

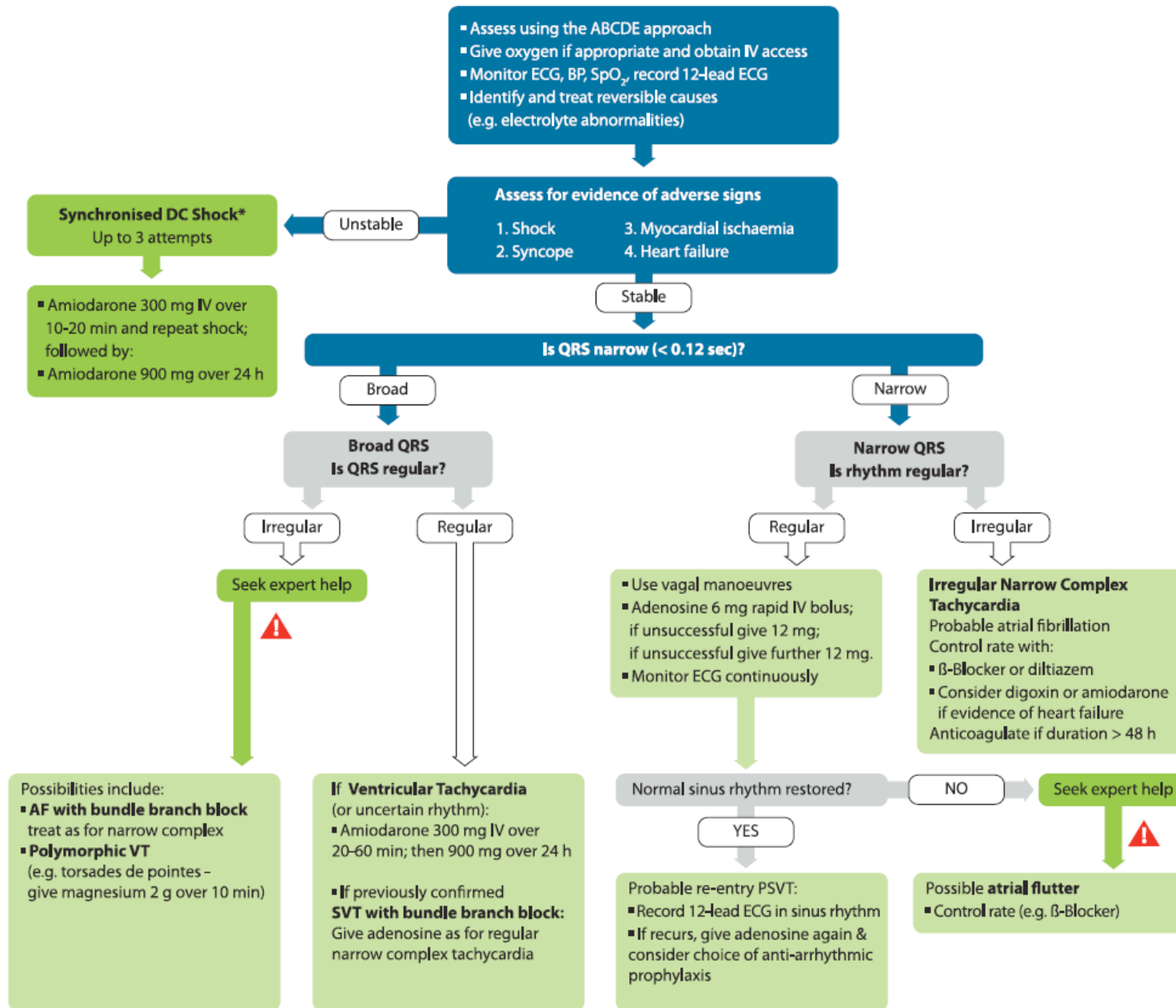
# Arrhythmias

MUDr. Jan Stašek

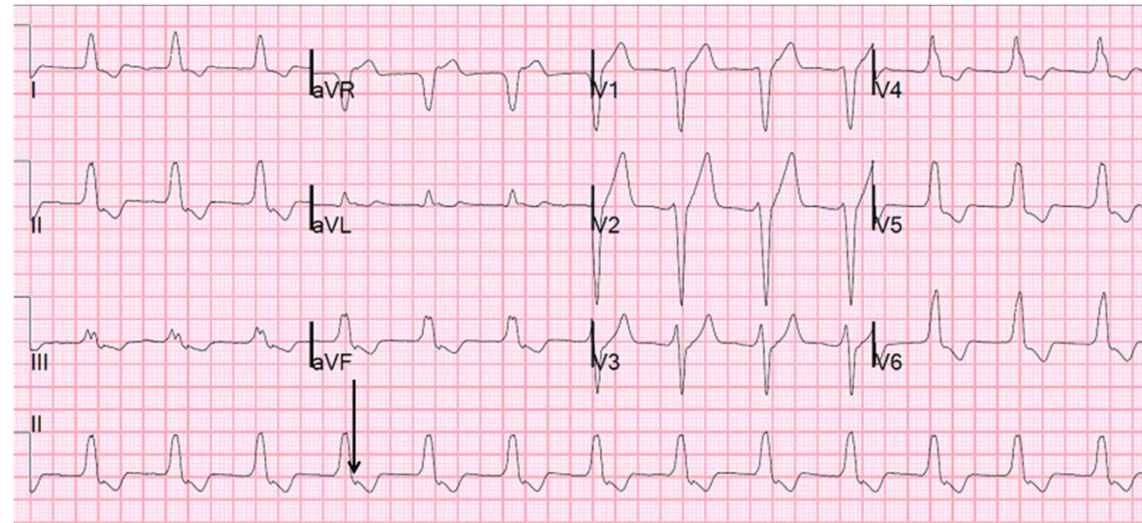
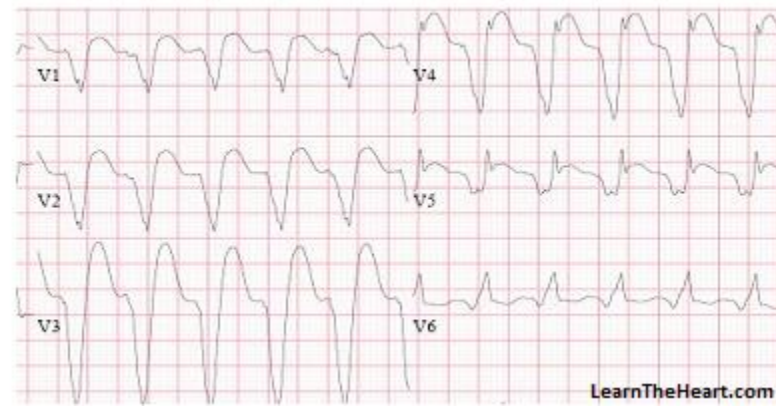
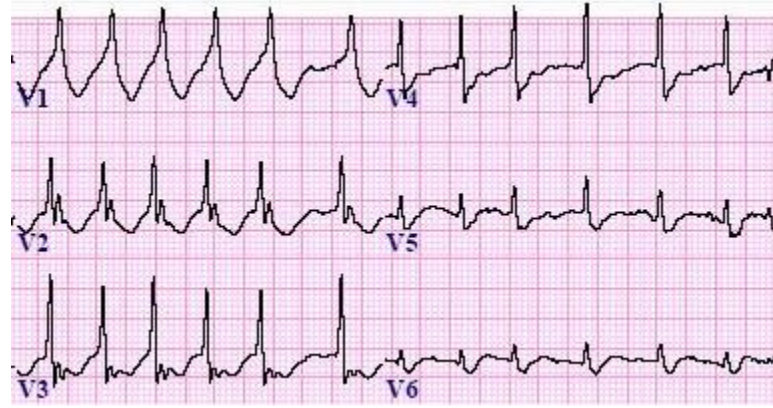
# Clinical significance

- Arrhythmias leading to cardiac arrest
- Arrhythmias with circulatory decompensation
  - shock
  - syncope
  - heart failure
  - myocardial ischemia
- Arrhythmias with preserved heart function

# Tachycardia Algorithm (with pulse)



\*Attempted electrical cardioversion on conscious patients is always undertaken under sedation or general anaesthesia



# Tachyarrhythmias with adverse signs

- Electrical cardioversion
- Sedation
- Synchronised biphasic discharge 120 – 150 J in VT and AF, in atrial flutter or PSVT 70 – 120 J
- In case of failure i.v. amiodaron 300 mg, then 900 mg / 24 hod
- Repeat electrical discharge after amiodaron

# Bradycardia Algorithm

- Assess using the ABCDE approach
- Give oxygen if appropriate and obtain IV access
- Monitor ECG, BP, SpO<sub>2</sub>, 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?

YES

NO

### Interim measures:

- Atropine 0.5 mg IV repeat to maximum of 3 mg
- Isoprenaline 5 mcg min<sup>-1</sup> IV
- Adrenaline 2-10 mcg min<sup>-1</sup> IV
- Alternative drugs\*
- OR
- Transcutaneous pacing

⚠ Seek expert help  
Arrange transvenous pacing

NO

Risk of asystole?

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

YES

NO

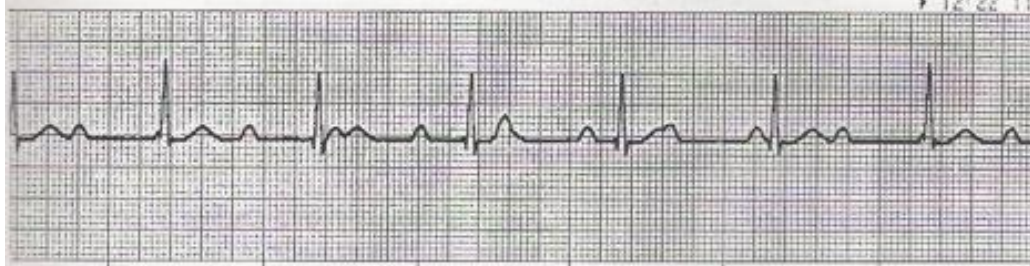
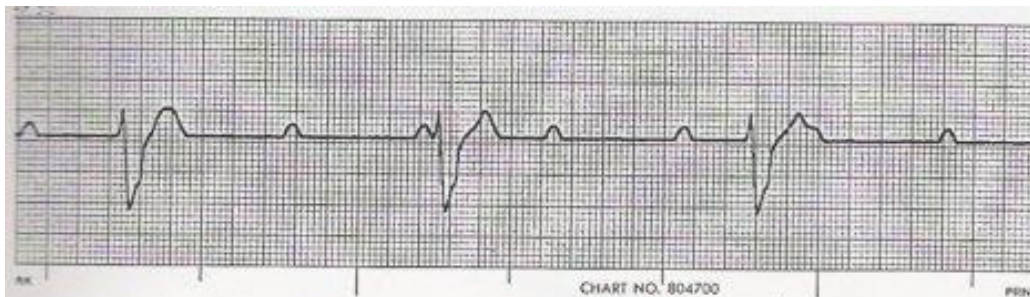
Observe

### \* Alternatives include:

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

# Bradycardia

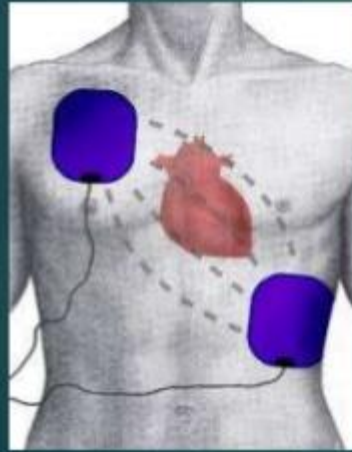
- Atropine 0,5 mg i.v. (full dose in an adult is 3 mg i.v.)
- Izoprenaline, adrenaline, dopamine, dobutamine



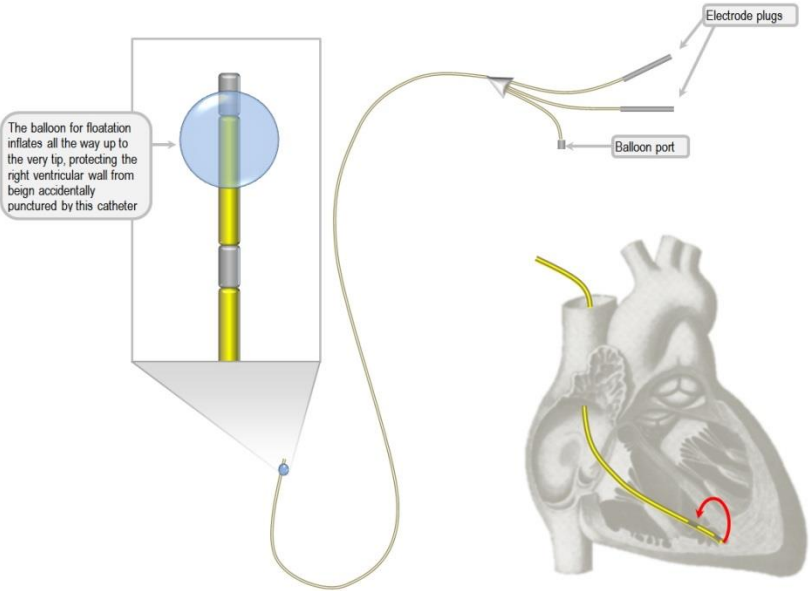
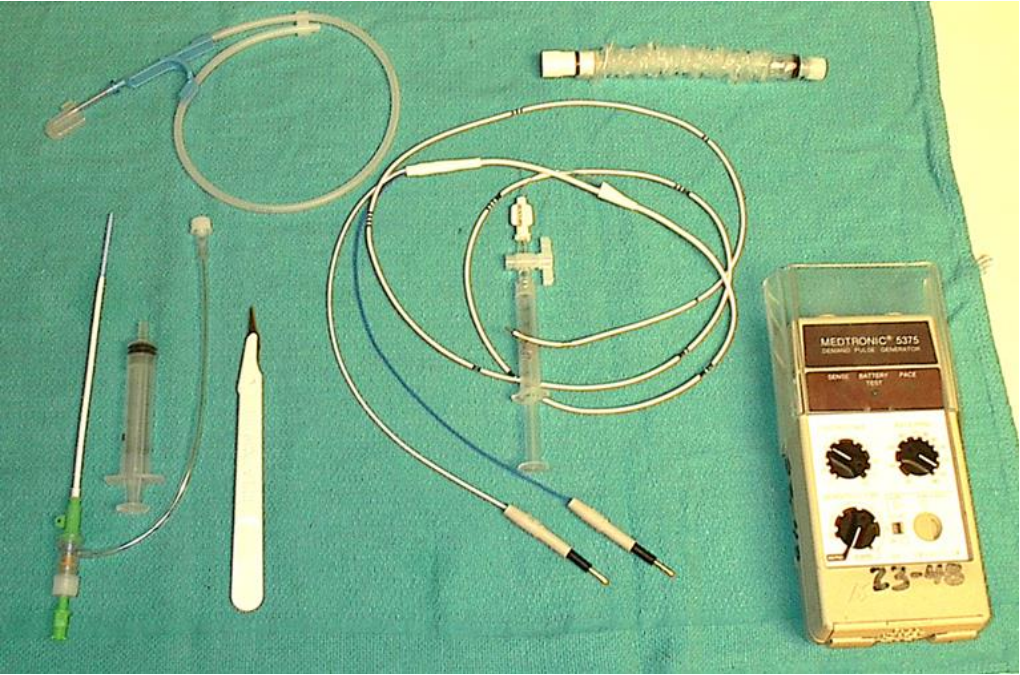


# Transcutaneous pacing

TRANSCUTANEOUS PACING:



# Temporary transvenous pacing



Thanks for Your attention