

## Advance Hematology/Oncology Programs

### Neuroblastoma I-131 MIBG Therapy



Cook Children's offers a new era of treatment for neuroblastoma patients with the I-131 metaiodobenzylguanidine (MIBG). MIBG is a targeted therapy that delivers radiation directly to cancer cells.

MIBG therapy delivers more than medicine, it delivers hope to children with neuroblastoma. And because our MIBG facility is the only one in Texas and in the Southwest, we bring care closer to home.

Children receiving MIBG therapy as part of a clinical research trial will stay in a lead-lined room designed to minimize radiation exposure to the family and staff caring for the patient.

#### What is neuroblastoma?

Neuroblastoma is a rare type of cancer that usually occurs in infants and young children and occasionally before a child is born. It begins in the nerve tissue outside the brain where a solid tumor is formed by special nerve cells called neuroblasts. Children diagnosed with neuroblastoma are usually younger than 5 years old, and most new cases happen in children younger than 2. About 700 new cases of neuroblastoma are diagnosed each year in the United States.

If your child has been diagnosed with neuroblastoma, your doctor might order an MIBG scan. In this imaging test, MIBG (iodine-meta-iodobenzyl-guanidine, a type of radioactive material) is injected into the blood and attaches to neuroblastoma cells. This lets your doctor see if the neuroblastoma has spread to other parts of the body. MIBG is also used at higher doses to treat neuroblastoma, and can be used for scanning after treatment to see if any cancer cells remain

#### What is I-131 metaiodobenzylguanidine (MIBG)?

I-131 MIBG is a substance that's attached to radioactive iodine. When a child has the MIBG treatment, he or she gets the I-131 MIBG through an IV. The radioactive iodine is carried to the tumor cells by the MIBG and attaches to them. The radiation damages the cancer cells shrinking the tumor. also used at higher doses to treat neuroblastoma, and can be used for scanning after treatment to see if any cancer cells remain

#### What should you expect during MIBG treatment?(MIBG)?

**Turning a new page on advanced treatment. As the only MIBG therapy program in the Southwest, Cook Children's MIBG team continues to lead the way with the publishing of their recent article, "Administration of 131I-Metaiodobenzylguanidine Using the Peristaltic Infusion Pump Method," in the distinguished Journal of Nuclear Medicine Technology.**

MIBG is put into the body through the vein (in an IV). The IV infusion of MIBG takes about 90 minutes to two hours and is not painful. The child will stay in the medical center for about five to seven days. Because MIBG is radioactive, it's handled very carefully. It also makes your child radioactive, which means they can't come out of the lead-lined room until the radiation has gone down to safe levels. This may take 3 to 5 days and in rare cases longer.

The MIBG leaves the body mostly through urine that becomes radioactive. Your child will have a bladder catheter so the urine will be disposed in a safe way.

It's a challenge to keep the child busy during this time. The MIBG treatment doesn't make them feel sick, so they should be their normal energetic self. Physical activity will be limited until the bladder catheter is removed. To make it a little easier, the room is equipped with a TV, a DVD player for movies and a video game system. Child Life specialists are also available to help kids understand their treatment, as well as help them find ways to stay entertained during their stay. You'll be able to talk with your child through an intercom system.

#### A special room for MIBG patients and families

After the child gets the MIBG, he or she must stay isolated because of the level of radiation. The Cook Children's MIBG suite is a special lead-lined room for kids who will get the MIBG treatment. This room minimizes radiation exposure to people outside the room. Doctors and nurses wear special clothing to minimize their contamination should they have to enter the room to take care of the child. The MIBG suite has a room next door especially for the child's family. This gives parents a comfortable place to be near their child and allows them to keep a watchful eye over their child through a window. One caregiver wearing protective clothing can go into the room and visit their child for a limited time each day. As the radiation levels fall over time, the parent may be able to go in for longer periods.

#### Parent responsibilities

Parents and other family members are an important part of the team caring for the child. During your stay, your child will have minimal contact with staff while the radiation levels are high. Because the Cook Children's staff will be caring for many kids getting the MIBG treatment, they are exposed to higher levels of radiation. As a parent, you will only care for one patient getting the treatment so federal and state radiation safety regulations allow for parents to provide much of the care for their child. The Cook Children's medical staff will monitor your child at all times, give IV medications and monitor the exposure to radiation to assure the safety of you and your child. Our medical and radiation safety staff will also spend a lot of time with you to help you prepare for the MIBG therapy, teach you what to do during your stay and after you take your child home. As the radiation is eliminated from the body, parents and staff can begin to interact more with the child.

#### Going home

Your child will be discharged from isolation when the radioactivity falls to the levels specified in regulations. For about a week after discharge, there will be some restrictions and your child shouldn't go to school or daycare or share food with anyone. The Cook Children's staff will help you prepare for going home and tell you about the follow-up care your child will need.

Need help referring a patient?

Please call the International Patient Services department at +1-682-885-4685, send faxes to +1-682-885-2557, or email [international@cookchildrens.org](mailto:international@cookchildrens.org)