

Fainting Episodes in Children – Can They Be Related to Heart Disease?

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We often hear people making these remarks about a child who has had a fainting episode:

“The poor child was standing in the scorching sun for so long that she suddenly fainted.”

“He must have fainted because he often comes to school without eating breakfast.”

“The naughty child was reprimanded by the teacher and she immediately fainted.”



“Fainting is common in children, there is no need to see a doctor.”

On this Global Day of Parents, let us learn some facts and bust some myths about fainting episodes in children and what we should do as parents, teachers and caretakers to help our youngsters who faint.

What Is Fainting?

Fainting or passing out, medically known as syncope, is a sudden and temporary loss of consciousness with a quick recovery. It occurs when there is a decrease in the oxygen supply to the brain due to a sudden change in blood flow or a drop in blood pressure. Dizziness or light-headedness, termed pre-syncope, may be a precursor to a fainting episode in certain conditions.

It is a common occurrence in children, particularly in teenagers, and the majority of episodes are caused by non-fatal factors like some strong feelings, excessive sweating, dehydration, exhaustion and collection of blood in the lower limbs.

Can Fainting Be Life-Threatening?

Yes, fainting can at times be a warning sign of a life-threatening underlying medical condition. Certain heart diseases may manifest as fainting spells in otherwise healthy children.

Unfortunately, when the warning sign is not taken seriously, the child can become a victim of sudden cardiac death. Due to the misconception that no medical evaluation is warranted in children who faint, we often delay or miss diagnosing the masked cardiac condition and in rare instances even lose the child.

What Are the Heart Diseases Associated with Fainting?

Certain heart muscle disorders (also known as cardiomyopathies) and electrical abnormalities of the heart (also known as channelopathies) caused by abnormal genetic variations and some structural conditions of the heart may present as a wide spectrum of symptoms including fainting, abnormal heartbeat or palpitation and sudden cardiac death. The heartwarming news is that there are effective therapies for cardiac conditions that underlie fainting.

The following red flag signs, when associated with fainting, warrant an immediate medical evaluation:

- Fainting during exercise, playtime or sports activities.

- Fainting under emotional circumstances such as fear, anxiety or startling response with the ringing of a loud bell or wakeup alarm.
- Prior episode of fainting or dizziness.
- Prior history of cardiac conditions such as **congenital heart disease** or cardiac surgery.
- Family history of fainting and heart rhythm disease (or arrhythmias).

What Evaluations Should Be Done in a Child Who Faints?

The first aid for a child who has fainted is to raise and hold the lower limbs above ground level to allow more blood to flow from the legs to the brain. As a typical fainting episode lasts less than a minute, the child will come around quickly but will be unable to recollect what happened.

It is imperative to consult the child's pediatrician or any physician at the earliest for a physical examination, measurement of vitals like heart rate, blood pressure and temperature, a thorough medical and family history and some pertinent investigations. It is recommended that the person who witnessed the fainting episode (e.g., teacher, friend, teammate, etc.) accompany the child for the evaluation, as he/she will be able to throw some light on the incident during the history taking.

The following tests are often needed to identify underlying heart diseases, if any:

- 12-lead ECG (electrocardiogram)
- Echo (echocardiogram)
- TMT (treadmill stress test)
- Holter monitor (24-hour or long-term ECG monitoring)
- Cardiac imaging

Based on the findings from the above investigations, a genetic test may be needed to look for variations in the genetic coding that may explain the heart disease at hand.

Key Take-Home Messages

- Fainting in children may be due to various causes, but not all of them are benign.
- Fainting should always be medically evaluated by a doctor.
- Fainting may be a precursor of a fatal episode, particularly when associated with some red-flag signs.
- Cardiac causes of fainting can only be identified through a systematic evaluation.

There are effective therapies to prevent fainting and other symptoms in children with underlying cardiac conditions.



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