



In [year], a [type of, e.g. VP (ventriculoperitoneal)] shunt was placed to address hydrocephalus (excess fluid in his brain). The shunt is on the back left side of [Child]'s skull, under the skin, with tubing that runs down his neck to the front along his chest wall and into his abdomen. The shunt should be checked if a blow to the head occurs; the shunt line should be checked for redness/swelling if any of the shunt failure warning signs (below) should occur. If the shunt system fails to operate correctly, becomes infected, or obstructed, Bennett's brain and cognitive faculties are at risk.

Symptoms (outlined below) should be taken seriously, especially if you notice two or more at the same time. Neurological status can deteriorate slowly (over a few months) or quite rapidly (a few hours or days). If symptoms of a possible shunt problem begin to show, it is imperative to let parents know. Headaches and vomiting (without fever or illness present) are the most common signs of acute shunt malfunction and would warrant getting [Child] to the Emergency Room at [preferred hospital] (after trying to contact parents).

High-risk (acute) symptoms of shunt malfunction/failure (contact parents first, then seek emergency medical attention):

- ** Headaches (usually frequent or persistent headaches with increased severity)
- ** Vomiting/nausea (without fever)
- Tenderness, swelling, or redness along the shunt valve or tubing, including the abdomen
- Lethargy (sudden loss of energy, complaining all the time of being tired, putting head down frequently, or having an extremely difficult time walking)
- Vision problems, including blurred or double vision, crossed or wandering eyes, or loss of upward gaze (sunsetting of the eyes); dizziness
- Confusion, loss of memory or the ability to reason, signs of dementia
- Impaired or slurred speech
- Gait difficulties (such as increased loss of balance or mobility, stumbling, or drifting to one side or the other while walking)
- Urinary incontinence
- Cardiac arrhythmia (abnormal heart rate)
- Seizures

Mild/progressive symptoms

(parents need to be notified):

- Loss of appetite
- Behavioral changes, irritability
- Attention problems
- Inability to process thoughts or perform routine tasks without getting disoriented
- Slowing or loss of development (skills or language)
- Reduced or impaired cognitive ability
- Balance or gait disturbance
- Other changes in personality or cognition, including memory loss
- Poor performance in school
- A persistent, low-grade fever
- Low-pressure systems may cause headaches and/or affect the shunt setting

SHUNT DETAILS:

[Shunt type], [Manufacturer], [contact info], [Device serial numbers],[most recent setting/date], [neurosurgeon contact info]