key points

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The incidence of epilepsy in the UK is estimated to be 50 per 100,000 per year and up to 1% of the population have active epilepsy. Most patients with a first seizure will have experienced loss of consciousness. The differential diagnosis includes syncope, and psychogenic non-epileptic seizures, also referred to as dissociative seizures or non-epileptic attacks. The differential diagnosis for nocturnal episodes includes sleep disorders such as parasomnias. Depending on the suspected diagnosis, the patient may need onward referral. The diagnosis of epilepsy will usually be made in a neurology clinic.

A generalised seizure as part of a generalised epilepsy syndrome may occur without warning but may be preceded by blank spells or myoclonic jerks. A generalised seizure with focal onset may be preceded by an aura. The temporal lobe is the most common site of onset, producing symptoms such as a burning smell or metallic taste, déjà vu or jamais vu, or a rising feeling in the stomach. Seizure markers in the history may include tongue biting, incontinence and myalgia. A generalised seizure often leads to a prolonged period of unconsciousness or amnesia; it is common for patients to report waking in an ambulance or with paramedics present.

Examination rarely contributes to the diagnosis, but any unexplained neurological signs would be a cause for concern and prompt urgent investigation. All patients should have a 12-lead ECG. Patients with epilepsy have an increased prevalence of early repolarisation pattern and QTc prolongation, which are treatable and can have serious consequences if missed. A normal EEG cannot exclude epilepsy, but an abnormal EEG in the appropriate clinical context may be diagnostic. Brain imaging is required in almost all cases where epilepsy is suspected, the only possible exception being people with generalised epilepsies proven on EEG. MRI is the imaging modality of choice. Between 20 and 40% of patients with a brain tumour have a seizure as their presenting symptom.

Following a first seizure, many patients present directly to an emergency department. For patients presenting to primary care, NICE still recommends emergency admission for assessment. Patients presenting to primary care after a delay may prefer a direct referral to a first seizure clinic with appropriate safety netting. After a first seizure, most clinicians favour a watchful waiting approach, unless investigations suggest a high risk of recurrence. More than half of such patients will not go on to have further seizures. After more than one seizure, treatment should be offered immediately, without waiting for investigations.

Patients should avoid recognised triggers for their seizures, which commonly include sleep deprivation, alcohol excess and stress. Patients should be given lifestyle safety advice and driving must always be covered. Sudden unexpected death in epilepsy should be discussed with all patients with epilepsy, or their carers.