This past year, our SMA research program has seen the kind of progress that makes physicians and scientists happy. Testing of the compound known as ISIS-SMNRx (396443) has proceeded well. The first study, known as CS1, was just beginning when we prepared last year’s newsletter, and it has now been completed.

A total of 28 children took part in CS1. Several dose levels of ISIS-SMNRx were tested, with each child receiving just a single dose. No problems were encountered with any of the doses. Six of the 10 children who received the highest dose showed improvement in motor function. Because of this positive outcome, we are now conducting a study known as CS10, giving children who participated in CS1 the opportunity to receive a single dose at that highest level.

This spring we shared our findings with colleagues at the American Academy of Neurology annual meeting, and I will present them at the Child Neurology Society meeting this fall.

As physicians and scientists, we know that this kind of slow but steady progress is how we find the best treatments for our patients with SMA. We are pleased to be one of the centers working together to achieve this goal.

**ISIS UPDATE**

After a successful Phase 1 study, Boston Children’s Hospital is now involved in a Phase 2 study of ISIS-SMNRx. This study tests the safety, tolerability, and pharmacokinetics of escalating doses of ISIS-SMNRx. Participants in this trial receive 2 or 3 doses of the drug over a period of around 8 months.

Similar to the Phase 1 study, Phase 2 looks at three different dose regimens of the drug, with 8-9 patients receiving each dose.

Phase 2 also includes some outcome measures to test the efficacy of ISIS SMNRx. These include physical therapy assessments where children will be observed walking, rolling, moving their arms, and performing other movements. There are also two surveys to measure how the drug has affected the participants’ quality of life. These measures will be performed at intervals throughout the trial, with the hope of capturing a drug-related change.

We began enrolling for this trial towards the end of 2012. Enrollment is now closed, and we have 6 participants at various stages of the study. In total, there are now 25 patients enrolled among 4 sites nationwide. The study is progressing smoothly and we are optimistically looking towards the remainder of the trial.

Isis Pharmaceuticals is now conducting a trial to assess the safety of ISIS-SMNRx in infants with SMA at various sites around the country. More information about this trial can be found at www.clinicaltrials.gov.

We here at Boston Children’s Hospital are proud to be among the sites involved in the ISIS trials. Thank you for your continued support!
Meet the SMA Team:

**Neurology:**
- Dr. Basil T. Darras
  - Director, NM Program, Principal Investigator
- Dr. Peter Kang
  - Attending Neurologist, EMG Specialist
- Dr. Wendy Liew
  - Neuromuscular Fellow
- Sara Campetti
  - Admin. Assistant

**Orthopaedics:**
- Beth Shriber
  - Clinical Coordinator
- Heather Szelag
  - Clinical Coordinator

**Neurology:**
- Dr. Peter Kang
  - Attending Neurologist, EMG Specialist
- Dr. Wendy Liew
  - Neuromuscular Fellow
- Sara Campetti
  - Admin. Assistant

**Orthopaedics:**
- Beth Shriber
  - Clinical Coordinator
- Heather Szelag
  - Clinical Coordinator

**Pulmonary:**
- Dr. Robert Graham
  - Intensivist / Home Care

**Physical Therapy:**
- Amy Pasternak
  - Clinical Evaluator
- Janet Quigley
  - Clinical Evaluator

**Nutrition:**
- Stacey Tarrant
  - Clinical Nutrition Specialist

While our Neuromuscular Clinic is multidisciplinary and includes many amazing people, we realized that SMA care extends into other disciplines. To alleviate confusion and enhance communication we have established an amazing team of people in various specialties that work closely with many families with SMA. This includes specialists in pulmonary, social work, complex care services, gastroenterology, anesthesiology, and surgery. These practitioners work together with us to provide the best care as possible to our patients and families. For purposes of saving space, full contact information is not available here. However, if you would like to get in touch with one of these specialists, or any other at Boston Children’s Hospital, about making an appointment, please contact one of our research coordinators.

Boston SMA Day

Thank you to everyone who made Boston SMA Day a success! This event took place on April 6 at Harvard Medical School. The aim of this conference was to bring researchers and families together to share the most up-to-date information on Spinal Muscular Atrophy.

Basic science and clinical researchers met in the morning to discuss their current work in SMA research. More than 40 researchers were in attendance, from both academia and the pharmaceutical industry.

This meeting included talks on a wide range of topics, including microRNAs, stem cells, and drug development.

Clinicians from our clinic spoke about caring for children with SMA during the family meeting. These talks included presentations on current SMA research, respiratory decision-making, orthopedic care, bullying, and much more.

Let’s not forget about the kids! Our royalty-themed kids’ entertainment was a hit, thanks to Let’s Gogh Art, Joe the Storyteller, and volunteers from the Department of Neurology. After the meetings, researchers and families came together for a combined lunch, where the two groups could interact and ask questions of each other.

Our sixth annual Boston SMA Day was a great success! We hope that those in attendance left with a great deal of new information. In response to your feedback, next year’s conference will be tailored to focus more on SMA research.
If you are interested in receiving more information about any of these studies, please contact:

Nicole Visyak
857-218-4677
Nicole.Visyak@childrens.harvard.edu

Heather Szelag
617-355-2752
Heather.Szelag@childrens.harvard.edu

Research Updates:

PNCR Natural History Study

We continue our successful collaboration with Columbia University and the Children’s Hospital of Philadelphia in the PNCR Network for Clinical Trials on SMA. The network as a whole has enrolled 216 subjects in this study. The longest follow-up has been close to 8 years.

As part of our Natural History Study, we are currently collecting data from physical therapy assessments, quality of life surveys, and medical history questionnaires. Participants in this study are followed for 3 years, having visits whenever they come to clinic. We currently have 39 patients participating in our study assessments and we strive to enroll more at every SMA Clinic.

One new addition to this study is the PED-CAT, a computer-adaptive test of disability in children. This is a computer questionnaire that asks about daily activities. While already used for patients with other illnesses, we hope to validate this survey in children with SMA.

We have been very successful in gathering important information through our natural history study. PNCR members are currently working on several manuscripts, which we hope to submit to scientific journals soon.

Biomaterials Study:

As part of the PNCR Network, we are also involved in a study which aims to create an SMA specimen bank. The primary purpose of this study is to collect and evaluate tissue, blood, urine, saliva, and cheek cell samples, which will allow researchers to better understand SMA.

We are currently collecting blood, urine, and saliva samples from children when they come in for SMA Clinic visits. Skin and muscle samples are also collected while patients undergo surgery for clinical reasons. In addition to collecting samples from children with SMA, we are also collecting samples from children with other neuromuscular disorders and healthy children. This will allow researchers to learn more about muscle weakness in patients with SMA, as compared to these two other groups.

Currently 52 children and adults have volunteered for this study here at Boston Children’s Hospital, providing us with around 100 samples. These samples are stored in a specimen repository at Columbia University.

NeuroNEXT

Children's Hospital Boston is proud to have been selected to be part of the National Network for Excellence in Neuroscience Clinical Trials (NeuroNEXT). This network, created by the US National Institute for Neurological Disorders and Stroke (NINDS), aims to facilitate the progress of new drugs from the laboratory to the clinic. Twenty-five clinical centers across the country are involved, creating a wide network of researchers with unique expertise and their patients.

The first NeuroNEXT study is an investigation of potential biomarkers in infants with SMA. This focuses on newly diagnosed infants less than 6-months old, a population of SMA patients that is often overlooked in research. Children are followed until they are 2 years old, receiving physical exams and tests of motor function every few months. This study also looks at healthy children as a comparison.

Boston Children’s Hospital currently has 3 infants with SMA and 1 healthy control enrolled in this study. The network as a whole seeks to enroll 27 participants in each group, and is well on its way to accomplishing this goal.
Upcoming Events:

3rd Annual Ketchum Classic
September 28, 2013
Longwood Cricket Club
Chestnut Hill, MA

This fun-filled MDA event will include tennis matches open to players and observers alike. After the games, there will be dinner, cocktails, and an auction to raise money. Please contact ketchumclassic@gmail.com for more information.

7th Annual Fall Classics FSMA Charity Golf Tournament
October 4, 2013
New England Country Club
Bellingham, MA

Come be a part of this event at the beautiful New England Country Club! Entry in the tournament includes lunch, dinner, and, of course, golf! Live & silent auctions and raffles will also help raise money for FSMA. Course prizes include a new car! Contact Heidi Johnson (heidijohnson@comcast.net) for more information.

2013 Halloween Hustle
October 27, 2013
Dean Park
Shrewsbury, MA

Join the Tri Sharks Tri Club for their Halloween runs! Runners can choose either a 5k or a fun run. This event will include giveaways and course prizes for the best costumed runners. More information is available at www.trisharks.net.

The New England area SMA Community is very fortunate to have such a visible and available Families of SMA Chapter. The SMA Team at Children’s Hospital Boston is in constant contact with the board of the New England Chapter, and we would like to reinforce to the families we have contact with what a valuable resource this group is. Not only does the New England chapter do amazing fundraising work, but they are also very passionate about supporting families like their own. If you would like to speak with a member of the New England chapter, please contact newengland@fmsa.org or simply mention your interest to one of our study coordinators.

Just For Kids

Word Fun...
Summer is here! Can you find these fun summer words?

Beach
Sunshine
Picnic
Ice cream
Splash
Hotdog
Shorts
Vacation
Lemonade
Heat
August
Hat
Baseball
Pool
Camp
Fireworks

A H N X K M B L J E H J Q E
G Z O C W O E L Z N L E C T
P G T T H D A A Y I O I A A
O D R B D V C B P H O C H T
Q A F M N C H E M S P A J V
V S T O L G A S A N M O Y E
Q M M E J X B A C U M D G R
V E S P L S H B H S C H S S
L A P C R A M N K R I G S K
E L C I N P U O W B H T U O
L G W A C K R O W E R I F S
W K K F T G H Z R O W J X N
O R O S O I D A H M O P L K
A U G U S O C S T M Z E T C
I U C O U Z N A M D A I J I