Heart Rate

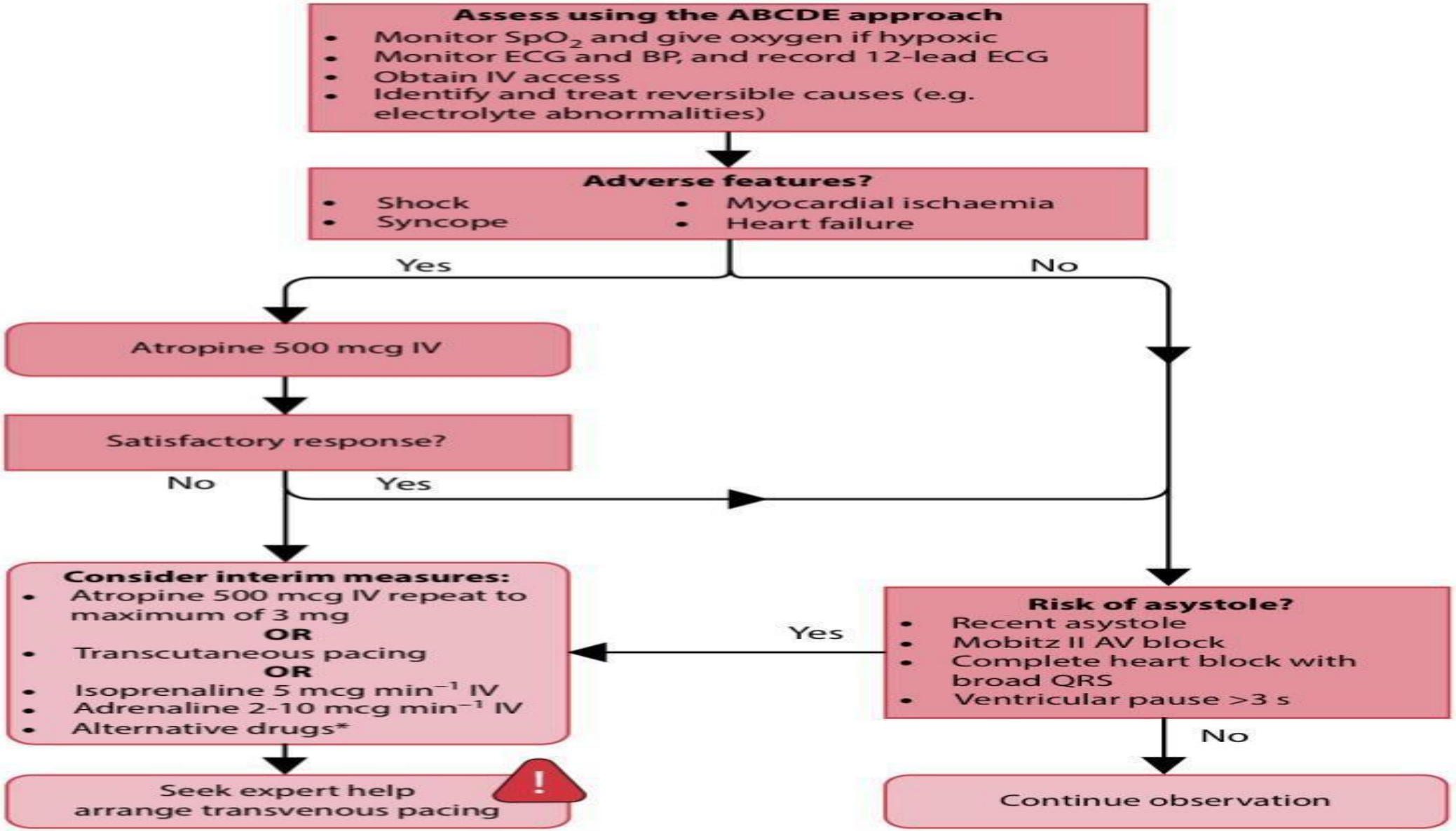
- Once you have measured the heart rate, you need to decide whether it is normal or abnormal.
- As a general rule, a heart rate between 60 and 100/min is normal.
- If the rate is below 60/min, the patient is said to be bradycardic.

With a heart rate above 100/min, the patient is tachycardic.

- Therefore, the two questions you need to ask about heart rate are:

1. Is the heart rate below 60/min?
2. Is the heart rate above 100/min?

Management of patient with bradycardia



*** Alternatives include:**

- Aminophylline
- Dopamine
- Glucagon (if bradycardia is caused by beta-blocker or calcium channel blocker)
- Glycopyrrolate (may be used instead of atropine)

Is The Heart Rate Above 100/Min?

- Tachycardia is defined as a heart rate above 100/m
- When Begin the process of identification by checking whether the

QRS complexes are:

1. Narrow (<3 small squares)
2. Broad (>3 small squares

Narrow-complex tachycardias

Always arise from above the ventricles – that is, they are supraventricular in origin.

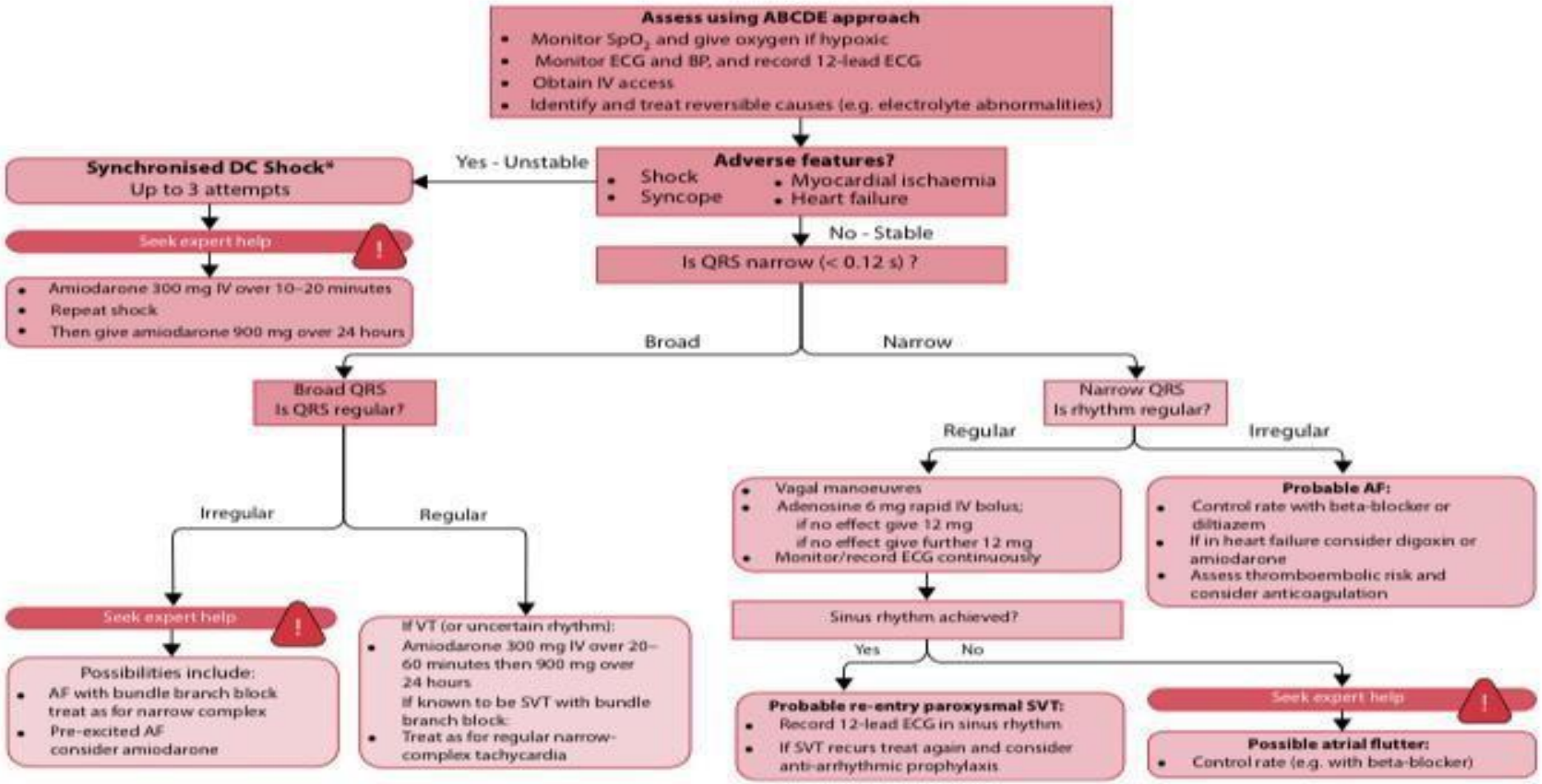
The possibilities are:

- Sinus tachycardia
- Atrial tachycardia
- Atrial flutter
- Atrial fibrillation
- AV re-entry tachycardia (AVRT)
- AV nodal re-entry tachycardia (AVNRT)

Broad-complex tachycardia:

- Ventricular tachycardia
- Accelerated idioventricular rhythm
- Torsade's de pointes

Broad-complex tachycardia should also make you think of ventricular arrhythmias.


Assess using ABCDE approach
Monitor SpO2 and give oxygen if hypoxic
Monitor ECG and BP, and record 12-lead ECG
Obtain IV access
Identify and treat reversible causes (e.g. electrolyte abnormalities)
Adverse features?
Shock
Syncope
Myocardial ischaemia
Heart failure
Yes - Unstable
Synchronised DC Shock*
Up to 3 attempts
Seek expert help
Amiodarone 300 mg IV over 10–20 minutes
Repeat shock
Then give amiodarone 900 mg over 24 hours
No - Stable
Is QRS narrow (< 0.12 s) ?
Broad
Narrow
Broad QRS
Is QRS regular?
Irregular
Regular
Seek expert help
Possibilities include:
AF with bundle branch block treat as for narrow complex
Pre-excited AF consider amiodarone
If VT (or uncertain rhythm):
Amiodarone 300 mg IV over 20–60 minutes then 900 mg over 24 hours
If known to be SVT with bundle branch block:
Treat as for regular narrow-complex tachycardia
Narrow QRS
Is rhythm regular?
Regular
Irregular
Vagal manoeuvres
Adenosine 6 mg rapid IV bolus;
if no effect give 12 mg
if no effect give further 12 mg
Monitor/record ECG continuously
Probable AF:
Control rate with beta-blocker or diltiazem
If in heart failure consider digoxin or amiodarone
Assess thromboembolic risk and consider anticoagulation
Sinus rhythm achieved?
Yes
No
Probable re-entry paroxysmal SVT:
Record 12-lead ECG in sinus rhythm
If SVT recurs treat again and consider anti-arrhythmic prophylaxis
Seek expert help
Possible atrial flutter:
Control rate (e.g. with beta-blocker)