VIRTUAL REALITY INTERVENTIONS, HIGH-TECH PATIENT EVALUATIONS, FLIPPED CLASSROOMS

THE BRAVE NEW WORLD OF PHYSICAL THERAPY

How the USC Division of Biokinesiology and Physical Therapy is reinventing physical therapy education
Nearly 30 USC Division of Biokinesiology and Physical Therapy team members steel themselves to pull a 124,000-pound Boeing 757 just 12 feet down the runway as part of the Special Olympics Southern California’s ninth annual Plane Pull on Aug. 23. The team’s fastest pull time—each team got two attempts—was 6.226 seconds, not far behind the winning team from the L.A. County Sheriff-Men’s Central Jail, which took only 5.124 seconds! The day’s real winner, though, was Special Olympics Southern California, which surpassed its event fundraising goals, bringing in more than $120,000 ahead of next summer’s Special Olympics World Games.
“What’s in a name?” Romeo asks Juliet, in that most famous of Shakespeare’s plays. “That which we call a rose by any other name would smell as sweet.”

We can ask that question about the USC Division of Occupational Science and Occupational Therapy, which now has a new name: the USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy (see story on page 8). This is quite an extraordinary event in the history of our university, and indeed in the history of occupational therapy—a $20 million naming gift to a department of occupational therapy is unprecedented (and would be for a department of physical therapy as well). But what about Shakespeare’s question? Is the Division of Occupational Science and Occupational Therapy different because of this name change?

Let’s first consider some history. Once upon a time there were two departments at USC: the Department of Physical Therapy (PT) and the Department of Occupational Therapy (OT). In the early 1990s, after long strategic planning sessions, both departments changed their names to reflect the growing importance of science and research in addition to our traditional educational mission. PT became Biokinesiology and Physical Therapy, and OT became Occupational Science and Occupational Therapy. Did these name changes make a difference? Absolutely! They changed the way we think of ourselves and the way others view us. They changed our identities. They changed who we were. In both cases, changing our names, and our identities, played a crucial role in our subsequent evolution into number-one ranked programs.

Now OT has a new name and identity at USC—the Mrs. T.H. Chan Division. Like the change that occurred two decades ago, this change reflects a new level of achievement and recognition in academia and health care. And we can be sure that, moving forward, the Mrs. T.H. Chan Division will be an international leader in shaping changes in occupational therapy and occupational science in the next century.

Please join me in congratulating the faculty, staff and students of the Mrs. T.H. Chan Division, and expressing our thanks to the Chan family for their extraordinary vision.

WHAT’S IN A NAME?

Associate Dean and Chair, USC Division of Biokinesiology & Physical Therapy
The Brave New World of Physical Therapy >> 13-20

By John Hobbs MA ’14 and Jamie Wetherbe MA ’04

It is not enough to train students for physical therapy exactly as it is practiced today. Instead, the USC Division of Biokinesiology and Physical Therapy must be ever forward-thinking, preparing its graduates for physical therapy practice as it will be in 10, 15, even 20 years. From research (virtual reality interventions) to education (“flipped classrooms”) to patient care (new movement analysis courses), the division continues to fearlessly innovate its curriculum to keep up with the demands of a rapidly changing world.
VERN EVANS
Photographer

Vern Evans began his photographic career in Texas, shooting musicians while in high school. Since then, he’s had the opportunity to photograph some extraordinary people—the Dalai Lama, Harrison Ford, Elon Musk—and travel to some extraordinary places—Cuba, India and Singapore. “The beauty of what I do is being able to work with a wide assortment of clients from the corporate, travel and entertainment worlds,” he says. “I’m always looking for that next magical moment.” Evans shot much of the portraiture for this issue, including the picture of Dawnia Baynes above and in the feature story, “Finding Balance.”

HOPE HAMASHIGE
Writer

Hope Hamashige has covered tabloid murders for People magazine, business bigwigs for CNN and Bloomberg News and many members of the animal kingdom for National Geographic. When she’s not hard at work in Los Angeles, you can often find her above the tree line in the Colorado Rockies. Hamashige got to know Jason Kutch a little better to tackle this issue’s “5 Things to Know About” column on page 10 and learned all about the student-group Physical Therapy Multicultural Leadership Alliance for a feature on its latest scholarship recipient Marco Lopez on page 21.

KENNETH KIM DPT ’11
Guest Columnist

When we put out a recent call for inspiring patient stories, Kenneth “Kenny” Kim answered with a story about Ahmed Alshammari who had suffered ridicule, despair and the loss of hope after living with Bell’s Palsy for 12 years. The neurological disorder had left Alshammari with partial facial paralysis on his right side. Kim worked with Alshammari, eventually restoring his smile and confidence. Kim chronicles the transformation and explains how stories like this keep him inspired to come to work in physical therapy every single day. Read all about it on page 25.
HIIT SINGLE

Move over, Devo. There’s a new plastic-domed, whip-cracking crew on the scene as division faculty members Christina Dieli-Conwright PhD ’09, Jesus Dominguez MPT ’88, PhD ’02 and Valerie Matthews DPT ’13 take to YouTube to spread the word of high-intensity interval training (HIIT) for breast cancer survivors. “When Herceptin comes along, you must HIIT it. Don’t let cancer get you down, you must HIIT it,” the upside-down pink-bucket wearing trio sings while running, biking and doing jumping jacks. The music parody highlights one of the research focuses—the effects of high-intensity exercise on the development of metabolic diseases in breast cancer survivors—of the Women’s Health and Exercise Laboratory. Check out the full video here: tinyurl.com/hiitit.

Hold it Right There!

“We knew that pelvic floor muscles contract involuntarily in healthy people to make sure they don’t accidentally urinate, but we didn’t know what part of the nervous system was doing this,” says assistant professor Jason Kutch. Now, thanks to a surprising discovery made by Kutch and a team of USC and Loma Linda researchers, science understands a bit more the neurological underpinnings of the muscle activation that keeps you from peeing your pants. In an Oct. 8 article in the Journal of Neuroscience, Kutch shares his a-ha! moment about the connection between the brain and pelvic floor muscles, which could be critical for understanding chronic pelvic pain in women and men. Read more on their findings at tinyurl.com/holditrightthere.

Not Just Horsing Around

Clinical adjunct instructor Cassandra Sanders-Holly DPT ’04 was featured on CBS Radio affiliate KFROG 95.1 in late October for an “Eye on the Community” segment focused on hippotherapy (which, contrary to the way it sounds, has nothing to do with hippopotamuses). Sanders-Holly is the founder and clinic director of Leaps and Bounds Pediatric Physical Therapy, a Norco, Calif.-based ranch that offers children horse-assisted therapy and horse-back riding techniques proven to improve the function of persons—mainly children—with neurological disabilities and developmental delays. Listen to the full segment here: tinyurl.com/horsept

Push it to the Limit

The body is smarter (and stronger) than one might think. This past September biokinesiologist Todd Schroeder PhD ’00 talked to Popular Science magazine about “Pushing the Limits of the Human Body.” Weightlifters can hoist 1,000 pounds, but Schroeder thinks they are capable of much more—if they put their minds to it. Our brains limit the number of muscle fibers activated at any one time to keep us from getting injured. “Turn that safety off, and you can produce a lot more force,” Schroeder says. He thinks mental training may help athletes tap as much as 20 percent more strength from their bodies. Read the article here: tinyurl.com/ptschroeder.
The Bill & Melinda Gates Foundation announced the latest round of its Grand Challenges Explorations grant winners on Nov. 4, and, for the first time, a division faculty member was included.

Beth Smith, assistant professor at the USC Division of Biokinesiology and Physical Therapy, was awarded one of 60 Phase-1 grants meant to foster bold and innovative solutions to global health and development challenges.

The researcher—whose academic work has largely focused on neural control of movement during infancy—plans to use the $100,000 to conduct an 18-month infant development study to create tools for assessing atypical brain development earlier and more accurately.

“The earlier we can identify atypical development, the earlier we can provide targeted rehabilitation and positively influence neuromotor development,” Smith said.

Her research could mean autism, for example, would be detected earlier, and the infant’s development could be optimized thereafter.

“During infancy, the potential to have a positive impact on development is unparalleled,” Smith said. “Infants learn so much so quickly; their skills and abilities change drastically across weeks, even.”

For the study, Smith will recruit 30 typically developing and 15 prematurely born infants between the ages of 1 and 6 months old. She will collect full-day arm movement data from wearable sensors, brain function data from an electroencephalography cap and standard assessments of the infants’ reaching skills.

The data will allow Smith to relate the variables—amount and type of daily arm movements, amount and location of corresponding brain activity and standard assessments of reaching skills—to give researchers a better understanding of movement control and underlying brain development.

The data could support the development of full-day, in-home neonatal movement assessments as a screening tool for underlying brain development, Smith said.

The Grand Challenges Explorations is a $100-million initiative funded by the Bill & Melinda Gates Foundation. Since its launch in 2008, it has funded nearly 1,100 projects in more than 60 countries. Twice yearly, the initiative sets up research topics—varying from creating low-cost cell phone apps for health conditions to developing cell phone apps for health conditions to developing research applications pertaining to the biological mechanisms and therapeutics of impaired physical function and then make recommendations on the merit of the research to the appropriate national advisory council. “I want to make sure that I give constructive feedback to allow people the chance to revise their proposals to get to a threshold that is fundable,” she said. “I think that’s a very important part of shaping the enterprise so that good work becomes excellent work.”
DOMINGUEZ APPOINTED TO PHYSICAL THERAPY BOARD OF CALIFORNIA

Earlier this fall, assistant professor Jesus Dominguez MPT ’88, PhD ’02 was appointed to serve a four-year term on the Physical Therapy Board of California by Gov. Jerry Brown. The seven-person regulatory body oversees the practice of physical therapy throughout the Golden State by verifying practitioners’ backgrounds and educations prior to licensure, providing information about the profession and investigating consumer complaints against physical therapists and physical therapy assistants. “I can’t recall ever having been in the position to be able to serve both the community as well as the profession, which has given me so much to be thankful for over the past 26 years. This service appointment allows me to do just that.”

JOHNSON ELECTED TO CPTA BOARD OF DIRECTORS

Division alumnus Sean Johnson DPT ’08 has been elected to the California Physical Therapy Association’s Board of Directors for a three-year term beginning 2015. The election took place at CPTA’s annual conference in Oakland, Calif., on Oct. 24 and 25. In his new position, Johnson said he hopes to help reorganize the CPTA and its district offices, allowing them to run more efficiently; to continue improving direct access to physical therapy care; and to serve as an advocate for the profession, both internally and externally. The CPTA is the third largest physical therapy association in the world and the only voice for the profession in the Golden State.

KULIG: DISTINGUISHED LECTURER AT AAOMPT NATIONAL CONFERENCE

Division faculty member Kornelia Kulig delivered the third annual Distinguished Lectureship at the 2014 national conference for the American Academy of Orthopaedic Manual Physical Therapists in San Antonio, Texas earlier this fall. Her lecture, titled “Recurrent Symptoms: Lessons Learned from Returning Patients,” examined correlates between tendinopathies and low back pain—two painful musculoskeletal conditions—to better understand the underlying pathologies for the conditions to alleviate future symptom recurrence. Kulig is co-director of the Jacquelin Perry Musculoskeletal Biomechanics Research Laboratory at the division and has been a faculty member since 1995.

USC OCCUPATIONAL THERAPY FIRST NAMED, ENDOWED PROGRAM IN NATION

BY JESSICA RAYMOND

In early September 2014, USC Trustee Ronnie C. Chan MBA ’76 and his wife, Barbara, announced a $20-million gift to USC’s occupational science and occupational therapy program.

Given in honor of Chan’s mother, the gift endows and names the division, now officially known as the USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy. This is the first naming gift and the largest ever made to any occupational therapy program in the history of the field, according to the American Occupational Therapy Association.

“This historic gift recognizes the outstanding achievements of our occupational therapy colleagues here at USC, and it also reflects their tremendous potential to transform occupational therapy and health care in the future,” said James Gordon, associate dean of the USC Division of Biokinesiology and Physical Therapy, which is administratively housed under the Herman Ostrow School of Dentistry of USC alongside occupational therapy.

This historic endowment gift ensures the USC Mrs. T.H. Chan Division’s prominence among the most elite programs in occupational science and occupational therapy, not just in the United States but throughout the world.”

Mr. Chan is the chairman of Hang Lung Group Limited and its subsidiary, Hang Lung Properties Limited, which stands among Hong Kong’s leading property companies. He also co-founded the Morningside Group, a privately held investment firm that owns and manages industrial and service companies throughout the United States and Asia.

With two sons who graduated from USC, the Chans are also proud Trojan parents. Adriel received his bachelor’s degree in international relations in 2004. Adley earned his bachelor’s degree in sociology, as well as bachelor’s, master’s and doctorate degrees in occupational therapy. He recently joined the USC Chan Division as a clinical faculty member.

“I am grateful for the opportunities that USC afforded me and my sons, and our gift to the division is one of several ways we intend to continue supporting USC in the future,” Ronnie Chan said.

The Chan gift represents a significant milestone for the occupational therapy division, which has accumulated a long list of firsts since occupational therapy education began at USC in 1942. The division established the nation’s first two-year, entry-level master’s degree program in occupational therapy and the first post-professional degree program in occupational therapy. It is also internationally renowned for establishing the world’s first Ph.D. program in occupational science. Since U.S. News & World Report began ranking occupational therapy educational programs in 1998, USC has held the No. 1 spot for 12 years—more years than all other programs combined.

“With the extraordinary resources provided by this gift,” associate dean Florence Clark said, “we can nurture clinicians and scientists who will dramatically influence practice and research and create innovative ways of improving quality of life around the world.”
CALENDAR

FEATURED EVENT

USC/DIVISION

APR 16
JACQUELIN PERRY
RESEARCH DAY 2015

Join us as we celebrate the breadth and depth of the research that is being conducted within the laboratories and clinics of USC’s Division of Biokinesiology and Physical Therapy. This day, dedicated to scientific inquiry, was recently named in memory of former faculty member (1977–1991) and physical therapy pioneer Dr. Jacquelin Perry (pictured to the right), who was a groundbreaking clinician and researcher in the fields of orthopedic surgery and physical therapy. DETAILS >> Lawn Behind the Broad & Zilkha Buildings >> 11:30 a.m.–1:30 p.m. >> More info: pt.usc.edu/Research_Day

CONTINUING EDUCATION

ORTHOPEDIC BOOT CAMP

These day-long seminars, taking place over eight Saturdays in 2015, are designed to improve proficiency with the application of manual examination and treatment procedures for orthopedic physical therapy. Taken altogether, the full course should give participants high-level skills to treat common musculoskeletal conditions. DETAILS >> Instructors: Daniel Kirages & Sean Johnson >> CEUs: 1.5–12 >> USC Professional Education Center, 8830 S. Sepulveda Blvd., 2nd Floor, L.A. >> More info: pt.usc.edu/continuingeducation/courses

PROFESSIONAL MEETINGS

APTA COMBINED SECTIONS MEETING

Bundle up: The next APTA Combined Sections Meeting takes place in early February in Indianapolis, Ind. The four-day event brings together more than 10,000 physical therapy professionals from all over the United States for educational programming, networking opportunities and exhibit-hall gazing. Attendance is worth up to 1.9 CEUs. DETAILS >> Indiana Convention Center, 100 S. Capitol Ave., Indianapolis, Ind. >> More info: apta.org/CSM

APTA NEXT CONFERENCE & EXPOSITION 2015

Attend the annual newly named APTA NEXT Conference and Exposition in beautiful National Harbor, Md. NEXT gives attendees exclusive access to the profession’s experts and includes visionary speeches such as the Maley and McMillan lectures. Last year’s McMillan lecture was delivered by Dr. James Gordon, the division’s associate dean. DETAILS >> More info: apta.org/NEXT

CONTINUING EDUCATION

SYKES SYMPOSIUM ON PEDIATRIC PHYSICAL THERAPY, HEALTH AND DEVELOPMENT

This annual symposium helps foster meaningful dialogue between pediatric researchers and the clinicians who care for infants and children with developmental and health challenges. The two-day event features thought-provoking lectures, case presentations and open audience discussion. DETAILS >> CEUs: 1 >> USC Health Sciences Campus, 1540 Alcazar St., L.A. >> More info: tinyurl.com/sykessymposium

CONTINUING EDUCATION

ESSENTIAL FOR APPRAISING EVIDENCE

This four-part online course helps physical therapists gain skills in understanding and applying clinical practice guidelines (CPGs) in clinical practice, using a case-based curriculum. DETAILS >> Instructors: Drs. Linda Fetters & Julie Tilson >> CEUs: 2 >> USC Health Sciences Campus, 1540 Alcazar St., CHP 155, L.A. >> More info: pt.usc.edu/continuingeducation/courses

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IN MOTION 9 WINTER 2015
Kutch is the only faculty member at the USC Division of Biokinesiology and Physical Therapy who has a Ph.D. in math and, yes, he knows that some people think that makes him the resident square peg.

He is quick to point out there are mathematicians who write equations and mathematicians who use math to illuminate how other things, such as human muscles, work. He has been doing the latter since grad school, working at the Rehabilitation Institute in Chicago, where he studied hand muscles. Still, he says some faculty members scratched their heads when they heard a guy with a math degree had applied for a job.

Kutch switched the focus of his research to chronic pelvic pain when he got to USC and has since received NIH funding to carry out that work.

A chronic pelvic pain sufferer himself, Kutch admits the switch was personal because he knows firsthand how debilitating it can be. Until pain sets in, nobody realizes how many daily tasks, including sitting and exercising, involve using the muscles in the pelvic floor. The fact that the NIH was about to throw millions into research on the subject, Kutch says, was an instance of good timing.

The Applied Mathematical Physiology Laboratory—directed by Kutch—is the only laboratory in the division that hires high school students. Two seniors from Francisco Bravo Medical Magnet High School spend two hours a day in his lab. Kutch says they bring a fun energy into the lab, and he makes it an excellent learning opportunity by letting them do substantive research, such as studying the impact of sleep on the body.

In spite of being raised in Delaware and schooled in New Jersey and Michigan, Kutch says he always had a little bit of the West in his blood. He knows it sounds cheesy, but he confesses to loving the Sylvester Stallone movie, Cliffhanger, as a kid. The fact that it was full of ridiculous Hollywood nonsense like the bolt gun that shot pegs directly into rock was less important than the fact that it opened his eyes to adventure in wide open spaces.

He learned climbing and mountaineering in college when friends from Canada invited him for summer treks through the Rockies.

He convinced his wife to give it a try and, suffice it to say, he is no longer the lead climber in the family. For Kutch, climbing is not about being number one. The sport he learned to love in college also happens to be one of the tools he uses to keep his chronic pain in check.
Finding Balance

Despite what could have been devastating news—a multiple sclerosis diagnosis at 27—Dawnia Baynes is living her best life thanks to an interdisciplinary program for those diagnosed with the disease.

BY JAMIE WETHERBE MA ’04
PHOTOGRAPHY BY VERN EVANS

Dawnia Baynes doesn’t remember exactly when she was diagnosed with multiple sclerosis. “Some people know the exact date, but I try not to pay attention to those kind of details,” she says. “I don’t want to create a bond with a certain date.”

The bubbly, 35-year-old African-American woman with kind eyes started showing symptoms of MS about 10 years ago. The official diagnosis came in 2006 when Baynes was 27.

“I’ve had emotional moments…but I’ve always focused on what I can do,” Baynes says. “I don’t say I have MS—I say I was diagnosed with it.”

In January, Baynes was one of a handful of clients to join USC’s Optimal Living for Multiple Sclerosis, an interdisciplinary program bridging expertise between the USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy and the USC Division of Biokinesiology and Physical Therapy.

“The program was full, but the day before it started someone canceled, and I got in,” she says. “And I am very grateful I did.”

In partnership with the Southern California chapter of the National Multiple Sclerosis Society, the Optimal Living course aims to enhance the functioning and quality of life of those living with mild to moderate multiple sclerosis.

The 11-week program, which runs January to April, accommodates about a dozen participants and pairs them with 15 physical therapy students and nine occupational therapy students.

Participants range in age (usually from early 30s to late 60s), demographics and functional levels.

“For the most part, participants deal with some impaired mobility, and that’s the reason they want this kind of intensive all-day program,” says Noriko Yamaguchi DPT ’08, who has helmed Optimal Living since 2012.

There are also recently diagnosed participants who want to join a wellness program to preemptively slow the progression of the disease.

“There aren’t that many MS-specific wellness and health promotion programs out in the community,” she says.

While the MS Society offers several one-day courses, USC’s weekly program provides participants with a range of relevant topics, as well as continuity, Yamaguchi says.

Sessions start in the morning with occupational therapy through USC’s Lifestyle Redesign program, which allows participants to focus on a certain topic—such as balance—and how it affects their daily lives.

Participants and providers discuss ways to overcome challenges so clients can accomplish all they need to do in a day.

“For OT, it’s a little different and unique,” says Yamaguchi of USC’s Lifestyle Redesign program. “Participants reflect and talk about the barriers, and students teach ways to overcome those barriers.”

In the afternoon, PT students guide clients through a one-hour, customized exercise program, as well as find ways to implement the movements for a workout at home. Each week focuses on a different theme and exercise, like cardiovascular health, flexibility or resistance training.

“The idea is to introduce participants to different types of exercises and different ways exercise can be performed, so they can find the right type and mode of movement that works best for their bodies,” Yamaguchi says. “Since the PT sessions are mostly one-on-one, participants learn a lot more about their bodies.”

They also learn about their limitations. “I didn’t know I couldn’t march in place until I had to do physical therapy,” Baynes says. “I couldn’t put one foot in front of the other and balance.”

A few co-treatment sessions allow the OT and PT students to team up for an interdisciplinary experience.

For instance, OT students start the day with home safety by having participants show pictures of their homes and explain ways their daily activities can affect their safety.

“They might show a pictures of a step with a crack in it,” Yamaguchi says.

Students and participants then brainstorm ideas on how to more safely adapt the environment to the client’s needs.

“It’s a lot of problem-solving and self reflection and asking, ‘How am I doing life?’ and ‘How could I be doing it better?’” says Yamaguchi.

PT students complement OT with a session addressing balance-limitation specifics that clients might face.

“My balance was awful, and my left leg would drag,” recalls Baynes, who often uses a cane. “But I haven’t fallen since the program.”

Yamaguchi says that for the most part, results vary based on participants’ goals and levels of function.

“In general, however, we’ve seen nice gains in balance measures and confidence, gait measures and functional strength,” Yamaguchi says. “Many people also report improvements in fatigue levels, confidence in their ability to manage the disease and the impact MS has on their daily life.”

Baynes says the Optimal Living program has exceeded her expectations.

“I have more confidence to go out,” she says. “I didn’t want to go out because I was concerned about having people wait for me or getting tired.”

To meet her needs, Baynes says students fitted her with a walker with an attached seat so she can go to festivals or other events without worrying about where to rest.

More than exercise, Baynes says Optimal Living has opened new possibilities for her. “I’m 35; I’m supposed to be wearing heels, but I can’t do that because my balance is so bad,” she says.

“It felt good to have somebody show me how to live again and not be stuck in the diagnosis.”

While Baynes can’t don stilettos, she is ready to try new things.

“I’m going to learn to skate,” she says. “We’ll see how it goes, but the program has given me the courage to try it.”
It felt good to have somebody show me how to live again and not be stuck in the diagnosis.

—Dawnia Baynes, Optimal Living alumna
It is not enough to train students for physical therapy exactly as it is practiced today. Instead, the USC Division of Biokinesiology and Physical Therapy must be ever forward-thinking, preparing its graduates for physical therapy practice as it will be in 10, 15, even 20 years. From research (virtual reality interventions) to education (“flipped classrooms”) to patient care (new movement analysis courses), the division continues to fearlessly innovate its curriculum to keep up with the demands of a rapidly changing world.
Biokinesiology Ph.D. student Sungwoo Park helps demonstrate Dr. James Finley’s research using virtual reality-based interventions for physical therapy rehabilitation.

Photo: John Skalicky
The Leap Motion sensor (lying on the table) uses stereo cameras to bring the user’s hand into the virtual world, which could open the door for cross-disciplinary research into hand rehabilitation, Finley says.
Imagine, for a moment, walking into your physical therapist’s office. A series of sensors are placed on your joints. Next, a futuristic-looking headset is placed over your eyes, and your PT guides you gently onto a treadmill.

Instantly, you are transported to a forest; you are hiking through trails and trees. The virtual experience tracks your head movements and your pace flawlessly, while the treadmill underfoot mimics the terrain you see on screen.

As you step over logs and dodge branches, the sensors feed movement data to sophisticated systems that can track any abnormalities in your motion.

This virtual version of rehabilitation could come to clinics or even to patients’ homes in the next couple of years. But it’s already here at the USC Division of Biokinesiology and Physical Therapy.

In January 2015, USC officially opens the doors to its new Locomotor Control Laboratory, which will use virtual reality and other technologies to research how we move.

“A number of studies show that virtual reality is a much more engaging and motivational way to deliver therapy,” says James Finley, Ph.D., the new laboratory’s director and assistant professor.

While virtual reality may be able to deliver tangible benefits in the medical field, two of the lab’s key pieces—the Oculus Rift and the Omni Virtuix—were originally designed for gamers.

The Rift, a virtual reality headset created at USC’s Institute for Creative Technologies, immerses users visually in a virtual world, while the Omni lets them physically “step” inside.

The Omni is a spin on a standard treadmill that looks bowl-shaped at the bottom. Instead of walking in one direction, Omni allows patients to navigate turns.

“We’re one of the first group to look at using this device for rehabilitation,” Finley says.

With the help of sensors, researchers can track how patients take turns and pinpoint any dysfunction.

Another advantage of the Oculus/Omni setup is its surprisingly low cost. An Oculus Rift Development Kit, currently being sold to developers only, costs $350. An Omni can be pre-ordered for just $499. Finley says he hopes to develop a physical therapy delivery system for about $1,000, making for a relatively low-cost investment.

“Having something like this in a clinic would allow a therapist to test a recently diagnosed patient to see what type of task or skills need to be improved,” Finley says. “And this would provide the framework for patients to really practice those skills.”

He also hopes the affordable price tag will prompt patients to use the equipment at home, “where a lot of rehabilitation can—and perhaps should—take place.”

Still, wearing the Rift might be problematic for patients with vision and balance impairments or those prone to motion sickness.

One of the first orders of business when the lab opens will be a feasibility study about the use of head-mounted displays on a standard treadmill.

“We want to see if older adults or patients with Parkinson’s [disease] are able to tolerate this fully immersive environment,” Finley says.

Other technologies coming to the lab include motion-capture technology that tracks joint force and angles, while the Qualisys Track Manager system can match a virtual skeleton (pictured on page 19) with markers to study motion.

A Leap Motion sensor allows patients to see and use their hands in virtual environments, giving Finley and his team an opportunity to study how reaching and grasping affects how patients, including those with neuromotor impairments, walk.

As virtual reality becomes increasingly integrated into physical therapy, Finley says it’s important to expose PT students to this type of expertise.

“More and more technology will be used in clinics,” he says. “They need to be aware of who’s doing the research, and ideally, be very comfortable using the technology themselves.”

Follow the Locomotor Control Laboratory on Twitter at @FinleyLabUSC to stay up-to-date on Finley’s research.
It was a student initiative that helped demonstrate the positive impact mobile technology could have in patient care that led—at least, in part—to the division's adoption of an iPad requirement for all DPT students.
THE NEXT QUANTUM LEAP

Flipped classrooms, paperless curricula, movement analysis classes—the USC Division of Biokinesiology and Physical Therapy is reinventing physical therapy education.

BY JOHN HOBBs MA ‘14

“Half of what you’ll learn in medical school will be shown to be either dead wrong or out of date within five years of your graduation; the trouble is that nobody can tell you which half.”

The quote from David Sackett—the so-called “father of evidence-based medicine”—is often used to underscore not only the continual evolution of scientific knowledge but also the imperative for modern-day health practitioners to become lifelong learners to stay apace.

Physical therapists—like their medical school counterparts—can often find themselves practicing in a world vastly different from the one in which they were educated.

Faculty members and alumni Julie Tilson DPT ’98 and Rob Landel MS ’84, DPT ’96 know that all too well, having witnessed the explosion of information that is now available—quite literally—at every student’s fingertips. It’s in this brave new world of information overload that the division has reinvented its curriculum, supplementing the traditional with forward-thinking educational models.

“Our division is considered to be an innovator at USC for testing and adopting new technology for teaching and learning,” says Tilson, associate professor of clinical physical therapy.

One of the many innovations the division has adopted is the “flipped classroom” educational model in which students watch pre-recorded lectures before class then spend actual class time doing their assignments and getting valuable face time with the instructor.

Professor of clinical physical therapy Rob Landel says he’s been using the ‘flipped classroom’ model for nearly 10 years. “Class time becomes much more targeted to filling in gaps in the students’ knowledge and teaching them what they need to know rather than me standing up there with a canned presentation.”

The flipped classroom’s pre-recorded lectures also give students the ability to stop and rewind lectures if they didn’t hear or understand something, which is a vast departure from the standard lecture.

Video has also changed the way students learn to deliver patient care, with apps like Ubersense (see sidebar) allowing them to better assess movement dysfunction and treat patients.

“We can videotape the patient, slow it down, show it to them and say ‘OK, this is what you’re doing. Let’s try doing it this way,’ so they get that visual feedback,” Landel says.

Another major innovation is the use of iPads in the classroom as part of the division’s “paperless curriculum.” Beginning with the class of 2016, every doctor of physical therapy student is required to have an iPad, which they use for research, note taking, homework assignments and examinations.

With apps like GoodReader, Mendeley and Notability, students can not only take notes and find research, they can archive it, making it easily searchable so that they aren’t thumbing through bulky course readers in five years for something they remember learning in school.

Having the iPad gives them the capability to search online for the latest information, whether they’re in class or on the clinic floor.

It’s this passion for acquiring the newest, most updated knowledge that the division hopes to impart in its graduates, so they evolve alongside the profession.

“I expect our students to not only stay current but to be part of defining the future in PT,” Tilson says. “I think that the skill set for staying current and defining the future includes the ability to use technology to access new information, the ability to assess the quality of the information they find and the ability to collaborate with the broader PT community.”

ABOUT THE MOVEMENT ANALYSIS CLASSES

Division faculty members Christopher Powers and Beth Fisher first started teaching the Movement Analysis classes, PT 572 and PT 582, in 2012. The lecture-lab combo course—one of the first of its kind in physical therapy—aims to provide students with a basic framework for analyzing movement and then build upon that knowledge base in the second semester by giving students additional opportunities to analyze, compare and contrast a wide range of functional tasks. The idea is to develop a common language so there is continuity in the way physical therapy is taught and integrated across curriculum.

The Gadgets

Not everything can be taught using electronics—for example motor skill acquisition in a heavily hands-on profession—but learning new information has never been easier with some of these innovative aids being used in the division:

EXAMSOFT

The computer-based testing software gives students instant scores (no more waiting for test grades to be posted) and provides detailed reports on their educational progress. For faculty, it means every question can be written to be tied to a learning objective, and class time and curricula can be more targeted for difficult concepts.

GOODREADER, MENDELEY, NOTABILITY

Having made the shift to a paperless system—only in part ecologically driven—the division now requires all doctor of physical therapy students to have an iPad on which they can use apps like GoodReader, Notability and Mendeley to take notes, collect research articles and archive them all, for quick, easy reference.

RESPONSEWARE

Like the “Ask the Audience” lifeline on Who Wants to be a Millionaire?, this software collects every student response—students respond using clickers, but the program’s moving to a mobile device-based response system—to an in-class question, allowing course instructors to accurately assess whether discussion concepts have been fully understood.

UBERSENSE

Designed for coaches looking to improve athletic performance, Ubersense has been adopted by physical therapists for clinical use. The app allows practitioners to record patient performance, slow it down and truly analyze it to better understand the source of any movement dysfunction. The app can also be useful for patients to receive visual feedback to correct bad form.

YOUTUBE

Video has become increasingly useful in a physical therapy education, allowing students to consult recorded lectures in case they missed something the first time and instructors to make better use of class time by pre-recording lectures. Some faculty members require student video submissions (consulting a patient for example), making for a more enriching, realistic and applicable educational tool.
Using 3-D motion capture technology, Qualisys Track Manager gives physical therapists a powerful tool in examining a patient’s biomechanics.
PATIENT CARE

A NUMBERS GAME

The Movement Performance Institute serves as an innovative educational model for detailed, quantifiable testing to better design effective treatment plans.

By Jamie Wetherbe MA ’04

It’s a Monday evening at the Movement Performance Institute (MPI), a state-of-the-art physical therapy facility located just miles from the Los Angeles International Airport. With pop music playing in the background, a teenage dancer spins through a series of fouettés while a basketball player practices his vertical leap—perhaps a bit too strenuously.

“Don’t you have a game on Wednesday? Take it easy,” Christopher Powers PhD ’96 says with a smile to the basketball player (see sidebar), who is rehabbing his anterior cruciate ligament, one of the four major ligaments of the knee.

Powers, the founder and owner of MPI and professor at the USC Division of Biokinesiology and Physical Therapy, is doing far more than observing each athlete’s motion—he’s recording them, using sophisticated 3-D cameras that are perched along the perimeter of the room to capture movements from all angles.

At a nearby computer, Powers slows the footage of the dancer, who has tendinitis in her knee.

“You see that? Her knee is out of alignment.”

Powers, the director of USC’s biokinesiology program, launched MPI five years ago to apply technology to better understand the biomechanical basis of healthy—and unhealthy—movements.

“I think this has been a big missing piece in the practice of PT,” he says. “We’re not doing a good enough job of really getting to the root cause of the problem, as opposed to treating symptoms.”

Powers uses a variety of gadgets—like the aforementioned cameras as well as force plates and sensors—to objectively measure motion, giving MPI practitioners the ability to design more effective clinical interventions.

Powers, who’s been studying lower extremity injuries for more than two decades, says MPI’s in-depth evaluations and movement analysis came from the desire to parlay his research into practice.

“It just became evident to me there are biomechanical and movement factors that underlie many of the injuries we see,” he says. “I wanted to apply research when making clinical decisions.”

When patients first see Powers, they typically move through a two-hour assessment that includes a full biomechanical analysis catered to the patient’s pain.

“For instance, if they have pain while running then we do a running analysis; if it’s pain while walking, we do a gait analysis,” Powers explains.

While biomechanical testing will tell providers what is wrong, it doesn’t explain why.

So Powers takes patients through a series of clinical tests, examining strength and range of motion to uncover any pain-causing physical impairment.

He then reviews results with patients—including videos and data—and makes recommendations to remedy any movement dysfunction. A detailed report on these findings also goes to the patient’s physician or other health care providers, if necessary.

“We spend a lot of time educating the patient to bridge the gap between research and care,” he says. “It really improves compliance when patients understand what they’re doing and why.”

Powers often treats active patients, including professional athletes, with chronic overuse and sport-related injuries.

But he would like to see the method move more mainstream, which is why he’s helped incorporate movement-based curriculum at USC and offers continuing education courses to working professionals.

“I think the profession needs a clearer identity in the world,” he says. “It’s hard to define—‘I’m a physical therapist.’

“[Movement] is really physical therapy’s domain, and we just have to do a better job of doing it—in our practice and education.”

TOOLS OF THE TRADE
Just a few of the gadgets MPI uses to track bodies in motion:

SIMI AKTISYS
This movement-analysis system uses light sensors to automatically track and measure angles while patients run or walk. Practitioners can look at joint angles and movement patterns to find abnormal motion that would contribute to a patient’s pain.

NORAXON ELECTROMYOGRAPHY
This set of wireless sensors is used to examine muscle activation. For instance, by placing one on each patient’s leg, a physical therapist can see if a patient is under- or overusing a particular muscle during a particular movement.

ADVANCED MEDICAL TECHNOLOGY INC. FORCE PLATE
Powers uses the force plate for two reasons: to look at impact forces (how hard a patient hits the ground) and to see where the force vector falls with respect to the joints. This provides an idea of joint loading based on the relationship of the vector to specific joints.

ZEBRIS PRESSURE SYSTEM
This instrumented treadmill with pressure mapping allows Powers to look at gait characteristics and foot pressures, as well as loading and center of pressure.

Patient Success Story

NUWR’IYL “NEW” WILLIAMS, 18
High School Basketball Player
Inglewood, Calif.

It was during a basketball game his junior year that now 18-year-old point/shooting guard Nuwr’iyl “New” Williams jumped to block a shot and landed wrong on his knee. Though he was a little sore, the star basketball player—ranked 50th in the nation before his injury—continued to play on the swollen knee for several more games before it finally gave out, and he was diagnosed with a torn anterior cruciate ligament. After corrective surgery, New was referred to the Movement Performance Institute where he underwent twice-weekly treatment for 8 months.

“It was top of the line elite training,” he says. “It took my knowledge to another level about my body and made me feel like my injury was a blessing in disguise.”

New says he’s become 100 times more explosive in his jumping capacity and has added 6 inches to his vertical jump, so watch out for this guy on the basketball court.

WINTER 2015

IN MOTION 20
Marco Lopez was awarded a new scholarship by the Physical Therapy Multicultural Leadership Alliance—a student group aiming to increase community engagement and promote diversity in physical therapy—to give back to underserved communities in Southern California and around the world.

BY HOPE HAMASHIGE

Marco Lopez DPT ’17 literally stumbled across the idea of becoming a physical therapist when he was a high school student. After injuring himself, the athletic teenager was treated by a physical therapist and realized the profession was what he wanted to do with his life.

What he didn’t know was how to put together a road map to get him from high school in South Gate, Calif., to his teenage dream of growing up to be a physical therapist. “We had one counselor at the whole school, so we didn’t get a lot of guidance,” Lopez says.

Knowing there were likely other high school students who may find themselves in similar situations—not knowing how to realize their dreams—Lopez joined the Joint Educational Project as an undergraduate. The Joint Educational Project is a unique service-learning program that offers USC students the chance to combine their academic coursework with community service opportunities in the neighborhoods surrounding campus.

Now a first-year student in the doctoral program at the USC Division of Biokinesiology and Physical Therapy, Lopez continues this all too important work in the community. At the division’s White Coat Ceremony and Academic Convocation in August, Lopez was awarded a $1,500 grant from the USC Physical Therapy Multicultural Leadership Alliance (PTMLA) because of his long-standing involvement with community service projects such as the Joint Educational Project.

PTMLA was started 10 years ago with a couple of goals in mind. The group seeks to promote diversity in physical therapy by providing professional and leadership opportunities to underrepresented students. It also provides community service and works to promote awareness of physical therapy-related issues in underserved populations.

Community service through PTMLA sometimes means crossing the Mexican border to volunteer at Gabriel House, an orphanage in Ensenada, where USC physical therapy students have volunteered for many years. Many of the children at Gabriel House have disabilities, and the DPT students provide physical therapy to try to help improve their conditions, getting valuable hands-on experience in the process.

But PTMLA’s international scope isn’t limited to Mexico. The group has extended its reach in recent years. Last year, a group of second- and third-year
ABOUT PTMLA

USC PTMLA was created in 2004 to promote diversity among graduate students and provide opportunities to turn them into leaders. For this reason, PTMLA has always been run by students rather than faculty.

The students of the PTMLA board have several duties including communicating with department leadership on issues of diversity and organizing all of the events, including the international volunteer trips, in which they are involved. They hold fundraising events to cover their costs and to provide scholarships to help students like Lopez cover their tuition or the cost of going on one of the international service trips.

Each year, a new group of students, all from the same DPT class, takes the reins of PTMLA. They can choose to start a new program, which gives each class the opportunity to leave their mark on the program.

This year, PTMLA started a Pre-Physical Therapy Club at the University Park Campus, to connect undergraduates interested in pursuing graduate training in physical therapy with graduate students who will act as mentors and advisers.

“We decided it was time to build a bridge between HSC and UPC,” said Jason Manalili, president of PTMLA.

“I think it’s really important to give back to the community and show them that if I can do this, they can do it, too.”

—Marco Lopez DPT ‘17

students volunteered at a pediatric clinic in Colombia. This spring, PTMLA is adding a third destination for its international service: Costa Rica.

The spring trip represents a partnership between the division and International Service Learning, an educational organization that takes medical and dental student volunteers to several clinics and hospitals across the world. Allen Mour DPT ‘14, who is helping organize the Costa Rica trip through PTMLA, says many people who work in agriculture, including at least 14 percent of the Costa Rican workforce, can develop injuries that often go untreated because they don’t have access to physical therapists.

The majority of PTMLA’s service-learning opportunities occur much closer to home, including Lopez’s first outing with PTMLA. For its first community service day of the 2014 fall semester, the group visited nearby Abraham Lincoln High School.

There, they did a couple of demonstrations about physical therapy and talked to the students about what it takes to get into a graduate program in physical therapy. The group hopes it opened the eyes of at least some of the mostly Hispanic and Asian students at Lincoln High to consider a career in physical therapy.

“I feel so lucky to be here,” Lopez says. “I think it is really important to give back to the community and show them that if I can do this, they can do it, too.”

RESEARCH GRANTS

MARCH–DECEMBER 2014

PROJECT TITLE
ELECTROMYOGRAPHIC MAPPING OF THE PERI-AURICULAR MUSCLES

PRINCIPAL INVESTIGATOR
Lucinda Baker

BKN/PT

CO-INVESTIGATORS
Carolee Winstein

SPONSOR
National Science Foundation (Subcontract from Reach Bionics, Inc.)

AWARD AMOUNT
$68,972

PROJECT TITLE
MINDFULNESS TRAINING FOR IMPROVING PHYSICAL REHABILITATION IN OLDER ADULTS

PRINCIPAL INVESTIGATOR
George Salem

SPONSOR
James H. Zumberge Research and Innovation Fund

AWARD AMOUNT
$10,000

PROJECT TITLE
DEVELOPMENT AND VALIDITY OF AN IN-HOME INFANT KICKING ACTIVATED MOBILE

PRINCIPAL INVESTIGATOR
Barbara Sargent

BKN/PT CO-INVESTIGATOR
Linda Fetters

SPONSOR
James H. Zumberge Research and Innovation Fund

AWARD AMOUNT
$27,000

PROJECT TITLE
MAPP RESEARCH NETWORK SECOND PHASE

PRINCIPAL INVESTIGATOR
Jason Kutch

BKN/PT CO-INVESTIGATOR
Dan Kirages

SPONSOR
National Institutes of Health (Subcontract from UCLA)

AWARD AMOUNT
$772,000

PROJECT TITLE
INFANT MOVEMENT ANALYSIS FOR ATYPICAL BRAIN DEVELOPMENT

PRINCIPAL INVESTIGATOR
Beth Smith

SPONSOR
Bill and Melinda Gates Foundation

AWARD AMOUNT
$100,000

PROJECT TITLE
FULL-DAY LEG MOVEMENT ASSESSMENT FOR INFANTS AT RISK FOR DEVELOPMENTAL DELAY

PRINCIPAL INVESTIGATOR
Beth Smith

SPONSOR
American Physical Therapy Association - Section on Pediatrics

AWARD AMOUNT
$16,000
Since receiving his DPT degree just last spring, Jonathan Hernandez has made some significant life changes. The Paramus, N.J.-born alumnus left behind the endless sunshine of Southern California to return to life on the East Coast. He reconnected with some professional contacts in the sports world. And he started working with a brand new set of patients: some of whom—Nickell Robey, Keith Rivers and Robert Woods—might be familiar to die-hard Trojan football fans. As a team physical therapist and athletic trainer for the NFL's Buffalo Bills, Hernandez has started the career he had always envisioned—and one that is the stuff of dreams for many physical therapists—and he credits much of his success to his time at USC.

When did you decide you wanted to become a physical therapist?
During high school, I visited my dad, who had started a position with the U.S. Department of State and was stationed in Cambodia. During that time, I found a volunteer opportunity at the Kien Khleang National Rehabilitation Centre for Disabled in Phnom Penh, a center that cares for patients injured by land mines, patients with orthoses and prostheses and children with birth defects. I shadowed physical therapists and observed how they treated their patients. I was so impressed by how much of an impact a physical therapist makes and knew then that I wanted to be a physical therapist and promised myself I’d do everything necessary to become one.

How did you end up getting your job with the Bills?
When I was at the University of Delaware getting my bachelor’s in athletic training, I helped the Bills during a game against the [Philadelphia] Eagles. The Bills’ athletic training staff encouraged me to apply for a summer internship with them. When it came time to send in my resumé, they had already filled the position. I kept in contact with the Bills’ internship coordinator and athletic trainer and, when my residency started winding down at USC, he contacted me about a new physical therapist and certified athletic trainer position. The rest is history. I finally made it to Buffalo in 2014!

Do you travel with the team for away games?
Travel depends on the injury situation. If there are multiple injured players, I’ll stay [home in Buffalo] with them for extra treatments to help them prepare for the following week. I always hope for no injuries, but I really cross my fingers when we play [away teams] in warmer climates.

What is your day-to-day like working with the Bills?
In the morning, players arrive for pre-practice PT treatment. When they leave for meetings, injured reserve players come in. Depending on the injury situation, I will either go out to practice or stay inside the treatment area. After practice, we’ll have another round of treatment. Then the players have meetings and will come in afterwards for one last treatment session for the day. Game days are the most exciting—and are even cooler when they’re at home! Buffalo fans are amazing and really bring the energy on Sundays.

What is most interesting to you about working with professional athletes?
The most interesting thing to me is that I treat a professional athlete like any other patient. As a physical therapist, I was taught to provide the highest quality of care to my patients so they can return to their job, sport or activity. I still consider everything I would for any patient. What was their previous level of function? What are their limitations? What are their goals? What movement patterns do they need to normalize to achieve their goals? My goal is simply to return patients to their activities. It just so happens that some of these professional athletes are worth millions of dollars and are three times my size!

What part of the program would you say prepared you the most to be a physical therapist?
The clinical rotation. USC is affiliated with outstanding clinics and hospitals. Being in the clinic helped me learn things I wouldn’t necessarily learn in the classroom. For example, going through checklists during a subjective interview doesn’t quite go as planned most of the time. Being able to have a conversation with your patient and extrapolate important information while also building rapport is an art that you can only achieve with experience. I continue to use things I’ve learned from those rotations when working with professional athletes.
1963

ROBERT ALLAN moved to Palm Springs, Calif., in 1963 and managed the physical therapy department at Desert Hospital until 1970. He went into private practice in 1970 and retired 12 years ago. Allan reports that he misses the patient contact but certainly not the paperwork.

1984

ROB LANDEL MSPT, DPT ’96 taught a two-week cervical and thoracic spine course in January and November to Kenyan physiotherapists in Nairobi, Kenya. “It was such a rewarding experience due to the curiosity, enthusiasm and warmth of the Kenyan physios,” Landel says. In October, Landel went to Xiamen, China for the Fédération Internationale de Volleyball Open, where he provided physical therapy services to the USA Beach Volleyball team.

1991

JOHN JANKOSKI MSPT received his doctor of physical therapy degree from Western University of Health Sciences in July 2014.

CHRISTINE MCCALLUM MSPT earned her doctor of physical therapy degree from Regis University in 2013. For the past nine years, she has been working in corporate health and wellness as the lead physical therapist for the largest brewery in Colorado.

1999

JAKE IRWIN BS, DPT ’02 was hired as a clinical assistant professor for the doctor of physical therapy program at Georgia State University. For the past two years, Irwin will also be serving as a delegate in the American Physical Therapy Association’s House of Delegates. He reports he’s also been invited to work with the U.S. bobsled team next year in Europe. Irwin is married and has two lovely children, Jack, 9, and Abigail, 6.

2003

JOHN KIM DPT, MHA 2008 got married November 2013 and has since relocated to the Bay area. He now serves as a senior consultant for Kaiser Permanente at its Northern California regional office in Oakland, Calif.

2005

WILLIAM WORKMAN DPT became a board certified clinical specialist in sports physical therapy in 2014.

2009

KELLEE (HARPER) HANIGAN DPT moved to Nebraska and did a post-doctoral program at the University of Nebraska Medical Center, where she also served as an instructor in the doctor of physical therapy program. In August 2014, she became an assistant professor of physical therapy at Indiana State University where she works in acute care. Hanigan will start her doctor of philosophy studies in epidemiology at Indiana University. She has been married since August 2009 and has two boys, ages 3 and 1.

MOHINI RAWAT MS BKN got board certified in clinical electrophysiology in 2013 by the American Board of Physical Therapy Specialties. She was creden-tialed in musculoskeletal sonography in 2013 by the American Registry for Diagnostic Medical Sonography. Rawat welcomed her first baby in October.

2011

JUSTIN NEWMAN DPT started a new position with the Houston Texans in March 2014. He also volunteers for the Special Olympics, United Way and at the annual Running of the Bulls 5K. In April 2014, Newman got married and is excitedly awaiting a baby boy due March 2015.

ERICA (HANSON) ROSOL married Joe Rosol on May 24, 2014.

2014

DAVID RUSSAK DPT says he passed his board examinations this spring after graduation and began a neurology residency at Casa Colina Centers for Rehabilitation.

JASON PARK DPT and JAMES LEE DPT ’05 opened their third outpatient private practice in Long Beach, Calif., this year. They wish to thank all the USC DPT professors who gave them the foundation upon which they practice.

ANNABELLE MAMAN DPT ’14, LISA MEYER DPT ’98 and JOHN MEYER DPT ’98 enjoy a small piece of the L.A. King’s 2014 Stanley Cup victory. At their private practice, the Institute of Sports Physical Therapy, the Meyers have provided care to many members of the National Hockey League team, making sure the hockey players were game-ready and able to crush the competition to win the NHL trophy earlier this year.

Got some exciting news to share with your fellow alumni? Tell us about your awards and grants, publications, professional developments, births and marriages at pt.usc.edu/Stay_in_Touch for possible inclusion in an upcoming inMotion.
Today, I reflect back on the beginning of my physical therapy career and remember using a quote by Jackie Robinson: “A life is not important except in the impact it has on other lives.”

On the first day of physical therapy school, I put that quote up in my room to serve as a reminder for the purpose in my life. To this day, I still wake up to that quote, right above my bed, reminding me to live today and every day with the purpose of making an impact in lives as a physical therapist and as a human being. As a physical therapist, I have an opportunity to make that impact every moment of every day.

A few months ago, one of my patients, Ahmed Alshammari*, walked into the USC PT Associates Clinic on the University Park Campus with a diagnosis of Bell’s Palsy. The first thing that stood out as Ahmed was reporting his experience with the diagnosis of Bell’s Palsy was the emotions of despair that was voiced and displayed in his facial expressions. He continued on with his subjective examination explaining how he sought out many different treatments in Saudi Arabia with no significant success over the past 12 years since his diagnosis.

Ahmed quickly stopped as he became overwhelmed with emotion. Battling through his emotions, he recalled how he found it difficult to spend time with his friends and at times refused to leave his house in fear of the change in perception of him. He stated how quickly his friends began questioning him—with some ridicule—about his appearance. Ahmed presented with right-sided facial drooping, with synkinesis (involuntary muscular movements) with all facial expressions. He was ready to make a change.

Truth be told, Ahmed was the first patient diagnosed with Bell’s Palsy who I had the opportunity to work with since the beginning of my physical therapy career. I reached out to my fellow USC physical therapy colleagues for assistance. I’d really like to acknowledge the esteemed USC physical therapy faculty, as I could not have made an impact in Ahmed’s life without their knowledge and support.

Over the span of a couple months, Ahmed and I were able to restore the function of his facial muscles to close to “normal.”

Ahmed was smiling again! There was a point during his rehabilitation that Ahmed spent hours talking on FaceTime with his parents. He told me that his whole family came to tears and wanted him to keep his “new good look” a secret to surprise his family members when he arrived back home for the holidays. It’s moments like this that truly inspire me to become that impact in lives that Jackie Robinson explained.

Patient experiences like Ahmed’s inspire me to get up every morning. In reflection, I couldn’t be happier with my decision to become a physical therapist. My life is empty without the relationships and without the opportunity to become a difference in peoples’ lives. I wake up every morning with the reminder to become the better physical therapist, the better person and the bigger impact.

* This story was shared with Alshammari’s permission.
A LASTING LEGACY

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