Physical Medicine and Rehabilitation provides integrated care for conditions related to the brain, nerves, muscles, and bones, ranging from lower back pain to traumatic brain injury, from a sore shoulder to a severed spinal cord.
A CALL TO ACTION
Rising to the Challenge: The Campaign for Johns Hopkins will raise unprecedented levels of support to attract, sustain, and further empower the people of Johns Hopkins—our students, faculty, and researchers—who through their work improve the lives of millions around the world. Together with our philanthropic partners we will:

ADVANCE DISCOVERY AND CREATIVITY through support of our exceptional faculty and researchers. Their innovative work drives the development of new knowledge, new forms of expression, and new ways to save lives and improve health, and furthers progress across our core disciplines in science and technology, the humanities and arts, and public health and medicine.

ENRICH THE STUDENT EXPERIENCE by investing in scholarships and fellowships, inspirational spaces for collaborative learning and social opportunities, and new programs that will enhance student-faculty interactions, ensure diversity on campus, link learning in the classroom to life after graduation, and strengthen connections between our students and our surrounding communities.

SOLVE GLOBAL PROBLEMS AS ONE UNIVERSITY by creating new cross-disciplinary solutions in crucial areas such as sustaining global water resources, revitalizing America’s cities, advancing individualized health, understanding how we learn and teach, and attacking the root causes of global health problems.

Throughout the world, in both industrialized and developing nations, rates of disability are climbing.

In the United States, at least 50 million people now have significant disabilities. These conditions arise from a great many diseases and affect various organs, biological systems, and facets of individuals’ lives.

“THE QUALITY-OF-LIFE PROFESSION”
Physical Medicine and Rehabilitation, also called Physiatry, is the branch of medicine emphasizing the prevention, diagnosis, and treatment of disorders that may produce temporary or permanent impairment. One of 24 medical specialties certified by the American Board of Medical Specialties, Physical Medicine and Rehabilitation provides integrated care for conditions related to the brain, nerves, muscles, and bones, ranging from lower back pain to traumatic brain injury, from a sore shoulder to a severed spinal cord. Its purpose is to restore health and functionality, and thus to optimize the patient’s quality of life.

Born in the 1930s, the field of Physical Medicine and Rehabilitation first focused on musculoskeletal and neurological problems. Its scope broadened after World War II, as thousands of veterans returned home with serious disabilities. The task of helping these individuals regain function and restore their lives in a broad sense became the field’s new direction.

Physical Medicine and Rehabilitation physicians work with interdisciplinary medical teams that include psychiatrists, neurologists, orthopedic surgeons, urologists, physical therapists, occupational therapists, speech pathologists, vocational counselors, psychologists, and social workers. The team differs from one patient to another, and its composition changes during treatment to match the patient’s shifting needs.

PHYSICAL MEDICINE AND REHABILITATION AT JOHNS HOPKINS
The Department of Physical Medicine and Rehabilitation at Johns Hopkins strives to improve quality of life for individuals disabled by injury or disease through generating essential new knowledge, training leaders in patient care and research, shaping public policy, and providing the finest possible medical care.

Thirty-five faculty members treat patients through Comprehensive Inpatient Integrated Rehabilitation Programs at two Johns Hopkins Health System locations and an affiliated community hospital. In these settings, the Physical Medicine and Rehabilitation professionals manage a variety of complex and disabling disorders including stroke, spinal cord injury, ventilator-dependent conditions, complicated orthopedics, amputation, and complex disability following heart surgery or cancer. In the Johns Hopkins Physical Medicine and Rehabilitation Clinics, the team evaluates and manages musculoskeletal disorders, acute and chronic pain, spine and sports injuries, joint contractures, amputation, and unbounded enthusiasm makes the Department a premier center for academic Physical Medicine and Rehabilitation. Utilizing state-of-the-art facilities, the world-class faculty and staff exemplify the highest quality of research, teaching, and patient care.
with brain injury and stroke

A host of neurological diseases and disorders cause impairment in physical function which, in turn, can dramatically erode a person’s quality of life. Stroke is a common example. In the Human Brain Physiology and Stimulation Laboratory, the faculty study how motor skills are learned and seek to develop interventions to improve motor function—first, by aiming to understand how the central nervous system controls and learns to perform physical actions, and ultimately, by using this knowledge to develop strategies for enhancing motor function in patients whose neurological conditions impair their physical function. Methods include non-invasive brain stimulation techniques such as transcranial magnetic stimulation, transcranial direct current stimulation, functional MRI, and behavioral tasks.

Helping restore the ability to swallow

Eating and swallowing are among the most basic of human functions. We tend to take swallowing for granted, but many thousands of people have significant problems with this seemingly simple action. Swallowing disorders (dysphagia) affect people with neurologic disabilities, head and neck cancers, and many other medical conditions. Problems with swallowing can interfere with nutrition, the enjoyment of food, and even breathing. The Johns Hopkins Department of Physical Medicine and Rehabilitation is home to some of the most skilled dysphagia specialists in the nation. Founded in 1979, our Swallowing Disorders Program is comprised of expert physiatrists, radiologists, speech and language pathologists, and scientists who are studying the physiology of swallowing, and applying this knowledge to patients with brain injury, stroke, critical illness, and neuromuscular disorders who suffer from dysphagia.

Improving injury outcomes via models of secondary prevention and self-management

Rehabilitation focuses on self-management; its fundamental goal is to educate patients to care for themselves. Our rehabilitation psychologists apply specialized techniques to help persons, with occupational musculoskeletal injuries, rheumatic disease, spinal cord injury or limb loss, manage chronic pain. Together with physiatrists, trauma specialists, and public health scientists, they are studying how to employ these techniques in large populations to positively affect outcomes after such injuries.

Enhancing cognitive function for people with brain injury and stroke

Brain injury and stroke may impair not only patients’ ability to move, but also their ability to think. Our team of neuropsychologists studies the impact of brain disorders on cognitive function. Their scope encompasses visual spatial skills, the ability to recognize one’s deficits, and memory.

Early rehabilitation in critical illness

Rehabilitation should begin at the onset of a serious illness or injury. At Johns Hopkins, the Department of Physical Medicine and Rehabilitation is pioneering the use of exercise, mobilization and self-care skills in the intensive care unit. The physician-scientists have found that early rehabilitation dramatically impacts outcomes, reducing patients’ length of stay and increasing their probability of being discharged from the hospital to community settings.

EDUCATION…TO MAXIMIZE OUR IMPACT

While the Department provides state-of-the-art, compassionate, and optimal care for individuals recovering from injury and disease, its reach is not limited to just those who receive its direct care. Through education, the Johns Hopkins Department of Physical Medicine and Rehabilitation sets in motion a ripple-effect in which students and trainees are equipped with skills, knowledge, and wisdom to make advances at other universities and healthcare systems, benefitting patients nationwide.

As an academic department within the nation’s premier medical system, a central part of the faculty’s mission is to prepare future generations of specialists, by training clinicians and scientists who will significantly advance the field of Physical Medicine and Rehabilitation, perform cutting-edge research into new methods and treatments, and deliver the highest quality patient care. For medical students, the Department presents a four-week clerkship in “Chronic Disease and Disability: Improving Quality of Life,” Mandate for every medical student as part of the Johns Hopkins School of Medicine curriculum, this course teaches the evaluation and treatment of people with physical disabilities including pain, musculoskeletal medicine, and rehabilitation psychology and neuro-psycho-ology. The Physical Medicine and Rehabilitation Residency Program has grown to now include 18 residents, although more than 250 applicants apply each year for six openings. Annually, the Clinical Psychology team mentors three predoctoral trainees (Ph.D. students) from other universities. The Department engages a sizeable cadre of research fellows who work with the faculty in the areas of swallowing, human brain physiology and stimulation, biomechanics, and other areas where function and quality of life can be improved. Many of the research fellows are Japanese, with academic appointments in Japan; they come to Johns Hopkins to work with Department Chair Jeffrey Palmer, M.D.
**PEOPLE...THE KEY TO OUR SUCCESS**

Leadership is a unique quality, the product of an alchemy that blends intelligence, commitment, connection, and vision. The rare individuals who can lead, especially in a complex discipline such as Physical Medicine and Rehabilitation, merit special support that promotes their efforts, enables them to achieve in their own right, and allows them to empower others to excel. How can we best support Physical Medicine and Rehabilitation leaders, those faculty who will ensure the Department’s continued excellence and its evolution as a nationally prominent organization?

In academic medicine, endowed professorships are covered and prestigious positions. They afford academic freedom and flexibility, and are thus an important institutional strategy for advancing the frontiers of research and improving patient care. These positions enable the Department to recruit world-class physician-scientists to Johns Hopkins, and to better support and retain the most talented faculty. Endowments are a direct investment in the most outstanding physicians and their work.

In the Department of Physical Medicine and Rehabilitation, exceptional talent and dedication is the norm. It underlies the high quality of care delivered and the caliber of research performed. The faculty are truly the Department’s greatest asset, and endowments are the best way to support them.

**Why Johns Hopkins?**
The Department of Physical Medicine and Rehabilitation is optimally positioned for excellence. *U.S. News & World Report* has consistently ranked Johns Hopkins Hospital as America’s best hospital. Johns Hopkins faculty members represent the crème de la crème in academic medicine; they comprise many of the country’s best clinicians, brightest scholars, and most talented researchers. In this environment of excellence, the Department is able to capitalize on multiple opportunities, such as to provide cancer, spine, and brain injury rehabilitation services in collaboration with Johns Hopkins’ top-ranked Departments of Oncology, Neurosciences, Orthopedics, and Psychiatry.

The broad purview of the Department and its full dedication to all three components of the Johns Hopkins Medicine mission—to improve the health of the community and world by providing excellent education, research, and clinical care—paves the most direct route toward helping thousands of patients each year regain their function and restore their quality of life.

**What role does philanthropy play?**
The early 21st century is a challenging time for healthcare and medical research. Research grants have become increasingly competitive. The success rate for applications submitted to the National Institutes of Health (NIH) hit an all-time low of 17% in 2011, down dramatically from 32% in 1999–2003. Changes in healthcare financing have resulted in reduced clinical revenues. Whereas once clinical margins were sufficient to cross-subsidize activities related to education and training, and to support the pilot studies that are so critical but are not generally funded by research grants, now clinical revenues stretch just to cover clinical expenses. With NIH support continuing to decrease and clinical care no longer able to defray the costs of education and discovery, the Department of Physical Medicine and Rehabilitation depends on significant philanthropic support.

**PHILANTHROPY CAN MAKE THE DIFFERENCE.** Philanthropic funding will enable the Department of Physical Medicine and Rehabilitation to invest in people—from endowments that support the most talented faculty, to funds for education of trainees at all levels, to direct assistance for patients through specialized programs, support groups, and unique services. This sort of funding can help jumpstart new research studies, make rapid progress with current research agendas, and build research capacity that will powerfully support future studies. Not bound by the various criteria and stipulations of traditional grantmakers, philanthropists are able to think “outside the box.” They can appreciate the Department’s interdisciplinary team approach to problem-solving and look beyond just the disease to the ways in which disease impacts the person, those around them, and society as a whole. Philanthropic gifts can allow the Department of Physical Medicine and Rehabilitation to enhance programs and services in ways that make care more patient-friendly, accessible, and comprehensive, and to expand the services offered to patients and the community.

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**WHAT WILL IT TAKE?**

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<tr>
<th>PRIORITY</th>
<th>SPECIFIC FUNDING NEEDS</th>
<th>CURRENT USE</th>
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<tbody>
<tr>
<td>Education</td>
<td>Training of residents and fellows</td>
<td>$50,000</td>
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<tr>
<td>School of Medicine course: “Chronic Disease and Disability”</td>
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<tr>
<td>Develop collection of teaching resources</td>
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<tr>
<td>Enhancing faculty teaching skills</td>
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<td>$50,000</td>
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<tr>
<td>Rehabilitation Psychology</td>
<td>Training of graduate students and fellows</td>
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<tr>
<td>Development of community interventions to improve the lives of people with stroke</td>
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<tr>
<td>Develop and maintain patient support groups (e.g., stroke, amputee, brain injury)</td>
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<td>$10,000</td>
</tr>
<tr>
<td>Research</td>
<td>Pre- and post-doctoral research training</td>
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<tr>
<td>Research: Enhancing motor function for patients with brain injury and stroke</td>
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<td>$315,000</td>
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<tr>
<td>Research: Helping restore the ability to swallow</td>
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<tr>
<td>Research: Improving injury outcomes via models of secondary prevention and self-management</td>
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<tr>
<td>Research: Enhancing cognitive function for people with brain injury and stroke</td>
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<td>Research: Early rehabilitation in critical illness</td>
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<tr>
<td><strong>Total</strong></td>
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In addition to the above funding priorities, the Department of Physical Medicine and Rehabilitation envisions the sweeping impact that could be made possible through establishment of three endowed professorships dedicated to education, rehabilitation psychology, and research.

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