

Brief Resolved Unexplained Event (BRUE)

Disclaimer:
Read the disclaimer at medimaps.co.uk/disclaimer

References:
1. aliem.com
2. pemcincinnati.com
3. pedemmorsels.com
4. https://www.rch.org.au/kidsinfo/fact_sheets/Breath_holding/

Symptoms

- < 1yr.
- Sudden and brief < 1min (typically 20-30sec).
- Resolved any of the following:
 - Central cyanosis or pallor.
 - Absent, decreased, or irregular breathing.
 - Altered tone (hypertonia or hypotonia).
 - Altered level of responsiveness.
 - No other explanation on history or physical.
 - Normal vital signs.
 - Appear well.

- Abnormal vital signs? = not a BRUE.
- Baby with peripheral cyanosis, acrocyanosis, or rubor? = not a BRUE.
- Symptoms explained by specific diagnosis e.g. breath holding, seizure = not a BRUE.
- Meets all BRUE criteria? No other explanation? = this is a BRUE.

Breath-holding

- Usually 6-18/12 old, but can occur up to 6yrs.
- Neonates do not have breath holding spells!
- Affects 5% of all children.
- 25% have multiple times in the day.

blue spell

pale spell

- Cry after anger, frustration, pain or fright.
- Hold their breath.
- Face turns red then blue, especially around the mouth.
- Lasts short time.
- Child goes limp, LOC or may even fall to the ground.
- Rarely a very brief seizure.

- Can occur very early in life and can be frequent.
- Occurs after upset such as a minor accident.
- Opens mouth to cry but nothing comes out.
- Arms and legs can go stiff.
- Go limp/fall to the ground or become floppy and can look very pale.
- Possibly brief seizure.
- Can recover quickly or may be drowsy and sleep for a little while.

- No treatment as no underlying illness.
- Once recovered, it is important to act normally. Don't punish or reward them or make a big fuss.
- Treat your child as if nothing has happened.
- Do not cause any long term harm.
- No link to epilepsy.
- Can be prone to fainting when older.

Management

lower risk

higher risk

- All of the following criteria:
 - Age > 60 days.
 - Gestational age ≥ 32 weeks and post-conceptual age ≥ 45 weeks.
 - First BRUE (no history of BRUEs).
 - Duration < 1min.
 - Event did not require CPR by trained medical professional.
 - No concerning history or physical exam findings.

- Those not meeting all in 'lower risk' (see left).
- Hx concerning for NAI.
- Family history of sudden death in 1o relatives.
- Feeding or resp problems.
- Social and environmental issues:
 - House mold problems.
 - Smoking household.
 - Family stressors.
 - Previous Child Protective Services.

- Admit to paediatrics.

- PIL to parent.
- Direct to CPR resources.
- May briefly monitor (1-4 hrs is reasonable, although no solid evidence) with serial exams, continuous pulse oximetry, ECG.
- Avoid hospitalisation solely for cardiopulmonary monitoring.
- Send home if family is comfortable and child may be re-evaluated within 12-24 hours.

<https://patiented.solutions.aap.org/handout.aspx?gbosid=239090>