NICE National Institute for Health and Care Excellence

NICE guideline

Transient loss of consciousness ('blackouts') in over 16s

Clinical guideline
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Your responsibility

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals and practitioners are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or the people using their service. It is not mandatory to apply the recommendations, and the guideline does not override the responsibility to make decisions appropriate to the circumstances of the individual, in consultation with them and their families and carers or guardian.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the Yellow Card Scheme.

Local commissioners and providers of healthcare have a responsibility to enable the guideline to be applied when individual professionals and people using services wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with complying with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Contents

This guideline is the basis of QS71.

Overview

This guideline covers assessment, diagnosis and referral for people over 16 who have had a transient loss of consciousness (TLoC; also called a blackout). It aims to improve care for people with TLoC by specifying the most effective assessments and recommending when to refer to a specialist.

Who is it for?

- Healthcare professionals
- Commissioners and providers
- People with suspected or diagnosed transient loss of consciousness and their families and carers

Introduction

This guideline is about the assessment, diagnosis and specialist referral of adults and young people (aged 16 and older) who have experienced a blackout (the medical term for this is 'transient loss of consciousness' or TLoC for short).

TLoC is very common: it affects up to half the population in the UK at some point in their lives. TLoC may be defined as spontaneous loss of consciousness with complete recovery. In this context, complete recovery would involve full recovery of consciousness without any residual neurological deficit. An episode of TLoC is often described as a 'blackout' or a 'collapse', but some people collapse without TLoC and this guideline does not cover that situation. There are various causes of TLoC, including cardiovascular disorders (which are the most common), neurological conditions such as epilepsy, and psychogenic attacks.

The diagnosis of the underlying cause of TLoC is often inaccurate, inefficient and delayed. There is huge variation in the management of TLoC. A substantial proportion of people initially diagnosed with, and treated for, epilepsy have a cardiovascular cause for their TLoC. Some people have expensive and inappropriate tests or inappropriate specialist referral (unnecessary referral or referral to the wrong specialty); others with potentially dangerous conditions may not receive appropriate assessment, diagnosis and treatment.

There are some existing NICE guidance that relate to TLoC, including NICE guidance on epilepsies in children, young people and adults, falls in older people, dual chamber pacemakers and implantable cardioverter defibrillators. Although related guidance on conditions that may contribute to TLoC exist (particularly chapter 8 of the Department of Health and Social Care's National service framework for coronary heart disease and the European Society of Cardiology's 2018 guidelines for diagnosis and management of syncope), there is no NICE guidance that addresses the crucial aspects of initial assessment, diagnosis and specialist referral of people who have had TLoC. People experiencing TLoC may come under the care of a range of clinicians, and the lack of a clear pathway may contribute to misdiagnosis and inappropriate treatment.

In considering the assessment and treatment of people who have experienced TLoC, it is important to distinguish terms that describe the circumstances or nature of the episode from those that define the mechanism for loss of consciousness. Descriptive terms tend to guide further aspects of assessment, whereas the mechanism of TLoC will determine treatment. For example, 'exercise-induced syncope' describes the circumstances in which

TLoC has occurred but does not indicate whether it was due to the mechanical effect of structural heart disease (such as severe aortic stenosis requiring valve surgery), a cardiac arrhythmia complicating structural heart disease (requiring treatment of the structural heart disease and of the arrhythmia), or a cardiac arrhythmia that requires treatment but is either not associated with any other heart disease or is associated with other heart disease that does not in itself require treatment. Furthermore, syncope that is exercise-induced but occurs shortly after stopping exercise rather than during exercise is most likely to be vasovagal in origin. The appropriate choice of investigation will be determined by the fact that TLoC was exercise-induced and by findings from the initial clinical assessment and electrocardiogram (ECG). The mechanism for TLoC established by these investigations will determine what treatment may be needed.

Clinical reasoning forms an important part of the process of ensuring that people who experience TLoC receive assessment, advice and treatment that is appropriate for each individual. Determination of the mechanism for TLoC in an individual requires collection of evidence (from a detailed history, from clinical assessment and from appropriate investigations), and interpretation of each piece of evidence in overall clinical context. For example, in 1 person, a piece of evidence such as witnessed seizure activity and/or urinary incontinence may point to a diagnosis of epilepsy, but in another, may be entirely consistent with convulsive syncope, where other features of the episode indicate clearly that it was an episode of vasovagal syncope.

This guideline aims to define the appropriate pathways for the initial assessment, diagnosis and specialist referral of people who have had TLoC, so that they receive the correct diagnosis quickly, efficiently and cost effectively, leading to a suitable management plan. The approach of the guideline development group was to produce a guideline in the form of an algorithm, pointing clinicians and patients towards those areas where guidance already exists (such as NICE's guideline on epilepsies in children, young people and adults), and providing new guidance in other areas, namely for people with syncope.

Recommendations

People have the right to be involved in discussions and make informed decisions about their care, as described in NICE's information on making decisions about your care.

Making decisions using NICE guidelines explains how we use words to show the strength (or certainty) of our recommendations, and has information about prescribing medicines (including off-label use), professional guidelines, standards and laws (including on consent and mental capacity), and safeguarding.

This guideline refers to different types of syncope. See the section on terms used in this guideline for definitions.

1.1 Initial assessment

1.1.1 Gathering information about the event and initial decision making

1.1.1.1 If the person with suspected transient loss of consciousness (TLoC) has sustained an injury or they have not made a full recovery of consciousness, use clinical judgement to determine appropriate management and the urgency of treatment.

1.1.1.2 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:

- circumstances of the event
- person's posture immediately before loss of consciousness
- prodromal symptoms (such as sweating or feeling warm/hot)

- appearance (for example, whether eyes were open or shut) and colour of the person during the event
- presence or absence of movement during the event (for example, limb-jerking and its duration)
- any tongue-biting (record whether the side or the tip of the tongue was bitten)
- injury occurring during the event (record site and severity)
- duration of the event (onset to regaining consciousness)
- presence or absence of confusion during the recovery period
- weakness down 1 side during the recovery period.

1.1.1.3 When recording a description of the suspected TLoC from the patient or a witness, take care to ensure that their communication and other needs are taken into account. This is particularly important when communicating with a child or young person, or person with special communication needs.

Determining whether the person had TLoC

1.1.1.4 Use information gathered from all accounts of the suspected TLoC (see recommendation 1.1.1.2) to confirm whether or not TLoC has occurred. If this is uncertain it should be assumed that they had TLoC until proven otherwise. But, if the person did not have TLoC, instigate suitable management (for example, if the person is determined to have had a fall, rather than TLoC, see NICE's guideline on falls in older people: assessing risk and prevention).

1.1.2 Obtaining patient history, physical examination and tests

1.1.2.1 Assess and record:

- details of any previous TLoC, including number and frequency

- 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)
- current medication that may have contributed to TLoC (for example, diuretics)
- 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.

1.1.2.2 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.

1.1.2.3 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 more than 450 ms) and short QT (corrected QT less than 350 ms) 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.

1.1.2.4 If during the initial assessment, there is suspicion of an underlying problem causing TLoC, or additional to TLoC, carry out **relevant** examinations and investigations (for example, check blood glucose levels if diabetic hypoglycaemia is suspected, or haemoglobin levels if anaemia or bleeding is suspected; see also recommendation 1.2.2.1 for information about the use of electroencephalogram [EEG]).

1.1.3 Recording the event information and transfer of records

1.1.3.1 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.

1.1.4 Making a judgement based on initial assessment

Red flags: people requiring urgent assessment and treatment

1.1.4.1 If TLoC is secondary to a condition that requires immediate action, use clinical judgement to determine appropriate management and the urgency of treatment.

1.1.4.2 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 (see recommendations 1.1.2.2 and 1.1.2.3)
- heart failure (history or physical signs)

- TLoC during exertion
- family history of sudden cardiac death in people aged younger than 40 years and/or an inherited cardiac condition
- new or unexplained breathlessness
- a heart murmur.

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

No further immediate management required

1.1.4.3 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) **and**
- there are features suggestive of uncomplicated faint (the 3 'P's) such as:
  - **P**osture – prolonged standing, or similar episodes that have been prevented by lying down
  - **P**rovoking factors (such as pain or a medical procedure)
  - **P**rodromal symptoms (such as sweating or feeling warm/hot before TLoC).

1.1.4.4 Diagnose situational syncope on the basis of the initial assessment when:

- there are no features from the initial assessment that suggest an alternative diagnosis **and**
- syncope is clearly and consistently provoked by straining during micturition (usually while standing) or by coughing or swallowing.

1.1.4.5 If a diagnosis of uncomplicated faint or situational syncope is made, and there is nothing in the initial assessment to raise clinical or social concern, no further immediate management is required. If the presentation is not to the GP, the healthcare professional should:

- advise the person to take a copy of the patient report form and the ECG record to their GP
- inform the GP about the diagnosis, directly if possible; if an ECG has not been recorded, the GP should arrange an ECG (and its interpretation as described in recommendation 1.1.2.3) within 3 days.

Further immediate management required

1.1.4.6 If the person presents to the ambulance service, take them to the emergency department unless a diagnosis of an uncomplicated faint or situational syncope is clear.

1.2 Further assessment and referral

1.2.1 Suspected postural hypotension

1.2.1.1 Suspect postural hypotension on the basis of the initial assessment when:

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

See recommendations 1.1.5 to 1.1.7 of NICE's guideline on hypertension for details of how to measure and manage postural hypotension. **[2010, amended 2023]**

1.2.1.2 If blood pressure measurements do not confirm postural hypotension despite suggestive symptoms refer the person for further specialist cardiovascular assessment. **[2023]**

1.2.2 Suspected epilepsy

1.2.2.1 Refer people who present with 1 or more of the following features (that is, features that are strongly suggestive of epileptic seizures) for an assessment by a specialist in epilepsy; the person should be seen by the specialist within 2 weeks (see NICE's guideline on epilepsies in children, young people and adults):

- a bitten tongue
- head-turning to 1 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, or jamais vu.

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.

Do not routinely use EEG in the investigation of TLoC (see NICE's guideline on epilepsies in children, young people and adults).

1.2.3 Referral for specialist cardiovascular assessment

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

- people with a firm diagnosis, after the initial assessment, of:
  - uncomplicated faint
  - situational syncope
  - postural hypotension
- people whose presentation is strongly suggestive of epileptic seizures.

1.3 Specialist cardiovascular assessment and diagnosis

1.3.1 Assessment and assignment to type of syncope

1.3.1.1 Carry out a specialist cardiovascular assessment as follows:

- Reassess the person's:
  - detailed history of TLoC including any previous events
  - medical history and any family history of cardiac disease or an inherited cardiac condition
  - drug therapy at the time of TLoC and any subsequent changes.
- Conduct a clinical examination, including full cardiovascular examination and, if clinically appropriate, measurement of lying and standing blood pressure.
- Repeat 12-lead ECG and obtain and examine previous ECG recordings.

  On the basis of this assessment, assign the person to 1 of the following suspected causes of syncope.

- suspected structural heart disease
- suspected cardiac arrhythmic
- suspected neurally mediated
- unexplained.

Offer further testing as directed by recommendations 1.3.2.1 to 1.3.2.10 or other tests as clinically appropriate.

1.3.1.2 For people with suspected structural heart disease, investigate appropriately (for example, cardiac imaging). Because other mechanisms for syncope are possible in this group, also consider investigating for a cardiac arrhythmic cause (as described in recommendation 1.3.2.4), and for postural hypotension (often caused/exacerbated by drug therapy – see recommendation 1.2.1.1) or for neurally mediated syncope (see recommendations 1.3.2.5 and 1.3.2.6).

1.3.2 Diagnostic tests for different types of syncope

1.3.2.1 Use the person's history to distinguish people whose exercise-induced syncope occurred during exercise (when a cardiac arrhythmic cause is probable) from those whose syncope occurred shortly after stopping exercise (when a vasovagal cause is more likely).

1.3.2.2 For people who have experienced syncope during exercise, offer urgent (within 7 days) exercise testing, unless there is a possible contraindication (such as suspected aortic stenosis or hypertrophic cardiomyopathy requiring initial assessment by imaging). Advise the person to refrain from exercise until informed otherwise following further assessment.

1.3.2.3 If the mechanism for exercise-induced syncope is identified by exercise testing, carry out further investigation or treatment as appropriate in each individual clinical context. Otherwise, carry out further investigations assuming a suspected cardiac arrhythmic cause.

1.3.2.4 For people with a suspected cardiac arrhythmic cause of syncope, offer an ambulatory ECG and do not offer a tilt test as a first-line investigation. The type of ambulatory ECG offered should be chosen on the basis of the person's history (and, in particular, frequency) of TLoC. For people who have:

- TLoC at least several times a week, offer Holter monitoring (up to 48 hours if necessary). If no further TLoC occurs during the monitoring period, offer an external event recorder that provides continuous recording with the facility for the patient to indicate when a symptomatic event has occurred.
- TLoC every 1 to 2 weeks, offer an external event recorder. If the person experiences further TLoC outside the period of external event recording, offer an implantable event recorder.
- TLoC infrequently (less than once every 2 weeks), offer an implantable event recorder. A Holter monitor should not usually be offered unless there is evidence of a conduction abnormality on the 12-lead ECG.

1.3.2.5 Do not offer a tilt test to people who have a diagnosis of vasovagal syncope on initial assessment.

1.3.2.6 For people with suspected vasovagal syncope with recurrent episodes of TLoC adversely affecting their quality of life, or representing a high risk of injury, consider a tilt test only to assess whether the syncope is accompanied by a severe cardioinhibitory response (usually asystole).

1.3.2.7 For people with suspected carotid sinus syncope and for people with unexplained syncope who are aged 60 years or older, offer carotid sinus massage as a first-line investigation. This should be conducted in a controlled environment, with ECG recording, and with resuscitation equipment available.

1.3.2.8 Diagnose carotid sinus syncope if carotid sinus massage reproduces syncope due to marked bradycardia/asystole and/or marked hypotension. Do not diagnose carotid sinus syncope if carotid sinus massage causes asymptomatic transient bradycardia or hypotension (see recommendation 1.3.2.9).

1.3.2.9 For all people with unexplained syncope (including after negative carotid sinus massage test in those for whom this is appropriate), offer ambulatory ECG (see

recommendation 1.3.2.4). Do not offer a tilt test before the ambulatory ECG.

1.3.2.10 When offering a person an implantable event recorder, provide one that has both patient-activated and automatic detection modes. Instruct the person and their family and/or carer how to operate the device. Advise the person that they should have prompt follow-up (data interrogation of the device) after they have any further TLoC. The timing of the follow-up is dependent on the storage on the device and the condition of the person.

1.4 If the cause of TLoC remains uncertain

1.4.1.1 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.

1.4.1.2 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.

1.4.1.3 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 1 mechanism may coexist (for example, ictal arrhythmias).

1.5 Information for people with TLoC

1.5.1 General information

1.5.1.1 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.

1.5.2 Driving

1.5.2.1 Give advice about eligibility to drive when a person first presents with TLoC. Please refer to the Driver and Vehicle Licensing Agency (DVLA) guidance on neurological disorders: assessing fitness to drive.

1.5.2.2 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 DVLA. Please refer to the DVLA guidance on neurological disorders: assessing fitness to drive.

1.5.3 Health and safety at work

1.5.3.1 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 Executive's Health and Safety at Work etc Act 1974.

1.5.4 Safety advice for people who have had TLoC

1.5.4.1 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.

1.5.4.2 For people with postural 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.

1.5.4.3 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. Please refer to the DVLA guidance on neurological disorders: assessing fitness to drive.

1.5.4.4 Offer advice to people waiting for specialist neurological assessment for their TLoC as recommended in NICE's guideline on epilepsies in children, young people and adults.

Terms used in this guideline

This section defines terms that have been used in a particular way for this guideline. For other definitions, see the NICE glossary and the Think Local, Act Personal Care and Support Jargon Buster. See also NICE's guideline on epilepsies in children, young people and adults for a more detailed glossary of terms related to epilepsy.

12-lead electrocardiogram (ECG)

Recording of the heart's electrical signals obtained by attaching electrodes in ten standard positions on the limbs and the surface of the chest. This provides a display of the electrical activity of the heart viewed from 12 different directions.

Arrhythmia

An abnormal heart rhythm.

Asystole

Sustained absence of the heart's electrical activity.

Blackout

Sudden and spontaneous transient loss of consciousness (TLoC) with complete recovery. In this context, complete recovery would involve full recovery of consciousness without any residual neurological deficit.

Bradycardia

Slow heart rate (irrespective of rhythm), conventionally defined as less than 60 beats per minute.

Brugada syndrome

An inherited ion channel disorder characterised by abnormal ST segment elevation in leads V1 to V3 on ECG. This predisposes to ventricular arrhythmia and sudden cardiac death, and may present with syncope.

Cardiac arrhythmic syncope

Syncope caused by a sudden abnormality of heart rhythm, which may be a bradyarrhythmia (abnormal rhythm with a slow heart rate) or a tachyarrhythmia (abnormal rhythm with a fast heart rate).

Carotid sinus massage

A procedure in which the carotid sinus is stimulated (by firm massage with a thumb during continuous ECG and blood pressure monitoring in both supine and upright positions) to investigate suspected or possible carotid sinus syncope.

Carotid sinus syncope

A form of neurally mediated syncope in which pressure on 1 or other carotid artery causes syncope.

Convulsive syncope

Loss of consciousness caused by transient insufficiency of blood supply to the brain accompanied by jerky or posturing movements, generally involving the limbs.

Déjà vu

An intense sensation that what is happening for the first time has already occurred previously. This is common particularly in adolescence, but may be a manifestation of a partial seizure (rather than occurring immediately before an epileptic seizure).

Emergency

Immediate action within 24 hours.

Exercise-induced syncope

Syncope induced by exercise.

External event recorder

A small portable recorder that is capable of monitoring and storing ECG recordings from electrodes on the skin. The device records the heart's rhythm during symptoms (including syncope) that occur intermittently. Excludes event recorders that do not perform continuous ECG monitoring (and therefore are not capable of documenting cardiac rhythm at the moment of TLoC).

Faint

Episode of TLoC due to vasovagal syncope. Fainting is a temporary loss of consciousness due to a drop in blood flow to the brain. The episode is brief and is followed by rapid and complete recovery.

Holter monitor/recorder

A small portable recorder that is capable of continuous ECG recording from electrodes on the skin, usually used over a 24- to 72-hour period.

Ictal arrhythmia

A disturbance of normal heart rhythm occurring during a seizure.

Implantable event recorder

Small implantable device capable of monitoring and storing ECG recordings of the heart's rhythm. It is also known as an implantable or insertable loop recorder.

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.

Long QT syndromes

Inherited conditions characterised by prolongation of a specific portion of the ECG. This predisposes to ventricular arrhythmia and sudden cardiac death, and may present with syncope.

Micturition syncope

A form of neurally mediated syncope provoked by straining while passing urine while standing.

Neurally mediated syncope

Sometimes called 'reflex syncope'. TLoC due to a reflex hypotensive response and/or reflex bradycardic response to a number of causes; this category includes vasovagal syncope, carotid sinus syncope, and situational syncope.

Postural hypotension

Condition in which a marked fall in blood pressure is provoked by a change in posture from lying to sitting, or from lying or sitting to standing. This may cause light-headedness (dizziness), a fall, or TLoC.

Post-ictal confusion

An abnormal state that follows an attack, usually referring to a disturbed condition after an epileptic seizure.

Pre-syncope

A sensation of impending fainting or loss of consciousness.

Prodrome

Symptoms which precede the episode, usually considered to be more prominent than an aura, which is usually very brief.

Pseudosyncope

A psychogenic non-epileptic attack characterised by loss of muscle tone and having the appearance of a faint.

Psychogenic non-epileptic seizures (PNES)

Episodes of altered movement, sensation or experience, similar to epilepsy but caused by a psychological process and not associated with abnormal electrical discharges in the brain.

Red flags

For this guideline, the term 'red flags' indicates that the person is considered to be at high risk of a serious adverse event and should be referred for urgent specialist assessment.

Short QT syndrome

Inherited condition characterised by a specific portion of the ECG being of abnormally short duration. This predisposes to ventricular arrhythmia and sudden cardiac death, and may present with syncope.

Situational syncope

A form of neurally mediated syncope occurring in certain specific situations (for example, cough syncope, micturition syncope, or swallowing syncope).

Specialist

A healthcare professional who has expert knowledge of, and skills in, a particular clinical area, especially 1 who is certified by a higher medical educational organisation.

Structural heart disease

Any disease of the heart in which the structural components of the heart are abnormal. This encompasses heart muscle disease, valve disease and congenital heart disease.

Tachycardia

Fast heart rate (irrespective of rhythm), conventionally defined as greater than 100 beats per minute.

Tilt test

Test in which a patient is exposed to passive head-up tilt, during which they have beat-to-beat measurement of heart rate and blood pressure, to try to demonstrate whether or not they have a provocable tendency to vasovagal syncope.

Transient loss of consciousness (TLoC)

Preferred term for a blackout.

Vasovagal syncope

A form of neurally mediated syncope. This is often, but not always, triggered by circumstances such as pain, prolonged standing (especially in a warm environment), or emotional stress. This commonly presents as an identifiable 'uncomplicated faint' but can present as sudden unprovoked syncope.

Ventricular fibrillation

Chaotic electrical activity in the heart's ventricles, causing loss of pumping action and

resulting in cardiac arrest. If not corrected immediately, this will lead to death.

Ventricular tachycardia

Tachycardia arising from the heart's ventricular muscle. This can in some people cause syncope or cardiac arrest and sudden death.

Recommendations for research

The guideline development group has made the following recommendations for research. See the full guideline for the full set of recommendations for research.

1 Development of a robust system for promoting good-quality information from a witnessed TLoC

Does providing people who have experienced transient loss of consciousness (TLoC) and their family/carers with information on the importance of witnessed accounts reduce the time to correct diagnosis and prevent inappropriate referrals?

Why this is important

Patient and witness accounts of TLoC are essential to a correct diagnosis. Information is an important part of the patient journey and central to the overall quality of each patient's experience of the NHS. Improving information for patients was a commitment in the NHS Plan (2000) and more recently in Lord Darzi's review of the NHS, 'High quality care for all' (2008). There is a need to improve and monitor the effectiveness of information provided across the NHS. Good-quality trials in people with TLoC are needed to establish whether providing specific information to people with TLoC and their carers helps healthcare professionals to reach a correct diagnosis more quickly, and improves outcomes for the patient. The information should address which details of a TLoC event are required to aid diagnosis. This would also identify those patients who have been inadvertently sent down the wrong TLoC pathway.

Such studies should consider a number of delivery mechanisms including advice-specific information leaflets or visual data (information given in pictorial form).

2 Investigation of the accuracy of automated ECG interpretation

Does using automated electrocardiogram (ECG) interpretation improve the accuracy of diagnosis in the TLoC population compared with expert interpretation, and what is the overall effect on patient outcomes, including patients with inherited long QT syndromes?

Why this is important

The prevalence of syncope during the lifetime of a person living 70 years is estimated to be approximately 42%. The Framingham study on incidence and prognosis of syncope identified people with cardiac syncope to have a poorer prognosis than those with neurally mediated syncope or those in whom the cause of TLoC was uncertain. Risk-stratification studies undertaken in emergency departments in patients with TLoC have identified that an abnormal resting 12-lead ECG at presentation is a marker of high risk of death. A 12-lead ECG is cheap, widely available and can be performed quickly at the patient's bedside. In the past, all recorded ECGs were manually read and interpreted. The quality of interpretation depended on the skill of the interpreter. Most of the ECGs recorded today are digitally acquired and automatically read. Scientific studies have been undertaken to compare the accuracy of this automatic interpretation with expert interpretation in the general population. However, no published scientific studies are available in a population selected for TLoC. It is therefore recommended that studies be undertaken in adults who had TLoC to assess the accuracy of automatically interpreted ECGs versus those interpreted by experts in diagnosing the cause of TLoC, including in people with long QT syndrome.

3 Diagnostic yield of repeated ECG and physiological parameter recording

Does a serial assessment approach (taking repeated ECGs or repeated observations of vital signs) improve diagnosis of high-risk cardiac arrhythmias when compared with a single assessment approach in people with TLoC in any setting?

Why this is important

Current consensus opinion suggests that a single assessment approach has the same diagnostic yield as serial assessments for high-risk cardiac arrhythmias in patients presenting with TLoC, despite there being little evidence to support this approach during the critical phase of a presentation. Variable length QTc and changes in T-wave morphology can occur with heart rates as low as 90 beats per minute and may be paroxysmal in nature. Undertaking a serial assessment approach may therefore be more sensitive in detecting QTc length variability for high-risk patients with potential long QT syndrome during initial presentations than a single recording of an ECG.

4 Investigation of the benefit and cost effectiveness of 12-lead ECG

In people who are considered on the basis of clinical history and examination to have had an uncomplicated faint, what is the additional clinical effectiveness and cost effectiveness of a 12-lead ECG?

Why this is important

Uncomplicated fainting is a very common cause of TLoC. It has a good prognosis and, in most cases, can be diagnosed accurately from the person's history and from observations made by witnesses or healthcare professionals, without the need for any tests. Most healthy people who faint have a normal ECG; in a few, ECG features of no importance may generate unnecessary concern and further tests.

Much less commonly, relatively rare heart conditions cause TLoC in otherwise healthy young people who are at risk of dying suddenly unless the condition is recognised and treated. In many of these people, an abnormal ECG will provide evidence of the heart condition. Although TLoC in these conditions is not usually typical of an uncomplicated faint, the diagnosis has been missed in some people, with disastrous consequences.

It is important that research is conducted to establish whether:

- making a diagnosis of uncomplicated faint from typical clinical features and without an ECG will miss dangerous heart conditions that would have been identified if an ECG had been recorded
- it is cost effective to record ECGs in large numbers of people who have had an uncomplicated faint to try to avoid missing a more dangerous condition in a small number of people.

5 Cost effectiveness of implantable event recorders in people with TLoC

Under what circumstances is the implantable cardiac event recorder the investigation of choice for TLoC in people in whom a cardiac cause is suspected?

Why this is important

This guideline recommends that people with a suspected cardiac cause of TLoC, who have infrequent episodes (every 1 to 2 weeks or less), should be offered an implantable cardiac event recorder. It is unclear when it would be more cost effective to use a strategy of alternative investigation (for example, external event recording).

Finding more information and committee details

To find NICE guidance on related topics, including guidance in development, see the NICE topic page on neurological conditions.

For full details of the evidence and the guideline committee's discussions, see the full guideline. You can also find information about how the guideline was developed, including details of the committee.

NICE has produced tools and resources to help you put this guideline into practice. For general help and advice on putting our guidelines into practice, see resources to help you put NICE guidance into practice.

Update information

November 2023: In the section on assessment and referral for suspected postural hypotension we amended recommendation 1.2.1.1 and made a new recommendation (1.2.1.2). See the surveillance report published in February 2023 for further details.

Minor changes since publication

September 2014: The wording of recommendation 1.1.4.2 was clarified.

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