Rhabdomyosarcoma - Childhood - Latest Research [1]

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ON THIS PAGE: You will read about the scientific research being done now to learn more about rhabdomyosarcoma 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 rhabdomyosarcoma, 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.

Supportive care. Clinical trials are underway to find better ways of reducing symptoms and side effects of current rhabdomyosarcoma treatments in order to improve patients' comfort and quality of life. For children with rhabdomyosarcoma at a low risk of recurrence, research is focused on decreasing the side effects of treatment by decreasing the total dose of chemotherapy, limiting radiation therapy, and decreasing the total length of time in treatment.

Higher-risk rhabdomyosarcoma. For children with higher risk or later stage disease, research is aimed at improving treatment outcome. An intermediate-risk study, started in 2006 and recently completed (mid-2013), tested whether the combination of irinotecan/vincristine, added to VAC chemotherapy, improves outcome. This study also tested whether the early use of local radiation therapy could decrease local recurrences. Results are now being analyzed. A new European study is testing whether the addition of doxorubicin will improve survival.

A recently completed COG study for metastatic rhabdomyosarcoma tested whether irinotecan, vincristine, and chemotherapy given every two weeks improves outcome. The early results of this study show that this combination therapy has the same amount of side effects during

therapy as VAC used in prior studies for patients with high risk disease. The results also show that this therapy may improve survival for patients with embryonal disease. The longer term results are still being analyzed.

Targeted therapy. Targeted therapy is a treatment that targets the cancer's specific genes, proteins, or the tissue environment that contributes to cancer growth and survival. This type of treatment blocks the growth and spread of cancer cells while limiting damage to normal cells. Learn more about the basics of targeted treatments [4].

For patients with high-risk disease, current research is evaluating a type of targeted therapy that blocks the nutrients needed for a tumor to grow and spread. Monoclonal antibodies are a type of drug such as IMC-A12 (Cixutumumab) that may block tumor growth. Clinical trials are evaluating IMC-A12 with or without temozolamide (Temodar) in combination with the backbone chemotherapy recently studied for patients with high-risk disease. This ongoing study just completed enrollment.

A COG clinical trial recently evaluated two new drugs: bevacizumab (Avastin; a drug that blocks blood vessel growth) and temsirolimus (Torisel; a new anti-cancer drug) each in combination with the chemotherapy drugs vinorelbine (Navelbine) and cyclophosphamide (Cytoxan, Clafen, Neosar) for children with rhabdomyosarcoma that has recurred after initial therapy. This clinical trial is studying which drug, if either, is better in combination with vinorelbine and cyclophosphamide. This ongoing clinical trial just completed enrollment, and early results show a greater response rate from tumors in patients who received temsirolims in combination with vinorelbine and cyclophosphamide. Additional studies are being planned to determine if this early improved response rate with this combination could lead to greater survival rates for patients with rhabdomyosarcoma.

New approaches to treatment. Research to improve the understanding of rhabdomyosarcoma and how drugs affect this disease are also being performed. Investigations into the importance of gene translocations in rhabdomyosarcoma are underway. Identifying these translocations may be better than conventional methods of identification in distinguishing between the two major types of rhabdomyosarcoma. Research about new treatments, including the use of human rhabdomyosarcoma growing as a tumor xenograft (tissue taken from a healthy part of the body to replace unhealthy tissue in another part of the body), are ongoing.

Tissue collection. All children with rhabdomyosarcoma are encouraged to enroll on the COG study D9902. This study collects tumor and bone marrow samples that are not needed for the child's medical care, so that scientists can learn more about the disease.

Looking for More About Latest Research?

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

- To find clinical trials specific to your diagnosis, talk with your child's doctor or search online

clinical trial databases now [5].

- Learn more about current COG studies [6] for rhabdomyosarcoma.
- Visit ASCO's *CancerProgress.Net* [7]website to learn more about the historical pace of research for childhood (pediatric) cancers. Please note this link takes you to a separate ASCO website.

The next section addresses how to cope with the symptoms of the disease or the side effects of its treatment. Use the menu on the side of your screen to select Coping with Side Effects, or you can select another section, to continue reading this guide.

Links
[1] http://www.cancer.net/cancer-types/rhabdomyosarcoma-childhood/latest-research
[2] http://www.cancer.net/about-us
[3] http://www.cancer.net/node/19598
[4] http://www.cancer.net/node/24729
[5] http://www.cancer.net/node/24878
[6] http://www.curesearch.org/find-clinical-trials-/
[7] http://www.cancerprogress.net