

TACHYCARDIA & BRADYCARDIA ALGORITHMS



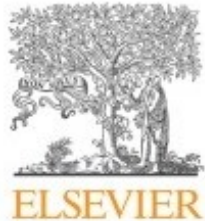
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EUROPEAN RESUSCITATION COUNCIL



Contents lists available at [ScienceDirect](#)

Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation

European Resuscitation Council Guidelines for Resuscitation 2015
Section 1. Executive summary

[Resuscitation 95 \(2015\) 1–80](#)

www.erc.edu

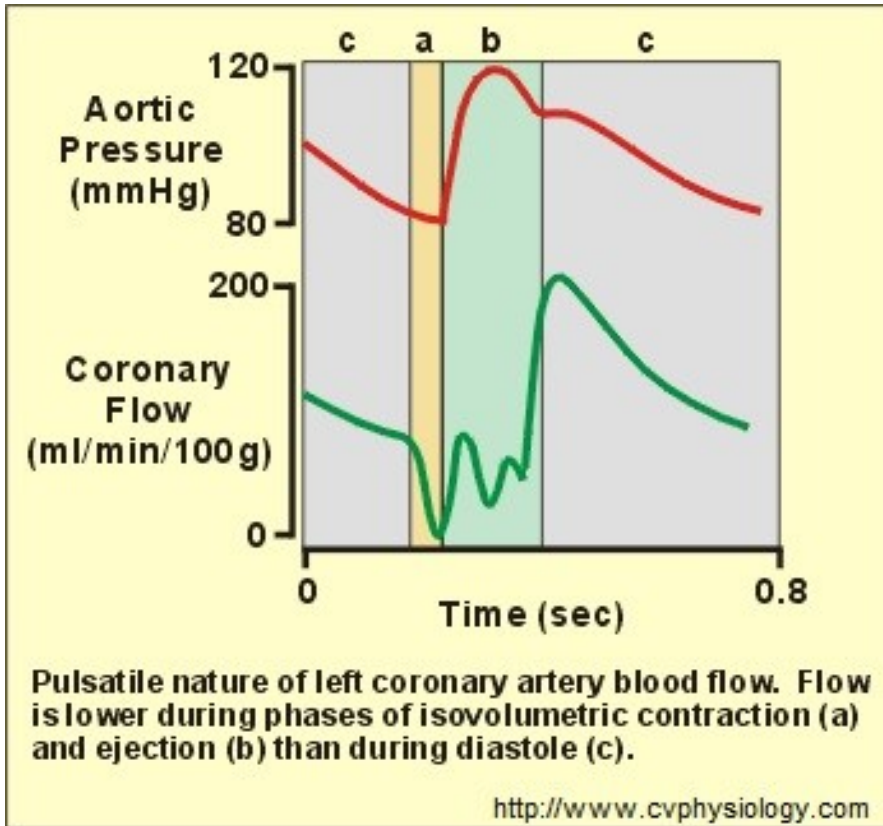
ERC Guidelines 2015

Download the guidelines, summary and posters for free or watch videos of the authors.

2015 Guidelines

Download the Full PDF version as they are published in Resuscitation, our official Journal.

ARRHYTHMIA



Consequences:

- cardiac failure
- myocardial ischaemia



- (pre-)syncope
- cardiogenic shock
- circulatory failure/arrest

= require immediate treatment
= guidelines knowledge crucial

ARRHYTHMIA



PHARMACOTHERAPY



antiarrhythmics



parasympatholytics
sympathomimetics

ELECTROTHERAPY



cardioversion
(defibrillation)



pacing

Tachycardia Algorithm (with pulse)

- Assess using the ABCDE approach
- Give oxygen if appropriate and obtain IV access
- Monitor ECG, BP, SpO₂, record 12-lead ECG
- Identify and treat reversible causes (e.g. electrolyte abnormalities)

- Assess for evidence of adverse signs
1. Shock
 2. Syncope
 3. Myocardial ischaemia
 4. Heart failure

sedation

Synchronised DC Shock*
Up to 3 attempts

Do not administer amiodarone as a quick bolus = ↓BP

- Amiodarone 300 mg IV over 10-20 min and repeat shock; followed by:
- Amiodarone 900 mg over 24 h

900mg/50ml D5%
2ml/hr

Is QRS narrow (< 0.12 sec)?

Broad

Narrow

Broad QRS
Is QRS regular?

Narrow QRS
Is rhythm regular?

Irregular

Regular

Regular

Irregular

Seek expert help

- Use vagal manoeuvres
- Adenosine 6 mg rapid IV bolus; if unsuccessful give 12 mg; if unsuccessful give further 12 mg.
- Monitor ECG continuously

Irregular Narrow Complex Tachycardia
Probable atrial fibrillation
Control rate with:
• β-Blocker or diltiazem
• Consider digoxin or amiodarone if evidence of heart failure
Anticoagulate if duration > 48 h

Possibilities include:
• **AF with bundle branch block** treat as for narrow complex
• **Polymorphic VT** (e.g. torsades de pointes - give magnesium 2 g over 10 min)

If **Ventricular Tachycardia** (or uncertain rhythm):
• Amiodarone 300 mg IV over 20-60 min; then 900 mg over 24 h

• If previously confirmed **SVT with bundle branch block**: Give adenosine as for regular narrow complex tachycardia

Normal sinus rhythm restored?
YES

Probable re-entry PSVT:
• Record 12-lead ECG in sinus rhythm
• If recurs, give adenosine again & consider choice of anti-arrhythmic prophylaxis

Seek expert help

Possible **atrial flutter**
• Control rate (e.g. β-Blocker)



Synchronised DC Shock*
Up to 3 attempts

← Unstable →



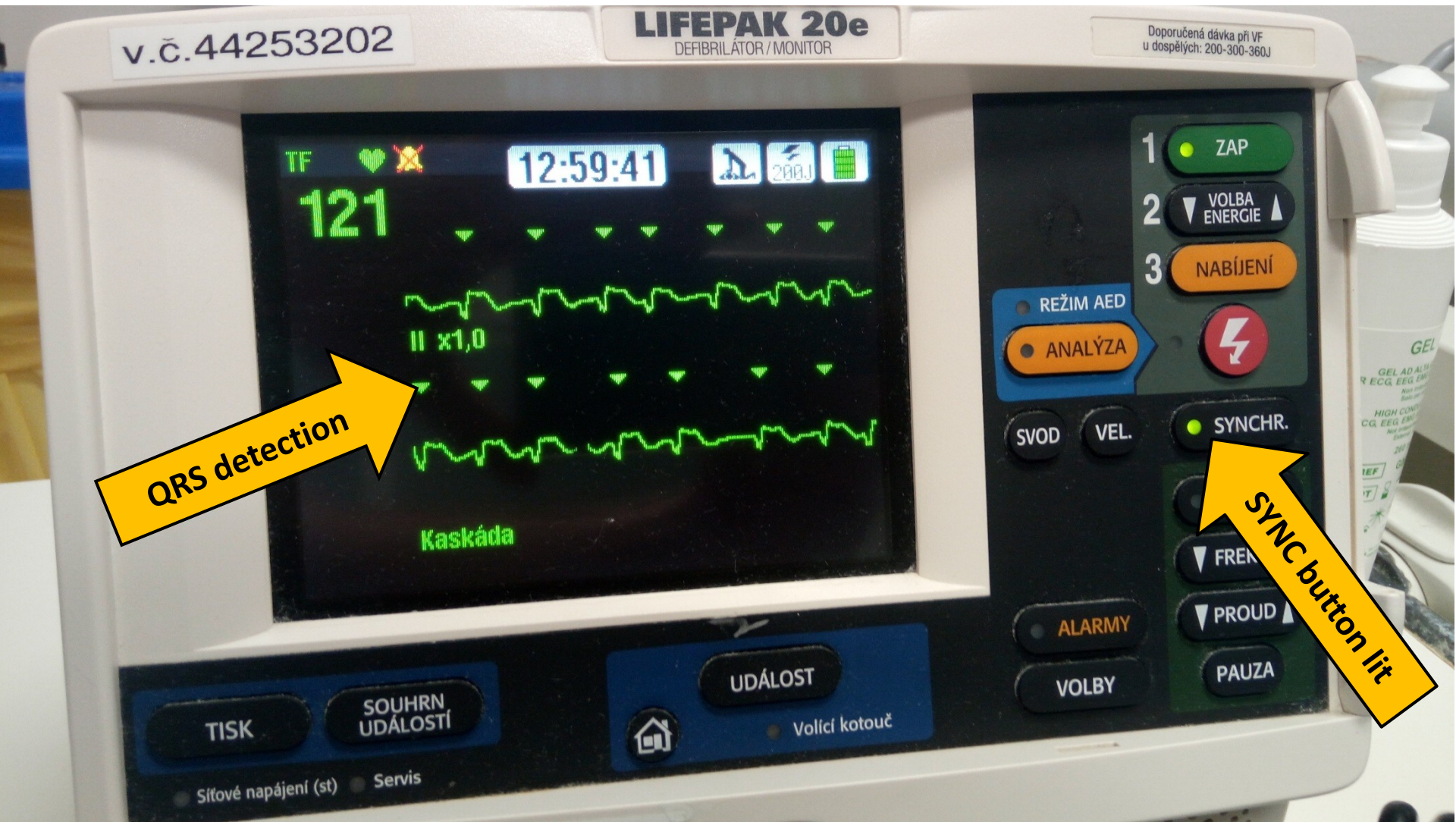
← SYNC button

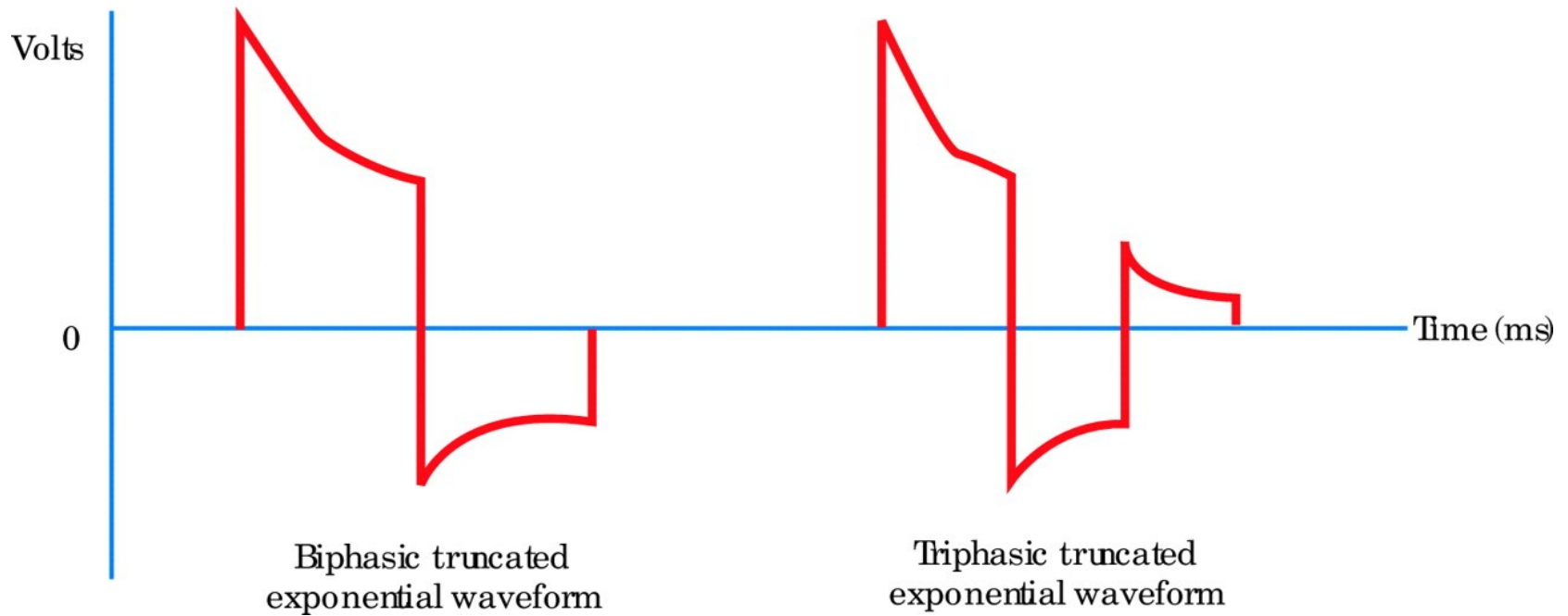
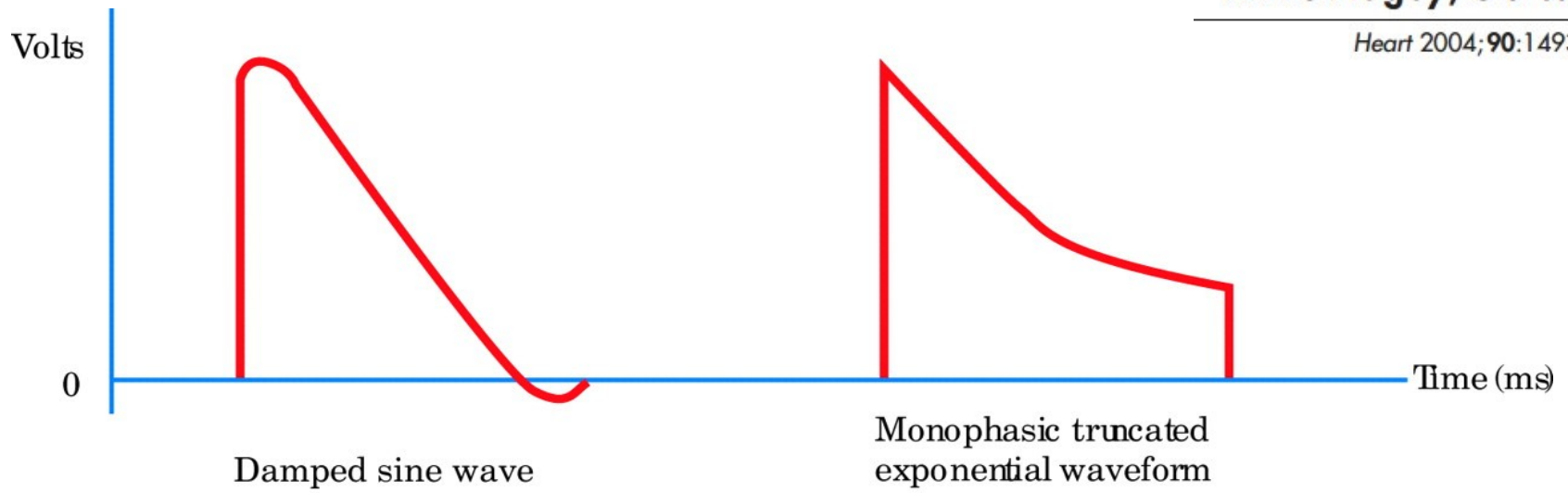
← ECG cable synchronization

← PADS cable



Always check QRS detection by the monitor/defibrillator





Bradycardia Algorithm

- Assess using the ABCDE approach
- Give oxygen if appropriate and obtain IV access
- Monitor ECG, BP, SpO₂, record 12 lead ECG
- Identify and treat reversible causes (e.g. electrolyte abnormalities)

Assess for evidence of adverse signs

1. Shock
2. Syncope
3. Myocardial ischaemia
4. Heart failure

YES

Atropine
500 mcg IV

Satisfactory
response?

NO

Interim measures:

- Atropine 500 mcg IV repeat to maximum of 3 mg
- Isoprenaline 5 mcg min⁻¹ IV
- Adrenaline 2-10 mcg min⁻¹ IV
- Alternative drugs*

OR

- Transcutaneous pacing

! Seek expert help
Arrange transvenous pacing

* Alternatives include:

- Aminophylline
- Dopamine
- Glucagon (if beta-blocker or calcium channel blocker overdose)
- Glycopyrrolate can be used instead of atropine

YES

YES

YES

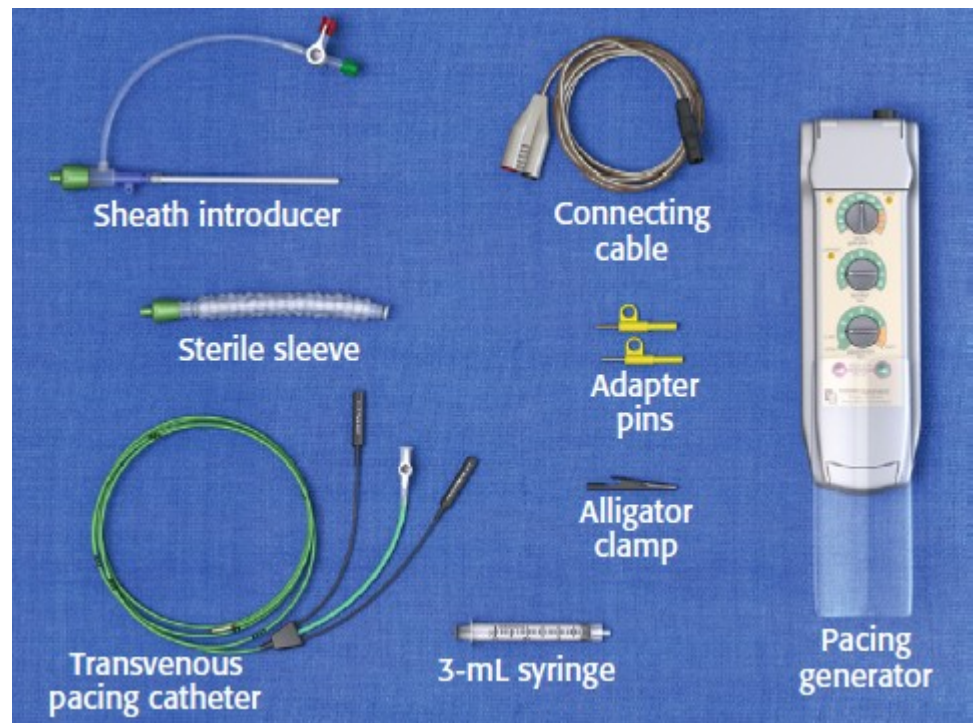
NO

Observe

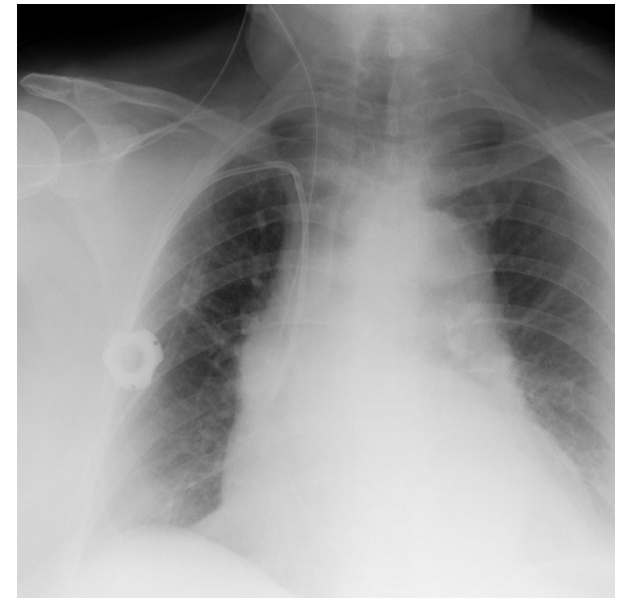
Risk of asystole?

- Recent asystole
- Mobitz II AV block
- Complete heart block with broad QRS
- Ventricular pause > 3s

NO

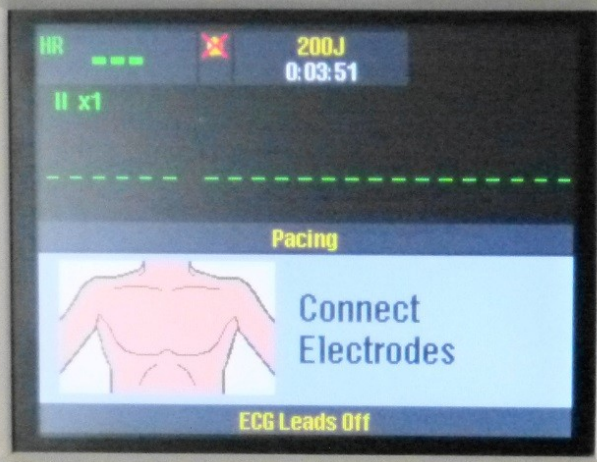


<https://coreem.net>



LIFEPAK 20
DEFIBRILLATOR / MONITOR

BIPHASIC



1 ON

2 ENERGY SELECT

3 CHARGE

AED MODE

ANALYZE

LEAD SIZE SYNC

PACER

RATE

CURRENT

PAUSE

ALARMS

OPTIONS



PACER button

PRINT CODE SUMMARY

AC Mains Service

EVENT Speed Dial

Medtronic



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Thank you