

## Neuroblastoma - Childhood - Current Research [1]

This section has been reviewed and approved by the [Cancer.Net Editorial Board](#) [2], 04/2014

**ON THIS PAGE:** You will read about the scientific research being done now to learn more about this type of tumor and how to treat it. To see other pages, use the menu on the side of your screen.

Doctors are working to learn more about neuroblastoma, ways to prevent it, how to best treat it, and how to provide the best care to people diagnosed with this disease. The following areas of research may include new options for patients through [clinical trials](#) [3]. Always talk with your child's doctor about the diagnostic and treatment options best for your child.

Many of the items below are explained earlier in the [Treatment Options](#) [4] section. Studies are underway to improve their use and effectiveness.

**New drug combinations.** Clinical trials are underway to study the use of a drug called topotecan in combination with cyclophosphamide. Researchers hope that this drug combination will increase the effectiveness and decrease the side effects of initial treatment.

**Stem cell transplantation.** A clinical trial comparing two cycles of high-dose chemotherapy to one cycle of high-dose chemotherapy and stem cell transplantation has recently been completed. The results of this trial should be available within the next two years. Previous Children's Oncology Group studies used carboplatin, etoposide, and melphan as the conditioning regimen before a stem cell transplant. The Children's Oncology Group is now testing a new consolidation regimen consisting of busulfan and melphalan before a stem cell transplant. A European study compared outcome for children who received conditioning prior to stem cell transplant with carboplatin, etoposide, melphan vs busulfan and melphalan, and their study suggested that outcome was better for children treated with busulfan and melphalan.

**New radiation therapy techniques.** A radioactive MIBG delivers radiation therapy to neuroblastoma cells for recurrent or refractory disease, with or without stem cell transplantation. By using a high-energy form of radioactive iodine with the MIBG, enough radiation therapy is given off to kill the neuroblastoma cells. This treatment is currently available at about a dozen centers in the United States. Clinical trials involving radioactive MIBG in the setting of relapse and for newly diagnosed children with high-risk neuroblastoma are ongoing.

**Other treatment options.** Research on the use of small molecules to target the cell functions that

