

C.2.1 Blackouts and other paroxysmal events

Component	Description
Review question	In children and babies who present with paroxysmal events, what is the accuracy of accompanying signs and symptoms to support non-specialists in identifying suspected neurological conditions?
Objectives	To identify signs and symptoms that, if presenting with paroxysmal events, indicate a neurological condition requiring referral for further specialist assessment.
Population	Children and babies who present to a non-specialist with paroxysmal events.
Presence or absence of predictors	<p>The committee identified the following predictors in people who present with paroxysmal events (for example, absences, epileptic seizures, blank spells, involuntary movements) for inclusion in the review:</p> <ul style="list-style-type: none"> • apnoea • associated with mild traumatic event • changes in the level of consciousness • congenital or acquired cardiac disorder • occurrence with exercise • postural hypotension • repetitive movements.
Outcomes	<p>Main outcomes:</p> <ul style="list-style-type: none"> • Sensitivity (%) and specificity (%) • Area under the ROC curve (AUROC) – measure of predictive accuracy • Positive and negative predictive values <p>Other outcomes:</p> <ul style="list-style-type: none"> • Adjusted odds ratios for the presence of the following conditions: <ul style="list-style-type: none"> ○ behavioural (that is, temper tantrums, breath-holding attacks and emotional disorders) ○ cardiac disorders – long QT, left ventricular outflow obstruction ○ epilepsy ○ reflex anoxic seizures ○ vasovagal syncope or postural hypotension.
Study design	Prospective or retrospective cohort studies and case-control studies with multivariate analysis
Exclusions	<ul style="list-style-type: none"> • Young people and adults

Component	Description
	<ul style="list-style-type: none"> • Neonates (babies aged 28 days and under) • Studies unadjusted for any of the identified predictors listed above • Studies with univariate analysis
<p>How the information will be searched</p>	<p>The following neurological condition groups* will form the basis of the search strategy:</p> <ul style="list-style-type: none"> • ataxia • central nervous system infections • cranial nerve disorder • development disorders • epilepsy • functional disorders • headache and migraine • multiple sclerosis and inflammatory disorders • neuromuscular diseases • Parkinson’s disease and other extrapyramidal disorders or tic disorder • peripheral nerve disorders • sleep disorders • traumatic brain and spine injury • tumours of the nervous system • catch-all group – rare and other neurological diseases. <p><i>*Condition groups taken from Defining Adult Neurological Conditions, National Neurology Intelligence Network, April 2016</i></p>
<p>Key confounders</p>	<p>Any of the predictors listed above</p>
<p>The review strategy</p>	<ul style="list-style-type: none"> • Meta-analysis where appropriate will be conducted. • Evidence from indirect settings, which the committee evaluated to be generalisable to a non-specialist setting, will be included in the review. • The risk of bias of each study will be assessed using the QUADAS-2 checklist for diagnostic studies or the NGC checklist for prognostic studies. • The overall quality of the evidence will be assessed using an adapted version of GRADE. • The review may cross-refer to existing NICE guidance, which has identified early signs and symptoms for neurological conditions that present with non-epileptic paroxysmal events.