

INTERDISCIPLINARY RESEARCH TEAM

Director

Darryl De Vivo, MD

Co-Director

Petra Kaufmann, MD, MSc

Pediatric Pulmonologist

Andrei Constantinescu, MD, PhD

Neurologist

Romana Kulikova-Schupak, MD

Neuromuscular Fellow

Douglas Sproule, MD

Geneticist

Wendy Chung, MD, PhD

Genetic Counselor

Carrie Koval, MS

Neuropsychologist

Veronica Hinton, PhD

Rehabilitative Medicine

Nancy Strauss, MD

Physical Therapists

Jacqueline Montes, PT, MA

Sally Dunaway, DPT

Nutritionist

Dorcas Koenigsberger, CPNP

Research Nurse

Vanessa Battista, RN, MS, PNP,
CCRC

Research & Clinic Coordinator

Megan Montgomery

Research Assistant

Jonathan Marra

Administrative Manager

Ira Messer

Administrative Assistant

Rosemary Guzman

IN THIS ISSUE

From the Desk of Dr. Kaufmann 1

Tavern on the Green 2

SMA Day April 5, 2008 3

SMA in the Research 3

Laboratory

Current Clinical Trials In 4

SMA Day August 2, 2008 4

SMA Day on the Hill 5

Kids Page 5

Parent Educational 6

Support Group

Spinal Muscular Atrophy Clinical Research Center

SUMMER 2008
VOLUME 2, ISSUE 1

From the Desk of Dr. Kaufmann

Columbia University Medical Center:
Committed to SMA Clinical Trials

Dear Friends,

Spring and early summer were busy at the SMA Clinical Research Center. Our "Natural History Study", to which many of you generously contribute your time, now has more than 50 participants at Columbia University and over 100 in total (including those participating at Harvard University and the Childrens' Hospital in Philadelphia). This effort has already moved SMA research forward in many ways.

First, the data obtained is important for clinical trial planning in SMA. At a recent meeting in Boston, researchers from the US and Europe have agreed that information on outcome measures in SMA is much needed to accelerate clinical trials for SMA. Second, data from the "Natural History Study" has already been used as a basis for important clinical research initiatives such as the "Biomarkers for SMA – Bfor SMA" study sponsored by the SMA Foundation. The aim of this study is to identify disease markers in blood and urine samples that may be useful in future clinical trials. Third, the skin biopsy samples have been successfully used in screening new drugs

for SMA. We are now inviting parents to donate small skin samples as well, because cells from carriers are also needed for research studies. We thank all patients and families who altruistically contribute their time and effort to this research study.

The "Clinical Trial of Sodium Phenylbutyrate for SMA" is actively recruiting at our center. This is a National Institute of Health (NIH)-sponsored clinical trial to find the right dose for sodium phenylbutyrate and to obtain information on its potential efficacy.

We are also engaged in several other studies aimed at moving SMA research forward. Patients who are scheduled for spine surgery can choose to donate a tiny piece of muscle and skin for research. Also, we are recruiting patients who are willing to have an MRI scan measuring muscle mass. We hope that measuring muscle mass can eventually help us decide if a new medication has promise for SMA. We think that it may take months until a new medication actually makes someone move more. However, it is possible that we can measure a small increase in muscle mass be-

fore people improve clinically. This would be very helpful because it could potentially shorten the time needed to test new drugs.

Several of us from the SMA Clinical Research Center attended the FSMA Meeting in Boston in June. We presented our center's progress for discussion with other researchers and learned from the scientific sessions. Although the results presented for valproic acid and hydroxyurea were overall "negative", it is positive that there are actually trials for patients with SMA. If researchers develop more drugs to be tested and if patients continue to participate, we have good chances of finding an effective medication soon.

In June, the "Kiley and Dylan's Sweet Dream" organization, to benefit the SMA Clinical Research Center at Columbia University, hosted its 2nd annual fundraising event at Tavern on the Green in New York City to benefit the clinical care of children with SMA and their families. The event was very well attended and it was an inspiring evening. We truly appreciate the hard work of all the

From the Desk of Dr. Kaufmann:

(Continued from Page 1)

volunteers who contributed.

In April, we held our first "SMA Day" for families. Past educational seminars had taken place on Thursday evenings. Although the invited speakers were much appreciated, many of you told us that it was difficult to attend these weekday evening educational seminars due to work and childcare demands. From this valuable feedback we decided to try a different approach by holding a Saturday morning event in a fully accessible location on campus with convenient and free parking. We had presentations and time for questions with a focus on topics such as physical therapy, rehabilitation, aquatherapy, school advocacy, and clinical trials. In parallel, we provided childcare and entertainment next

door for children with SMA and their siblings.

Based on the positive feedback, we will hold a similar event on August 2nd 2008. This time the presentations will focus on research and will include investigators from Columbia University's Motor Neuron Center who work both in the laboratory and in the clinic. We will again offer a parallel program for children, including a magician. This day will also mark the beginning of August as "SMA Awareness Month" recently mandated in New York State, an exciting success for SMA. As you see, we are working hard to help people living with SMA and their families, but most importantly, to accelerate the discovery of an effective treatment for SMA. Much of this is made possible by a generous grant from the SMA

Foundation. This support has allowed us to recruit two additional team members. Jonathan Marra joins us as a research assistant. He recently graduated from college with a degree in Molecular Biology and Bioinformatics and is now working towards a Masters degree in Biotechnology here at Columbia. He will use his computer and other skills to help us move our research initiatives forward. Vanessa Battista, a pediatric nurse practitioner, will help us provide the best possible care for people with SMA and their families. Her focus will be on comprehensive, patient-centered care. We wish you and yours an enjoyable summer.

Best regards,
Petra Kaufmann

Kiley & Dylan's Sweet Dream

A Night at Tavern on the Green June 4, 2008



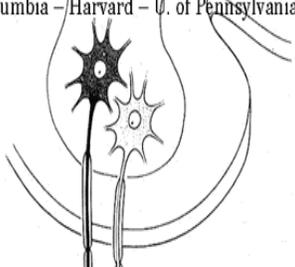
On behalf of the Columbia University SMA Clinical Research Center we would like to thank everyone who made Dylan and Kiley's 2nd Annual Sweet Dream a success. The event, held on June 4 at Tavern on the Green, featured a dinner

and a live auction. It was wonderful to see so many of families who support the SMA Research Center. Please look for upcoming Save the Date for the 3rd Annual Sweet Dream event, which will be held in June 2009.



PNCR - Network for SMA

North-Eastern Clinical Trials Consortium
Columbia - Harvard - U. of Pennsylvania



Columbia University's First Annual SMA DAY April 5, 2008

The First SMA Day took place on April 5, 2008 at Columbia University's Russ Berrie Medical Science building. The day began with a warm welcome and introduction by Dr. Darryl De Vivo. This was followed by an informative clinical trials update given by Dr. Petra Kaufmann. Families were given the opportunity to have all their questions and concerns answered in regard to research. Other topics discussed during the day were pulmonary and nutrition management, rehabilitation therapeutic approaches, benefits of aquatic therapy, and navigating the legal system and understanding your rights as parents.

In addition, childcare and activities were provided for children participating in the research study as well as their siblings. The children had a great time interacting with each other, playing games and engaging in craft activities. Parents were also able to interact with other families during lunch and were able to share their experiences and knowledge which were greatly appreciated by families whose children were newly diagnosed. Two vendors were on sight discussing and demonstrating the most recent advances in assistive technology as well as a vendor who had a booth displaying educational toys.

At the end of the day, families were given surveys to fill out and were asked to provide feedback regarding the day. The responses received were very positive and a second SMA Day has now been scheduled for **August 2, 2008**. Please make sure to save the date!

“SMA in the Research Laboratory”

Although much is known about SMA, researchers at Columbia University have been working hard to learn more about how SMA causes nerve damage. To address this issue, a researcher must often focus his/her interest at the cellular level. This means looking at individual nerves in a laboratory dish, under the microscope. It is only because families with SMA have generously donated tissue samples, and because other sources of nerves are available that can be used in this type of research, that Columbia University scientists are able to perform this type of work. With a life long dedication to the field of SMA research, one of our scientists, Dr. Umrao Monani, recently published a paper outlining several important discoveries related to nerve damage and SMA. Ultimately, accomplishments such as this will lead to enhanced treatment options in the field of SMA.



To outline two discoveries mentioned in this paper:

Reduced SMN protein impairs normal nerve maturation at the level of the synapse. *The synapse is the part of the nerve that sends a signal to the muscle to tell it to either contract or relax. If the nerve is unable to send a signal to the muscle then it can't respond and will remain inactive. Dr. Monani found that in the context of reduced SMA protein levels, nerves do not develop properly which in turn causes poor muscle response.*

Nerve damage initially starts at the level of the synapse. *Previously it was thought that SMA first caused damage to the nerve's cell body. However, Dr. Monani discovered that damage starts at the synapse, not the nerve's cell body. This discovery can be important finding treatment for early stages of SMA.*

For those of you interested in learning more about these exciting discoveries, a copy of the article of it can be found on our website: <http://www.columbiasma.org> Beware, like all scientific papers in basic research, this is a little difficult to understand at times, but well worth the effort! With great appreciation of Dr. Monani and his team of dedicated research scientists!

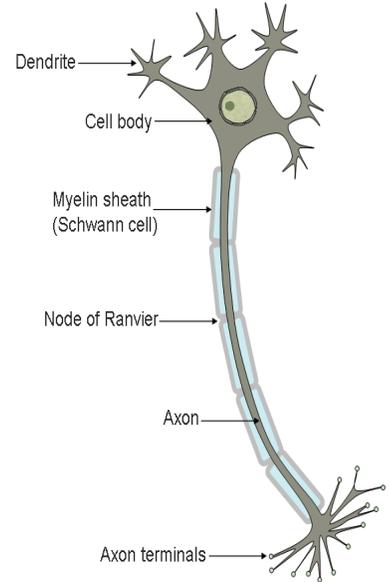
Current Clinical Trials

Currently Enrolling:

- Clinical Study of Spinal Muscular Atrophy
- A Phase I/IIa Clinical Trial of Sodium Phenylbutyrate in Pediatric Subjects with Spinal Muscular Atrophy (NPTUNE).
- Modulation of Survival Motor Neuron in Carriers of SMA
- Magnetic Resonance Imaging (MRI) to Assess Body Composition in SMA

Enrolling Fall 2008:

- Pilot Study of Biomarkers for Spinal Muscular Atrophy (BforSMA)
- Pilot Study of In Home Pulmonary and Motor Function Monitoring in Spinal Muscular Atrophy
- Pilot Study of a Gravity Neutral Orthosis (GNO) to Improve Arm Function in People with Neuromuscular Disease



Save the Date!

Columbia University's SMA Day

August is SMA Awareness Month!

**Let's kick off the month with a
SMA Day**

Saturday August 2, 2008

10am—2pm

Russ Berrie Medical Science Building, 1st Floor Conference
1150 St. Nicholas Avenue, @ 168th Street

Please join the staff of the SMA Research Center for an educational seminar on research.

Childcare and activities will be provided!

Free parking on site.

RSVP: Jackie Montes email jm598@columbia.edu or call 212-342-5767

“SMA Day on the Hill”

“SMA Day on the Hill” is a day in April each year when SMA families travel to Washington DC to visit their elected representatives' offices and lobby for increased funding for SMA research. Among more than 600 neurological disorders, SMA has been singled out by the National Institutes of Health as the disease closest to treatment based on scientists' advanced genetic understanding of the disease. This distinction inspires much hope in our community but only increased federal funding will support the research and collaboration necessary to realize upon this promising distinction. Outreach and education of elected officials by the SMA community is key to increasing the federal funds allocated to SMA.

At this time, lobbying by the SMA community is focusing on passage of the SMA Treatment Acceleration Act currently under consideration by Congress. If passed, this bill would provide approximately 25 million dollars for the following:

- Federal support for a national clinical trials network for SMA;
- Federal support to enhance the existing SMA patient registry and for expanded research on the epidemiology of SMA;
- Establish an SMA Coordinating Committee to include federal agencies, SMA researchers, and SMA families;
- Establish a trans-Institute research collaboration at NIH under the Director of NIH to ensure all relevant Institutes at NIH are contributing and collaborating on SMA research;
- Require the Secretary of the U.S. Department of Health and Human Services (HHS) to study and report to Congress on ways to improve existing incentives, as well as to recommend additional incentives, necessary to promote SMA drug development among private industry;
- Lastly, the bill provides for the Secretary of HHS to establish a program to provide information and education on SMA to health professionals and the general public

It is expected that the bill could be passed in 2009; therefore this year and next are crucial for family lobbying. If you would like visit your representatives or participate in letter-writing campaigns, emails or phone calls please contact Rebecca at rebaphish@gmail.com or 917-257-5913.

Kids Page - Jokes, Fun Facts, and a Word Find

Fun Riddles

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

1. What has a head, a tail, is brown and has no legs?
2. What is your name and how do you spell it?
3. What has to be broken before it can be used?
4. What gets wetter and wetter the more it dries?
5. You throw away the outside and cook the inside. Then you eat the outside and throw away the inside. What is it?
6. What can you catch but not throw?
7. What goes around the world but stays in a corner?
8. I have holes in my top and bottom, my left and right, and in the middle but I still hold water. What am I?

Can you find games in the puzzle above?

Did you Know?
 The ears of a cricket are located on the front legs, just below the knee.



Answers: 1. a penny 2. "It" 3. an egg 4. a towel 5. corn on the cob 6. a cold 7. a stamp 8. a sponge

The Pediatric MDA/SMA Neuromuscular Research Center invites you to please join us for the second meeting of the:

Parent Educational Support Group for Neuromuscular Diseases

Russ Berrie Medical Science Building,
3rd Floor Conference Room
1150 St. Nicholas Avenue and 168th Street

The group will provide education and support for families living with Neuromuscular Disease. Meetings will include educational lectures from speakers on a variety of topics and will allow individuals the opportunity to give and receive support.

Wednesday, August 27, 2008
6 pm- 7:30pm

Meetings will be for parents only. Please
do not bring children.

Please RSVP to Sophie Rivera at (212) 689-9040 or
Vanessa Battista at (212) 305-5388.



The next meeting will be on
Thursday, September 25, 2008

New Staff at the SMA Clinical Research Center

We are pleased to introduce a few new SMA team members.

Vanessa Battista, a pediatric nurse practitioner, will provide clinical care and coordinate research projects for our SMA and neuromuscular patients. She has been working for the neurology department for more than 5 years and is excited to take on her new role.

Sally Dunaway, a physical therapist and recent graduate of Columbia University's Program in Physical Therapy, will join our clinical and research team.

Jonathan Marra joins us as a research assistant and will support the team in all research activities. He is currently enrolled in the Biotechnology graduate program here at Columbia University.

Ira Messer, administrative manager, recently joined our team and will oversee the activities here at the center. He has many years experience managing academic departments here at the Mailman School of Public Health.

Jackie Montes, a physical therapist and research coordinator, joined us last November. She has many years of experience with neuromuscular disease and is currently pursuing a PhD in Motor Learning and Motor Control here at Columbia University.

Douglas Sproule, MD joins the SMA Research as a post-doctoral fellow. His research will focus on nutrition and body composition in patients with SMA.

SMA Clinical Research Center
Columbia University
180 Ft. Washington Avenue, 5th Floor
New York, NY 10032