

Division of Sports Medicine

DIVISION PROFILE

Number of Faculty	2
Number of Joint Appointment Faculty	1
Number of Fellows	
Clinical Fellows	1
Number of Graduate Students	4
Number of Other Students (full and part-time)	7
Number of Support Personnel	5
Annual Total Grant Support (direct)	\$395,249
Number of Peer Reviewed Publications	12
Patient Encounters	
Outpatient	1,352

FACULTY LISTING

Jon Divine, MD, Associate Professor, Division Director; Medical Director
Timothy E. Hewett, PhD, Associate Professor, Center Director; Research Director

FACULTY JOINT APPOINTMENT LISTING

Eric Wall, MD, Associate Professor, Orthopaedics

STAFF PHYSICIAN LISTING

Steve Daily, MD, Clinical Faculty
Mike Miller, MD, Clinical Faculty

OVERVIEW

Our primary mission in the Division of Sports Medicine is safely keeping young athletes active. Because athletes and their families rarely have the luxury of waiting for care, our goal will be to continue to provide rapid clinical access to medical care. Housed within the Sports Medicine Biodynamics Center (SMBC), our sports physical therapy staff works closely with injured athletes in order to monitor and direct their return to play. As a center, we aim to provide seamless integration between clinical care, research and rehabilitation. Because Cincinnati Children's is looked upon internationally as a major research contributor in pediatric and adolescent health care, we recognize that the expectation for clinical research is high. Our goals are to address original questions with rigorous and creative experimental designs that utilize one of the finest biomechanics laboratories and research staffs in the world. The long-term vision for our research program is to steadily procure National Institutes of Health grants funding in the areas of neuromuscular adaptation to stress, injury and disease. In September 2004 we were awarded nearly 3 million dollars in NIH funding from the National Institute of Arthritis and Musculoskeletal Disease for a longitudinal study identifying female athletes at high risk for anterior cruciate ligament (ACL) injuries.



Left to right: T. Hewett, J. Divine

We also accept the responsibility of training the next generation of sports medicine care providers. The division recently welcomed our second primary care sports medicine fellow who will complete an ACGME accredited curriculum in June 2006. The SMBC is also the only opportunity for many CCHMC pediatric residents within the primary care track, to have a "hands on" experience in evaluating sports-related injuries. Third year medical students from UC come to the SMBC for a 3-4 hour musculoskeletal exam workshop as a portion of the third year family medicine clerkship. Several physical therapy interns rotate from 1-3 months at the SMBC as a portion of their training. During the summer months, 6 research interns are selected from a large, competitive pool to assist in the data collection of several of the SMBC research projects. The summer interns also develop, collect data and often publish results of a study that they help design and implement.

We are working towards the creation of truly integrated state-of-the art research and clinical program in our division, where every clinic patient is a potential research study patient. The SMBC has the potential to be a first of its kind national model for sports medicine research and clinical care.

HIGHLIGHTS

The Division of Sports Medicine continues to grow following its second full year of clinical operation. Our primary mission is safely keeping young athletes healthy and active. The majority of patients were aged 12-17 yrs with a consultation requested for evaluating of sports-related soft tissue injuries. We achieved a high patient satisfaction rate, primarily due to our ready access scheduling practice; most patients requesting evaluation receive same or next day appointments. In terms of quality care, our re-injury rate is < 1% and our rate of "return business" for new injuries is growing. Although we would like to keep our patients injury-free, we are glad that they were pleased enough with their initial experiences and that they have made the choice to return when needed. In FY 05 we had over 1300 patient visits to our clinic. Referrals come primarily from community physicians, the CCHMC Emergency Department and by "word-of-mouth" from parents, coaches, athletes and others in the athletic community.

Another big step for the division in FY 04 was the opening of "The Concussion Clinic" in The Sports Medicine Biodynamic Center. A first for the region, this clinic focuses on the objective, scientific evaluation of concussion severity and determining a safe return to play. Through open access scheduling, approximately 727 new patients were evaluated in the second year of the clinic by a multi-disciplinary team approach that includes a physician exam, neuropsychological screening and advanced balance testing. The program has received repeated media exposure and has been widely praised by referring physicians and families. In April 2006, Dr. Jon Divine was once again the Medical Director for the Cincinnati Flying Pig Marathon. This community event required quick collaboration from volunteers both within and outside the division at the institution. The event was a great success once again and Dr. Divine will continue on as the medical director in the coming years. In May, Dr. Divine was named Medical Director of The Cincinnati Cyclones, the local hockey team. Dr. Divine and Fellow, Josh Takagishi will be Team Physicians for Ryle High School and Boone County, KY, Newport High School, and Colerain High School in Cincinnati.

In April 2005 our pediatric primary care sports medicine fellowship became one of only seven fully accreditation programs in the country by the ACGME. Several students that rotated through the center also presented data at national meetings during their research internships. Our educational mission is extended to two national conferences we host each year. Our 3rd annual Female Athlete conference in November 2005 drew 125 attendees. Our division also collaborated with University of Cincinnati Sports Medicine to put on our annual high school and college athlete symposium in July 2006, a meeting which attracted 220 registrants attended a 3 day conference at the University of Cincinnati. Both conferences received extremely high evaluation marks from those attending.

The Sports Medicine Biodynamics Center continues to be an internationally recognized leader in pediatric sports medicine research. These biomechanical studies have resulted in practical application for the training and injury prevention practices of young athletes and a lot of national attention. The findings were the subject of multiple articles in the New York Times and several other periodicals. In July, 2005 a publication from the center received an award from the National Athletic Trainers Association. In 2005-2006 our division published 22 full length peer-reviewed journal articles, 13 scientific abstracts, and made over 13 scholarly presentations at national meetings. Dr. Timothy Hewett made several invited scholarly presentations, including The Johnson and Johnson symposium at the annual NATA meeting, held in Atlanta, GA, June 2005. In 2005, we received

a minority supplement to our \$3 million award from the National Institute of Arthritis and Musculoskeletal Disease for "Identifying Female Athletes at High Risk for Anterior Cruciate Ligament (ACL) Injuries."

TRAINING

Josh Takagishi, MD	PGY-VI	Loyola University of Chicago
Adrick Harrison, PhD candidate		University of Kentucky
Mark Paterno, PhD candidate		Rocky Mountain University
Kevin Ford, PhD candidate		University of Kentucky

GRANTS, CONTRACTS AND INDUSTRY AGREEMENTS

Grant and Contract Awards	Annual Direct/Project Period Direct
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Identifying Female Athletes at High Risk for ACL Injury		
National Institutes of Health		
RO1 AR 049735	09/21/04 – 08/31/09	\$360,180/\$1,753,425
Identifying Female Athletes at High Risk for ACL Injury - Supplement		
National Institutes of Health		
RO1 AR 049735	03/01/05 – 08/31/09	\$35,069/\$125,114

Current Year Direct	\$395,249
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Industry Contracts

Current Year Direct Receipts	\$0
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TOTAL	\$395,249
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PUBLICATIONS

1. Cowley HR, Ford KR, Myer GD, Kernozek TW, Hewett TE. Differences in neuromuscular strategies between landing and cutting tasks in female basketball and soccer athletes. *J Athl Train* 2006;41(1):67-73.
2. Ford KR, Myer GD, Smith RL, Vianello RM, Seiwert SL, Hewett TE. A comparison of dynamic coronal plane excursion between matched male and female athletes when performing single leg landings. *Clin Biomech* 2006;21(1):33-40.
3. Hewett TE, Ford KR, Myer GD. Anterior cruciate ligament injuries in female athletes: Part 2, a meta-analysis of neuromuscular interventions aimed at injury prevention. *Am J Sports Med* 2006;34(3):490-8.
4. Hewett TE, Ford KR, Myer GD, Wanstrath K, Scheper M. Gender differences in hip adduction motion and torque during a single-leg agility maneuver. *J Orthop Res* 2006;24(3):416-21.
5. Hewett TE, Myer GD, Ford KR. Anterior cruciate ligament injuries in female athletes: part 1, mechanisms and risk factors. *Am J Sports Med* 2006;34(2):299-311.
6. Myer GD, Brunner HI, Melson PG, Paterno MV, Ford KR, Hewett TE. Specialized neuromuscular training to improve neuromuscular function and biomechanics in a patient with quiescent juvenile rheumatoid arthritis. *Phys Ther* 2005;85(8):791-802.
7. Myer GD, Ford KR, Brent JL, Hewett TE. The effects of plyometric vs. dynamic stabilization and balance training on power, balance, and landing force in female athletes. *J Strength Cond Res* 2006;20(2):345-53.
8. Myer GD, Ford KR, Hewett TE. Preventing ACL injuries in women. *J Musculoskel Med* 2006;23(1):12-14.

9. Myer GD, Ford KR, McLean SG, Hewett TE. The effects of plyometric versus dynamic stabilization and balance training on lower extremity biomechanics. *Am J Sports Med* 2006;34(3):445-55.
10. Myer GD, Paterno MV, Ford KR, Quatman CE, Hewett TE. Rehabilitation after anterior cruciate ligament reconstruction: criteria-based progression through the return-to-sport phase. *J Orthop Sports Phys Ther* 2006;36(6):385-402.
11. Paterno MV, Archdeacon MT, Ford KR, Galvin D, Hewett TE. Early rehabilitation following surgical fixation of a femoral shaft fracture. *Phys Ther* 2006;86(4):558-72.
12. Quatman CE, Ford KR, Myer GD, Hewett TE. Maturation leads to gender differences in landing force and vertical jump performance: a longitudinal study. *Am J Sports Med* 2006;34(5):806-13.

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