Disclaimer

This pathway is to help evaluate the patient who presents with a blackout, faint, dizzy turn, or collapse

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**Red Flags**

- Exertional syncope or syncope onset when lying supine
- Syncope associated with cardiac symptoms or signs
- Syncope associated with severe persistent headache or focal neurological deficits
- Syncope when driving or in hazardous situations
- Syncope which has resulted in injury

**Background – About Funny Turns (Syncope)**

Determining the cause of a funny turn can be challenging.

- **Causes of syncope include:**
  - Cardiac syncope (< 5%).
  - Vasovagal or reflex syncope (60% of cases) if precipitated by emotional distress, posture, or situational triggers e.g., micturition, neck movement.
  - Orthostatic hypotension is usually **drug induced**. Occasionally, it is secondary to chronic autonomic failure e.g., Parkinson's disease, diabetes.

  *Drug-induced orthostatic hypotension*
  - Psychotropic medications especially benzodiazepines
  - Nitrates
  - Anti-hypertensives
  - Dehydration secondary to diuretics
  - Opiate analgesics

  - Infections can also cause vasodilatation and dehydration.

- **Conditions which may be confused with syncope:**
  - Vertigo
  - Seizures
  - TIAs
  - Hyperventilation and panic attacks
  - Metabolic e.g., hypoglycaemia, adrenal insufficiency
  - Postural orthostatic tachycardia syndrome (POTS) – usually occurs in young women and causes recurrent light-headedness without loss of consciousness

- Approximately 1 in 20 patients who present with syncope are at high risk of a future adverse event.

**Assessment**

1. Take a detailed history of the episode, and ask any witnesses to provide an accurate description:
   - **circumstances before the attack**
     - Ask about:
       - position – supine, sitting, or standing.
       - activity prior to onset – rest, exertion, change in posture, urination, defecation, cough or swallowing.
       - predisposing factors – crowded or warm places, prolonged standing, postprandial period, alcohol intake and drug use.
       - precipitating events – fear, venesection, intense pain, neck movements.
- Presence of a pacemaker or implantable cardioverter defibrillator (ICD)

- **questions about the onset of the attack**
  Ask about:
  - chest pain.
  - nausea.
  - vomiting.
  - abdominal discomfort.
  - feeling of cold.
  - sweating.
  - aura.
  - pain in neck or shoulders.
  - blurred vision.
  - dizziness.
  - palpitations.
  - headache.

- **questions about the nature of the attack**
  Ask about:
  - skin colour – pallor, cyanosis, flushing.
  - duration of loss of consciousness.
  - breathing pattern – snoring.
  - onset and duration of any abnormal movements – tonic, clonic, tonic-clonic, minimal myoclonus or automatism, tongue biting.

- **questions about the end of the attack**
  Ask about:
  - nausea.
  - vomiting.
  - sweating.
  - feeling of cold.
  - confusion.
  - muscle aches.
  - skin colour.
  - injury.
  - chest pain.
  - palpitations.
  - urinary or faecal incontinence.

- **questions about background**
  Ask about:
  - family history of sudden death, congenital arrhythmogenic heart disease, or fainting.
  - previous cardiac disease.
  - neurological history – Parkinsonism, epilepsy, narcolepsy.
  - metabolic disorders, such as diabetes.
  - medication e.g., antihypertensive, antianginal, antidepressants, antiarrhythmics, diuretics and QT prolonging agents, and other drugs of abuse.
**QT prolonging agents**
- Antihistamines
- Antiarrythmics – quinidine, procainamide, flecainide, sotolol, amiodarone
- Antipsychotics – lithium, haloperidol, phenothiazines
- Tricyclic antidepressants
- Other antidepressants – mianserin, citalopram, escitalopram, venlafaxine, bupropion, moclobemide
- Domperidone
- Methadone
- Antibiotics – erythromycin, clarithromycin
- Antifungals – fluconazole
- Antimalarials – chloroquine, hydroxychloroquine, quinine
- recurrences, such as the number of and interval between spells, in case of recurrent syncope.

2. Perform an examination as indicated.

**Examination**
- General:
  - Appearance
  - Colour
  - Hydration
  - Anaemia
  - Weight
  - Temperature
  - Respiratory rate
- Cardiovascular:
  - Pulse – rate, rhythm, and character
  - Lying and standing blood pressure. Note any changes in systolic blood pressure, heart rate, or symptoms
  - Presence of murmurs
  - Signs of heart failure
  - Carotid bruits
  - Assess blood volume by checking JVP
- Respiratory – chest auscultation
- Abdominal – abdominal examination
- Genitourinary – consider pregnancy test
- Otological – nystagmus, **Dix-Hallpike manoeuvre/test**
  - Undertake a bidirectional nystagmus test before the Dix-Hallpike test.
    **Bidirectional nystagmus test**
    - If flicking eye movements detected upon lateral gaze to the left and right, consider a central lesion.
    - If this test is positive, a Dix-Hallpike is not indicated.
    - Dix-Hallpike test needs to be performed as a left and right sided test.
  - The examiner extends head in the upright position and asks patient to turn head toward examiner as far as comfortably tolerated and keeping eyes open, then allows patient to move to supine position.
  - The examiner supports head in the upright position and asks patient to turn head away from examiner as far as comfortably tolerated and keeping eyes open, then allows patient to move to supine position.
• A positive test will invoke the fast phase of horizontal nystagmus toward the affected ear. If there are bilateral signs, the more prominent nystagmus becomes the affected side.

• Local experience supports use of a pillow on the bed at the shoulder position, allowing the head to remain over the bed at the end of the test as the more controlled method rather than having the head over the end of the bed as in this video: Dix-Hallpike Manoeuvre from BMJ Learning.

• Neurological – look carefully for any focal signs
• Consider pregnancy and urine Beta hCG test
• Consider capillary glucose.

3. If indicated, arrange investigations.
   • ECG – look for:
     o conduction anomalies e.g., heart block, LBBB/RBBB.
     o arrhythmias.
     o delta wave to suggest Wolff-Parkinson-White syndrome.
     o Q waves to suggest previous myocardial infarction.
     o Long QT syndrome or Brugada syndrome.
   • Blood tests – electrolytes, LFT, FBE, BGL, TFTs, iron studies.
   • Consider also:
     o Chest X-ray.
     o Holter monitoring.
     o Echocardiography, if audible heart murmur, ECG abnormal, or heart disease suspected.
     o Exercise stress test, in patients who experience syncope during or shortly after exertion.
     o Carotid ultrasonography, only if transient ischaemic attack (TIA) or stroke is suspected.
     o EEG and brain imaging if seizure is suspected.
     o Tilt table test – specialist referral necessary. Rarely used in the investigation of syncope in the general practice setting.

Provisional Diagnosis

1. Determine whether the episode is:
   • **Syncopal** (transient loss of consciousness)

   **Causes of Transient loss of consciousness**
   o Syncope refers specifically to transient loss of consciousness due to transient global cerebral hypoperfusion:
     ▪ vaso-vagal syncope
     ▪ postural or orthostatic hypotension
     ▪ cardiac syncope due to arrhythmias e.g., bradycardia, tachycardia, or structural heart disease
   o Epilepsy
   o Metabolic disorders:
     ▪ hypoglycaemia
     ▪ hypoxia
     ▪ hyperventilation with hypocapnia
   o Drug and alcohol intoxication or withdrawal
• **Vertebralbasilar TIA – loss of consciousness sometimes**
  • **Functional – psychogenic pseudosyncope**

- **Presyncopal** or dizziness

  **Causes of Presyncope**
  - Presyncope, near syncope
  - Light-headedness or vague giddiness
  - Vertigo – benign positional vertigo (BPV), neuronitis, or Ménière’s disease
  - Psychological – anxiety, panic attack, or hyperventilation

- **Falls without impairment of consciousness**
  - Mechanical falls
  - Drop attacks
  - TIA of carotid origin
  - Functional – psychogenic pseudosyncope

2. Determine the mostly likely cause:

- If a possible seizure, follow the [first seizure in adults](#) pathway.
- If vertigo, follow the [vertigo](#) pathway.
- If hyperventilation, anxiety or panic attack, consider [anxiety in adults](#).

- **Cardiac syncope**

  Ask about chest pain, shortness of breath, palpitations.
  Syncope is more likely to be cardiac if:
  - Exertional or supine syncope.
  - Sudden onset e.g., no prodrome.
  - Prompt recovery.
  - True syncopal symptoms e.g., loss or near loss of consciousness, rather than dizziness.
  - Abnormal ECG e.g., persistent bradycardia (< 50 beats per minute), evidence of second- or third-degree heart block, supraventricular tachycardia, paroxysmal atrial fibrillation, pre-excited QRS (Wolff-Parkinson-White syndrome).
  - Known heart conditions or conduction problems.
  - First syncope in older person without postural hypotension.
  - Family history of premature sudden death (aged < 40 years).

  Serious cardiac causes include arrhythmias, aortic stenosis, and ischaemia.

- **Orthostatic syncope** or orthostatic postural hypotension (common).
  - This is when syncope occurs within 3 minutes of standing up and there is a documented systolic drop in blood pressure.
  - May be:
    - Drug-induced.
    - Due to dehydration.
    - Due to autonomic failure – neurogenic orthostatic syncope, seen in conditions such as Parkinson’s disease, dementia with Lewy bodies, diabetes, spinal cord injuries, or renal failure.
  - More common in older adults.

- **Vasovagal or reflex syncope** (common).
  The main keys to diagnosing vasovagal syncope are the situation, the trigger, and an aura.
  Consider the pathophysiological sequence that occurs in vasovagal syncope.
Simplified pathophysiological sequence:
- Predisposing factor or trigger (situation)
- Hypotension and bradycardia
- Drop in brain perfusion causing warning symptoms, e.g. visual disturbance, dizziness, nausea, urge to go to bathroom
- Fall
- Brain perfusion restored
- Recovery

Management

1. If syncope or pre-syncope with **specific signs or symptoms**, arrange prompt [Emergency Department](#) assessment.

   **Specific signs or symptoms**
   - Exertional onset
   - Chest pain
   - Persistent hypotension (systolic blood pressure < 90 mmHg) or bradycardia (< 50 beats per minute) on electrocardiogram (ECG)
   - Evidence of second- or third-degree block on electrocardiogram (ECG)
   - Severe, persistent headache
   - Focal neurological deficits
   - Preceded by, or associated with, palpitations
   - Known ischaemic heart disease or reduced left ventricular systolic function
   - Associated with supraventricular tachycardia (SVT) or paroxysmal atrial fibrillation
   - "Pre-excited" ORS wave on electrocardiogram (ECG)
   - Suspected malfunction of a pacemaker or implantable cardioverter defibrillator (ICD)
   - Absence of prodrome
   - Associated injury
   - Occurs while supine or sitting.

2. If syncope when driving or in hazardous situations:
   - Advise the patient to stop driving pending further investigations.
   - Refer to Austroads – [Assessing Fitness to Drive](#) for more information.

3. Manage **vasovagal or orthostatic causes**. These cause the majority of syncopal episodes and are appropriately managed in general practice without referral.

   **Vasovagal or orthostatic causes**
   - Provide **education and reassurance**.
     - [Vasovagal Syncope](#)
     - [Ways to help prevent fainting and light headedness](#)
   - Avoid triggers.
   - Reduce or stop potentially contributing **medications**, including OTC and alcohol. Consider referral for a [medication management review](#) if appropriate.

   **Potentially contributing medications**
   - Psychotropic medications especially benzodiazepines
   - Antipsychotics
   - Tricyclic antidepressants
- Oxybutynin
- Diuretics
- Nitrates
- Anti-hypertensives
- Dehydration secondary to diuretics
- Opiate analgesics

- Consider **counter pressure measures** such as leg crossing and hand grip and arm tensing which can reduce orthostatic hypotension.
- Consider support stockings, compression garments, or tight-fitting leg garments.
- Consider the use of caffeine.
- Recommend an increase in fluid and salt intake, unless contraindicated.
- Educate the patient or carer on how to manage a future episode.

Pharmacological therapy for reflex syncope has not been proven to be effective. Fludrocortisone has been widely used in adults but there is no trial evidence to support this. Betablockers have not been shown to be effective in long-term follow-up studies.

4. Manage any anxiety, panic attacks, or hyperventilation. Consider relaxation techniques.

5. In the older adult, management can be complicated by multiple medications, falls, injuries, and cognitive impairment.
   - Consider **Falls Prevention**.
   - If significant symptoms, refer for a geriatric medicine assessment.

6. If neurological cause is suspected (e.g., epilepsy) refer for **neurology assessment**.

7. If vertigo is suspected, manage as per **Vertigo** pathway. Arrange **ENT referral** if appropriate.

**Referral**

- If syncope or pre-syncope with **specific signs or symptoms**, arrange prompt **Emergency Department** assessment.
- Refer for **urgent or routine cardiology assessment** if:
  - an underlying cardiac cause is suspected or
  - recurrent syncope with undetermined cause.
- If an elderly patient with co-morbidities where the cause of the syncope requires further evaluation, refer for geriatric medicine assessment.
- If recurrent falls are a problem, see the **Falls Prevention and Assessment**.
- If neurological cause is suspected e.g., epilepsy, refer for **neurology assessment**.
- If vertigo is suspected, manage as per **Vertigo** pathway. Arrange **ENT referral** if appropriate.
Information

For health professionals

Further information
European Society of Cardiology – Guidelines on Diagnosis and Management of Syncope: ESC Clinical Practice Guidelines (2018)

Patient:
- Dizziness Giddiness and Feeling Faint
- Syncope

For patients

- myDr – Syncope (fainting)
- Better Health Channel – Fainting

References


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