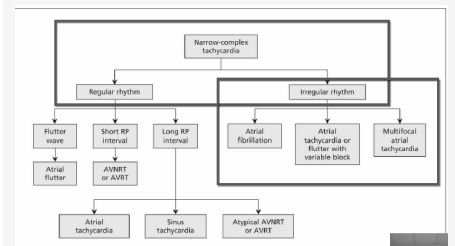


Types of arrhythmia	
Tachyarrhythmia	Bradyarrhythmia

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 dissoaciation, 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

RP interval

RP interval Short and <70ms
Typical AVNRT. AVRT is unusual.

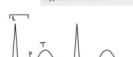


RP interval No visible P-wave
Typical AVNRT



If the P-wave is invisible, it is classified as short RP interval.

RP interval Short but >70ms
In most cases AVRT. Occasionally atypical AVNRT or AT.



RP interval Long
In most cases AT. Occasionally atypical AVNRT. Rarely PRT.

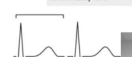


Figure 2. Differential diagnoses based on RP interval.

Approach to NCT ECG

Analysing NCT ECG

Parameter to look at:

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

Broad complex tachycardia

Broad Complex Tachycardia

> Regular

- VT (Important first diagnosis)
- SVT with Aberrancy
 - Bundle Branch Block
 - Accessory pathway e.g WPW

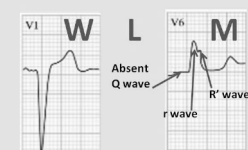
> Irregular

- 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

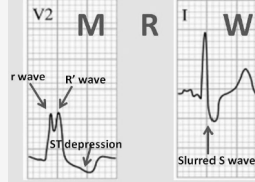


Lead V6: Shows the characteristic rSR' complex. Absent Q waves in lateral leads is singular to LBBB. Note the M shape of William.

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



Lead I: Shows the characteristic slurred S wave which is how delayed right ventricular depolarisation manifests in the lateral lead. 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