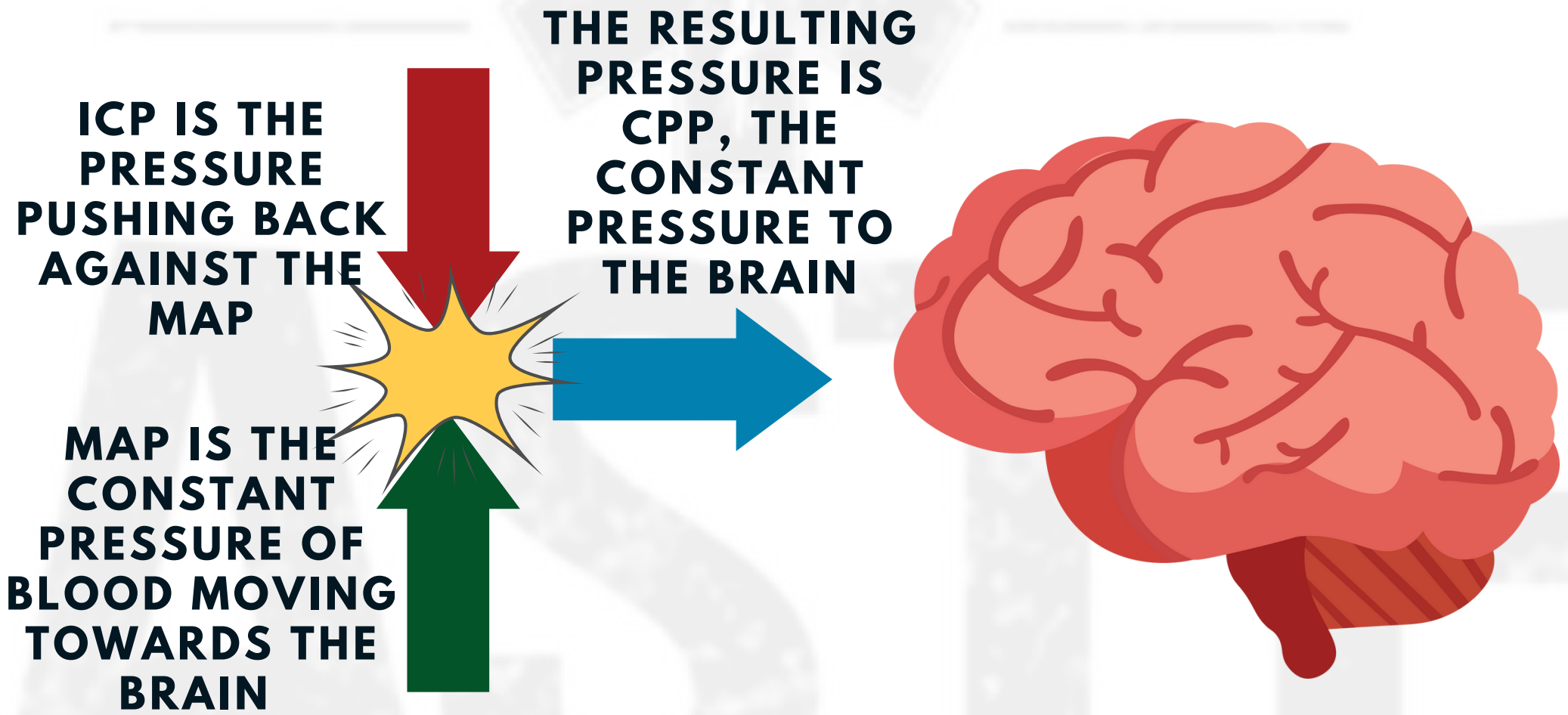
The background is a solid blue color. It features several white, irregular brushstrokes that sweep across the frame, particularly concentrated in the center and bottom right. In the top right corner, there is a cluster of white-outlined squares and rectangles of various sizes. In the bottom left corner, there is another cluster of similar white-outlined shapes. Faint, large, light-blue text is visible in the background, including the word 'MEDICS' at the bottom and 'EMERGENCY' in the upper left. A faint star shape is also visible in the bottom right.

***"Underpressure you don't rise to the occasion, you sink to the level of your training"***

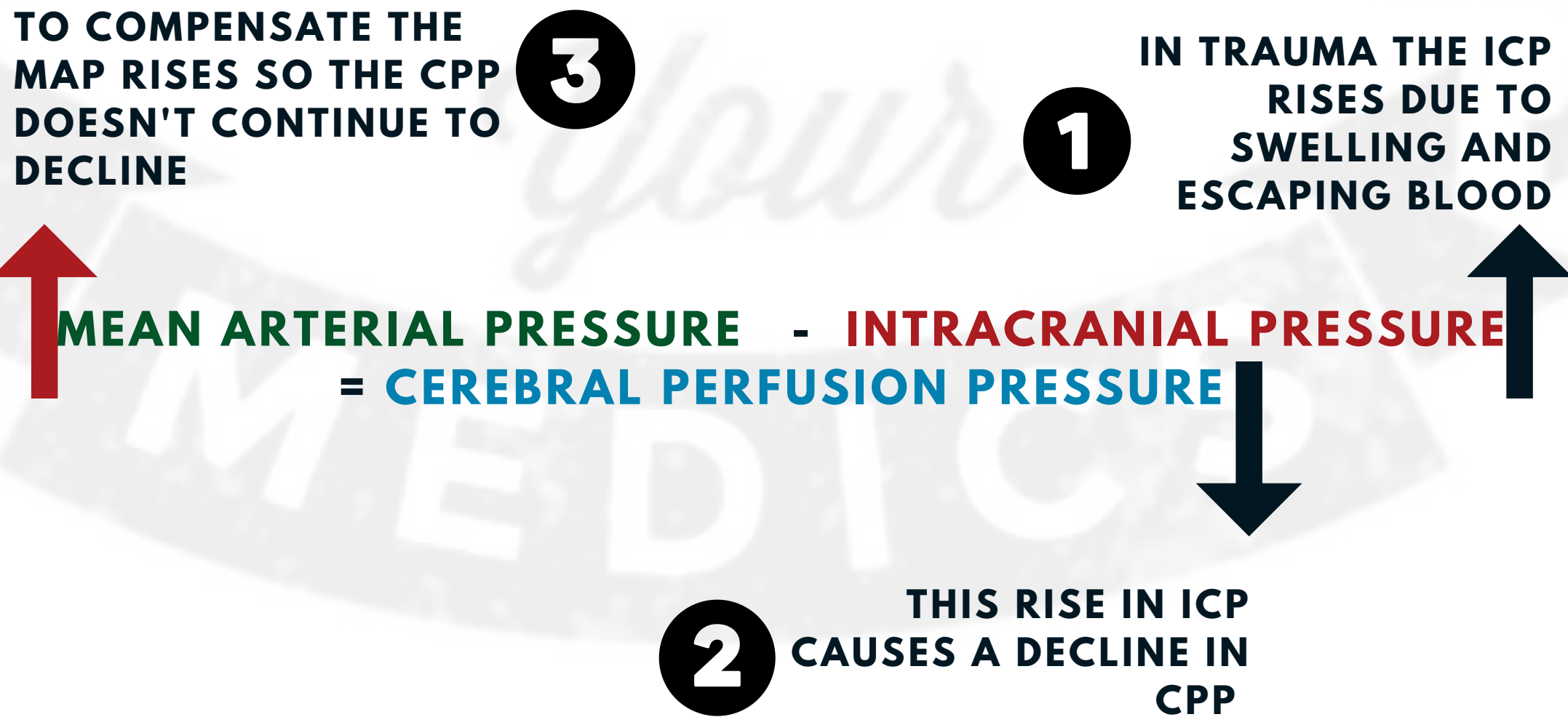
***Jon Gordon***

# HYPERTENSION IN TRAUMATIC BRAIN INJURIES

**MEAN ARTERIAL PRESSURE (MAP) - INTRACRANIAL PRESSURE (ICP) = CEREBRAL PERFUSION PRESSURE (CPP)**



## WHAT HAPPENS IN TRAUMA?



# TRAUMATIC BRAIN INJURY TREATMENT

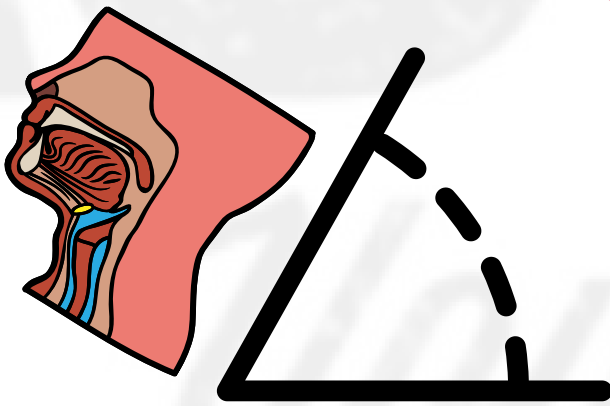

$$\text{MEAN ARTERIAL PRESSURE} - \text{INTRACRANIAL PRESSURE} = \text{CEREBRAL PERFUSION PRESSURE}$$




OUR GOAL IS TO  
MAINTAIN CPP

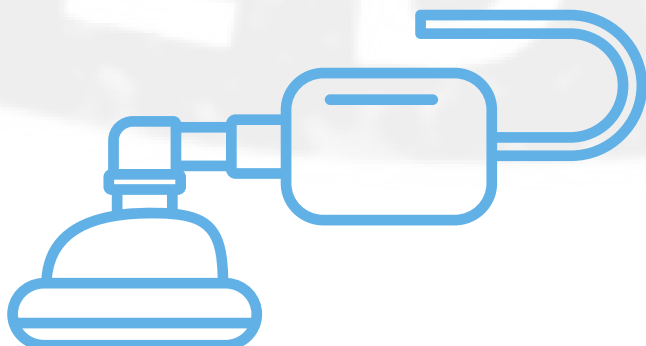
## HOW CAN WE HELP?

**1** STOP ALL EXTERNAL  
BLEEDING



**2** RAISE THE HEAD 30  
DEGREES

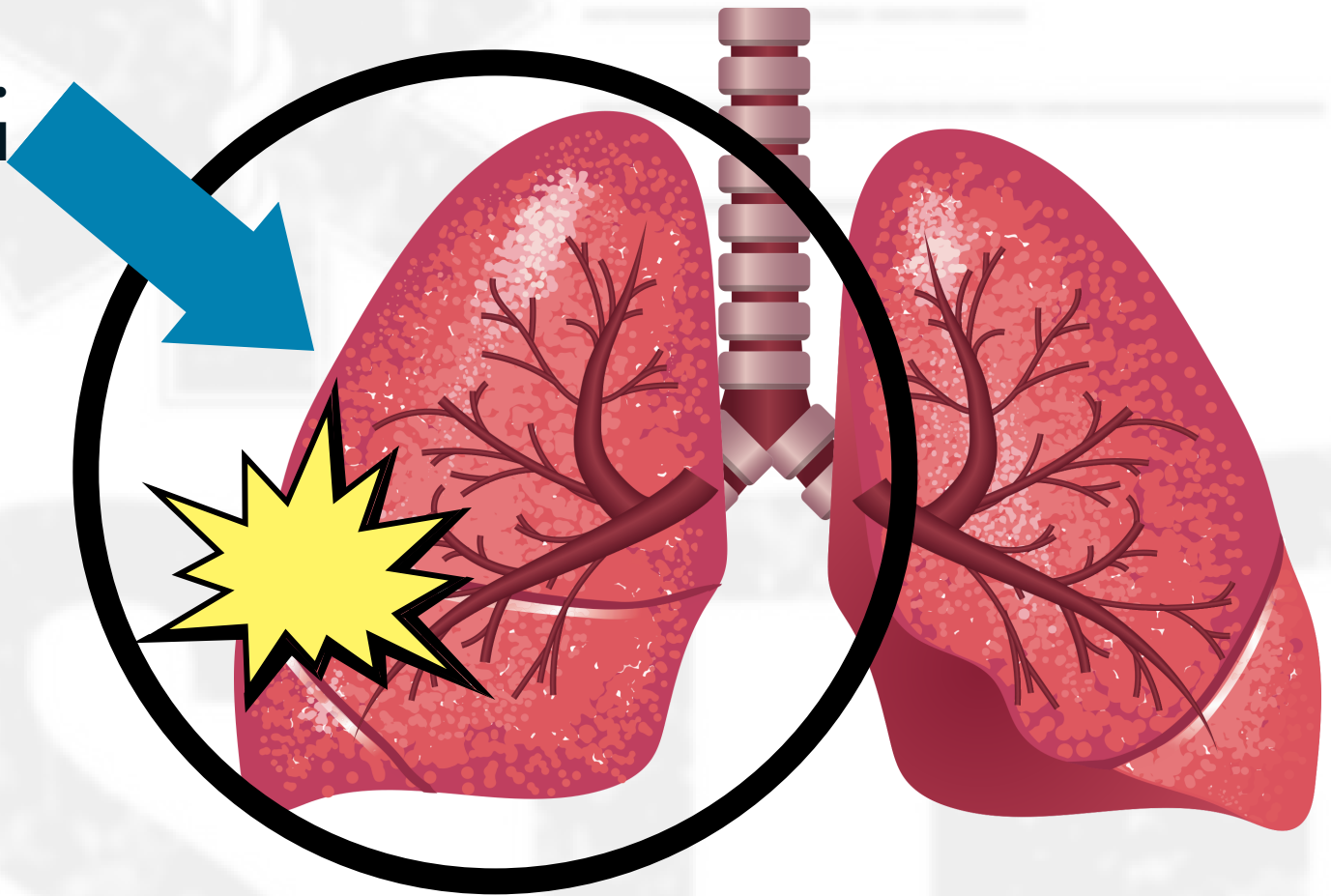
**3** MAINTAIN MAP  
(AVOID  
HYPOTENSION)



**4** MAINTAIN  
OXYGENATION

# TENSION PNEUMOTHORAX

**BLUNT OR PENETRATING  
CHEST INJURIES CAN  
INTERRUPT VENTILATION.  
IF THERE IS DESTRUCTION  
OF INTERNAL LUNG  
STRUCTURE, AIR CAN  
ESCAPE INTO THE  
PLEURAL SPACE AND  
CAUSE A TENSION  
PNEUMOTHORAX**



## WHAT TO LOOK FOR

### EARLY SIGNS

**SHORTNESS OF  
BREATH  
ALTERED LOC  
POOR SPO2  
TACHYCARDIA  
HYPOTENSION**

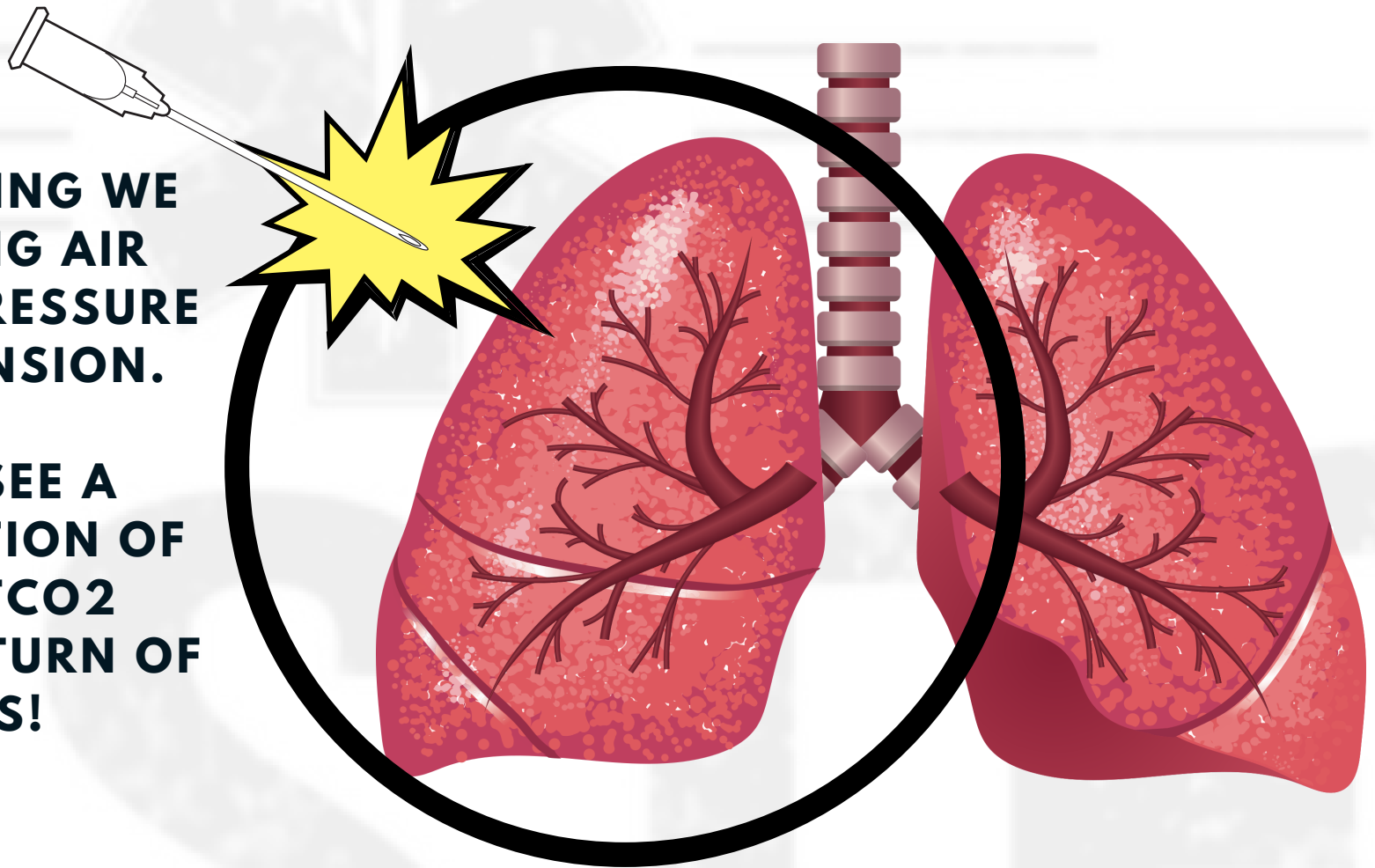
### LATE SIGNS

**JUGULAR VEIN DISTENSION  
TRACHEA DEVIATION  
PEA ARREST**

# TENSION PNEUMOTHORAX TREATMENT

**BY DECOMPRESSING WE  
ARE EVACUATING AIR  
THAT IS UNDER PRESSURE  
TO DECREASE TENSION.**

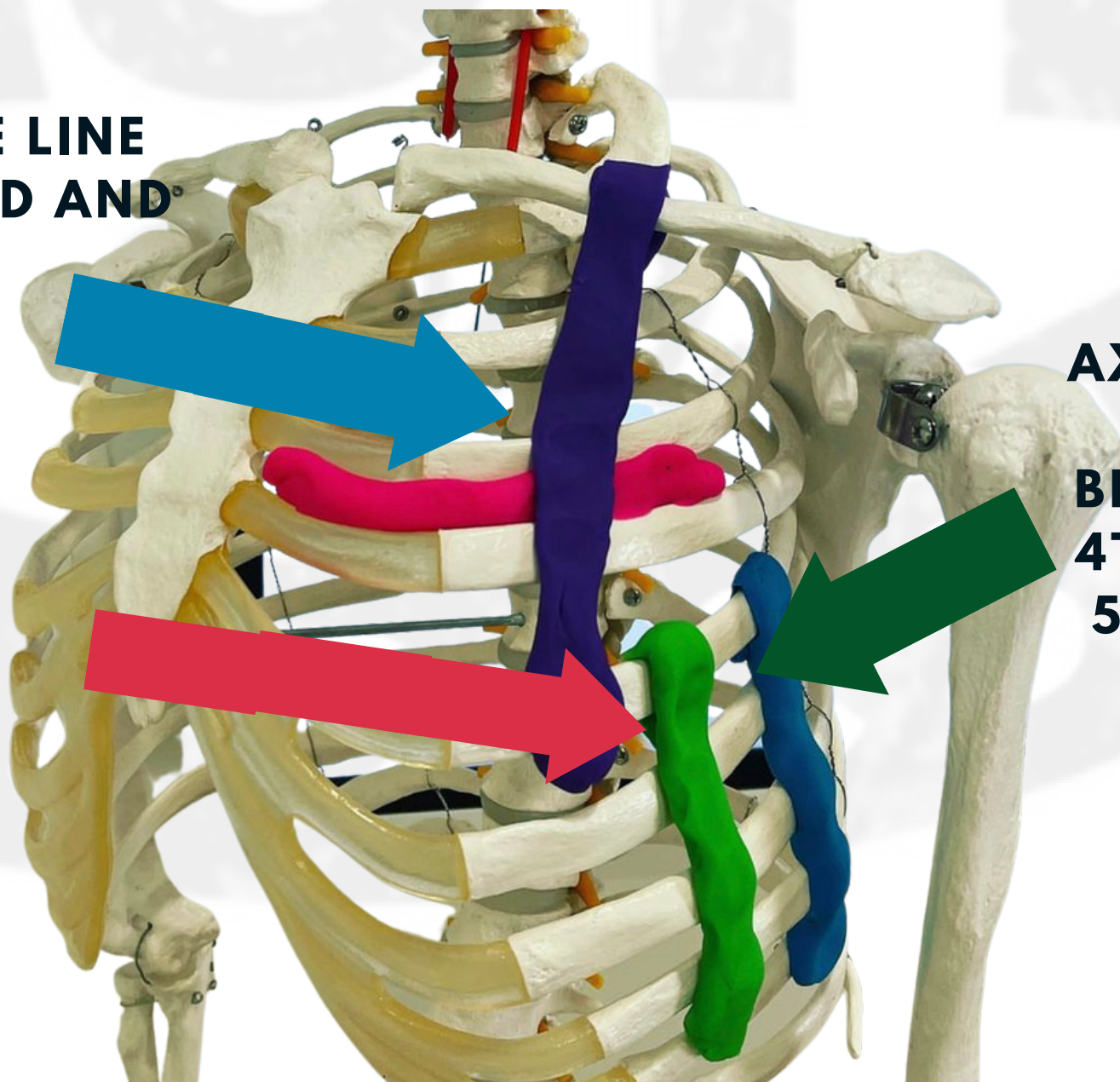
**YOU SHOULD SEE A  
QUICK RESTORATION OF  
VITALS AND ETCO2  
WATCH FOR A RETURN OF  
POOR VITALS!**



## DECOMPRESSION LOCATIONS

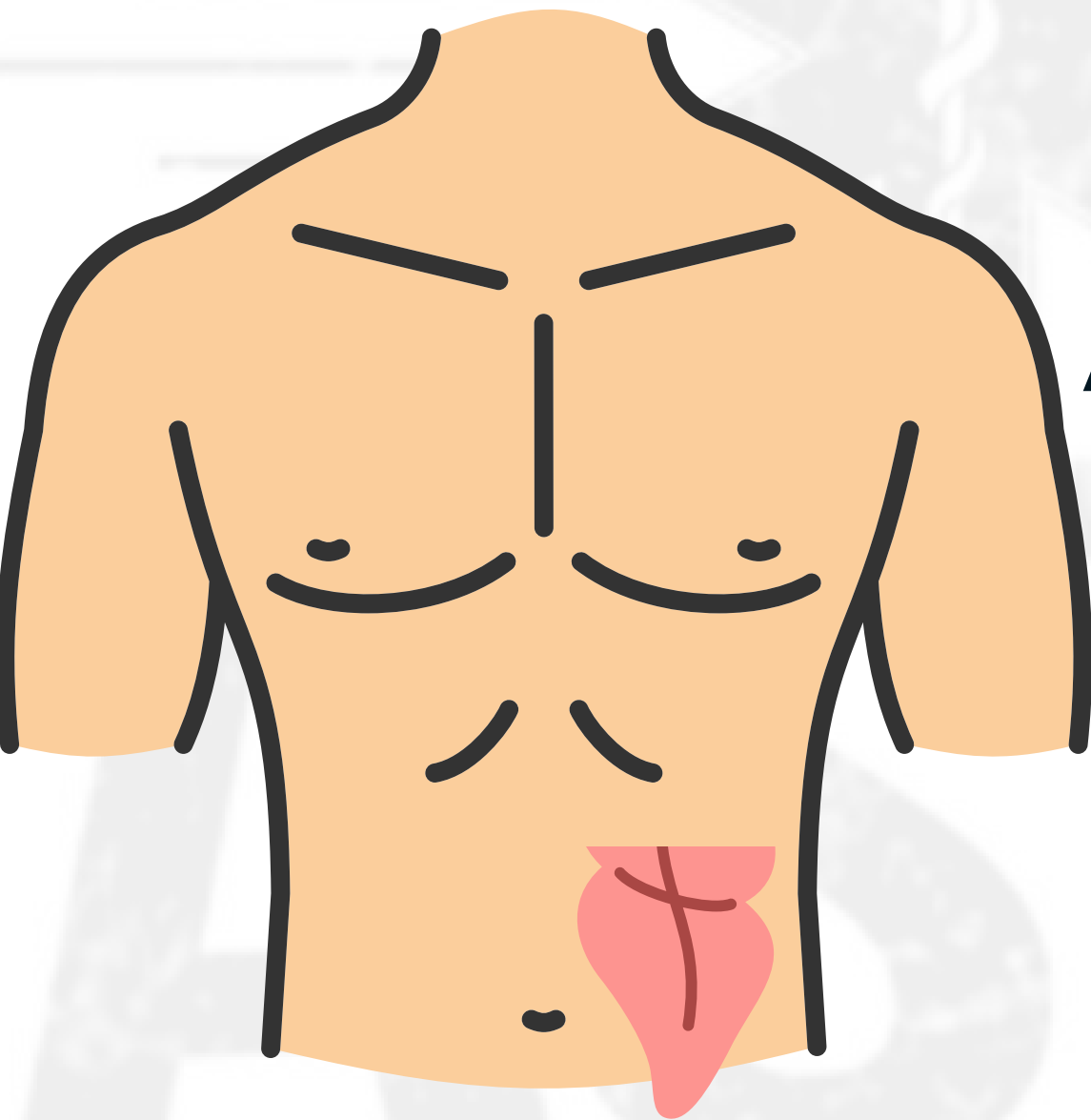
**MIDCLAVICLE LINE  
BETWEEN 2ND AND  
3RD RIB**

**ANTERIOR  
AXILLARY LINE  
BETWEEN 4TH  
AND 5TH RIB**



**MID  
AXILLARY  
LINE  
BETWEEN  
4TH AND  
5TH RIB**

# ABDOMINAL EVISCERATION

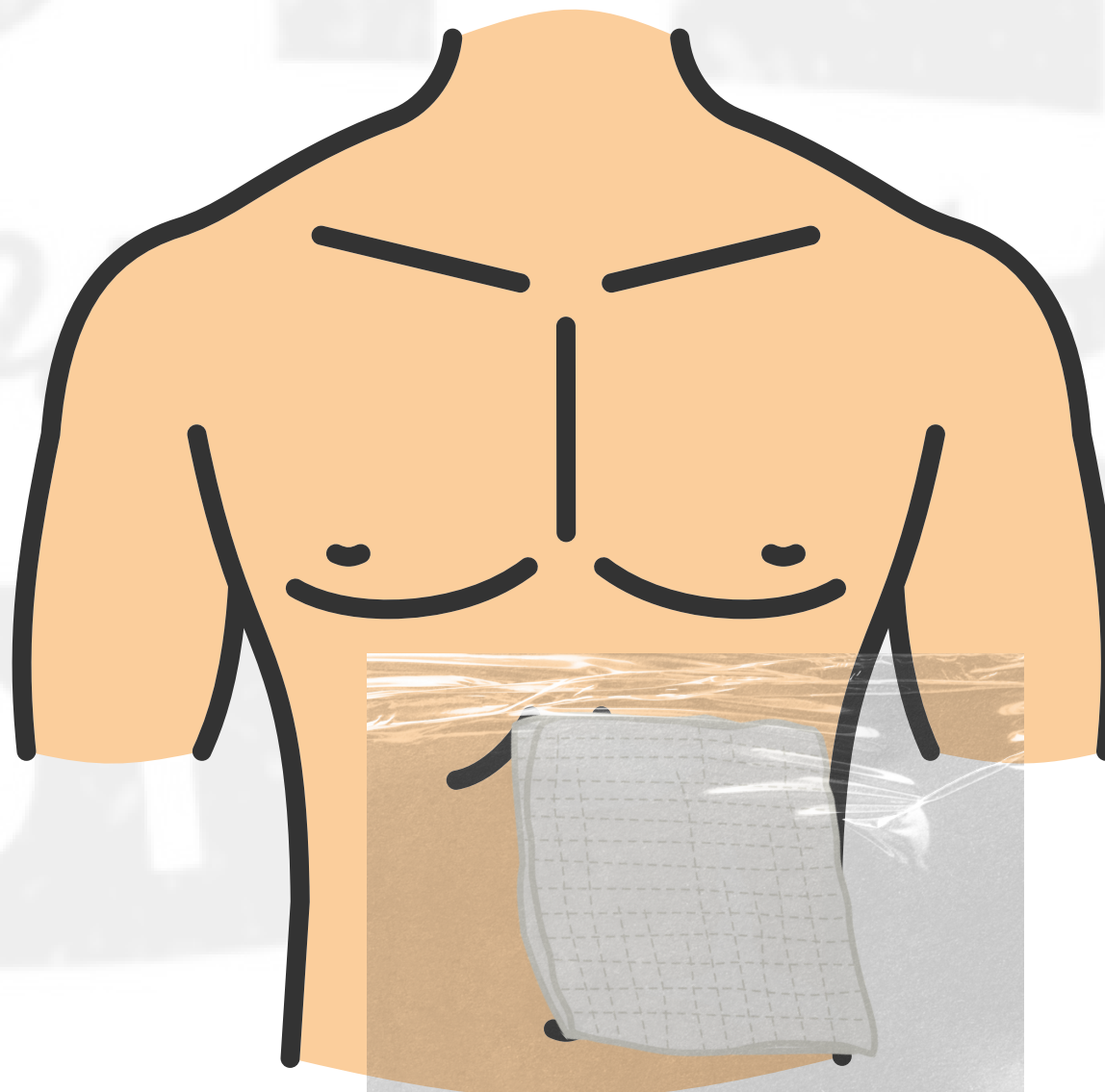


**ABDOMINAL EVISCERATION IS WHEN AN ORGAN IS PULLED THROUGH THE PERITONEAL CAVITY AND IS EXPOSED OUTSIDE THE ABDOMEN.**

**REMEMBER COLD DRY BOWEL IS DEAD BOWEL!**

**COVER EXPOSED TISSUE WITH WET GAUZE THEN COVER WITH SOMETHING OCCLUSIVE TO PREVENT DRY OUT.**

**COVER WITH BLANKET TO KEEP WARM**



# ARM AMPUTATION

CAT  
TOURNIQUET 1  
4 - 6 INCHES  
ABOVE  
AMPUTATION.

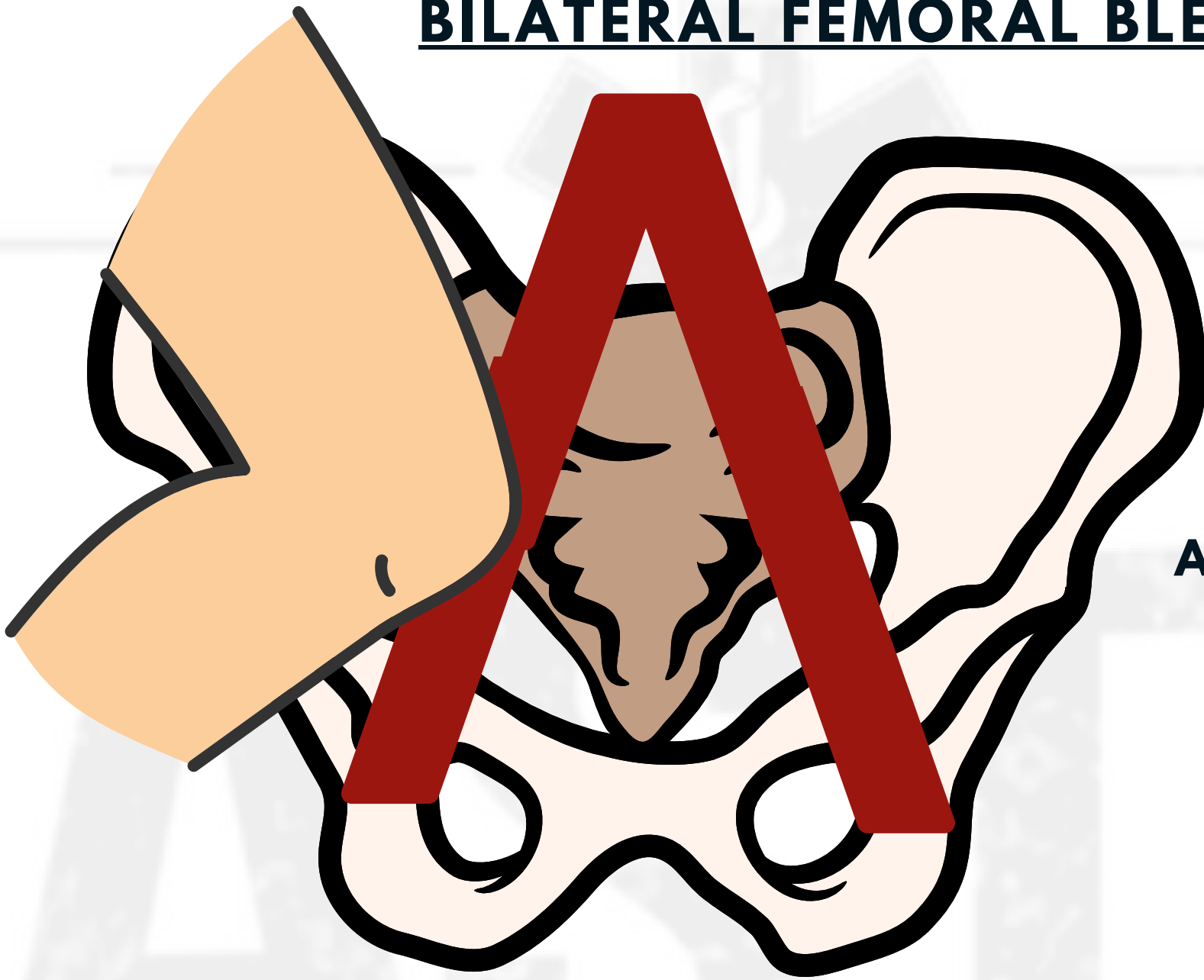


CAT  
TOURNIQUET 2  
IF CAT 1  
TOURNIQUET  
FAILS APPLY  
SECOND "HIGH  
AND TIGHT" ON  
THE ARM



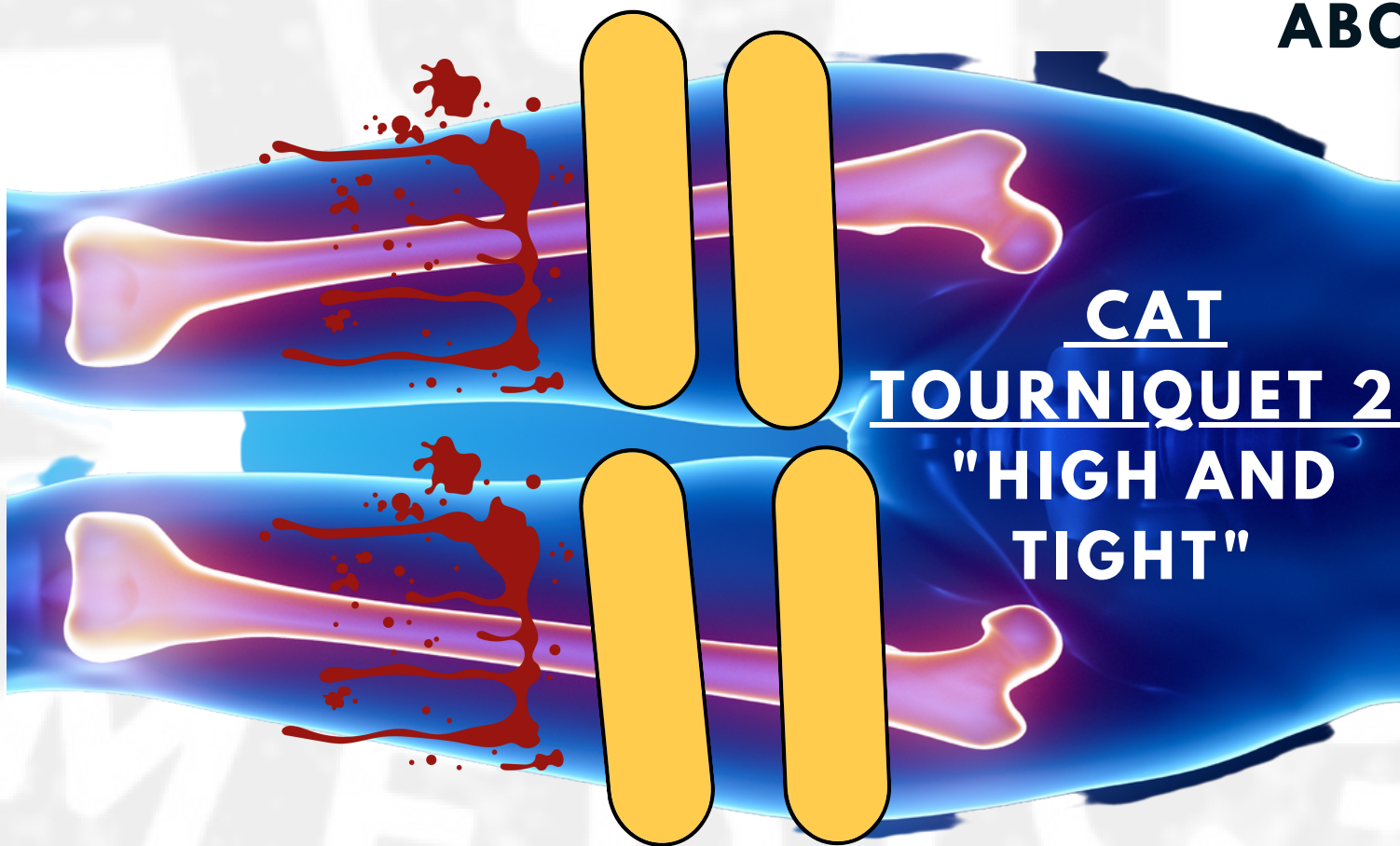
CONTINUE TO MONITOR FOR SIGNS OF  
HYPOVOLEMIC SHOCK AND TREAT AS  
NEEDED

# BILATERAL FEMORAL BLEED



STEP 1  
**PRESSURE  
POINT TO  
AFFECTED LEG**

CAT  
TOURNIQUET 1  
**4 - 6 INCHES  
ABOVE INJURY.**



**CONTINUE TO MONITOR FOR SIGNS OF  
HYPOVOLEMIC SHOCK AND TREAT AS NEEDED**

# TRIAD OF DEATH

**HYPOTHERMIA**

**EXPOSURE**

**COAGULOPATHY**

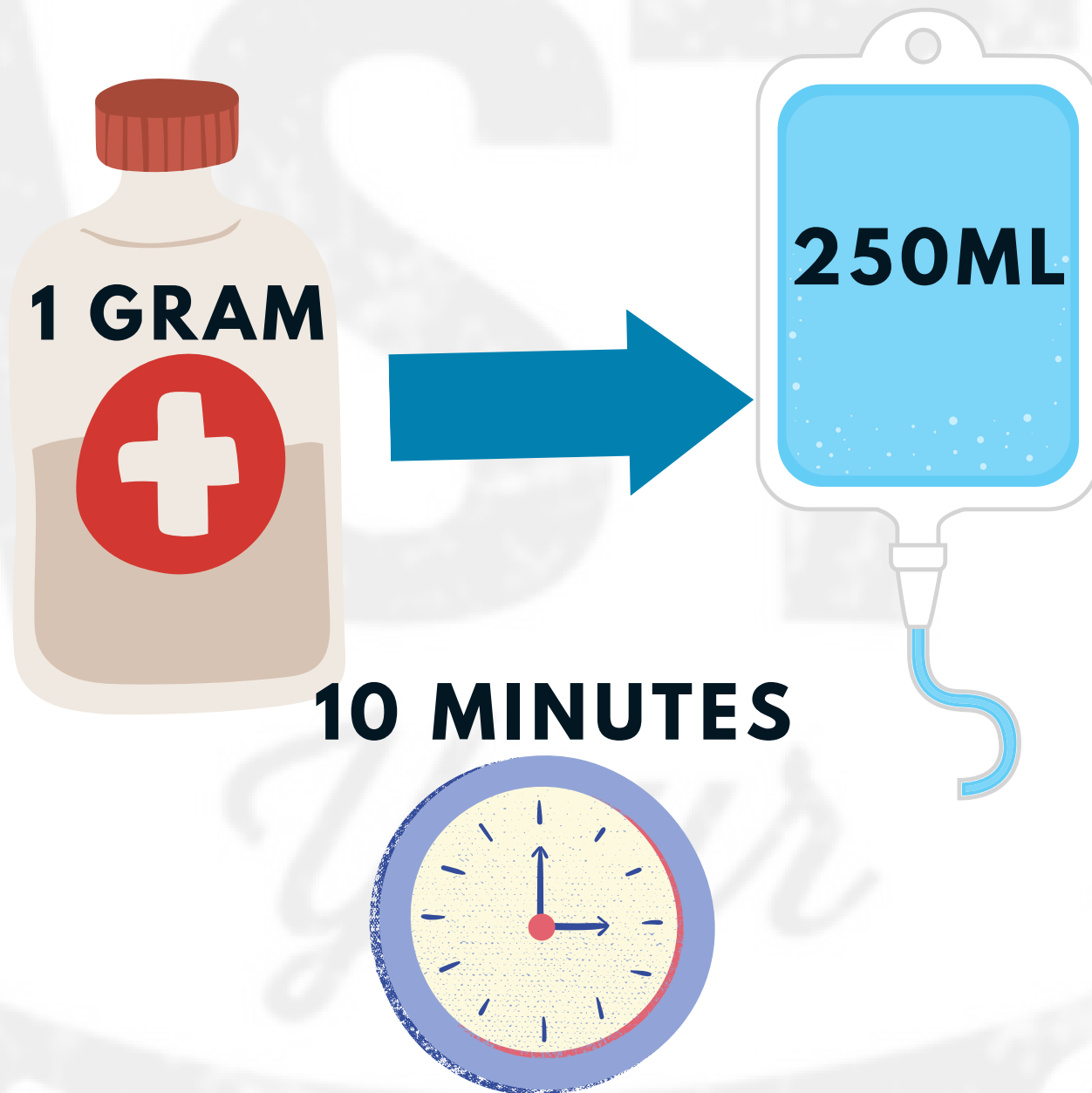
**BLEEDING**

**HYPOPERFUSION**

**METABOLIC ACIDOSIS**

# TRANEXAMIC ACID (TXA)

**CRASH 2 STUDY - WHEN TXA WAS GIVEN  
WITHIN THE FIRST HOUR FROM TIME OF INJURY,  
DEATH FROM HEMORRHAGE DECLINED BY 1/3**



**CRASH 3 STUDY - WHEN TXA WAS GIVEN WITHIN  
THE FIRST HOUR THERE WAS A STATISTICALLY  
SIGNIFICANT DECREASE IN INTRACRANIAL  
HEMORRHAGE BUT DID NOT LEAD TO IMPROVED  
SURVIVAL OR NEURO OUTCOME**

**PATIENT INFO CARD DOWNLOAD**

