

NUARS NEWSLETTER



Lupus Response to Stem Cell Transplant Therapy

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Highlights:

- New Therapy Treatments for Lupus patients
- Announcement of MCRC funding renewal
- Revealing of NMH Rheumatology national ranking
- Greetings to new Rheumatology arrivals
- *James Klinenberg Scholar* title awarded to a member of our Division
- Recent article features one of the division's Rheumatologists



Pictured on the left are Dr. Walter Barr, Rheumatology Clinical Practice Director and Janet Barber-Harris, Rheumatology Clinical Coordinator as they review the necessary procedures of stem cell transplant therapy

Lupus is a chronic, inflammatory, autoimmune disease that mainly affects women of child-bearing age. Symptoms range from unexplained fever, swollen joints and skin rashes to severe damage of the kidneys, lungs or central nervous system. Lupus is three times more common and oftentimes more severe in African Americans and Hispanics/Latinos. Studies show these groups also experience more complications from lupus. These include kidney failure for both and neurological problems for African Americans.

In 1997, Dr. Richard Burt, chief of the Division of Immunotherapy and Auto-immune Diseases at Northwestern, began a new study when he performed the country's first stem cell transplant to treat lupus. He enrolled the first 50 patients from 20 states, and the promising results were published in the February 1 issue of the *Journal of the American Medical Association*, 2006. The findings provided the justification to launch a randomized study that would compare autologous stem cell transplant with currently available alternative treatments.

The stem cell transplant process used in this study is similar to that done to treat some forms of cancer but is less intensive. The patients' own stem cells are harvested from their blood. These cells, which can become (cont'd p. 3)

NUARS NEWSFLASHES

Congratulations to **Hee-Kap Kang** for being named this year's *James Klinenberg Scholar* by the Arthritis National Research Foundation (ANRF). This honor recognizes HeeKap's work in the field of arthritis research. ANRF selected Hee-Kap for this prestigious award after reviewing his project proposal entitled "Mechanism of low dose tolerance with nucleosomal peptide in lupus."

Greetings to **Buddy Bates**, Dr. Tina Chang's new research study program coordinator. Buddy comes from Dallas, Texas, received his Masters of Science in Public Health degree from Tulane University, and enjoys volleyball and square dancing. He has even been known to charm snakes!

Welcome to **Jeff Kraynak**, Dr. Richard Pope's newest lab technician. Jeff left Cleveland, Ohio to live in Chicago and join our team. He attended John Carroll University and practices writing in his free time. Jeff also plays hockey and collects sports memorabilia.

Jing Song, Biostatistics Core Manager in the Division of Rheumatology, was recently featured in a Reuters article concerning arthritis and race. The article discusses how minorities are at a higher risk

for arthritis disability. The full text of the article can be accessed by visiting the following URL:

<http://uk.reuters.com/article/healthNews/idUKCOL06298120070810>

Congratulations to **Dr. Asish Ghosh, PhD** on his recent promotion to Research Associate Professor. Dr. Ghosh will soon celebrate his third anniversary with the Division of Rheumatology and currently serves as the laboratory director for Dr. John Varga.

The National Institutes of Health have appointed **Dr. Leena Sharma, MD** as a permanent member of the Neurological, Aging and Musculoskeletal Epidemiology Study Section. This group reviews scientific applications from researchers around the country and makes recommendations for funding future research grants.

Dr. Syamal Datta, MD was recently honored with an invitation to speak at the 13th International Congress of Immunology in Rio de Janeiro, Brazil. Dr. Datta's talk, entitled "Mechanism of autoantigen-specific treg introduction in Lupus by nucleosomal peptide therapy," highlighted many of the research developments in Dr. Datta's laboratory and was well received by members of the conference.



A BONE TO PICK: RICHARD POPE, M.D. NUARS DIRECTOR

Greetings from NUARS and the Division of Rheumatology!

I am excited to announce that the rankings of the Division of Rheumatology continue to improve. We have seen our standing in the rankings of *US News and World Report* steadily increase over the past few years. Back in 2002, we were ranked as the 35th top Rheumatology practice in the nation. In the following years, we improved from 26th in 2003 to 19th by 2006. The 2007 rankings were recently released and our position further improved to 15th nationwide. Northwestern is the top rated Rheumatology program in the State of Illinois

In addition to our improved rankings, we are excited to introduce two new faculty members to our NUARS team: Monique Hinchcliff and Christian Stehlik. Dr. Monique Hinchcliff, MD joined our faculty on July 1, 2007. Dr. Hinchcliff was previously a Rheumatology trainee here at Northwestern where she was mentored by Dr. John Varga. Dr. Hinchcliff plans to see patients with scleroderma and is developing a research program focusing on patients with scleroderma. Dr. Christian Stehlik, PhD, joined our faculty on September 1, 2007. Dr. Stehlik, a very productive scientist with three NIH-funded research grants, has been recruited from a previous position at the University of West Virginia. Both Drs. Hinchcliff and Stehlik will be featured in future editions of NUARS.

As always, our ability to improve in our national rankings and to recruit new, successful faculty members is due in large part to the support we receive from you, our NUARS friends. Thank you for your continued generosity. From everyone here at NUARS, we hope everyone enjoys these last days of Summer.

Sincerely,

Richard Pope

Lupus Response to Stem Cell Transplant Therapy (Cont'd)

different kinds of blood and immune system cells in the body, are then separated from the other blood cells. Next, in a process that usually requires a few weeks of hospitalization, the patients' immune system is virtually destroyed through high doses of chemotherapy. Then the cleansed stem cells are returned to the patient to repopulate the marrow and body in an effort to regenerate a healthier immune system. "The idea is that if you turn back the clock and let the immune system heal itself, the patient should have a chance of ending up without the disease," says Dr. Burt.

"Fortunately, the majority of patients with lupus can be successfully managed with our available medical therapies," says Walter G. Barr, MD, a NUARS Faculty Member and co-investigator with Dr. Burt. "However, for the very severely ill subset of lupus patients who have failed our first line conventional therapies, stem cell transplantation provides a promising new alternative."

Transplanting patients with blood stem cells that originate from their own bone marrow can induce the remission of life-threatening, treatment-resistant lupus. In the study that took place at Northwestern Memorial Hospital in Chicago and published in JAMA, researchers found that 50 percent of the 50 patients in the study had disease-free

survival at five years with an overall five-year survival rate of 84 percent.

However, this treatment is not without its risks. Some general risks of stem cell transplantation include infections after transplantation, bleeding when your platelets are low, inflammation of the bladder with bleeding, occlusion of the veins of the liver from blood clots that may form, and decreased lung function of the tiny sacs in the lungs collapse. There is always the risk of unknown and possibly life-threatening side effects and/or death occurring. If you have evidence of infection at mobilization the risk of infection and death may be increased. Patients are carefully screened for active infections prior to transplant.

There are many measures in place to prevent such risks, though. Antibiotics are provided to prevent infections. Additional platelets are given in order to decrease the risk of bleeding. To minimize the risk of collapsing lung sacs, we require a procedure where patients blow into a machine called an incentive spirometer several times daily. And, the chances of experiencing inflammation of the bladder with bleeding or veno-occlusive disease of the liver are not expected to be very common or severe.

"Fortunately, the majority of patients with lupus can be successfully managed with our available medical therapies."

Instead of continuing to suffer from the painful symptoms such rheumatic diseases inflict, patients are finding hope in this treatment and see the risk as something worth taking in order to appreciate life more fully. An article recently published in *Reader's Digest* featured a woman, Emily Woods, who underwent stem cell transplant therapy at Northwestern for her seemingly untreatable condition of scleroderma. After her recovery, Emily reflected, "Now I don't take anything for granted. It's a gift to be able to go anywhere I want, play with my daughter, see her looking angelic as she sleeps. I'm so grateful to have her in my life, to love and live for."

Patients with other difficult to treat autoimmune diseases have been treated at Northwestern, including some patients with rheumatoid arthritis, Behcet's disease, polymyositis and relapsing polychondritis. Future research at Northwestern is aimed at better defining the patients who will benefit from stem cell transplantation and making the procedure itself safer and more tolerable.

Written by Dr. Walter Barr, MD, Professor of Medicine

**Northwestern University
Arthritis Research Society**

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**Thank you for your
support!**

Your support of the Arthritis Research Society has allowed Northwestern to establish and advance its standing in the field of rheumatologic and autoimmune disease research. Because of the tremendous progress the Division has made, the Feinberg School of Medicine as a whole continues to benefit, ascending national rankings, gaining accolades, and securing vital research grants as a result.

While the Division of Rheumatology continues to rank among the nation's best, private donor support remains paramount to our continued success. For those lives affected by disease, both patients and their families, the importance of research to improve treatment options and advance progress toward cures cannot be overstated.

For further information about giving opportunities, please contact Marci Price at 312.503.0766 or marciprice@northwestern.edu

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MULTIDISCIPLINARY CLINICAL RESEARCH CENTER IN RHEUMATOLOGY UPDATE

We are pleased to announce that we recently received an additional five years of funding from the National Institutes of Health for our Multidisciplinary Clinical Research Center in Rheumatology (MCRC) through the Summer of 2012. This new funding will support four new exciting projects by Dr. Leena Sharma, Dr. Rosalind Ramsey-Goldman, Dr. Dorothy Dunlop, and an experimental study by Drs. Boris Pasche and John Varga.

Dr. Sharma's project

will focus on the role of hip muscles in the progression of knee osteoarthritis. Dr. Ramsey-Goldman's project, focused on lupus, will be a continuation of her highly successful SOLVABLE study. This study will employ "microarray," a technique that permits her to examine the expression of over 23,000 genes at one time. This study is aimed at defining the mechanisms that contribute to the cardiovascular and bone complications of lupus. Dr. Dunlop will look at physical activity in those with osteoarthritis and rheumatoid arthritis

of the knee. Patients will wear specially designed devices to measure their movements. And finally, Dr. Pasche and Dr. Varga's project will introduce the study of genetics to our MCRC projects for the first time. This study will focus on characterizing the mechanisms that contribute to developing scleroderma.

We look forward to the results of these new studies and their beneficial effects on patients suffering from the rheumatic diseases.