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## Message from the Chair

**Kathleen Bell, MD**

Hallelujah! It's July. This is the time of year when academic medical centers say goodbye to our graduates, and welcome our new interns and residents. It's an exciting and nerve-racking time for all as we ascertain levels of knowledge and generally get to know each other. Graduate medical education training has changed markedly from my era. We speak now of work hour limits, hand-offs, evidence-based medicine, and flipped classrooms. But the basics remain. Learning how to integrate the function into medical evaluation and management. Studying predictive factors of outcome and how to optimize those outcome. Perhaps most importantly, becoming a professional physiatrist. The principles of medical professionalism include patient primacy (serving the interests of the patient in care and research), patient autonomy (empowering the patient through information and inclusion), and, most dear to physiatrists, social justice (fairness in

health care and avoidance of discrimination) [A Physician Charter: Medical Professionalism in the New Millennium, 2002]. These principles include the characteristics of altruism, accountability, excellence, duty, honor and integrity, and respect for others. It is sometimes difficult to "professionalize" when the bean-counters are checking RVUs, when the 2AM call regarding laxatives comes in, and when your five year research project results reveal nothing significant. But that's what July is all about – remembering why we are all here in the first place.

We are highlighting our spine and musculoskeletal physicians in this issue of PM&R CONNECTION. If we believe our patient' evaluations, the UTSW PM&R Spine and Musculoskeletal Clinic represents both excellence and professionalism. We'll have more to report over the coming years as our Spine/MSK clinical services expand and our group continues to grow. We report on research from the North Texas VA and work with AAPMR on registry development. In our next issue, we will be updating our readers on our new UTSW Concussion Clinic and CON-TEX, the North Texas Youth Sports Concussion Registry. Enjoy, ya'll.

## PM&R Non-Surgical Contribution to Spine Care

While physiatric care for spine pain has been demonstrated to be an excellent option for good patient outcomes and good system value (Fox et al, 2013), often primary care physicians and advanced practice providers are unaware of this option. Recently, Dr. Kavita Trivedi was asked to participate on a committee organized to develop guidelines about “When to Image Back Pain.” The target audience for these guidelines is primary care physicians (PCP) and emergency department physicians. Back pain is a common complaint to a PCP or Emergency Department leading to an evaluation that is both unnecessary and expensive (Rao et al, 2012). In fact, spinal disorders represent an increasing societal burden in terms of pain, disability, lost work productivity, and cost.

Working collaboratively with the other committee members, who consisted mostly of radiologists and primary care physicians, many of the committee members would ask Dr. Trivedi “so what is it exactly that you do?” She explained how she treated back pain, without surgical intervention, leading to symptom improvement and minimal disruption in patients’ daily lives. The overwhelming

response to her explanation was “we have that here at UT Southwestern?!”

In response to this lack of understanding about comprehensive physiatric evaluation and management of spine pain we have endeavored to better inform our fellow physicians about the PM&R Spine clinic. Dr. Trivedi has visited many primary care offices in the community explaining who we are and what we do. The offices that have been targeted in this marketing project are PCPs in the community. In particular, she has met with University of Texas Southwestern Clinically Affiliated Physicians (UTSCAP) doctors, the network of primary care physicians who work with UT Southwestern on patient care coordination.

While never considering herself to be a “marketing person;” Dr. Trivedi states, “it has been enjoyable to educate my colleagues on specialized treatment options that our clinic offers”. She goes on to say that the information has been received very positively by these physicians and they are appreciative that their patients will be seen by staff at the PM&R Spine Clinic to complete the workup expeditiously and efficiently. They are happy to send their patients

first for non-surgical options. The marketing of the specialized care that we offer has led to an increased and varied referral source! As an added benefit, we are able to direct appropriate candidates for spine surgery to our colleagues in orthopedics and neurosurgery. Future plans at UT Southwestern include a multidisciplinary Spine Care system that will capitalize on this model of physiatric and interdisciplinary care and partnership with our PCPs.

Fox J, Haig AJ, Todey B, Challa S. The effect of required physiatrist consultation on surgery rates for back pain. *Spine (Phila Pa 1976)*. 2013 Feb 1;38(3):E178-84.

Rao V and Levin D, The Overuse of Diagnostic Imaging and the Choosing Wisely Initiative, *Ann Intern Med* 16 Oct 2012, 157 (8): 574-6.



## UTSW and AAPMR – Building a Registry

One of the key requirements of the Accountable Care Act is the reporting of quality outcomes. Additionally, maintenance of certification requires evidence of practice improvement. Currently, the means of doing so may seem unconnected to practice improvement for physicians or their patients, resulting in frustration. To address the need for quality reporting that leads to meaningful changes in

practice and outcomes, the American Academy of Physical Medicine and Rehabilitation is partnering with the American Association of Neurological Surgeons to develop a spine care registry that will evaluate outcomes for both surgical and non-surgical care.

Registries are organized data collections that provide measurement and benchmarking of high significance clinical procedures and management

plans. Both Drs. Kathleen Bell and Hunt Batjer (Chair of UT Southwestern Neurological Surgery Department) as Presidents of their respective organizations are involved in the development of this new registry. We anticipate that UT Southwestern will be one of the pilot sites for the deployment and testing of this new registry.

## PM&R Spine Clinic - Expanding Services and Staff

The PM&R Spine and Musculoskeletal Clinic of the UT Southwestern Medical Center offers a broad spectrum of patient care services, starting with a comprehensive clinical evaluation and physical examination of spine and musculoskeletal disorders.

The goal of our clinicians is to help identify potential pain generators, provide patient education on their diagnosis, and incorporate a multimodal treatment approach in order to minimize pain and optimize function.

Our providers can help determine the need for medication management, physical therapy, and diagnostic imaging studies. The physicians are also trained to perform and interpret electrodiagnostic (EMG/NCS) testing.

In addition to their ability to perform various joint and soft tissue injections, several of our providers are trained in performing diagnostic and/or therapeutic injections



of the cervical, thoracic and lumbar spine. The array of interventional spine procedures includes epidural steroid injections, selec-

tive nerve root blocks, facet joint blocks & injections, sacroiliac joint injections, radiofrequency ablation (rhizotomy), vertebral augmentation i.e. kyphoplasty, and spinal cord stimulator trials.

We work in collaboration with primary care physicians on the UT Southwestern campus and in the DFW community. For patients in whom spine or joint surgery is indicated, our providers can provide consultation with our neurosurgeons and orthopedic surgeons.

In addition to having four attending physicians, the clinic now has three certified nurse practitioners who work closely with our physicians to assist with patient care.

## Dry Needling– Acupuncture Technique for Pain

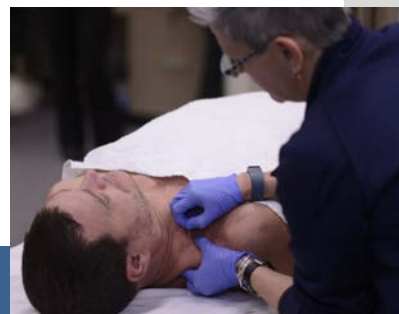
Dry Needling (DN) is a form of therapy in which fine monofilament needles (acupuncture needles) are used. The most common term used to describe dry needling is 'acupuncture'. Rebecca Parnell, DPT, a UT Southwestern physical therapist points out DN is typically used to treat muscles, ligaments, tendons, subcutaneous fascia, scar tissue, peripheral nerves, and neurovascular bundles for the management of a variety of neuromusculoskeletal pain syndromes.

It is important to know dry needling used by western physical therapy is not used to change the flow of qi, or use the tongue or pulse for checking for diseases. However, Dorsher and Fleckenstein<sup>1</sup> both medical physicians, determined a correlation between western myofascial trigger points and classical meridian acupoints.

Multiple studies have shown strong to moderate evidence for the effectiveness of acupuncture in the treatment of a variety of common musculoskeletal issues. A meta-analysis of high quality RCT concluded acupuncture provides a significant reduction in knee OA pain<sup>2</sup>. Peri-neural needling of non-trigger points has been shown to stimulate microcirculation in patients with mild to moderate CTS<sup>3</sup>. Studies have shown DN to influence tendon healing by increasing blood flow via local vasodilatation<sup>4</sup> and collagen proliferation<sup>5</sup>.

Dr. Parnell explains DN is a post graduate technique that is used by PT to help patients achieve optimal outcomes. Physical Therapist's undergo fifty to a hundred hours of post graduate training and pass written and practical examinations to become certified in dry needling.

1. Dorsher P, Fleckenstein J. Trigger points and classical acupuncture points: part 1 qualitative and quantitative anatomic correspondences. *Ger J Acupunct Relat Tech.* 2008; 51(3): 15-24.
2. White A, Foster N, Cummings M, Barlas P. Acupuncture treatment for chronic knee pain: a systematic review. *Rheumatology (Oxford).* 2007; 46(3):384-90.
3. Khosrawi S, Moghtaderi A, Haghghat S. Acupuncture in treatment of carpal tunnel syndrome: a randomized controlled trial study. *J Res Med Sci.* 2012, 17(1):1-7.
4. Kubo K, Yajima H, Takayama M, Ikebukuro T, Mizoguchi H, Takakura N. Effects of acupuncture and heating on blood volume and oxygen saturation of human Achilles tendon *in vivo*. *Eur J Appl Physiol.* 2010; 109(3):545-50.
5. Lee J, Jeong H, Park H, Jeon S, Hong S. Acupuncture accelerates wound healing in burn-injured mice. *Burns.* 2011; 37(1): 117-25.



## PM&R Spine Clinic Practitioners

**Amy Phelan, MD**  
**Ankit Patel, MD**  
**Kavita Trivedi, DO**  
**Samuel Bierner, MD**

**Rita Fulmer, FNP-BC**  
**Larah Brown, ANP-C**  
**Wendy Moore, FNP-BC**

If you would like to refer a patient or make an appointment with one of our physicians, please contact the UT Southwestern Patient Physician Referral Service at 214-645-8300

## Case Report: Recurrence of Cancer in a Patient with Presumed Cervical Radiculopathy

A 60 year-old man with a history of stage IV diffuse large B cell lymphoma was referred to the Physical Medicine and Rehabilitation Spine Program for presumed cervical radiculopathy.

His lymphoma was treated with 6 cycles of chemotherapy and intrathecal methotrexate. He was in complete remission with no evidence of disease confirmed with a PET scan and bone marrow biopsy approximately 2 months prior to the PM&R spine clinic visit.

He experienced progressive neck and right upper extremity pain shortly after his cancer was in remission. He underwent evaluation at outside pain management clinic where he was diagnosed with cervical radiculopathy. An MRI of the cervical spine demon-

strated mild disc protrusions and neural foraminal narrowing at C5/6 and C6/7. There was no evidence of cord compression or other infiltrative process. He was treated with physical therapy, opioids, anti-inflammatory medications, and muscle relaxants without resolution of the pain. He subsequently underwent a cervical interlaminar epidural steroid injection without significant pain relief.

Over the next few months, his pain intensified and he experienced right upper extremity weakness. During his evaluation in our spine clinic, he was noted to have altered mental status, severe right upper extremity neuropathic pain, and muscle weakness involving the right C6 through T1 myotomes. A new cervical spine MRI demonstrated a right C5/6 epidural mass causing cord compression and edema. A brain MRI demonstrated an enhancing infiltrative mass involving the left basal ganglia. Our concern for cancer recurrence was communicated with his oncologist. He underwent a biopsy of the lesion which confirmed recurrence of the lymphoma. He has since undergone whole brain irradiation and restarted chemotherapy.

tion and restarted chemotherapy.

This case demonstrates the importance of having a high index of suspicion of cancer recurrence in patients with a history of cancer who present with pain. It also highlights the importance of correlating the physical examination findings with the imaging studies. Furthermore, maintaining a clear line of communication with the oncologist is critical.

There is moderate evidence for the use of cervical epidural steroid injections in the management of acute cervical radicular pain. To our knowledge, the association between epidural steroid injections and the seeding of tumor cells in the epidural space in a patient considered to be in complete remission has not been reported. However, in patients with aggressive cancer, this example raises the concern that spinal interventions may increase the risk of “seeding” cancer to others areas of the body. The potential for cancer recurrence and cancer seeding should be taken into account in cancer patients who present with pain and in whom invasive procedures are being considered.



## LESS Trial: Effectiveness of Epidural Steroid Injections

Dr. Thiru Annaswamy, UT Southwestern faculty, was a site-PI for the multicenter LESS trial (largest multicenter trial of epidural steroid injections). This study, funded through The *Agency for Healthcare Research and Quality (AHRQ)*, sought to assess effectiveness and safety of epidural glucocorticoid injections in the treatment of lumbar spinal stenosis. The main results of the LESS trial, published in the *New England Journal of Medicine* have sparked national discussions with large payers and policymakers about

the rationale for continued coverage for epidural injections for this diagnosis.

The long term follow up for this trial is still underway and numerous manuscripts are either currently under review or in progress. Despite its recent publication, this paper is already a very widely cited and referenced publication, and has attracted significant attention by the scientific and lay community.

<http://www.ncbi.nlm.nih.gov/pubmed/22458343>



## UT Southwestern Faculty

### Publications and Presentations

Slocum CS, Goldstein R, DiVita MA, Mix J, Niewczyk P, Gerrard P, Sheridan R, **Kowalske KJ**, Zafonte R, Ryan CM, Schneider JC. (2015). Assessing the ability of comorbidity indexes to capture comorbid disease in the inpatient rehabilitation burn injury population. *Am J Phys Med Rehabil*, 94(5):373-84.

**Bell, KR**. (2015). Fatigue and traumatic brain injury. *Arch Phys Med Rehabil*, 96(3):567-8.

Gabriel V, **Kowalske K**. (2015). Measurement of change in the mechanical properties of burned skin to therapist intervention with a vacuum device. *Burns*, 41(4):796-802.

Kasper JM, Wadhwa V, **Scott KM**, Rozen S, Xi Y, Chhabra A. (2015). SHINKEI—a novel 3D isotropic MR neurography technique: technical advantages over 3D T2SE-based imaging. *European Radiology*, 25(6):1672-7.

Schlader ZJ, Ganio MS, Pearson J, Lucas RAI, Gagnon D, Rivas E, **Kowalske KJ**, Crandall CG. (2015). Heat acclimation improves heat exercise tolerance and heat dissipation in individuals with extensive skin grafts. *Journal of Applied Physiology*, 119(1):69-76.

Luce JC, Mix J, Mathews K, Goldstein R, Niewczyk P, DiVita MA, Gerrard P, Sheridan RL, Ryan CM, **Kowalske K**, Zafonte R, Schneider JC. (2015). Inpatient Rehabilitation Experience of Children with Burn Injuries: A 10-yr Review of the Uniform Data System for Medical Rehabilitation. *Am J Phys Med Rehabil*, 94(6):436-43.

Ganio MS, Pearson J, Schlader ZJ, Brothers RM, Lucas RA, Rivas E, **Kowalske KJ**, Crandall CG. (2015). Aerobic fitness is disproportionately low in adult burn survivors years after injury. *J Burn Care Res*, 36(4):513-9.

#### The International Spine Intervention Society's Annual Scientific Meeting, Las Vegas, NV, July 2015

Emechebe OC, **Patel A**. Recurrence of Lymphoma in the Epidural Space Following Cervical Epidural Steroid Injection: a case report.

Zonjy E, **Patel A**. Successful dorsal column stimulation for neuropathic pain following a traumatic spinal cord injury to the dorsal column: a case report.

#### American Academy of Clinical Neuropsychology, San Francisco, CA, June 2015

Cole WR, **Bell KR**, Fann JR, Brockway JA, Temkin N, CONTACT Study Group. Telephone Problem-Solving Treatment for Active Duty Service Members with Mild Traumatic Brain Injury: A Randomized Controlled Trial.

#### Neurotrauma 2015, Santa Fe, NM, June 2015.

Temkin N, **Bell KR**, Fann J, Brockway JA, Cole W, CONTACT Study Group. Telephone Problem-Solving Treatment for Active-Duty Service Members with Mild Traumatic Brain Injury: A Randomized Controlled Trial.

## Benjamin Nguyen serving as UT Southwestern Council Member to JAMP

Joint Admission Medical Program (JAMP) was created by the Texas Legislature in 2003 to support and encourage highly qualified, economically disadvantaged Texas students to pursue a medical education. JAMP is a partnership between all nine Texas medical schools and sixty-five public and private four-year undergraduate institutions. As a participating institution UT Southwestern hosts a 5 week summer program for the candidates who will be assured a spot in one of the 9 Texas Medical Schools if they meet certain metrics. Dr. Benjamin Nguyen, Associate Professor in PM&R, has been involved with JAMP at UT Southwestern for the past 4 years, helping to coordinate Clinical Rotations and Preceptorships within the PM&R Department. He is now serving as the UT Southwestern Council Member to the Joint Admis-

sion Medical Program. Dr. Fitz, Executive Vice President for Academic Affairs and Provost Dean, said that Dr. Nguyen brings enthusiastic energy and support to the JAMP mission.

After a recent Summer Program JAMP'er Onyi Chidomere wrote to thank Dr. Nguyen for the experience, and stated she appreciated being able to network with many of the doctors such

as Dr. Gosai and Dr. Yap, both PM&R residents. She went on to say that the opportunity to discuss women in medicine, and the balance of school with other responsibilities will be helpful in her future endeavors. This program will benefit many communities in Texas as 90% of JAMP graduates return to practice Medicine in their community.



## PM&R ACCOLADES

Dr. Jeremiah West (PGY4) received best poster award in the Rehabilitation Category at the American Burn Association annual meeting, which was then followed by an invitation for an oral presentation.

Dr. Kim Barker was interviewed for an article on precautions with pain relievers in HealthNewsDigest.com. <http://www.healthnewsdigest.com/news/pain%20issues0/Take-Precautions-with-Pain-Relievers.shtml>

Dr. Karen Kowalske was awarded an award from the American Burn Association Archives Committee to write about the History of Burn Rehabilitation and the Establishment of the Burn Model System.

Dr. Samuel Bierner is a member of the Patient and Family Centered Care committee for the National Quality Forum. This committee is responsible for reviewing outcome measures, including patient reported outcomes. During the past year the committee has reviewed measures involving rehabilitation including musculoskeletal extremity measures and one that may potentially compete with the FIM.

Dr. Tow, PM&R PGY3, was selected by the AAPM&R to serve on the Resident Physician Council (RPC) Board this past year and was appointed as the resident liaison on the Medical Education Committee (MEC). Selection is based on credentials, experience, and interests. The RPC Board advocates for the needs of PM&R residents nationally; these needs include supplemental training/education and building awareness about the specialty and physician management of those with disability in medical schools, healthcare facilities, and the community in general.



Health Fair 2015 Asian Festival Dallas

The PM&R department was well represented at the 25th annual Asian Festival in Dallas; providing safety tips for biking, swimming and fire prevention.

Drs. Amy Phelan, Kavita Trivedi and Karen Kowalske were chosen one of the “Best Doctors in Dallas 2015” by D Magazine, Drs. Amy Phelan and Fatma Gul were also chosen “2015 Super Doctors” for Texas Monthly. And the Texas Rising Star Super Doctor in Texas Monthly? Drs. Kavita Trivedi and John Thottakara. Congrats to all!

Dr. Benjamin Nguyen was nominated for the DFW Hospital council for Physician Healthcare Hero Award at the Annual Employee of the Year Luncheon.

The National Cancer Institute (NCI) has awarded the Harold C. Simmons Comprehensive Cancer Center its highest designation, making it the only comprehensive cancer center in North Texas. Dr. Kim Barker, PM&R cancer specialist, is located in the Simmons Center along with Beth Daniels, OTR.

## Breaking News from UTSW PM&R Department

It was announced this week that Childrens’ Health of Dallas, our pediatric hospital partner, has acquired the programs of Our Children’s House, formerly operated by Baylor Scott and White Health. These programs include the only inpatient neurorehabilitation and ventilator program in the Dallas Metroplex. We are excited to welcome this program into our PM&R portfolio. This inpatient rehabilitation program and the neurocognitive rehabilitation day program will become an integral part of our pediatric rehabilitation program and our educational program for PM&R residency and fellowship training. This program, along with the new Concussion program at Childrens’ Health, co-directed by Dr. Didem Inanoglu, has greatly enhanced our ability to serve the pediatric population and to train our PM&R residents and fellows. More to come on this program in the Fall newsletter.

## UT Southwestern PM&R Begins New PGY1 Residency

Times are changing, and UTSW PM&R, with the assistance of residency coordinator, Terri Isbell, and medical student coordinator, Kimberly King, has successfully added 6 first-year resident positions to our program!

This is a bigger accomplishment than many may realize. As of 2014, there were only 96 first-year PM&R positions offered by 28 programs (National Resident Matching Program). By comparison, there were 287 positions offered for PGY-2 residents by 62 PM&R programs. For many of you who graduated at some distant time in the past, you will realize that the competitiveness has increased substantially for PM&R residency positions as surgical and internal medicine preliminary year slots are also limited.

Because of this increasing competition

for dwindling numbers of preliminary spots, Dr. Bierner, UT Southwestern PM&R Residency Director made the decision to pursue funding PM&R PGY-1 positions. He realized this would have a two-fold advantage: it would increase the competitiveness of our residency vis-à-vis other programs; and it would allow us to train residents with a transitional-type internship which would more closely match our requirements for PM&R. After recognizing the difficulties previous matched applicants faced, UT Southwestern office of Graduate Medical Education approved the change. With funding secured and all requirements met we successfully matched 6 of our top 12 candidates for those PGY-1 positions, and matched 3 advanced positions for 2016 as well.

Our relationships with other departments were critical in obtaining the necessary

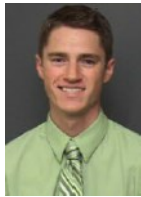
rotations. We are able to meet the American Board of PM&R requirements, which include 12 months of training in fundamental clinical skills, through our collegial relationships with other departments and partnering institutions (VA North Texas and Parkland Health and Hospital System). The schedule should give our residents excellent training in acute hospital care, emergency care, and imaging.

The 2014 NRMP Survey of residency directors showed that the most important factors for success in matching into PM&R included interpersonal skills, perceived commitment to the specialty, professionalism and ethics, and letters of recommendation. These traits remain true for our program as well. We want energetic, inquisitive, team players and here they are for the 2016 match.

## Congratulations to our Entering Class



**Tianteng He, MD**  
Harbin Medical University



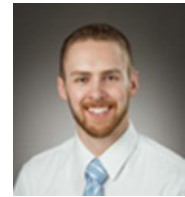
**Dustin Leek (MD)**  
Loma Linda University  
School of Medicine



**Nasser Ayyad, DO**  
University of North Texas  
Health Science Center



**Mark Fox, MD**  
University of Iowa



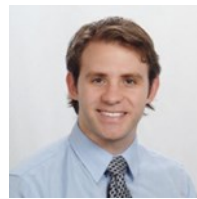
**Jason Hunt, MD**  
Texas Tech University Health  
Sciences Center



**Benjamin Shahabi-Azad (MD)**  
UT Southwestern



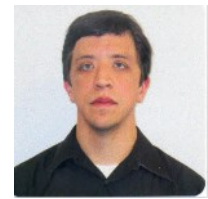
**Brian Kelly (MD)**  
Saint Louis University  
School of Medicine



**Ugo Bitussi, DO**  
Philadelphia College of  
Osteopathic Medicine



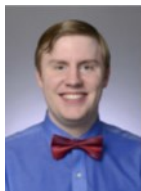
**Nicholas Georgelos, DO**  
Chicago College of Osteo-  
pathic Medicine



**Matthew MacCarthy, MD**  
Duke University School of  
Medicine



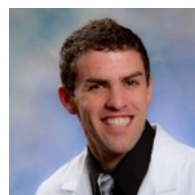
**Joseph Ostler (MD, PhD)**  
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College of Medicine



**Charles Taylor, III (MD)**  
UT Southwestern



**Nicholas Elkins, DO**  
Arizona College of  
Osteopathic Medicine



**Ammon Hills, DO**  
A T Still University of  
Health Sciences



**Vijita Patel, MD**  
UT Southwestern

**YOUR OPPORTUNITY TO SUPPORT PM&R AT UT SOUTHWESTERN**

The PM&R department would like to extend our gratitude for the financial support of our donors over the years. Our physicians and researchers are integrating advances in comprehensive patient care, and the development of innovative education and prevention programs to improve health care in North Texas and around the world. As a nonprofit organization, UT Southwestern relies heavily on the generosity of its supporters to remain at the forefront of medical care and scientific discovery.

Your contributions and gifts designated to PM&R are used:

- **To improve health care in our community, Texas, our nation, and the world through innovation and education;**
- **To educate the next generation of leaders in patient care, biomedical science and disease prevention;**
- **To conduct high-impact, internationally recognized research;**
- **To deliver patient care that brings UT Southwestern's scientific advances to the bedside.**

To make a gift designated to PM&R you may go online directly to

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UT Southwestern Office of Development

Phone: 214-648-2344

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