

### Types of arrhythmia

Tachyarrhythmia      Bradyarrhythmia

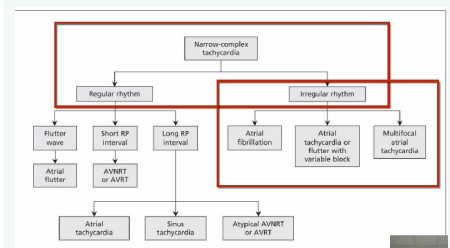
### Types and their feature

Sinus node Dysfunction	AV block
Sinus bradycardia: <i>Normal</i>	1st degree: <i>PR interval prolong, no need treat, Rheumatic fever</i>
Sinus arrest: <i>No atrial deP and ventricular asystole</i>	2nd degree (Mobitz 1): <i>prolong PR until no QRS (no ventricular beat), disappear with exercise and atropine, normal</i>
Brady-tachy syndrome: <i>Slow, fast rates</i>	2nd degree (Mobitz 2): <i>regularly no QRS, pathological</i>
Chronotropic incompetence: HR drop quick after activity**	3rd degree: <i>complete AV dissoociation, A and V contrx ont their own, haemodynamically unstable</i>

### Types

Narrow-complex tachycardia	Broad-complex tachycardia
QRS <100ms	QRS >100ms
SUpraventricular origin	ventricular origin or dt aberrnt conduction of supraventricular

### Narrow complex tachycardia



### NCT

#### Atrial fibrillation

Disorganized atrium contraction  
ECG chaotic  
P wave almost absent

#### Atrial flutter

ECG sawtooth (2p, QRS, 3p, QRS)  
P wave more than 1

#### Multifocal atrial tachycardia

P wave all over the place

#### AV Node re entry tachycardia

Common, female, any age  
Short RP interval or invisible P wave

#### Atrioventricular re-entry tachycardia

Wolff Parkinson White Syndrome  
Accessory pathway causing pre-excitation (Delta wave - before QRS)

#### Atrial tachycardia

P wave ectopic origin  
abnormal P wave axis

### NCT (cont)

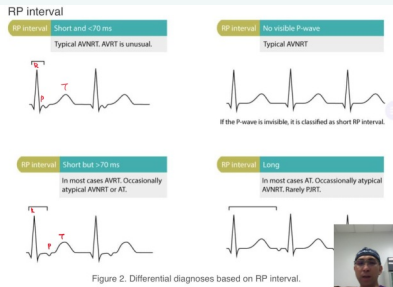
#### Sinus tachycardia

Normal P wave:

- (-) AVR
- (+) V2,3,AVF

PR interval in P wave before QRS

### DDx RP interval



### Approach to NCT ECG

#### Analysing NCT ECG

Parameter to look at:

- 1. Heart rhythm  $\leftarrow$  regular/irregular
- 2. P wave  $\leftarrow$  > 1 in QRS within QRS
- 3. Shape  $\leftarrow$  after QRS / long after QRS
- 4. Position relative to QRS complex  $\leftarrow$  close after underneath
- 5. Rate  $\leftarrow$  by measure of  $\square$

### Broad complex tachycardia

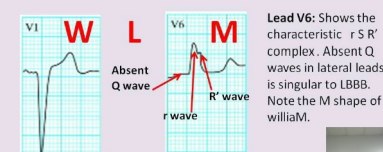
#### Broad Complex Tachycardia

- > Regular
  - VT (Important first diagnosis)
  - SVT with Aberrancy
    - Bundle Branch Block
    - Accessory pathway e.g WPW
- > Irregular
  - Atrial Fibrillation with Aberrancy
    - Bundle branch block
    - Accessory pathway e.g WPW

### Left bundle branch block

#### Left Bundle Branch Block (WILLIAM)

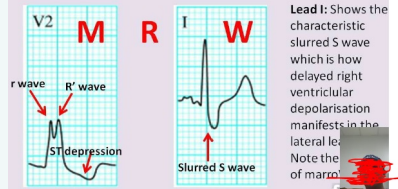
Lead V1: A widened abnormal QRS complex. Note the W shape of William



### Right bundle branch block

#### Right Bundle Branch Block (MARROW)

Lead V2: Shows the characteristic secondary R' wave in a complex known as rSR'. The R' is late right ventricular depolarisation. Note the M shape of Marrow



### Ventricular tachycardia (VT)

More likely VT

- Horizontal entry to ER
- Old person
- Chest pain & unconscious

Key features ECG

- Capture beat
- Fusion beat
- P waves in AV dissociation
- Cpncordance