What is Syncope?

- Transient loss of consciousness & postural tone with spontaneous recovery

- Described as...
  - Blackout
  - Collapse
  - Fainting
  - Funny turn
Why should you know something about it?

- **Common**
  - ~3-11% of A&E attendances
  - ~6% of hospital admissions

- **Difficult to diagnose**
  - Up to 25% of patients still defy diagnosis

- **Dangerous**

- **Disabling**
Who Gets It?

- Potentially everybody
- 30-50% of population
- More common in older people

Pathophysiology of Syncope

Hypotension

⇒ failure of cerebral autoregulation
⇒ ↓ cerebral blood flow
⇒ cerebral hypoxia
⇒ loss of consciousness & postural tone
⇒ supine position
⇒ recovery of cerebral blood flow / BP / LOC
Managing Syncope in Acute Medical Patients

Three main concerns...

1) Is it syncope or something else?

2) If it is syncope, should you be worried?

3) If it is syncope and you’re not worried, how do you make a diagnosis and manage it?

1.

Is it syncope or something else?
Is it syncope or something else?

- **Syncope**
  - Loss of consciousness & postural tone
  - Unresponsive
  - Pale
  - Pulseless
  - Recover spontaneously

- **Sudden cardiac death**
  - Loss of consciousness & postural tone
  - Unresponsive
  - Pale
  - Pulseless
  - Do not recover

If there is loss of consciousness

⇒

it is not a TIA
Is it syncope or something else?

Syncope

v

Generalised Seizure

Syncope v Seizure

- In both disorders, all tests are usually normal

- 30% of patients with a diagnosis of treatment resistant epilepsy have a syncopal disorder
Syncope v Seizure

- Not discriminating features
  - Aura / pre-syncope
  - Incontinence of urine
  - Injury
  - Limb jerking
Syncope v Seizure

- Discriminating features
  - Lateral tongue bite
  - Faecal incontinence
  - Recovery time

Seizure Recovery
Syncope Recovery (video not in pdf)

2.

If it is syncope, should you be worried?

🤔🤔
Should You Be Worried?

Causes of Syncope

- **Neurally mediated syndromes**
  - Vasovagal (neurocardiogenic) syncope
  - Carotid sinus syndrome
  - Orthostatic hypotension
  - Postprandial hypotension
  - Situational syncopes (e.g., swallow, cough, micturition)

- **Cardiac**
  - Structural
  - Arrhythmias
Should You Be Worried?

Features most predictive of a cardiac cause of syncope...

- Pre-existing history / evidence of cardiac disease
- Syncope on exercise
- Syncope when supine
- Absence of a prodrome
- Syncope with convulsive elements
- Family history of young sudden cardiac death (<40 years)
Cardiac Syncope

- **Structural abnormalities**
  - Cardiac
    - Aortic stenosis
    - Hypertrophic obstructive cardiomyopathy
    - Myxomas
  - Cardiopulmonary
    - Aortic dissection
    - Pulmonary embolism

- **Arrhythmias**
  - Supra ventricular / ventricular
  - Bradyarrhythmias / tachyarrhythmias

ECG

Left ventricular hypertrophy
ECG

Bifascicular block

ECG

2nd degree AV block
ECG

Long QT syndrome

ECG

Brugada syndrome
Cardiac syncope very unlikely if....

- No alarm features
  - Pre-existing cardiac disease
  - Syncope on exercise
  - Syncope when supine
  - Absence of a prodrome
  - Syncope with convulsive elements
  - Family history of sudden cardiac death

- Normal physical examination
- Normal ECG
- Normal heart size on CXR

3.

If it is syncope and you're not worried, how do you make a diagnosis and manage it?
Diagnosis of Neurally Mediated Syncope

How do you make a diagnosis? Vasovagal (neurocardiogenic) Syncope

- Majority diagnosed on basis of clinical history alone
  - Precipitating factors (prolonged standing, pain, venesection etc)
  - Pre-syncopal symptoms (dizziness, light-headedness, warmth, nausea, sweating, palpitations etc)
  - Pallor
  - Loss of consciousness & postural tone
  - Pulseless
  - Spontaneous (rapid) recovery
How do you make a diagnosis?

**Orthostatic Hypotension**

- Fall in systolic BP >20mmHg or
  Fall in diastolic BP >10mmHg
- Getting from supine to standing position
- Present in ~ one-third of people >65 years in the community
- Readings poorly reproducible ⇒ measure recurrently if high index of suspicion
**Tilt test - Orthostatic Hypotension**

How do you make a diagnosis? **Carotid Sinus Syndrome**

- **Disease of older people (> 50 years of age)**
- **Co-existing vascular risk factors**
- **Symptoms on stimulation of carotid sinus**
  - Neck turning / shaving / neck tie / prolonged standing / looking up
  - 50% have no obvious precipitant

- **Diagnosis**
  - carotid sinus massage
  - 3 forms
    - Vasodepressor
    - Cardioinhibitory
    - Mixed

![Diagram of Tilt Test](image-url)

Head-up tilt
**Carotid Sinus Syndrome**

Vasodepressor - Systolic BP fall >50mmHg

![Graph showing systolic blood pressure changes](image)

**Cardioinhibitory**

Asystole >3 seconds

![EKG graph with asystole](image)
Mixed Carotid Sinus Syndrome

Pharmaceutical Treatments for Neurally Mediated Syncope
How do you treat neurally mediated syncope?

- Explanation & reassurance
- Avoid precipitating factors
- Stop exacerbating medications
  - Antihypertensives / antidepressants / anticholinergics etc
- Explain how to take evasive action
  - Sit / lie down
  - Drink glass of cold water
  - Squating / Leg crossing
- Increase fluid / salt intake
<table>
<thead>
<tr>
<th>Investigations</th>
<th>Yield (%)</th>
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<tr>
<td>CT / MRI brain</td>
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<td>24-hour ‘Holter’ monitoring</td>
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<td>EEG</td>
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<tr>
<td>Implantable loop recorders</td>
<td>24-47</td>
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Pre-syncopal Symptoms

- Variable duration
- Symptoms very varied
  - Neurologists
    - dizziness, vertigo, paraesthesiae
  - Cardiologists
    - palpitations, chest pain
  - Psychiatrists
    - panic, hyperventilation, hallucinations
  - Gastroenterologists
    - nausea, sweating
- May occur without syncope
- May be absent