UAB Research Machine Shop turns ideas into realities

As with any inventor, ideas sometimes come to John Burgess, D.D.S., professor of prosthodontics, when he least expects them. For example, the idea for the dental burr-machine came to him when he had no piece of paper on which to draw the design in his head. So, Burgess grabbed a napkin and began to draw.

He took the rough sketch of his idea to Chris Shoemaker and Daniel Long in the Research Machine Shop (RMS) in the Lyons-Harrison Building. “You really don’t know what you’re going to get back when you take an idea for a piece of equipment to someone and it’s drawn on a napkin,” Burgess says. “When I saw the final machine they built — wow. I can’t tell you how nice it is to have a facility like that with people who are so talented and so easy to work with.”

Artists come in all shapes, sizes and forms: Musicians, writers, painters and sculptors are a few. So are machinists like Shoemaker and Long. They bring more than 45 years combined experience to the RMS, a specially outfitted facility with the capacity to build the advanced equipment needed to meet the exact standards for any researcher or surgeon.

“This is one of the best-kept secrets of UAB,” says Michael Harrington, director of operations for the Center for Biophysical Sciences & Engineering (CBSE). “The shop has been quietly supporting UAB researchers for 50 years. Many researchers use the RMS for the development of instruments, and many clinicians and surgeons use them for modification of surgical tools.

“All the payload systems flown by the CBSE on the space shuttle and International Space Station were machined here,” Harrington says. “There’s been a lot of research and patents that have evolved from items we have fabricated.”

The RMS provides specialty services to a broad customer base within the university system, including radiation oncology, anesthesiology, cardiology, neurology, surgery, other units in the UAB Health System, the schools of Dentistry and Engineering, Facilities Management and the print plant. Inventions built or modified by the RMS include:

• General Laboratory Active Cryogenic JSS Experiment Refrigerator (GLACIER) for NASA
• Surgical hand tools
• High-throughput sub-microliter protein crystallization/liquid-handling system
• Integrated system for quantitative analysis of crystallization and protein-protein interactions
• Automated electroporation unit
• High-affinity biosensors
• Camera-focusing aid with backlight
• Automated sampling system for rotary burettes

Because of its expertise, researchers and surgeons can have any kind of tool built, from the basic (a custom hand tool) to the highly technical (custom MRI adapter with subject stabilizing device).

“We have constructed everything from experiment hardware for space-flight research to custom surgical instruments to specially configured trays and stands readily available from vendors,” says Shoemaker, the RMS shop administrator. “Many times the reason people come see us is because they can’t buy what they want. We have the ability to make something different than anything on the market or modify something already on the market to better fit the needs of the researcher or surgeon.”

Examples of the services the RMS provides include:

• General electrical and mechanical lab- equipment repairs
• Microscope repair and modifications
• Construction and modification of lab and seed RESEARCH MACHINE SHOP p4

Explore the world within UAB using new Diversity Passport

UAB faculty, staff and students can get a new passport to explore the world within the campus starting this month.

The new UAB Diversity Passport will provide encouragement and incentives to explore the varied cultures that are a part of our community through events and activities that are a part of everyday life here on one of the nation’s most diverse campuses.

Participants will use monthly themes, a calendar of events, activities and suggestions as a travel guide on what to do and who to see. Participants can then write about their new experiences in a journal at www.uab.edu/equityanddiversity/passport and have their passport validated by a friend or fellow traveler.

“The idea is to attend an event or activity once each month for 12 months,” says Louis Dale, vice president for Equity and Diversity. The program is a collaborative effort between his office and Human Resource Management, the UAB Diversity Council and the UAB Affirmative Action Officers. “Participants are encouraged to explore the world within the campus by exploring all the various cultures and ethnicities that are within UAB.”

“All work will be completed that day, and Hands On Birmingham employees and staff who will be working and unable to participate. Employees may bring clothing or personal items to the Administration Building that day to contribute. UAB employees can form teams or volunteer individually. Register to participate at www.hrm.uab.edu/main/uabdos; all projects are posted there with details about the day’s activities. E-mail confirmation will be sent to registrants with project information, and an e-mail reminder will be sent two days before the event.”

Hands On Birmingham anticipates that thousands of volunteers will come together on this day in support of the community in which we live and work,” says Pamela Burks, Ed.D., executive director of human resources. “It will be great to have members of the UAB team among those numbers.”

Employees scheduled to work Jan. 18 who would like to volunteer will need to use vacation time to participate. A Volunteer-in-Kind program will be provided for hospital employees and staff who will be working and unable to participate. Employees may bring clothing or personal items to the Administration Building that day to contribute. UAB employees can form teams or volunteer individually. Register to participate at www.hrm.uab.edu/main/uabdos; all projects are posted there with details about the day’s activities. E-mail confirmation will be sent to registrants with project information, and an e-mail reminder will be sent two days before the event. Direct questions about the UAB Day of Service to Burks at pburks@uab.edu.

Hands On Birmingham Day of Service Jan. 18

Faculty and staff have an opportunity to support UAB’s longstanding mission to better its community during a UAB Day of Service. The special day of service, known as Hands On Birmingham King Day of Service, is scheduled for Monday, Jan. 18, Martin Luther King Day.

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Hands On Birmingham Day of Service Jan. 18
Jefferson County Occupational Tax changes go into effect this month

Legally mandated changes to the Jefferson County Occupational Tax will go into effect this month.

As a result, all UAB employees who work in Jefferson County will see a reduction in their withholding of this tax from 50 percent to 45 percent.

In addition, going forward there will not be any professional exemption from county tax. This means that a limited number of positions at UAB that were exempt from any county tax will begin having tax withheld at the 45 percent rate effective with the first January payroll.

Certify educational assistance eligibility for dependents

Educational assistance eligibility for employees is electronically verified between HR and the Students Affairs area. However, annual certification is required for eligible dependents/spouse taking courses. If an employee has not previously certified their eligible dependent/spouse for the academic year and they are enrolling in classes for the spring session, he or she may do so and take advantage of the benefit as long as certification takes place before the spring 2010 Drop/Add date of Jan. 13 as published in the UAB Academic Calendar. Employees may certify their dependent’s eligibility online using the Oracle self-service menu at www.uab.edu/administrators.

Information on this benefit for employees, their dependents and spouses is online at www.lhl.uab.edu/main/policy_procedures/policy319.html. Direct questions to your HR consultant or HR Benefits at 934-3549.

IRS announces 2010 mileage rates

Effective Jan. 1, the standard mileage rates for the use of a car (also vans, pickups or panel trucks) is 50 cents per mile for business miles driven, 16.5 cents per mile driven for medical or moving purposes; and 14 cents per mile driven in service of charitable organizations.

The new rates for business, medical and moving purposes are slightly lower than rates for last year. The mileage rates for 2010 reflect generally lower transportation costs compared to a year ago.

LHL offers new ways to obtain resources

Later Hill Library’s LIIiD service is experimenting with a new way of meeting your collection requirements to ensure that you receive the materials you need to teach, conduct research and treat patients. When a journal article cannot be found at UAB, faculty, staff and students may request the resource from another library or the publisher; either method provides a $12 subsidy to offset the cost of obtaining the materials off-campus. More on this new program is available at www.lhl.uab.edu/onlinecollections/.

Coat/clothing drive through Jan. 15

The UAB Black Alumni Chapter is hosting a coat and winter clothing drive through One Warm Coat (www.onewarmcoat.org) through Jan. 15. Donations of gently worn or new coats, hats, scarves, gloves, sweaters and/or sweatshirts can be brought to collection boxes in the first floor lobby of the UAB Administration Building or in the lobby of the UAB National Alumni Society. Donations will be given to people in the Birmingham community through local agencies. Jimmie Hale Mission & Jessie’s Place and the YWCA. Direct questions to your HR consultant or HR Benefits at 934-3549.

Baby it’s cold outside

Faculty and students braved the cold as they returned to campus Wednesday, Jan. 6 after the holidays to frigid temperatures and the beginning of a new semester. Plenty of events for faculty, staff and students are planned for January and the upcoming semester. The UAB Campus Calendar at www.uab.edu/calendar is updated daily with campus events, activities and deadlines, and the “Calendars” link on the UAB home page at www.uab.edu takes you straight there. Postings can include detailed information, photos and links to sites or related events. Check out the FAQs for more information.

Counselor John Quenelle teaches the class. Research has shown that meditation is one of the best ways to cope with stress, improve the clarity of your thinking and increase your level of satisfaction with life.

The popular Tai Chi class taught by Counselor Aloisa Adams begins Thursday, Jan. 14 and meets each Thursday through February. Tai Chi is a slow-motion exercise with movements that gently build strength and flexibility; improve balance and help you relax. The class will focus on New Forest Tai Chi, a style that uses simple, easy accessible movements.

Both classes meet from 12:10 p.m. until 12:50 p.m. in the Resource Center in Suite 330, 21 Office Plaza South at Magnolia Office Park, 2112 11th Ave. South.

Yoga classes will begin Wednesday, Jan. 13 and meet each Wednesday through February from 4:30 to 5:45 p.m. at the Resource Center. Classes will be taught by Diane Reid, Resource Center counselor, and will combine mind, body and spirit to develop strength, balance and flexibility. Participants also will learn to actively relax with yoga poses, gentle movements and breath work.

Classes conclude with a period of deep relaxation.

Registration is required, but employees may begin attending classes at any point. Call the Resource Center at 934-2283 for more information or to register, and visit www.uab.edu/career for a map and directions.

The Resource Center EAP provides counseling and wellness programs for UAB employees and their family members at no cost. Counseling is available for a variety of issues, including grief, depression, stress, relationships, divorce, abuse, addictions, work-related problems and many others.
Hurley contacted Energy Manager Matt Winslett to schedule a time to visit and see the roof for herself. Now, ADEM is interested in learning more about the roof’s benefits — and in promoting it throughout the state. "He told me he was shipping plants to Alabama the next week, and I was floored," she says. "I said, ‘You are? Where are you sending them?’"

UAB Facilities energy management department was building UAB’s first green roof atop the Hulsey Center Building, and the plants were being sent here.

Hurley asked for help with plant selection and stormwater runoff and the impact the vegetation roof can reduce these pollutants.

Reducing pollutants

When it rains, anything that is on the ground, rooftop or road is washed into storm drains. Urban areas are more prone to flooding, and the floodwaters that go into the storm drain carry those pollutants to the river.

"We humans have practices, and we don’t realize when it rains some of those things are going to affect our water quality," Hurley says. "Many people don’t understand that water that runs into the storm sewer does not go through a treatment plant. It goes directly to the creeks and rivers."

The pollutants can range from metals to pathogens to fertilizers.

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"The reason we were interested in the green roof is that we pay for and bring in best-management practices that will abate the pollution that’s in our stormwater runoff," Hurley says.

When the pollutants reach the rivers, streams and lakes it leads to eutrophication — a result of nutrient pollution, such as the release of sewage, urban stormwater run-off and run-off carrying excess fertilizers — and algae growth.

Peters has teamed with Stephen Watts, Ph.D., professor of biology, and his doctoral student Julie Price to help identify the optimal plant species to use in the Southeast. The soil matrix and plant-systems structure will determine the amount of nitrates and phosphates a green roof produces.

"If you can get by with minimal amounts of fertilizer applications, then that shouldn’t be a problem," Peters says.

Roger Brown, UAB's roofing specialist, designed the Hulsey Center roof. It has several layers under the autoclave aerated concrete, including a polypropylene-type liner, a Styrofoam-type insulation and a plastic that looks like an egg carton. It can hold 6,000 gallons of water, and it is designed to catch the rainwater and delay its release to minimize the potential for flooding.

"Imagine the possibilities if many other downtown buildings had green or vegetative roofs," Brown says. "If they perform as well as they’ve been, it’s really almost too good to be true," Peters says.

The roof has contributed to these decreases, but we’re surprised it’s been as much as it’s been," Winslett says.

Peters continues to research the data and is optimistic that the best performance of the roof is yet to come.

"It’s not yet an optimized system," Peters says. "We haven’t selected the best plant species yet. We think the roof has great potential."

Green Roof Facts

• The roof was installed in July 2008.
• More than 16,000 plants are growing on the Hulsey Center green roof.
• Utility bills on natural gas, water and electricity are 20-25 percent less since the green roof installation.
• The roof has several layers under the autoclave aerated concrete, including approximately six inches of soil, a polypropylene-type liner, a Styrofoam-type insulation and a plastic that looks like an egg carton.
• The roof can hold 6,000 gallons of water. It is designed to catch the rainwater and delay its release to minimize the potential for flooding.
• If Facilities can secure funding, the next green roof will likely be constructed on the engineering side of the Business and Engineering Complex (BEC). The BEC was originally designed to hold at least one more story, so the pound-per-square-foot loading is sufficient to construct a green roof.
Pain service strengthened by ultrasound-guided anesthesia


Pounding. Tingling. Hot. Pain may be universal, but for each person it’s also a unique experience — one that’s tough to measure, with an endless list of possible causes and physical locations.

Therein lies the challenge of pain management, a test UAB anesthesiologists must pass every day.

New clinics and programs, innovative techniques and technologies are reshaping anesthesiology at UAB, especially the Regional Anesthesia Pain Service that began more than two years ago.

Regional anesthesia employs nerve blocks, or injections of local anesthetic, to numb specific areas of the body where a surgical incision will be made. And according to Jan Sparrow, M.D., medical director of the service, the number of blocks performed each month has increased to more than 200 from 45 in 2007.

Today’s blocks that use an advanced ultrasound-guided technique are more precise than the traditional nerve-stimulation format.

Previously, anesthesiologists would administer a block using anatomic landmarks and specialized stimulating needles. Once near the nerve bundle to be blocked, the corresponding muscle would twitch to let them know where to deposit the local anesthetic.

“That’s not going completely blind because you’re near the nerve,” Sparrow says. “The problem is that you don’t know if you’re in the nerve.”

The new ultrasound-guided regional anesthesia enables doctors to visualize the nerve and needle on a monitor. They can see exactly where the injected anesthetic is going and ensure that the needle does not hit the nerve.

“Sometimes when you use the nerve-stimulation technique you get great twitches, but the local anesthetic would track back in a different way — not around the nerve — and we wouldn’t get a good block,” Sparrow says. “Since we received our two ultrasound machines, we’ve gone from all nerve-stimulation blocks to about 70 percent ultrasound-guided blocks. That’s a pretty significant shift in our practice, and it’s really enabled anesthesia to have a little bit of a renaissance.”

In addition, Sparrow says, approximately 80 percent of the blocks are performed preoperatively, which benefits patients in two key ways: They can be comfortable when they wake up from surgery, and they require a lesser amount of opioids during the procedure than patients who don’t receive preoperative blocks.

“Many times it is a progression,” says Long. “They may not always say, ‘Yeah, that’s great,’ after it’s initially given. They know what they want to do, but they want. Our researchers are specific on exactly what they want. They demand that could make it possible.

“They leave their drawing with us or we’ll make drawings,” Shoemaker says. “Sometimes we measure and make it as we go. Sometimes they just come down here with an idea, and it’s kind of like somebody describing a suspect — you’re drawing a picture as they describe what they’re looking to have constructed.”

Whether it’s rough projections or blueprint drawings, the RMS has the flexibility to change the project as it develops.

“Many times it is a progression,” says Long. “They may not always say, ‘Yeah, that’s great,’ after it’s initially given. They have to modify it until you get exactly what they want. Our researchers are specific on exactly what they want to do. They know what they want to do, but we have to kind of bridge to get to that result.”

Dental industry think-tank

One example of that is a Dental Wearable Device project the RMS is building for Burgess.

The machine, which is 6-foot long and 3-foot high, has eight artificial mouths that duplicate the human chewing cycle. The artificial mouths will be able to cycle hot, cold and pH levels to simulate the oral environment.

Researchers also will be able to vary the load that is applied to the teeth. This equipment will enable them to duplicate different clinical situations and more effectively

study the wear of dental fillings used in the mouth. It should lead UAB dental researchers to develop highly efficient and precise dental materials.

This type of capability has enabled Burgess’ group to tailor itself as a think-tank for the dental industry.

Several businesses have called on Burgess for help in designing a product, and because of the RMS he’s able to assist. One manufacturer wanted to know if Burgess could help them tweak their root-canal sealer. They wanted it to expand a small amount to improve the seal of root-canal fillings but needed an apparatus constructed that could make it possible.

“They wanted something that would fit like a cork in a bottle,” Burgess says. “They wanted it to slightly expand, come up to a certain pressure and then stop. They couldn’t find anybody to do these measurements. We went to the machine shop and worked with them to design something where we can actually control the measurement of the expansion under controlled pressures. It was a great project.”

Quality of work unmatched

Burgess, who came to UAB almost four years ago, says the RMS was a big reason he wanted to be a part of the university.

“I had never had a shop where they could do prototyping,” he says. “It was a big deal to me that they were nearby because we do materials testing and develop new materials for dentistry. The fact that they are in our building is very important. It tipped the scales for me.”

Burgess says the flexibility of Shoemaker and Long makes them easy to engage. And the quality of their work, he says, is unmatched.

“Theyir major contract was with NASA,” Burgess says. “Therefore, quality is not an issue with these guys. Their products have tremendous quality. They can take your design, modify it and make it three times better than you ever thought it could be.”

The RMS also is available to do outside projects for other institutions and businesses. For more information visit www.cbe.uab.edu/engineer/es_soMachineShop.html or to talk with Shoemaker, call 934-4393.
necessity is the mother of invention, can a recession make you work smarter? UAB’s Center for Clinical and Translational Science (CCTS) is answering that question affirmatively.

Created with a five-year, $26.9 million Clinical and Translational Science Award (CTSA) from the National Institutes of Health, the CCTS has been confronted by financial exigencies in its first year—quite the challenge for a center charged with restructuring UAB’s research enterprise to facilitate translational science in ways that improve the overall health of the population and reduce health disparities. But Director Lisa Guay-Woodford, M.D., says the challenge has paid dividends. “We sustained a substantial budget cut, and we’ve had to reorganize and retool, but these challenges have, in a sense, brought us to a better place,” she says. “We have been pushed to a new level of creativity that has yielded a whole new set of opportunities. They aren’t just pie-in-the-sky ideas; we’ve got product.”

Those evolutions and innovations emerged with the help of leaders across UAB’s campus, says Guay-Woodford, also the Anderson Family Chair in Medical Education, Research and Patient Care. “We are one of the few CTSA recipients in the country centered in a full-spectrum university with active faculty participation from all schools and the library,” she explains. “We bring teams of people together to address questions; we don’t have a silo view that presumes health questions are entirely the province of the academic health center.”

Partnerships and products The CCTS has initiated a partnership with UAB’s interdisciplinary research centers to develop pilot awards funded jointly by the CCTS and individual centers to substantially increase the research monies available to translational investigators. And the newly formed Council of Center Directors brings together leaders of all UAB’s scientific centers for the first time.

Another partnership exemplifies the center’s ability to foster collaboration between two schools that may benefit all others. The CCTS linked the School of Nursing expertise with Web-based curriculum development with Department of Philosophy expertise on the ethical conduct of research, historically a lecture-based course. Now a Web-based resource is being developed, one that Guay-Woodford says may provide a broader range of scientists with ethics information in a readily accessible format and better enable them to deal with ethical issues that arise in their work.

“We’ve taken a paradigm the School of Nursing developed and brought it to bear on an issue that is important across the institution — to transform the way we’re thinking about delivering that important content,” Guay-Woodford says. “And because of the philosophy faculty’s ethics research expertise, this site could be something that, under the right circumstances, we could share with the national CTSA consortium, which would be richer for having this content.”

Knowledge networking Its new Research Commons is a physical and virtual space in which CCTS participants interact, share information and gain knowledge to support research initiatives, and the center already is working with UAB Information Technology to expand the interactive capabilities of the site.

Guay-Woodford says the completed site will enable the CCTS to learn about the researchers, understand their needs and facilitate their research. “It will be like Amazon.com. If you click in as a return customer, it will show a list of resources that might interest you based on what you’ve looked at or ‘bought’ on previous visits. It will be terrific to use technology to enhance and amplify what the Research Commons can do. Its primary goal is to get investigators exactly what they need.”

These developments will help UAB researchers translate new discoveries into new methods of diagnosing and treating health problems. But Guay-Woodford adds that they are only the first steps for the CCTS.

“Come back next year and see where we are,” she says. “Learn more about the CCTS research, training and outreach activities and sign up for membership or its quarterly newsletter online at www.ccts.uab.edu.

Getting your passport Sign up by Jan. 20 for the 2010 calendar year at www.uab.edu/equityanddiversity/passport. Personal passports, used to document diversity activities, can be obtained from the Office of Human Resource Management on the second floor of the Administration Building or in the Office for Equity and Diversity on the fourth floor of Campbell Hall. Participants pay $3 for their passport to cover the printing cost for the booklet.

Each participant will have a unique passport number, and each month several passport holders will be chosen at random to be invited guests for a special event.

Commitment to diversity UAB began diversity training for its employees in 2003. Employees complete an online course and attend a two-hour course hosted by Training and Development.

“The ultimate goal in any diversity program, in my opinion, is to teach people to respect other cultures, races, religions, life styles and political persuasions,” Dale says. “There is very little conflict when people respect each other.”

The Princeton Review recently listed UAB, listing the university as No. 3 in the nation for its social and ethnic diversity and interaction between students of various backgrounds. UAB is the only Alabama university to rank in this category. The Review summarized the students’ comments, writing: “With diverse academic and extracurricular opportunities, UAB is a school that fits most every type of person. As a result, the student body is truly a great American melting pot of different cultures, religions and races.”

The UAB Diversity Passport program extends that commitment by inviting faculty, staff and students to embark on a journey and experience the ways in which diversity in the community enriches lives at work, school and at home. “It will enable us to draw inspiration from each other’s experiences,” Dale says. “And sharing our stories gives us important insights into life lessons and fosters appreciation, respect and true collaboration.”

CCTS transforms research enterprise, reinvents itself

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DIVERSITY PASSPORT

Continued from page 1

By Lisa Guay-Woodford

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“IT will enable us to draw inspiration from each other’s experiences,” Dale says. “And sharing our stories gives us important insights into life lessons and fosters appreciation, respect and true collaboration.”

The ultimate goal in any diversity program, in my opinion, is to teach people to respect other cultures, races, religions, life styles and political persuasions.”

The UAB Diversity Passport program extends that commitment by inviting faculty, staff and students to embark on a journey and experience the ways in which diversity in the community enriches lives at work, school and at home.
Perez offers a ‘gentle push, a caring hand, a good shove’

A physical therapist and a teacher have something profoundly important in common: Both have to know when it’s best to push their patient or student and when it’s best to provide a little tender love and care.

Patricia Perez knows that all too well. She’s an assistant professor in the Department of Physical Therapy and a physical therapist in the Outpatient Physical Therapy Department at UAB Hospital. Perez is recognized throughout Alabama as an expert clinician and master teacher, and she recently was awarded the Marilyn Gossman Award for Professionalism in Physical Therapy by the Alabama Physical Therapy Association. The award honors outstanding professionalism in physical therapy service, practice, education and research. Recipients must have positively and substantially affected the shape, scope and quality of physical therapy practice in Alabama in a manner that significantly improves the ability of physical therapy professionals to practice.

One patient described Perez as “nothing short of a miracle worker.” Another described her as “an excellent communicator, reading her patients so well and knowing when to provide a gentle push, a caring hand or a good shove.”

Her longtime mentor and former UAB physical therapy clinician and instructor Garvice Nicholson, says Perez is “one of the most compassionate people I know. If you are fortunate to be one of Patty’s patients, students or co-workers, you have a tireless and dependable advocate giving you the best she can give.”

Perez recently spoke with the Reporter about the award and the balance of being a therapist and teacher.

Q. What did winning the Marilyn Gossman award mean to you?
A. It’s such an honor to be recognized by your colleagues and by the patients that you serve. The award has special meaning for me since it was named for such an important person in the physical therapy history of this city and state. Marilyn Gossman was such a force in developing and promoting our profession through her work as the director of the PT school at UAB and through her tireless service in our national organization. All of us in this state will be indebted to her forever. Receiving an award named after her provides inspiration to continue to grow in a profession that I love.

Q. What is the greatest reward of being a professor?
A. The opportunity to share my love of this profession on a daily basis is quite rewarding. It’s always inspiring to see students become more confident with skills and knowledge as the coursework progresses. Our students are so bright — their intellectual curiosity makes me learn something new almost everyday. I always consider that being in the classroom makes me a better clinician and being in the clinic makes me a better teacher.

Q. And the greatest reward of being a physical therapist?
A. Quite simply, it is the opportunity to make an important difference in someone’s life. This can range from helping a patient regain strength and mobility to resume basic activities such as walking, training individuals to use optimal body mechanics to prevent injuries at work or alleviating pain to allow for meaningful participation in family and work activities. Physical therapy can be such an important component of enabling individuals to achieve maximal function, and to be a part of that is an extraordinary thing.

Q. How do you judge when it is time to push a student or patient harder than they may want to be pushed?
A. That can be an intuitive call at times, but I think it comes down to knowing your patient or student and being able to communicate effectively. Additionally, it requires that you take the time to understand what is important to the patient/student so that both parties are on the same page when it comes to goals/outcomes.

Q. What is the most important skill for your students to learn?
A. Communication is without a doubt the most important thing. An effective therapist must be able to effectively communicate with patients/clients of different ages and backgrounds. Ineffective communication skills adversely affect patient-therapist trust, patient compliance and eventually treatment outcomes. Truly listening to patients will go a long way toward achieving success with them. In addition, there are so many other members of the health-care team that the PT must communicate with in order to optimally care for the patient.

Q. Why do you enjoy the therapist-patient relationship?
A. The opportunity to interact with people from so many different walks of life is very special. Just as I learn from my students, I learn from my patients every day. They have expanded my knowledge in so many areas and each of them has contributed to my growth as a PT. For that, I will always be grateful to each of them.

Employee open house for new building set for Jan. 25-26

Before all three officially open in the next few months, UAB employees are invited to an open house for the new state-of-the-art Women & Infants Center and Hazelrig-Salter Radiation Oncology Center and Jim Limbaugh Family Park of Hope Honoring Phyllis Limbaugh, hosted by UAB Health System CEO William Fernandez, Ph.D., and UAB Hospital CEO Michael Waldrum, M.D.

To accommodate all shifts there will be two employee open houses: Monday, Jan. 25, from 4 to 8 p.m., and Tuesday, Jan. 26, from 7 to 10 a.m. Light refreshments will be served. For more information, call 996-7619 or email wisvc@uabmc.edu.

These events are sponsored by VIVA Health Inc., ParkRite Inc., Gresham Smith and Partners, UAB Educational Foundation and UAB Health System.

In the Women & Infants Center, employees will be able to tour a number of areas including the labor, delivery and recovery suites, Regional Neonatal Intensive Care Unit (RNICU) and Continuing Care Nursery (CCN), maternity, general gynecology and gynecologic oncology patient rooms.

In the Hazelrig-Salter Radiation Oncology Center, employees can walk the spacious and easy-to-navigate hallways and peruse at virtual landscapes and planetarium-like views decorating the ceiling of the radiation-treatment rooms. Employees also can walk through the Jim Limbaugh Family Park of Hope Honoring Phyllis Limbaugh just outside the waiting area of the new radiation- oncology center. The park is a lush, green outdoor space offering patients and their families a place for reflection and renewal.

The new UAB Women & Infants Center and Hazelrig-Salter Radiation Oncology Center will host an open house for employees Jan. 25-26. Attendees will be able to tour the new buildings and the Jim Limbaugh Park of Hope.
Young hunters most likely to be injured using tree stands

Young hunters between the ages of 15 and 34 are the most likely to suffer serious injuries in tree stand-related incidents, say researchers at the UAB Center for Injury Sciences (CIS). The same researchers’ findings, though, suggest that such injuries are preventable.

The study, presented online in the Journal of TRAUMA® Injury, Infection and Critical Care, reports that men were twice as likely as women to be injured, and younger hunters more likely than older ones. Hunters aged between 15-24 had injury rates of 55.7 per 100,000, and those aged 25-34 averaged 61 injuries per 100,000. Hunters over 65 had injury rates of only 22.4 per 100,000.

“The elevated injury rate among younger hunters is significant, because debilitating injuries in younger people are far more devastating than for older individuals because of the potential long-term effects that create both physical and financial hardships for patients and their families,” said Gerald McGwin, Jr., MS, Ph.D., associate director for research at the CIS and senior investigator for the study.

Internal body clock contributes to severity of heart attack, research says

The time of day can be an important factor in determining the amount of damage caused by a heart attack, according to UAB Division of Cardiovascular Disease research published online in the journal Circulation Research at circres.ahajournals.org.

Associate Professor Martin Young, Ph.D., and colleagues studying mouse models found that the time of day could have up to a three-and-a-half fold impact on how much tissue dies during a heart attack, due to this internal body clock. Learn more in a video on www.uab.edu/news.

Study links calorie intake to cell lifespan, cancer development

UAB researchers have discovered that restricting consumption of glucose, the most common dietary sugar, can extend the life of healthy human-lung cells and speed the death of precancerous human-lung cells, reducing cancer’s spread and growth rate. The UAB research into the links between calorie intake, aging and the onset of diseases related to aging is thought to be a first of its kind given that it used the unique approach of testing human cells versus laboratory animals.

The research has wide-ranging potential in age-related science, including ways in which calorie-intake restriction can benefit longevity and help prevent diseases like cancer that have been linked to aging, said principal investigator Trygve Tollefsbol, Ph.D., D.O., a professor in the Department of Biology.

“These results further verify the potential health benefits of controlling calorie intake,” Tollefsbol said. “Our research indicates that calorie reduction extends the lifespan of healthy human cells and aids the body's natural ability to kill off cancer-forming cells.”

Nursing receives challenge grant to train international research coordinators

“A key factor in the success of any clinical research project is the availability of knowledgeable and skilled research coordinators who can initiate and manage complex clinical studies,” said School of Nursing professor Lynda Wilson, Ph.D. Wilson and Marti Rice, Ph.D., will use a $998,903 challenge grant to develop and implement a distance-based education program for international study coordinators.

“The responsibilities of research coordinators can vary depending on the specific study requirements and may include assisting with study planning, implementation, monitoring, evaluation and reporting findings,” Wilson says.

Rate of autism has climbed to 1 percent among 8-year-olds

Autism and related development disorders are becoming more common, with a prevalence rate approaching 1 percent among American 8-year-olds, according to new data from researchers at the UAB School of Public Health and the Centers for Disease Control and Prevention (CDC). The study is a partnership between UAB, the CDC and 10 other U.S. research sites. It shows that one in 110 American 8-year-olds is classified as having an autism spectrum disorder (ASD), a 57 percent increase in ASD cases compared to four years earlier.

Gender divide found in children’s use of cell phone features

A recent study by UAB sociologist Shelia Cotten, Ph.D., finds that the way the kids use their phones depends on their gender.

The study found that boys scored higher than girls for using their cell phones to play games, share pictures and videos, listen to music and/or e-mails. Girls, on the other hand, used the phone as a phone book or contact list more often than boys did.

Noms sought for 2010 Ireland Visiting Scholar Prize

Nominations are being accepted for the 2010 Ireland Distinguished Visiting Scholar Prize, which brings to campus outstanding scholars in the arts and sciences to present a public lecture and participate in other campus activities.

Nominees should be individuals of distinction in the liberal arts and sciences who will interact profitably with UAB faculty and students in his or her area of specialization and be able to present that specialty in a way that will be of interest to the entire academic community.

Nominations must be received by 5 p.m. Friday, Jan. 15. Campu mail or deliveries should go to the Ireland Visiting Scholar Committee, Lori Milos, Administration Building, Room 374C, +0103.

P&F grants to be awarded for bone disease study

The Center for Metabolic Bone Disease (CMBD) will fund two pilot and feasibility grants for up to $33,000 per year, renewable for one year. Successful applicants will participate in an NIH Research Core Center competition continuation application. The general focus will be bone biology and disease. Basic and translational research applications are encouraged. Complete information is online at cmbd.path.uab.edu. Submit letter with NIH biographical sketch electronically to Shelia Cotten at marsham@uab.edu by 5 p.m. Monday, Jan. 25.

Protect your intellectual property

Many discoveries that result from funded research can be commercialized for the financial benefit of UAB and its faculty. The UAB Research Foundation can help you protect your interests before you publish your results to the public domain. Learn more at www.uab.edu/rf.

Learn more about these topics and other UAB research at www.uab.edu/news.

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