



Neurosciences Update

Fourth Quarter, 2007

A Note from the Chief Medical Officer (CMO)

Dear Colleagues,

I'd first like to thank you for the overwhelming response to the first issue of *Neurosciences Update*. We have received great feedback from many of our clinical and non-clinical colleagues. I'm glad to see that you find this content informative and useful. As the new year approaches, we look forward to continuing these updates about the growth and success of our program.



This has been a pivotal year for the Children's Healthcare of Atlanta Neurosciences program. We've begun to more successfully align across campuses, and we're continuing to employ the best technology to help us better diagnose and treat our patients. In this issue of *Neurosciences Update*, we will take a closer look at the new technologies we're implementing at Children's.

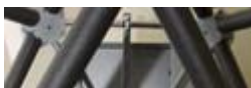
A major initiative for us next year will be bolstering our research programs. In addition to continuing our relationships with Emory University and Georgia Tech, we will focus on learning more from our outcomes and translating these findings into the care we provide our patients.

We appreciate your comments and welcome your suggestions for future issues. Please e-mail **Jill Morrisey**, Service Line Director Neurosciences, at jill.morrisey@choa.org with any questions or suggestions.

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Clinical Updates



Advances in neuroscience technology are playing a major role in the ability to collect diagnostic data and ultimately improve the treatment options offered to patients. This has been a

landmark year for the Children's Neurosciences program and its acquisition and use of leading-edge diagnostic technologies.

Patients are already experiencing the benefits of the intra-operative magnetic resonance imaging (iMRI) system, which became operational in November. Early results have shown the iMRI is helping to enable better outcomes by assisting surgeons in identifying additional tumor to remove. Most recently, Children's has begun using dense-array electroencephalography (EEG) technology, which provides dramatic views of complex brain activity, allowing the neurologist to examine the communication in brain activity over time, and identify more children who might benefit from surgical intervention for intractable epilepsy.

Additionally, the functional MRI (fMRI) is in place to help doctors non-invasively map a child's brain with regard to language, problem-solving skills and motor function. The Neurosciences program is also using diffusion tensor imaging (DTI), a new technology that is allowing doctors to predict the precise location of various fiber tracts in the brain that communicate with other regions of interest.

Each of these innovative technologies converge to afford our physicians essential data to deliver the highest quality care and best outcomes.

News and Notes

- The first surgery using the iMRI was successfully performed at Children's at Scottish Rite Nov. 2. After the initial tumor extraction, the surgery team discovered additional tumor tissue during the follow-up iMRI. It was promptly removed. The child returned home the following day, tumor-free, to continue his healing process. Since the initial surgery, several patients have benefited from this new technology.
- The Children's Neurosciences Web site has been updated and reflects a new program identity. The site includes current events, detailed information on specialties, programs, treatments and technology information. Visit the [new site](#), as more content is developed.
- The Children's Neurosciences program is recruiting several key medical leadership, research and clinical positions including research director, clinical neurologist, clinical epileptologist, clinical/research neurosurgeon and a senior research coordinator. Contact Jill Morrissey at jill.morrissey@choa.org or 404-785-7559 for more information.
- A WSB-TV special featuring Children's neurosurgery patient Madison Hill will air Tuesday, Dec. 11 at 8:30 p.m. Children's neurosurgeon Andrew Reisner, M.D., will discuss the methods he used to treat Madison's rare spinal condition, os odontoideum.

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