When to seek assistance

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Declaration of interests

• The Westcliffe Partnership has received funding from: Abbott, Bayer, Boehringer-Ingelheim, Bristol Myers Squibb, Dawn, INRStar, Medtronic, Oberoi Consulting, Pfizer, Roche, Sanofi-Aventis, Servier.

• An advisor to: Anticoagulation Europe, Arrhythmia Alliance, Heart Valve Voice, National Stroke Association, Syncope Trust

• A trustee of Thrombosis UK and AF Association
When to seek assistance-Urgent
When to seek assistance-Urgent
A CHEST PAIN IS YOUR BODY SAYING CALL 999

DOUBT KILLS. CALL 999 IMMEDIATELY.
When to seek assistance-Urgent Palpitations
When to seek assistance - Less urgent

Palpitations
When to seek assistance - Less urgent Media
Doctors can't agree about heart drugs

A ROW erupted over the safety of statins this week as research suggested those who stop taking them are putting their lives in danger. The health warning comes as new research shows statins are "no-growth" drugs that not only reduce death rates, but claimed they were also a "gain in health" for those who took them.

American researchers have now echoed the findings, adding the drug is "safe and effective" and that it takes a decade to see the benefit of statins, while the risk of heart disease is "worth its weight in gold". However, the British Heart Pounding meeting and Statin patients' group have challenged the evidence, saying: "In the UK, it's the most extensively prescribed medication in the UK for a reason - with no

STATINS LINKED TO SUB-ZERO IMMIGRANT BREXIT CHAOS

STATINS make regular users become older faster because they increase the risk of developing diabetes by up to 20 per cent, research shows.

Expert sound new alarm over cholesterol pill

STATISTIANS now agree that statins are a big hit to the health of older patients, as they increase the risk of developing diabetes by up to 20 per cent, research shows. Experts have found that statins - the drug used to lower cholesterol levels - increase the risk of developing diabetes by up to 20 per cent, research shows.

New research warns long-term use stops body repairing itself

Experts sound new alarm over cholesterol pill

PENSIONERS who take statins increase their risk of developing diabetes by up to 20 per cent, research shows.

Those on high doses of the cholesterol-lowering statins are more prone to suffer depression and to have had a higher rate of heart disease. However, the British Heart Foundation and Statin patients' group have challenged the evidence, saying: "In the UK, it's the most extensively prescribed medication in the UK for a reason - with no
A practice in Oxfordshire with a list of 17,948 patients could be set to close after failing to recruit enough GPs to remain open.

Partners at the Horsefair Surgery in Banbury sold in a letter to patients that it had given notice to NHS England to terminate its GMS contract after several of its GPs left due to retirement or ill health.

As a result, one branch is closing from 3 October 'for the foreseeable future', while the partners will continue to run its other surgery until a new provider is found.
When to seek assistance - Less urgent
Risk Factors - Stroke
When to seek assistance - Less urgent
Brady-arrhythmias
When to seek assistance - Less urgent

Sick Sinus Syndrome
When to seek assistance - Less urgent
Sick Sinus Syndrome

- Conduction problem with no junctional escape during sinus pause
- Diagnose with ECG or Holter. If inconclusive, need electrophysiologic testing.
- If asymptomatic, leave alone. If symptomatic, needs pacemaker.
When to seek assistance - Less urgent

First Degree Block

- Delay at the AV node results in prolonged PR interval
- PR interval > 0.2 sec.
- Leave it alone
When to seek assistance - Less urgent
Second Degree Block

- Increasing delay at AV node until a p wave is not conducted.
- Often comes post inferior MI with AV node ischemia
- Gradual prolongation of the PR interval before a skipped QRS. QRS are normal!
- No pacing as long as no bradycardia.
When to seek assistance - Less urgent

Mobitz Type II

- Diseased bundle of HIS with BBB.
- Sudden loss of a QRS wave because p wave was not transmitted beyond AV node. QRS are abnormal!
- May be precursor to complete heart block and needs pacing.
When to seek assistance - Less urgent

Third Degree Block

- Complete heart block where atria and ventricles beat independently AND atria beat faster than ventricles.
- Must treat with pacemaker.
When to seek assistance - Less urgent

Tachy-arrhythmias
When to seek assistance—Less urgent
Tachy-arrhythmias

Supraventricular tachycardia
Atrial fibrillation
Atrial flutter
Ventricular tachycardia
  Monomorphic
  Polymorphic (Torsades de pointe)
Ventricular fibrillation
When to seek assistance - Less urgent
Supraventricular Tachycardia
When to seek assistance - Less urgent
Supraventricular Tachycardia

Reentrant arrhythmia at AV node that is spontaneous in onset
May have neck fullness, hypotension and/or polyuria
(large volume of urine)
Narrow QRS with tachycardia
When to seek assistance—Less urgent Supraventricular Tachycardia

First line is vagal manoeuvres

Second line is adenosine or verapamil

For chronic SVT, class 1A or 1C, such as Flecaïnide. Amiodarone or sotalol work well

Ablation may cure it too
When to seek assistance - Less urgent

Wolf Parkinson White
Ventricles receive partial signal normally and partially through accessory pathway

Symptomatic tachycardia, short PR interval (<0.12), a delta wave and prolonged QRS (>0.12)

Electrophysiologic testing helps to identify the reentry pathway and location of the accessory pathway
When to seek assistance - Less urgent
Atrial Flutter
When to seek assistance - Less urgent

Atrial Fibrillation
When to seek assistance - Urgent
Ventricular Tachycardia
When to seek assistance-Urgent Ventricular Tachycardia

• Impulse is initiated from the ventricle itself
• Wide QRS, Rate is 140-250
• If unstable DC cardiovert
• If not, IV Amiodarone and/or DCCV
• Consider procainamide
• Non-sustained ventricular tachycardia needs no treatment
“Twisting of the points” is usually caused by medication (quinidine, disopyramide, sotalol, TCA), hypokalemia or bradycardia especially after MI
Has prolonged QT interval
Acute: Remove offending medication. Shorten the QT interval with medication, or temporary overdrive pacing
Chronic: may need pacemaker/ICD, amiodarone, beta-blockers
When to seek assistance-Urgent Ventricular Fibrillation

- Most common in acute MI, also drug overdose, anesthesia, hypothermia & electric shock can precipitate
- Absence of ventricular complexes
- Usually terminal event
- Use Amiodarone if refractory to DCCV.
Treatment
## When to seek assistance - Classification

<table>
<thead>
<tr>
<th>Class</th>
<th>Action</th>
<th>Examples</th>
<th>Side Effects</th>
</tr>
</thead>
</table>
| 1A    | Fast sodium channel blocker varies depolarization and action potential duration | Quinidine, procainamide, disopyramide | Class: nausea, vomiting  
Quinidine: hemolytic anemia, thrombocytopenia, tinnitus  
Procainamide: lupus |
| 1B    |                                                                        | Lidocaine, Mexiletine            | Lidocaine: dizziness, confusion, seizures, coma  
Mexiletine: tremor, ataxia, rash |
| 1C    |                                                                        | Flecaainide, Propafenone         | Flecaainide: pro-arrhythmia, nausea, dizziness |
| 2     | beta-blockers ↓SA node & ↓AV node conduction                           | Propranolol, metoprolol         | Class: CHF, bronchospasm, bradycardia, hypotension |
| 3     | Prolong action potential by blocking K+ channels                       | Amiodarone, sotalol             | Amiodarone: hepatitis, pulmonary fibrosis, thyroid disorders, peripheral neuropathy  
Sotalol: bronchospasm |
| 4     | calcium channel blockers ↓AV node conduction                           | Verapamil, dilitiazem            | Class: AV block, hypotension, bradycardia, constipation |
## When to seek assistance - Classification

<table>
<thead>
<tr>
<th>Location of Activity</th>
<th>Anti-arrhythmic</th>
</tr>
</thead>
<tbody>
<tr>
<td>AV Node</td>
<td>Adenosine, Calcium channel blockers, B-blockers, Digoxin</td>
</tr>
<tr>
<td>AV Node, Accessory Pathway, Bundle of HIS, ventricle</td>
<td>Propafenone, Amiodarone, Sotalol</td>
</tr>
<tr>
<td>Atrial, Ventricular, Accessory Pathway, Bundle of HIS</td>
<td>Quinidine, Procainamide, Lidocaine, Disopyramide, Flecanide, Ibutilide, Bretylium, Dofetilide</td>
</tr>
</tbody>
</table>
Treatment
When to seek assistance-Pacemakers

Syncope, pre-syncope or exercise intolerance that can be attributed to bradycardia

Symptomatic 2\(^{nd}\) or 3\(^{rd}\) degree AV block

Congenital 3\(^{rd}\) degree AV block with wide QRS

Advanced AV block after cardiac surgery

Recurrent type 2 2\(^{nd}\) degree AV block after MI

3\(^{rd}\) degree AV block with wide QRS or BBB.
When to seek assistance - Less urgent You!
When to seek assistance - Less urgent
You!
When to seek assistance—Less urgent
You!
When to seek assistance - Less urgent
You!
When to seek assistance-Less urgent
You!
Thank you for your attention

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