

FACETS



University of Pittsburgh
School of Health and
Rehabilitation Sciences
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Can you hear me **nOW?**

An Aural Odyssey

The Programmable Patient
Developing An Electronic Curb Cut
Growing Healthier Kids

FACETS

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University of Pittsburgh

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A School Where Everyone Belongs



Schools of “Allied Health” or “Health-Related Professions” are eclectic. They were conceived and designed to be so. But while SHRS was founded as the School of Health Related Professions and continues to be host to several distinct professional disciplines, I believe that the term “eclectic” is no longer an apt description of our school.

I arrived at the university in July 1991, an event that seems distant and remote yet also very recent, to assume responsibility as dean of the School of Health Related Professions. At the time, the school was highly regarded locally (and nationally in at least one area) for the quality of its professional training. But the then Senior Vice Chancellor for the Health Sciences, Dr. Thomas Detre, made it abundantly clear to me that this alone was not a sufficient basis for the continued existence of the school. I was given a clear and unambiguous charge: Develop a reputation for the school as a scholarly entity.

The transition from a school focused primarily on pedagogy to one that also heartily embraced peer-reviewed, externally supported research was a daunting challenge. So, too, was linking what was a loose amalgamation of professions collected together more for expedience than for any coherence or functional similarities into a comprehensive unit. It was quite evident that the primary identification of both faculty and students was with their respective disciplines.

The transition from a collection of different disciplines and professions heavily focused on primary training into a coherent and comprehensive school with emphasis distributed equally among instruction, research, and service required a cultural change. Unless mediated by brute force, such change occurs grudgingly and usually spans decades. We have been engaged in the process for nearly twelve years, and most of us would probably concede that there has been some degree of brute force employed.

The first step in establishing our new form of identity was to change our name. We became the School of Health and Rehabilitation Sciences. This was important in two respects: First, we were no longer “related” to “health,” but were in fact represented as a main event in both “health” and “rehabilitation.” Second, we were based on “science,” an

important distinction for a school that had been put on notice of the expectation to engage broadly in research and scholarly enterprise. We adopted rehabilitation as our priority focus. We created our first school-wide program, a unique (at the time) trans-disciplinary Ph.D. degree program in Rehabilitation

Science. This, perhaps more than any other accomplishment, created a real confluence for multi-disciplinary activity. Subsequently, we have added an undergraduate major in Rehabilitation Science that is also trans-disciplinary. This new program is self-contained and leads to a baccalaureate degree, but it also serves as an introduction not only to the science of rehabilitation but also to the several disciplines of our school. Students have the advantage of receiving instruction from our best and most accomplished faculty members from all the disciplines and professions of SHRS. They gain an understanding of the interdependence of health and rehabilitation professions, as well as a perspective and appreciation for patients and people with disabilities. The latter may well be unique among schools of health and rehabilitation professions. It is also noteworthy that their primary association is with the school, not a particular discipline.

I truly believe that we now have a greater mutual appreciation for one another as students and faculty colleagues among our six departments, nine disciplines/professions, and the many research and clinical centers that make up the School of Health and Rehabilitation Sciences. I believe that we have accomplished most of the goals that we established in 1991. Perhaps some of them were not even recognized as goals at the time. We have worked hard to achieve the added sense of unity that I believe now exists. Some of this results from conscious planning and effort. Some probably can be attributed to serendipity. There may be differences of opinion regarding the extent of our success, and I think we would all agree that SHRS is still a work in progress, but no one who was familiar with our school in 1991 would deny that substantial progress has been made, most notably in a clearer sense of identity.

The SHRS community includes everyone who is – or has been – associated with our school or the disciplines that we now call our own. Students, alumni, faculty, and friends: SHRS is a school where you all belong.

With kindest regards and best wishes,

Clifford E. Brubaker



ACCESS

Dr. Kate Seelman

In May of 2001, the 54th World Health Assembly formally endorsed an updated version of the international system classifying the consequences of pathology – the International Classification of Functioning, Disability and Health, commonly known as the ICF. First published for trial purposes in 1980 by the World Health Organization, the ICF aims to provide a unified and standard language for the description of health and health-related states.

In the Spring 2001 issue of FACETS, Dr. Joan Rogers, Professor and Chair, Department of Occupational Therapy, discussed the problems that have resulted from the use of multiple assessment tools, particularly as they relate to Medicare and Medicaid reimbursement. Simple terms like bathing, eating, and walking can be defined and rated differently depending on which of four instruments are used, and patients could be denied eligibility if their functional status is mischaracterized. I've asked Dr. Rogers to discuss the impact the ICF will have on healthcare policy, and more specifically, on the curriculum here at SHRS.



Joan Rogers

I admit it. I was a skeptic. I questioned whether the United States would ever embrace this iteration of the ICF as anything more than an epidemiological tool. Certainly the rest of the world has. In fact, the first version was widely accepted in Europe and Canada.

But here in the U.S., the initial draft was dubbed as not being “user friendly.” I suspected this version would meet similar resistance.

I'm being proved wrong. Rehabilitation professionals are now using its terminology. We no longer say “handicapped.” Instead, we talk about “participation restriction.” We no longer use the term “disability” in the same way. We talk about “activity limitations.” Those of us who have submitted manuscripts to our professional journals are having them returned. “This is fine,” the editors are saying, “but change the verbiage.”

But the ICF is more than just a common vocabulary. In much the same way as the *International Classification of Diseases* has enabled physicians around the world to mean the same thing when they talk about disease states, the ICF provides common classifications for what constitutes an activity limitation or a participation restriction resulting from a health condition.



Kate Seelman

Admittedly, the ICF in its current form has limitations. For example, the ICF characterizes conditions in only the most rudimentary ways, such as “mild,” “moderate,” and “severe.” But it is a start. And those who complain about the limitations of the ICF are overlooking its opportunities.

For example, as clinicians we can become involved in defining the thresholds of the classifications. When does the consequence of a health condition move from an activity that is functional to an activity limitation? How do we define “participation” and “environment?” How does assistive technology affect participation? And who determines who falls into each category – the patient, the physician, or some other healthcare gatekeeper?

Its implications for public policy are profound. Take Medicare as an example. Currently, eligibility is based in part on a person having deficits on a defined number of ADLs, or Activities of Daily Living. But what constitutes an ADL? If, for instance, one category is the ability to cut toenails, then conceivably there could be numerous people who might be defined as having an activity limitation. This, in turn, could swell the numbers who would be eligible for Medicare assistance. A government program now teetering on the brink of financial insolvency could be pushed over the edge simply by how an ADL is defined.

And this is just one aspect. The implications extend from architecture to the Internet to assistive technology itself.

As an educator, I find the implications of the ICF exciting. We have the opportunity to contribute to a new way of thinking about disability. We can react critically to the concepts. If some definitions don't make sense, we can help clarify them. We can work with the ICF until it is workable.

Here in the Department of Occupational Therapy, I think we're ahead of the curve. We have redesigned our entry-level curriculum so that every course has to address how it fits this new structure. As far as I know, we are the only program in the United States to have done so.

The ICF gives us a new way of looking at health and wellness. It examines people's abilities and the environmental factors that limit or enhance functioning. It provides a common language that crosses rehabilitation disciplines. It gets everyone on the same page.

Is the ICF perfect? Not yet. But it is a work in progress. And it is my contention that no student should graduate from SHRS without being conversant in this universal language of human function.

We'd like to hear your reaction to this column. E-mail your comments to Karen Khan at ktkhan@shrs.pitt.edu. They will be printed as space allows.



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Giving



Karen Khan

How long has it been since you were a student? No matter how many years it's been, you still remember the work load. Being a student was a full-time job. Classes, lectures, labs, homework, papers to write, tests to study for, and if you were in a clinical program, preparation time before seeing patients, then documentation and follow-up with supervisors for each case afterwards. And that was just your day job.

No doubt you, or many of your classmates, had to hold one, two, or more part-time jobs to help pay for your education. Perhaps you were one of the lucky ones who received a scholarship to offset some of your expenses. In spite of the intense pressure, however, you had the desire to succeed. You were committed to the idea of making a difference in someone's life.

I'd like to introduce you to just such a person. Jennifer Vargo is a second-year master's student in the Audiology program, and was recently selected to receive the Anne Pascasio Scholarship Award. I was given her "thank you" letter to Dr. Pascasio for my files, and was deeply touched by the genuine feelings of gratitude she expressed. The award obviously came at a time of great need. With Jennifer's permission, I'd like to share it with you.

Dear Dr. Pascasio:

I wanted to take a moment to sincerely thank you for the Anne Pascasio Scholarship Award. It is hard to express in words how much I appreciate the value of the scholarship, as it comes at a time when my need is truly genuine.

Last July the company my father works for could not settle a contract with its union workers, and it resulted in a strike. Just yesterday the Teamsters Union informed its members that they could no longer support the strike and that all benefits have been removed. To lessen the burden on my parents, in addition to taking three classes this semester, I will continue to work three part-time jobs.

I am excited to tell you that for my clinical site this semester I have been placed at The Western Pennsylvania School for the Deaf. I am diligently working to learn American Sign Language (ASL) and am embracing the opportunity to experience the deaf culture firsthand. I am sure that this will help me to understand the problems incurred by the hearing impaired and will greatly enhance my ability to aid them. In addition, I believe that being able to effectively communicate using ASL will help me to succeed as an audiologist.

Please extend my thanks and appreciation to the faculty committee and any others who helped in my selection for this award. I cannot thank you enough for the kindness. This generosity has greatly helped me on the path to achieve my goals. Thank you for helping me on my journey.

Jennifer's heartfelt appreciation for the generosity of others needs no elaboration from me. As a professional health-care provider, you know you made a difference in the lives of your patients. You can also make a difference in the lives of current and future students as they endeavor to follow in your footsteps. If you would like to provide scholarship support to students in need, I'd like to hear from you.

Karen T. Khan
Director of Development
412-383-6548
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If you would like
to make an on-line
donation, log on to **www.giveto.pitt.edu**

New and Noteworthy

Dr. Michael L. Boninger, Associate Professor, Department of Rehabilitation Science and Technology, was elected to the College of Fellows of the American Institute for Medical and Biological Engineering (AIMBE).

Paul Brach, Adjunct Instructor, Department of Physical Therapy, has won a Vargas International Hand Therapist Teaching Award.

Dr. Julie Fritz, Assistant Professor, Department of Physical Therapy, has won the Rose Award, given by the Orthopaedic Physical Therapy Section of the American Physical Therapy Association. Her paper, "The Role of Fear-Avoidance Beliefs in Acute Low Back Pain: Relationships with Current and Future Disability and Work Status" was co-authored by Dr. Anthony DeLitto, Associate Professor and Chair, and Steven George, a graduate student in Rehabilitation Science.

Dr. Kristina English has joined the Department of Communication Science and Disorders as an Assistant Professor. Her areas of interest are counseling in Audiology and Audiologic rehab. Dr. English will also serve as coordinator of the Audiology doctorate (AuD) program.

Dr. Margo B. Holm, Professor, Department of Occupational Therapy, has joined the "Caregiving for Individuals with Disabilities" panel at the Rosalynn Carter Institute for Human Development (RCI) at Georgia Southwestern State University, part of the newly established Johnson & Johnson/Rosalynn Carter Caregivers Program. Holm is one of 12 experts participating in the panel.

Dr. David Hostler, Assistant Professor, has joined the faculty of the Emergency Medicine program. He also holds a secondary appointment as a Research Instructor in the Department of Emergency Medicine, School of Medicine, University of Pittsburgh.

Dr. Michael McCue, Associate Professor, Department of Rehabilitation Science and Technology, has been named to the 29th Institute on Rehabilitation Issues (IRI) study group entitled "Promoting Consumer Empowerment Through Professional Vocational Rehabilitation Counseling."

Dr. Bambang Parmanto, Assistant Professor, Department of Health Information Management, and **Dr. Miriam Hertz**, Assistant Professor, Department of Health Information Management, have received two grants totaling nearly \$2 million to evaluate barriers to using computers experienced by people with disabilities. The grants are from the National Institute on Disability and Rehabilitation Research (NIDRR) and the National Telecommunications and Information Administration (NTIA). For more information, read "Developing an Electronic Curb Cut" in this issue of *FACETS*.

Tom Platt, Assistant Professor, Emergency Medicine, will make a presentation at the National EMS Conference, "A Randomized Trial of Four Ventilation Devices in Simulated Respiratory Arrest."

Mark Pinchall, Adjunct Instructor, Emergency Medicine, will deliver an oral presentation at the National EMS Conference, "Comparison of Experience and Situational Factors in Prehospital Intubation."

Dr. Kate Seelman was a Visiting Lecturer at the University of Michigan Initiative on Disability Studies, Ann Arbor, MI, and delivered the keynote address at the Conference on Outcome Measures for Assistive Technology, Washington University, St. Louis, MO, and the Pennsylvania Association of Rehabilitation Facilities, State College. Dr. Seelman has also been selected to join the Advisory Committee of the Mitsubishi Foundation, and the Pittsburgh Joint City-County Task Force on Disabilities.

Dr. Connie Tompkins, Professor, Department of Communication Science and Disorders, has received a four-year, \$1.2 million grant from the National Institute on Deafness and Other Communicative Disorders to continue her research of comprehension deficits incurred by adults who have right brain strokes. (See *FACETS*, Spring/Summer 2002.) In addition, Tompkins was a keynote speaker at the International Aphasia Conference in Zeist, the Netherlands, and the Wyoming Speech and Hearing Association in Jackson Hole.

Dr. Valerie J. M. Watzlaf, Associate Professor, Department of Health Information Management, presented two papers at the 2002 Annual Conference of the American Health Information Management Association (AHIMA) in San Francisco, CA. The first paper was entitled, "Standards for the Content of the Electronic Health Record" and was based on study results funded by AHIMA. The second paper, based on her breast cancer research, was entitled, "Obesity and Breast Cancer in African-American Women: Obstacles in Data Capture."

Students completing the 2002 Student Satisfaction Survey singled out a baker's dozen faculty and staff members who have been "particularly helpful." Congratulations go to **Lynette Chandler, Kevin Conley, Sharon Corey, Judy Dodd, Christine Dollaghan, Shameem Gangjee, Diane Helsel, Cheryl Messick, Diane Mizak, Lori Murray, Janice Vance, and Valerie Watzlaf.**

The Department of Rehabilitation Science and Technology and the Center for Assistive Technology were featured on the cover of the November issue of *Rehab Management Magazine*, one of the most widely read trade publications in the rehabilitation industry. The issue was distributed to the over 20,000 attendees at the MedTrade Conference held October 29-31 in Atlanta, GA.

SHRS and the VA Center for Excellence in Wheelchair and Related Technology are co-sponsoring the **19th International Seating Symposium** in Orlando, FL from February 27 - March 1, 2003. Investigators and staff from the Human Engineering Research Laboratories will be presenting pre-symposium workshops. For additional information, see their website at www.iss.pitt.edu

Calendar of Events

March 1: Continuing Education - "Current Considerations for the Management of the Knee: A Multidisciplinary Approach" by Dr. Freddie H. Fu, Dr. James P. Bradley, Dr. Savio Woo, Dr. James J. Irrgang, Dr. G. Kelley Fitzgerald, and Tara Ridge, MS, PT, SCS. For information, contact Melissa Lauffer at MLL54@pitt.edu Sponsored by the PT Class of 2003 as part of the Pitt/Marquette Challenge, Millennium Conference Series IV.

March 7: Audiology Seminar "Audiology and International Policy Trends: Implications for Practice" by Dr. Kate Seelman, Associate Dean for Government and International Relations and, Professor, Rehabilitation Science and Technology. For information, contact Tim Lucas 412-383-6542.

March 8: Continuing Education - "Management of Common Hand Injuries" by Shrikant J. Chinchalkar, OTR, CHT. For information, contact Melissa Lauffer at MLL54@pitt.edu Sponsored by the PT Class of 2003 as part of the Pitt/Marquette Challenge, Millennium Conference Series IV.

March 15: Continuing Education - "Treating the Brain: Innovation in Neurologic Physical Therapy" by Katherine J. Sullivan, Ph.D., PT. For information, contact Melissa Lauffer at MLL54@pitt.edu Sponsored by the PT Class of 2003 as part of the Pitt/Marquette Challenge, Millennium Conference Series IV.

April 5: Reception - Sponsored by the Audiology program in the Department of Communication Science and Disorders, at the national conference of the American Academy of Audiology (AAA) in the convention center in San Antonio, TX. Details will be available in the AAA program book. All Pitt alumni and friends are welcome.

April 11: Audiology Seminar "Middle Ear Implants" by Dr. Barry Hirsch, UPMC Health System. For information, contact Tim Lucas 412-383-6542.

May 17-18: Continuing Education - Chiropractic Seminar. For information, contact Michael Schneider at 412-833-6323.



Reengineering the Web

In 1989, Sailesh Panchang reached the height of his career in accounting. He became a senior consultant at one of India's leading chartered accounting and management consulting firms. Three years later, Panchang acquired a dangerous eye inflammation and lost his vision. Soon thereafter, he also lost his job.

Panchang wasn't dismissed for his performance. He was fired because he could no longer see his computer screen. For several years he tried independent consulting work, but found the need to have an assistant painstakingly read the screen to him to be too difficult.

Knowing he possessed the drive and the skills to thrive in the booming U.S. technology sector, Panchang applied to the School of Health and Rehabilitation Sciences, where in 2002 he earned a master's in Rehabilitation Science and Technology. "After years of struggling to fully utilize the Internet," says Panchang, "I resolved to develop ways for other computer users with disabilities to enjoy the same opportunities as everyone else." Panchang now works at

Deque Systems, a Web development

and usability testing firm in Fairfax, Virginia. The firm develops Web accessibility evaluation and remediation tools. Explains Panchang, "We check for website accessibility violations under the Rehabilitation Act and the Worldwide Web Consortium's Guidelines on Web Accessibility. We find and fix any accessibility discrepancies so users with disabilities can use the Web to the fullest extent possible."

While he's officially known as a senior accessibility engineer, this title only encompasses a fraction of Panchang's responsibilities at the firm.

One facet of his job requires him to perform usability testing on websites to ensure that people with visual, auditory, or physical disabilities can use them. Panchang also reprograms websites to accommodate JAWS, a leading screen reading software that enables people with visual impairments to navigate the web. Often JAVA-based websites



have compatibility issues with this software application. If this is the case, Panchang makes alterations to the website's code until it is compliant. And, when he's not working on websites, Panchang conducts training programs and demonstrations of the firm's RAMP (Robust Accessibility Management

Production) program to prospective customers.

"Most people without disabilities don't realize why these federal standards are in place," admits Panchang. "When I demonstrate to people what surfing the Internet with JAWS is like on websites that are and are not usable, I think it serves as a real eye-opener, especially to Web developers."

He continues, "The most challenged Web users are those with visual impairments. And I'll do whatever I can to ensure that they – and others with disabilities – can work and live on a level playing field."

But Panchang contends that none of his work could be possible without the friendship and guidance of the faculty and students at SHRS. "I am forever indebted to Dr. Cooper, Dr. Seelman, and all of my advisors and friends who made it possible for me to reach my goals. I'll never forget their unwavering support."

What's New with you?

It's easy to share your good news about a new job, a promotion, or an honor or award. Simply e-mail the information to Karen Khan at ktkhan@shrs.pitt.edu and we'll include it in the "Yearbook" section as space allows.

'80s

Jeffrey Tiesi, BS (HIM '87), has been promoted to System Vice President at Geisinger Health System, Danville, PA.

'90s

Judith Younginger, MS (CDN '94) is an Assistant Professor in Nutrition as well as the Didactic Program Director at Northern Illinois University.

Rebecca Harmon, MPM, RHIA (HIM '98) has just recently accepted a position as Director of Health Programming at the Community College of Allegheny County, Pittsburgh.

Peggy Lehman Blake, Ph.D. (CSD '99) is an Assistant Professor at the University of Houston.

'00s

Madalyn Rogers, MS (HIS '01) is an Interface Development Engineer at McKesson Automation, Pittsburgh.

Eiman Al-Jafar, Ph.D. (HRS '02) is an Assistant Professor at the Department of Health Information Administration, Faculty of Allied Health Sciences & Nursing, University of Kuwait, and is consulting for the Ministry of Health. She has also been asked to chair a workshop on Competency Requirements in Non-Medical Healthcare Professionals at the First Middle East Conference on Medical Informatics.

IN MEMORIAM

Alice Oulette - D. T. Watson '47

L. June Deliere - D. T. Watson '55

Margaret Fifer - D. T. Watson '59

Mary Christina Romeo - HRP '81

YEARBOOK

Student Dietetics Association Develops a Taste for Volunteerism

While the executive board of the Student Dietetics Association (SDA) has been in office for just four months, it has already demonstrated that the group will have a healthy appetite for volunteerism.

The SDA kicked off the last semester by volunteering for the AIDS Task Force and never looked back. In November, the group held a holiday food drive to benefit the Greater Pittsburgh Community Food Bank. The donated food tipped the scales at an amazing 246 pounds. Also in November, the SDA held a bake sale in Forbes Tower.

The proceeds were used to buy gifts for 170 patients at Kane Hospital in Bridgeville.

Says Judy Dodd, Adjunct Assistant Professor and Faculty Advisor, Clinical Dietetics and Nutrition, “The faculty has been extremely supportive of the association, especially with the results we’ve been seeing. Not only have they helped people throughout the Pittsburgh community, they’ve also promoted the value of healthy living.”

The group’s hunger to help continued in the new year.

It’s
real
science
helping
real
people.

“In February, we made Valentines to brighten our adopted patients’ day,” explains Megan Etzel, President of SDA and a second-year undergraduate student in Clinical Dietetics and Nutrition. “And we’ll put out a newsletter in March to coincide with National Nutrition Month that will outline proper nutrition habits.”

In addition, the group plans to attend several health fairs in the coming months at the Petersen Event Center and other athletic facilities. The SDA’s displays will highlight healthy eating and exercise habits as well as the importance of choosing nutritious snacks.

“The work we do through SDA has been a great learning experience for everyone in the association,” explains Etzel. “Not only is it an opportunity to put what we learn into practice, it also gives us a forum to help others live more healthy lives.”

NAFDA Comes to SHRS

The already long list of student associations at the University of Pittsburgh just got longer. In October, a group of 15 Communication Science and Disorders doctoral students founded a chapter of the National Association of Future Doctors of Audiology (NAFDA). Membership in the NAFDA offers access to educational archives, national and international student projects, and valuable seminar training not normally available.

In the new chapter’s short existence, its students have already made a strong impact on both faculty and the Pittsburgh community.

“The faculty has been extremely supportive of NAFDA,” says Elaine Morner, Clinical Instructor, Communication Science and Disorders. “All of the students are working toward their clinical doctorate, so many of them have developed close working relationships with faculty members.”



Most of the group’s fundraising activities will help pay for a trip to the American Academy of Audiology Convention in San Antonio this April, where students will have the opportunity to network with potential employers,

establish connections with other future doctors of Audiology, and learn about cutting-edge technologies and best practices that will affect them as they begin their careers.

“Attending the convention will give us the chance to be at the forefront of our profession,” explains Tish Gaffney, National Representative for NAFDA. “The career advice and perspective on the field that we get at the convention will more than offset all the hard work of getting there.”

The group’s first fundraiser involved the sale of wrapping paper for the holiday season. “Not only were we able to

raise over \$500 in our first official fundraiser, but Catherine Palmer and the Eye and Ear Foundation made a matching donation; thus, our total profit was \$1,000,” says Jen Vargo, President of NAFDA. “We’re planning a similar project for the spring, but instead of wrapping paper, we’ll be selling Yankee candles and T-shirts with a specially designed Audiology emblem.”

But members of NAFDA are quick to point out that not all of their fundraisers are for self-interest.

“One of the most rewarding moments of the project came after we finished gathering donations for a family we adopted over the holidays through the Salvation Army. When our contact saw how successful our efforts were, she literally started crying,” remembers Vargo. She says she was very proud of what she and her fellow students had accomplished.

“Having a positive effect on the community is extremely important to all of us. As future doctors of Audiology, we have an obligation to advocate for our patients and raise awareness of the challenges associated with hearing loss.”

Mapping Uncharted Territory

Suzanne Yoder's academic record bears all the markings of an exceptional student. She graduated magna cum laude from Thiel College with a bachelor's degree in Communication Science and Disorders. There, she earned membership in a host of honor societies. She recently graduated from the University of Pittsburgh with a master's degree in Communication Science and Disorders, and is now working on her Clinical Doctorate in Audiology (AuD).

However, her scholastic accomplishments tell only half of her success story. From a young age she has experienced progressive hearing loss and wears two hearing aids.

But she insists that her hearing loss is more help than hindrance. "Being hard of hearing gives me insight into the thoughts and feelings of patients experiencing a hearing disorder," she explains. "Not only

can I diagnose and treat a variety of audiological symptoms, I can also relate to the mental, emotional, and personal aspects surrounding hearing loss."

And it is this first-person perspective on hearing loss that led to the development of her doctoral research project. Entitled "Hard of Hearing Audiologist: Demographics and Special Needs in the Field of Audiology," the study aims to define the advantages and disadvantages of being a hard of hearing audiologist.

"It's amazing how little information exists about audiologists who, themselves, are experiencing hearing loss," notes Yoder.

The lion's share of her research will come from the results of a questionnaire that will be distributed to audiologists around the country. From the results, Yoder hopes to answer some fundamental questions about hard of hearing audiologists. What devices do they use to accommodate their hearing loss in the work setting? Do they believe their experience with hearing loss helps them to better diagnose and treat patients? Are there devices or

techniques they employ because of their hearing loss that could benefit the way other audiologists treat patients?

"Many audiologists don't even recognize that some of their peers are hard of hearing," Yoder explains. "But my study could uncover some practices in the clinical setting that could change the way we do things."

The project should be completed by 2004, the year Yoder expects to graduate. She then plans to open a private practice

in a rural area to help people experiencing hearing disorders who normally have to travel long distances to receive treatment.

"My vision is to have a clinic that offers lip reading and sign language classes, a variety of assistive devices, support groups, and other services that aren't normally offered in a small rural practice," she confides. "People outside of urban settings should have equal access to these services. Where you live shouldn't determine the type of care you receive."

Judging from the success that has followed her career in Audiology thus far, Yoder seems destined for an equally successful future. Her work will help many people live more healthy and productive lives.



Class Acts

Peter Cody Hunt, a doctoral student in the Department of Rehabilitation Science and Technology, was named one of five recipients of the 2002 Paul G. Hearne Leadership Award for emerging leaders with disabilities. Sponsored by the American Association of People with Disabilities (AAPD), the award will be presented at the AAPD's second annual Leadership Gala on March 4, 2003 at the Washington Hilton and Towers, Washington, DC. Hunt will also receive a \$10,000 scholarship.

Brett Kluetz, a doctoral student in the Department of Communication Science and Disorders, has received a \$2,000 scholarship from the American Speech-Language-Hearing Association (ASHA). The award is one of three endowed scholarships given to full-time graduate students with a disability who are enrolled in a Communication Science and Disorders program and who demonstrate outstanding academic achievement.

Brandi Lynn Long, an undergraduate student in the Department of Health Information Management, and **Jennifer Vargo**, a graduate student in the Department of Communication Science and Disorders, are this year's winners of the Anne Pascasio Scholarship Award.

Jennifer Stumpf, a senior in the Athletic Training program, received the Tim Kerin Memorial Scholarship Award.

Eric Wallis, a master's student in the Department of Health Information Management, has been selected as a 2002 Merit Scholarship recipient by the FORE Foundation of the American Health Information Management Association (AHIMA). Eric has been awarded the MedQuist, Inc. Scholarship.

A Voyage of Discovery

The Pittsburgh Health Sciences Fellowship Opens Doors for O.T. Graduate Students

Last summer, the Department of Occupational Therapy sent five students on an eight-week odyssey of the mind. They came back with a broader, richer, more comprehensive understanding of Pittsburgh's healthcare community than they ever imagined.

In 2001, the Jewish Healthcare Foundation (JHF) and the Coro Center for Civic Leadership joined forces to create the Pittsburgh Health Sciences Fellowship. This intensive eight-week summer program was designed to develop the leadership skills of outstanding graduate students from across all healthcare disciplines, while introducing them to the great thinkers and leaders who have made Pittsburgh a national center for health education and practice.

From the Department of Occupational Therapy, doctoral candidates Elizabeth Skidmore, Tamara Mills, and Denise Chisholm, and master's candidates Erica Kopcha and Amy Kurowski, joined 32 other graduate students in becoming JHF/Coro Fellows. "One of the most enriching elements was that we worked side by side with people from so many other disciplines – from medicine, pharmacy, and psychology to health law, social work, and public policy," says Elizabeth Skidmore.

First, a New Approach

Once a week for eight weeks, JHF/Coro Fellows spent the afternoon and evening at community hospitals, corporations, and agencies meeting with Pittsburgh healthcare leaders. To promote active learning and leadership training, those scheduled to meet with

JHF/Coro Fellows were asked specifically not to prepare a talk or presentation. Rather, the JHF/Coro Fellows established roles and goals, led the discussion, and drove the agenda to glean the information they wanted.

"We were taught an active team-building methodology," says Denise Chisholm. "With up to 18 people in each of the two JHF/Coro tracks, the group-think process was challenging."

"From a healthcare practitioner's standpoint, this was actually counter-intuitive at first," says Skidmore. "This was not a top-down approach. Instead, like the well-known industrial quality programs, issues are identified and problems solved at the level of the problem."

Building Networks

At their weekly roundtable with renowned academic, corporate, and medical leaders, the JHF/Coro Fellows discovered what networking is all about.

"To sit with a vice president of Highmark and have a candid discussion about the quality of care in our region was wonderful. But to walk away with his business card in my pocket was invaluable," adds Chisholm. "Now, not only have I found places where occupational therapy could be playing a key role and isn't (yet), I also have contacts – people who I've been invited to call when I need a question answered or a door opened."

A Broader Outlook

For Tamara Mills, the JHF/Coro Fellowship was a great opportunity to find new places where occupational therapy could be of service, now or in the future.

For example, at the Center for Computer Assisted Surgery at West Penn Hospital, they are gathering data for a total joint registry. "Occupational therapy could make real

contributions to some of the assessments, especially in terms of the functional status of a joint," she says.

"Mobility and function – getting in and out of bed or up and down the stairs – are critical measures of the quality of the medical product."

Adds Skidmore, "The Bio-Tissue Engineering Center at CMU was an eye-opener. It gave us the opportunity to think about how these innovations are going to affect occupational therapy in the future. The ability to repair the structures of the body will have enormous impact on rehabilitation outcomes."

For Erica Kopcha, the East Liberty Family Healthcare Center was the embodiment of the ideal continuum of care. "Because this group of people has a belief that everyone is entitled to optimal care, they have created an incredibly well-orchestrated network of providers. They communicate effectively with each other across virtually every medical field, and no one drops the ball."

"It made us aware of things beyond our realm," says Chisholm. "And it made us more aware of our responsibility to educate our clients about the healthcare innovations and frontiers available to them."

New Points of View

"The experience definitely changed my philosophy about the field of occupational therapy," says Kopcha. "I talked with a pharmacy student and realized that we have

"One of the most enriching elements was that we worked side by side with people from so many other disciplines – from medicine, pharmacy, and psychology to health law, social work, and public policy."





A Community Of Neighbors

absolutely the same goals for our clients. Now I'll be much more comfortable approaching people in different healthcare areas because I can see the connections."

The occupational therapy graduate students involved in this program agreed that before JHF/Coro, they saw two basic post-graduate career tracks: administrative and academic. "Even though I had practiced in the field for five years before returning to school, I was still on a fishing expedition as far as what my advanced training would lead me to do with my career," says Skidmore. "Now I see an almost endless list of possibilities – research, academia, consulting for business and industry, volunteerism, community health and advocacy and global healthcare."

"I found that the experience affirmed my approach to a career in healthcare management. Now I also have management concepts and skills I can use, and I can train others to use them, too," says Mills. "In healthcare today, everybody manages something – whether it's clients, equipment, supplies, or employees, the concepts still apply."

While new students are already lining up to apply for the program, JHF/Coro invites alumni to attend sessions and provides ongoing opportunities to observe, learn, and network. Mills will continue to work with JHF/Coro even more actively. She has been invited to sit on the JHF/Coro Advisory Board.

For more information about JHF, go to their website at www.jhf.org For more information about Coro, go to their website at www.coro.org

The University of Pittsburgh has been described as a "community of neighbors everywhere, our faculty, staff, and students lend a hand whenever and wherever it's needed. In each issue of FACETS, we celebrate their good work.

With 32,000 students and 9,600 faculty and staff, the University of Pittsburgh is a formidable presence in Oakland. Often lost is the fact that there are plenty of people not related to the university who call the community home.

Just west of Trees Hall on Allequippa Street, 600 of these Oaklanders live in the Oak Hill Apartments, about 100 of whom are seniors living in a high-rise. Dr. Jessie VanSwearingen, Associate Professor, Department of Physical Therapy, and Dr. Jennifer Brach, Visiting Assistant Professor, were introduced to the seniors when they were investigating potential research participants for an exercise intervention trial they were proposing to conduct. The initial contact came through the Mathilda Theiss Health Center, which serves the Oak Hill community, among others.

The leadership of the housing development expressed an interest in working with the SHRS faculty should an opportunity arise. A number of activities for the residents are scheduled throughout the year, including a major health fair each spring. However, physical therapy had not been a part of the equation in the past.

Brach and VanSwearingen decided to turn the introduction into an opportunity. "Students in the geriatric physical therapy class had always expressed an interest in putting their newly learned skills to practice on seniors, rather than each

other," states Brach. "The participants would have an opportunity to have various tests performed, such as measurement of physical function, posture assessments, and evaluation of everyday activities such as getting up from a chair or simply walking."

So the "mini" health fair was born, and one October afternoon, Brach and VanSwearingen, along with Lynn Fitzgerald, Adjunct Instructor, Diane Mizak, Administrator, and 40 students ventured up to Oak Hill to meet the seniors.

Working in groups of five, the students performed a series of measures on the participants, including blood pressure and gait speed. Participants received a summary sheet of the tests and measures that were performed to share with their physicians.

In the end, it was a win/win for everyone. "The participants are really interested in their health, and interested in doing better," says VanSwearingen. "But they also seemed to be just as interested in what the students were learning, what their careers would be like, and the kind of work they would be doing."

For their part, the students learned a great deal about the importance of establishing a rapport with the participants. "I think they found it to be a very rewarding opportunity," says Brach. "And I believe they might have learned as much about interacting with people as they learned about how to do their physical therapy tests and measures."

VanSwearingen notes that that is a good thing. "I think it was helpful in that the students experienced the need to have a relationship with a patient, not simply to perform tests and measures."

Because of the positive response to the event by all involved, the experience will be repeated. The PT faculty plans to be a part of the regular health fair that will be held at Oak Hill in the spring of 2004.

Can You Hear Me **Now?**



An Aural Odyssey

The year is 1819. Goa VI sits on the throne of Portugal. As a courtier, your duties include conveying queries to the king. But you cannot speak directly to the monarch. Instead, you must kneel before him and direct your questions into the open mouth of one of two grotesque lions carved into the arms of his throne.

While deference was the birthright of royalty, in the case of Goa VI, this ritual was not the prerogative of a power-mad monarch. Rather, it was part of an elaborate ruse to disguise one of the most common of maladies. Goa VI was hard of hearing.

His throne was one of the most ingenious examples of the acoustic chair, favored by hard of hearing royals in the 18th and 19th centuries. Goa's throne was created by F. C. Rein, a master craftsman. A large receiving device was concealed in the seat, and within the hollow arms were receptors that transmitted sound from the lion's mouth to an earpiece fitted on a tube hidden in the chair's back.



Can you hear me now?



The Thomas Hawksley Company was renowned for its line of disguised hearing products, including hats, canes, and opera glasses. Its catalogue read, “The ingenuity and taste of the instrument maker are required to construct mechanical aids to hearing which shall combine gracefulness of form and appearance without distracting from their efficiency, for the burden of deafness is great and the sensitiveness of the sufferers should



The acoustic chair was one of many clever charades used in the 19th century to conceal a hearing problem. There was the water canteen receptor, created for a deafened African rubber planter; the beard receptacle, a device worn under the chin of hirsute gentlemen; and for the ladies, the hair receptor, designed to be arranged and worn under the bouffant hairdos popular in the period.

A favorite at dinner parties was the acoustic table urn, also known as a vase receptacle. The urn, with its six decorated openings, was meant to capture sound from any angle in the room. The interior resonator would then channel the sound directly to the user through a long tube that could be disguised as part of a table runner. Unfortunately, the urn wasn't particularly effective, since once it was filled with fruit or flowers, the resonating effect was dulled.



not be wounded by the necessity of announcing their affliction to the public by having to use instruments either unsightly in form or objectionable in color or materials.”

It was not until 1892 that the first patent was filed for an electrical hearing aid, and it was another seven years before the first commercially manufactured hearing aid became available. The table model instrument, which used a microphone made of carbon dust, cost \$400 — an astronomical sum at the time — and was not particularly effective.

It was almost three decades before the vacuum tube hearing aid was patented and manufactured. In the intervening years, the focus was on improving the electrical carbon hearing aid, whose effectiveness was largely determined by the size of the microphone relative to the earphone. The bigger the microphone compared to the earphone, the better the amplification. Carbon instruments were produced with a “small-sized” microphone for mild hearing loss, a double-size microphone for moderate impairment, and a quadruple size microphone for the most severe cases.



Audiology Evolves

While hearing aid technology continued to improve through the 1920s and 1930s, little progress was being made in quantifying hearing loss. Physicians relied primarily on tuning forks to determine hearing levels. An exception was C. C. Bunch, who used the newly developed Western Electric 1-A audiometer to assess the hearing of patients with otologic problems, and Dr. L.W. Dean, who showed how the electric audiometer could

be used to enhance information gleaned from tuning fork tests. Dean developed what is now known as the pure-tone audiogram, and he was the first to describe audiometric patterns of many different types of auditory disorders.

World War II changed the face of audiology. To paraphrase General William Tecumseh Sherman, war is hell on hearing. The U.S. Army anticipated tens of thousands of aural casualties that would result from the ear-splitting sounds of battle. Hearing treatment centers were established at Borden General Hospital in Chickasha, OK; Hoff General Hospital in Santa Barbara, CA; and locally, at Deshon Hospital in Butler, PA. The Navy set up a similar

center at the Naval Hospital in Philadelphia. It was at these sites that the modern field of audiology was born.

Deshon was perhaps the most notable. There, Captain Raymond Carhart developed a protocol for fitting and evaluating hearing aids that became a clinical practice model. Carhart is considered the father of modern audiology. Other leaders



In the mid-1950s, the Audiology and Speech Pathology programs were moved into the Speech Department – later renamed Communications. Matthews remained the department chair. Heading the clinical side of the program was Dr. Leo Doerfler of Eye and Ear Hospital. Doerfler and his team of physicians were more than adjunct faculty. They developed the

Audiology vs. Assistive Technology

Academic sitting wasn't the only controversy that engulfed the field. Until the 1970s, audiology and the fitting of hearing aids were separate and distinct fields.

With the advent of the transistor in 1947, the hearing aid industry took off. Where in the past, vacuum tube hearing aids required a microphone, an earphone/receiver, an amplifier, and a battery pack with a lifespan of little more than 24 hours, by

emerging from the military centers included Grant Fairbanks, who went on to establish a model program for the training of hearing scientists at the University of Illinois, and William G. Hardy, who pioneered pediatric hearing testing at Johns Hopkins Medical School.

In Pittsburgh, Sam Lybarger of Radio Ear was the first to identify that the electromagnetic energy that leaked from telephones could be picked up by a coil in hearing aids. This type of coupling continues to be the standard for phone use with hearing aids.

Sam's son, Ed, is still in the Pittsburgh area and has generously contributed historic hearing aid items from his father's personal collection.

Yet despite the audiological advances resulting from the post-war research, audiology remained largely a nascent profession. In the early 1950s, there were fewer than 500 audiologists in the United States. Most worked in otologists' offices. At the University of Pittsburgh, Audiology, along with Speech Pathology, was part of an interdepartmental division within the Department of Psychology that included Special Education and Dentistry. Dr. Jack Matthews, who was both a psychologist and a speech pathologist, headed the division. The Audiology faculty were primarily physicians from Eye and Ear Hospital.

curriculum, taught the classes, and supervised students in their clinical research. In fact, they were such an integral part of the program that in 1960, Doerfler proposed moving the Audiology program into the School of Medicine. It was a controversial recommendation.

The fundamental question was where Audiology belonged. Should it remain a discipline within Arts and Sciences, with academic research as its primary focus? (At the time, only Arts and Sciences programs granted Ph.Ds.) Or should its focus be more clinical?

The debate raged, with the issue finally coming before the university's Council of Graduate Studies. Hearings were held, testimony given. Finally, the Council reached its decision. Audiology would remain an Arts and Sciences discipline, part of the Department of Communications. It would remain there until 1996, when it became part of SHRS.



1955, hearing aids were small enough to be worn in the ear. And in the ensuing years, the devices became even smaller and more reliable.

But hearing aids were not considered medical devices, and audiologists were ethically prohibited from dispensing them. The belief was that audiologists might over-prescribe the devices if they tested hearing as well as sold devices.

This conflict of interest controversy was put to rest in the 1970s when the U. S. Food and Drug Administration (FDA) classified hearing aids as medical devices. But the edict from the FDA didn't satisfy all parties. Doerfler, then heading the Audiology program, was one of the founders and the first president of the Academy of Dispensing Audiologists. In a memoir, he tells of receiving a letter from a hearing aid dealer in Mississippi stating that he "certainly wasn't going to join an association of communist liberals."



Continues on page 34

The Programmable Patient

SimMan® Helps Emergency Medicine Students Prepare for Patient Contact

Nothing beats hands-on experience. Rather than depending on lectures or readings to build knowledge and skills, observation and actual work in a particular field provide students with opportunities to practice techniques and experience the realities of their chosen professions firsthand. Field experience also allows them to start building the confidence and self-reliance they'll need to succeed once they leave the walls of academia.

In Emergency Medicine, hands-on experience has always been a key part of the learning process. However, due to the critical nature of the situations EMS personnel and other allied health professionals frequently find themselves facing, there is little time or willingness to allow students to "practice" or repeat techniques on patients in the throes of a health crisis. The students have to know what they have to do – and more importantly, how to do it – before they face field situations. And to gain that experience, there used to be few options other than taking turns practicing on dummies, or even fellow classmates. Few options, that is, before the Laerdal™ SimMan® Universal Patient Simulator, more commonly known as SimMan.

Significantly more than just a practice dummy, SimMan is a simulation mannequin that actually replicates conditions frequently found in the field. Developed by Laerdal, a Norwegian medical device manufacturer, SimMan is used to simulate cardiac and respiratory emergencies with amazingly lifelike accuracy.

According to Dr. Walt Stoy, Associate Professor and Director, Center for Emergency Medicine, SimMan brings a level of realism to emergency medicine education that has not been seen before.

"SimMan is an amazing educational tool," remarks Stoy. "The device, which is comparable in size to a man of average size, can actually simulate a wide variety of breathing patterns, bowel sounds, and heart rates. It can

also produce a femoral and carotid pulse, have its airway intubated, and be given hypodermic injections in a specially designed arm. And that's just the beginning. We can program it

to simulate neck compression, tongue edema, and involuntary jaw movement. Instructors can even pre-record messages to allow SimMan to 'speak' to students."

Comprised of a sophisticated network of circuit boards, electronics, air-handling devices, and speakers, SimMan is driven by a computer workstation and a portable air compressor. The computer can be programmed to

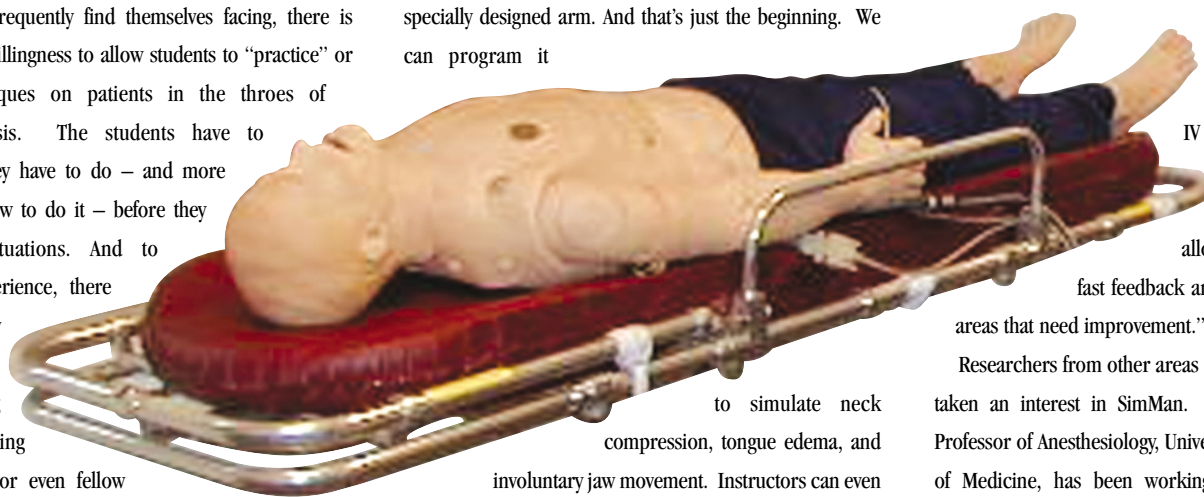
produce an infinite variety of cardiac or respiratory events, and the air compressor produces pressure that replicates respiratory functions and circulation. Completely portable, the device can be used in classroom settings, or can be powered by a laptop computer and used in mobile environments – such as the back of a moving ambulance – to let students perfect their skills in emergency transport situations. The device can also be controlled by a hand-held remote that allows the instructor to adjust the parameters of a situation from across the room.

"SimMan's flexibility is its best feature," comments Stoy. "With this device, we have the ability to change the situation almost instantly at the touch of a button. Students then learn to react appropriately to the changes and follow through with the correct administration of appropriate care. It's much more realistic than having classmates acting as victims." According to Stoy, the device also records everything the student does to respond to a particular situation. "If a pulse is taken, a record is created the moment a student's fingers touch the wrist or neck of the simulator. If an airway is inserted, the device automatically records whether it has entered the esophagus or the trachea. The same goes for drug administration, IV insertion, or defibrillation.

There is a record of everything, and that allows us to give students

fast feedback and the ability to point out areas that need improvement."

Researchers from other areas of the university have also taken an interest in SimMan. John Schaefer, Assistant Professor of Anesthesiology, University of Pittsburgh School of Medicine, has been working closely with Stoy and Laerdal to add a number of new features and functions to the simulator. The Department of Communication Science and Disorders has suggested adding a number of functions to replicate symptoms frequently seen in stroke patients.





“These efforts to improve the functionality of SimMan ultimately improve the experience each student has with the device,” sums up Stoy. “Rather than have students do the wrong thing in the field or have them freeze because they’re not sure what to do, SimMan is helping to take the guesswork out of effective patient care. Best of all, it allows

students to really perfect their skills and build needed confidence before they actually have to put everything to the test on a human being. It may not be the real thing, but it’s about as close as you’re going to get.”

For more information, contact Walt Stoy at stoywa@msx.upmc.edu

SimMan photographs courtesy of Laerdal Medical Corporation



Jonathan Kroll has dreamed of working in the emergency medicine field for almost as long as he can remember.

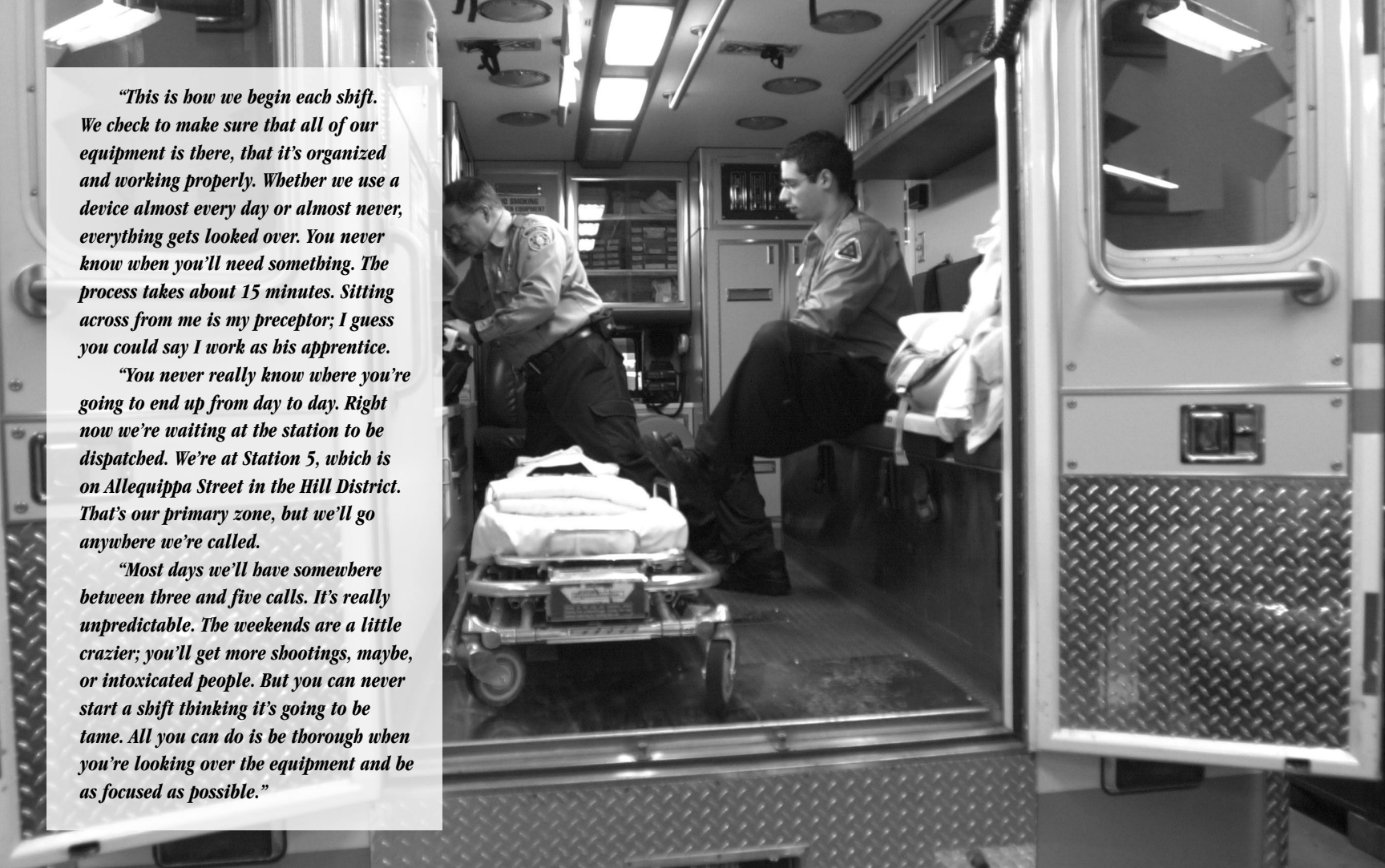
In high school, he became a First Responder, the same certification as most police and firefighters. He also earned certification as an Emergency Medical Technician - Basic, and was a volunteer firefighter in his hometown of Owings Mills, MD.

Yet when he arrived at the University of Pittsburgh, he set aside emergency medicine, opting instead to major in engineering. It would be two years before he would rediscover his true calling. Today, Jonathan is a second-year student in the field of his dreams. This is one day in his life.

The Real World

They've sat through hundreds of hours of lectures. They've pored through dozens of textbooks. Now comes the time to put that knowledge to work.

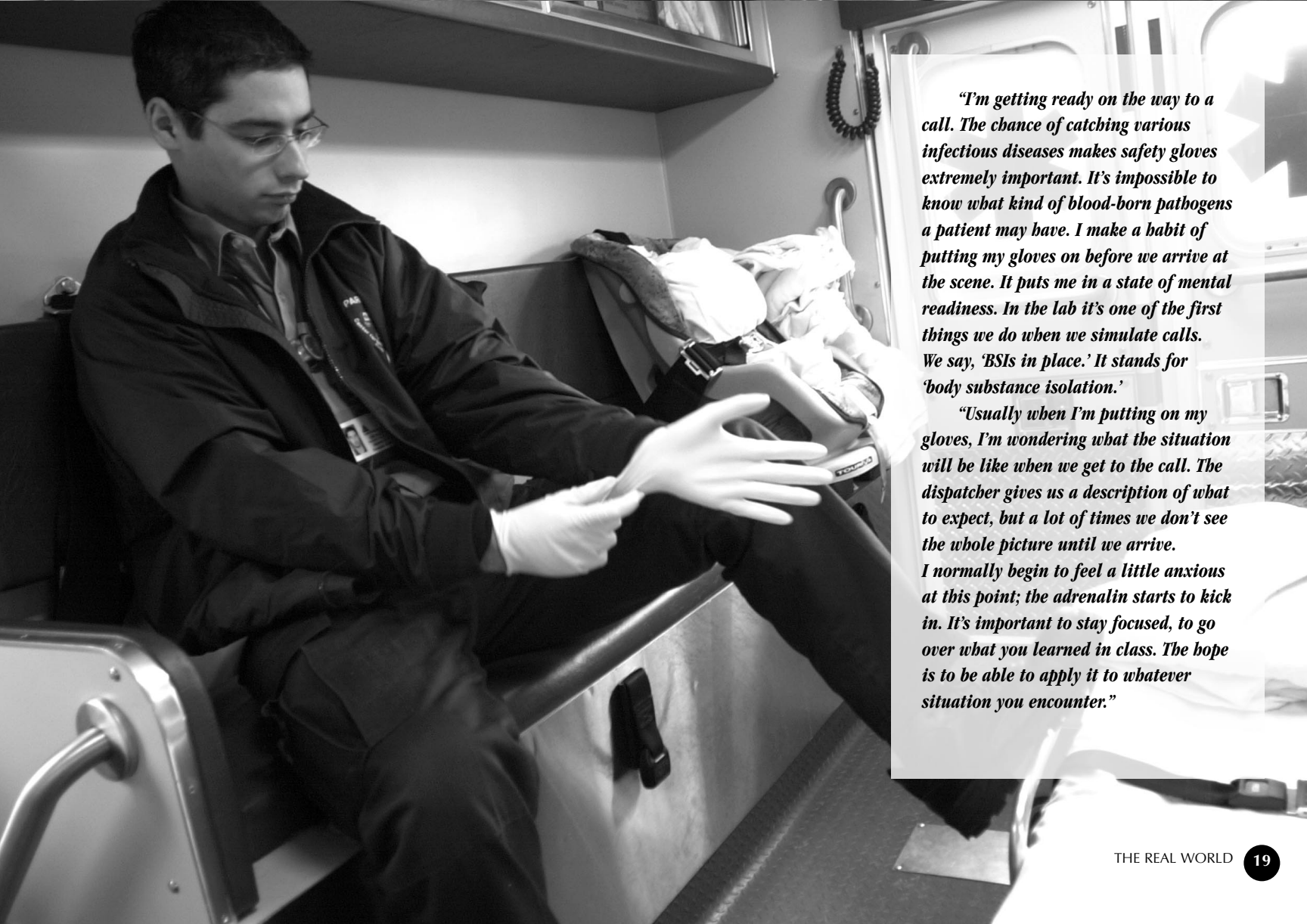
The Challenges and Rewards of Clinical Education in Emergency Medicine



"This is how we begin each shift. We check to make sure that all of our equipment is there, that it's organized and working properly. Whether we use a device almost every day or almost never, everything gets looked over. You never know when you'll need something. The process takes about 15 minutes. Sitting across from me is my preceptor; I guess you could say I work as his apprentice."

"You never really know where you're going to end up from day to day. Right now we're waiting at the station to be dispatched. We're at Station 5, which is on Allequippa Street in the Hill District. That's our primary zone, but we'll go anywhere we're called."

"Most days we'll have somewhere between three and five calls. It's really unpredictable. The weekends are a little crazier; you'll get more shootings, maybe, or intoxicated people. But you can never start a shift thinking it's going to be tame. All you can do is be thorough when you're looking over the equipment and be as focused as possible."



"I'm getting ready on the way to a call. The chance of catching various infectious diseases makes safety gloves extremely important. It's impossible to know what kind of blood-borne pathogens a patient may have. I make a habit of putting my gloves on before we arrive at the scene. It puts me in a state of mental readiness. In the lab it's one of the first things we do when we simulate calls. We say, 'BSIs in place.' It stands for 'body substance isolation.'"

"Usually when I'm putting on my gloves, I'm wondering what the situation will be like when we get to the call. The dispatcher gives us a description of what to expect, but a lot of times we don't see the whole picture until we arrive. I normally begin to feel a little anxious at this point; the adrenaline starts to kick in. It's important to stay focused, to go over what you learned in class. The hope is to be able to apply it to whatever situation you encounter."



"We call this patient's condition 'altered mental status.' We use the term to describe people who don't respond to our questions. Someone called because he was stumbling around the street and had fallen. He was bleeding from the fall.

"When we found him, he was sitting on the ground and couldn't even talk to us. I'm holding his hand to draw his attention toward me so that he'll respond to my questions, but he wasn't responding too well. When you're asking someone questions and they aren't verbally responding, you have to go a different route.

"In these situations, you can never assume that there is just one thing wrong with a patient. That's why we call it 'altered mental status.' There's always the potential that something else is going on. Even if the patient is someone that you treat regularly, you never know when it could be a stroke that's causing the problem.

"In class, we go through scenarios all the time, but it's different when you're talking to someone and they're just not answering your questions. I think that my adrenalin level is the highest when I'm with a patient. Your mind is racing through all the things you've learned, trying to come up with the right answers."

The Real World

The Challenges and Rewards of Clinical Education

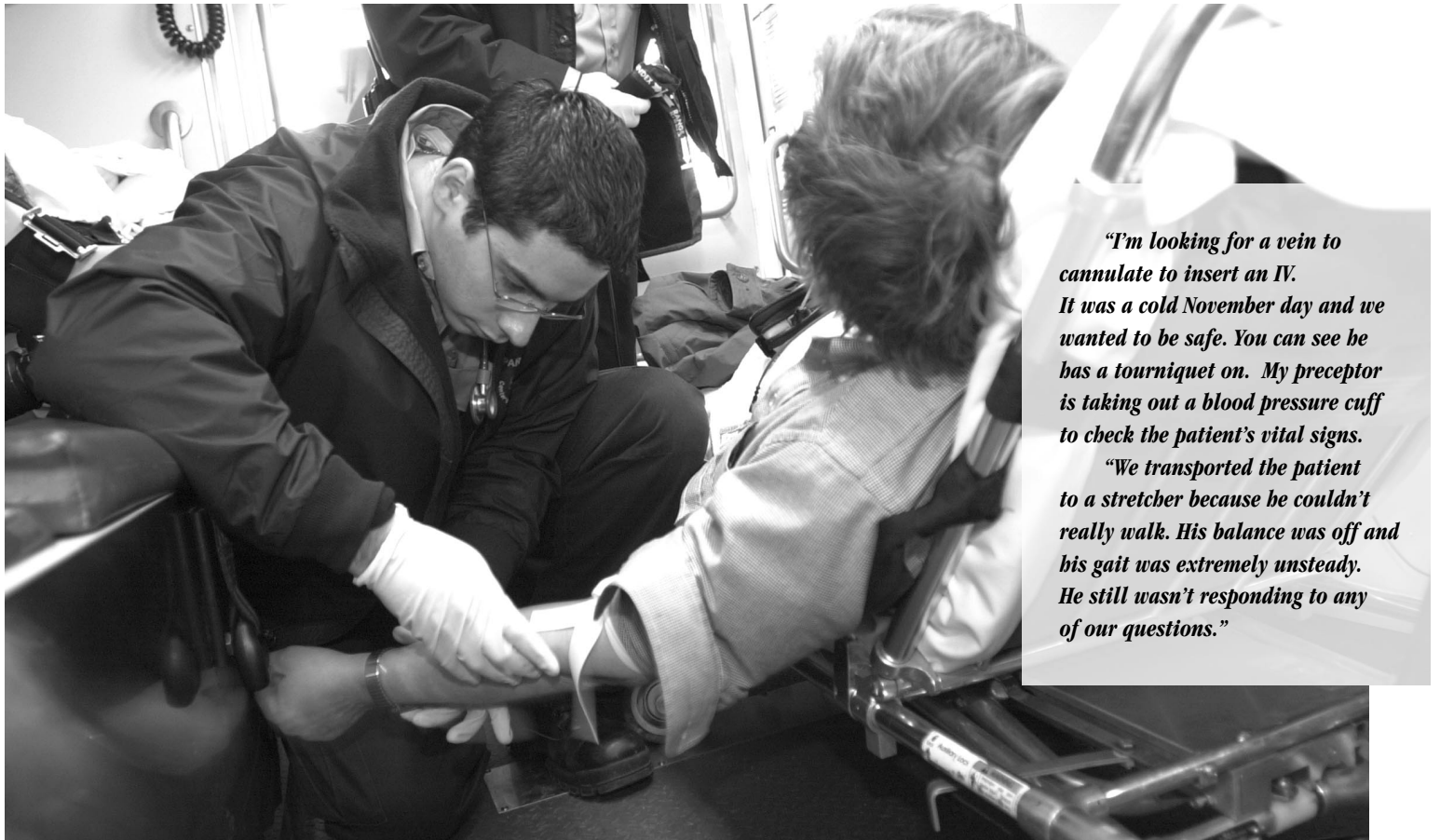
"We've gotten the tourniquet and blood pressure cuff in place and I'm getting ready to check his blood pressure with my stethoscope. Usually after checking a patient's blood pressure, you check the lung sounds to make sure there aren't any significant internal disturbances.

"We took his watch off to give him an IV and check his pulse. There weren't any veins visible on any other part of his arm except for his wrist, probably because of the cold. To the left, my preceptor is calling ahead to the hospital. We always call to give them a report of our patient so they know what to expect.

"By this time, you calm down quite a bit. Normally, you routinely check the patient's vital signs and continue to assess the condition for any improvement.

"We'd checked his blood glucose level and given him fluids via the IV, but there wasn't much more treatment we could give. We took some blood for the doctors at the hospital and dropped him off so they could continue to assess his status.

"We didn't end up finding any specific reason to justify why he was acting so erratically. We did everything we could and let the hospital take it where we left off."



"I'm looking for a vein to cannulate to insert an IV. It was a cold November day and we wanted to be safe. You can see he has a tourniquet on. My preceptor is taking out a blood pressure cuff to check the patient's vital signs."

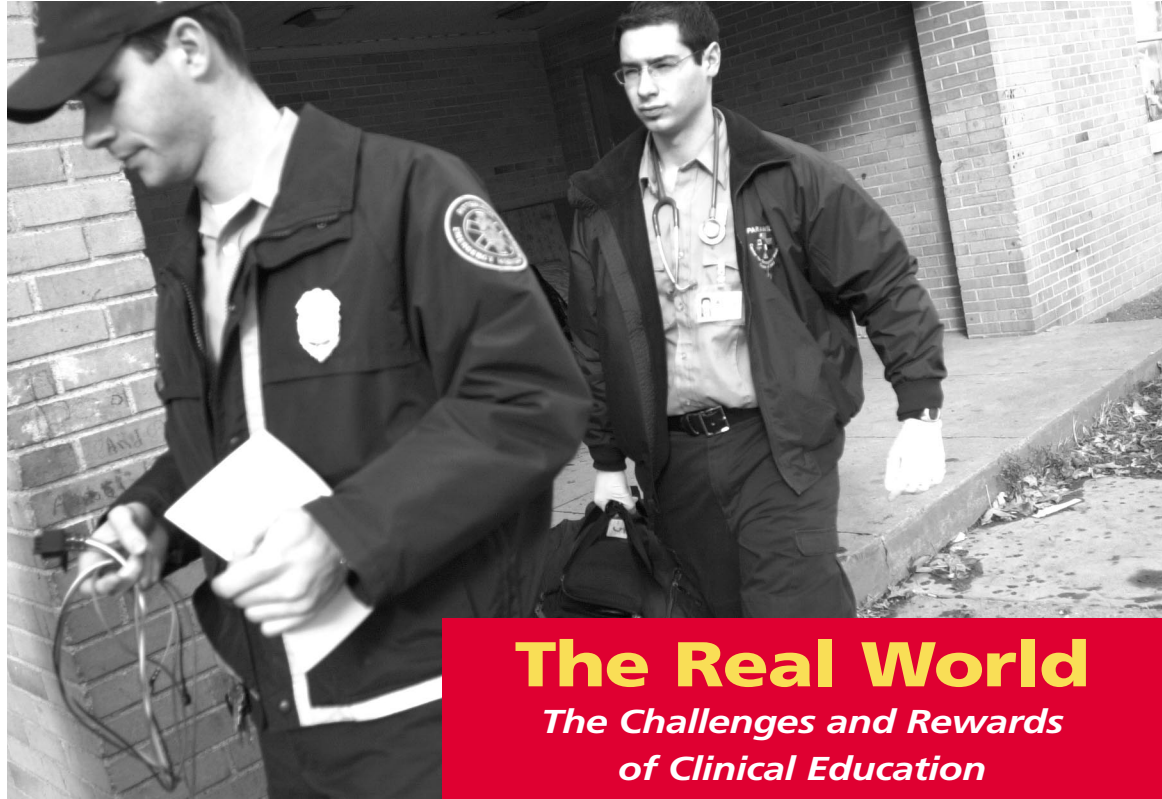
"We transported the patient to a stretcher because he couldn't really walk. His balance was off and his gait was extremely unsteady. He still wasn't responding to any of our questions."



"We arrived at this scene later in the day, maybe between two and three o'clock. The call was for a possible heart attack.

"I'm carrying what we call the 'first in' bag. We always carry that bag in with us. It has a few of the more important drugs and medications, IV starter supplies, an intubation kit, a machine to determine blood glucose levels, another to check oxygen saturation, things that we use pretty often. It also has some of your more common supplies, like a stethoscope, first aid kit, gauze, and bandages. My preceptor is carrying some electrodes for a heart monitor that we anticipated we'd need to use.

"You're generally anxious before you get to the scene. It's even worse when you're going on a heart attack call. There's a lot going on all at once and the stress level is really high. Your heart's racing a little, you're thinking through what actions you may have to take and you're focusing on what you've learned in the classroom. It's a very different feeling than other calls. You're very alert."



The Real World

*The Challenges and Rewards
of Clinical Education*

"Generally the police are already on the scene when we arrive, but in this case we got there first. The door was open and there were three or four people standing around in a kitchen. In the middle of them was a person laying there – you couldn't tell if he was breathing, if he was alive.

"The patient was completely unconscious. He wouldn't respond to anything, even being shaken. I checked his airway to see if he was breathing; he was only breathing three or four times a minute and each time there was a snoring sound that accompanied the breath. I could tell immediately that his airway wasn't clear.

"The first thing I did was tilt his head back to open up the airway. His eyes were closed, so I opened them to look at his pupils. They were so constricted – or 'pinpoint,' as we call them – you could barely see them. That's one of the first signs of a heroin overdose.

"I gave him an IV and immediately began administering Narcan. The drug reverses the effects of an opiate overdose. It's tough to tell how long he'd been there, but based on his breathing, he was probably going to die soon. He was barely breathing.

"Within 30 seconds after I administered the drug, the patient regained consciousness and sat up.

"The key to staying collected in stressful situations is to remember protocol. There are certain steps you take in every situation and, if you follow those steps and think quickly, you'll wind up doing some good that day."



A Lifetime of Achievement

Dr. Walt A. Stoy, Associate Professor and Director, Emergency Medicine, received the highest honor awarded by the National Association of Emergency Medical Technicians (NAEMT), the Rocco V. Morando Lifetime Achievement Award. The award is described by NAEMT as being “the most prestigious award in the nation for visionaries



Walt Stoy

who have helped shape pre-hospital emergency medicine since its infancy.”

Stoy was recognized for his efforts in the 1990s to revitalize the Emergency Medical Services (EMS) curricula by serving as principal investigator and project director for the revision of all the national standard curriculum for the National Highway Traffic Safety Administration (NHTSA). The programs revised under his direction serve as the backbone for the current national EMS education system. During this time, Stoy also became the founding father of the National Association of Emergency Medical Services Educators (NAEMSE), and served as its first president in 1995.

Stoy was presented the award at the association’s annual conference in October of last year. The award is named after Rocco V. Morando, the founder of the National Registry for EMTs, which sets the standard for the national certification of emergency medical technicians.



“It’s a mix of emotions, sometimes. You go into a situation thinking one thing, but quickly find that you have a very different set of circumstances. The first bits of information are usually the most important, namely, ‘What happened?’ and ‘Is this person breathing?’ Then you just act on what you’ve been trained to do.

“Here, we’re checking the patient’s blood pressure to see if everything is back to normal. The police are there, mainly, to make sure everything is safe for us. In this case, the scene has the potential to be pretty dangerous. There could be other drug users around who could interfere. But just being in a strange house is unsafe in itself.

“This was one of those calls where our actions had an immediate effect. We saved this person’s life. If we hadn’t been called or didn’t make it in time, this person would be dead. Calls like that one make you appreciate the job.”

Growing Healthier Kids

Sports Medicine and Nutrition Students Test a New Preschool Health and Nutrition Curriculum Aimed at Changing Children's Lifestyles

The increasing incidence of overweight children has opened our eyes to a problem that, so far, doesn't have any easy answers.

"If a child is overweight at age six, there's a 75 percent chance that he or she will be obese as an adult," says Kim Crawford, Program Director and Instructor, Sports Medicine and Nutrition. "If a primary caregiver is overweight, that child's chances increase to 80 percent. Children mirror the adults in their lives."

The department recently completed work on a mini-grant from the PA Department of Education that targets both prevention and treatment of overweight kids through a preschool curriculum design.

"We prefer to work through the child," says Judy Dodd, Adjunct Assistant Professor. "Parents are more receptive to addressing health issues in their kids than in themselves. If kids come home enthusiastic about exercise and nutrition, we may eventually get the whole family involved, and create a healthier home environment that benefits everyone."

The curriculum developed and tested by Crawford and Dodd takes the emphasis off of food. "Children's bodies need calories and fatty acids for development. Reducing intake can not only impede development, but it can set the stage for eating disorders," says Dodd. "We need to introduce children to healthier foods, and that means more nutrient-dense foods, not 'low fat' or 'diet' foods. Then we need to give them tools for a healthier lifestyle."

That means increasing activity. The average American child spends almost 20 hours watching television every week. And further data clearly indicates that kids with a sedentary lifestyle – that is, TV-watchers – get more calories from fat and sugars, the products directly marketed to them on kids' television. "For an overweight child, if we can keep the calorie intake stable and introduce healthier foods and a higher activity level, he or she will grow into that weight," says Crawford.



The mini-grant funded the development of a series of five lesson plans that senior students helped to test in several preschool classrooms, including the University of Pittsburgh Childcare Center and the Headstart Program housed in the Falk School. "The seniors have studied the methods," says Dodd. "This gave them a chance to put the exercise, lifestyle, nutrition, and feeding aspects into practice."

Senior Sports Medicine and Nutrition student Dino Morell explains how the program's test implementation worked. "The first step was to give the preschool teachers and childcare workers a pre-test to measure their knowledge about nutrition and exercise physiology for young children," he says. "We asked them basic nutrition questions like 'How many servings should children have daily from the different groups in the food pyramid, and

what's the best beverage for a child who is playing a sport?' We also asked them about the current activity level in their classroom."

The preschool teachers responded enthusiastically to the curriculum training, and even more so to the classroom implementation. The idea was to get the children moving while they prepared a healthy snack. Activities like singing and dancing, 'shaking up' and passing around pudding, and washing and then creating faces out of fruit helped illustrate the lessons about good nutrition and an active lifestyle.

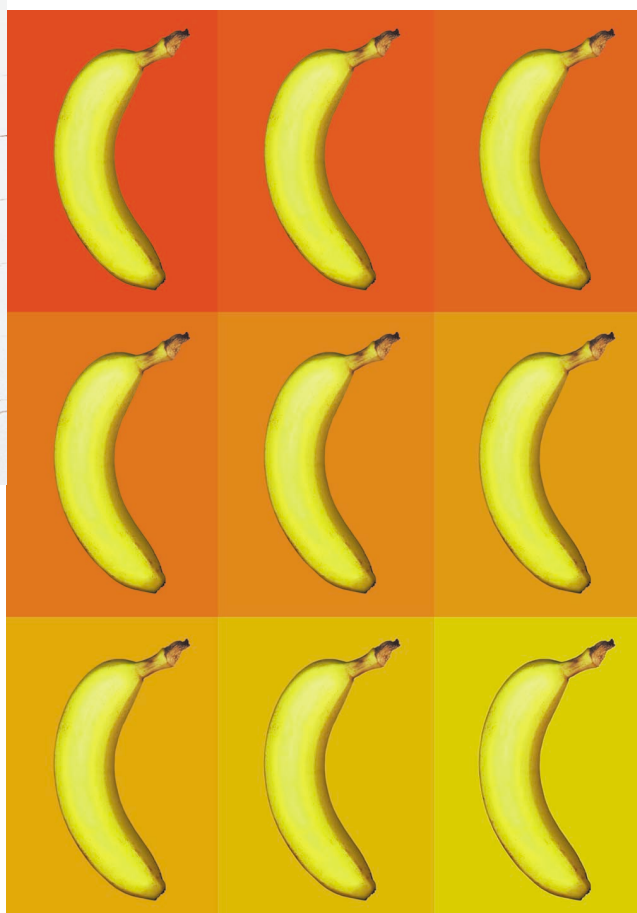
"The kids in our test classrooms had great questions. They came into the lesson with a pretty good basic knowledge," says Dodd. "The hope is that the knowledge 'trickles up' to their parents and caregivers at home and to their teachers at school."



across Pennsylvania. “Our goal is to get physical and nutritional education incorporated into the early childhood curriculum,” says Crawford.

“We’re up against an environment that responds to the demands of the marketplace,” says Dodd. “But it is useless to play the blame game. If we focus on the youngest children and give them the knowledge, the tools, and the opportunity to make healthier lifestyle choices, we can create healthier families and communities.”

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“We also gave the teachers a post-test, not only to see what they had learned, but also to get some evaluation of our program,” says Morell. “Most of them wanted to know how they could incorporate more physical activity!”

The testing indicated that basic nutrition is not part of the vocabulary of most childcare workers. The post-test showed improvement. “But think of what we could accomplish if registered dietitians were among the resources readily available to childcare centers and the families they serve. One-time training just isn’t enough,” says Dodd.

Prevention is clearly the key to reducing the incidence of overweight children and preventing the serious health problems that result. Now that the curriculum has been tested, it will be given to the Healthy Kids Initiative in Harrisburg, to be made available to childcare providers

The Missing



Link

Robotics Camp Helps Kids Explore Careers in Technology

There are roughly 29 million working age Americans with disabilities. Yet of this population, 67 percent are not in the workforce. It is a phenomenon that can be explained in any number of ways,

from the lack of safe, reliable transportation to inadequate workplace accommodation.

Another reason, says Sondra Balouris Brubaker, Executive Director of the Tech-Link Program of Pittsburgh, is lack of exposure to career options at a young age. "There is growing evidence that children with disabilities don't receive encouragement to explore a variety of job options when they are in their most formative years," she explains.

Tech-Link and other programs like it hope to change this situation. The nonprofit's mission is to introduce children with disabilities to careers in math, science, and technology. Typically, the program organizes work-site visits, job

shadowing, and internships to show children and young adults with disabilities the wide range of potential career opportunities available to them. But to complement these activities, Tech-Link has turned increasingly to Robotics Camps, where kids program robots to compete with each other on obstacle courses. Funded by the Mitsubishi Electric American Foundation, the Howard Heinz Endowment, Highmark, and the University of Pittsburgh Medical Center (UPMC), the dynamic camps offer students the chance to participate in the same "trial and error" process that tech workers perform in the workplace.

"Showing students how technology professionals do their jobs is one thing," remarks Brubaker, "but allowing them to work in a fun atmosphere with hands-on participation is much more enlightening."

Rediscovering Math and Science

In November of last year, the organization invited a group of 28 middle school students from 15 schools across southwestern Pennsylvania to attend the day-long camp at the Human Engineering Research Laboratories (HERL),



courses. Children with disabilities are automatically stigmatized and treated as if they're not smart enough to do the work – but it couldn't be further from the truth. This type of activity could spur them to confidently pursue whatever subjects meet their interests."

This year's Robotics Camp was also different for another reason. Of the 28 students in attendance, half had disabilities and half did not. "The mixed aspect adds exponentially to the experience," points out Dr. Rory Cooper, Director of HERL and Professor and Chair, Department of Rehabilitation Science and Technology. "We've had mixed groups with our teenage students in the past and we decided to keep the dynamic with our younger groups as well. Interaction among children with and without disabilities at a young age goes a long way to break down barriers."

Navigating the Course

The Robotics Camp consisted of five teams, each with five students, a LEGO® Mindstorm™ robot, and an obstacle course loosely based on a map of Pittsburgh attractions. Based on an idea put forth by Tech-Link board member Jim Osborn, Executive Director of the Medical Robotics and

Technology Center of the Robotics Institute at Carnegie Mellon University, each team was named after a famous robot, some of which had a connection to the area.

After programming the robot using PC software, each team competed to perform a series of tasks such as crossing the Roberto Clemente Bridge or switching on a light in a pint-sized version of the Cathedral of Learning. The goal: To complete as many assignments in a two-minute period as possible.

But, competition aside, LEGO's Mindstorm robots were the key to making the camp a hit. They were first introduced to the marketplace in 1998 to allow children to write computer software to program different behaviors into their building block creations. The \$200 kits come with 700 LEGOs and a microcomputer that was developed in conjunction with MIT.

Light and touch sensors allow the robots to perform surprisingly complicated functions. The robots run the obstacle course by following a path marked between each attraction. According to the commands that have been programmed, the robots can complete each task to perfection or veer off course with reckless abandon.

With the help of peer mentors who are Department of Rehabilitation Science and



Technology master's and doctoral students, each team connected its robot to PC ports and programmed it to perform the required tasks. Team members estimated the direction in which their robot would travel and then tested their hypotheses. In this manner, the obstacle course tested each team's skill at programming as well as their ability to work together.

But the learning experience of the Robotics Camps goes far beyond the mere programming of robots. It is meant to open children's eyes to the world around them. Children without disabilities realize that their teammates aren't any different than they are.

"One of our primary goals," says Brubaker, "is to show children with disabilities that they are capable of doing anything. And looking at these students' faces, I'd say we came one step closer to that goal."

For more information on Tech-Link, contact Sondra Brubaker at sab992@pitt.edu or visit their website, www.tech-link.org



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located in the Highland Park VA Hospital Complex. The camp was the first to be offered to such young students; normally the Robotics Camps are reserved for older students with a greater knowledge base and more experience working with complex machines.

"We chose younger kids this year because we believe they're being left behind," explains Bill Ammer, a technical coordinator at HERL. "In Pennsylvania, kids aren't required to take science after ninth grade. As a result, the children with disabilities are often steered out of technology

