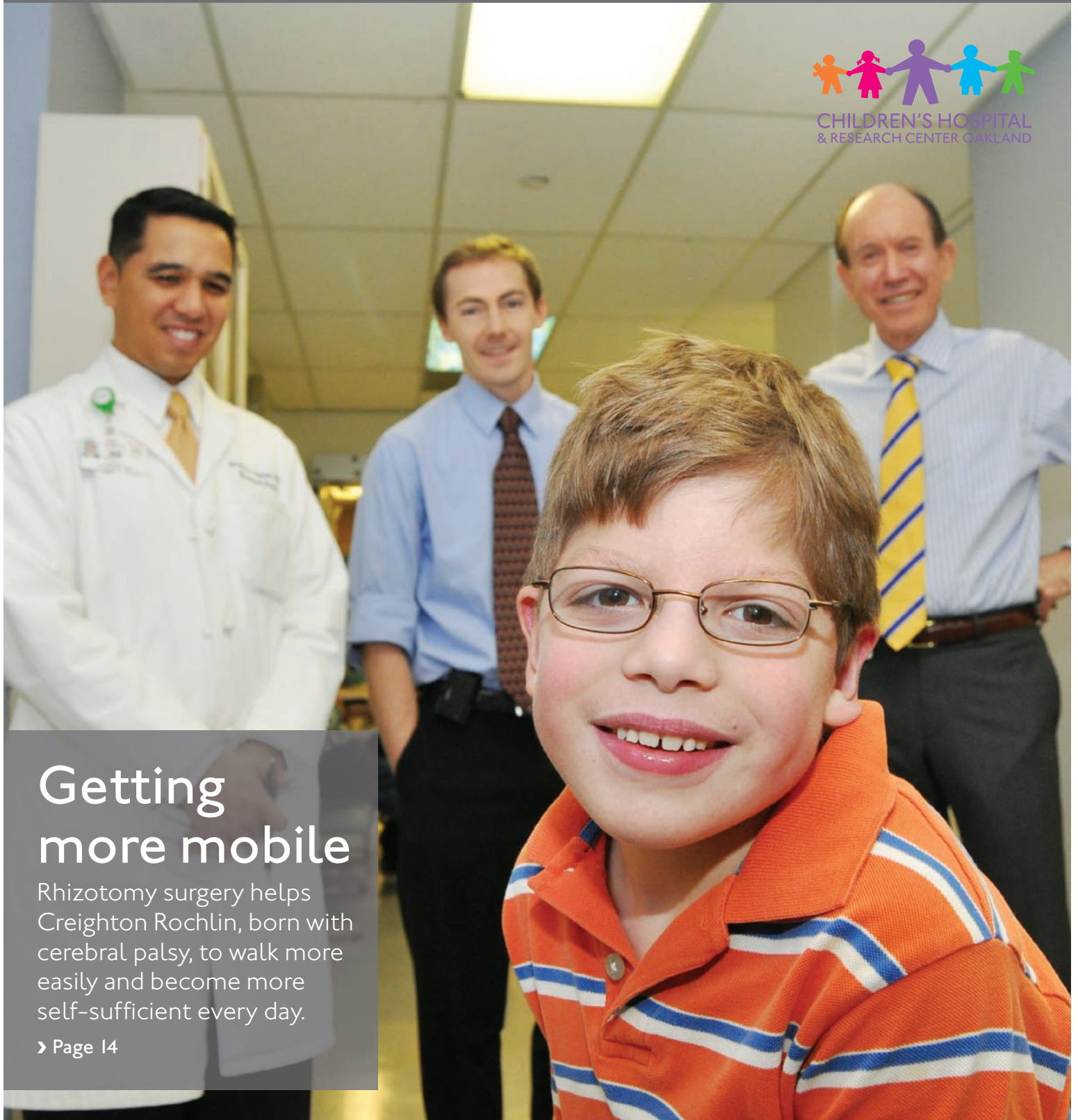


Children's Hospital & Research Center Oakland

# PEDSnews

NEWS FOR REFERRING PHYSICIANS

› February/March 2010



## Getting more mobile

Rhizotomy surgery helps Creighton Rochlin, born with cerebral palsy, to walk more easily and become more self-sufficient every day.

› Page 14

# CREIGHTON

## Getting more mobile

WRITTEN AND PHOTOGRAPHED BY TOM LEVY

Creighton Rochlin, a preemie born with cerebral palsy, lived six weeks on a ventilator before leaving the hospital. Now he's 9, and thanks to a rhizotomy surgery, he can walk more easily, with or without crutches, and becomes more self sufficient every day.

“Look mommy, look; my feet look just like yours now,” said Creighton Rochlin, 6. It was the first time since surgery to correct severe spasticity in his legs that Creighton had gone into the hospital bathroom to urinate standing up. His mother, Jennifer, was there to help.

“I was down on my knees in the bathroom, helping to hold him up and totally crying. It was the first time his feet had ever been flat on the floor. Unless his feet had been in a brace, he'd been on his toes his whole life.”

It was the latest milestone in the life of a boy born very prematurely—at 25 weeks gestation—who lost his twin sister Morgan shortly after birth. Creighton also overcame six weeks on a ventilator and repair of a prematurely fused skull suture and knotted

intestine, even before he underwent surgery to combat his spastic leg muscles—caused by cerebral palsy.

He didn't do it alone. Also in this young fighter's corner were an older sister, Emma, a grandmother, two very focused parent-advocates—Stephen and Jennifer—and a team of clinicians at Children's Hospital & Research Center Oakland.

“Now he can walk independently, with no canes,” said Jennifer. “And he's doing it on his own; he initiates it on his own. That's huge, and that's really because of the selective dorsal rhizotomy (SDR) surgery he got at Children's Hospital.”

The most serious symptom of Creighton's cerebral palsy is spastic diplegia. It caused some of his leg muscles to contract so tightly, their

opposing muscles couldn't activate at all. That turned Creighton into a tippy-toe scissors walker.

During a six-hour surgery three years ago, Children's neurosurgeon Peter Sun, MD, corrected much of that problem by selectively snipping dorsal nerve rootlets determined to be improperly balancing brain and muscle signals in his legs.

The goal of rhizotomy is to allow muscle pairs immobilized by spasm-causing brain signals to once again function as teams smoothly coordinating walking movements.

### **Hardest part: two-month rehab**

But the surgery was only the beginning. The hardest part for Creighton and his family lay ahead: eight weeks of inpatient rehabilitation at





Creighton Rochlin, at home in Sonoma with his family, sat at the kitchen table with his father, Stephen, and his sister, Emma.





Creighton and his mother at home in Sonoma.

Creighton worked very hard during eight weeks of inpatient rehabilitation therapy at Children's Hospital in the region's only inpatient pediatric rehabilitation unit.

Children's Hospital, featuring intense work with physical and occupational therapists, like Kathryn Rivera-Garcia, PT.

"After surgery, children like Creighton have to do multiple reps of strengthening exercises in what we hope they'll think of as a game," said Rivera-Garcia. "To see how far he's come and what he's able to do is really delightful."

Being able to walk with his feet flat on the ground, with or without crutches, doesn't mean Creighton will eventually be able to throw away his crutches or wheelchair. But it does mean he can become more stable and safer on his feet, whether walking unaided, transferring from chair to standing, or even when using walking aids.

Creighton now has more potential than ever to live life on his own terms, to be more independent and more mobile.

### **Journey began at age 1 year**

Creighton's journey through Children's began only a couple of months past his first birthday. That's when he was referred to Children's Craniofacial Center for metopic synostosis, a prematurely closed skull suture beneath his forehead. Craniofacial surgeon Bryant Toth, MD, and Dr. Sun led the team that repaired Creighton's skull during a five-and-a-half-hour surgery.

"That surgery went perfectly well," said Jennifer. "Sue Ditmyer, RN, PNP—a key member of the Neurosurgery department—came out herself to give us updates and told us what was really happening in there. It really affected us a lot; the attention she and the team gave to our family's point of view was better than we'd ever had."

A couple of years later, when Creighton was about 3½, the Rochlins

followed up on the Neurosurgery team's recommendation to connect with Children's spasticity clinic. This relationship is what ultimately led to their decision to go with SDR surgery.

### **Help from unique clinical team**

During their first visit to the spasticity clinic they met a clinical team unique in the western United States.

Neurosurgeon Dr. Sun, Orthopedics surgeon Scott Hoffinger, MD, and Rehabilitation Medicine physiatrist Jacob Neufeld, MD, MSPH, lead a multidisciplinary Children's Hospital team in consultation with the modern-day developer of selective rhizotomy surgery, Warwick Peacock, MD, former chief of Pediatric Neurosurgery at the University of California, Los Angeles Medical Center, and later, at the University of California, San Francisco.

Together, the team meets patients like Creighton, observes their movement and cognitive abilities, and discusses their case histories. Before making a recommendation, the team considers not only whether a rhizotomy may be appropriate, but whether the patient and family are up to the challenges of the eight-week inpatient rehabilitation that follows the surgery, not to mention the eight-month outpatient rehabilitation that follows release from the hospital.

“I highly recommend the rhizotomy surgery for anyone who’s a good candidate, but I would tell them it’s harder on the family than you realize,” said Jennifer. “We had a year to digest what SDR was and whether it was good decision for us. Taking into account how much we valued Dr. Sun’s skills and opinions, I was ready to follow him anywhere.”

The hard part of the eight weeks was how it stressed the Rochlin family. One parent was virtually full-time with Creighton, the other juggled work, home and their daughter Emma. The good part was seeing what Creighton was able to do as he progressed.

“It took a lot of physical therapy to get him on the path to functioning again, to walking,” said Stephen, Creighton’s father. “They even taught him how to dress himself. That was huge.”

### **Supported by all at Children’s**

But in spite of the hard work and family stresses, the Rochlins felt supported by everyone at Children’s, especially the physical and occupational therapists. After all, they spent three hours a day, six days a week doing therapy with Creighton.

Physical therapist Tuan Mai, DPT, ATC, CSCS, was an intern while working with Creighton. He was helping re-teach Creighton’s muscles how to work

correctly, strengthening those muscles as well as enhancing their flexibility.

Toe walkers are not only less stable, they use more energy just to get through the day. Learning to walk with feet flat on the floor after rhizotomy surgery also helps children learn how to get through a full day without ending up exhausted.

“It was a lot of fun working with Creighton,” said Mai. “When he visits now he loves showing off. ‘I can walk without my crutches,’ he shouts. But I still give him piggy-back rides, just like I used to do when he was my patient.”

After eight weeks of Creighton’s intense rehab therapy with Children’s clinicians like Mai and Rivera-Garcia, Creighton’s parents were “all yippy-skippy” and ready to go home.

Creighton thought he was too.

But when the time came to leave, he burst into tears. “I know I’ve missed all my friends from school, but now I’ve made all these friends at the hospital,” said Creighton. “And now I have to leave these friends too.”

Later, Creighton and his mother ran into one of those friends while on a Sonoma-area bike path near their home. It was Dr. Neufeld, out for a weekend bicycle ride.

“Hey Creighton, what’s up man,” said Dr. Neufeld. “Do you brush your teeth every night? Do you put your own socks on?”

“Yes I do,” replied Creighton.

Creighton and his sister, Emma, share a light-filled play area and bedroom in the family’s Sonoma-area home.







During Children's monthly spasticity clinic in December 2009, Warwick Peacock, MD, modern founder of selective dorsal rhizotomy surgery, helped Creighton demonstrate his ability to put his feet flat on the floor.

This ultimately will help Creighton become more mobile and self-sufficient, especially as he grows into adulthood.

# Peacock Center for Cerebral Palsy and Movement Disorders

The rhizotomy surgery and intensive inpatient rehabilitation Creighton Rochlin received are only two of the many services available at the Peacock Center for Cerebral Palsy and Movement Disorders.

This comprehensive, multidisciplinary program brings together Children's Hospital Oakland specialists in Neurosurgery, Orthopedics and Rehabilitation Medicine. The program also includes specialists in physical and occupational therapy, as well as the only pediatric inpatient rehabilitation unit in Northern California.

It's the only center west of Kansas City to offer such a wide range of services and expertise.

The center is named after Warwick Peacock, MD, the founder of modern selective rhizotomy surgery, who has been working with the center's clinical team for nine years. "My hope was there would be a center that would take on

cerebral palsy and movement disorders with the same enthusiasm that I had," said Dr. Peacock. "I've been to clinics all over the world. This one's got it all."

In 2001, Dr. Peacock agreed to become a consultant to Children's spasticity/movement disorders clinic.

There he operated with Children's Neurosurgery chief, Peter Sun, MD, during rhizotomy procedures.

But now, Dr. Peacock focuses on the patient evaluation process. "I just go to the clinic now because the most difficult part of treating children with cerebral palsy with surgery is selecting the right patient," said Dr. Peacock.

During monthly clinics, Dr. Peacock and the rest of the team observe patients, in the exam room and while patients demonstrate their walking abilities. Later, the group discusses each patient, making decisions by consensus about what recommendations to offer patient families.

## Clinic options for patients

- Selective dorsal rhizotomy
- Baclofen pump
- Deep brain stimulation
- Orthopedic surgical procedures
- Botox treatments for spasticity
- Other medical treatment
- Rehabilitation services including inpatient and outpatient physical and occupational therapy

## Principal clinicians

**Warwick Peacock, MD**; consultant

**Renee Graham, OT**; occupational therapy coordinator

**Robert Haining, MD**; associate director of Rehabilitation Medicine

**Scott Hoffinger, MD**; chief of Orthopedics and Sports Medicine

**Jacob Neufeld, MD, MSPH**; chief of Rehabilitation Medicine

**Kathryn Rivera-Garcia, PT**; physical therapy coordinator

**Peter Sun, MD**; chief of Neurosurgery



Warwick Peacock, MD

## Warwick Peacock, MD: A life devoted to movement

Inspired by his childhood fascination with biology and animal movement, Warwick Peacock, MD, knew from an early age that he wanted to become a physician. He grew up and completed medical training in South Africa, and later completed a Pediatric Neurosurgery Fellowship at the Hospital for Sick Children in Toronto.

He then returned to South Africa to practice. Inspired by pediatrician Leila Arens, MD, a cerebral palsy expert, Dr. Peacock began looking at how to improve existing surgical procedures for helping children with cerebral palsy.

"I saw that removing certain abnormalities from within their movement pattern allowed them to move much more freely and made life so much easier for them," said Dr. Peacock.

By 1986, Dr. Peacock had done more than 100 selective rhizotomies. In the process, he became internationally recognized for developing rhizotomy into a safe, effective surgical procedure for treating spasticity in children with cerebral palsy.

Dr. Peacock developed a method for carefully choosing and

monitoring which nerves to cut. This prevents the common complications of earlier, less careful surgical procedures.

In 1986, Dr. Peacock also moved to the United States, to head Pediatric Neurosurgery at the University of California, Los Angeles School of Medicine (UCLA). Since then, he's performed many more rhizotomies, all without any significant complications.

In 1997, he became chief of Pediatric Neurosurgery at the University of California, San Francisco School of Medicine (UCSF).

While he no longer does surgery, Dr. Peacock continues to teach. At UCLA he teaches anatomy to surgical residents and at UCSF he teaches Neurosurgery residents. "I don't have to operate any more; I can operate through the hands of the people that I'm teaching."

In 2001, Dr. Peacock became a consultant to Children's spasticity program.

"I would like my work with rhizotomy and movement disorders to be handed down," said Dr. Peacock. "It is something I believe in, something I think makes a big difference in many children's lives. It would be nice to see it go on and the one place where I can best share my experience is Oakland Children's."

For more information or to make a referral, call 510-428-3655.