

# A Phase II Trial of Conformal Radiation Therapy for Pediatric Patients w/ Localized Ependymoma, Chemotherapy Prior to Second Surgery for Incompletely Resected Ependymoma and Observation for Completely Resected, Differentiated, Supratentorial Ependymoma (COG ACNS0121)

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Principal Investigator: Joseph Tokildson, MD

## **Synopsis:**

This is a research study designed to find effective treatments for subjects with a type of brain tumor called ependymoma.

Subjects will be evaluated after brain surgery to remove their brain tumor. The treatment on ACNS0121 will depend on the location of the tumor, how much of the tumor was removed by the surgery, and the way the tumor tissue looks under a microscope (histology). Some types of ependymoma tumor cells are very aggressive, which means that they grow rapidly and may be resistant to treatment. Other types of ependymoma tumor cells less grow more slowly and are more likely to be killed by treatment. Subjects with ependymoma in the upper part of the brain whose tumors are not aggressive and can be removed completely by surgery will be observed only in this study. If the tumor can be removed completely, but is of the aggressive type, subjects will receive radiation therapy after recovering from surgery. Subjects with nearly complete surgical removal of tumor will be given radiation therapy no matter what type of ependymoma they have; in some cases, when most of the tumor cannot be removed, subjects will receive some chemotherapy, and possibly a second surgery to remove more tumor before the radiation therapy is started.

The radiation therapy for this study will be done using a new method called 3-D conformal radiation therapy which includes techniques also known as intensity-modulated radiation therapy. Conformal therapy makes it possible to treat a much smaller area of normal brain cells around the tumor; current technology makes it possible to pinpoint the location of the tumor very precisely in three dimensions using information from specialized scans. However, it is not known if treating a smaller area around the tumor will increase the chance that the tumor will return, so this is considered experimental therapy. It is hoped that in treating a smaller area of normal brain tissue that there will be fewer problems after treatment with learning, thinking, hearing and hormone production.

The goals of this study are:

- To observe the progress of subjects after complete surgical removal of their ependymoma.
- To find out how many subjects can have complete surgical removal of their ependymoma after some chemotherapy.
- To look at the progress of subjects given conformal radiation therapy after surgery.
- To determine if conformal radiation therapy can be used instead of standard radiation therapy.
- To study the effect of conformal radiation therapy on learning, thinking, hearing, and the production of hormones.
- To see if more aggressive types of ependymoma are more likely to return after conformal radiation therapy.
- To study tumor tissue for possible genetic factors related to ependymoma.