

Advance Cardiac Life Support , ACLS

**16.International Emergency
Medicine Ve 7.International Critical
Care Congress 12-15 November 2020**

**Dr. Samir M. Smisim
Saudi Red Crescent , Riyadh
Kingdom of Saudi Arabia**

Cardiac Arrest : Basic Life Support BLS

1. Check scene safety
2. Check response , if no response ,
3. Call for help 112 Turkey / 997 KSA & AED
4. Check for Breathing & circulation,
5. No Breathing , give rescue breathing .
6. No pulse , start chest compressions 30/2 for 5 cycles or 2 M .
7. Defibrillation check for shockable
8. Continue (CPR) until Advance Cardiac life Support Team Arrive .



Cardiac Arrest : Basic Life Support BLS



Advance Cardiac Life Support

Primary Survey

- ▶ **Airway** : Open & Control Airway ,advance airway
- ▶ **Breathing** : Support Ventilation with BVM and give O2
- ▶ **Circulation** : Open IV , or IO , Attach Monitor , assess
- ▶ **Disability** : Neurologic functions , AVBU
- ▶ **Exposure** : remove cloths of the patient and check for causes

Advance Cardiac Life Support

Secondary Survey SAMPLE

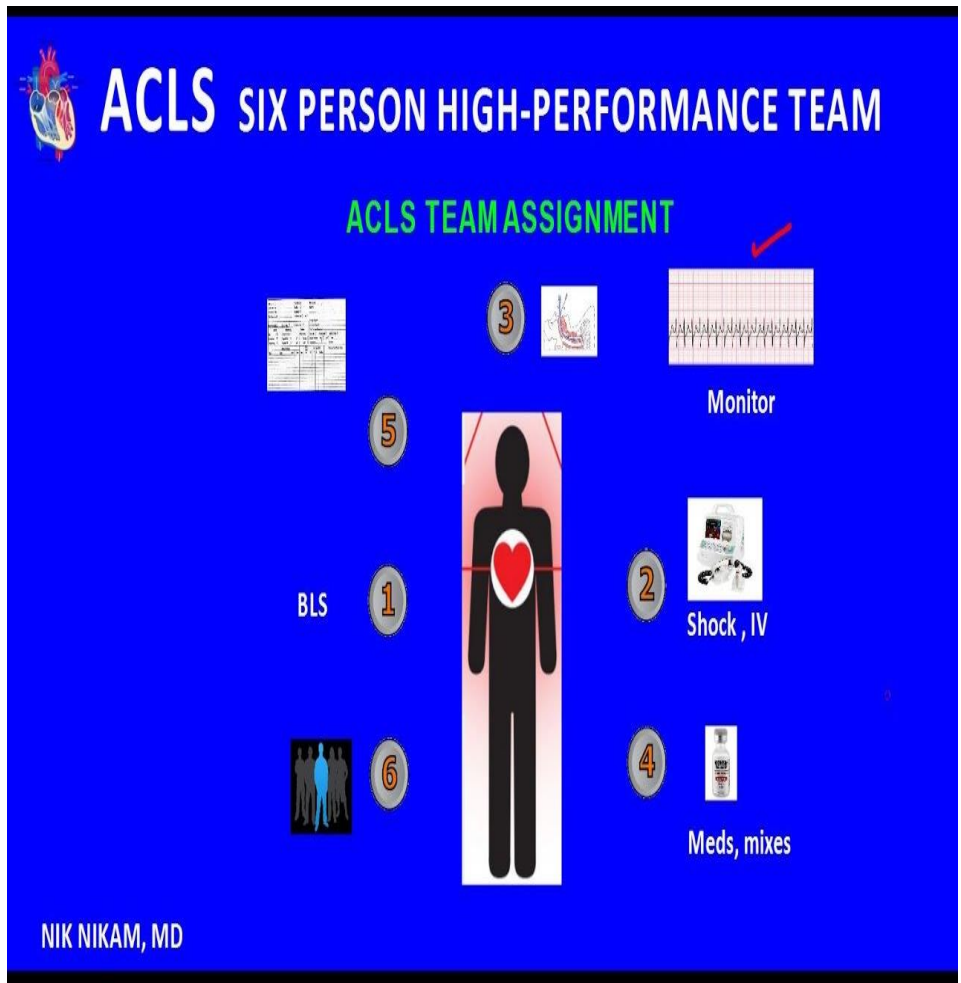
- ▶ Sings & Symptoms
- ▶ Allergies
- ▶ Medications
- ▶ Past medical History
- ▶ Last Oral Intake
- ▶ Events
- ▶ 5 H and 5 T



Advance Cardiac Life Support

Team : 6 people

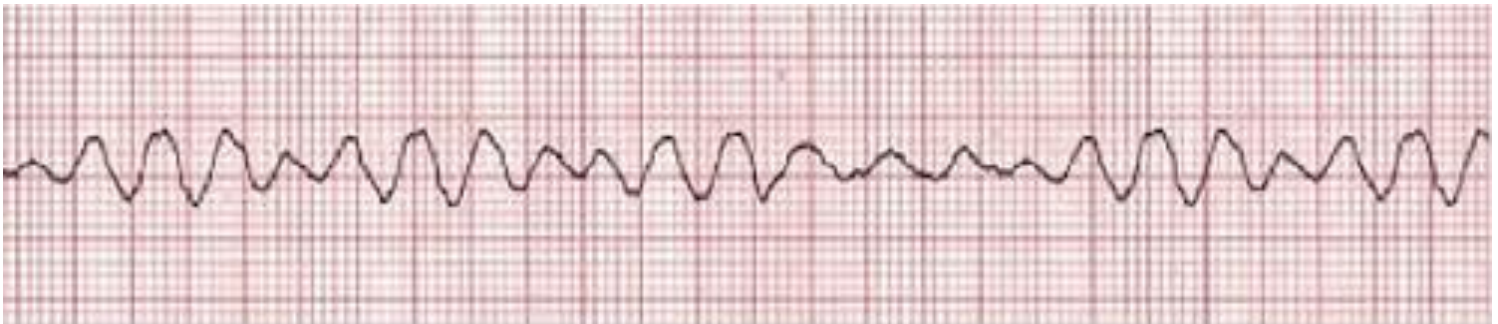
1. Team leader
2. Airway and Ventilation
3. Chest compressions
4. Monitor / and Defibrillator
5. IV / I O / and medication
6. Recorder / Timer



Monitor : 4 Fetal Rhythms

2 Shockable Rhythms

► Ventricular Fibrillation VF



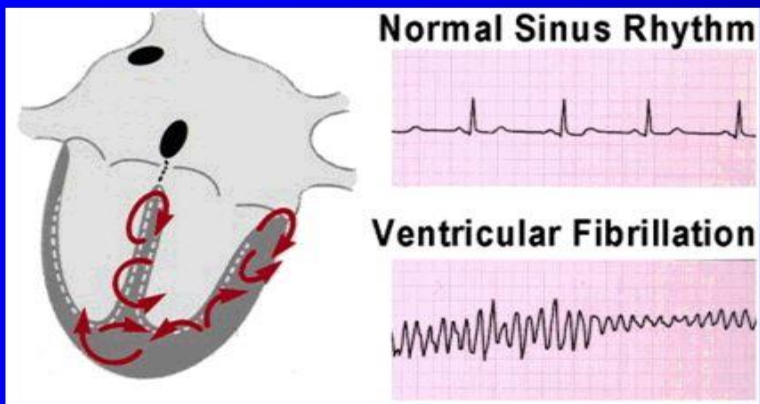
► Ventricular Tachycardia (Pulseless VT)



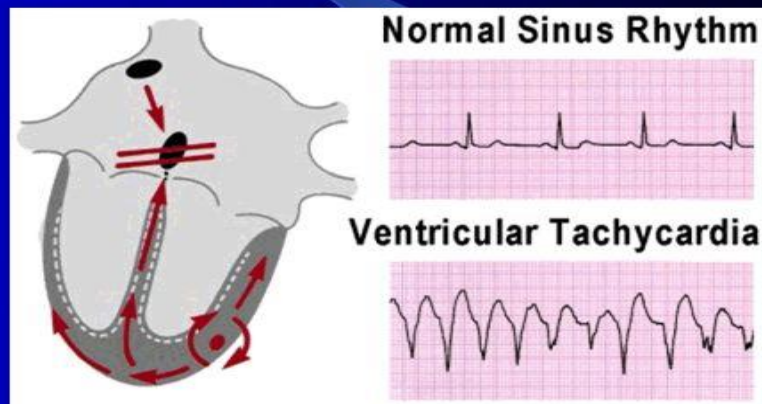
2 Shockable Rhythms

Shockable Rhythms

Ventricular Fibrillation



Ventricular Tachycardia



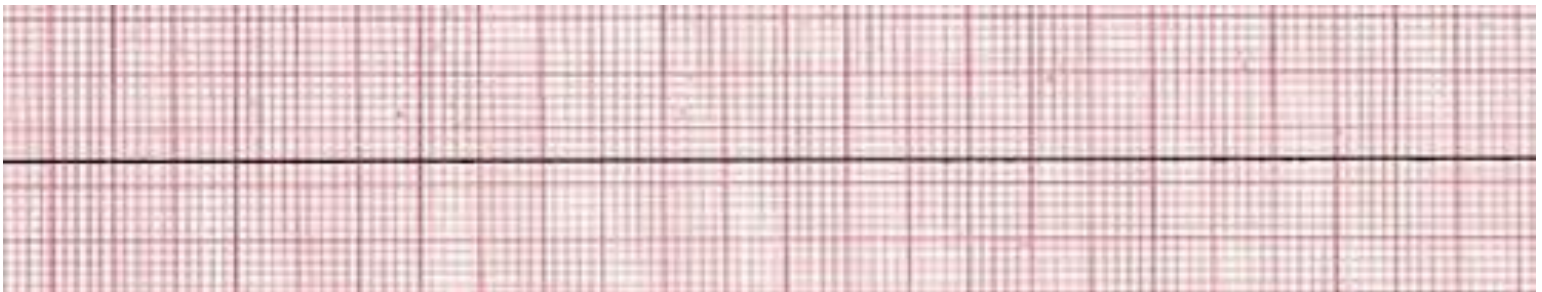
Monitor : 4 Fetal Rhythms

2 NonShockable Rhythms

- ▶ **Pulseless electrical Activity (PEA)**



- ▶ **Asystole (flat line protocol)**



1. Shockable Rhythms

VF & Pulseless VT

1st , Shock 120-200 J Bi or 360 Mo

Continue: CPR 5 cycles or 2 minutes

Do Advance Airway

Prepare : Epinephrine 1 mg 1/10,000

2 minutes finish : Stop Analyze

2. Shockable Rhythms VF & Pulseless VT

2nd , Shock 120-200 J Bi or 360 Mo

Continue: CPR 5 cycles or 2 minutes

Give : Epinephrine 1 mg 1/10,000

**Prepare : Amiodarone 300 mg
or Lidocaine 1-1,5 mg/kg**

2 minutes finish : Stop Analyze

3. Shockable Rhythms VF & Pulseless VT

3rd , Shock 120-200 Ji or 360 Mo

Continue: CPR 5 cycles or 2 minutes

**Give : Amiodarone 300 mg
or Lidocaine 1-1,5 mg**

Prepare : Epinephrine 1 mg 1/10,000

2 minutes finish : Stop Analyze

4. Shockable Rhythms VF & Pulseless VT

4th , Shock 120-200 J Bi or 360 Mo

Continue: CPR 5 cycles or 2 minutes

**Prepare : Amiodarone 150 mg
or Lidocaine 0,5 -0,75 mg**

Give : Epinephrine 1 mg 1/10,000

2 minutes finish : Stop Analyze

5. Shockable Rhythms

Pulseless Vtach torsade De Pointes



5th , Shock 120-200 J Bi or 360 Mo

Continue: CPR 5 cycles or 2 minutes

Give : Magnesium Sulphate 2 grms

2 minutes finish : Stop Analyze

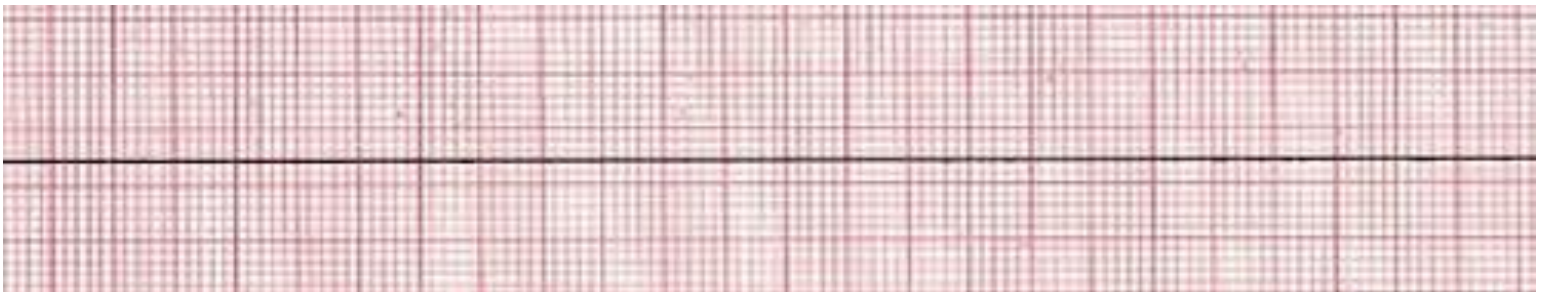
Monitor : 4 Fetal Rhythms

2 NonShockable Rhythms

- ▶ **Pulseless electrical Activity (PEA)**

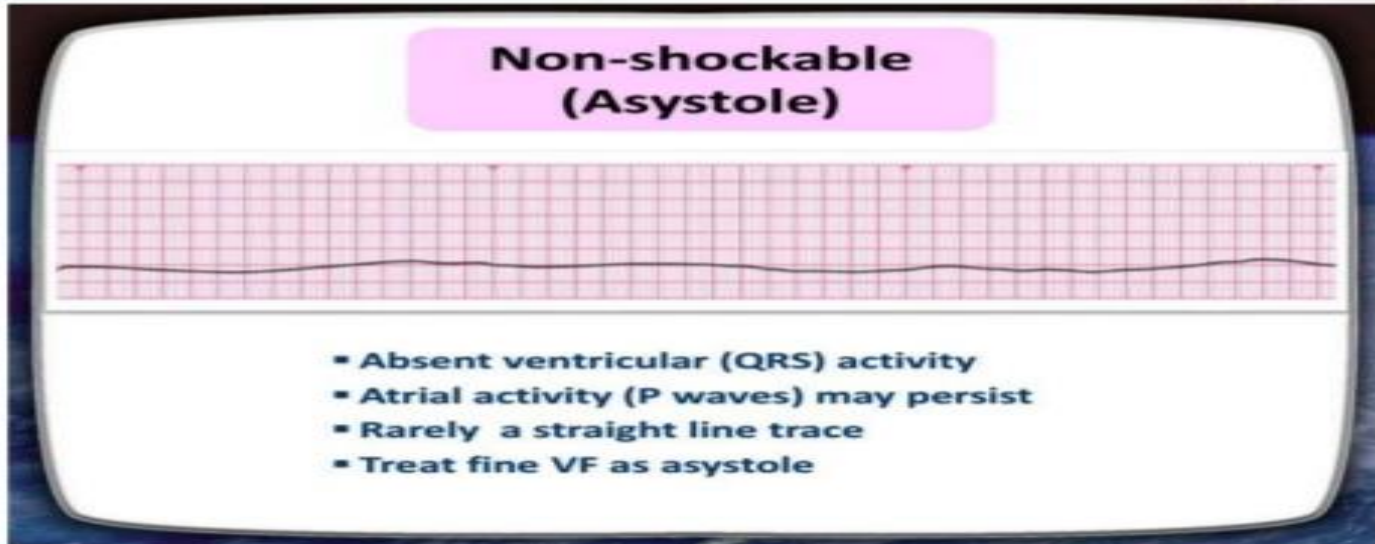


- ▶ **Asystole (flat line protocol)**



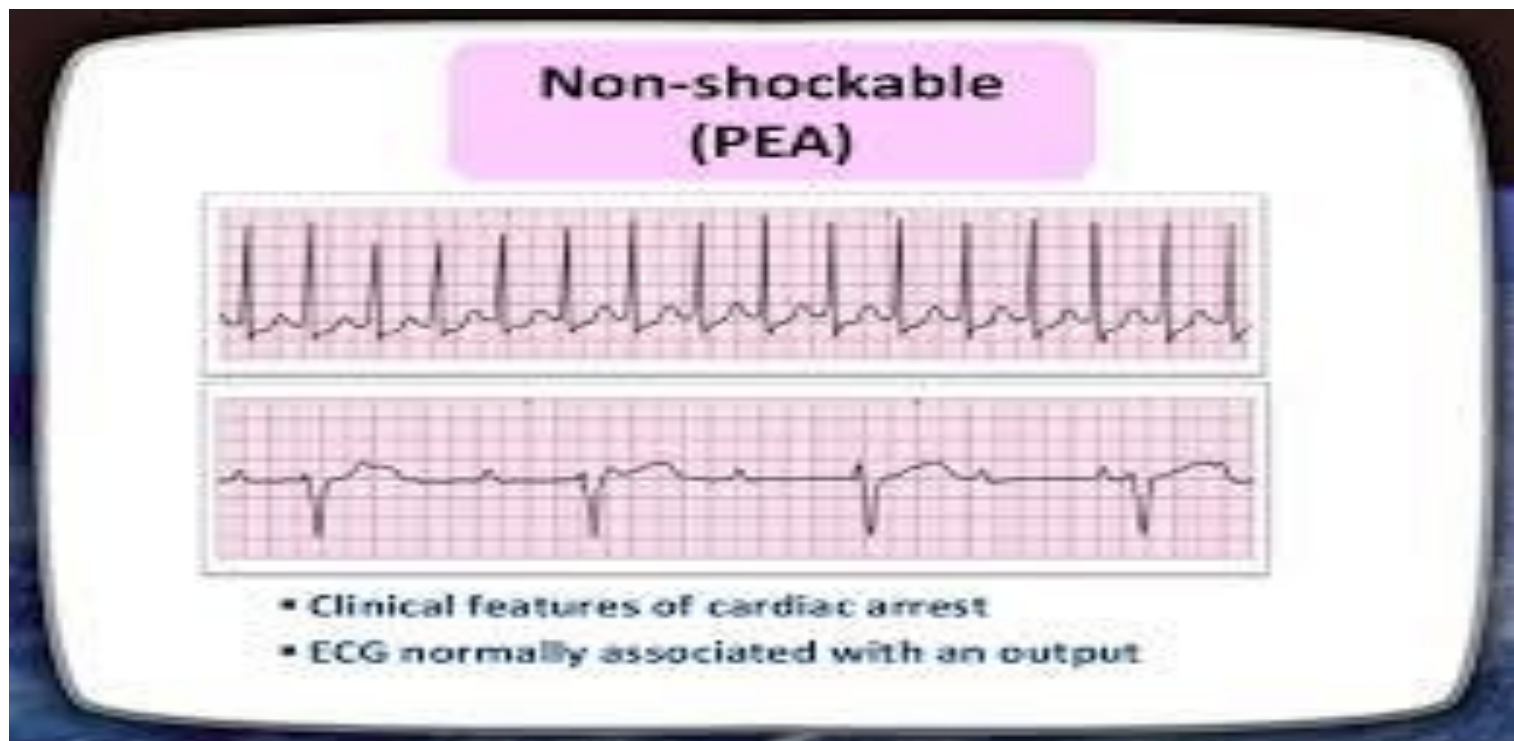
Monitor : 4 Fetal Rhythms

2 NonShockable Rhythms



Monitor : 4 Fetal Rhythms

2 NonShockable Rhythms



Non shockable Rhythms Asystole ,PEA

Do CPR for 5 cycles or 2 Minutes

Give : Epinephrine 1 mg 1/10,000 eq 3 – 5 minutes

2 minutes finish : Stop Analyze

Still

Non shockable Rhythms

Asystole ,PEA

continue CPR for 5 cycles or 2 Minutes

Give : Epinephrine 1 mg 1/10,000 eq 3-5 minutes

**Look for Reversible Causes
(5 H''s & 5 T''s)**

2 minutes finish : Stop Analyze

Non shockable Rhythms

Asystole ,PEA

H's and T's

Treatable causes of cardiac arrest

- Hypoxia
- Hypovolemia
- Hydrogen ion (acidosis)
- Hypokalemia
- Hyperkalemia
- Hypothermia
- Thrombosis (pulmonary)
- Thrombosis (coronary)
- Tamponade
- Tension pneumothorax
- Toxins

Non shockable Rhythms

Asystole ,PEA

continue CPR for 5 cycles or 2 Minutes

Give : Epinephrine 1 mg 1/10,000 eq 3-5 minutes

**Look for Reversible Causes
(5 H''s & 5 T''s)**

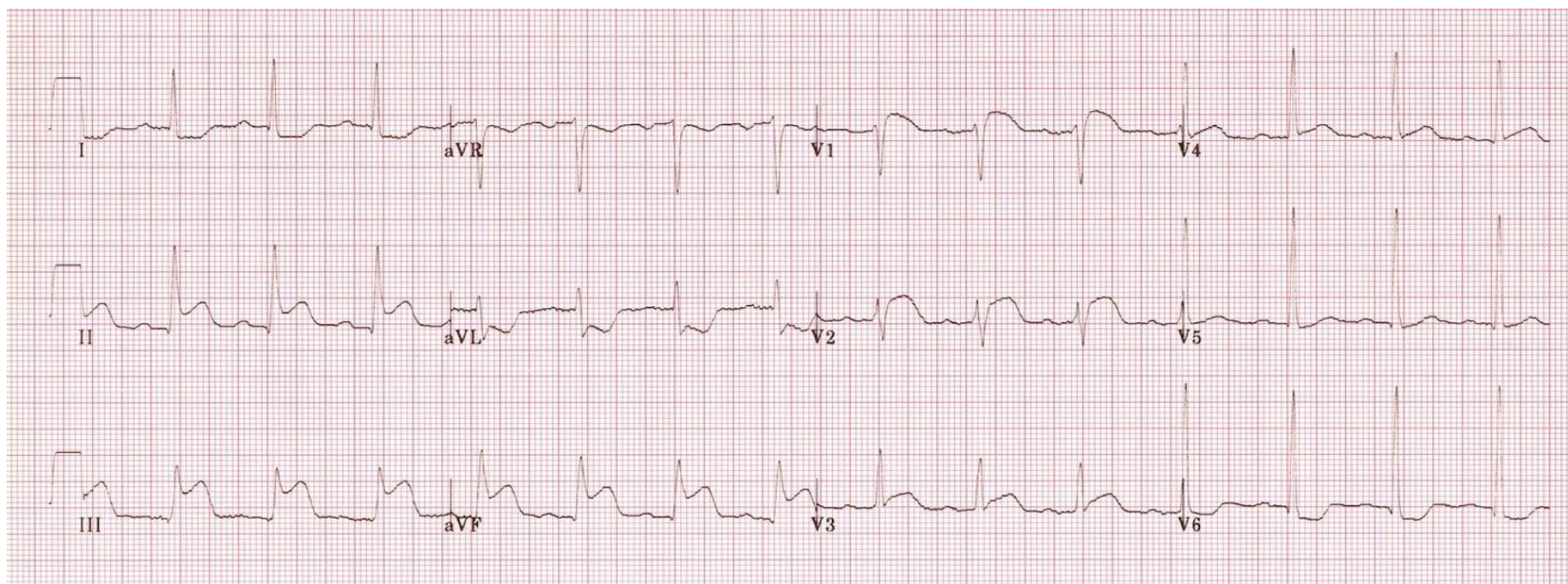
2 minutes finish : Stop Analyze

Return Of Spontaneous Circulation



- Check pulse: There is pulse
- Check breathing, there is breathing / no
- Ventilation 10 breaths / minute O2 more (94 %)
- Check BP if Systolic Blood Pressure less 90 mmhg
- Give IV / IO Bolus NS or LR 1-2 l as needed
- Give vasopressor Dopamine or Epinephrine
- Check LOC if Unconscious induce Hypothermia

12 leads ECG , Cardiac Enzymes



Inferior Acute inferior Myocardial Infarction
Refer to Cath lab or CCU

Portable Chest X-ray



Blood Test and Electrolytes

- **CBC, Clotting factors**
- **Random Blood Sugar**
- **Electrolytes, Na⁺ , K⁺ , Ca⁺⁺**
- **BUN , Kidney Functions**
- **Urea , Creatinine**
- **Liver Functions**

Ultrasound with Cardiac Arrest

Prof Erol

Ultrasound in Cardiac Arrest

1

The approach to a non-shockable rhythm (VT/VF) in cardiac arrest is to seek reversible causes

Therefore you need ultrasound during every cardiac arrest



Thanks for your Attention

Thanks Prof : Basar Candar
Prof : Bachet AI
Prof : Erol
Mr : Emre Tetike
ATUDER-EPAT