New name for unexplained events aims to cut unnecessary interventions

For the last 30 years, a brief unexplained event in an infant could be called an apparent life-threatening event (ALTE) even if it wasn't.

A new AAP clinical practice guideline released today offers advice on the evaluation and management of brief resolved unexplained events, or BRUEs, for lower-risk infants, and recommends using this term instead of ALTE.

For most infants who appear well after such an episode, the risk of another life-threatening event or serious disorder is extremely low. Yet some clinicians still order tests and hospitalize their patients, often subjecting them to unnecessary risks that fail to lead to a treatable diagnosis or prevent future events. The new name "better reflects the transient nature and lack of a clear cause for the episodes," while removing the life-threatening label, according to the guideline.

Brief Resolved Unexplained Events (Formerly Apparent Life-Threatening Events) and Evaluation of Lower-Risk Infants and an executive summary are available at http://pediatrics.aappublications.org/content/early/2016/04/21/peds.2016-0590 and http://pediatrics.aappublications.org/content/early/2016/04/21/peds.2016-0591). The guideline will be published in the May issue of Pediatrics.

Unlike most clinical practice guidelines, the BRUE (pronounced broo) guideline focuses more on what not to do, said Joel S. Tieder, M.D., M.P.H., FAAP, lead author. "We're actually making recommendations against doing things for lower-risk infants - doing less is more for these children."

The term ALTE dates to a 1986 National Institutes of Health conference on infantile apnea and replaced the term "near-miss sudden infant death syndrome (SIDS)." Over time, however, researchers determined that these events were not precursors to SIDS, but the language continued to be used for various unexplained events.

Most clinicians familiar with the term "apparent life-threatening event" know it's challenging to use, in part because it gets cited as a chief complaint, according to Dr. Tieder. For example, he said, "an event in an infant with coughing, gagging and turning red in the face after spitting up often is labeled an ALTE, even though we
can explain that as gastroesophageal reflux and provide specific recommendations. This is very different than an infant with an episode described as turning blue with loss of consciousness that we cannot easily explain."

**ABCs of BRUEs**

A multidisciplinary panel developed the evidence-based recommendations in the guideline after a multiyear, systematic review of papers from 1970 to 2014. Based on its findings, the group decided to focus on the large, lower-risk group of infants who experience a BRUE (see below).

BRUEs describe episodes in children younger than 1 year of age after a history and physical exam reveal no explanation for an event that is sudden, brief and resolved, involving one or more of the following:

- cyanosis or pallor;
- absent, decreased or irregular breathing;
- marked change in tone (hypertonia or hypotonia); and
- altered level of responsiveness.

Many disorders or conditions can fall into this classification. The less serious ones are the most common and include oral dysphagia and subclinical viral infections. The more serious, less common ones include child abuse, congenital abnormalities, epilepsy, inborn errors of metabolism and bacterial infections. Even pertussis is an issue, especially in areas of underimmunization.

**Reassuring frightened parents**

The episodes can be frightening to observers, with some concerned that the infant almost died. The clinician generally has to understand the event from the description after it happened and once the infant has returned to a normal, healthy-appearing state.

Brief unexplained events are common reasons for infant hospitalization, noted Dr. Tieder, a hospitalist. If emergency department personnel can't find a diagnosis or explanation, he said, often they call it ALTE and admit the patient overnight for observation.

"You can imagine as a parent being observed overnight and nothing happens - no new event. So what's the benefit of staying in the hospital? We can do tests but unfortunately they seldom help us find the cause, and they can be painful or inconvenient," he said. "Then imagine the parent being told after this experience: 'It looks like your child had an apparent life-threatening event, but I'm not worried as a physician.'"

Now clinicians can explain that a child had a brief unexplained event. They can be assured that a standard assessment was done and advised whether the child is at a lower or higher risk. If at a lower risk, Dr. Tieder said, "that really helps us tell parents, 'Not only is there low risk that it will recur, but there is a low risk of a serious underlying disease.'"

**Lower-risk infants with brief resolved unexplained events (BRUEs)**

Recommendations in the guideline apply to lower-risk patients defined as follows:

- Age: older than 60 days
- Gestational age: 32 weeks and older; postconceptional age: 45 weeks and older
News Articles, Administration/Practice Management, Fetus/Newborn Infant, AAP Clinical Report

- Occurrence of only one BRUE ever
- Duration of BRUE less than one minute
- No cardiopulmonary resuscitation required by trained provider
- No concerning historical features
- No concerning exam findings

Resources

- An algorithm on diagnosis, risk and management of BRUEs is included in the executive summary.