Musculoskeletal Research Center

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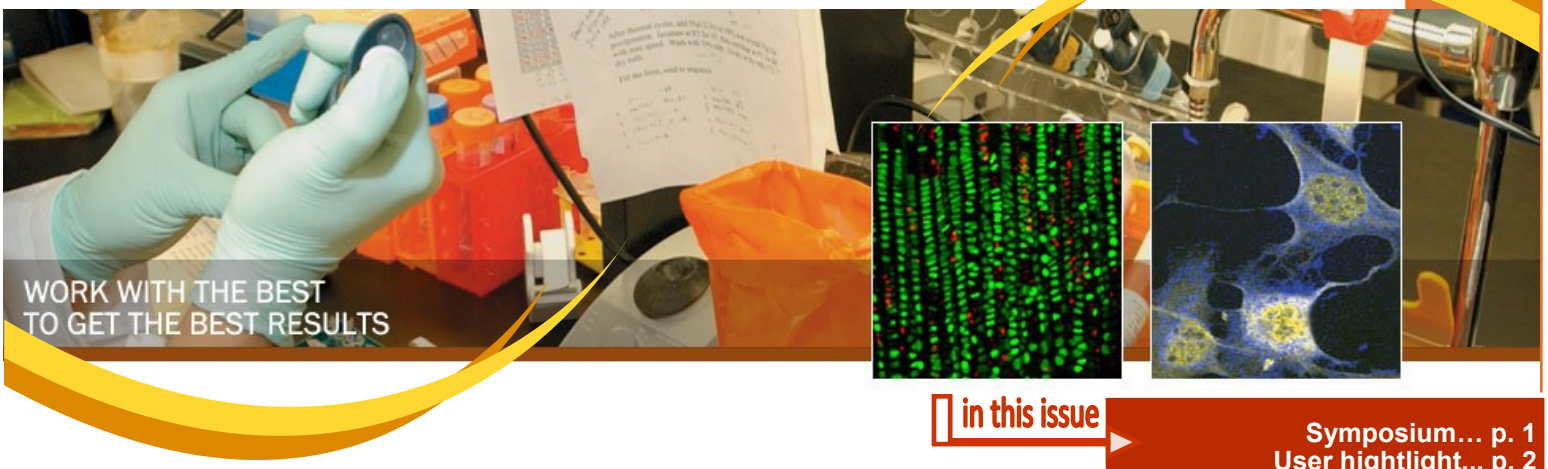
MUSCULOSKELETAL RESEARCH CENTER at Washington University



in this issue

2014 Musculoskeletal Winter Symposium

Thank you for attending the 2014 Musculoskeletal Winter Symposium on February 12, 2014! We hope you enjoyed the program and the opportunity to learn, share your research data, and network with your colleagues. This year we had record attendance, and a record number of abstract submissions! Thank you so much for your participation. We look forward to seeing you again next year!

Avioli Musculoskeletal Seminar Series

BJCIH Bldg. | 11th floor
A/B Conference Room
Fridays @ 9am

4/4	Nilsson Holguin, PhD	*Silva Lab*
4/11	Simon Tang, PhD	*Orthopaedic Surgery*
4/18	Ryan Gray, PhD	*Solnica-Krezel Lab*
4/22 Tue 10am	Noriaki Ono, DDS, PhD	*Harvard Medical School*
4/25	Spencer Lake, PhD	*Mechanical Engineering*
5/2	Ernesto Canalis, MD	*Univ. of Connecticut*
5/16	Alix Black, PhD	*Thomopoulos Lab*
5/23	Emel Esen	*Long Lab*

For more information about the MRC and the Cores, please click here:
http://muscoloskeletalcore.wustl.edu

Please remember to include reference to support from the Musculoskeletal Research Center in your abstracts and publications.
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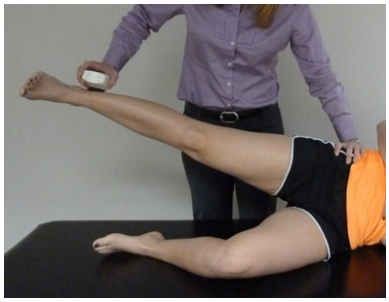
Rehabilitation Factors in Pre-arthritic Hip Disease

Principal Investigator: Marcie Harris-Hayes, PT, DPT, MSCI
Collaborators: John Clohisy, MD, Michael J. Mueller, PT, PhD, FAPTA, Linda R.Van Dillen, PT, PhD, Gretchen B. Salsich, PT, PhD, Mario Sc

Pre-arthritic hip disease (PAHD) encompasses a group of hip disorders including femoroacetabular impingement, hip dysplasia and labral tears. PAHD is a major cause of hip dysfunction in young adults. Without proper management, PAHD may progress to hip osteoarthritis (OA), a leading cause of loss of function and reduced quality of life for elderly people. Effective treatment of PAHD is necessary for the improvement of function in the young adult and prevention or delay in the onset of hip OA. Our research is focused on assessing modifiable factors proposed to be associated with PAHD including abnormal movement patterns and hip muscle weakness. We are also assessing the effectiveness of rehabilitation using movement pattern training to reduce pain and improve function in people with PAHD.

Reduced hip muscle strength in people with pre-arthritic hip disease.



Little is known about the relationship between hip muscle strength and PAHD. The purpose of the study is to examine hip muscle strength in people with and without PAHD. As predicted, people with PAHD demonstrated weakness in the hip muscles of their painful hip. Surprisingly, people with hip pain also demonstrated weakness in some of the hip muscles of their non-painful hip. Rehabilitation to strengthen hip muscles in both the painful and non-painful hip may be an appropriate treatment approach for people with PAHD.

Movement pattern training improves function in people with pre-arthritic hip disease: preliminary finding.

Abnormal movement patterns may contribute to PAHD by imposing abnormal stresses on the hip joint. Movement pattern training to improve the performance of daily activities may provide an effective rehabilitation strategy for PAHD. Movement pattern training incorporates two primary components including 1) instruction in modifying abnormal movement patterns during daily activities such as walking and stairs and 2) strengthening the weak hip muscles proposed to contribute to the abnormal movement patterns. Our preliminary findings suggest movement pattern training may improve pain and function in people with PAHD, and these improvements may be maintained at 6 and 12 months after treatment. Movement pattern training may be an appropriate treatment approach for people with PAHD to consider prior to surgery.

Future analyses will assess changes in muscle strength and movement patterns after treatment. Relationships among strength, movement patterns, bony structure and functional ability will also be assessed to better inform future treatment strategies.

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