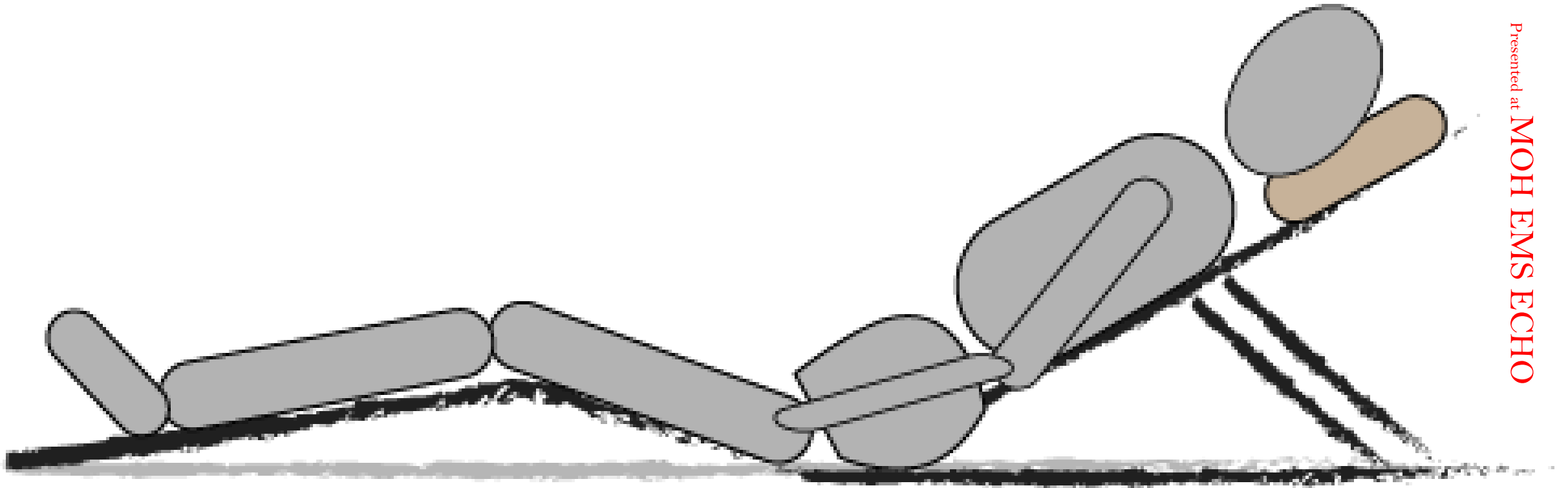


Disability: Management

- If altered mental status, no trauma, ABCDEs otherwise normal
 - place in RECOVERY POSITION
- If altered mental status, low glucose (<3.5mmol/L) or if unable to check glucose
 - Give GLUCOSE
- If actively *seizing*
 - Give BENZODIAZEPINE
- If pregnant and *seizing*
 - Give MAGNESIUM SULPHATE



Elevate head of the bed.



E is for Exposure

Undress the patient fully.

—



Log Roll





Hypothermia Kills

Presented at **MOH EMSCO**

ABCDE Approach: Summary



Airway with cervical spine immobilization



Breathing plus oxygen if needed



Circulation IV fluids and bleeding control



Disability AVPU/GCS, pupils and glucose



Exposure and keep warm

Reassess, Reassess,
Reassess, Reassess!

Elements of the SAMPLE history

S	Signs and symptoms	Patient/family's report of signs and symptoms is an essential assessment
A	Allergies	Important to prevent harm; may also suggest anaphylaxis
M	Medications	Obtain a full list and note recent medication or dose changes
P	Past Medical History	May help in understanding current illness and change management choices
L	Last Oral intake	Note whether solid or liquid; vomiting/choking risk for sedation; intubation or surgical procedures
E	Events surrounding the injury/illness	Helpful clues to the cause, progression and severity of current illness

Presented at MOH EMS ECHO

Secondary Survey: Head- to-Toe Exam

<i>Mnemonic</i>	<i>Secondary survey</i>
Has	Head/skull
My	Maxillofacial
Critical	Cervical Spine
Care	Chest
Assessed	Abdomen
Patient's	Pelvis
Priorities	Perineum
Or	Orifices (PR/PV)*
Next	Neurological
Management	Musculoskeletal
Decision?	Diagnostic tests/ definitive care

Airway

Circulation

Exposure

A

B

C

D

E

Breathing

Disability

Take Home Messages

- Be systematic: ABCDE
- Identify a problem = stop and manage that problem
- Learn to do the basics well!

A circular graphic with a bokeh background of soft, out-of-focus light spots in shades of blue, yellow, and white. The words "thank you" are written in a cursive script. The word "thank" is in a lighter, yellowish-orange color, while "you" is in a darker, reddish-brown color. Both words have a subtle gradient and are framed by thin black lines that extend into the background.

thank
you

ANY
QUESTIONS
?