SVTs are any tachycardia that require atrial or AV nodal tissue for their initiation & maintenance.

- General:
  - Sometimes called ectopic atrial tachycardia
  - Often 130-160bpm and may exceed 200bpm.
  - AV block is common.

- Clinical:
  - Digoxin toxicity is the most common cause especially when AV block is present.
  - Other causes include myocardial infarction, chronic lung disease & metabolic disturbance.

- Treatment:
  - If applicable, digoxin is stopped and toxicity is treated.
  - Other measures may be used to control ventricular rate.
  - Blocks or amiodarone are alternatives.
  - Overdrive pacing may be ineffective but may slow ventricular rate by increasing AV block.
  - Synchronized cardioversion may be required but should be avoided with digoxin toxicity.

- ECG:
  - P wave morphology is often abnormal but monomorphic atrial rate is often 130-160bpm.

- General:
  - Irregular narrow complex tachycardia with varying p wave morphologies associated with chronic lung disease.

- ECG:
  - Rate is usually 100-130bpm with at least 3 p wave morphologies in the same ECG trace and an irregular rate.
  - Most p waves are usually conducted to the ventricles with narrow complexes.

- Clinical:
  - Occurs most often in critically ill elderly patients with chronic lung disease and cor pulmonale.
  - Theophylline has been implicated as a precipitating cause.

- Treatment:
  - Goals of treatment are ventricular rate control, anticoagulation +/- conversion to sinus rhythm.
  - Treatment should correct underlying cause (eg. cardiorespiratory failure, electrolyte disturbance, acid base disturbance & theophylline toxicity).

AV nodal re-entrant tachycardia

- General:
  - Atrial rate is 250-350 (usually close to 300).
  - Due to a re-entry circuit lying within the right atrium.
  - Divided into two subtypes:
    - Type I tachycardia is slower with an atrial rate of 240-320.
    - Type II tachycardia is faster with an atrial rate of 340-430 and is not terminated by pacing.

- ECG:
  - Flutter waves are best seen in V1, or aVF but II and III may also be useful.
  - AV conduction block at 2:1 is usually present.

- Treatment:
  - No drug will reliably terminate atrial flutter although increasing AV block will slow the rate (options include digoxin, diltiazem, beta blockers, sotalol and amiodarone).
  - Flecainide and procainamide are occasionally effective at terminating atrial flutter; however, may lead to 1:1 block.
  - Synchronized cardioversion with 25-50J is a reliable treatment option.
  - Rapid atrial pacing will terminate type I atrial flutter in most patients.

- General:
  - Tachycardia is chaotic (300-600bpm) with irregular depolarisations.
  - Ventricular response is irregularly irregular with most atrial responses not conducted to the ventricle so that the ventricular rate is 100-180bpm.

- Clinical:
  - More common in patients with underlying heart disease (particularly those with a dilated left atrium).
  - Ischaemic and valvular heart disease.
  - Hypertension.
  - Cardiac failure.
  - Thyrotoxicosis.
  - Alcohol abuse.
  - AF is associated with adverse haemodynamic effects, risk of systemic embolism and risk of tachycardiomyopathy.

- Treatment:
  - Goals of treatment are ventricular rate control, anticoagulation +/- conversion to sinus rhythm.

- General:
  - Accelerated idio-nodal rhythm (increased automaticity or triggered activity).