

Basic Life Support



History Save Life

- Through much of recorded history, resuscitation was forbidden
- In 1700, drowning is large cause death in port city in Europe. (Amsterdam 400 death drowning / year)
- 1767 Amsterdam Rescue Society formed and can save 150 drowning a year

THE SEARCH FOR THE WAY OF RESUSCITATION

- Early method to stimulate breathing
 - Placing the victim over a barrel
 - Directly blow air into the victim's mouth
 - Tobacco smoke inserted rectally in the drowning victim

THE SEARCH FOR THE WAY OF RESUSCITATION

- The Way Found
 - James Elam, an anesthesiologist found accidentally mouth to mouth breathing (1949)
 - William Kouwenhoven, Guy Knickerbocker, and James Jude accidentally found cardiac massage (1960)
 - The American Heart Association (AHA) formally endorsed CPR in 1963

Sudden Cardiac Arrest

- EMS treats about 300,000 victims of out-of-hospital cardiac arrest each year in the U.S.
- Less than eight percent of people survive.
- Sudden cardiac arrest can happen to anyone at any time.
- Sudden cardiac arrest is not the same as a heart attack.

CPR FACT

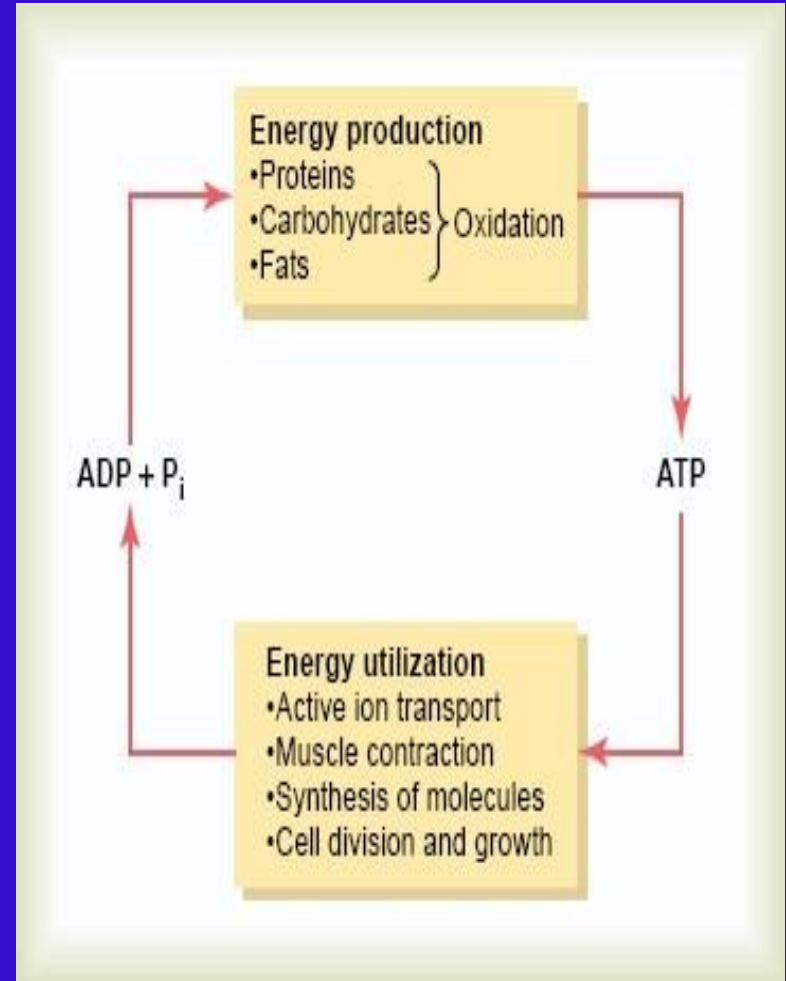
- Less than one-third of out-of-hospital sudden cardiac arrest victims receive bystander CPR.
- Effective bystander CPR, provided immediately after sudden cardiac arrest, can double or triple a victim's chance of survival.

Basic Life Support Definition

- A level of medical care which is used for patients with life-threatening illness or injury until the patient can be given full medical care. (http://en.wikipedia.org/wiki/Basic_life_support)
- Noninvasive emergency lifesaving care that is used to treat airway obstruction, respiratory arrest, or cardiac arrest (www.springsgov.com/Page.aspx)

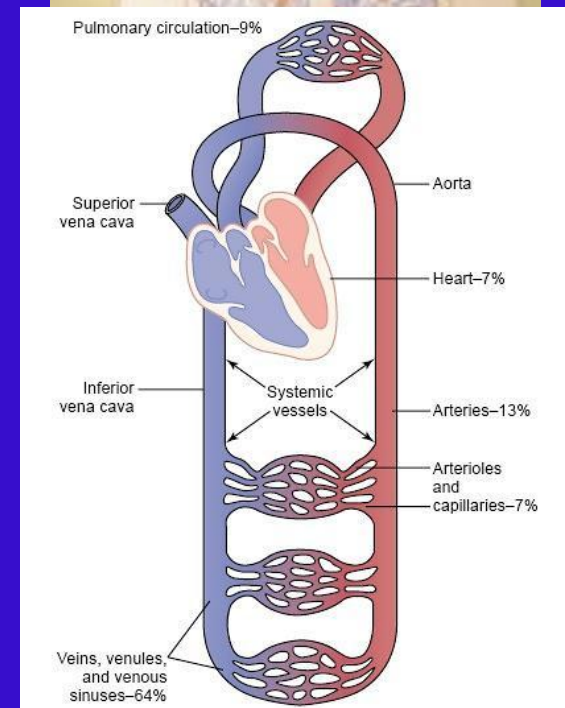
Human Physiology

- Human is a like machine that need energy to live
- Energy form in human is ATP
- ATP formed by oxidation food
- In body food is abundant but not oxygen



ABC

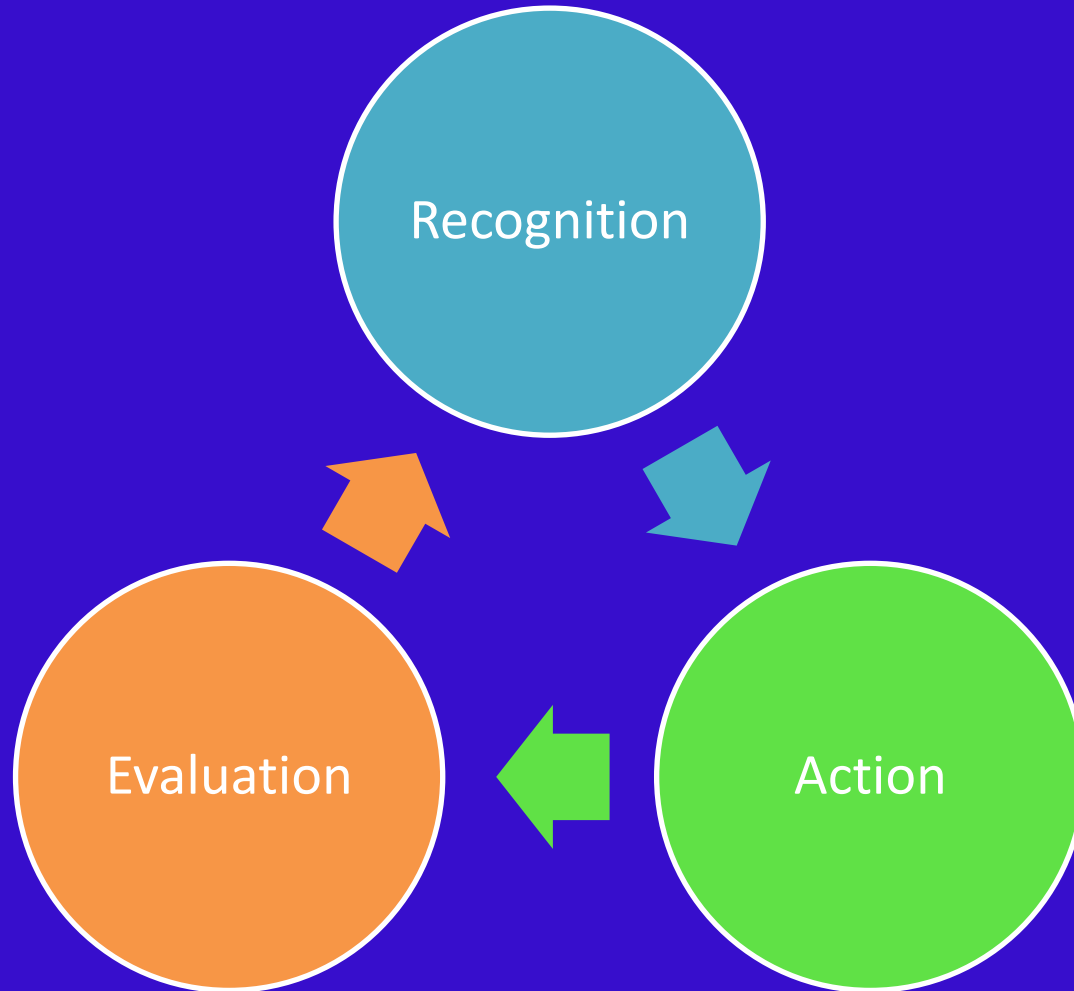
- Oxygen must continue supply from environment to cell
- Basic Concept Life Support
 - Air Way
 - Breathing
 - Circulation



What We Learn

- Air Way Obstruction
- Maintain Air Way Patency
- Respiratory Arrest
- Cardiac Arrest

Flow Chart



FOREIGN AIR WAY OBSTRUCTION

Recognition Foreign Air Way Obstruction

Severe

- Clutch the neck
- Poor Air Way Exchange
 - Silent Cough
 - Unable of speak or cry
 - Cyanosis
- Increase effort of Breathing
 - Retraction muscle respiration



Action

- Ask Patient: “Are You Choking?”
- Request Permission
- Do
 - Heimlich Maneuver
 - Chest Thrust (obese or pregnant)
 - Back Blow & Chest Thrust (Children)
- Evaluation

Heimlich Maneuver

- The Heimlich maneuver creates an artificial cough
- If patient standing or sitting
 - Stand behind the patient
 - Place the thumb side of a fist against the victim's abdomen midline just above the
 - Grasp the fist with the other hand,
 - Forcefully push the fist into the victim's abdomen with a quick upward thrust
 - Repeat until the item is dislodged or the patient becomes unconscious



Heimlich Maneuver

- If Patient unconscious
 - place the victim supine on a firm surface
 - sit astride the victim's thighs.
 - Place the heel of the dominant hand midline just above the patient's umbilicus, and the other hand directly on top of the first.
 - Then deliver quick upward thrusts



Chest Thrust – consciousness patient

- Patient standing or sitting
- Stand behind the patient
- Place the thumb side of a fist against the victim's sternum, avoiding the costal margins and the xiphoid process.
- Grasp the fist with the other hand,
- Press the fist into the victim's chest with a quick backward thrust.
- Repeat until the item is dislodged or the patient becomes unconscious



Chest Thrust – unconsciousness patient

- Place the victim supine on a firm surface
- Kneel close to the victim's side.
- Place the hands in the same position as for chest compression (i.e., the lower sternum),
- Deliver quick thrusts.

Back Blow & Chest Thrust (Children)

- Infant's torso positioned prone and head down along the rescuer's arm,
- The older child draped prone and head down across the rescuer's knees,
- Five blows are delivered to the interscapular area.
- Repositioned supinely along the rescuer's arm
- Deliver five chest thrusts (cardiac compressions)



Finger Sweep

- Used only in unconscious patients
- Using the thumb and fingers of one hand, grasp both the tongue and the mandible and lift them.
- With the other hand, insert the index finger into the back of the throat,
- Use a hooking action in an attempt to dislodge the foreign body
- Use care so the foreign object is not pushed deeper into the throat.



MAINTAIN AIRWAY PATENCY

Head Tilt–Chin Lift Maneuver

- Head Tilt
 - Placing one hand under the patient's neck and the other on the forehead
 - Extending the head in relation to the neck.
 - This maneuver should place the patient's head in the sniffing position,
- The chin lift
 - Placing the hand that had been supporting the neck for the head tilt under the symphysis of the mandible,
 - Then lift the mandible forward and up, until the teeth barely touch.
 - This supports the jaw and helps tilt the head back.



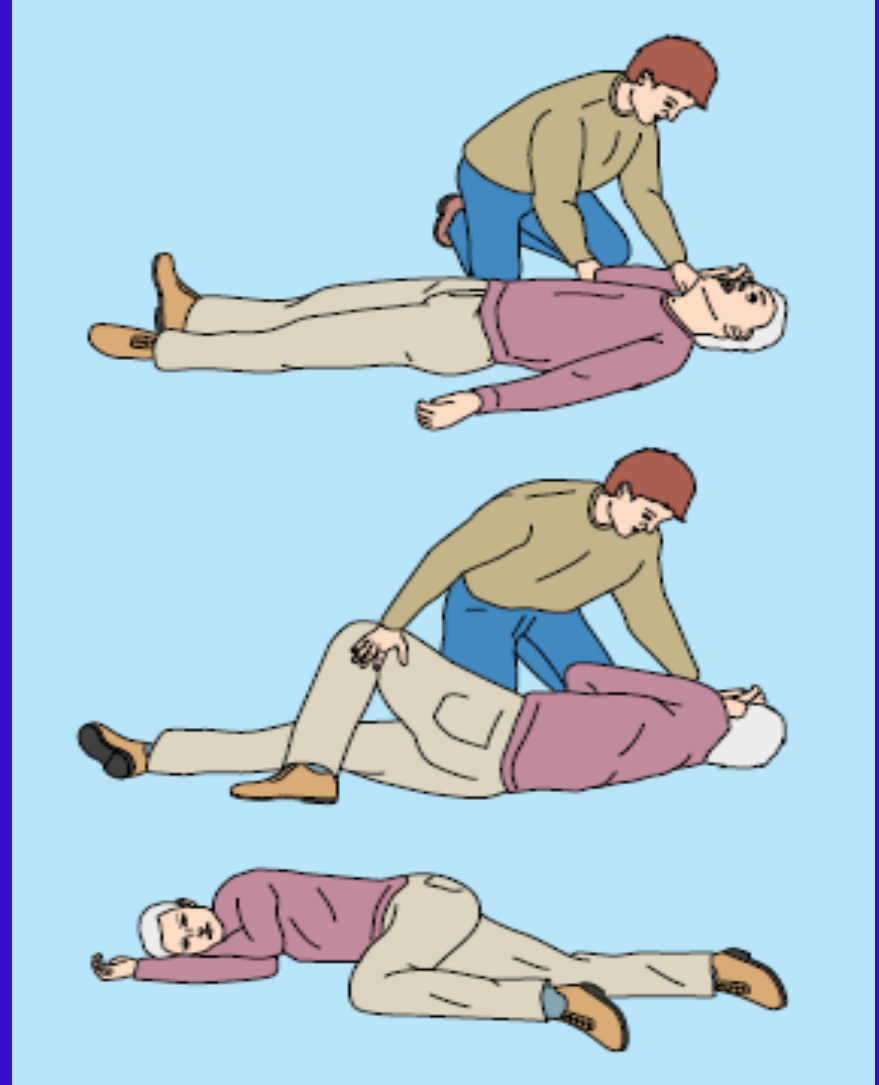
Jaw Thrust Maneuver

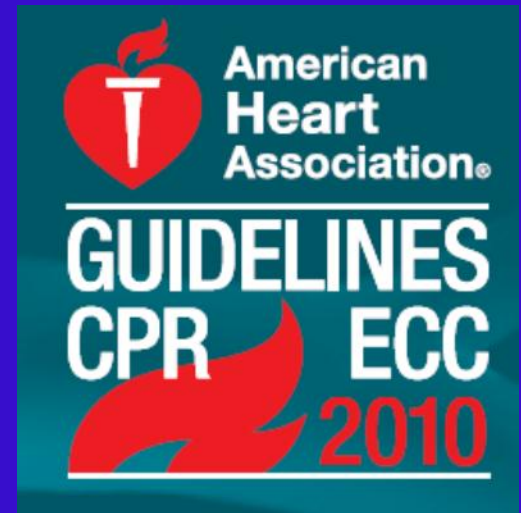
- Safest method for opening the airway if there is the possibility of cervical spine injury.
- The rescuers positioned at the head of the patient
- Places the hands at the sides of the victim's face
- Grasps the mandible at its angle,
- Lifts the mandible forward
- opens the airway with minimal head movement



Recovery Position

- Use in unconscious but is breathing





CARDIO – PULMONARY RESUCITATION

Chain Of Survival

Rantai Kehidupan



Chain Of Survival

Rantai Kehidupan



- Sistem gawat darurat yang efektif dapat menyelamatkan 50% henti jantung mendadak dengan VF
- Faktanya kebanyakan sistem gawat darurat, angka keberhasilan dari henti jantung mendadak sangat rendah

Chain Of Survival

Rantai Kehidupan



- Masih ada kesempatan untuk memperbaiki dan memperkuat rantai kehidupan diatas



Chain Of Survival (Rantai Kehidupan)

Pengenalan Awal dan Aktifasi EMS

- Identifikasi Penderita Dicurigai Henti jantung mendadak
 - Tidak ada respon
 - Tidak bernafas atau pernafasan tidak adekuat
- Aktifasi EMS
 - 1 penolong segera telp 118 dan ambil AED (jika tersedia)
 - Beri informasi tentang lokasi, kejadian, kondisi korban dan jumlah, dan pertolongan yang dilakukan.
 - Jangan tutup telpone.



Chain Of Survival (Rantai Kehidupan)

Pengenalan Awal dan Aktifasi EMS

- Cek Respon
 - Menepuk pundak atau dada korban
 - Berteriak / berkata keras
- Respon
 - Rintihan
 - Gerakan
- Nafas rak normal / gasping tidak dinilai sebagai respon
- 3 M (melihat, merasa, mendengar) apakah masih digunakan ?





Chain Of Survival (Rantai Kehidupan)

CPR

- Konvensional CPR menggunakan pendekatan Airway-Brheating-Circulation
- AHA 2010 menekankan pada pijat jantung Circulation-Airway-Brheathing

Chain Of Survival (Rantai Kehidupan)

CPR

- Circulation
- Airway
- Brheathing





Chain Of Survival (Rantai Kehidupan)

CPR *Circulasi – Airway - Breathing*

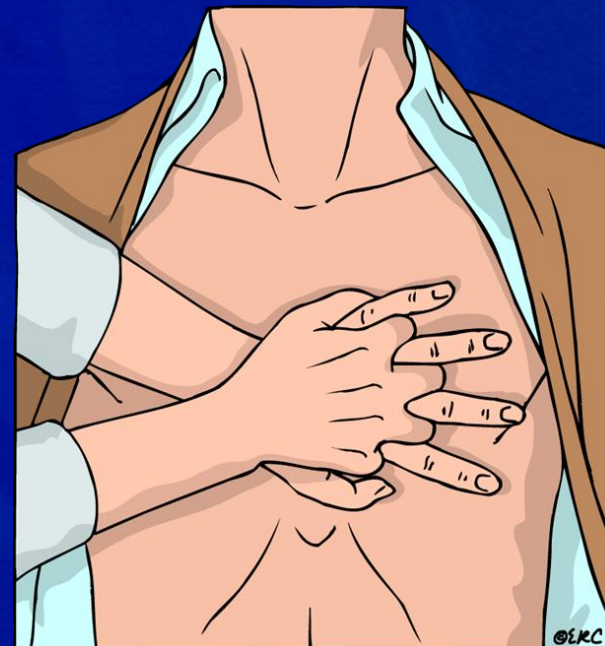
- Cek nadi (dilakukan oleh tenaga kesehatan dalam 10 detik)
- Posisi penolong berlutut pada sisi dada penderita atau berdiri disamping tempat tidur
- Posisi Penderita terlentang pada alas datar dan keras

Chain Of Survival (Rantai Kehidupan)

CPR

Circulasi – Airway - Breathing

- Posisi pijatan $\frac{1}{2}$ bawah tulang dada
- Posisi tangan letakan tumit tangan pada daerah pijatan dan tangan lain di atasnya





Chain Of Survival (Rantai Kehidupan)

CPR *Circulasi – Airway - Breathing*

- Pijat dada efektif
 - Frekuensi 100 kali per menit
 - Kedalaman cukup (5 cm pada dewasa)
 - Memberi kesempatan dada kembali mengembang sempurna (complete recoil)
 - Minimalkan interupsi
 - Hindari ventilasi berlebihan

Chain Of Survival (Rantai Kehidupan)

CPR Circulasi – Airway - Breathing

- Gerakan Head tilt – Chinlift



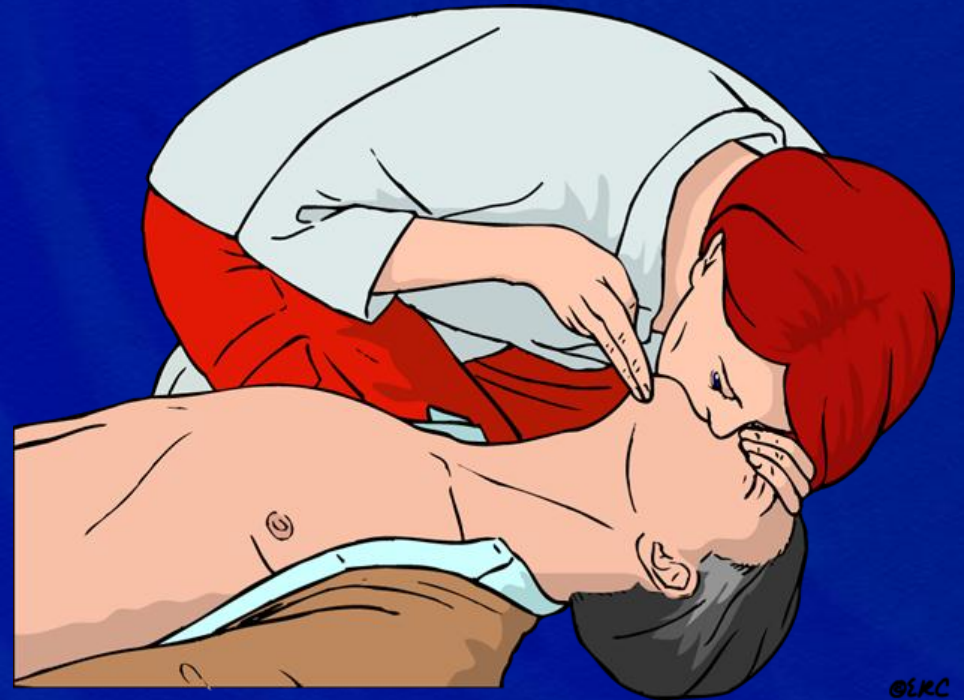
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Chain Of Survival (Rantai Kehidupan)

CPR Circulasi – Airway - Breathing

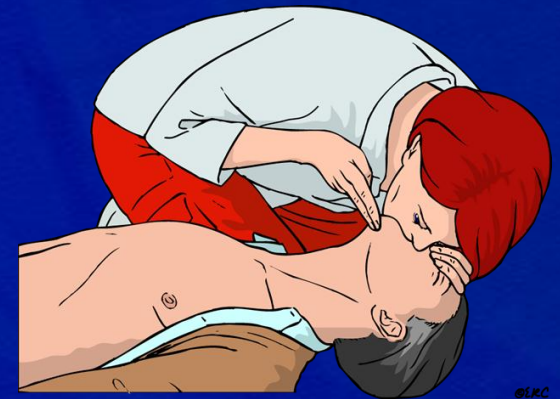
- Lakukan ventilasi 2 kali tiap kali selesai 30 pijat dada



Chain Of Survival (Rantai Kehidupan)

CPR Circulasi – Airway - Breathing

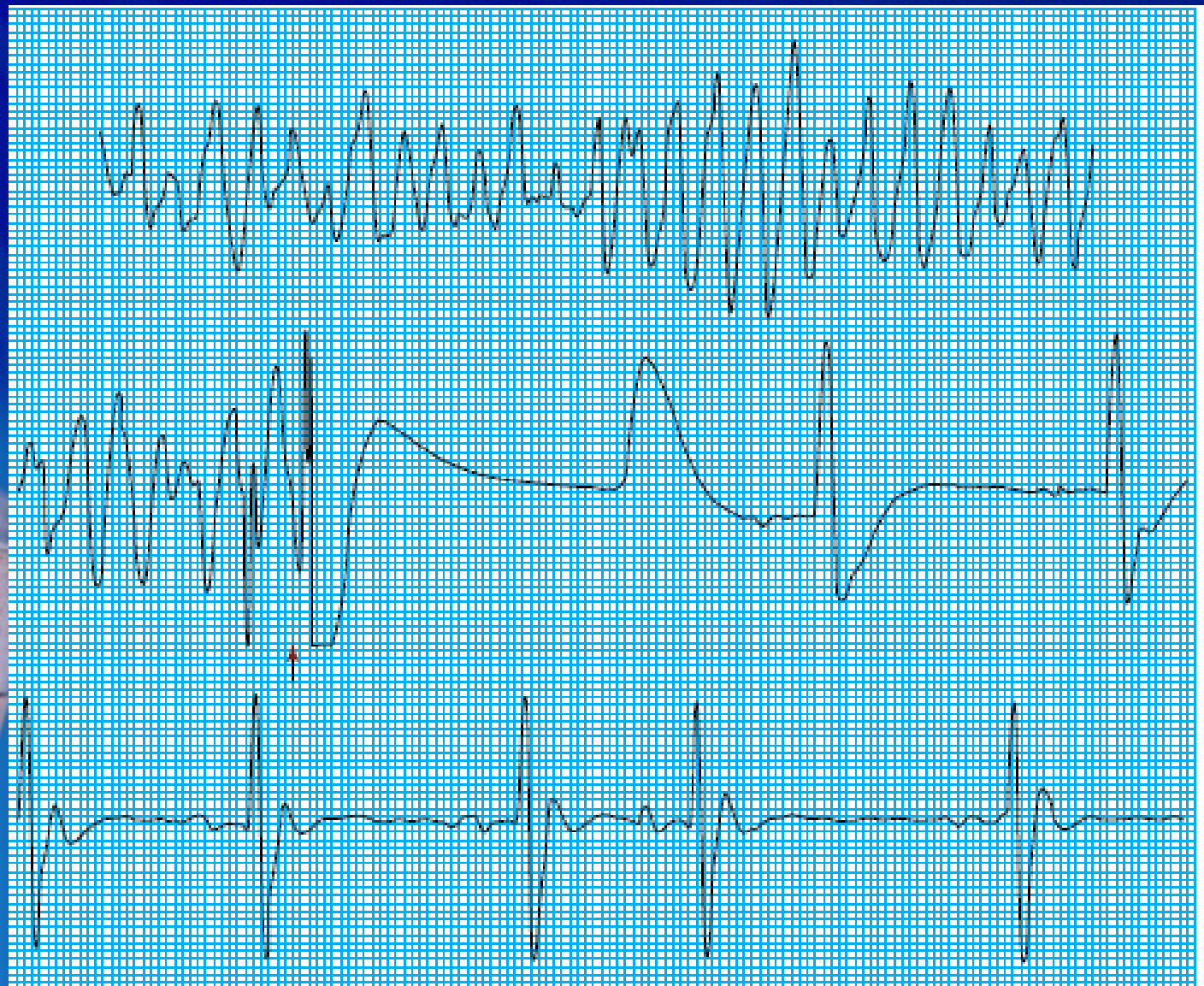
- Lakukan ventilasi selama 1 detik
- Beri tidal volume secukupnya (dada terlihat mengembang)
- Jika terpasang ETT – beri ventilasi tiap 6-8 detik. Tanpa menyesuaikan dan menghentikan pijat jantung.



DEFIBRILASI

- Kebanyakan penyebab henti jantung mendadak adalah VT/VF
- VT/VF adalah abnormal/tak beraturanya gelombang listrik jantung yang mengakibatkan hilangnya kemampuan pompa jantung
- Defibrilasi adalah cara yang efektif untuk mengembalikan aktifitas normal jantung
- CPR berperan memperlambat kematian jantung maupun otak akibat hilangnya fungsi pompa jantung





Chain Of Survival (Rantai Kehidupan)

AED – automated external defibrillator

Using an AED

Turn On the AED

Place the Pads on the Victim's
Bare Chest

Make Sure No One Touches the Victim

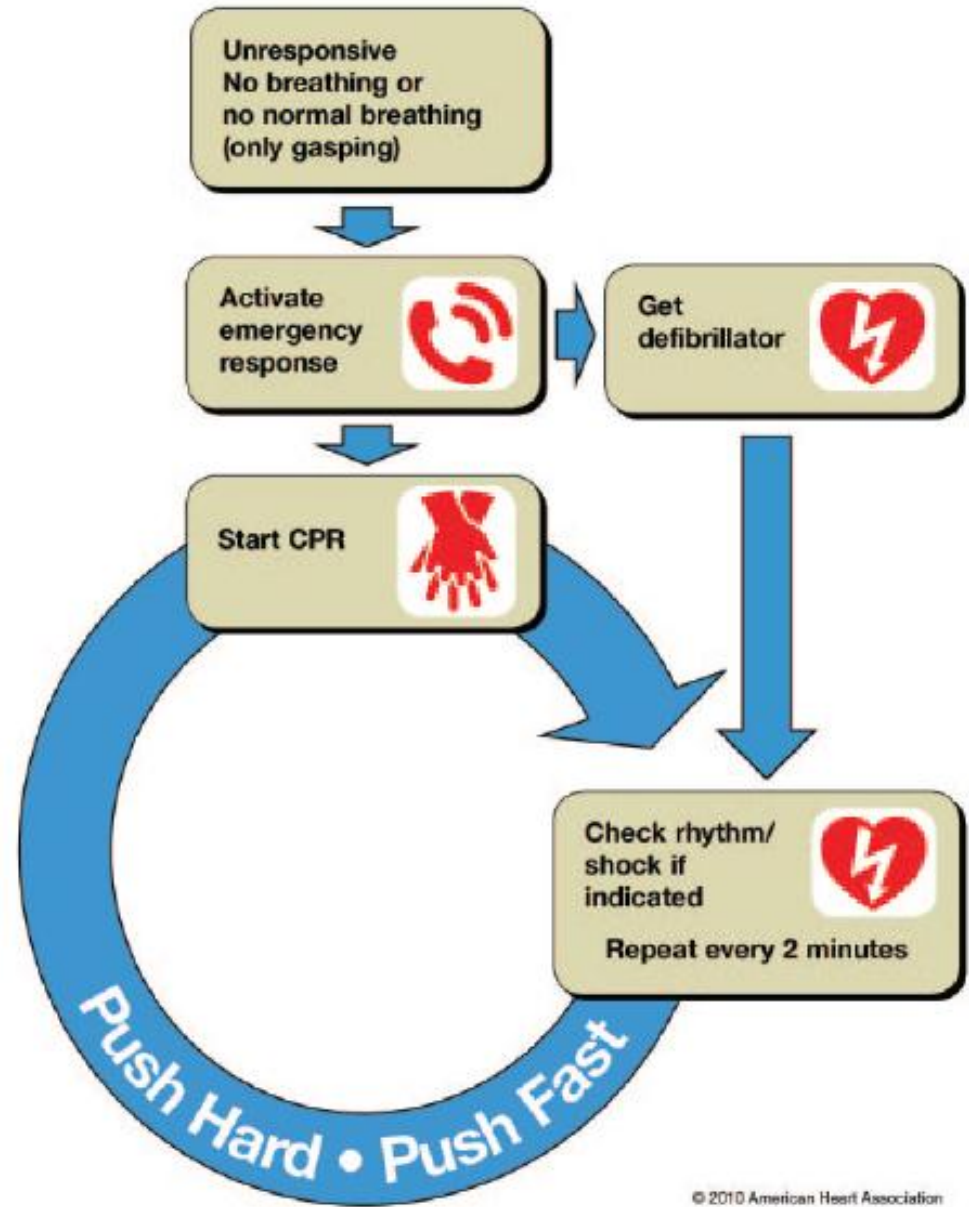
AED will Tell You When to Push
the Shock Button



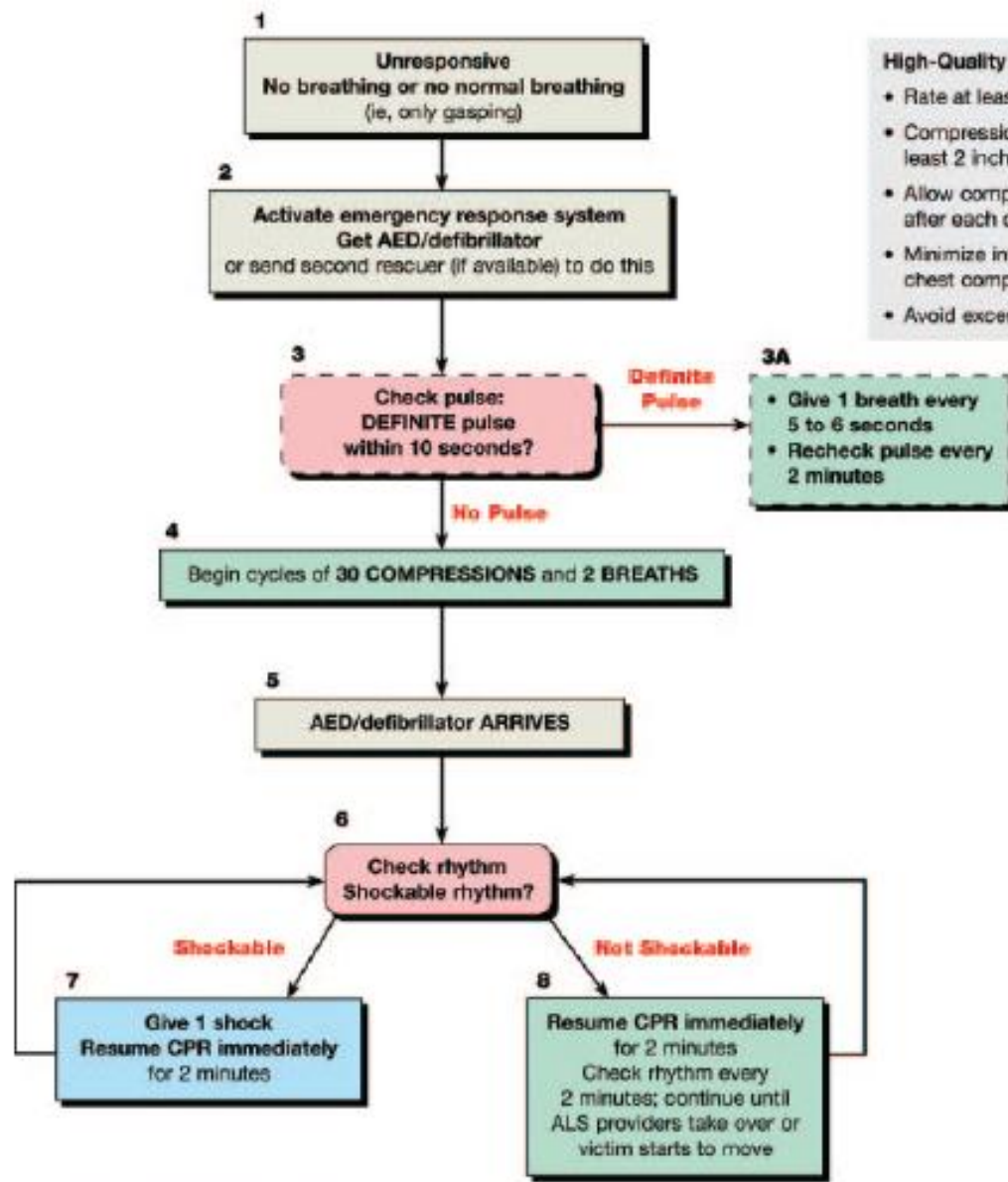
Chain Of Survival (Rantai Kehidupan)

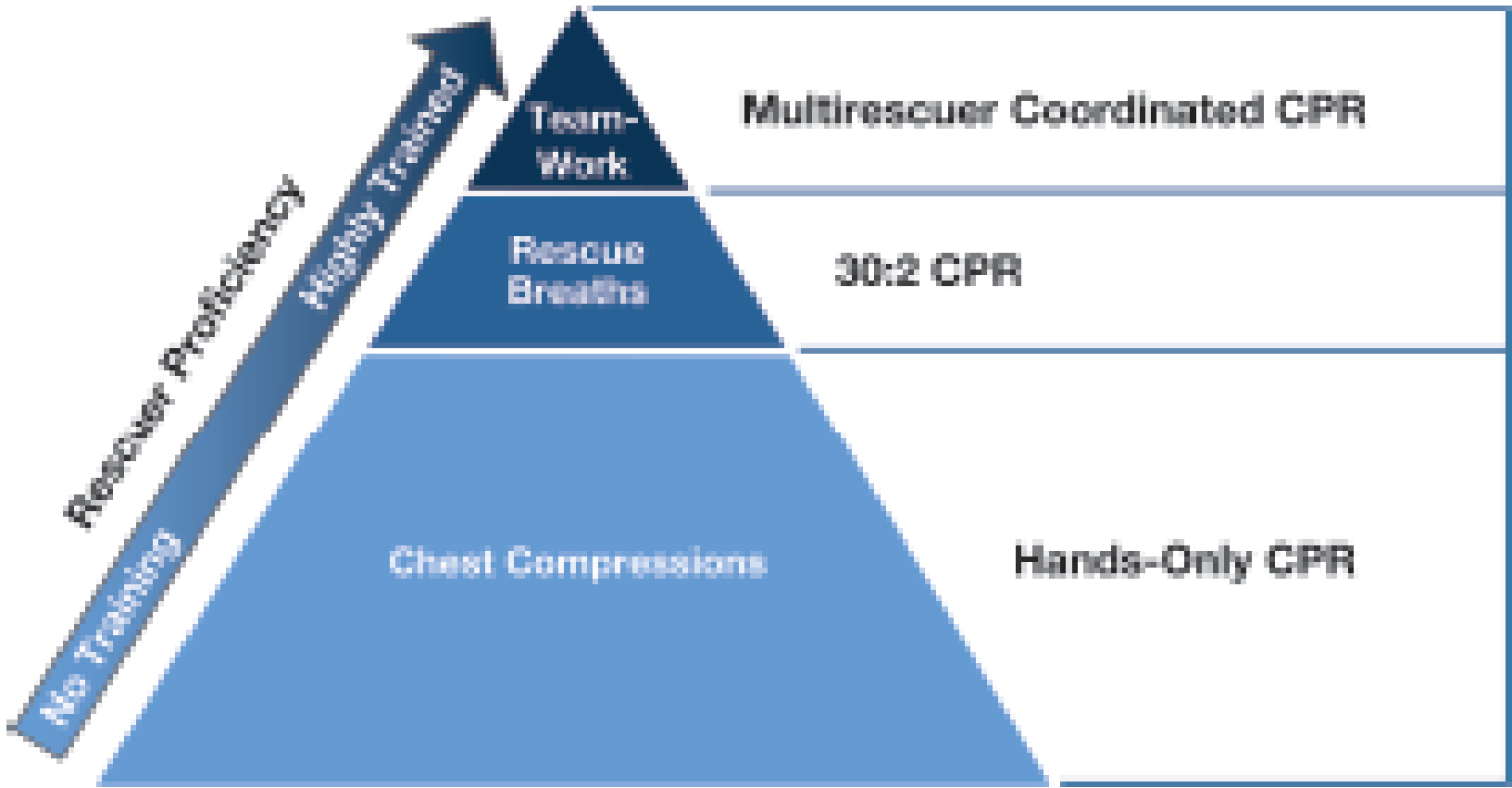
AED – automated external defibrilator





FIG





	Recommendations		
Component	Adults	Children	Infants
Recognition	Unresponsive (for all ages)		
	No breathing or no normal breathing (ie, only gasping)	No breathing or only gasping	
	No pulse palpated within 10 seconds for all ages (HCP only)		
CPR sequence	C-A-B		
Compression rate	At least 100/min		
Compression depth	At least 2 inches (5 cm)	At least $\frac{1}{2}$ AP diameter About 2 inches (5 cm)	At least $\frac{1}{2}$ AP diameter About 1½ inches (4 cm)
Chest wall recoil	Allow complete recoil between compressions HCPs rotate compressors every 2 minutes		
Compression interruptions	Minimize interruptions in chest compressions Attempt to limit interruptions to <10 seconds		
Airway	Head tilt–chin lift (HCP suspected trauma: jaw thrust)		
Compression-to-ventilation ratio (until advanced airway placed)	30:2 1 or 2 rescuers	30:2 Single rescuer 15:2 2 HCP rescuers	
Ventilations: when rescuer untrained or trained and not proficient	Compressions only		
Ventilations with advanced airway (HCP)	1 breath every 6–8 seconds (8–10 breaths/min) Asynchronous with chest compressions About 1 second per breath Visible chest rise		
Defibrillation	Attach and use AED as soon as available. Minimize interruptions in chest compressions before and after shock; resume CPR beginning with compressions immediately after each shock.		

CPR Dua Penolong

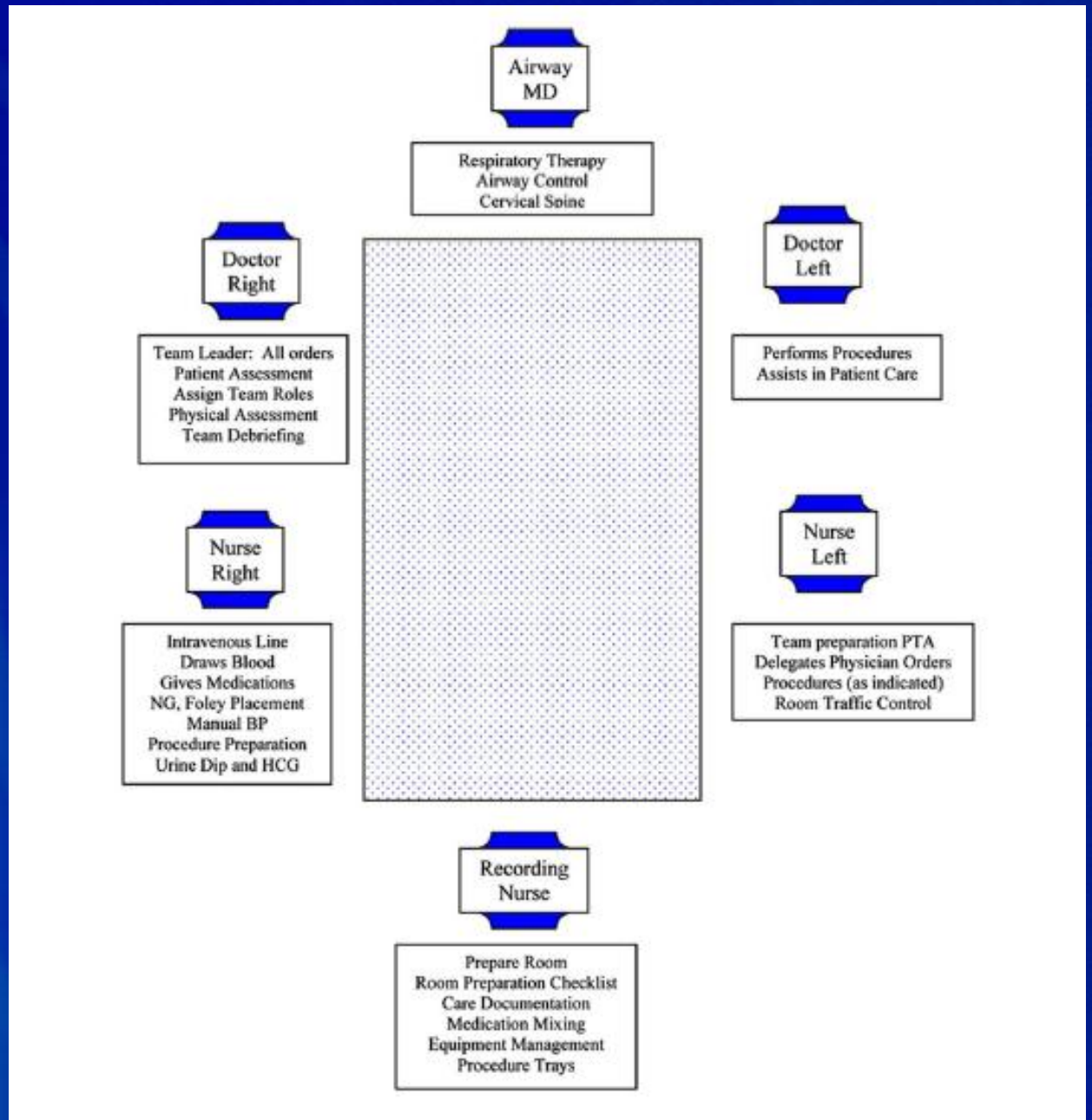
- Mengetahui ada korban tidak sadar
 - Penolong 1 merespon korban – cek nadi
 - Penolong 2 memanggil bantuan – cari AED
- Korban mengalami henti jantung
 - Penolong 1 melakukan pijat jantung
 - Penolong 2 menjaga jalan nafas, evaluasi adekuat CPR dengan meraba A. Carotis, beri nafas buatan
- Lakukan CPR dengan rasio 30:2
- Lakukan pertukaran tiap 5 siklus



Team Work Resuscitation

- Dilakukan pada RS
- Dengan keordinasi yang baik diharapkan resusitasi efektif dan efisien







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