

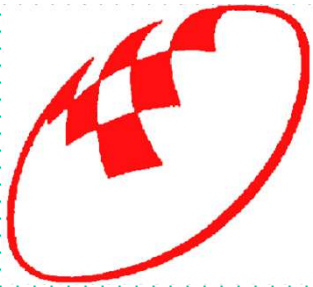
# **ZDRAVSTVENA KOMISIJA HRVATSKI RAGBI SAVEZ**

## **Osnovne mjere oživljavanja i prva pomoć kod ozljeda u ragbiju**

**doc.dr.sc. Zdravko Babić, internist-kardiolog**

**dr. Ozren Kubat, ortoped**

**prim.mr.sc. Gorazd Poje, otorinolaringolog**

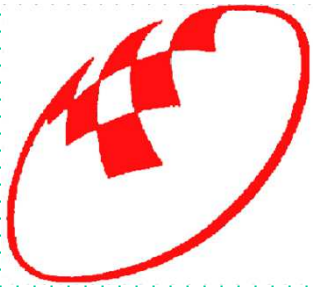


# **ZDRAVSTVENA KOMISIJA HRVATSKI RAGBI SAVEZ**

## **Osnovne mjere oživljavanja kod iznenadne srčane smrti**

**doc.dr.sc. Zdravko Babić, internist-kardiolog**

**Klinika za bolesti srca i krvnih žila  
KBC Sestre milosrdnice**



# **ZDRAVSTVENA KOMISIJA HRVATSKI RAGBI SAVEZ**

**ZAŠTO NAM TREBA  
SPORTSKA KARDIOLOGIJA?**



IZNENEDNA SMRT SPORTAŠA

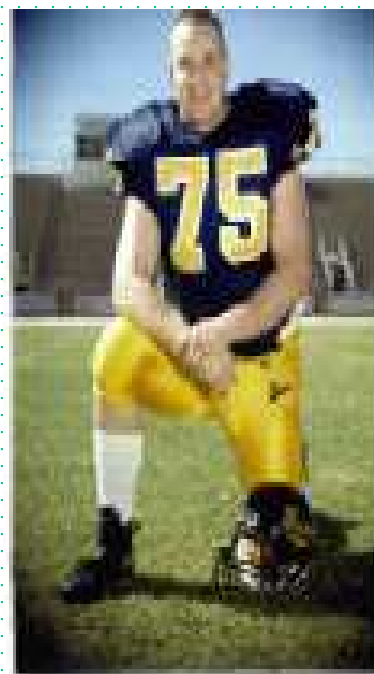
## Sportaši koji su umrli iznenadnom smrću



Marc-Vivien Foe



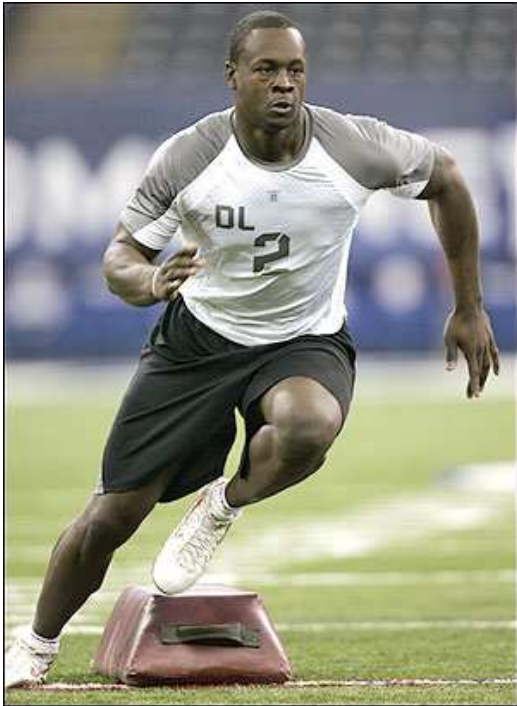
Jesse  
Marunde



Anthony  
Bates



Alexei Cherepanov



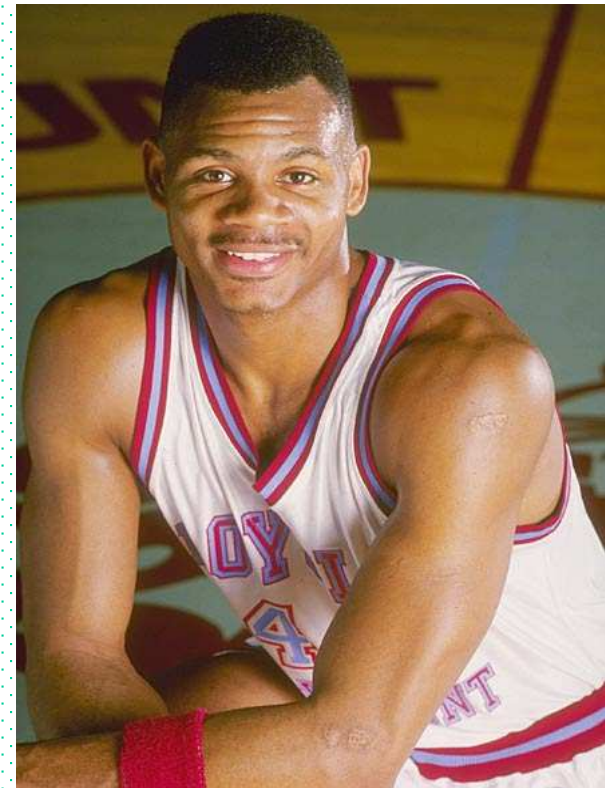
Gaines Adams



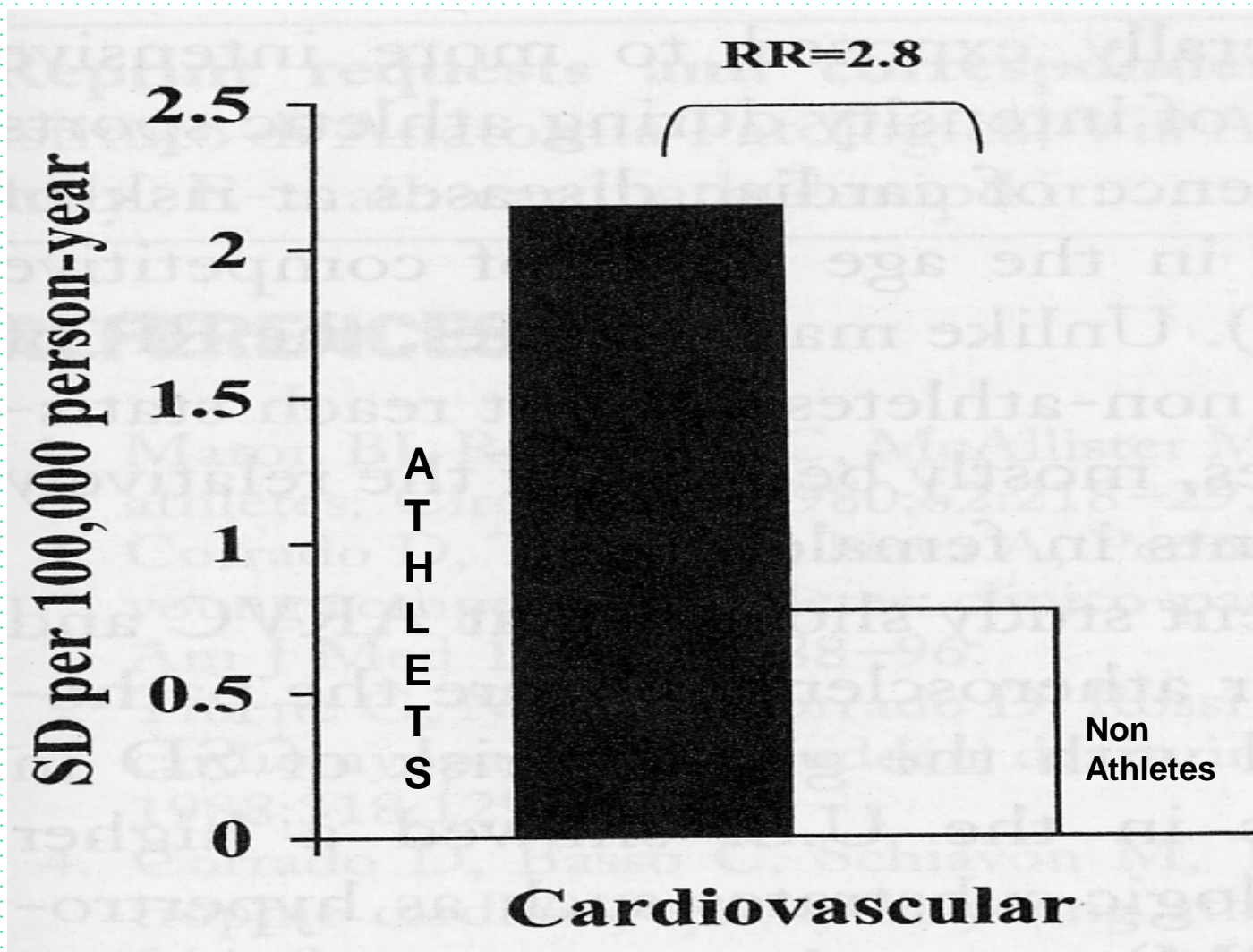
Ryan Shay



Pete Maravich



Hank Gathers



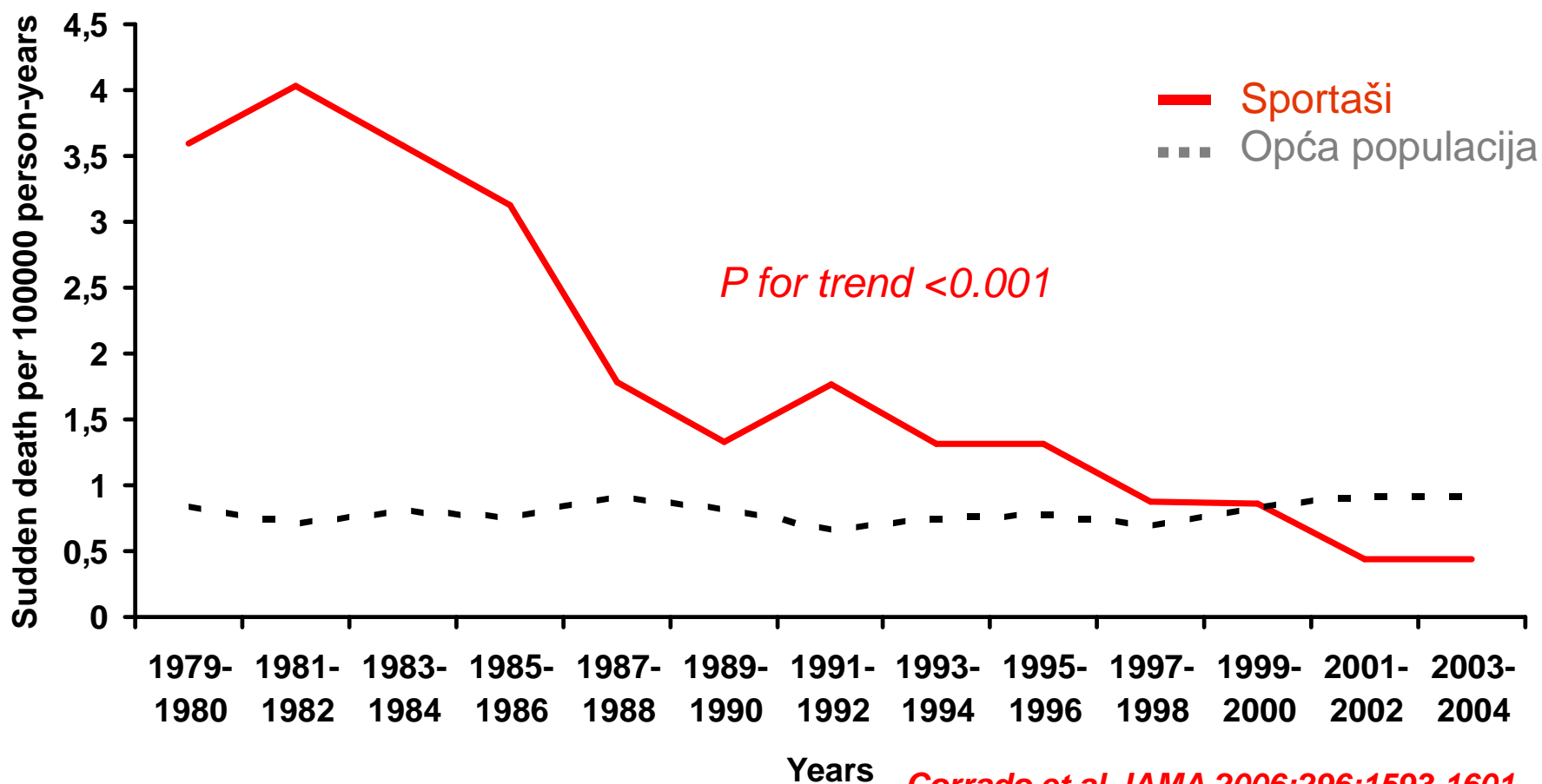
**Corrado D. et al. J Am Coll Cardiol 2003; 42:1959**

# **STANJE U HRVATSKOJ**

**U Republici Hrvatskoj ima oko 410000 športaša  
(oko 10% populacije)**

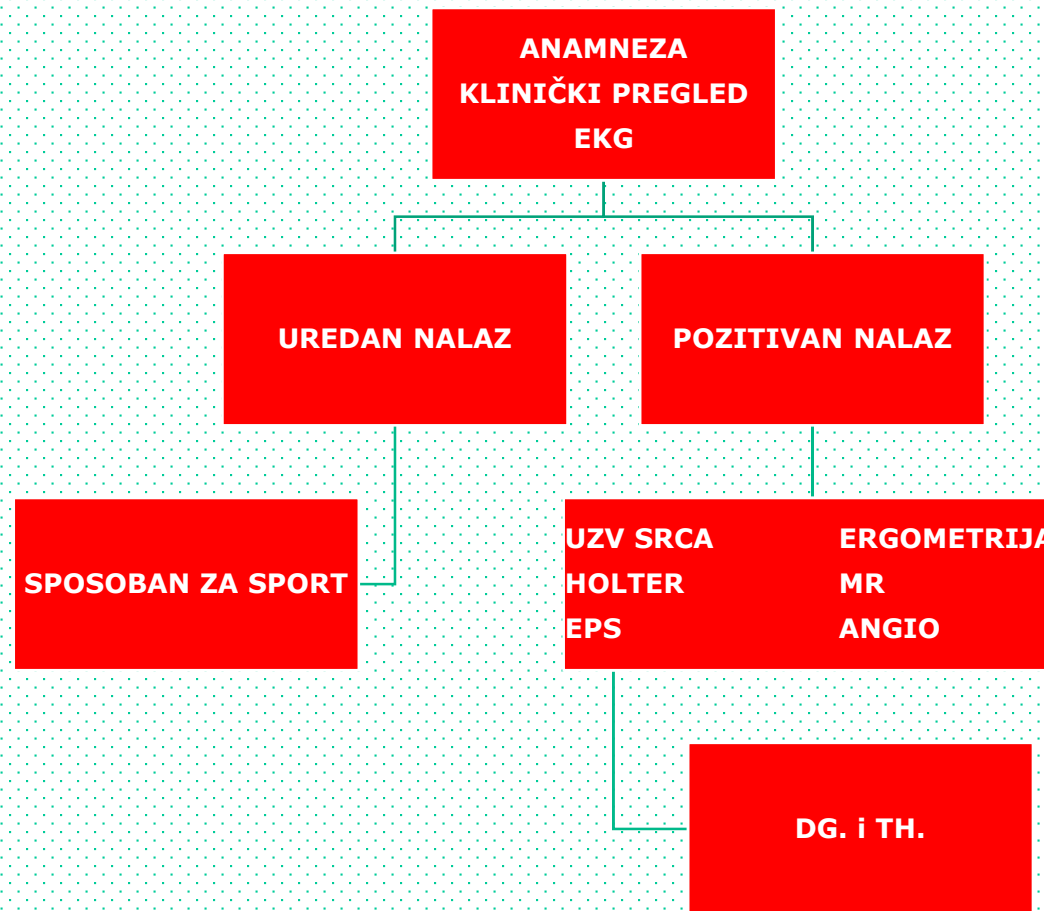
**Za očekivati je oko 10 iznenadnih smrti tijekom sportske  
aktivnosti godišnje**

# Godišnja učestalost iznenadne srčane smrti u sportaša (12-35 god.) u Italiji u odnosu na opću populaciju (1979-2004)



*Corrado et al JAMA 2006;296:1593-1601*

# ALGORITAM EUROPSKOG KARDIOLOŠKOG DRUŠTVA ZA SISTEMATSKE PREGLEDE SPORTAŠA





## WORLD RUGBY Putting players first Cardiac Screening

*The information in this Cardiac Screening Guideline is presented as guidance for Unions. Medical Practitioners and Rugby athletes. The Cardiac Screening recommendations will not be mandated for Unions to provide unless outlined specifically in a Terms of Participation document that requires signing by players to participate in a World Rugby controlled and managed Tournament or Competition.*

### INTRODUCTION

There is increasing awareness of sudden cardiac death (SCD) in the young and especially in sport. It has been reported that the risk of sudden cardiac death may be increased up to 2.8 times in competitive athletes compared with nonathletes<sup>1</sup>. Despite this increased risk, the incidence of SCD is low in this young athletic population (< 35 years), and a recent review estimated it to be between 1 – 5 athletes per 100,000 per year<sup>2</sup>.

The Lausanne Cardiac Screening Recommendations<sup>3</sup> reported that in athletes under 35 years of age, 50% of sudden cardiac death (SCD) was due to congenital anatomical heart disease and cardiomyopathies and 10% had early-onset atherosclerotic heart disease. Forty percent of SCD occurred in athletes under 18 years, 33% under 16 years and the male/female ratio was 9/1.

It is acknowledged that between 15 – 30% of athletes suffering sudden cardiac death will not be identified even with intensive cardiac screening<sup>4</sup>. It has also been reported that approximately 33% of athletes suffering sudden cardiac arrest will not respond to resuscitation even with immediate access to an AED (Automated External Defibrillator).

These World Rugby 2017 Cardiac Screening Guidelines have been developed by the World Rugby Cardiac Screening Working Group with support from an independent cardiac expert. The recommendations have given due consideration to the different geographical, economical, medical expertise and social levels that exist across and within the member Unions of World Rugby. As a result of these logistical differences, a tiered approach to cardiac screening in Rugby is recommended. However, where practical, World Rugby recognises that best practice cardiac screening should **include cardiac questionnaire, physical examination and ECG**.

### ASSESSMENT GROUPS

These Guidelines for cardiac screening in Rugby cover Community Rugby, National and International Tournaments and Competitions (Non-World Rugby managed) including Professional Clubs and World Rugby controlled and managed Tournaments and Competitions.

## Players first

participate in a regular cardiac screening programme as a base cardiac

screening programme for all athletes, cardiac

screening should discuss the

risks of sudden cardiac

### RUGBY

athletes and

the risk of sudden cardiac death. There are concerns

regarding the World

incidence of sudden cardiac

death. An ECG should

be completed under

the supervision of

## Players first

n. This consent form should contain information regarding the cardiac screening and

the player is responsible for initiating the cardiac screening programme. The player should be advised to seek medical advice in sports

and more frequent

medical attention should be available at all times to be in attendance.

the risk of sudden cardiac death

and athletes are

the European Journal of

the risk of sudden cardiac

death in the United States

and athletes for prevention of sudden cardiac death. The American College of Cardiology (ACC) and the American Heart Association (AHA) have published a statement on the

Screening for Sudden Cardiac Death in Athletes. The statement is available at: [http://www.acc.org/clinical/2007/07/07\\_scd\\_statement.pdf](http://www.acc.org/clinical/2007/07/07_scd_statement.pdf)



# WORLD RUGBY

## Cardiac Screening

YOUR PERSONAL DETAILS	
Name	
Date of birth	

### MINIMUM PHYSICAL EXAMINATION

1.	Pulse rate and rhythm?
2.	Blood pressure?
3.	Heart murmur?
4.	Peripheral pulse delay?
5.	Marfanoid features? (see below)

### Marfanoid features:

- a) Musculo-skeletal – arm span > height, high arched palate
- b) Optic – myopia, lens dislocations

ECG INDICATED:    Yes     No



# WORLD RUGBY

## Cardiac Screening

Name	
------	--

### YOUR PERSONAL HISTORY

Have you ever experienced any of the following?

1. Do you suffer from chest pain, chest heaviness or tightness?
2. Do you feel more short of breath or tire more easily during low team sports?
3. Have you ever fainted or blacked out during or after exercise or exercise?
4. Have you ever experienced dizzy turns during or after exercise?
5. Do you have palpitations (racing heart or unexpected fast or irregular)?
6. Have you ever been told you have:
  - a. A heart murmur?
  - b. A heart infection?
  - c. High blood pressure?

### YOUR FAMILY HISTORY (please confirm details with

Have either of your parents, brothers or sisters suffered from

7. Heart attack or sudden unexpected death aged 50 years or less
8. Heart rhythm problems requiring pacemaker or other treatment
9. A high, heart pain under the age of 50 years?
10. Any heart condition such as cardiomyopathy, long QT syndrome, Marfan's syndrome?



# WORLD RUGBY

## Cardiac Screening

### Putting players first

YOUR PERSONAL DETAILS	
Name	
Date of birth	

### Cardiac Questionnaire Disclaimer

You have been asked to fill out this medical questionnaire on your own behalf. This questionnaire has been devised to aid in identification of young people who currently engage in competitive sport, but who could be at risk of suffering a serious cardiac event. This is not a common occurrence. The number of events can however be reduced by careful evaluation of symptoms and family history.

No screening system can guarantee 100% accuracy. If you answer "yes" to any of these questions, you may be required to undertake further tests or referred to a Physician for further investigation. It is very important that you answer these questions honestly. You must however be aware that it is possible that as a result of this process you could potentially be disqualified from participation in your chosen sport.

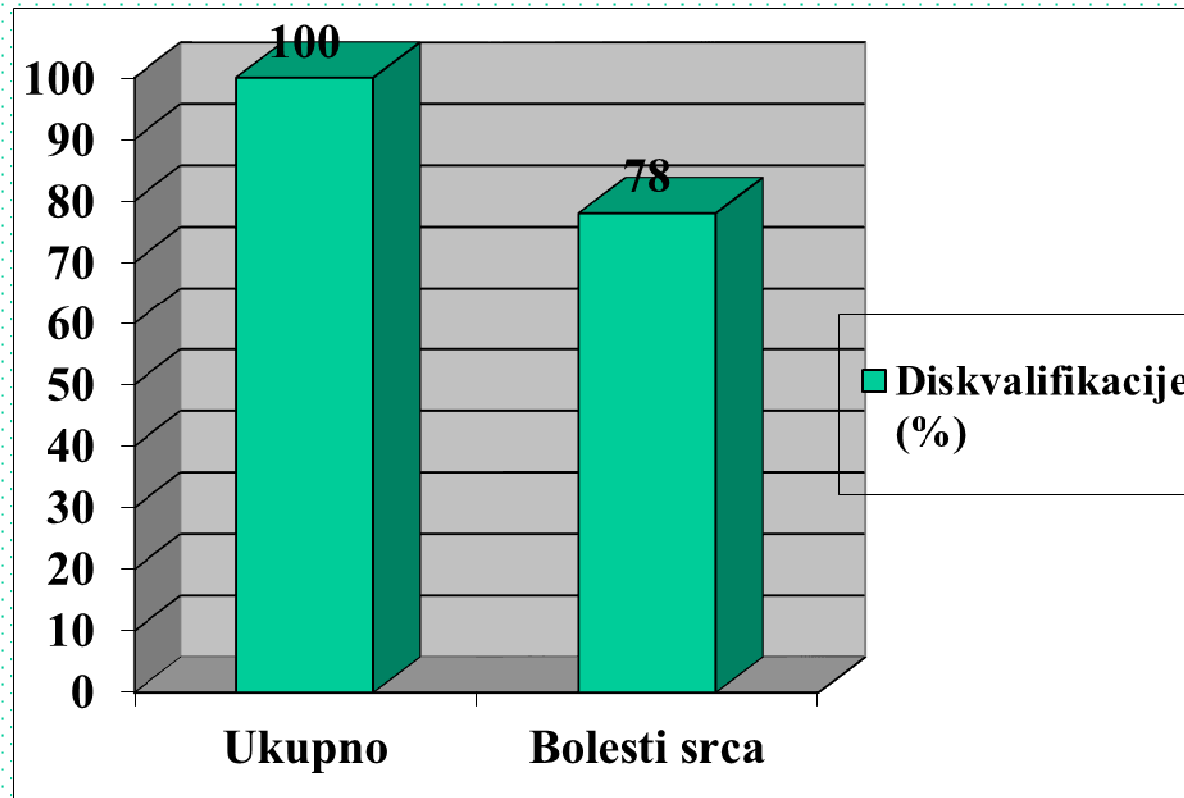
In identified situations an ECG may also be mandatory as part of this assessment and the signing of this consent document confirms your agreement to undertake this ECG.

I confirm that I have read and understood the above information, and that the information I have given is accurate to the best of my knowledge.

Signed: .....

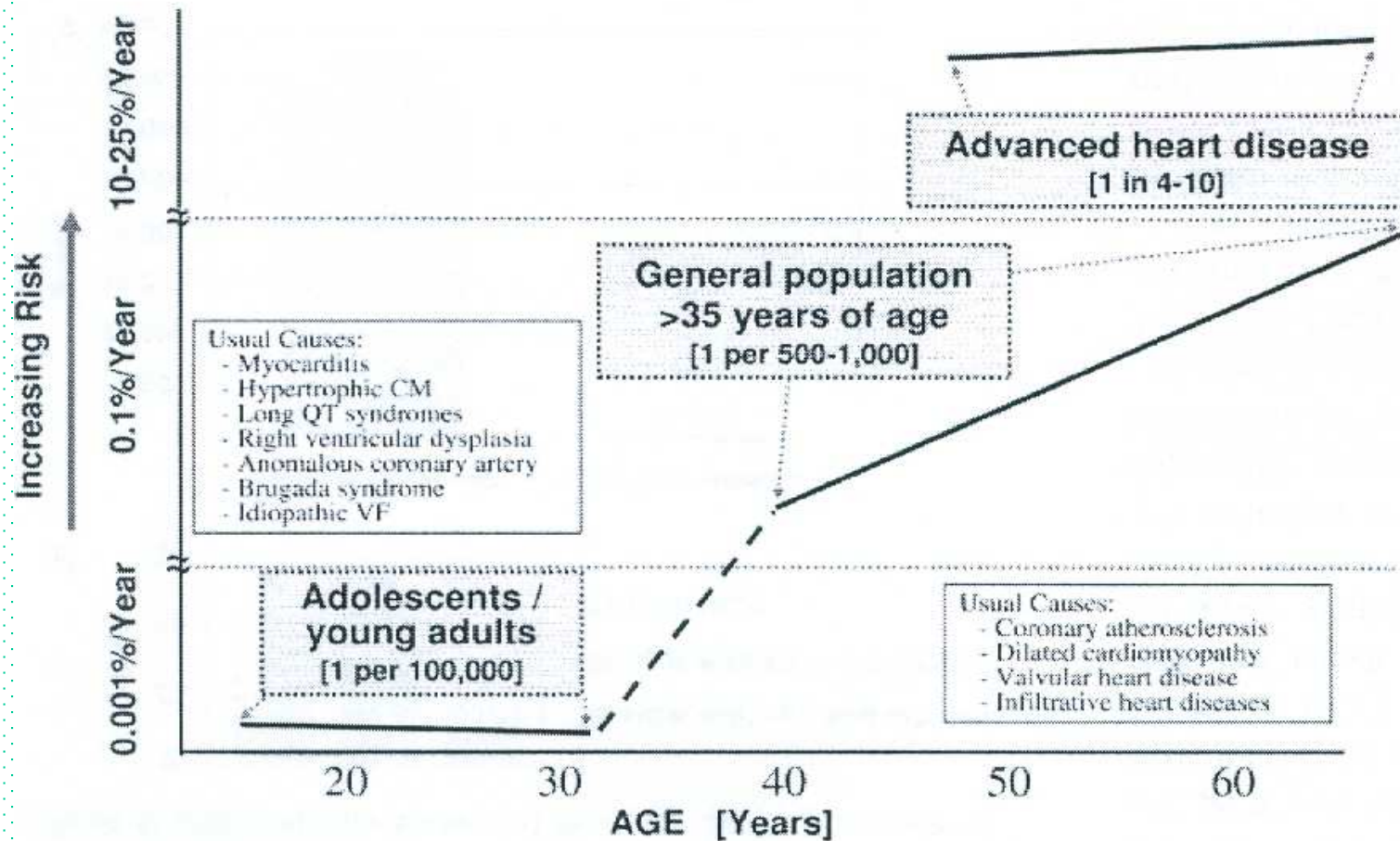
Dated: .....

# Medicinske diskvalifikacije iz sporta u Italiji



# Iznenadna srčana smrt tijekom sportske aktivnosti

Rizik ovisan o dobi



Corrado D et al. Cardiovascular pre-participation screening of young athletes for prevention of sudden death. proposal for a common European protocol. Eur Heart J 2005;26, 516-524

# **STANJE SPORTSKE KARDIOLOGIJE U HRVATSKOJ**

## **PROBLEMI**

- **izostanak sustavnog sakupljanja podataka**
- **metropolizacija**
- **različiti standardi ovisno o sportu**
- **liječnička služba samo na natjecanjima**
- **rekreativni sport bez zdravstvene zaštite**
- **premali broj i upitna osposobljenost specijalista medicine rada i sporta, te specijalista školske medicine koji prema zakonu utvrđuju opću i posebnu zdravstvenu sposobnost športaša**
- **niski postotak laičke reanimacije**

# STANJE SPORTSKE KARDIOLOGIJE U HRVATSKOJ

## PROBLEMI

- izostanak sustavnog sakupljanja podataka
- metropolizacija
- različiti standardi ovisno o sportu
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- **niski postotak laičke reanimacije**



# **Tečaj Osnovnih mjera oživljavanja & Automatske vanjske defibrilacije**

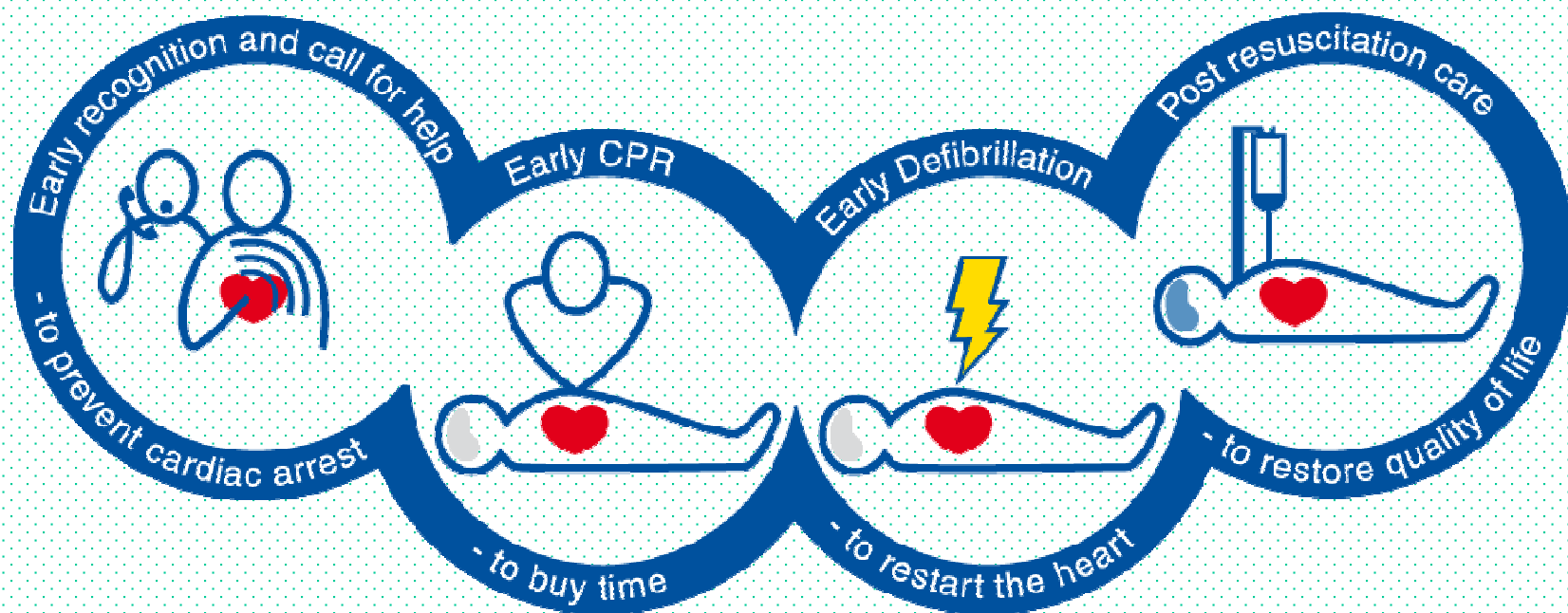
# CILJEVI

- Na kraju tečaja polaznici će biti osposobljeni da :
  - Procijene žrtvu srčanog zastoja.
  - Izvedu vanjsku masažu srca i umjetno disanje.
  - Kako da rukuju sa vanjskim automatskim defibrilatorom.
  - Postave osobu u besvjesnom stanju u stabilan bočni položaj.

# UVODNE INFORMACIJE

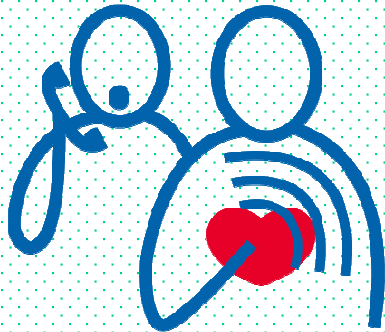
- 700,000 slučajeva srčanog zastoja godišnje se dešava u Europi
- Postotak preživljavanja kreće se oko 5-10%
- Do dolaska tima medicinske pomoći, KPR koju počinju slučajni prolaznici i osobe u neposrednoj blizini žrtve ključna je za preživljavanje
- Rana reanimacija i neodložna defibrilacija rezultiraju procentom preživljavanja >60%

# LANAC PREŽIVLJAVANJA



## **DEFINICIJA NAGLE SMRTI**

Iznenadni, neočekivani gubitak svijesti, prestanak disanja i rada srca.



**Siguran pristup**

**Provjeriti stanje svijesti**

**Zatražiti dodatnu pomoć**

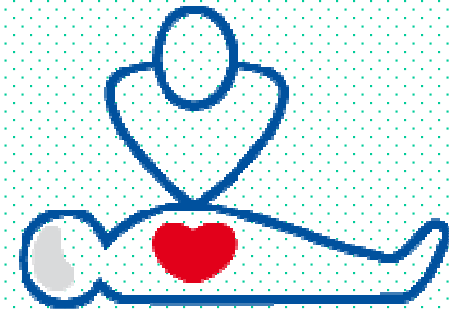
**Otvoriti dišni put**

**Provjeriti disanje**

**Pozvati 112**

**30 kompresija grudi**

**2 početna udaha**



# SIGURNO PRISTUPITI!

	<b>Siguran pristup</b>
Mjesto	Provjeriti stanja svijesti
Spasitelj	Zatražiti pomoć
Žrtva	Otvoriti dišni put
	Provjeriti disanje
	Pozvati 112
Prolaznici	30 kompresija grudi
	2 početna udaha

# PROVJERITI STANJE SVIJESTI



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Siguran pristup

**Provjeriti stanje svijesti**

Zatražiti pomoć

Otvoriti dišni put

Provjeriti disanje

Pozvati 112

30 kompresija grudi

2 početna udaha

# PROVJERA STANJA SVIJESTI



Pažljivo protresti  
unesrećenog

Upitati: “Da li ste dobro?”

Ako odgovori:

- ostaviti žrtvu u nađenom položaju.
- pokušati saznati uzrok stanja.
- ponavljati provjeru stanja svijesti.

# ZATRAŽITI POMOĆ



Siguran pristup

Provjeriti stanje svijesti

**Zatražiti pomoć**

Otvoriti dišni put

Provjeriti disanje

Pozvati 112

30 kompresija grudi

2 početna udaha

# OTVORITI DISAJNI PUT



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Siguran pristup

Provjeriti stanje svijesti

Zatražiti pomoć

**Otvoriti dišni put**

Provjeriti disanje

Pozvati 112

30 kompresija grudi

2 početna udaha

# PROVJERITI DISANJE



Siguran pristup

Provjeriti stanje svijesti

Zatražiti pomoć

Otvoriti dišni put

**Provjeriti disanje**

Pozvati 112

30 kompresija grudi

2 početna udaha

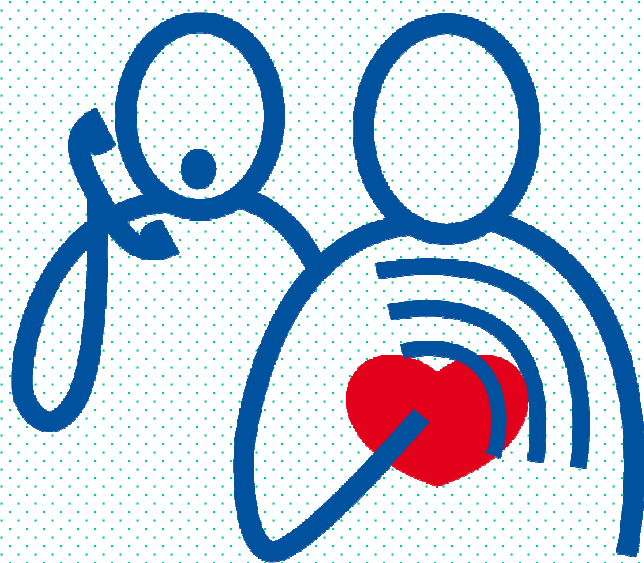
# PROVJERITI DISANJE



- Gledaj, slušaj i osjećaj da li postoji **NORMALNO** disanje
- Ne mješati agonalno i **NORMALNO** disanje

## AGONALNO DISANJE

- Javlja se ubrzo nakon prestanka rada srca u 40% slučajeva kod srčanog zastoja
- Opisuje se kao kratko, čujno, teško disanje, krkljanje ili stenjanje
- Prepoznanje se kao jedan od znakova srčanog zastoja



**Siguran pristup**

**Provjeriti stanje svijesti**

**Zatražiti pomoć**

**Otvoriti dišne puteve**

**Provjeriti disanje**

**Pozvati 112**

**30 kompresija grudi**

**2 početna udaha**

- naglašava se važnost interakcije između dispečera u hitnoj pomoći i svjedoka koji provodi KPR
- glavne uloge dispečera:
  - dg. kardiorespiratornog aresta
  - asistiranje u KPR (telefonska KPR)
  - obavještavanje o najbližem AED-u
- žrtva koja ne odgovara i ne diše normalno vjerojatno zahtjeva KPR (OPREZ KOD KLONIČKO-TONIČKIH GRČEVA!)

## 30 KOMPRESIJA GRUDI



Siguran pristup

Provjeriti stanje svijesti

Zatražiti pomoć

Otvoriti dišji put

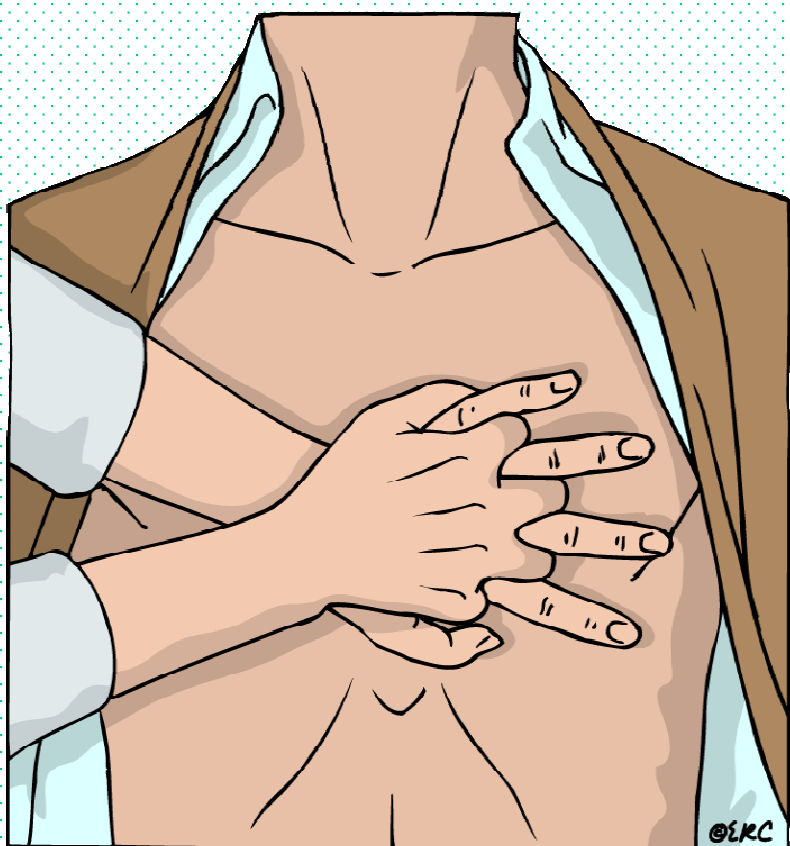
Provjeriti disanje

Pozvati 112

**30 kompresija grudi**

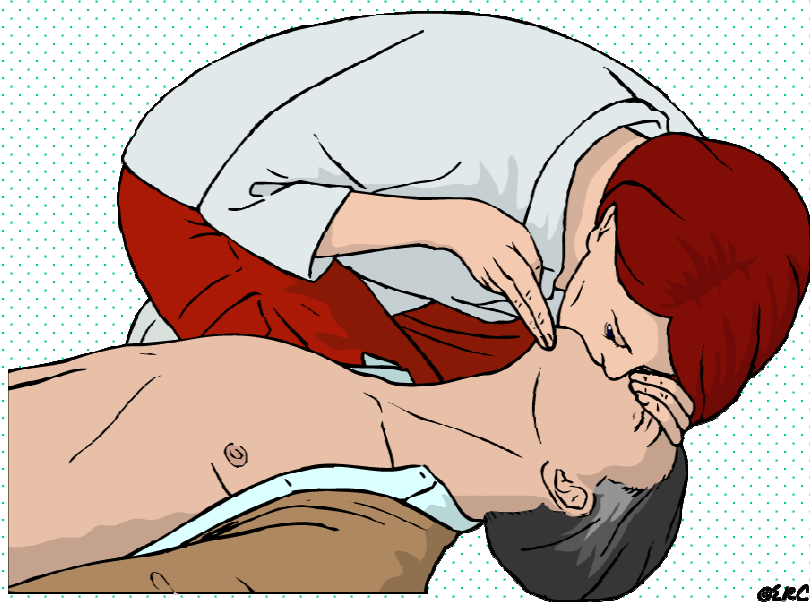
2 početna udaha

# KOMPRESIJA GRUDNOG KOŠA



- Postaviti dlan jedne ruke na centar grudne kosti
- Staviti drugu ruku iznad
- Ispreplesti prste
- Pritiskati grudni koš
  - Brzina 100-120 min<sup>-1</sup>
  - Dubina 5-6 cm
  - Jednak omjerkompresija : relaksacija
- Ukoliko je moguće mijenjati spasioce svakih 2 min.
- **MASAŽA SRCA UVIJEK!**

# POČETNI UDAH



Siguran pristup

Provjeriti stanje svijesti

Zatražiti pomoć

Otvoriti dišni put

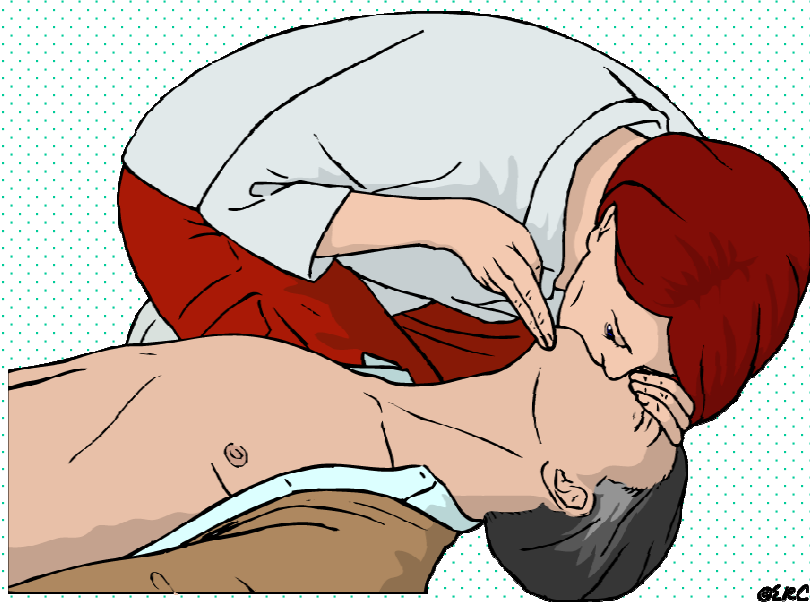
Provjeriti disanje

Pozvati 112

30 kompresija grudi

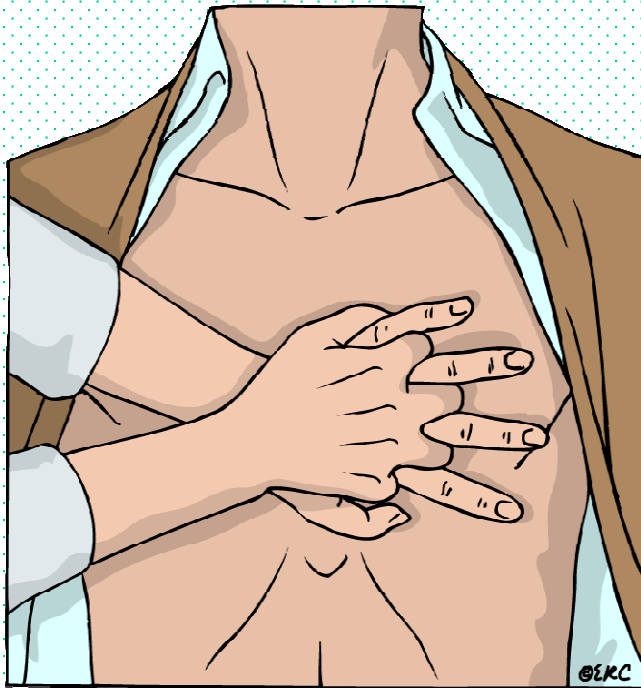
2 početna udaha

# UMJETNO DISANJE

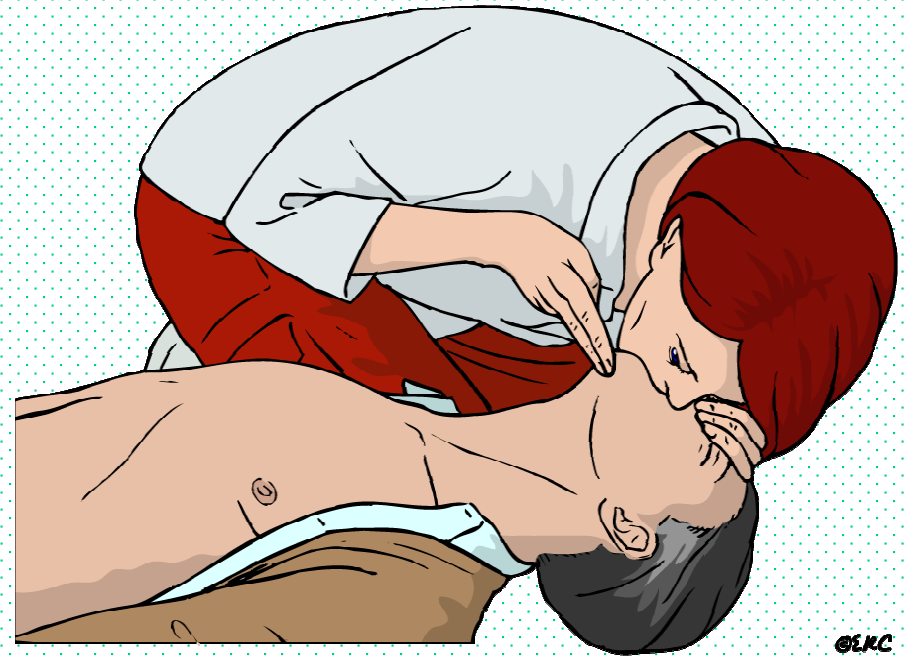


- Zatvoriti nosnice žrtve
- Normalno udahnuti
- Svojim ustima pokriti usta žrtve
- Upuhivati zrak dok se grudni koš ne podigne
- Upuhivati zrak do 1 sek.
- Dopustiti da žrtva izdahne
- Ponoviti
- Ne prekidati masažu srca za više od 10 sek.

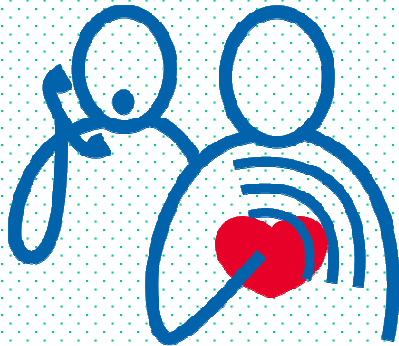
# KONTINUIRANA KPR



30



2



**Siguran pristup**

**Provjeriti stanje svijesti**

**Zatražiti pomoć**

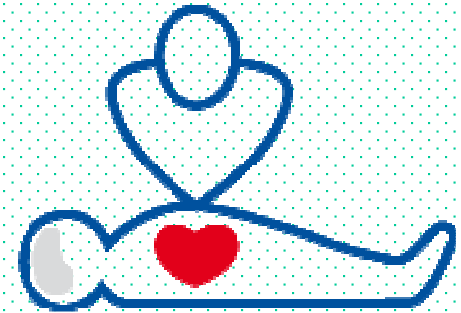
**Otvoriti dišni put**

**Provjeriti disanje**

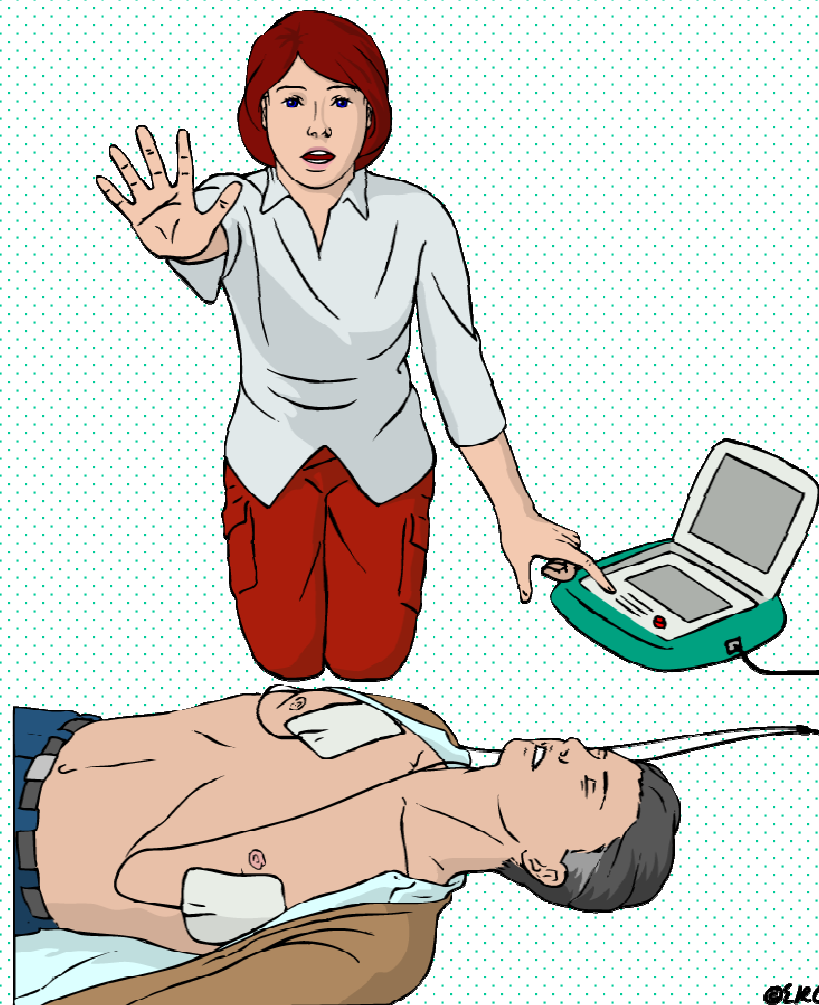
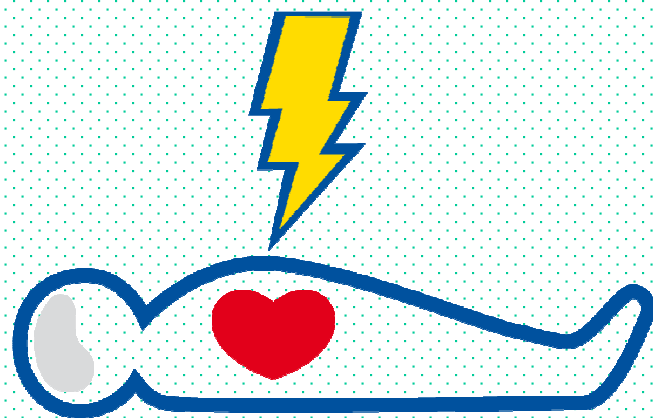
**Pozvati 112**

**30 kompresija grudi**

**2 početna udaha**



# DEFIBRILACIJA









**Siguran pristup**

**Provjeriti stanje svijesti**

**Zatražiti pomoć**

**Otvoriti dišni put**

**Provjeriti disanje**

**Pozvati 112**

**Pripojiti AED**

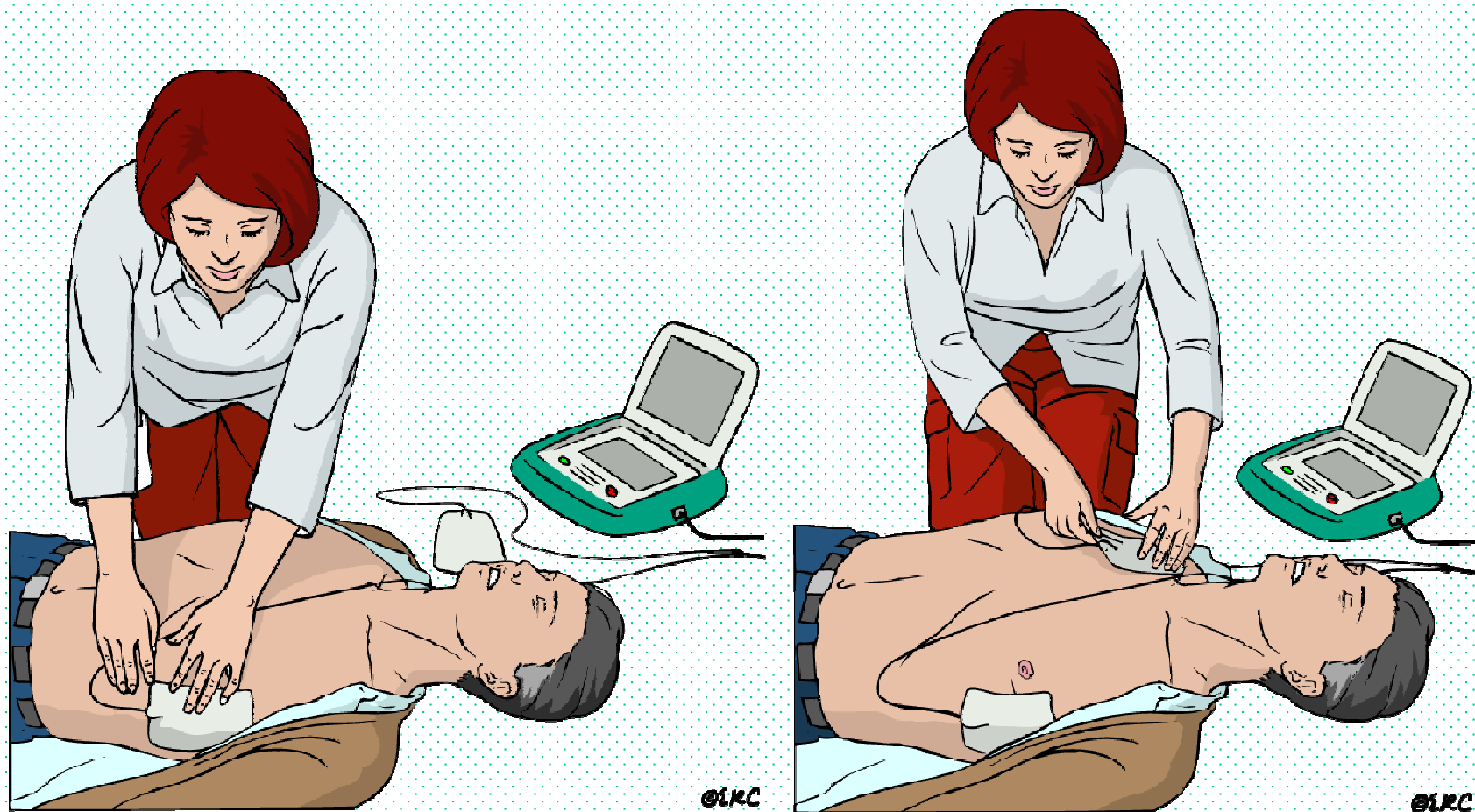
**Slijediti glasovne upute**

## AKTIVIRATI AED

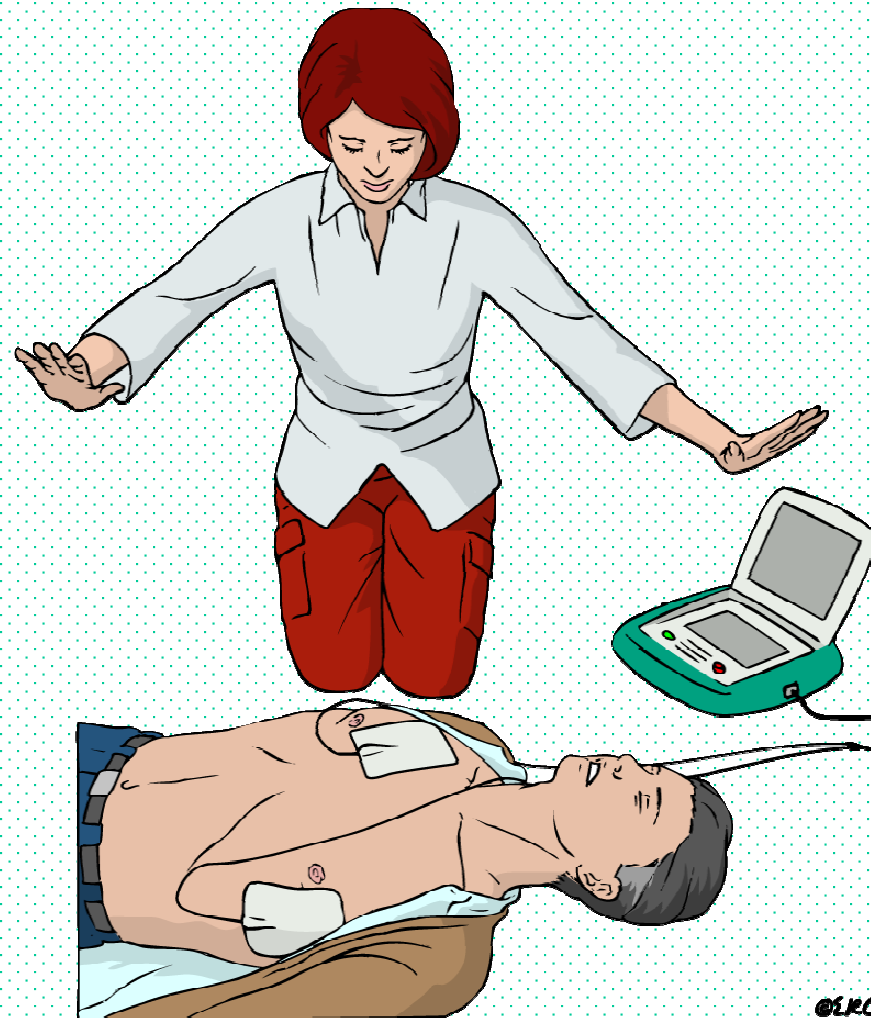


- Neki AED-i se uključuju sami prilikom prve manipulacije.

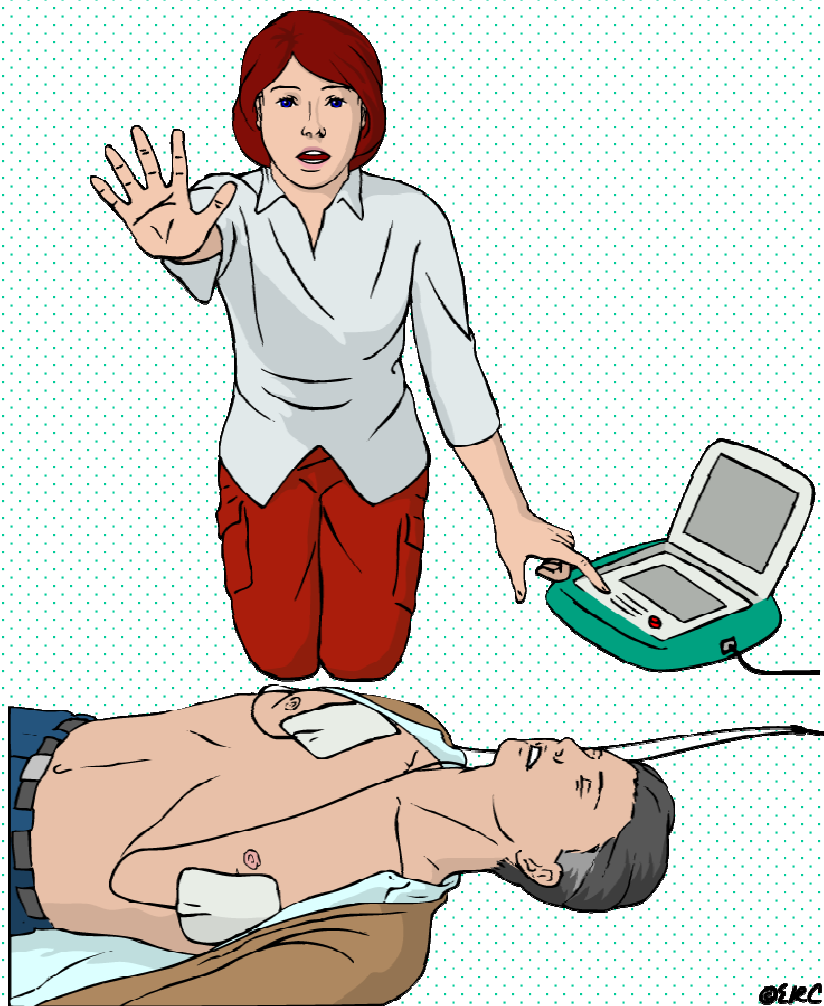
# PRIČVRSTITI PEDALE AED-a NA GRUDNI KOŠ



# ANALIZIRATI RITAM NE DODIRIVATI ŽRTVU



# ŠOK JE INDICIRAN

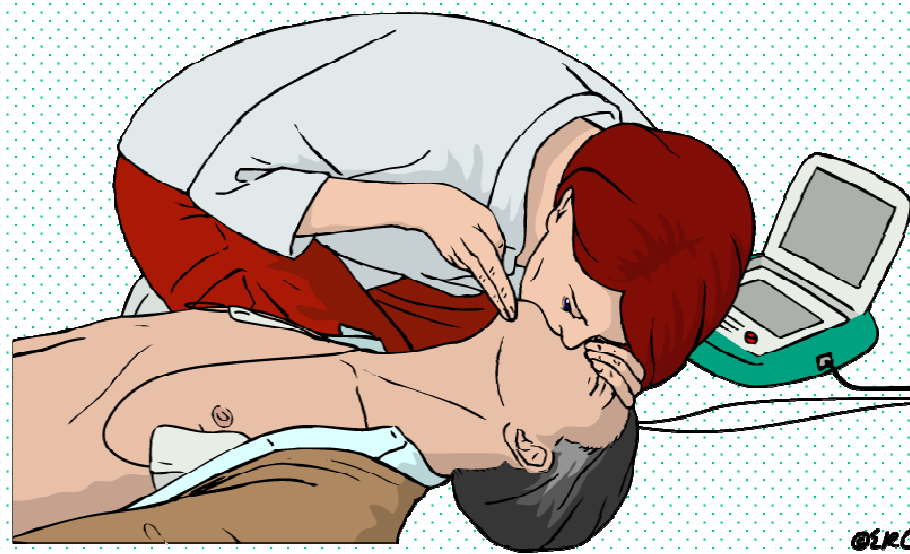


- Sigurna udaljenost
- Isporučiti šok

# NAKON ŠOKA, SLIJEDITI INSTRUKCIJE SA AED-a



**30**

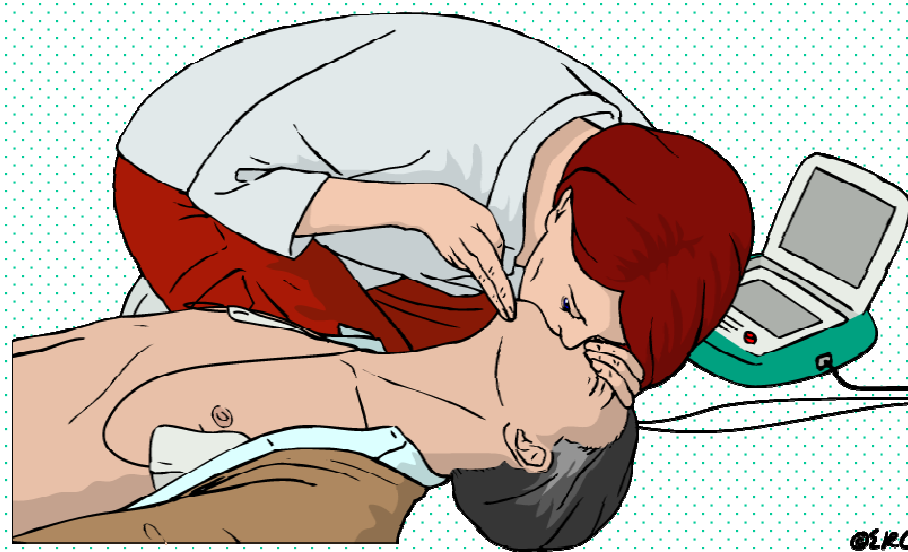


**2**

**ŠOK SE NE PREPORUČA  
SLIJEDITI INSTRUKCIJE SA  
AED-a**

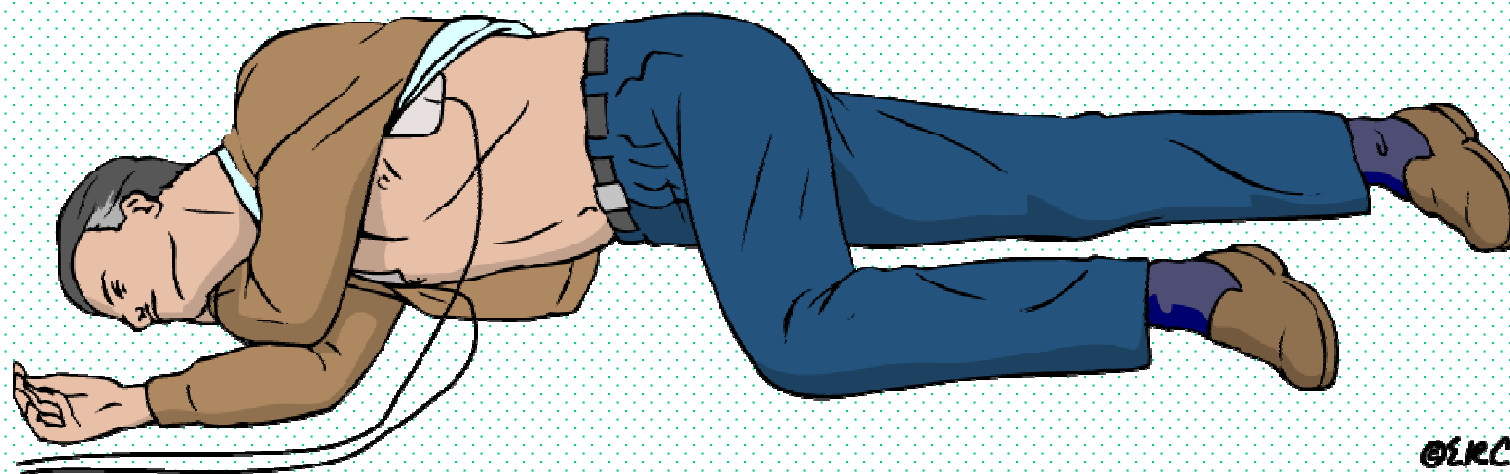


**30**



**2**

**AKO ŽRTVA POČNE DISATI  
NORMALNO POSTAVITI JE U  
STABILAN BOČNI POLOŽAJ**





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# DALJNIPOSTUPAK

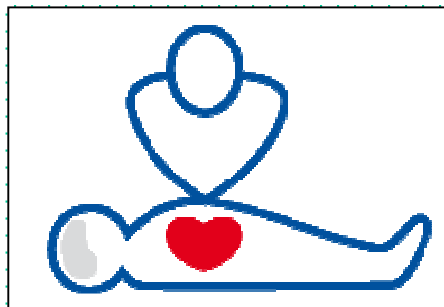
## LIJEČENJE NAKON KPR

- važnost hitne koronarografije i PCI kod sumnje na kardijalni uzrok srčanog zastoja
- terapijska hipotermija (32-34°C, maks. 36°C) i prevencija febriliteta
- multimodalna prognoza i rehabilitacija nakon KPR

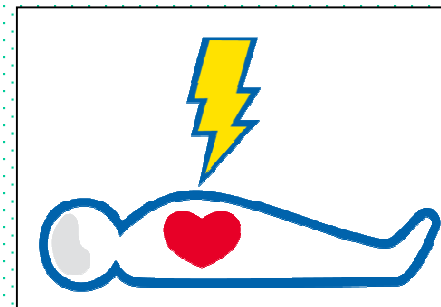
## ORGANIZACIJA KPR

- formiranje timova za KPR
- formiranje centara za liječenje nakon srčanog zastoja
- nove tehnologije za što brži pristup AED





## ZAKLJUČAK



**Siguran pristup**

**Provjeriti stanje svijesti**

**Zatražiti pomoć**

**Otvoriti dišni put**

**Provjeriti disanje**

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**Pripojiti AED**

**Slijediti glasovne upute**