PATIENT-CENTERED OUTCOMES RESEARCH INSTITUTE
RESEARCH SUMMARY

PROJECT INFORMATION

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Using a Decision Aid in the Emergency Room to Help Parents of Children with Head Trauma Understand Options for Diagnosing Brain Injury

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Organization
Mayo Clinic

What was the research about?

When a child has head trauma, parents in the emergency room (ER) need to decide, with their doctor, how to check if the child has a traumatic brain injury (TBI). A TBI occurs when an injury causes bleeding in or around the brain. One way to check for a TBI is a computed tomography (CT) scan, which takes pictures of the brain. Another way is home monitoring, where parents wait and see if their child develops TBI symptoms.

For children at low risk of TBI, doctors recommend home monitoring. For children at high risk, doctors recommend a CT scan. However, for a child at medium risk, deciding which way to check for a TBI can be hard. A CT scan shows quickly if a child has a TBI, but it exposes the child to radiation, may require a long wait in the ER, and may cost more than home monitoring. Home monitoring takes longer to see if a child has a TBI, and parents may have to come back to the ER if their child's symptoms get worse.

The research team created a decision aid to help doctors talk with parents about whether their children should get CT scans or have home monitoring. A decision aid can help parents choose between two or more healthcare options based on what is most important to them. The team wanted to know if the decision aid helped parents learn and make decisions about care for their child.

What were the results?

Compared with parents whose doctors didn't use the decision aid, parents whose doctors did use it

- Knew more about ways of checking for a TBI and their children's risks
- Felt less conflict about the decision
- Trusted their doctors more
- Thought the information they discussed with doctors was clearer
- Were happier with their decisions
- Participated more in the decision-making process
- Went back to the hospital for tests less often

The team found no difference between parents in the two groups in

- How happy parents were with the information discussed in the ER
- The number of children who got CT scans
- The number of other visits to the hospital or ER

Only one child in the study had a TBI. The child was in the group whose doctor didn't use the decision aid.

Who was in the study?

The study included 172 doctors of 971 children. The children went to one of seven ERs in Massachusetts, Minnesota, or Ohio. The children had head trauma, and doctors thought they had a medium risk of TBI based on symptoms. About 74 percent of children were white, 12 percent were African American, and 16 percent were other races. The children's average age was seven.

What did the research team do?

Researchers, parents, doctors, a graphic designer, and a radiation specialist helped the research team create the decision aid. A parent whose child had been to the ER for head trauma previously was also part of the team. The decision aid was a paper handout that helped parents understand different types of brain injuries, know their child's risk for TBI, and know the benefits and risks of home monitoring and CT scans.

The research team assigned doctors by chance to one of two groups. Doctors in the first group used the decision aid during their ER visits with the parents and children; doctors in the second group did not. Parents in both groups took a survey about themselves right before their doctor visit. After the ER visit, parents took a survey about TBI, their experiences in the ER, and deciding on a treatment plan.

The research team looked at medical records to see how many children got CT scans during the ER visit. They also looked at how many times parents took their children to the hospital or ER after the first visit and how many of the children who did not get a CT scan came back to the ER with a TBI. The team videotaped the doctor visits to see how much parents participated in the decision-making process.

What were the limits of the study?

Doctors who used the decision aid worked in the same hospitals as doctors who didn't. Doctors in the two groups may have talked, and these conversations could have changed how doctors who didn't have the decision aid talked to parents.

Future research could look at how best to use the decision aid in the ER, where doctor visits are often short.

How can people use the results?

Doctors and parents can use the decision aid in the ER to help decide how to check for a TBI.

To learn more about this project, visit pcori.org/Hess030.