

[Neuroblastoma - Childhood - Latest Research](#) [1]

This section has been reviewed and approved by the [Cancer.Net Editorial Board](#) [2], 04/2016

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.

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 chemotherapy combined with immunotherapy, tyrosine kinase inhibitors, or other biologic agents. Researchers hope that these drug combinations will increase the effectiveness and decrease the side effects of initial treatment.
- **Stem cell transplantation.** A Children's Oncology Group clinical trial comparing 2 cycles of high-dose chemotherapy to 1 cycle of high-dose chemotherapy and stem cell transplantation has recently been completed. Patients who received tandem cycles of high-dose therapy had improved event-free survival. Based on these results, the Children's Oncology Group now considers 2 cycles of high-dose therapy with stem cell transplant the new standard of care for high-risk neuroblastoma patients.

A European study compared outcome for children who received conditioning prior to a

stem cell transplant with carboplatin, etoposide, and melphan as compared to busulfan and melphalan. The study suggested that the outcome was better for children treated with busulfan and melphalan.

- **New radiation therapy techniques.** Treatment with a high-energy form of radioactive iodine with MIBG has been shown to have the tumor respond in about 30% of patients with recurrent or refractory neuroblastoma. This treatment is currently available at about a dozen cancer centers in the United States. Clinical trials involving radioactive MIBG alone or combined with radiation-sensitizers are ongoing through the NANT Consortium. The Children's Oncology Group has conducted a feasibility pilot study evaluating radioactive MIBG combined with busulfan/melphalan during consolidation therapy for newly diagnosed patients with a high-risk tumor. These results are currently being analyzed. A future Children's Oncology Group randomized Phase III study is being designed to test MIBG therapy in induction in newly diagnosed patients with a high-risk tumor.
- **Other treatment options.** Research on the use of small molecules to target the cell functions that are abnormal in neuroblastoma cells are ongoing. Crizotinib and other drugs that inhibit *ALK*, a tyrosine kinase that is mutated in a subset of neuroblastomas, as well as other tyrosine kinase inhibitors are being tested in early-phase clinical trials. Studies testing crizotinib in newly diagnosed patients with neuroblastoma with *ALK* mutations are planned in the Children's Oncology Group.
- **Palliative care.** Clinical trials are underway to find better ways of reducing symptoms and side effects of current neuroblastoma treatments to improve patients' comfort and quality of life.

Looking for More About the Latest Research?

If you would like additional information about the latest areas of research regarding neuroblastoma, explore these related items that take you outside of this guide:

- To find clinical trials specific to your child's diagnosis, talk with your child's doctor or [search online clinical trial databases now](#) [5].
- Review [research announced at recent scientific meetings](#) [6] or in [ASCO's peer-reviewed journals](#) [6].
- Visit the website of the [Conquer Cancer Foundation](#) [7] to find out how to help support

research for every cancer type. Please note this link takes you to a separate ASCO website.

The [next section in this guide is Coping with Treatment](#). [8] It offers some guidance in how to cope with the physical, emotional, and social changes that cancer and its treatment can bring. Or, use the menu to choose another section to continue reading this guide.

Links

[1] <http://www.cancer.net/es/node/19434>

[2] <http://www.cancer.net/es/node/51>

[3] <http://www.cancer.net/cancer-types/neuroblastoma-childhood/about-clinical-trials>

[4] <http://www.cancer.net/node/19430>

[5] <http://www.cancer.net/node/24878>

[6] http://www.cancer.net/research-and-advocacy/research-summaries?field_page_topic_tid_2=All&field_page_topi
[c_tid=267&date_filter%5Bvalue%5D%5Byear%5D=&=Apply](http://www.cancer.net/research-and-advocacy/research-summaries?field_page_topic_tid_2=All&field_page_topi)

[7] <https://www.conquercancerfoundation.org/research-results>

[8] <http://www.cancer.net/node/19432>