Division Summary

**RESEARCH AND TRAINING DETAILS**

<table>
<thead>
<tr>
<th>Number of Faculty</th>
<th>14</th>
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<tbody>
<tr>
<td>Number of Research Students</td>
<td>6</td>
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<tr>
<td>Number of Support Personnel</td>
<td>10</td>
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<tr>
<td>Direct Annual Grant Support</td>
<td>$152,568</td>
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<tr>
<td>Direct Annual Industry Support</td>
<td>$20,669</td>
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<tr>
<td>Peer Reviewed Publications</td>
<td>39</td>
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**CLINICAL ACTIVITIES AND TRAINING**

<table>
<thead>
<tr>
<th>Number of Clinical Staff</th>
<th>6</th>
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<tbody>
<tr>
<td>Number of Clinical Fellows</td>
<td>3</td>
</tr>
<tr>
<td>Outpatient Encounters</td>
<td>38,405</td>
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**Significant Accomplishments**

**Orthopaedic Surgery Leads Quality, Safety, Value Initiative**

Over the past year, Orthopaedic Surgery has played a major role in the Pediatric Orthopaedic Society of North America’s (POSNA) Quality, Safety, and Value Initiative (QSVI). This year, Cincinnati Children’s Division of Orthopedic Surgery spearheaded contributions to QSVI, which provides a program for hospitals and practices to share best practices and ideas to improve quality of care, safety, and value. Quality work has been completed that improved utilization in the operating room resulting in over a millions of dollars of unrealized revenue and nearly 100 additional surgeries being performed using the same resources; creating surgical simulation programs to educate the next generation of surgeons; and completing and publishing a “compartment syndrome alert process” that has nearly eliminated the missed compartment releases.

**Research Suggests Way to Prevent Contractures**

Ground breaking new basic science research tests the hypothesis that neonatal denervation, as occurs in brachial plexus injury, leads to impaired muscle growth and ultimate contractures. Understanding the molecular cross-talk between nerves and muscles during this critical postnatal development window will lead to novel treatments to preserve muscle growth while awaiting nerve healing. This has direct implications on the treatment of many other disorders, such as cerebral palsy and myelodysplasia. This work is funded by the Goldner Research Pioneer Award from the American Foundation for Surgery of the Hand and the Career Development Grant from the Orthopaedic Research and Education Foundation.

**New research using flexible implants to treat early onset scoliosis**
Scoliosis that begins at less than five years of age (Early Onset Scoliosis [EOS]) is much less common than adolescent idiopathic scoliosis. However, it has life threatening consequences. Further, EOS is often a significant deformity and is therefore much more difficult to treat. The Crawford Spine Center provides comprehensive treatment options such as magnetically-activated “growing” rods and other guided growth techniques. New pilot research using flexible growing rods recently won an international award as an innovative approach to this devastating disorder.

**ROCK study group researches treatment of osteochondritis dissecans**

ROCK (Research for Osteochondritis Dissecans of the Knee) is a multicenter study group focused upon evaluation and management of young patients with osteochondritis dissecans, a condition that often damages and occasionally destroys the knees of young athletes. The ROCK group is organized around the use of best evidence, including clinical practice guidelines, prospective cohort studies, and validated evaluation instruments for diagnosis and treatment. The group includes 14 centers in North America, and centers in Singapore, Sweden, and Germany. The ultimate goal is to cure this condition. Cincinnati Children's has been the principle research-coordination site for several of the group’s early research studies.

**Division Publications**


Faculty, Staff, and Trainees

Faculty Members

James McCarthy, MD, Professor
  Leadership Division Director, Pediatric Orthopaedic Surgery

Steven Agabegi, MD, Assistant Professor
  Research Interests Scoliosis natural history

Donita Bylski-Austrow, PhD, Associate Professor
  Leadership Director of Biomechanics Research
  Research Interests Spine Biomechanics

Sheila Chandran, MD, Assistant Professor

Roger Cornwall, MD, Assistant Professor
  Leadership Clinical Director; Co-Director, The Hand and Upper Extremity Center
  Research Interests Hand and Upper Extremity

Viral Jain, MD, Assistant Professor
  Research Interests Scoliosis

Kevin Little, MD, Assistant Professor
  Research Interests Hand and Upper Extremity

Charles Mehlman, DO, MPH, Associate Professor
  Leadership Director, Musculoskeletal Outcomes Research, Pediatric Orthopaedic Resident Education, Brachial Plexus and Co-Director of the Limb Reconstruction Center
  Research Interests Spine Bracing and Evidence-Based Medicine

Shital Parikh, MD, Assistant Professor
  Research Interests Sports Medicine

Jaime Rice-Denning, MD, Assistant Professor

Joel Sorger, MD, Assistant Professor
  Research Interests Musculoskeletal Oncology
Peter Sturm, MD, Professor  
**Leadership** Co-Director, The Crawford Spine Center; Director, Spine Fellowship Program  

Junichi Tamai, MD, Assistant Professor  
**Leadership** Director, Physician Assistant Program  
**Research Interests** Process Improvement  

Eric Wall, MD, Professor  
**Leadership** Director, Orthopaedic Research Program; Director, Sports Medicine Program; Director, Pediatric Orthopaedic Fellowship Program  

Clinical Staff Members  
- **Lance Bolin, PA-C,**  
  *Lead Physician Assistant*  
- **Angela Hildebrandt, PA-C**  
- **Sarah Ogle, PA-C**  
- **Mary Pam Pfiester, PA-C**  
- **Stephanie Pinkstock, PA-C**  
- **Adriana Reinersman, PA-C**  

Trainees  
- **Michael Anderson, DO,** PGY3, Henry Ford Hospital  
- **Darren Barton, FO,** PGY3, Wellmont Health System  
- **Kim Bjorklund, MD,** Fellow, University of Manitoba  
- **Kyle Boren, DO,** PGY3, Wellmont Health System  
- **Shawn Brandenburg, DO,** PGY1, Metro Hospital  
- **Leroy Butler, DO,** PGY3, Wellmont Health System  
- **Chris Casstevens, MD,** PGY2, University of Cincinnati  
- **Jessica Childe, DO,** PGY4, McLaren Greater Lansing  
- **Tyler Christman, DO,** PGY4, Millcreek Hospital  
- **Michael Corum, DO,** PGY4, York Hospital  
- **Albert d'Heurle,** PGY1, University of Cincinnati  
- **Ozgur Dede, MD,** Fellow, Children's Hospital of Pittsburgh  
- **Amanda Farrell, DO,** PGY1, Bethesda Family Medicine  
- **Seth Gengler, DO,** PGY4, McLaren Greater Lansing  
- **Richard Goodrich, DO,** PGY3, Millcreek Hospital  
- **Michael Groover,** PGY1, Grandview Hospital  
- **Jacob Gunzenhaeuser, MD,** PGY4, University of Cincinnati  
- **Heather Harrison, MD,** Fellow, Henry Ford Hospital  
- **Carrie Heincelman, MD,** PGY2, University of Cincinnati  
- **Bryan Houseman, DO,** PGY4, York Hospital  
- **Joe Hurst, DO,** PGY1, Wellmont Health System  
- **Haroon Hussain, MD,** PGY2, University of Cincinnati  
- **Jeff Jenks, DO,** PGY3, Millcreek Hospital  
- **Rob Johnson, DO,** PGY4, Oklahoma State University  
- **Nami Kazemi, MD,** PGY4, University of Cincinnati  
- **Tyler Keller, MD,** PGY2, University of Cincinnati
Grants, Contracts, and Industry Agreements

Grant and Contract Awards

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<tr>
<th>Grant and Contract Awards</th>
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<tr>
<td><strong>CORNWALL, R</strong></td>
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<td><strong>Afferent Denervation and Contractures Following Neonatal Brachial Plexus Injury</strong></td>
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<td><strong>Muscle Contracture Pathophysiology in Cerebral Palsy and Neonatal Brachial Plexus Injury</strong></td>
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<td>Pediatric Orthopaedic Society of North America</td>
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<td>06/01/14-05/31/15</td>
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<td><strong>The Role of Muscle Satellite Cells in Contracture Formation</strong></td>
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<td><strong>Bracing in Adolescent Idiopathic Scoliosis</strong></td>
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<td>National Institutes of Health(University of Iowa)</td>
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<td>R01 AR 052113</td>
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<td>Date Range</td>
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**Current Year Direct** $152,568

### Industry Contracts

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<th>Company</th>
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<td>MCCARTHY, J</td>
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<tr>
<td>WALL, E</td>
<td>SpineForm, LLC</td>
<td>$18,334</td>
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**Current Year Direct Receipts** $20,669

**Total** $173,237