

U N I V E R S I T Y O F P I T T S B U R G H

FACETS

SCHOOL OF HEALTH AND REHABILITATION SCIENCES WINTER 2005



TeleReh@bilit@tion

Remote Control – RERC Takes Rehabilitation to Cyberspace

FACETS SCHOOL OF HEALTH AND REHABILITATION SCIENCES

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FROM THE DEAN

Dear Alumni and Friends of SHRS,

Two events that should be of abiding interest to you are featured in this issue of our magazine.

Perhaps many of you have already learned of the new Rehabilitation Engineering Research Center that was awarded to our School. This new program commenced operations on December 1, 2004 under the leadership of Dr. David Brienza and Dr. Michael McCue, director and co-director, respectively, of the Department of Rehabilitation Science and Technology.

The underlying research and development agenda for this Center is to create a model telerehabilitation system that can be implemented worldwide. The realization of the goals of this Center will result in new dimensions for rehabilitation and assistive technology. These accomplishments will enable experts from leading institutions from around the world to collaborate on research and development and, perhaps more important, to consult on clinical assessments and the formulation of therapeutic interventions. Research and development tasks include services for communication therapy, remote clinical assessments, and determinations of accessibility of home and work environments. The efforts of the Center will also be directed toward dialogue with organizations and government agencies to formulate tractable public policies to enable "virtual" practice across political boundaries. While it would seem obvious that such developments will provide access to services for remote and rural areas, it is also evident that greater utilization of expertise with greater efficiencies will be possible in metropolitan environments.



Cliff Brubaker

You will be hearing more about the activities and accomplishments from this center of excellence in the future.

I have commented on several occasions how successive classes have contributed to the strong and growing reputation of our School and its programs. One need only consider the recent rankings accorded our programs, the awards to students and faculty, and the very impressive and growing research enterprise of our School to experience a sense of pride in our collective accomplishments. I would ask you to view these accomplishments as a continuing legacy that has led to our evolution as one of the very best schools in the world. It seems appropriate to ask ourselves how we can help succeeding classes and generations of our School to continue this trend of excellence.

Those of you who have recently completed degrees or have borne the cost of education for children or spouses need no reminder of the high and escalating costs of a college education. For some time now, we have considered how we might establish a fund to assist students through the provision of scholarships. In consultation and in concert with our Alumni Society Board, we have committed to the establishment of the SHRS Alumni Scholarship Fund. It is our intent to launch this Fund on the occasion of a special SHRS Alumni Day in recognition of our 35th anniversary. We invite you to join this celebration and honor your distinguished colleagues who will be recognized. Please see the article on the SHRS Alumni Day on page 9 in this issue.

Please look for the invitation in your mail. I shall look forward to seeing you!

With kindest regards,

Cliff Brubaker

cliffb@pitt.edu

Giving



With the massive devastation from the tsunami in Asia, mud slides in California, hurricanes in Florida, and flooding right here in Pittsburgh, it's easy to see that we have very little control over Mother Nature. Fortunately, we can influence the recovery from such disasters by demonstrating our humanitarian spirit, our generosity, and our willingness to support those in need.

While it's noble to participate in popular fundraising campaigns during times of natural disaster, it's important to remember that many others with very real needs quietly seek support and assistance.

In order to address the compelling needs of our students, we've chosen the celebration of our 35th year as the perfect time to announce the establishment of the SHRS Alumni Scholarship Fund. In addition to providing a personally rewarding experience for you, your support of this Fund could make an immediate impact on a student who may be following in your professional footsteps.

Imagine the reward of knowing your gift is helping educate and train future therapists, technicians, and professionals. Imagine the reward of knowing that the student you support today could be involved in research that may have far-reaching implications for many in the very near future.

Students from all SHRS programs would be eligible to apply for an alumni scholarship. The size of each award, of course, would be based on the amount of money donated to the fund. Because our goal is to establish an endowed fund, it will exist in perpetuity, benefiting students well into the future.

A formal campaign for alumni scholarship support begins this spring. If you'd like to make a lead gift or would like additional information now, please contact me by telephone at 412-383-6548, by email at pkummick@shrs.pitt.edu, or by postal mail at SHRS, 4031 Forbes Tower, Pittsburgh, PA 15260.

Besides establishing an Alumni Scholarship Fund, we're making arrangements for a special SHRS Alumni Day in recognition of our 35th anniversary. We hope you'll join us and fellow alumni on Saturday, April 9, for tours of SHRS, reunions, an SHRS Alumni Reception, and a Distinguished Alumni Awards Ceremony.

SHRS Alumni Day will be a learning experience, a networking opportunity, and a social occasion ... but only if you're in attendance!

Be on the watch for your formal invitation, and don't miss this opportunity to reconnect with classmates, faculty, and staff.

We'd love to see you again!

Sincerely,

Patty Kummick

Director of Development



ACCESS

Dr. Kate Seelman

Through their research, grant programs, and leadership, the Centers for Disease Control and Prevention (CDC) and the National Institutes of Health (NIH) have shaped the nation's growing focus on nutrition and exercise. New funding streams from these agencies will serve to reinforce what the health care industry, the consumer marketplace and even corporate America have also recognized—that we, as a nation, will benefit economically and socially if we focus on prevention of primary disease and injury. But the broad concepts of “wellness,” “prevention,” and “healthy lifestyle” mean very different things to an obese child, a middle-aged heart patient, a weekend warrior, and a professional athlete. Interpreting these meanings and finding solutions is the unique domain of the Department of Sports Medicine and Nutrition. I've asked department chair Dr. Scott Lephart to give us an overview of how he is redefining and growing this department in light of our evolving understanding of what it means to live a healthy lifestyle.

In a recent conversation we had on this subject, Dr. Seelman pointed out that Sports Medicine and Nutrition is positioning itself to make a unique contribution to the mission of the School. While the rest of the School focuses on rehabilitation interventions and prevention of secondary conditions, Sports Medicine and Nutrition will focus more on primary prevention.

Many of today's societal health concerns—think heart disease, diabetes, obesity and its related issues, and even some cancers—are a function of two key elements: exercise and nutrition. Our department has an excellent track record in both of these areas. Now it's time to find ways to marry the two, both in terms of research and clinical practice.

Let me first take you briefly through our curriculum and degree programs for both Sports Medicine and Nutrition.

We have retained our Athletic Training program as an undergraduate professional degree. Students who enroll in the B.S. degree program in Rehab Science as juniors and who are admitted to the Athletic Training concentration will get their didactic and clinical education in two years and are then eligible to take the National Athletic Trainers' Association (NATA) certification exam.

Our masters' program in Sports Medicine is very competitive. We attract students, in part, because of our unique affiliation with UPMC Sports Complex, which gives us access to collegiate and professional athletes. Additionally, the program is very attractive because all of our master's students are reimbursed for their clinical

services. They enter the master's program as certified athletic trainers, and we provide them with graduate assistantships to deliver clinical services through the university's athletic department and the UPMC Center for Sports Medicine

Finally, our doctoral program in Sports Medicine is an extension of our research agenda at the Neuromuscular Research Laboratory at the UPMC Sports Complex. Our primary area of interest is injury prevention and management as it relates to muscle function and joint stability. This program draws not only athletic trainers but also physical therapists, exercise physiologists, biomechanics, and bioengineers—we even have a Doctor of Veterinary Medicine who recently graduated from Cornell University. He wants to get involved in equine sports medicine and will use our understanding of movement analysis and physiological measure to one day train and develop strategies to prevent injuries in racehorses.

The undergraduate program in Dietetics and Nutrition, on the other hand, is in transition. We have retained the didactic undergraduate program, but we are moving to a Coordinated Masters' in Dietetics (CMD) through which students will receive their clinical education during their graduate studies and be eligible to become Registered Dietitians upon completion of their CMD. This model is more consistent with the other professional certification programs within the School.

The next step for our departmental growth will be to merge our nutrition faculty and their research agenda with what we have done in Sports Medicine. Obviously, exercise intervention as a means to prevent chronic disease and exercise injury has another critical factor, and that is nutrition.

So we are very excited about our new master's level curriculum in Wellness and Human Performance. The School has provided us with the resources to enlarge our nutrition faculty, which will enable us to study issues central to the use of exercise and nutrition as modalities for healthy lifestyle, and for prevention and management of injury and disease. The student appeal of this program has been outstanding, and it will present us with some very exciting funding opportunities through the CDC, the NIH, and other sources.

Dr. Seelman is, of course, waiting for us to unveil our most exciting and unique funding opportunity to date—an opportunity that grew out of the groundbreaking work of our laboratory and our work with high-level athletes.

continued on page 14



The Silent Treatment

Conventional wisdom suggests that the best remedy for voice injury is rest. Order a patient with a vocal fold injury to remain quiet for 48 to 72 hours and almost without fail the patient will emerge from the imposed silence as good as new. The premise is simple: give the body time to heal, and it will. While the treatment is quite elementary, it has gone unchallenged for decades because it seems to work.

The methodology behind this universal treatment for most varieties of voice injury always fascinated Ryan Branski, a recently graduated doctoral student in the Department of Communication Science and Disorders. So when he began looking for research to support the behavioral treatment of people with voice injury, he expected to find volumes of research

studies singing the praises of the healing power of rest. But much to his surprise, he found none.

Branski has been studying the voice his entire post-secondary academic career. After graduating from the University of Florida in 1998 with undergraduate and master's degrees in communication sciences, Branski was invited to a one-year fellowship at the University of Pittsburgh Voice Center. He followed up his work at Pitt with a two-year stint at Brigham and Women's Hospital, a Harvard University Teaching Affiliate Hospital in Boston, where he honed his clinical knowledge and met his mentor, Dr. Kittie Verdolini, now an associate professor in the Department of Communication Science and Disorders. When Verdolini was offered a faculty position at SHRS in the fall of 2001, Branski decided to return to Pittsburgh to continue his research on the voice in force and pursue a doctoral degree in Communication Science and Disorders.

Branski discovered the lack of scientific support for the "rest leads to healing" treatment for voice injury while in

Boston and resolved to conduct his own research on the subject when he began his doctoral studies at Pitt. Once at SHRS, he immediately began conducting basic scientific research on how vocal folds respond to injury and begin to heal.

He explains, "The crux of my research focused on one question: how can we enhance vocal fold healing? I looked at pharmacological treatment and, of course, behavioral treatment, but I was coming up empty.

"Then I began to look at the way healing is facilitated in other disciplines. In physical therapy, continuous passive motion therapy—or the movement of joints without the use of muscle—has been used to reduce inflammation for years. Movement limits inflammatory response and changes the way cells make new tissue."



This was Branski's "Eureka!" moment. Rather than limit the voice from any use at all, he hypothesized, the vocal folds should, instead, be stimulated.

On a cellular level, Branski believes that faster healing and a better long-term outcome can be achieved with movement. Based on a National Institutes of Health dissertation grant, Branski subjects vocal fold fibroblasts—the cells responsible for rebuilding tissue after injury—to continuous, cyclic strain in the hopes that this will catalyze the healing process.

The cells are grown on collagen-coated flexor cell plates and placed in a machine that creates equal bi-axial mechanical stress in a vacuum. The vacuum turns on and off, creating conditions similar to those found in the vocal folds of a person with a voice injury.

Based on the gene expression within these cells, it appears that movement limits the inflammatory response and enhances healing. But Branski's research still has a long way to go.

"After completing my first round of research, I realize that I still have much to learn to mimic the in vivo condition in human cells. Creating environments similar to those found in the body is a delicate business. We've uncovered some very positive data that suggests a beneficial role for some type of mechanical stress in acute vocal fold injury in humans, but we're really just scratching at the surface."

In animal models, we were able to isolate very particular levels of mechanical stress to yield superior outcomes, but it was very different in humans, probably reflective of the different voice patterns of different species. However, that's part of research. You make hypotheses and then adapt as conditions change."

STUDENTS IN THE NEWS

Alyson D'Ambrosio, Bridget Mayger, Erin Switzer, and Lindsay Thelin, master's degree students in the Department of Occupational Therapy, participated in the Make-a-Wish Dance-a-thon at O'Block Junior High School of Plum Borough School District in November.

Dong Ran Ha successfully defended her doctoral dissertation and earned her PhD in Rehabilitation Science and Technology. Her dissertation was titled "Pediatric Wheelchair Transportation Safety: Manual Wheelchair Design Guidelines and Injury Risk of Six-Year-Old Children in a Frontal Motor Vehicle Impact."

Bridget Mayger, a master's degree student in the Department of Occupational Therapy, was the 2005 recipient of the Jednota Benevolent Foundation Inc. Scholarship.

Ian Rice, doctoral student in the Department of Rehabilitation Science and Technology, took top honors in two marathons this past fall. Ian competed in the Columbus and Detroit marathons in a span of two weeks and won the 2004 open quad division in both races. This followed on the heels of Ian's performance at the Paralympics in Athens, Greece, where Ian was the first American to finish, and he placed fourth in the 100-meter and sixth in the 200-meter races.



NOT Your Typical Internship

In theory, internships offer students a taste of what life is like in their chosen career by providing a hands-on, real-world experience. But in reality, for many interns, their only hands-on experience is with the office copier and fax machine, and making coffee is about as real-world as it gets.

But not for interns at the Human Engineering Research Laboratories (HERL). Last summer, the 13 students accepted for the internship worked on projects ranging from Carpal Tunnel Syndrome in wheelchair users to building more economically priced wheelchairs for India.

The internship program was launched 10 years ago by Dr. Rory A. Cooper, distinguished professor and chair, Department of Rehabilitation Science and Technology. When the current program director, Dr. Alicia Koontz, came on board in 2000, she built on the existing base to create what she describes as “a mutually advantageous research experience.”

She explains, “The main goal of the program is to introduce students to various careers in the field of rehabilitation science and technology, with particular focus on finding ways to improve the lives of people with disabilities.”

At the start of the roughly three-month session, each student is assigned a specific project as well as a faculty or staff mentor who will work with the student throughout the period. This past summer, projects included wheelchair testing in developing countries, improving data logging operating systems, service dog studies, and studies involving those with spinal cord injuries. At the end of their session, students are required to author a three-page abstract that must adhere to Rehabilitation Engineering Society of North America (RESNA) Conference standards. They then must present their findings to HERL faculty, staff, and students.

According to Koontz, the paper and the presentation are what distinguish the HERL program from traditional internships. “Many of the students have never had to write a scientific paper, let alone one that must adhere to such strict standards,” she explains. “They’ve never had to make a presentation to such a large group of professionals.” But while the challenge is daunting, the students have their mentors—and their fellow interns—helping them through every step.

One of its most unique aspects is that participation is not limited to University of Pittsburgh students. Past interns have been students at Carnegie Mellon University, Penn State, Rice University, and Princeton University, to name a few. They have hailed from as far away as Hungary,



Koontz with her internship students



the Netherlands, Japan, and India. The group is diverse, with women, minorities, and people with disabilities encouraged to apply.

This diversity has an added benefit, says Koontz. “We truly learn a lot from our students. We facilitate their education in areas where they may have never ventured before, but their various perspectives and ways of life teach us a lot as well. It wasn’t something I expected to get in return, but it has been extremely useful in our research.

“One of the best examples is a student who was originally from India,” she continues. “He had first hand knowledge of the kinds of materials used in the country, as well as an understanding of their manufacturing capabilities. He added a significant insight to a number of our projects.”

Koontz continues to fine-tune the program. In 2004, a lecture series was added that featured faculty from throughout the School. Topics range from careers in rehabilitation engineering to proper preparation of scientific papers and presentations. At the end of the session, students complete an exit survey and meet one-on-one for an exit interview. They are encouraged to discuss the program’s negatives as well as positives, and their feedback is taken into consideration in designing subsequent sessions.

Koontz is clearly pleased with the results. “Students come into the program and have never experienced a job before. It is amazing to watch them take ownership of their projects and accomplish such extraordinary things in such a short period of time. It is tremendous to see what they can do with a little imagination.”



ALUMNI NEWS

Barbara Amster, PhD, CCC/SLP (CSD '71) is the founding director of the undergraduate and graduate programs in Speech-Language-Hearing Science at La Salle University in Philadelphia.

Mimi Baker (PT '83) was chosen as one of the “Dozen Making a Difference” by the *Pittsburgh Post-Gazette* in December. Baker was recognized for her contribution to the community and her work with children at The Children’s Institute.

Joanne Heidkamp, BS (CDN '83) received the Ford Foundation “Leadership for a Changing World” Award for her work as the program director of the Vermont Campaign to End Childhood Hunger. In 2004, Heidkamp lobbied for and successfully brought a new and long-neglected law to Vermont that provides 29 new schools and 11,000 students with breakfast programs and morning meals.

Yolanta Steliga-Schoeller, RHIA, CTR (HIM '92) was recently elected as president of the Pennsylvania Association of Cancer Registrars for the 2005-2006 year.



SHRS ALUMNI DAY MARK YOUR CALENDAR...

SATURDAY, APRIL 9, 2005

1:00 – 4:30p.m.

Tours of SHRS

Forbes Tower
3600 Forbes at Atwood, Oakland

Join us for school-wide tours offered on the hour then see specific department presentations, displays and demonstrations. A shuttle to the Center for Sports Medicine is also available. See our Web site, www.shrs.pitt.edu, for more details. Light refreshments will be served.

4:00 – 4:30 p.m.

D.T. Watson Alumni Reunion

Forbes Tower Student Lounge (Fourth Floor)
3600 Forbes at Atwood, Oakland

Reminisce with fellow classmates and faculty from D.T. Watson as you recall experiences from days gone by.

5:00 – 8:30 p.m.

SHRS Alumni Reception and Distinguished Alumni Awards Ceremony

Featuring John Siciliano, Keynote Speaker

Connolly Ballroom, Alumni Hall
4227 Fifth Avenue, Oakland

In recognition of SHRS' 35th year, join fellow alumni, faculty, staff and friends of SHRS as we mix and mingle and congratulate the 2005 Distinguished Alumni Award recipients and the Dean's Choice and Philanthropist Award winners. Hear remarks from John Siciliano, athlete, actor, and motivational speaker; place your bids for Silent Auction items, and enjoy an array of delicious hors d'oeuvres and a wine bar amidst the elegance that is the Connolly Ballroom.

The following hotels are offering discounted rates on a block of rooms when you mention that you're an SHRS alumna/alumnus. Rooms and rates are guaranteed until March 19, 2005.

Holiday Inn Select – University Center

100 Lytton Avenue
Pittsburgh, PA 15213
412-682-6200

\$105/night – Single or Double Room
Parking: no charge
Shuttle: three-mile radius of hotel

Wyndham Garden Hotel – University Place

3454 Forbes Avenue
Pittsburgh, PA 15213
412-683-2040 or 1-877-662-6242

\$105/night – Standard Deluxe
Overnight Parking: \$10
Shuttle: three-mile radius of hotel

Invitations are in the mail. See www.shrs.pitt.edu for more information.

**Join Us As
The School Of Health
And Rehabilitation Sciences
Celebrates Its
35th Year**



SHRS ALUMNI DAY... IT'S ALL ABOUT YOU!



Helping the Child with SLI

Laurence B. Leonard
(CSD '73)

As they move through the twos and threes, most children develop a remarkable number of ways to tell grown-ups what they need. The way children use speech and language is also a key early diagnostic tool that parents, teachers, doctors, and therapists use to “red flag” possible disabilities or disorders.

But how does a concerned parent distinguish between a “late talker” who will go on to develop normal language abilities, and a child with a common yet commonly misunderstood disorder like Specific Language Impairment (SLI)?

Leading the way in discovering the keys to diagnosing SLI is Laurence B. Leonard, who earned his PhD from the University of Pittsburgh in 1973, and is the Rachel E. Stark Distinguished Professor of Speech-Language Pathology in the Department of Audiology and Speech Sciences at Purdue University.

“The primary indication of SLI is slow speech development and poor spoken language, but these may be indications of any number of disorders, or the child might just be a late bloomer,” says Leonard. Compounding the difficulty of diagnosing SLI, children with the disorder have non-verbal intelligence scores in the normal range, have normal hearing, and do not show obvious signs of neurological problems, brain damage or seizures.

SLI is not a speech disorder, like stuttering or mispronouncing words, but rather a language disorder affecting both expressive and receptive skills—how children use and understand words in sentences. Poor comprehension skills and a lack of gesturing or other symbolic communication are strong prognosticators of SLI.

Leonard’s research is homing in on the language symptoms that will identify kids with SLI earlier and more accurately, and identifying the specific areas of language that clinicians should focus their attention on in order to provide the best therapeutic intervention.

“If we can help parents, educators and clinicians to properly diagnose SLI, we can save some families the expense, time and worry of needless intervention, and we can make sure that appropriate intervention begins at the earliest possible age in the kids who need it,” notes Leonard. “I hope that the work coming out of my lab is giving clinicians greater confidence in their diagnoses and treatment of kids with SLI.”

Leonard expresses his confidence in the University of Pittsburgh and its clinicians and researchers through his ongoing support of the Department of Communication Science and Disorders. “It’s always been a strong program—one that continues to make important contributions to the field,” he says.



DEPARTMENT NEWS

The **Department of Sports Medicine and Nutrition’s Athletic Training Education Program** was approved for re-accreditation by CAAHEP. The program was granted a seven-year accreditation, the maximum awarded.

Department of Rehabilitation Science and Technology faculty and **Human Engineering Research Laboratory (HERL)** staff presented “State of the Science Workshop: Wheelchair Research and Clinical Practice Featuring Wheelchair Skills Training” at Walter Reed Army Medical Center in January. The workshop provided overviews of current research findings important for the clinical practice of wheelchair service delivery.

The **Department of Rehabilitation Science and Technology** recognized the following faculty members: **Alicia Koontz, PhD**, 2004 Distinguished Teaching Award; **Christine Heiner**, 2004 Outstanding Staff Award for HERL, and **Louise Tkach**, 2004 Outstanding Staff Award for the Department.

The Artificial Limb Manufacturing Company (ALIMCO) presented the Restoration of Dignity of Man Award to **Dr. Rory Cooper**, professor and chair, Human Engineering Research Laboratory.

Communication Science and Disorders student members of the National Association of Future Doctors of Audiology quickly mobilized a fundraising drive and provided financial assistance for SHRS alumna Carol Black (CSD '73 and '76) when her audiology office was destroyed in a flash flood. Carol was “overwhelmed by the kindness and support.”

The **Department of Rehabilitation Science and Technology** was involved with the Tech-Link teams of Pittsburgh during the sixth annual First LEGO® League robotics competition in December. The team is a combination of children with and without disabilities who use robotically programmed sets of LEGO® toys to perform various tasks. The Tech-Link teams won first and second place in the research category and second place in programming.

Department of Sports Medicine and Nutrition announced the 2004 recipient of the Tim Kerin Memorial Scholarship. **Erica Walsh**, a senior in the Athletic Training Education Program, was selected for her academic performance, commitment to athletic training and future aspirations to benefit the National Athletic Trainers Association. The scholarship was established in memory of Tim Kerin, the college’s head athletic trainer from 1973 to 1976.

CALENDAR of Events

March

March 11 – 12
Pitt/Marquette Challenge Course

“Teaching Grade 5 Mobilizations: An Evidence-Based Approach,” a clinical instructor and faculty workshop
Presented by Ron Schenk, PT, PhD, OCS, FAAOMPT

March 19
SHRS Spring Open House
for prospective students and their families
Forbes Tower

April

April 9
Pitt/Marquette Challenge Course
“Motor Skill, Mobility and Aging”
presented by Jessie VanSwearingen, PT, PhD, and Jennifer Brach, PT, PhD, GCS
4060 Forbes Tower

SHRS Alumni Day
School tours, reunions, reception, and awards ceremony

May

May 13 – 14
Department of Occupational Therapy Continuing Education Course

“Improving Upper Extremity Motor Recovery Following Stroke: A Novel Approach to Stroke Treatment Using the SaeboFlex Arm Training Program,” Northern Speech Services, Inc./Northern Rehabilitation Services (NSS-NRS), in collaboration with the Department of Occupational Therapy.
presented by Henry Hoffman, MS, OTR/L and John Farrell, OTR/L
5068 Forbes Tower

June

June 17 – 18
Department of Communication Science and Disorders

“Teaching Audiology: The Art and Science of Teaching Amplification” A core of nationally recognized educators will provide presentations on teaching strategies and research on teaching efficacy. Attendees are invited to present posters, and proceedings will be made available after the conference.
Catherine Palmer, PhD

June 24 – 26
The 28th International Conference for the Rehabilitation Engineering and Assistive Technology Society of North America (RESNA)
Atlanta, Georgia



Faculty and Staff Update

Department of Occupational Therapy faculty members **Dr. Nancy A. Baker**, assistant professor, **Pamela E. Toto**, clinical instructor, **Denise Chisholm**, assistant professor, **Mary Lou Leibold**, assistant professor, along with doctoral candidates **Hazel Breland** and **Ketki Desai** and 30 first-year master's degree students, participated in the American Occupational Therapy Association's Backpack Awareness Day in September. The groups visited three intermediate schools in the Woodland Hills School District and instructed more than 700 fourth and fifth graders about backpack safety.

Denise Chisholm, assistant professor, Department of Occupational Therapy, and **Mary Lou Leibold**, assistant professor, Department of Occupational Therapy, presented at the 2004 Pennsylvania Occupational Therapy Association Conference held in Harrisburg, Pa.

Dr. Rory Cooper, professor and chair, Department of Rehabilitation Science and Technology, presented a grand rounds lecture at Walter Reed Army Medical Center, Washington, DC, on Veterans' Day. He received a certificate of appreciation from the Department of the Army for his outstanding contribution to Walter Reed's Physical Medicine and Rehabilitation Service and Amputee Program. Cooper was also recently named an adjunct professor at Xi'an Jiaotong University in China.

Dr. John Durrant, professor, Department of Communication Science and Disorders, was elected to the Scientific Committee of *International Society of Audiology* and continues his role as an associate editor of the *International Journal of Audiology*. He also co-chaired and contributed to a telecast, the second International Conference on Telemedicine and Multimedia Communication, in Kajetany, Poland, in October.

One of his presentations received "Best Presentation" honors, and he was invited to participate in the society's next congress.

Dr. Shirley Fitzgerald, assistant professor, Department of Rehabilitation Science and Technology, was featured in *The Modesto Bee* in January for her discussion on training service dogs.

Department of Occupational Therapy faculty members **Dr. Margo B. Holm**, professor, and **Denise Chisholm**, assistant professor, and doctoral candidate **Ketki Desai** presented a two-day training workshop entitled "Performance Assessment of Self-Care Skills (PASS)" at The Institute of Living in Hartford, Conn in October.

Dr. Margo B. Holm, professor, Department of Occupational Therapy, presented a three-day workshop on "Activities of Daily Living and Late-Life Depression: An Evidence-Based Approach" in Taipei, Taiwan, in November. Holm also presented "Occupational Therapy Research at the University of Pittsburgh: Generating Evidence Collaboratively" to the allied health graduate faculty and students of National Cheng Kung University in Tainan, Taiwan, and at National Taiwan University in Taipei, Taiwan.

Lisa McDermott, clinical instructor, Department of Sports Medicine and Nutrition, successfully completed the recertification examination for diabetes educators. She also earned the certification of Food Safety Manager granted by the National Registry of Food Safety Professionals after the successful completion of her examination.

Dr. Malcolm McNeil, professor and chair, Department of Communication Science and Disorders, received the Honors of the

Association from the American Speech-Language-Hearing Association at its national convention in November.

Dr. Thomas Platt, assistant professor and associate program director, Emergency Medicine Program, received the Ray Fowler 2004 BTLIS Instructor of the Year award for outstanding leadership in prehospital trauma training from Basic Trauma Life Support International. He also received the Prehospital Care Research Forum Best Poster Presentation award at the EMS Today Conference and Exhibition.

Dr. Kate Seelman, professor and associate dean for disability programs, Department of Rehabilitation Science and Technology, was appointed to the Pennsylvania Rehabilitation Advisory Council by Governor Ed Rendell. The Council is a statewide citizens group created to advise the Pennsylvania Office of Vocational Rehabilitation on meeting the needs of people with disabilities.

Dr. Susan Shaiman, assistant professor, Department of Communication Science and Disorders, was awarded honorary membership in the Golden Key International Honor Society. She presented the keynote address at the induction ceremony in November.

Dr. Linda van Roosmalen, assistant professor, Department of Rehabilitation Science and Technology, received a Small Business Technology Transfer grant from the Department of Health and Human Services at the National Institutes of Health. She will work to develop an "energy-absorbing, transit-safe wheelchair caster" with Froglegs, Inc., a manufacturer of wheelchair casters.

Dr. J. Scott Yaruss, associate professor, Department of Communication Science and Disorders, recently co-authored a book titled *The Source for Stuttering: Ages 7-18*. The book provides information for clinicians who treat stuttering. Yaruss also co-authored a manual for the National Stuttering Association addressing bullying and teasing in children who stutter.



Thornburgh Family Lecture Series Features Peter Blanck, JD, PhD

The first presentation of the Thornburgh Family Lecture Series on Disability Law and Policy took place on Thursday, October 14, 2004. This free, open-to-the-public event drew a large and diverse audience of students, professors, attorneys, advocates, community leaders, and national spokespersons for the rights of the disabled, including former Pennsylvania Governor and US Attorney General **Dick Thornburgh** and his wife, **Ginny**, who serves as Vice President of the National

Organization on Disability. As we reported in the Summer 2003 issue of *FACETS*, the lecture series was established through a generous donation by the Thornburghs, with co-sponsorship by the School of Law and the School of Health and Rehabilitation Sciences.

In addition to being a long-time friend and colleague of the Thornburghs, Peter Blanck—the premier guest lecturer in the series—is the Charles M. and Marion Kierscht Professor of Law and a professor of psychology and public health at the University of Iowa. He is also the director of the Law, Health Policy & Disability Center at the Iowa College of Law. He holds his PhD in psychology from Harvard University and his law degree from Stanford. His work as an attorney, teacher, researcher, court-appointed expert, and advocate, along with authorship of more than 100 articles and books on the Americans with Disabilities Act (ADA), has earned him national and international attention.

His engaging and enlightening presentation, entitled "Americans with Disabilities and their Civil Rights for Employment," looked at American attitudes toward people with disabilities and how those attitudes have shaped policy, both in the past and in the present. He stressed that a great deal more needs to be done in the future, to "illuminate social, political, and economic forces...that will continue to lay the groundwork for public policies that foster the civil rights of persons with disabilities."

Professor Blanck used compelling, real-life stories culled from his own experiences as an attorney, advocate, and expert to illuminate several key issues through which federal, state, and local courts have tried,



(L to R): Chancellor Mark Nordenberg, Ginny Thornburgh, Dick Thornburgh, Kate Seelman, and Peter Blanck

sometimes successfully, to narrow the ADA's reach. These issues include disability stigma, the public definition of disability, paternalism on the part of employers, and community inclusion.

Blanck explained, "The stories I share...are about individuals who refused to be relegated to sheltered workshops; they wanted real jobs. They did not want to live on welfare checks; they wanted paychecks. They fought to be participants in society, and not

view the world as outsiders from a nursing home bed."

Despite progress and bipartisan leadership in implementing and enforcing many facets of the ADA, Blanck points out that over 40 percent of Americans enrolled in the Temporary Assistance for Needy Families (TANF) program have a disability or a child with a disability. Clearly, he notes, a gulf remains between mainstream Americans and those with disabilities who are living in poverty, sequestered in nursing homes, laboring below minimum wage in sheltered workshops, facing a digital divide, lacking adequate health insurance and accessible transportation, and segregated in "special" classes.

In his closing remarks, Blanck invoked Ginny Thornburgh's reflections about her son Peter, the inspiration for her dauntless advocacy for the rights of disabled people. "[M]any of our son's colleagues are men and women who are underemployed and underutilized. The key is attitude. If we assume that a person isn't going to be a solid, creative, hard-working person, then they won't be. But if we assume, when we meet a man or woman with a cognitive disability, that we can restructure the job, that we can tap into the talents and positive attitudes of that person, we're going to have an amazingly loyal and hard-working employee."

ACCESS Continued

About two years ago, we submitted a proposal to the US Department of Defense (DoD) for a 15-to-20-year research project to take our sports medicine research model for injury prevention and performance enhancement in elite athletes and apply it to our military's most elite soldiers. Special Operations soldiers, like the Army's SOAR aviators and Special Forces and Navy SEALs, experience similar physical demands and injury patterns as our athletes. But the DoD has never taken a strategic approach to studying injury patterns, training methods, prevention or injury management, in these most elite soldiers.

The 2005 defense bill includes a \$1.7 million award to establish the University of Pittsburgh/SOCOM Performance and Injury Prevention Laboratory at Fort Campbell, Ky. We will begin to develop our laboratory early in 2005, and in our first year we will start to profile the physiological and musculoskeletal status of our Special Ops soldiers, as well as begin to look at their injury patterns.

Ultimately, our goal is to synthesize and utilize the information we gather to develop training and injury prevention interventions that can be applied to all Special Operations forces. Another goal will be to integrate a nutritional component, allowing us to put our entire department's efforts into this exciting challenge.

I thought athletes were focused and intense until I started working with these soldiers. They are very excited to be working with us and about the research we do. When you take a step back and look at the repercussions, it's very intense. Our goal is to enhance their combat readiness, and the stakes are high. Anything we can do to protect them and improve their ability to do their jobs makes our job even more rewarding.

IN MEMORIAM Mary Elizabeth Kolb

Dr. Anne Pascasio, former dean of SHRS, calls Mary Elizabeth Kolb "a legend in her time. She set the bar high for herself and her students—but she helped you to reach it."

Kolb, a former director of the Department of Physical Therapy in the D.T. Watson School from 1955 to 1968 and president of the American Physical Therapy Association (APTA) from 1961 to 1967, died January 6, 2005, in her home outside of Pittsburgh. She was 83.

She received her undergraduate degree at Seton Hill College, a certificate in physical therapy from Watson, and a master's degree from the University of Pittsburgh.

As director at Watson, Kolb actively recruited men into the profession, which, in its early years, dubbed its professionals "reconstructive aides."

As president of APTA, she was successful at wresting control of the association from physicians and ensuring a viable, independent organization of professionals.

During her tenure at Watson, Kolb also worked with Dr. Jonas Salk on his polio vaccine trials—D. T. Watson was one of only four schools in the country chosen by the National Association for Infantile Paralysis to provide emergency care for epidemic areas without medical centers.

In an article in the Spring/Summer 2002 issue of *FACETS*, Kolb noted that she still carried a memento from the Salk vaccine trials—a lump on her tricep. "Salk was experimenting with mixing the vaccine with mineral oil and saline," she explained. "The mineral oil is still under my skin." In 1955, the vaccine was declared safe and effective, and widespread inoculation began.

Throughout their early careers, Pascasio and Kolb were associated, first as student and teacher, later as faculty member/boss. They also worked together at APTA—Pascasio served as a board member during Kolb's tenure as president.

They parted company when Kolb took a research position with Norwick Eaton Pharmaceuticals in New York, where she worked from 1974 to 1987. Pascasio became dean of SHRS and retired from the University in 1984. The women remained friends, traveling together after Kolb returned to western Pennsylvania. They attended a World Congress on Physical Therapy in Australia and sailed with the University's Semester at Sea program, spending 100 days traveling to a dozen countries, including Turkey, India, and China.

Of Kolb, Pascasio says, "She was a sharp woman, one of the brightest I have known."

Contributions can be made to the D.T. Watson Alumni Scholarship Fund, in care of SHRS, or to the Kolb Family Scholarship, in care of Seton Hill University.



Breathe a Sigh of Relief

A call comes into a hospital emergency room alerting personnel that first responders are transporting a dozen patients who have been exposed to toxic chemicals.

Hospital workers don protective filtering facepiece respirators to ensure their own safety as they treat the patients, just as the EMTs did at the scene.

But will the masks work? The answer may be "no" if the masks are not properly fitted or if an individual in the emergency room is unfamiliar with wearing the device in a high-pressure setting. And a "one size fits all" mask does not fit all health care workers.

To be sure, these filtering respirators are supposed to be fitted annually. And, if they are fitted, to what standards? In the industry, there is considerable disagreement as to how often the test should be done and what methodology should be used.

So the National Personal Protective Technology Laboratory (NPPTL), a division of the National Institutes for Occupational Safety and Health (NIOSH), turned to the Emergency Medicine Program in SHRS to study health care workers using filtering facepiece respirators, commonly referred to as N95s, because they filter 95 percent of particles one micron or smaller.

The NPPTL, created in 2001 by NIOSH at the request of Congress, is located in Pittsburgh's South Hills at a facility once occupied solely by the US Bureau of Mines.

According to Dr. David Hostler, assistant professor of emergency medicine and director of the current research project, there are several reasons why the time was right to revisit the protocol for effectively using these devices. In today's world, there is heightened awareness of the risk of biological or chemical attack. And

with 160 mask models on the market, it is critical that hospital workers and first responders understand what encompasses a proper fit. Earlier research had been limited to a few dozen participants. And a smaller, in-house NPPTL study tested 18 mask models. Hostler's research will use those same masks, and a much larger participant pool.

Dr. Walt Stoy, professor and program director, and Thomas Platt, assistant professor and associate program director, both of SHRS's Emergency Medicine Program, are actively involved with Hostler on this project.

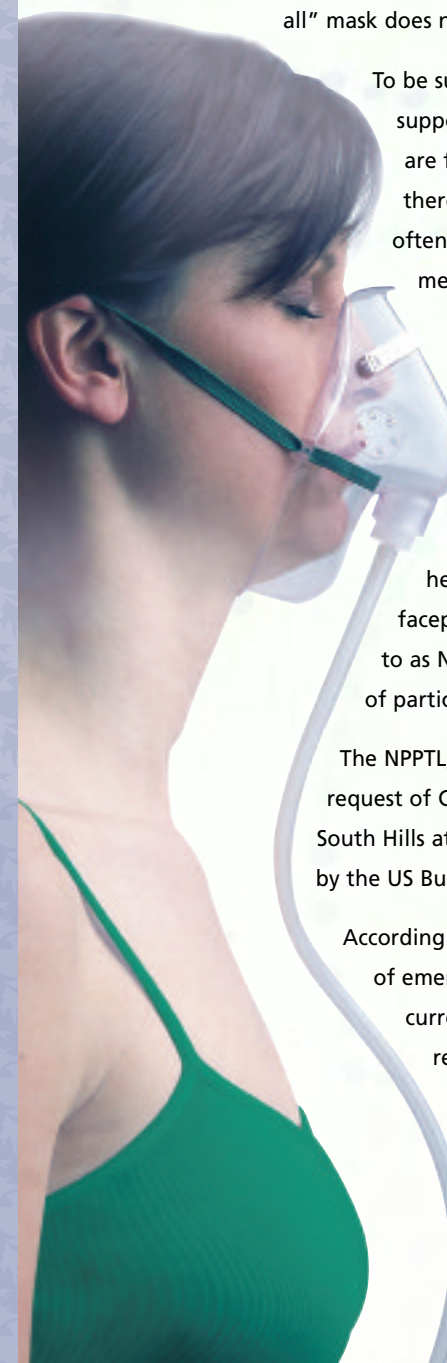
"Under an initial grant from NPPTL, we developed a protocol to examine health care workers who do not normally use these devices, as well as more experienced health care providers, to see if they can properly don a mask using a technique known as the user seal check," notes Hostler. "We anticipate hearing soon about a second grant that will allow for confirming the protocol." That one-year, \$250,000 grant envisions recruiting subjects—420 in total—and should begin in early March.

Local health care workers, EMTs, and health sciences students will create the pool from which to recruit subjects, who will be provided masks: one group will receive a mask with no directions, the other will receive the manufacturer's directions.

Following a period of adjustment, each participant's mask will be fit tested using a PORTACOUNT® Plus and Companion™ respirator fit tester. The instrument makes a direct measurement of respirator fit factors by using microscopic particles that exist in the ambient air around the individual's head. It then measures the concentration of those particles that leak into the respirator. The ratio of these two numbers, according to Hostler, is the fit factor.

The second test is the user seal check, which should be conducted each time an individual dons a mask. The user seal check is usually easy and gives a reliable answer. However, with some types of respirators with filtering facepieces, it is not always easily performed or interpreted. With an affirming user seal check, a subject can be confident that his or her previously fitted mask is being worn correctly and is offering proper protection. Mask wearers are cautioned that if a secure seal cannot be achieved, they should not enter any contaminated or isolation areas.

Hostler and his colleagues hope that their research over the next year will determine if the user seal check is effective for identifying proper donning, and will lead to an understanding of how health care workers use filtering facepieces.





TeleReh@bilit@tion

Remote Control — RERC Takes Rehabilitation to Cyberspace

It's hard to imagine, but living within the shadow of the Cathedral of Learning there likely are people who require rehabilitation services and aren't receiving them. People residing in the remote counties of Pennsylvania or in states like Montana, where just 6.2 people live in each square mile, are woefully underserved in the rehabilitation arena.

For nearly half a century, telemedicine has been used to diagnose and treat patients in remote locations. In most cases, telemedicine has been a straightforward exchange of information—first in the form of phone conversations and medical records exchange, and later to more sophisticated remote sharing of x-rays and scans.

Now, the almost ubiquitous nature of the Internet offers professionals the opportunity to provide rehabilitation services to a huge, underserved population.

Recognizing the need for telerehabilitation and the expertise housed at the School of Health and Rehabilitation Sciences, the National Institute of Disability and Rehabilitation Research (NIDRR) has awarded a five-year, \$4.25 million grant to establish the Rehabilitation Engineering Research Center (RERC) on Telerehabilitation. The only center of its kind in the world, the RERC will study and develop methods, systems, and technologies for the remote delivery of rehabilitation services using the Internet.

"We propose to research and demonstrate the use of technology to deliver rehabilitation services," says Dr. David Brienza, associate professor and director of RERC, Department of Rehabilitation Science and Technology.

"We are focusing specifically on individuals isolated from specialized rehabilitation services either due to geographic location or other factors, such as age or the simple unwillingness to leave their own neighborhood."

Co-director of the project, Dr. Michael McCue, associate professor, Department of Rehabilitation Science and Technology, notes that one of the highlights of the grant is that, "while the research will be housed in RERC, we sought to ensure that our results will apply and be utilized by individuals, so we built in this theme of policy and community." Social service and government agencies—the

organizations that actually deliver the services—are front and center as part of the steering committee that will help direct the effort.

"We are fortunate to have a vibrant technology infrastructure and an active disability community in western Pennsylvania," notes Brienza. "Partnered together, they will be an invaluable tool in developing cutting-edge programs and technology to challenge current service delivery issues." The goal is to create a consumer-driven design and usable technology to develop a model telerehabilitation system that will be used worldwide.

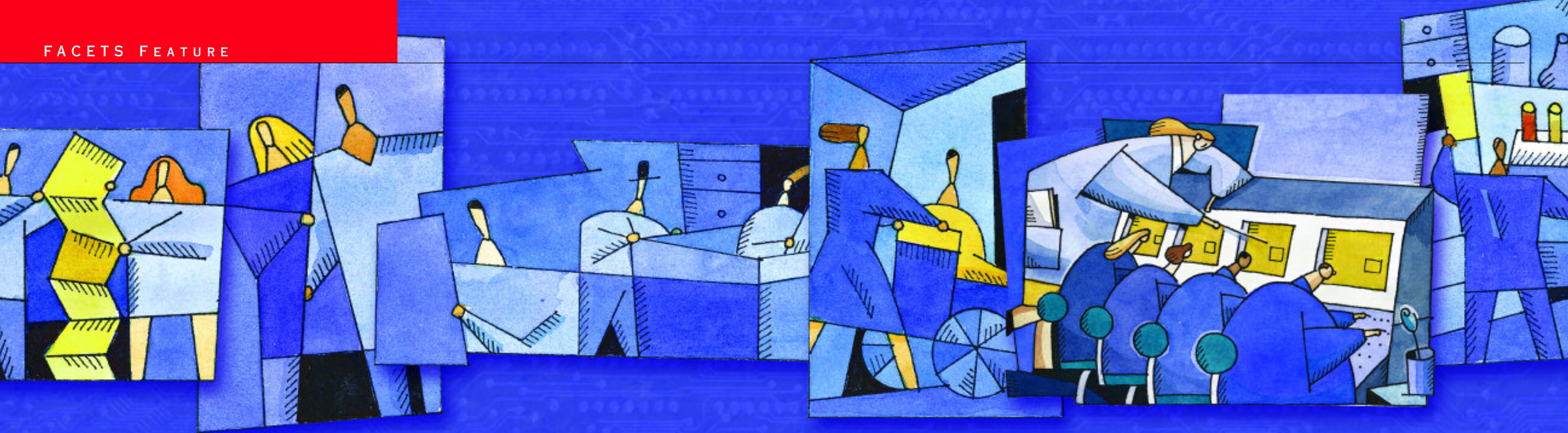
CHALLENGES ABOUND

There is no shortage of obstacles facing the researchers, however. "There is a concern that telerehabilitation can be a two-edged sword," states McCue. "It could, in fact, increase the isolation of an individual and perhaps keep them from receiving necessary preventative services." In response, the research protocols are designed to collect appropriate data, but also to provide a communication link between the consumer and their medical caregivers.

Another cause for concern is the availability of computers and high-speed broadband service, particularly in rural areas. But the researchers did their homework and determined that in 2003, a report by the Federal Communications Commission indicated that 99 percent of the country's population lived in the 88 percent of zip codes where at least one high-speed Internet subscriber service was available at that time.

In addition, there are myriad national and international initiatives dealing with the disability community, including NIDRR's Long Range Plan and the New Freedom Initiative, which must be taken into account as the RERC on Telerehabilitation moves forward.

Finally, HIPPA regulations on the confidentiality of patient records must be strictly adhered to. According to Brienza, "We have successfully recruited a talented, dynamic, and committed group of researchers, partners, and advisors, each of whom is charged with and committed to ensuring the success of this project."



BUILDING ON CONSIDERABLE EXPERTISE

Over the past decade, SHRS faculty have researched and applied a vast array of rehabilitation techniques and processes that will now be practiced remotely. The RERC on Wheeled Mobility is just such an example. Brienza, who co-chairs this initiative, notes that the telerehabilitation study will determine if individuals with mobility impairment can receive appropriate prescriptions for wheeled mobility devices based on information and telecommunications technologies.

"We will assess the value of our new service delivery method by comparing outcomes using the Functioning Everyday with a Wheelchair (FEW) assessment instrument and measure both the perceived and demonstrated change in an individual's functional performance," he notes.

Another area of demonstrated expertise within the Department of Rehabilitation Science and Technology is accessibility assessment, both in the home and the office. Brienza comments, "The objective of this phase of the study is to determine the effectiveness of our remote accessibility assessment system (RAAS) in evaluating the built environments of wheeled mobility device users."

The process can begin with a decidedly low-tech disposable camera, with which device users or caregivers photograph areas to be assessed. The images are then sent to researchers, loaded into a computer, and made three-dimensional. Based on this information, researchers can make a variety of assessments, including the proper height of a table or required maneuvering room for a wheeled mobility device.

The current research will work to improve limitations that were identified in early phases. "For example, the lack of effective communication between the consumer and the service provider resulted in a disconnect in ensuring that the recommended modifications were made and were successful," says Brienza.

BEYOND 'BRAIN TRAIN'

Individuals with cognitive disability resulting from a brain injury or autism can experience a complex array of functional limitations that impact their ability to perform effectively in a range of settings, including employment. While traditional "brain train" approaches to improving functionality proved successful in the clinic and laboratory, they often fell short in the work or education environment.

Effective rehabilitation of people with cognitive disabilities requires distinctive strategies and supports delivered in the specific setting in which the individual studies or works. This in vivo intervention has been effectively employed in supported employment, in which an individual is assigned a "job coach" who provides direct interventions that address specific problems. Which could include difficulty paying attention or recalling specific task instructions, poor initiation or sequencing problems.

This is clearly a time-intensive and costly undertaking, notes McCue. "Qualified job coaches are not readily available outside of populated urban settings," he points out. "Moreover, having a job coach in a work environment could call attention to the individual with disabilities and may not be enthusiastically embraced by co-workers."

The RERC plans to develop and study the feasibility of a remote, automated job coach, using video motion analysis tracking and radio sensors to monitor specific, pre-determined work behaviors and, ultimately, to deliver task-specific cues and instruction in response to occurrence of problem behaviors.

KIDS ARE PART OF THE PICTURE

Children with a range of disabilities including autism, Attention Deficit Hyperactivity Disorder (ADHD), cerebral palsy, and learning and cognitive disorders can be impacted by disorders of communication, affecting their ability to read, write, and interact. The presence of speech and language disorders can lead to significant difficulties and, if not addressed early, could have a profound effect on their ability to live and thrive in later life.

Brienza and McCue have involved principals in a company, AnthroTronix, that is developing telerehabilitation tools to motivate children and integrate therapy, learning, and play. AnthroTronix is a leader in the development of gestural, or movement-based, interfaces which combine wearable sensors with voice activation to control electronic devices. This research has been funded by a Small Business Innovation Research (SBIR) grant from the National Science Foundation, the National Institutes of Health, and the US Department of Education, among other organizations.

AnthroTronix' technologies are developed in concert with therapists, educators, parents, and children, and include CosmoBot™, a robot designed for clinical rehabilitation and special education. Virtual CosmoBot™ is featured in the company's first computer game,

"Catch a Falling Star," designed for use in a rehabilitation setting. Using these and other AnthroTronix technologies, a therapeutic regimen will be developed for each child, and a therapist can assess the progress of the child and make modifications to this online activity.

During the study, 20 children who exhibit communication disorders and are currently receiving speech-language therapy from a licensed and certified pathologist will be enrolled. Participants, both male and female, will range from three to six years old. Brienza notes that the children enrolled in the study will exhibit a wide range of communication disorders—those effecting speech and sound production or articulation, fluency, voice—typically associated with a variety of disabilities including autism and ADHD. "The rationale for including children with a broad range of disorders is that they most likely will benefit from the use of teleassessment infrastructure and interface."

In summary, says McCue, "The overarching goal of all of this research is to develop models that health systems can put into effect. We are striving for practical, effective, and usable telerehabilitation methodologies." He points out that the Department is in the process of developing a curriculum for a certificate program in telerehabilitation that could be in place by the Fall 2005 semester.



A Measure of Life

Occupational therapists are concerned with everyday activities and with moving people from disability to ability. When a patient has task disabilities—when he or she has trouble with dressing, washing, cooking, or other activities of everyday life—the therapist identifies methods the patient can use to improve the performance of these functions.

But how does the occupational therapist measure outcomes and gauge success? Range of motion measures, although objective, don't paint a complete picture.

Until now, self-reported quality-of-life and activities-of-daily-living scales have been some of the most useful gauges of how adequately or with how much difficulty a patient performs everyday activities. But the data collection tools associated with these measures are subjective, in the case of self-reporting, and limited to "a slice of life" in the case of performance-based observation.

"These are the issues we grapple with every day," says Dr. Margo Holm, professor, Department of Occupational Therapy. "So when I first saw the actigraphy devices being marketed by BodyMedia and Mini Mitter, I had a real 'Eureka!' moment." Designed primarily with sleep therapy and exercise physiology in mind, these devices allow researchers to collect data on overall activity on a continuous basis. "Their implications as occupational therapy measurement tools were obvious," notes Holm, who has already conducted or collaborated on several actigraphy research studies.



the whole body drops in activity level. We are looking at how the body returns to a more normal balance of activity between affected and unaffected sides of the body as time goes on," notes Holm. "Interestingly, we seem to be picking up differences in the patterns of function restoration between right and left hemisphere involvement."

USING DATA FOR SELF-MONITORING

Dr. Joan Rogers, professor and chair, Department of Occupational Therapy, points to a fourth study that highlights the self-monitoring potential of actigraphy. The National Institute for Disability and Rehabilitation Research (NIDRR), which funded the study, is interested in looking at how people with disabilities can better manage their own health and ultimately rely less on professionals.

This study looked at patients with fibromyalgia who wore the SenseWear® Pro2 Armband 24 hours a day and used an Internet connection to enter data about daily activities. The patients were instructed to push the large green button on the device whenever they took pain medication.

"We decided to take a look at sleep patterns in the hours between 1am and 5 am," Rogers explains. "When patients pushed the button to indicate that they were taking a dose of pain medicine, the data marked that moment as the 'zero hour.' Then, when we examined the activity data surrounding that point in time on the nights they took pain medication, we found that the level of activity immediately before the zero hour was very high—they were 'bouncing off the walls.'"

In most patients with fibromyalgia, sleep is a critical concern. The study demonstrates how

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WEARABLE DATA COLLECTION

Mini Mitter's Actiwatch®, worn on the wrist, monitors physical activity using an omnidirectional accelerometer. It can distinguish between levels of intensity of activity. It also records metabolic activity, indicating different levels of energy expenditure.

The monitoring system developed by BodyMedia consists of the SenseWear® Pro2 Armband, which continuously records energy expenditure, motion, sleep, and other physiological data. The armband transfers data through a simple port, connected to the research hub by phone line or even by wireless communicator. The device is sensitive to position—either horizontal or vertical—and its accelerometer actually counts steps and distinguishes between lying down at rest and sleeping. "These devices measure things differently, but each gives us an enormous amount of rich data," says Holm.

TAKING ACTIGRAPHY INTO THE FIELD

For example, a National Institute of Mental Health (NIMH) study of older adults with late-life depression uses the Mini Mitter Actical® to collect data on sedentary, light, moderate, and

vigorous activity and energy expenditure over time. Data from a depressed subject demonstrates very mild to moderate activity during the day and evening, and sedentary to mild activity throughout the night, indicating low daily activity and restless sleep or insomnia. In comparison, data from a non-depressed control subject indicates mild to moderate and even some vigorous activity during the day, and a greater level of sedentary activity at night, indicating a more active lifestyle during the day and better sleep at night.

In a study of heart transplant patients, Holm used the BodyMedia SenseWear® Pro2 Armband in conjunction with activities from the Performance Assessment of Self-Care Skills (PASS). Measures were taken prior to transplant, and at one, three, six, and 12 months after surgery. This study highlighted an important benefit of actigraphy—the sensitivity of these devices can document very subtle changes. For example, patients had little energy to perform basic daily functions prior to the transplant, but their energy expenditure while doing those same activities was much greater after transplant.

Another study looked at the functional activity of stroke survivors, comparing the affected and unaffected sides of the body, and exploring how patients return to normal activities over time. An Actiwatch was worn on both wrists, and researchers used tasks from the PASS to compare sides of the body. "After a stroke,





Forcing the Pace

If you've had the pleasure of bicycling on the Three Rivers Heritage Trail between the new South Side Works and the Homestead Waterfront, then you've passed within feet of the Neuromuscular Research Laboratory housed within the UPMC Sports Complex. Inside this state-of-the-art facility, Dr. John Abt and his colleagues are engaged in research that will help cyclists of all abilities avoid injury and enhance their performance. In the end, this research could motivate the non-cyclist to adopt this excellent exercise as part of a healthy lifestyle.

The cycling studies originated with the ideas of Dr. Matthew Brick, a native of New Zealand who came to UPMC in 2003 on a six-month fellowship under renowned orthopaedic surgeon Dr. Freddie Fu. Dr. Brick is also a former world champion duathlete. "He proposed several studies that would be of interest to the cyclist, and we had the capabilities and most of the equipment to carry them out," says Abt, who earned his PhD in Rehabilitation Science with a specialization in Sports Medicine, and who is now working on a post-doctoral fellowship. "We have planned an exciting series of projects—each one builds on the data we gather from the previous study."

With support from Fu and Dr. Scott Lephart, director of the Neuromuscular Research Laboratory and chair of the Department of Sports Medicine and Nutrition, the first study in this series is now complete. It used biomechanical testing to determine the influence of core fatigue on cycling mechanics and pedaling forces.

Sean Easley, a physical therapy post-graduate student and a competitive cyclist, participated in the cycling studies and performance testing at the Neuromuscular Research Laboratory.

RAMPING UP

Abt and his colleagues recruited local competitive cyclists and tracked the mechanics of their lower extremity and torso with a high-speed infrared motion analysis system. Custom-designed pedals that measure the application of forces in six directions were integrated with the motion analysis system.

Abt continues, "We adapted a high-speed running treadmill to use for cycling, and began by putting our subjects through a baseline ramp protocol at 16 miles per hour with a one percent incline, and increasing the incline by one percent every three minutes until the subjects reached exhaustion."

One week later, the cyclists returned and performed a vigorous core protocol—an abdominal workout—designed to fatigue the body's core. They immediately completed another cycling protocol on the treadmill. "If you think that sounds like a punishing workout, you are right," says Sean Easley, a local cyclist who participated in the study. "The body's core provides stabilization on the bike while the legs generate power."

Abt continues, "We wanted to look at how core fatigue changes the mechanics of the legs—could cyclists maintain aerodynamic positioning without compromising pedaling efficiency? Our hypothesis was that the core fatigue would result in altered lower extremity positioning and less efficient pedaling mechanics. Interestingly, the pedaling forces were actually consistent between the two tests despite altered leg mechanics."

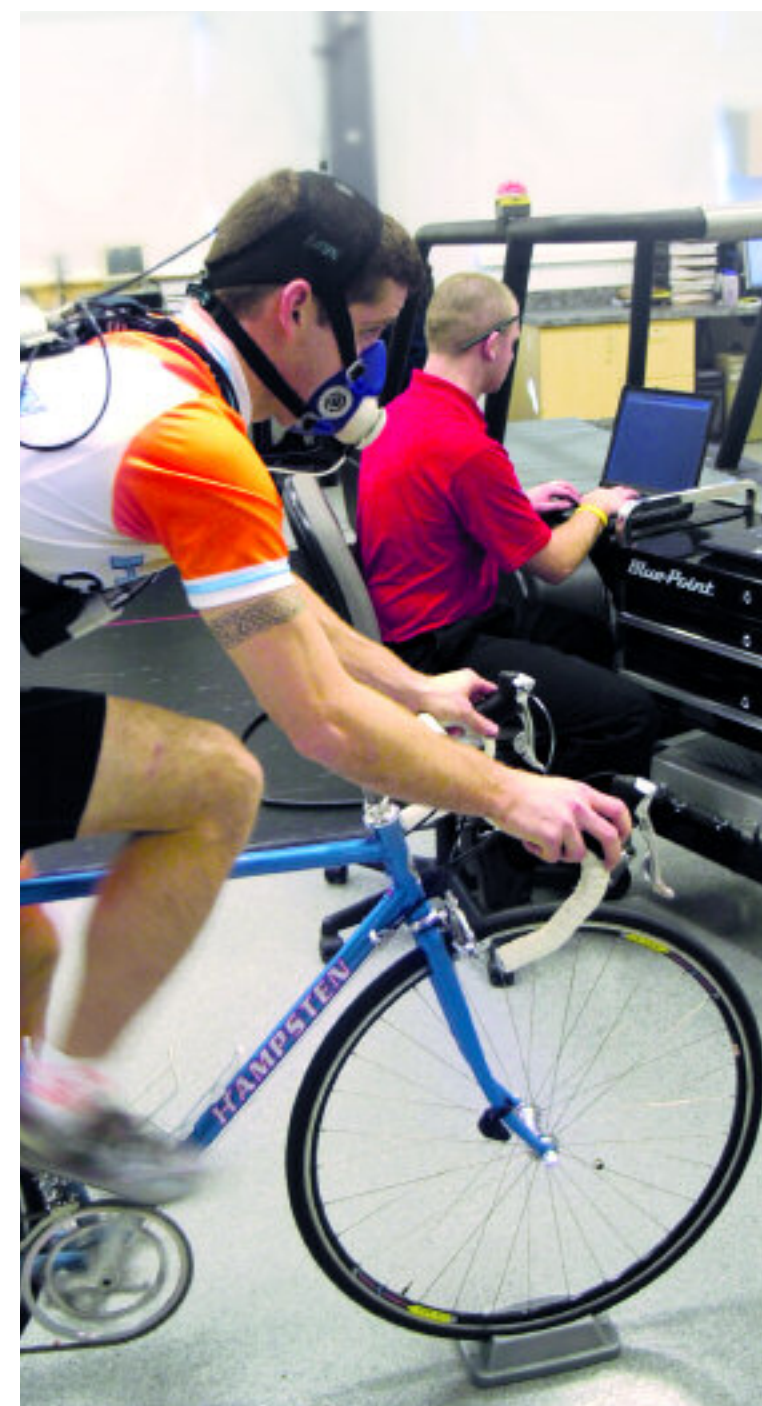
The next phase will look at the influence of an eight-week core strengthening and endurance training protocol on these cyclists. Ideally, the training will result in greater core stability in conjunction with improved biomechanics and optimal pedaling efficiency as torque is applied to the pedals.

THE HUMAN MACHINE

Another area of interest to cyclists and to researchers at the laboratory involves physiological testing to determine optimal training regimens and fitness levels for competitive cyclists. Four physiological tests are integrated to provide the data to shape these outcomes. The first is maximum oxygen consumption, or VO2 Max, which is measured with a portable metabolic unit that captures the exchange of oxygen and carbon dioxide as well as heart rate and respiratory function. "The portable metabolic unit works in the lab and in the field," notes Abt. "It can transmit the data remotely, allowing us to compare laboratory data with field data."

The cyclist's lactate threshold is determined through blood analysis, which is conducted simultaneously with the VO2 Max test. Lactate is a normal metabolic by-product of exercise and is typically removed as it's produced. But excessive accumulation of lactate, which occurs

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the Change Agents

In 1999, Medicare paid out \$289 million for motorized wheelchairs and scooters. And in just three years that amount skyrocketed to \$845 million—a 192 percent increase. During the same period, the number of Medicare beneficiaries also soared, almost tripling from just over 55,000 a year to more than 159,000.

From any angle, these figures are dramatic. But when compared to an 11 percent increase in total Medicare payouts and a one percent annual increase in the Medicare population as a whole over the period, the increases seem almost criminal.

As it turns out, many of the payouts were. After a perfunctory examination of the trends and an investigation, allegations of fraud quickly began to surface.

But it wasn't Medicare administrators who discovered these scandalous irregularities. Reporters from the *Houston Chronicle* and NBC News broke the story, uncovering rampant Medicare abuse and prompting the federal government to take action.

THE CRACKDOWN

When the dust settled, much of the fraud was traced to a handful of power wheelchair suppliers promising free mobility devices to people who didn't need them. In some cases, medical equipment companies were providing kickbacks to unscrupulous doctors who, in turn, would sign fraudulent certificates of medical necessity.

But, according to Mark Schmeler, an instructor in the Department of Rehabilitation Science and Technology and the director of the Center for Assistive Technology, the federal crackdown that followed had the opposite of its intended effect. Rather than reshape policy, close loopholes, and ensure that reputable candidates receive funding for their assistive devices, the Centers for Medicare and Medicaid Services (CMS) imposed tight restrictions and, according to Schmeler, only succeeded in making bad policy worse.

"Operation Wheeler Dealer" was launched in September of 2003. At its base level, the program kept existing disbursement policy in place, and, in an effort to curb future fraud, it increased scrutiny on everyone requesting motorized wheelchairs and scooters. For instance, a patient who didn't have documented weakness in the upper extremities was now automatically disqualified.

There were three basic criteria that were necessary for qualification: Patients had to be completely non-ambulatory, have severe weakness of the arms, and use the wheelchair primarily in the home. Otherwise, they were automatically denied eligibility. Even people who could not functionally ambulate outside or push a manual wheelchair were excluded from receiving assistance.

The new initiative didn't sit well with Schmeler and his colleagues, and in December 2003 he decided to take action. Schmeler sent a letter to Dr. Paul J. Hughes, medical director of the Northeast Duramedical Equipment Regional Carrier, and copied Tommy Thompson, the secretary of the Department of Health and Human Services, underlining his complaints and requesting further written clarification of coverage policies based on the current research and accepted standards of clinical practice.

And this was just the beginning of the advocacy efforts. Schmeler began approaching advocacy groups across the country, including the Medicare Rights Center and a number of Washington, DC-based wheelchair rights organizations, to begin putting pressure on CMS to change Medicare policy. They also contacted Pennsylvania Senators Arlen Specter and Rick Santorum to increase awareness of the issue on the federal level.

GAINING TRACTION

By April 2004, the lobbying began to pay off. Senator Chuck Grassley, chairman of the Senate Finance Committee, asked the General Accounting Office (GAO) to study "Operation Wheeler Dealer" to determine its effectiveness. The GAO found defects in policy and called for a hearing before the Senate Finance Committee. Dr. Laura Cohen, an alumnus of the Department of Rehabilitation Science and Technology, testified before the committee concerning inadequacies in the existing coverage policy and offered recommendations for improving the system. Other testimony was offered by representatives from the ITEM Coalition, a consumer advocacy group, and American Association of Homecare, a homecare provider and supplier organization.

Schmeler explains, "The representative from the GAO testified that Medicare was asleep at the wheel and that the policies in place were not good ones. He recommended a total policy overhaul, and, later, Congress and the Senate followed suit."

The Department of Health and Human Services organized a working group to examine existing Medicare policies and begin to craft new ones. But, strangely, the group was handpicked to include only employees of the federal government and not wheelchair and mobility experts from the medical community.

After learning of this development, Schmeler again decided to take action. He began approaching therapists and physicians from across the country in an effort to form a coalition of experts that could work to shape Medicare policy decisions moving forward. What resulted was the Clinician Task Force, co-headed by Cohen and SHRS alumna Dr. Barb Crane.

Not long after its formation, it became clear that the CMS working group was open to information and education concerning the service delivery process. The Clinician Task Force coordinated a remote telerehabilitation clinic with the University of Pittsburgh, Center for Assistive Technology.

In September 2004, CMS officials observed Schmeler and Dr. Michael Boninger, associate professor, Department of Rehabilitation Science and Technology, and executive director, Center for Assistive Technology, perform assessments on three patients seeking power wheelchairs. They used new interactive teleconferencing technology (see "Telerehabilitation" p.16) that allowed them to communicate and even see the Baltimore, Md.-based working group from hundreds of miles away. This opportunity allowed work group members to see firsthand the intricacies involved in the evaluation process and interact with the clinical team and the patients.

Recalls Crane, who is an assistant professor at the University of Hartford and a physical therapy consultant, "Most of the members of the working group didn't even know what a wheelchair evaluation was. I think that our presence in the information gathering process will go a long way in ensuring that the policy shifts from one of exclusion because of the fraud issues, to one of inclusion for all people who need powered mobility devices."

"We're still waiting to see the results of this first meeting," adds Cohen, now a clinical research scientist at the Shepherd Center in Atlanta, Ga., "but we believe that our influence will have an effect on the revised Medicare coverage policy, which is slated to be announced early in 2005."





the Real World

Jessica Green, Audiology



Like many prospective audiologists, Jessica Green started her academic career in speech pathology, earning her undergraduate degree from Bloomsburg University in central Pennsylvania. "My high school happened to be a magnet school for deaf education," says the Reading, Pa. native. "I initially wanted to be a teacher of the deaf, but with the encouragement of a great mentor at Bloomsburg, I changed my focus and decided to pursue a career in audiology."

With just over a year to go before completing her AuD—the professional doctoral degree in audiology—Jessica is eager to do more work on her own. And with several 16-week clinical education rotations under her belt, she is ready to take on any challenge. Jessica already has experience with diagnostics, rehabilitation therapy, hearing aids, and cochlear implants, and has worked with patients of all ages at several sites, including the University of Pittsburgh Medical Center (UPMC) Eye and Ear Institute, Children's Hospital, the DePaul Institute, and her current placement, the VA Pittsburgh Healthcare System in Oakland.

Jessica's patient, Frank, a Vietnam War veteran, is here at the VA's Audiology Clinic for a new set of digital hearing aids. His hearing loss has progressed, so the new aids must be custom-fit to his specific needs.

Jessica places probe tubes in each ear to measure how sound resonates in the ear canal. This information is interpreted by the computer, which uses an algorithm to calculate a target setting for the new hearing aids. Jessica then retests the patient with the new aids in, and makes tiny adjustments to the computer's targeted setting in order to optimize hearing for the patient.

"I think you need to rely on innate skills to interact well with patients," says Jessica. "You learn everything by the book, but you can't explain what you're doing to your patients by the book without sounding intimidating or just confusing. With the great supervisors I've had, and the professionalism they extend to and expect of me, my confidence has grown."





The foundation of everything we do is the hearing test," observes Jessica. Seated in the booth opposite her patient, Jessica sends audio signals to the patient's earphones in order to mark the threshold—the lowest level at which the patient can hear.

"We test children in the same basic way, but we use toys and games to help us get the feedback and information we need to determine their hearing threshold," Jessica explains. She has also worked with Dr. Barbara Vento, clinical assistant and professor of Audiology, Department of Communication Science and Disorders, at Magee-Womens Hospital, performing newborn hearing screening in the neonatal ICU.

Jessica's current clinical education supervisor is Maureen Wargo, MBA, MA, CCC-A, a senior audiologist at the VA. Here, Jessica and Maureen examine



a cochlear implant, the groundbreaking device that, when surgically implanted in the inner ear, can restore hearing in those with profound hearing loss. The audiologist plays a critical role throughout the entire process of receiving a cochlear implant.

"We screen and test for hearing loss in both pediatric and adult cochlear implant candidates, and then we are part of the qualification process that determines if a cochlear implant is appropriate," says Jessica. In the operating room, audiologists are present to monitor the patient's neural responses. Then, about one month after surgery, the audiologist is there when the implant is first turned on, and the patient hears sounds—perhaps for the first time ever. A process known as MAPping allows the audiologist to make adjustments to the cochlear implant's electrodes, which span the patient's entire frequency range. "And finally, we help with auditory training—literally, we teach patients how to recognize sounds and distinguish between them," Jessica explains.

Jessica's next clinical education experience will include a second trip to China with Dr. Catherine Palmer, associate professor, Department of Communication Science and Disorders, and another AuD candidate. "They don't have audiologists in China," explains Jessica. "ENTs distribute hearing aids there. So we will be conducting an advanced class for ENT medical students in Chengdu. We'll show them how to fit and adjust hearing aids, and we'll hold breakout sessions and clinical labs."

Jessica has embraced the process of taking the didactic theory from the classroom out into the clinical setting, and then taking real-world experience back into the classroom. "But I can't wait to get out there and work with my own patients," she says. Jessica plans to specialize in cochlear implants and hearing aids. She adds, "I'm building a great foundation for the contributions I hope to make in my own clinical practice."



As Good As New

Medical advances over the past 20 years have made injury treatment and surgical recovery as smooth as clockwork. There is a formula for everything, from diagnosis through every step of the healing process. But that's where the blueprint for full and complete recovery abruptly ends and the grey area begins. For all the progress of modern health care, doctors and physical therapists still don't know how to measure when a patient has achieved 100 percent recovery.

But Dr. Jay Irrgang, associate professor and vice chairman of clinical services, Department of Physical Therapy, is on the hunt. Irrgang has spent much of his 20-plus year career studying how people recuperate from sports-related injury. And his most recent work has been focused on measuring the success of these physical therapy interventions.



PT OUTCOMES MEASUREMENT TO DATE

According to Irrgang, outcomes to physical therapy interventions can be measured in a host of ways.

He offers as an example a patient who has suffered a knee ligament injury. The person will experience stiffness and loss of motion. Muscles around the knee will become weak. Walking on level surfaces, ascending and descending stairs, and running and jumping will become extremely difficult. Playing sports is obviously out of the question.

As a physical therapist, he would examine the impact of an injury to determine its effect on the patient's joint motion and muscle strength, the ability to do everyday activities, and the ability to participate in life situations, such as work or sports.

But, he explains, the outcome of the physical therapy intervention is often the patient's primary concern. "There is a hierarchy with our interventions. Movement is the first level of functionality that we look to regain. Then we determine how well the patient is doing in daily activities, and, finally, we measure their ability to perform in sport."

TESTING THE BOUNDARIES

Unfortunately, it is difficult to observe the full range of activities of daily life, including participation in sports, in the clinical setting. He points out, "There's no way to simulate the full range of daily activities, including participation in sports, in a clinic setting. So we've had to explore other avenues of outcomes measurement."

To account for the difficulty in observing a patient perform a wide range of activities and to participate in life situations, Irrgang and others at the UPMC Center for Sports Medicine have been using self-report questionnaires that athletes complete throughout the rehabilitation process. However, these self-reports are highly subjective—especially when filled out by an athlete eager to return to peak condition—and Irrgang's challenge is in determining an effective way to interpret the results of the reports.

He explains, "We can validate the self-report, for example, by determining the relationship between the score on the self-report and how the athlete performs in the clinical setting. We can also test for consistency to determine if the results of the self-report are the same over time."

There should also be a direct correlation between improvement in the clinic or during practice and improvement on the self-reports. The scores on the reports should match the progress that we see during physical therapy."

Irrgang has developed two self-reports for the knee—the Knee Outcome Survey, and the International Knee Documentation Committee (IKDC) Subjective Knee Form.

THE NEXT STEP IN HEALING

The roots of the self-reports are in a mental testing model called Classical Test Theory—a conjecture on which Irrgang had plenty of exposure while earning his PhD from Pitt in Educational and Psychological Measurement.

continued on page 33



Unlikely Partners

There wouldn't appear to be much connection between the University of Pittsburgh and the Armed Forces. But since 1991, the US Army has been sending Army Medical Department (AMEDD) officers to SHRS's Department of Health Information Management (HIM) to receive master's degrees in Health Information Systems.

The partnership is more than a unique way to educate the next generation of Army health information managers on the latest health care data and computer technology. It's the only HIM/US Army relationship of its kind in the country.

The partnership began after Terry Foley, a medical records consultant for the US Army Surgeon General, recognized a deficiency in adequately trained officers as medical records professionals in the Patient Administration Division. She was given the go-ahead to investigate solutions to the inadequacy in 1988 and quickly realized that Pitt offered the only graduate-level HIM program in the nation.

"My goal was to produce registered health information administrators who would have the ability to write the registration examination of the American Health Information Management Association (AHIMA)," notes Foley. "This is the most advanced level of expertise available in the HIM field."

She continues, "HIM graduate degrees have become even more important since President Bush announced an initiative that would require electronic medical records to be the norm in 10 years. After completing the SHRS program, the Medical Service Corps officers provide the Department of the Army with health information expertise."



Foley began discussions with Dr. Mervat Abdelhak, chair and associate professor, Department of HIM, about a collaborative relationship where high-promise officers could receive graduate training through the Army's Long-term Health Information and Training Program. The Army agreed to pay for one graduate student per year, and the rest is history.

"We are extremely delighted that the US Army chose the University of Pittsburgh," Abdelhak humbly states. "Not only is it a testament to our excellent faculty and curriculum, it also is a wonderful recognition of our standing among other HIM academic departments across the country."

After the officers receive graduate degrees, they are required to serve a two-to-three-year utilization tour, whereby they put the skills they've learned in graduate school to the test. There are two options for this tour: PASBA (Patient Administration System and Biostatistics Activity) at Ft. Sam Houston, in San Antonio, Texas, or to one of the Army's eight medical centers across the country, among them Walter Reed Medical Center in Washington, DC or Eisenhower Medical Center in Fort Gordon, Ga.

Graduates of the program typically assume positions of high responsibility. The list of graduates reads like a "Who's Who" of military health care professionals, with titles like Chief of Health Technology, Congressional Affairs, Office of Secretary of Defense, and Executive Officer of Patient Administration.

By all accounts, the program has been a tremendous success—so much so that in 2002 the US Navy initiated a partnership with the Department of Health Information Management at the University of Pittsburgh.



As Good as New continued

He explains, "Traditional modes of questioning offer all test-takers the same number of questions and require everyone to respond to the questions, whether or not they're appropriate for each individual. But we're moving to a more modern test theory called Item Response Theory—where tests utilize a computer to select the items that are most appropriate for the individual. These new computer adaptive tests allow the test-giver to get a more precise measure of the individual's level of function and participation with fewer questions."

Irrgang offers an example of how the questions are selected and administered using computer adaptive testing. "In the case of a 70-year-old man who has a problem with his lower extremities that makes it difficult for him to get around, the computer selects the initial question, and the answer of that question leads him to other progressively more appropriate questions.

"The computer might ask, 'How much difficulty do you have walking across your living room?' The man answers, 'No difficulty at all.' The computer will then ask, 'Can you walk a mile?' at which the man may reply, 'I can't do that.' Then, based on these responses, the computer will ask, 'Can you walk a city block?'"

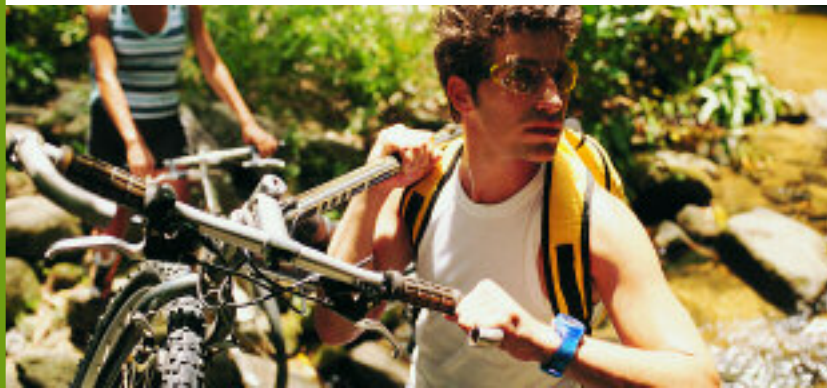
Tests that once took 30 questions now reach the same conclusions in half the time using computer adaptive testing.

Irrgang predicts that within 10 years computer adaptive testing will be commonly used to chart a patient's progress. "The system will be Web-based, and follow-up will be conducted via e-mail," he notes. The more efficiently we can collect information about the healing process, the sooner we'll have the patient back on his feet, knowing, once and for all, that he's fully healed."



Forcing the Pace

continued



at some point during vigorous exercise, inhibits the muscles from contracting properly. “Determining the lactate threshold and appropriate training zones is critical for the cyclist who wishes to improve his performance,” Easley notes.

Power output is another variable of interest that is measured during physiological testing. Although heart rate is the traditional measurement of exercise intensity, power output is a more stable and accurate method and therefore becoming more common. A cyclist’s power output can be managed by increasing or decreasing pedaling cadence, the bike’s gear, or the pushing force on the pedals. Data that shows power output at a given heart rate gives cyclists an objective measure of their fitness level and a benchmark for the progress of their training.

Finally, the cyclists’ body composition is measured using the Bod Pod®, which uses air displacement to measure total body mass and percentage of lean tissue and body fat. “We can then look at how powerful the cyclists are relative to their body weight,” says Abt. “The power-to-weight ratio is yet another tool cyclists can use to benchmark their training and fitness level, and we can use it to make comparisons between cyclists.”

POWERFUL INFORMATION

“Cyclists are very in tune with their own biomechanics and physiology, and their training methods have become a lot more technical over the last decade or so,” notes Easley. “These studies will provide cyclists with detailed information related to biomechanics, pedaling forces, aerobic capacity, and optimal body composition. This is powerful information—cyclists are constantly looking for an edge.”

Abt also hopes that these studies will help expose cycling to the community as a means of achieving physical fitness. “If you can’t or don’t like to run, if you want a lower body workout, or if you just want to explore the scenic trails that are being developed around the region, cycling is a terrific option,” says Abt.

A Measure of Life

continued

intervention impacts resting and sleeping time, and from there, suggests connections to energy expenditure and pain management.

“Knowing yourself and how you deal with the signs and symptoms of disease is certainly going to have an impact on your activity,” notes Rogers. “These devices offer great potential in helping patients set goals, and then providing them with data that serves as a constant reminder about how they are meeting those goals.”

A WEALTH OF DATA

Actigraphy devices pose a paradoxical problem compared to the traditional concerns about subjective or limited data. “There is so much data, and it is such rich data, that we’re not sure what it all means or how much is significant,” notes Holm. In all of these studies, patient data are pooled and then observed over time. “When you have a device that collects data 32 times per minute and has so many features—we’re just not sure how to interpret everything.” But with the help of colleagues like Dr. Delia Johnson from the University of Pittsburgh Graduate School of Public Health, Holm, Rogers, and doctoral students Hazel Breland and Min-Mei Shih are exploring ways to organize and draw meaning from these huge data files.

“And we’ll be looking for new ways to use actigraphy devices—perhaps someday we’ll be able to detect the factors that pose a higher risk of falls,” says Rogers. “And there are vast implications that relate to the ambient environment and the self-monitoring of health.”

Since World War I, occupational therapists have been bringing objectivity to observation. A slice of life served as a surrogate marker of everyday functionality. With the research potential of actigraphy, which looks at everyday function in real time, occupational therapists can imagine a model for the ideal ebb and flow of activity—as a surrogate marker of overall health and wellness.



The Body Media device provides data on how fibromyalgia patients use pain medication late at night and measures how this intervention impacts resting and sleep time.



Dialogue

A Conversation with Dr. Rosemary Scully

In 1972, Dr. Rosemary Scully was named Chair of the Department of Physical Therapy. Over the next 20-plus years, Scully played a vital role in shaping the Department’s curriculum, clinical education programs, and faculty development initiatives. Upon her retirement, Dr. Scully established the Endowed Scully Visiting Scholar Program. Now in its 10th year, this lectureship brings leading physical therapy practitioners and academicians to the University of Pittsburgh, providing enrichment to faculty, students, and alumni.

Q What were the particular challenges you faced as a new Department Chair in 1972?

A It was a transitional time. The program was changing from a one-year certificate to a two-year baccalaureate degree. We also had just moved to the university environment from D.T. Watson, where the educational and clinical environments were self-contained. My particular challenge—and the task I felt best suited my background and talents—was to develop relationships with all the hospitals and clinics where our students would be doing their clinical education.

I was lucky to be handed a small but very talented and cohesive faculty, including Vicki Green, the clinical coordinator; Barbara Cossoy, who went on to found the physical therapy program at the University of Delaware; Carolyn Barnes, who became the director at the University of Scranton; Jerry Marten, who later became department chair and dean of the school; and of course, Ann Pascasio—dean of the School of Health Related Professions at that time. Ann had been my colleague and mentor through the American Physical Therapy Association (APTA).

Q What do you think of recent changes in clinical education, and how do they impact the practice of physical therapy?

A I just found out that over 50 percent of entry-level physical therapy programs are now at the doctoral level. To me, this indicates a recognition of the skills and knowledge that graduates must have in order to work in the field today. Many patients now have direct access to physical therapists—we are often acting as the primary health provider. So today’s practitioners must have excellent evaluative skills as well as the ability to partner with other health care practitioners. A strong academic program coordinated with skilled clinicians and talented clinical educators is necessary to produce these graduates.

Q What led you to establish the Scully Visiting Scholar program?

A First of all, I did it in honor of my mother and father. He was a steelworker and a volunteer mentor and coach. She was a school teacher. They both encouraged me in my own education. In fact in Gaelic, Scully means “scholar”!

I very much enjoyed being at Pitt and working with the faculty, clinicians, and students. So when I was leaving, I thought about doing a little something. My interest was in faculty development, and having been chair of the Department, I knew that the budget for faculty programs was limited. At first I thought I could send a faculty member out for a course of study. Then I thought, ‘No! I don’t want to send our faculty away!’ I wanted to bring some special people from our field here. I wanted them to share their insights and challenging ideas with our students, faculty, and clinicians. I also wanted them to experience our professional community and our exciting campus and city.

Q Tell us a little bit about the 2004 Visiting Scholar.

A We enjoyed a bit of a coup this year. Rebecca L. Craik, PT, PhD, FAPTA, is Chair of the Department of Physical Therapy at Arcadia University in Glenside, Pa. She is also an Adjunct Associate Professor at the University of Pennsylvania School of Medicine. Dr. Craik was just named the 2005 Mary McMillan Lecturer, which is the highest academic honor given by the APTA.

Q What were some of the highlights of this year’s program?

A Although it is only a day, it is a very busy day! Dr. Craik began with a noon meeting with students—an opportunity for informal exchange about the profession, educational challenges, and future careers. She then met with the academic and clinical faculty at a buffet lunch. We shared ideas about clinical practice, educational strategies, professional issues, and

association involvement. Then after a lovely evening reception hosted by the Department, Dr. Craig delivered her lecture to faculty, students, alumni, and clinicians.

It was entitled “Where Do We Go from Here?” Dr. Craik answered this question by suggesting four critical goals: first, physical therapists need to distinguish themselves as those who encourage quality of movement; second, we need to work to reduce secondary disabilities such as hip fractures and even age-related dementia; third, we need to find ways to prevent institutionalization of our patients; and finally, we need to actively cooperate with other clinicians and basic scientists.

Q Do you have any plans or ideas for expanding the Endowed Scully Visiting Scholar Program?

A Assuming I don’t spend my last dollar on my last day and there is a little left for the Department, I would love to see it evolve and grow. Perhaps the program could be used as a faculty exchange—academicians from other universities could come to Pitt for a longer time, and share their expertise as well as learn from our professional community. Or it might provide opportunities for post-graduate study for physical therapists who are interested in academic careers. I’m sure that if there is funding, the department will make wise decisions as to how it could be used to enrich the department and the community.

I find it hard to believe that Dr. Craik was the 10th Scully Visiting Scholar to come to campus. Each of our scholars—and I have been back to Pitt to meet with nine of them—have fulfilled my intent of sharing stimulating and provocative ideas with our community. I would like to thank the department for managing this program and making it a success. It certainly has been a great way for me to remember my mother and father, and it has allowed me to thank the community for its support during my tenure at Pitt.

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