Clinical Practice Guidelines:
Medical/Brief resolved unexplained event (BRUE)

Policy code	CPG_ME_BRUE_0722
Date	July, 2022
Purpose	To ensure consistent management of a brief resolved unexplained event.
Scope	Applies to Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless stated otherwise.
Source of funding	Internal – 100%
Author	Clinical Quality & Patient Safety Unit, QAS
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Brief resolved unexplained event (BRUE)

July, 2022

Brief Resolved Unexplained Event (BRUE) is defined as a self-limiting episode of unexpected deterioration in a young paediatric that is characterised by aberrancy in breathing, muscular tone, colour or level of consciousness.[1–3] In clinical practice, these events are typically witnessed by a parent and/or guardian who describe a short-lasting (less than one minute) event of acute haemodynamic disturbance followed by a prompt return to the patients baseline health status.

The incidence of BRUE is estimated to represent 1% of all emergency department presentations in young paediatrics, with 12–14% subsequently admitted for further investigation.[4–6] Internal clinical auditing and review has identified BRUE is commonly mistaken by ambulance clinicians as parental anxiety or perceived inexperience ('first time parents'), as the patient presents asymptomatic on assessment.

As the symptoms of BRUE are shared by a myriad of serious conditions such as epilepsy, cardiac arrhythmias, metabolic disorders, drug or toxin ingestion, non-accidental injury or respiratory infections, a thorough clinical examination and history must be performed. If during clinical assessment, the reported event cannot be explained by a pathophysiological process or condition, BRUE may be considered as a differential diagnosis.

As various attributed aetiologies cannot be excluded in the prehospital environment, all patients that present following a suspected BRUE must be transported to hospital by QAS for further assessment and observation.

Clinical features

Brief, resolved and unexplained episode of one or more of the following symptoms in a young paediatric:

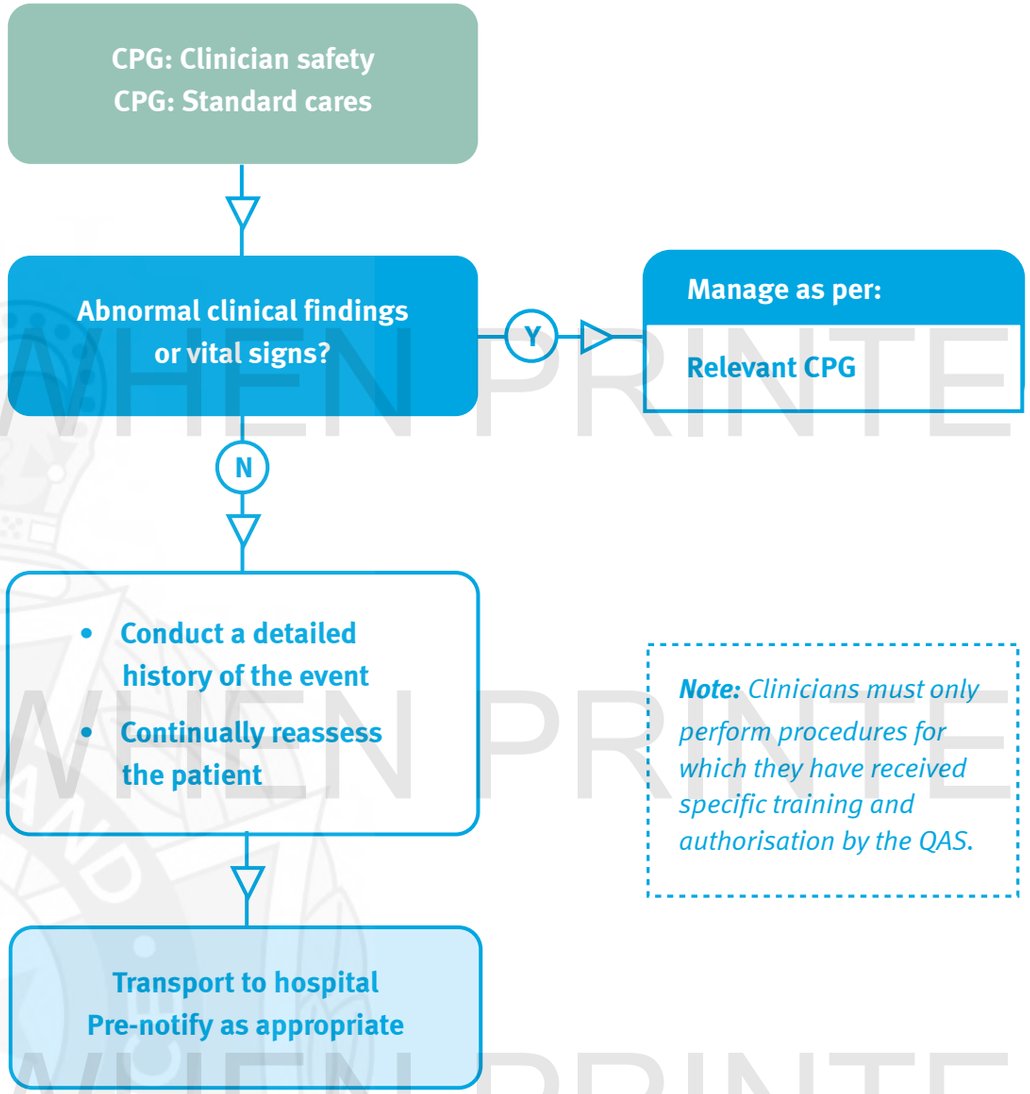
- Cyanosis or pallor
- Absent, decreased or irregular breathing
- Aberrancy of muscle tone (hypertonia or hypotonia)
- Altered level of consciousness

Risk Assessment

- All patients that present with a reported history of abnormality, even if resolved, must have a holistic clinical assessment performed that considers both social and physical determinants of health.
- As there are multiple conditions that share similar prodromal symptoms, BRUE should only be considered after considering and excluding all other possible conditions. If during clinical assessment, abnormal vital signs or continuing symptoms are observed, the patient should be managed in accordance with the relevant clinical practice guideline.

Risk Assessment *(cont.)*

- Clinical examination and history should determine the following information (this should be provided to hospital staff on clinical handover):
  - Description of the event (i.e. position of the paediatric; estimated duration; observed activity, colour and muscle tone during event; presence of repetitive movements; evidence of bleeding from nose or mouth; provision of any interventions by parents during the event)
  - Preceding events (i.e. proximity to feeding; subsequent vomiting; was the patient asleep when the event occurred; presence of nearby objects that may have contributed)
  - Past medical history (i.e. gestational age; previous episodes of BRUE; frequent reflux; recent immunisation; immunisation status; previous hospitalisation; normal growth patterns)
  - Family history (i.e. apparent similar event in sibling; inborn error of metabolism or genetic disease; development delay)



Note: *Clinicians must only perform procedures for which they have received specific training and authorisation by the QAS.*

Additional information

- BRUE is a relatively new medical term that has replaced Apparent Life-Threatening Events (ALTE).
- While patients may appear well and are interacting appropriately, transport to hospital by QAS must occur to facilitate ongoing observation.