Signs and Symptoms of Shock in Children and Infants

The four basic types of shock include hypovolemic, distributive, cardiogenic and obstructive shock:

1. **Hypovolemic shock**: Generally results from diarrhea, vomiting, poor fluid intake, hemorrhage, heat stroke or burns. The leading cause of shock worldwide is hypovolemia—or loss of blood volume—due to diarrhea. Accordingly, hypovolemic shock is a major cause of infant mortality.

   **Clinical signs of hypovolemic shock include**: rapid breathing and or heart rate, abnormally low blood pressure, weak peripheral pulses, cool pale skin, increased urine output and changes in mental status.

2. **Distributive shock**: Blood volume is not adequately necessary for organs and tissues. Associated with sepsis, a severe allergic reaction and head or spinal injury.

   **Signs of distributive shock in children**: similar to hypovolemic shock.
   In a child with a higher cardiac output and low systemic vascular resistance (more specific to distributive shock), additional signs indicative of a "warm shock" may be seen, including low blood pressure (with a narrow pulse), bounding peripheral pulses, brisk capillary refill and warm, flushed extremities.

3. **Cardiogenic shock**: Myocardial dysfunction. The dysfunction may be caused by heart disease or an arrhythmia; however, congenital heart disease is the most common cause of cardiogenic shock among children.

   **Signs in children and infants may include**: those associated with hypovolemic shock, but additional signs will likely also be present specific to the cardiogenic effects. These signs include enlarged liver, increased respiratory effort, cyanosis, cardiac murmurs and gallop and precordial heave. In tertiary stages of emergency assessment, cardiomegaly (enlarged heart) may be seen on a chest x-ray, while cardiac hypertrophy (thickening of the heart muscle) may be indicated by an echocardiograph.

4. **Obstructive shock**: Physical obstructions to the blood flow. Specific congenital heart diseases are causes of obstructive shock that may be seen in neonates within the first few weeks of life. These conditions usually first present through cyanosis.

They key to effective management of a child with signs or symptoms of shock is immediate determination as to the cause and type of shock.
Initial Assessment: BLS, Signs of Shock, Disability, Exposure.

Secondary Pediatric Emergency Assessment:

SAMPLE

Signs and Symptoms

Allergies

Medications

Past medical history

Last meal

Events leading to injury or illness