

# Adult with transient loss of consciousness – faints, fits and funny turns

Problem-specific video guides to diagnosing patients and helping them with management and prevention

Introduction... to transient loss of consciousness

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Find out more ...

Example smartphone apps:

## History taking and initial assessment questions (NICE, 2010)

- |   |  |  |
|---|--|--|
| <p>1<br/>Details of any previous TLoC, including number and frequency.</p> <p>2<br/>The person's medical history and any family history of cardiac disease (for example, personal history of heart disease and family history of sudden cardiac death).</p> <p>3<br/>Current medication that may have contributed to TLoC (for example, diuretics).</p> | <p>4<br/>Ask the person who has had the suspected TLoC, and any witnesses, to describe what happened before, during and after the event. Try to contact by telephone witnesses who are not present. Record details about:</p> <ul style="list-style-type: none"><li>— circumstances of the event</li><li>— person's posture immediately before loss of consciousness</li><li>— prodromal symptoms (such as sweating or feeling warm / hot)</li><li>— appearance (for example, whether eyes were open or shut) and colour of the person</li><li>— presence or absence of movement during the event (for example, limb-jerking and its duration)</li></ul> | <ul style="list-style-type: none"><li>— any tongue-biting (record whether the side or the tip of the tongue was bitten)</li><li>— injury occurring during the event (record site and severity)</li><li>— duration of the event (onset to regaining consciousness)</li><li>— presence or absence of confusion during the recovery period</li><li>— weakness down one side during the recovery period.</li></ul> |
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## Indications for functional or dissociative seizures

If a person has persistent TLoC, consider psychogenic non-epileptic seizures (PNES) or psychogenic pseudosyncope if, for example:

- the nature of the events changes over time
- there are multiple unexplained physical symptoms
- there are unusually prolonged events.

The distinction between epilepsy and non-epileptic seizures is complex, therefore refer for neurological assessment if either PNES or psychogenic pseudosyncope is suspected.

Advise people who have experienced TLoC to try to record any future events (for example, a video recording or a detailed witness account of the event), particularly if the diagnosis is unclear or taking a history is difficult.

If after further assessment the cause of TLoC remains uncertain or the person has not responded to treatment, consider other causes including the possibility that more than one mechanism may co-exist (for example, ictal arrhythmias).

## Indications for anxiety or hyperventilation

### **Anxiety**

- History of anxiety
- Situational triggers – panic attacks
- Feeling of anxiety, emotional distress. Fear
- Hypoventilation or stating difficulty with breathing
- Hypotox: leading to tingling in hand / face, sometimes one side, and spasms
- Chest tightness or tightness of throat
- Blurred vision
- Light headed

If severe can lead to blackout.

## Indications for neurological and Epilepsy history taking

- A bitten tongue
- Head-turning to one side during TLoC
- No memory of abnormal behaviour that was witnessed before, during or after TLoC by someone else
- Unusual posturing
- Prolonged limb-jerking (note that brief seizure-like activity can often occur during uncomplicated faints)
- Confusion following the event

- Prodromal déjà vu (an intense sensation that what is happening for the first time has already occurred previously – common particularly in adolescence, but may be a manifestation of a partial seizure rather than occurring immediately before an epileptic seizure)
- Jamais vu (a feeling of lack of familiarity, that what should be familiar is happening for the first time – it is usually abnormal, it doesn't commonly occur in healthy people)

Consider that the episode may not be related to epilepsy if any of the following features are present:

- prodromal symptoms that on other occasions have been abolished by sitting or lying down
- sweating before the episode
- prolonged standing that appeared to precipitate the TLoC
- pallor during the episode.

## Indications for cardiac and Syncope history taking

### The event itself

— What were the circumstances?  
Anything special? Cardiac – occurs at random times. Fainting / vasovagal in certain circumstances. Therefore what doing at the time of the event? E.g. standing, recent postural change, exertion, meal, certain places, heat, pain, unpleasant sight, coughing, sneezing and laughing.

— Was there a warning? E.g. Cardiac symptoms: sudden, without warning? Vasovagal symptoms: dizzy, unwell, feeling themselves 'go'.

— Was there a witness and what did they see? Features more common in syncope: pale / blue, cold, clammy, sweaty, still, stiff, eyes open / closed, odd movements. How long did it last?

— What happened after? E.g. Cardiac features: quick recovery, back to normal? Vasovagal features: confusion, sick, sweaty, unwell, tired.

### Previous events

— Has this happened before and what were the circumstances? Similar?

### Related medical history

— Previous cardiac history or neurological history to suggest underlying disease

— Family history of unexplained events or sudden cardiac death, especially under 40

— Drug therapy at the time of TLoC and any subsequent changes

## Indications for vasovagal

### Uncomplicated faint

Diagnose uncomplicated faint (uncomplicated vasovagal syncope) on the basis of the initial assessment when:

- there are no features that suggest an alternative diagnosis (note that brief seizure activity can occur during uncomplicated faints and is not necessarily diagnostic of epilepsy)
- there are features suggestive of uncomplicated faint (the 3 'P's) such as:
  - posture (prolonged standing, or similar episodes that have been prevented by lying down)
  - provoking factors (such as pain or a medical procedure)
  - prodromal symptoms (such as sweating or feeling warm / hot before TLoC).

### Orthostatic hypotension

Suspect orthostatic hypotension on the basis of the initial assessment when:

- there are no features suggesting an alternative diagnosis and
- the history is typical.

If these criteria are met, measure lying and standing blood pressure (with repeated measurements while standing for three minutes). If clinical measurements do not confirm orthostatic hypotension despite a suggestive history, refer the person for further specialist cardiovascular assessment.

If orthostatic hypotension is confirmed, consider likely causes, including drug therapy and manage appropriately (for example, see *Falls: the assessment and prevention of falls in older people*, NICE clinical guideline 21).

## Diagnosis: examination and investigation and Epilepsy tests

### Physical examination

- Vital signs (for example, pulse rate, respiratory rate and temperature) – repeat if clinically indicated
- Lying and standing blood pressure if clinically appropriate
- Other cardiovascular and neurological signs

If during the initial assessment there is suspicion of an underlying problem causing TLoC, or problems additional to TLoC, carry out relevant examinations and investigations, e.g.:

- check blood glucose levels if diabetic hypoglycaemia is suspected
- or check haemoglobin levels if anaemia or bleeding is suspected.

### Tests

#### 12-lead electrocardiogram

Record a 12-lead electrocardiogram (ECG) using automated interpretation. Treat as a red flag (see recommendation 1.1.4.2) if any of the following abnormalities are reported on the ECG printout:

- conduction abnormality (for example, complete right or left bundle branch block or any degree of heart block)
- evidence of a long or short QT interval, or
- any ST segment or T wave abnormalities.

Record carefully the information obtained from all accounts of the TLoC. Include paramedic records with this information. Give copies of the ECG record and the patient report form to the receiving clinician when care is transferred, and to the person who had the TLoC.



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### **12-lead ECG with automated interpretation is not available**

If a 12-lead ECG with automated interpretation is not available, take a manual 12-lead ECG reading and have this reviewed by a healthcare professional trained and competent in identifying the following abnormalities:

- inappropriate persistent bradycardia
- any ventricular arrhythmia (including ventricular ectopic beats)
- long QT (corrected QT >450ms) and short QT (corrected QT <350ms) intervals
- Brugada syndrome
- ventricular pre-excitation (part of Wolff-Parkinson-White syndrome)
- left or right ventricular hypertrophy

- abnormal T wave inversion
- pathological Q waves
- atrial arrhythmia (sustained)
- paced rhythm.

### **Neuroimaging**

#### **MRI**

MRI should be the imaging investigation of choice in young people and adults with epilepsy. MRI is particularly important in those:

- who develop epilepsy before the age of 2 years or in adulthood
- who have any suggestion of a focal onset on history, examination or EEG (unless clear evidence of benign focal epilepsy)
- in whom seizures continue in spite of first-line medication.

MRI should have the test performed soon.

Neuroimaging should not be routinely requested when a diagnosis of idiopathic generalised epilepsy has been made.

#### **CT**

CT should be used to identify underlying gross pathology if MRI is not available or is contraindicated, and for children or young people in whom a general anaesthetic or sedation would be required for MRI but not CT.

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### **Other tests**

Measurement of serum prolactin is not recommended for the diagnosis of epilepsy.

In adults, appropriate blood tests (for example, plasma electrolytes, glucose, calcium) to identify potential causes and / or to identify any significant comorbidity should be considered.

In young people, other investigations, including blood and urine biochemistry, should be undertaken at the discretion of the specialist to exclude other diagnoses, and to determine an underlying cause of the epilepsy.

## **Patient information (NICE, 2010)**

### **When communicating with the person who had TLoC:**

- discuss the possible causes of their TLoC
- benefits and risks of any tests they are offered
- results of tests they have had
- reasons for any further investigations they are offered
- nature and extent of uncertainty in the diagnosis.

### **Driving**

- Give advice about eligibility to drive when a person first presents with TLoC
- Please refer to the DVLA for further information – see *Find out more*
- Advise all people who have experienced TLoC that they must not drive while waiting for a specialist assessment. Following specialist assessment, the healthcare professional should advise the person of their obligations regarding reporting the TLoC event to the Driver and Vehicle Licensing Agency (DVLA)

### **Health and safety at work**

Advise people who have experienced TLoC of the implications of their episode for health and safety at work and any action they must take to ensure the safety of themselves and that of other people. Please refer to Health and Safety at Work etc Act 1974.

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**For people with an uncomplicated faint (uncomplicated vasovagal syncope) or situational syncope:**

- explain the mechanisms causing their syncope
- advise on possible trigger events, and strategies for avoiding them. If the trigger events are unclear, advise people to keep a record of their symptoms, when they occur and what they were doing at the time, in order to understand what causes them to faint reassure them that their prognosis is good
- advise them to consult their GP if they experience further TLoC, particularly if this differs from their recent episode.

**For people with orthostatic hypotension:**

- explain the mechanisms causing their syncope
- discuss and review possible causes, especially drug therapy
- discuss the prognostic implications and treatment options available
- advise people what to do if they experience another TLoC.

**Advise people waiting for a specialist cardiovascular assessment:**

- what they should do if they have another event
- if appropriate, how they should modify their activity (for example, by avoiding physical exertion if relevant) and not to drive.

Offer advice to people waiting for specialist neurological assessment for their TLoC as recommended in *The epilepsies: the diagnosis and management of the epilepsies in adults and children in primary and secondary care* (NICE clinical guideline 20).

The timing of the follow-up is dependent on the storage on the device and the condition of the person.

## Epilepsy patient information

Patients should have access to sources of information about (where appropriate):

- epilepsy in general
- diagnosis and treatment options
- medication and side effects
- seizure type(s), triggers and seizure control
- management and self-care
- risk management
- first aid, safety and injury prevention at home and at school or work
- psychological issues
- social security benefits and social services
- insurance issues
- education and healthcare at school
- employment and independent living for adults
- importance of disclosing epilepsy at work, if relevant (if further information or clarification is needed, voluntary organisations should be contacted)
- road safety and driving
- prognosis
- sudden death in epilepsy (SUDEP)
- status epilepticus
- lifestyle, leisure and social issues (including recreational drugs, alcohol, sexual activity and sleep deprivation)
- family planning and pregnancy
- voluntary organisations, such as support groups and charitable organisations, and how to contact them.

The time at which this information should be given will depend on the certainty of the diagnosis, and the need for confirmatory investigations.

## Epilepsy first seizure clinic

- History taking
- Full neurological examination
- Cardiac examination
- Tests depending on history:
  - ECH
  - MRI
  - EEG
- Provide information about the condition
- Voluntary organisations – support available
- Epilepsy nurse specialists – contacts
- Depending on history – start anti-epileptic drug therapy, risks and side effects

## Syncope types

### What is syncope?

Transient, reversible loss of cerebral perfusion with spontaneous recovery

### Four causes

- Cardiac:
  - obstruction e.g. aortic stenosis
  - arrhythmia (slow and fast)
- BP-related:
  - orthostatic hypotension
  - fainting conditions

## Syncope examination and investigation

### Signs of cardiac disease

- Pulse (rate and rhythm), murmur, signs of heart failure
- Orthostatic BP measures

### ECG

- Major signs and minor signs of disease to point to a cause (NICE guidance)
- Use ECG machine interpretation if not expert

Refer for other tests if diagnosis uncertain

### Echo

Can be useful, if available open access, to assess for obstruction and structural heart disease especially heart failure

### Holter monitoring

Of little use unless frequent; NICE say if more than 48 hourly episodes do 24 hour tape, if more than once a fortnight do a 7 day Holter; otherwise refer for an implantable loop recorder



## Syncope management and treatment

— If vasovagal, review the information on the STARS website: increase fluid intake, increase salt if not hypertensive, recognise the symptoms and take action (sit down, arm tensing, leg crossing, etc.)

— If orthostatic, as for vasovagal and consider contributing factors in older patients – vasoactive medications, reduced oral intake due to bladder problems, consider compression socks / tights

— Consider the contribution in older patients from falls

— Other treatments will require hospital intervention

## Syncope red flags – risk stratification

### General medical concerns

- Anaemia, electrolyte disturbance, significant hypoxia, BP <90

### Cardiac concerns

- Known structural heart disease
- Syncope on exertion
- Syncope associated with palpitation
- Symptoms / signs suggestive of cardiac disease – new or unexplained breathlessness, murmur, etc.
- Family history of sudden cardiac death in people aged younger than 40 years and / or an inherited cardiac condition
- Syncope while supine
- Lack of warning in an older patient (>60)

Refer urgently for cardiovascular assessment, with the referral reviewed and prioritised by an appropriate specialist within 24 hours, anyone with TLoC who also has any of the following:

- an ECG abnormality:
  - conduction abnormality (for example, complete right or left bundle branch block or any degree of heart block)
  - evidence of a long or short QT interval, or
  - any ST segment or T wave abnormalities.

Consider referring within 24 hours for cardiovascular assessment, as above, anyone aged older than 65 years who has experienced TLoC without prodromal symptoms.

## **Referral to specialist**

Refer all people with TLoC (apart from the exceptions below) for a specialist cardiovascular assessment by the most appropriate local service within 24 hours. Exceptions are:

— people with a firm diagnosis, after the initial assessment, of:

- uncomplicated faint
- situational syncope
- orthostatic hypotension

— people whose presentation is strongly suggestive of epileptic seizures.

## List of the videos

**1**

### **TLoC overview**

Conditions that lead to TLoC. Minor conditions. Serious conditions – epileptic seizure and cardiac syncope.

**2**

### **History taking – initial assessment**

Information to gather. Neurological history. Cardiac history. Pre-event 24–48hrs, immediate, prior to event, event – recollection and witness, recovery.

**3**

### **Functional / dissociative seizures**

Meaning. How to distinguish from an epileptic seizure.

**4**

### **Anxiety / hyperventilation**

History. Situational triggers. Physical effects and features. Explanation. Support.

**5**

### **Neurological indications**

History. Causes. Event. Patient and witness accounts. Referral.

**6**

### **Cardiac indications**

History. Circumstance. Event. Referral.

**7**

### **Non epilepsy / Vasovagal indications**

Symptoms. Event. Recovery.

**8**

### **Investigations and examinations**

Time constraints. Basic assessment. Neurological examination. Investigations.

**9**

### **Patient information**

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**10**

### **Epilepsy – History taking**

History. Prodrome – aura, event, recovery.

**11**

### **Epilepsy – Tests**

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**Epilepsy – Patient information**

Explanation and reassurance.  
Medication. Referral pathway. Safety advice.

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**Epilepsy – First seizure clinic**

History – witness or description.  
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**Cardiac – Syncope types**

Cardiac – obstruction, arrhythmic.  
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**Syncope – History taking**

History – background.  
Circumstances of event. During the event. After the event. Comparison to previous episodes.

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**Syncope examination and investigation**

Cardiovascular examination.  
Orthostatic hypotension blood pressure. ECG. 24-hour heart monitor and NICE guidelines.

**17**

**Syncope – risk stratification**

History and risk. Age. Loss of consciousness during or after exercise.

**18**

**Syncope – management plan and treatment**

Cardiac referral. Orthostatic – reversible causes / medication. Vasovagal and circumstances. Information – STARS website.

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**Referral to specialist**

Urgent – cardiac. Epileptic seizure clarification and first seizure clinic. Vasovagal and primary care.

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