



## A multi-disciplinary approach to spine: Combining spine surgeons, nonsurgical physicians & spine therapists — all under 1 roof

The Center for Spine Health at University Orthopedics combines nonsurgical spine specialists in physical medicine; spinal injectionists; fellowship-trained spine surgeons; and spine therapists — all under one roof for a multi-disciplinary approach to spine care.

According to Dr. Mark Palumbo, the spine center represents several years of work to assemble a comprehensive clinical spine team. "The back pain sufferer can end up traveling to multiple spine doctors in the quest for relief of pain or neurological symptoms," he explains. "But many times these fragmented providers don't communicate with each other. By assembling a multi-disciplinary spine team, the patient doesn't have to travel around town to multiple locations, and the outcome is improved."

Dr. Palumbo notes that several things have evolved in the field of spine in 2018 that have changed the specialty dramatically. These advances include:

### Artificial disc replacement

Clinical outcomes research presented in early 2018 by the North American Spine Society now clearly recommends the use of artificial discs for the cervical spine to reduce "adjacent segment disc degeneration" that occurs with spinal fusion.

While cervical fusion has been the traditional option for herniated discs in the neck, research studies have shown that locking

vertebral segments in the neck increases the stress placed on other discs in the neck, causing other disc herniations. Because the artificial disc retains normal motion, it reduces the risk of disc herniation at adjacent levels. The Mobi-C artificial disc, for example, was the first FDA-approved disc for one or two levels in the neck.

### Minimally invasive spine surgery

The new standard is to perform spine surgery through a half-inch incision. Smaller incisions reduce blood loss and eliminate the need for outside blood; lessen pain after surgery and during recovery; and shorten the stay in the hospital. For example, some patients can go home the same day after spine surgery.

### Advanced 3-D surgical navigation

The spine surgeons have access to the most advanced surgical navigation technology. The Spine Navigation System offers doctors a comprehensive, fluid 3-D picture of the exact surgical site in the patient for precise placement of surgical instrumentation.



### Non-surgical options

The spine center tries to exhaust non-surgical treatment options before a surgery is recommended. This can include spinal injections that reduce inflammation around a nerve root — in some cases eliminating the need for surgery.

The Center for Spine Health is also the only spine center in Rhode Island to be included in a list of credentialed spine centers by **SpineCenterNetwork.com**. Credentialed criteria includes a multi-disciplinary approach, nonsurgical emphasis and patient education.

## Spinal injections & spine therapy: Two nonsurgical treatment options

The benefit of a multi-disciplinary spine center is that it provides non-surgical options to help patients resolve symptoms and get back to activity without surgery. The Center for Spine Health has a physical medicine physician who is proficient in lumbar and cervical injections. These spinal injections help relieve pain symptoms along with weakness and

numbness into an arm or leg. These injections enable patients to move into spine therapy and supervised exercise. This emphasis on movement prevents recurrent back spasms in the future.



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The Center for Spine Health provides artificial disc replacement with the Mobi-C implant for cervical discs.



The Center for Spine Health at University Orthopedics believes the best healthcare starts with a well-informed consumer. The spine center has an on-line encyclopedia on spine conditions at [UniversityOrthopedics.com](http://UniversityOrthopedics.com) with symptom charts, videos, home remedies and spine exercise library. As a community service, the spine center provides to residents of Rhode Island a free 36-page Home Remedy Book and copies of a Symptom Guide, which explains which symptoms need to be seen promptly by a spine specialist to prevent symptoms like numbness/weakness in a hand or foot from becoming permanent. Physicians can request these patient education handouts by calling our office at: **401-414-BACK (2225)**.



# The clinical spine team at the Center for Spine Health

The Center for Spine Health at University Orthopedics includes a team of physicians, nurse practitioners and physical therapists working together to provide comprehensive treatment of spinal disorders in adults and children. Our clinical team has specialized expertise in the management of spinal pain, disc herniations, stenosis, tumors, trauma and scoliosis (abnormal curvature of the spine). Our spine specialists at University Orthopedics include:

## NONSURGICAL SPINE CARE:

### MATTHEW J. SMITH, MD, EMHL

Department of Orthopedics, Division of Spine • Director of System Integration  
Board-certified in Physical Medicine & Rehabilitation • Fellowship-Trained in Spine & Sports Medicine  
Electrodiagnostic Medicine • Certified, American Board of Independent Medical Examiners  
Dr. Smith graduated from Queen's University Medical School in Kingston, Ontario, Canada in 1995. After completing a residency in Physical Medicine & Rehabilitation at Stanford University, Dr. Smith worked for three years in Occupational Medicine at Kaiser Vallejo Medical Center in California. During this time, Dr. Smith became a diplomate in Electrodiagnostic Medicine, completed the UCLA Acupuncture for Physicians Course and completed training in Osteopathic Medicine. In July of 2002, Dr. Smith completed a fellowship in Spine and Sport Medicine. He is certified by the American Board of Independent Medical Examiners.



### GEORGE PASQUARELLO, DO, FAAO, CAQPM

Department of Orthopedics, Division of Spine  
Assistant Clinical Professor of Family Medicine, Warren Alpert Medical School of Brown University  
Board-certified in Neuromusculoskeletal and Osteopathic Manipulative Medicine, Fellowship-Trained  
Dr. Pasquarello received his Doctor of Osteopathy (DO) from the University of New England College of Osteopathic Medicine in Biddeford, Maine. He completed a rotating internship at Kennedy Memorial Hospitals in New Jersey and a residency in Osteopathic Manipulative Medicine at University of New England College of Osteopathic Medicine in Maine. He is Board Certified in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine, holds a Certificate of Added Qualification in Pain Medicine (CAQPM) and a Certificate of Competency in Osteopathy in the Cranial Field. He was awarded Fellowship in the American Academy of Osteopathy (FAAO) in 2002.



### DAVID BICA, DO, CAQSM, FAAP, CIME

Department of Orthopedics, Division of Spine • Board Certified Family Medicine and Sports Medicine  
Board Certified Independent Medical Examiner • Fellow of the American Academy of Family Physicians  
Assistant Clinical Professor at Brown University, Alpert Medical School, Department of Family Medicine  
Dr. Bica joined University Orthopedics as an attending at Newport Hospital after practicing 3 years with East Greenwich Spine and Sport. Dr. Bica serves as an assistant clinical professor in the Department of Orthopedic Surgery along with his current position as assistant clinical professor in the Department of Family Medicine at the Warren Alpert Medical School of Brown University. Dr. Bica is board certified in Family Medicine with a certificate of added qualification in Sports Medicine.



### PHILIP SALKO, MD

Sports Medicine • Interventional Pain Management  
Dr. Salko is Board certified in Family Medicine and CAQ trained in primary care sports medicine. Dr. Salko specializes in primary care sports medicine and interventional pain management utilizing ultrasound, fluoroscopy and other non-invasive modalities. He completed his residency in Family Medicine at Brown University and his fellowship in Primary Care Sports Medicine through University of Utah.



### DOMINIC KLEINHENZ, MD

Clinical Instructor • Orthopedic Surgeon  
Dominic Kleinhenz MD is a fully-trained orthopedic surgeon with advanced fellowship training in the field of spine surgery. Dr. Kleinhenz's practice covers the full range of disorders affecting the adult cervical and thoracolumbar spine. Conditions treated include: degenerative disc disease, disc herniations, spinal stenosis and spondylolisthesis along with spinal trauma and neoplasms.



## SPINE SURGEONS:

### MARK PALUMBO, MD

Chief, Division of Spine Surgery • Professor of Orthopedic Surgery, Brown University  
Director, Brown University Fellowship in Spine Surgery • Vice President, University Orthopedics  
Mark Palumbo MD is a board-certified and fellowship-trained spine surgeon at University Orthopedics. He specializes in reconstructive surgery of the cervical, thoracic and lumbar spine for the adult patient. These operations function to relieve compression of the neurologic structures and to restore structural integrity to the spinal column. Dr. Palumbo has special expertise in disorders of the cervical spine including extensive experience in cervical total disc replacement. His clinical and research interests encompass spinal stenosis, disc herniation, scoliosis and athletic injuries of the spine.



### ALAN H. DANIELS, MD

Board-Certified Orthopedic Surgeon • Adult Spine Surgery / Spinal Deformity Surgery  
Associate Professor of Orthopaedic Surgery • Chief, Adult Spinal Deformity Service  
Alan H. Daniels, MD is a Board-Certified spine surgeon who specializes in complex spinal disorders. Dr. Daniels' practice focuses on patients who suffer from scoliosis, kyphosis, flatback syndrome, failed spinal surgery, degenerative spinal disease, as well as spinal trauma and spinal tumors. Many of his patients have undergone one or more previous spinal surgeries, although he also performs primary spinal surgery.



### PHILLIP LUCAS, MD

Orthopedic Spine Surgery • Board-Certified Orthopedic Surgeon  
Fellowship-Trained Spine Surgeon • Clinical Associate Professor  
Phillip R. Lucas, M.D., is a specialist in Orthopaedic Spine Surgery at Rhode Island Hospital. Dr. Lucas completed fellowship-training in spine surgery with Dr. John Kostuik at the University of Toronto. The majority of his patients suffer from pain and disorders involving the neck and lower back. Spinal disorders may include a variety of problems, from pain to severe injuries and deformities. State-of-the-art surgical and minimally invasive procedures are employed, combined with a comprehensive rehabilitation program. Treatment involves a thorough evaluation, followed by development of a definitive plan, specific for each patient. The goal is returning to an active and healthy life.



### ALEXANDER ROBERTSON, MD

Board-Certified Orthopedic Surgeon • Fellowship-trained Spine Surgeon  
Clinical Assistant Professor of the Brown Medical School

Dr. Alexander Robertson treats all disorders of the cervical, thoracic, and lumbar spine. These conditions include herniated discs, spinal stenosis, degenerative disc disease, instability, deformity, tumor, trauma, and infection. His special interests include biologic enhancement of bone fusion, minimally invasive spinal procedures, and total disc replacement. All patients who present with back or neck pain are thoroughly evaluated, given a diagnosis, and a treatment plan is initiated. Whether the patient can best be served by non-operative management or spine surgery, the goal is the same: restoration of function and a return to an active and healthy life.



### CRAIG EBERSON, MD

Chief, Division of Pediatric Orthopedics • Associate Professor of Orthopaedic Surgery  
Fellowship-Trained Orthopedic Surgeon

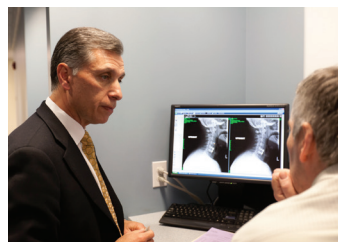
Craig P. Eberson, M.D., specializes in the treatment of orthopaedic disorders in children. His main clinical interests lie in the treatment of scoliosis and other spinal disorders, congenital or acquired problems of the lower extremities in children, and pediatric fracture care. He completed a fellowship in Pediatric and Adult Orthopaedic Trauma at Brown University followed by fellowship-training at the renowned Texas Scottish Rite Hospital for Children in Dallas, TX. At Scottish Rite Hospital, Dr. Eberson served as the Edwards Fellow in Pediatric Orthopaedics and Scoliosis.



## The 4 benefits of a second opinion for spine surgery

Because spine surgery is a serious decision, it is a good idea to obtain a second opinion. A second opinion from the spine specialist at the Center for Spine Health can provide patients the following benefits:

- 1 Determine if all possible treatment options have been considered and if there are any other non-surgical options — such as spinal injections or physical therapy — that can relieve symptoms without the need for surgery.



- 2 If spine surgery is necessary, what type of spine surgery should be performed. A complex fusion procedure may not be necessary.
- 3 Is there a new artificial disc or implant technology that would provide a better outcome and provide motion preservation to reduce the risk of future disc herniations at other levels (adjacent segment disease)?
- 4 Help determine if the patient is a candidate for minimally invasive spine procedure in outpatient surgery. This may allow the patient to be home later that same afternoon, for a faster recovery and return to activity.

Appointments & referrals: **401-414-BACK (2225)**  
**UniversityOrthopedics.com**