# Antiarrhythmic classes and site of action



## Sustained supraventricular tachycardia

- Acute management
  - Intravenous verapamil or propranolol
- Chronic managements e.g. atrial fibrillation
  Digoxin and beta-blockers are most widely used



## Atrial fibrillation



### Sustained ventricular arrhythmia

- Acute management
  - Intravenous bolus of lidocaine followed by CRI
- Chronic management
  - Sotalol or amiodarone





# Bradyarrhythmias

 High second degree or third degree atrioventricular block is the most common bradyarrhythmia requiring treatment



- Pacemaker therapy TOC
- Initial attempt to manage cases with sympathomimetic or vagolytic drugs
  - Injectable terbutaline or glycopyrronium can be used for acute management of a bradyarrhythmia with oral terbutaline, millophylline or propantheline for longer term treatment trials.

# 2<sup>nd</sup> degree AV block



# Anti-arrhythmic use in cats

- Arrhythmias (dysrhythmias) are surprisingly common in cats but rarely clinically significant
- They tend to have complex ECG patterns that can be difficult to interpret
- Feline ECGs tend to have relatively small deviations so artefact can be a problem
- Cat's heart rates are fast so variations in R-R intervals can be difficult to spot
- Arrhythmias in cats can be subtle and may be associated with a rhythm that appears regular on auscultation
- Arrhythmias may be associated with no clinical signs



#### Anti-arrhythmic in cats

- Clinical experience with antiarrhythmic therapy in cats is significantly less than in dogs.
- Arrhythmias such as anterior fascicular block and ventricular complexes are commonly associated with cardiomyopathy and do not require specific treatment
- Treating underlying disease may mean the arrhythmia ceases
- Tachyarrhythmias either atenolol or sotalol
  - Monitor BP as therapy commences

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# Don't forget

- Acute disease
  - Oxygen
  - Rest
  - Opiates
- Chronic disease
  - General fitness
  - Weight control and calorie intake
  - Mild salt restriction
  - Nutraceuticals
    - O Taurine
    - Carnitine
    - n Co-enzyme Q





# Conclusions

- Rationale therapy in cats or dogs is critical to long term control of signs
- Heart disease is generally progressive and therapy seeks to manage the clinical signs accurate assessment of disease aids appropriate therapy
- Key decisions
  - When to start treatment?
  - What drugs to use first?
  - When to combine therapy?
    - What are cost implications for the owner?
  - Could this be a drug side effect?
- There is a general lack of evidence base for many therapies/therapeutic combinations
  - Client communication is therefore essential

