

REANIMACIJA NA ODDELKU *„BASIC LIFE SUPPORT“*



Matej Furlan, dr. med.

SMERNICE

- Reanimacijo na oddelku določajo smernice ERC 2015
- Prevzamejo jih vsi nacionalni Sveti za oživljanje
- Smernice se posodabljaajo na 5 let

Novosti:

1. Uvedba RSS (*rapid response system*), ki prepoznajo ogroženega bolnika
2. Minimalna prekinitev stisov prsnega koša

ZAKAJ JE TO POMEMBNO?

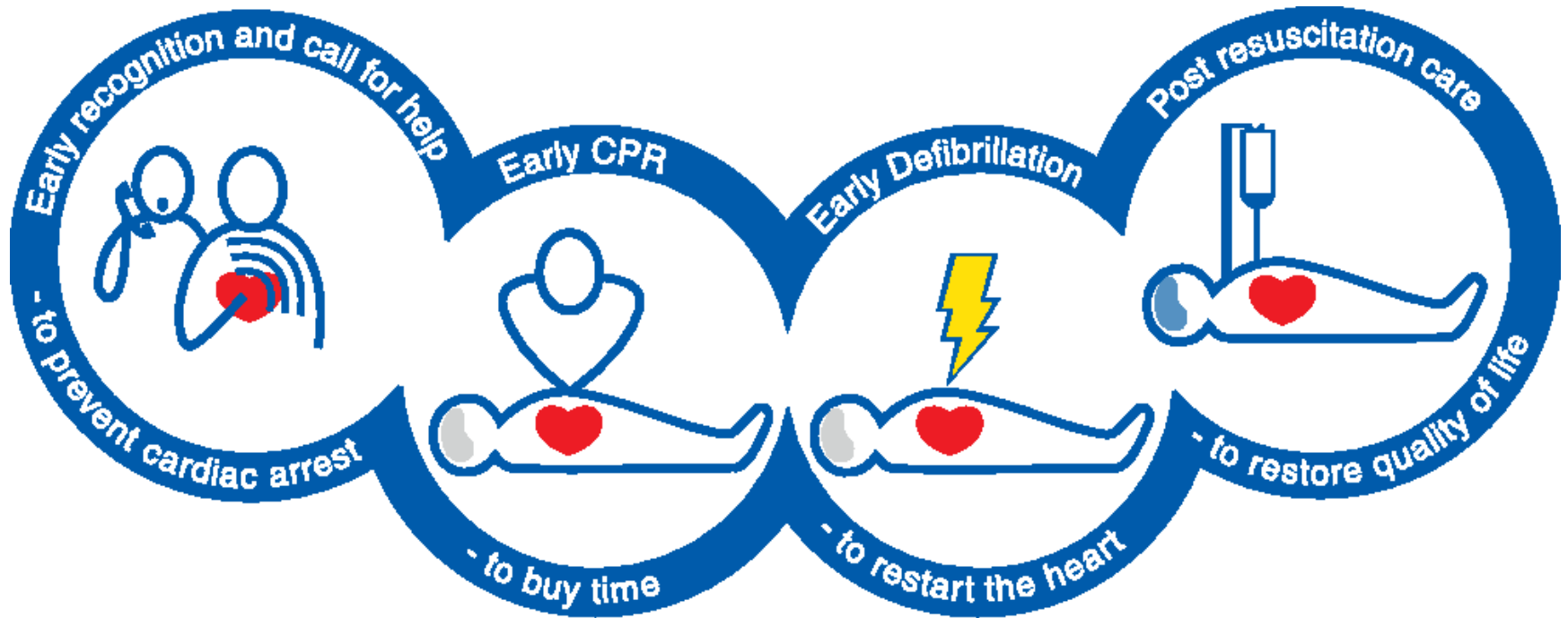


Fig. 2.2. The chain of survival

PREPOZNAVANJE KRITIČNO BOLNEGA

- Uvedba MEWS/NEWS
- National Early Warning Score
- Posodobitev leta 2017 NEWS 2 (Royal College of Physicians)
- Uporaba v NHS
- Enostaven agregiran točkovnik, kjer vitalnim znakom določimo vrednosti
- **6 vitalnih znakov**: dihanje, saturacija, SKT, srčni utrip, stanje zavesti, temperatura
- Ni dodatnega dela, saj vse to že beležimo

Chart 1: The NEWS scoring system

Physiological parameter	Score						
	3	2	1	0	1	2	3
Respiration rate (per minute)	≤8		9–11	12–20		21–24	≥25
SpO ₂ Scale 1 (%)	≤91	92–93	94–95	≥96			
SpO ₂ Scale 2 (%)	≤83	84–85	86–87	88–92 ≥93 on air	93–94 on oxygen	95–96 on oxygen	≥97 on oxygen
Air or oxygen?		Oxygen		Air			
Systolic blood pressure (mmHg)	≤90	91–100	101–110	111–219			≥220
Pulse (per minute)	≤40		41–50	51–90	91–110	111–130	≥131
Consciousness				Alert			CVPU
Temperature (°C)	≤35.0		35.1–36.0	36.1–38.0	38.1–39.0	≥39.1	

Example of the NEWS thresholds and triggers as recommended by the Royal College of Physicians

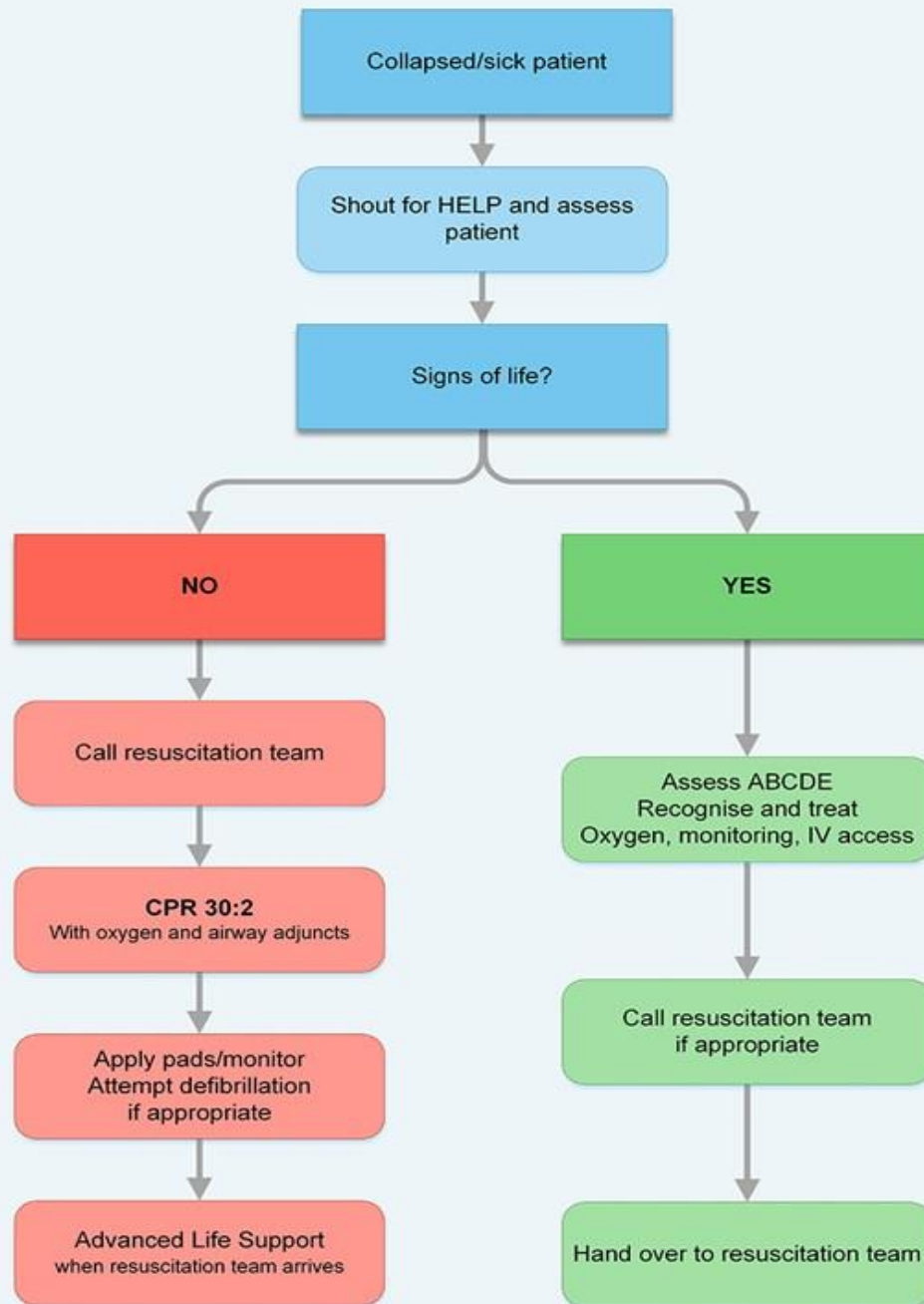
New score	Clinical risk	Response
Aggregate score 0–4	Low	Ward-based response
Red score Score of 3 in any individual parameter	Low–medium	Urgent ward-based response*
Aggregate score 5–6	Medium	Key threshold for urgent response*
Aggregate score 7 or more	High	Urgent or emergency response**

*Response by a clinician or team with competence in the assessment and treatment of acutely ill patients and in recognising when the escalation of care to a critical care team is appropriate.

**The response team must also include staff with critical care skills, including airway management.

Chart 4: Clinical response to the NEWS trigger thresholds

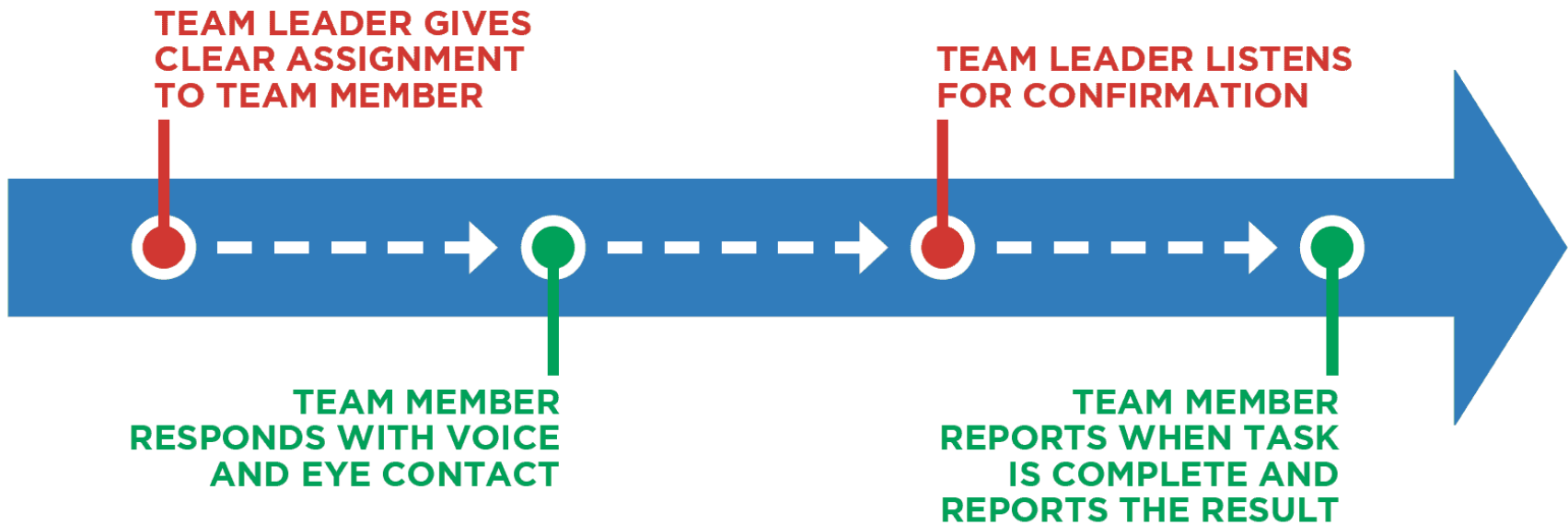
NEWS score	Frequency of monitoring	Clinical response
0	Minimum 12 hourly	<ul style="list-style-type: none"> Continue routine NEWS monitoring
Total 1-4	Minimum 4-6 hourly	<ul style="list-style-type: none"> Inform registered nurse, who must assess the patient Registered nurse decides whether increased frequency of monitoring and/or escalation of care is required
3 in single parameter	Minimum 1 hourly	<ul style="list-style-type: none"> Registered nurse to inform medical team caring for the patient, who will review and decide whether escalation of care is necessary
Total 5 or more Urgent response threshold	Minimum 1 hourly	<ul style="list-style-type: none"> Registered nurse to immediately inform the medical team caring for the patient Registered nurse to request urgent assessment by a clinician or team with core competencies in the care of acutely ill patients Provide clinical care in an environment with monitoring facilities
Total 7 or more Emergency response threshold	Continuous monitoring of vital signs	<ul style="list-style-type: none"> Registered nurse to immediately inform the medical team caring for the patient – this should be at least at specialist registrar level Emergency assessment by a team with critical care competencies, including practitioner(s) with advanced airway management skills Consider transfer of care to a level 2 or 3 clinical care facility, ie higher-dependency unit or ICU Clinical care in an environment with monitoring facilities



KAKO PRISTOPITI?

- Naj vas ne bo strah!
- Slabše kot je, ne more biti
- Vsaka izgubljena minuta zmanjša možnost preživetja in verjetnost, da motnja srčnega ritma postane nepovratna raste

SPORAZUMEVANJE



KAKO PRISTOPITI?

1. Poskrbi za osebno varnost

- ✓ Malo ljudi se poškoduje med oživljanjem
- ✓ Zaščiti bolnikovo okolico
- ✓ Osebna varovalna sredstva
- ✓ Pazi na ostre predmete, igle

2. Preveri ali se bolnik odziva

- ✓ Če vidiš bolnika neodzivnega ali sumiš na nenaden dogodek, pristopi do bolnika
- ✓ Pokliči na pomoč; več ljudi lahko opravi več različnih postopkov hkrati

3. A) bolnik se odziva

- ✓ Potrebna je takojšnja medicinska ocena. Pokliči na pomoč, aktiviraj MET
- ✓ ABCDE pristop
- ✓ Daj kisik
- ✓ Prikluči monitor: EKG, SpO₂, RR
- ✓ Vitalni znaki, zabeleži zastojni ritem
- ✓ SBAR (*Situation, Background, Assessment, Recommendation*) ali RSVP (*Reason, Story, Vital sign, Plan*)

3. B) bolnik se ne odziva

- ✓ Kliči na pomoč, če že nisi
- ✓ Bolnika daj na hrbet
- ✓ Odpri dihalno pot
- ✓ Če sumiš na poškodbo vratu: in-line stabilizacija vratu, jaw thrust, chin lift, dihalna pot ima prioriteto
- ✓ Glej premikanje prsnega koša, življenjski znaki, dihalni šumi- 10 sek.
- ✓ Potipaj pulz- 10 sek
- ✓ Agonalno dihanje -NI NORMALNO! Kaže na grozeč srčni zastoj
- ✓ Samo spremembe barve in temp. kože niso znak zastoja

4. A) bolnik ima znake življenja ali utripa

- ✓ Takojšnja zdravniška ocena je potrebna; lokalne navade koga se kliče
- ✓ Med čakanjem na ekipo opazuj bolnika in ocenjuj situacijo po ABCDE principu
- ✓ Bolnik je živlensko ogrožen, stanje se lahko poslabša, potrebuje stalen nadzor

4. B) bolnik nima znakov življenja ali utripa

✓ NEMUDOMA začni KPO 30:2!

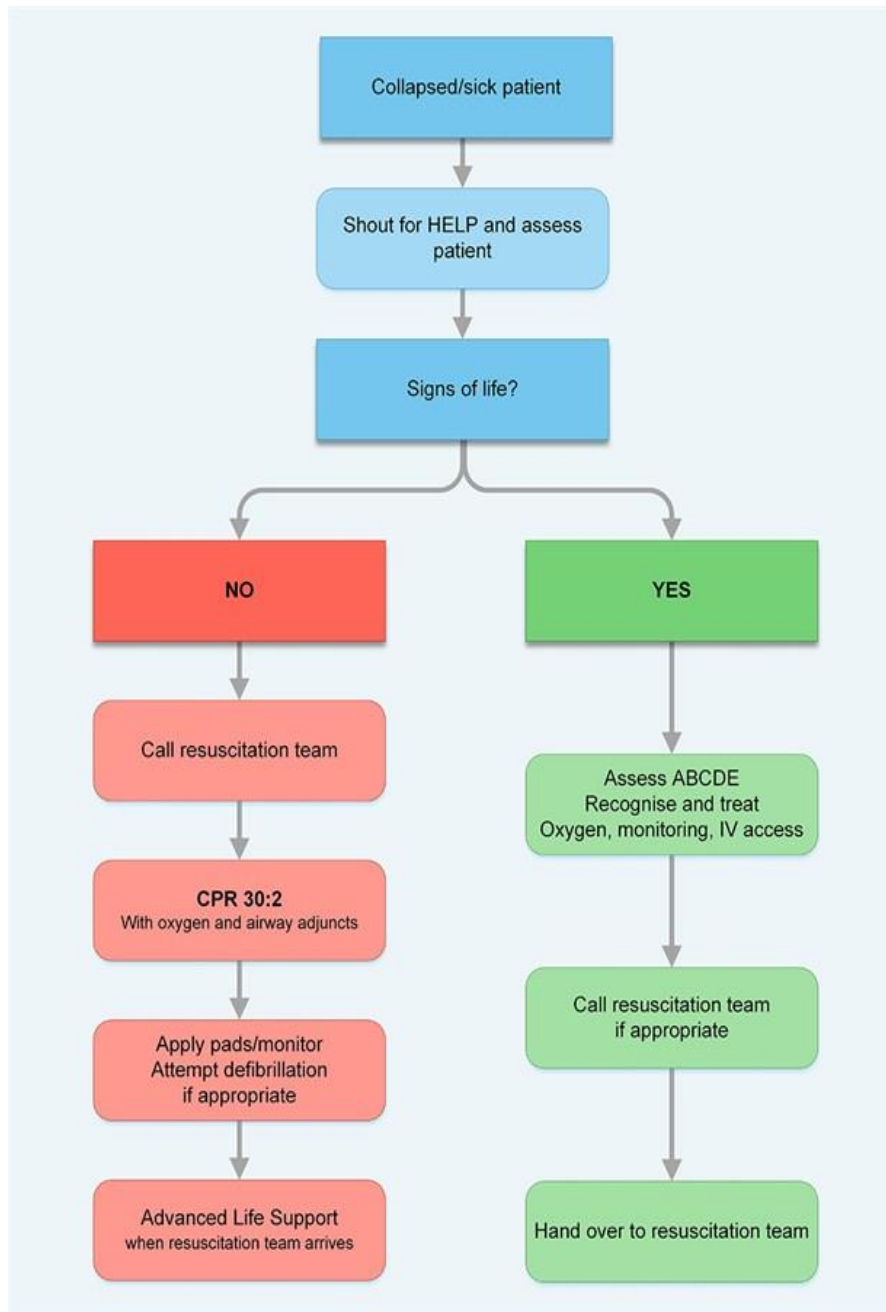
- ✓ Kliči reanimacijsko ekipo, prinesi in nalepi elektrode AED na prsni koš
- ✓ Ne oklevaj! Če nisi prepričan ali bolnik diha in ali ima utrip postopaj kot da nima
- ✓ Masaža prsnega koša na spodnji 1/3 prsnice
- ✓ Kvalitetna masaža: globina 5-6 cm, frek. 100/min, čimmanj prekinitev masaže
- ✓ Ne izgublaj časa s preverjanjem pulza na karotidi ali femoralno- nezanesljivo!
- ✓ Menjava po 2 minutah

- ✓ predihavanje; uporabi kar imaš na voljo- dihalni balon, LMA, I-gel
- ✓ Vpihuj 1 sek. in daj tolikšen volumen, da vidiš dvigovanje prsnega koša (10 vdihov/min)
- ✓ Dodaj kisik takoj, ko je to mogoče
- ✓ Orotrahealna intubacija samo, če si jo vešč
- ✓ etCO₂
- ✓ Ko imaš prosto dihalno pot, lahko masažo srca in predihovanje izvajaš simultano

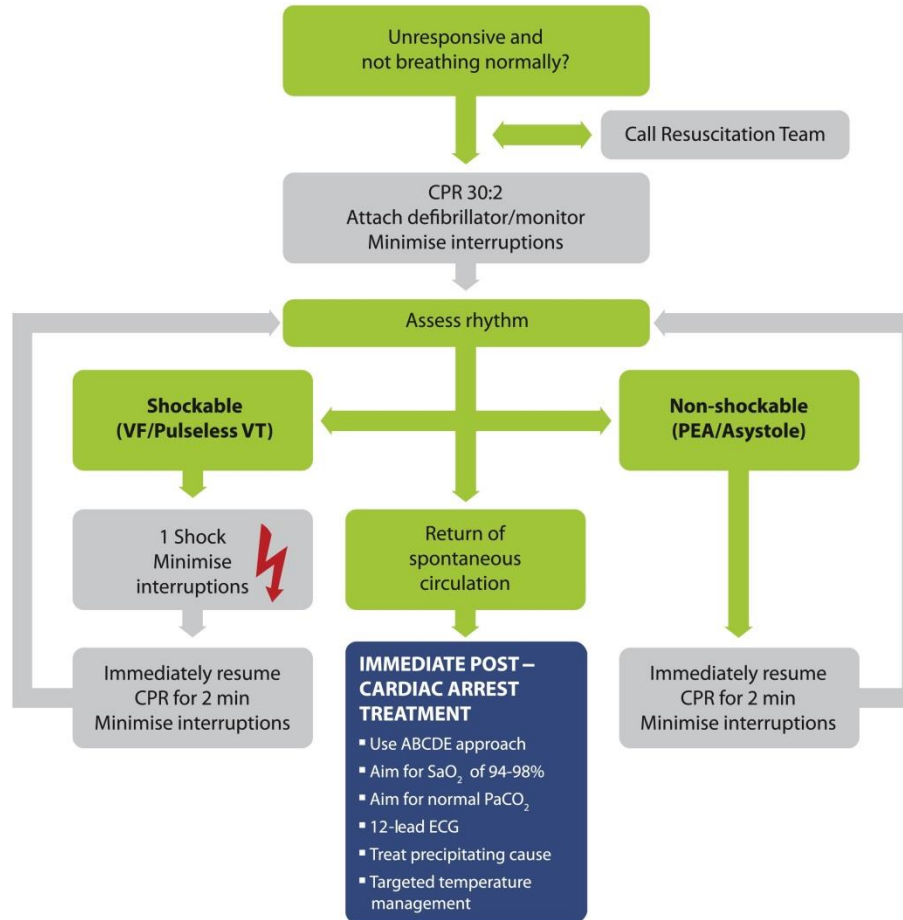
- ✓ Takoj, ko je na voljo AED, ga priklopi in bolniku nalepi elektrode („pads“)
- ✓ Ustavi masažo za 5 sek., da AED analizira ritem in da ustrezne napotke
- ✓ pVF/VT masiraj in napolni AED, varnost
- ✓ Defibriliraj
- ✓ Ponovno začni masirat, ne preverjaj pulza
- ✓ Masiraj do prihoda reanimacijske ekipe

5. Bolnik je monitoriran in ima srčni zastoj

- ✓ Potrdi, da gre za srčni zastoj, kliči pomoč
- ✓ pVF/VT lahko defibriliraš s tremi zaporednimi sunki
- ✓ Preveri ritem na monitorju, tipaj pulz in poglej ali je ROSC
- ✓ Začni KPO 2 min, če je tretja defibrilacija neuspešna; 3 defib. štejejo kot prva defibrilacija!
- ✓ Velja samo, če je bolnik že priključen na defibrilator
- ✓ Prekordialnega udarca ne delamo, redko deluje, izgubljaš čas!



Advanced Life Support



DURING CPR

- Ensure high quality chest compressions
- Minimise interruptions to compressions
- Give oxygen
- Use waveform capnography
- Continuous compressions when advanced airway in place
- Vascular access (intravenous or intraosseous)
- Give adrenaline every 3-5 min
- Give amiodarone after 3 shocks

TREAT REVERSIBLE CAUSES

- | | |
|-------------------------------|------------------------------------|
| Hypoxia | Thrombosis – coronary or pulmonary |
| Hypovolaemia | Tension pneumothorax |
| Hypo-/hyperkalaemia/metabolic | Tamponade – cardiac |
| Hypothermia/hyperthermia | Toxins |

CONSIDER

- Ultrasound imaging
- Mechanical chest compressions to facilitate transfer/treatment
- Coronary angiography and percutaneous coronary intervention
- Extracorporeal CPR

Hvala lepa za pozornost!

- vprašanja?
- nejasnosti?
- dvomi?