How Can Doctors Decide Which Child Might Need A CT Scan?

The Pediatric Emergency Care Applied Research Network ("PECARN") head injury study (for more information, see 1 below) evaluated over 42,000 children who were seen in emergency departments after head injuries. The goal of the study was to identify which children were at such a low risk of serious head injury that a computed tomography (or CT, also known as a CAT) scan could safely be avoided. Two groups of patients were studied: those under 2 years of age and those older than 2 years of age. Guidance (also called a "decision tool") in the care of this type of injury, was developed for each age group. Use of this decision tool identified over 50% of kids who were at a very low risk of brain injury and could safely be treated without CT imaging.

If your child has no risk factor than the chance of brain injury is close to zero. Even if there is one risk factor, the chance for brain injury is still less than less than 1 out of 100 children (in other words, less than 1%). If there is more than one risk factor (some risk factors are headache, vomiting, or a large bump on the head) (see 2-7 below), your doctor may be more likely to discuss care such as additional observation or a CT scan.

Other guidelines have not been as effective as the PECARN rule in determining who can safely be managed without CT and are used less routinely.

For more information, here is a list of some helpful medical studies:


