DRAFT AGENDA 9-11-2020
QUANTITATIVE EVALUATION OF MYOFASCIAL TISSUES: POTENTIAL IMPACT FOR MUSCULOSKELETAL PAIN RESEARCH
September 16-17, 2020
An NIH HEAL Initiative Virtual Workshop
Co-organizers: NCCIH, NIBIB
NIH Partners: NIAMS, NICHD/NCMRR, NIDCR, NINDS

Day 1: September 16, 2020

8:45 a.m. Welcome Remarks
Rebecca Baker (NIH HEAL Director)

9:00 a.m. Opening Remarks
Helene Langevin (NCCIH Director)
Historical Overview of Myofascial Pain Syndrome and Hypotheses

9:25 a.m. Session One - State of Science of Myofascial Pain Syndrome: Clinical Presentation, Pathophysiological Hypotheses, and Challenges
Chair- Michael Oshinsky (NINDS)
Co-chair- Leslie Derr (NIAMS)

9:30 a.m. Carla Stecco (University of Padova)
Fascial Anatomy, from Macro to Micro

9:42 a.m. Jay Shah (NIH/CC)
Chronic Myofascial Pain: Myogenic Considerations in its Pathogenesis and Clinical Manifestations

9:54 a.m. John Srbely (University of Guelph)
The Role of Neurogenic Mechanisms in the Pathophysiology and Clinical Manifestation of Chronic Myofascial Pain

10:06 a.m. David Lesondak (University of Pittsburgh)
A Clinician’s Perspective on Treating Myofascial pain: Overview and Challenges

10:18 a.m. Mary Barbe (Temple University)
Basic Research/Animal Models Relevant to Myofascial Pain

10:30 a.m. BREAK

10:45 a.m. PANELIST COMMENTS
Lynn Gerber (George Mason University)
Kendi Hensel (Texas College of Osteopathic Medicine)
Eric Jacobson (Harvard Medical School)
Jan Mundo (Mundo Lifework)
Niki Munk (Indiana University)
Kathleen Sluka (University of Iowa)
Heather Tick (University of Washington)

11:00 a.m. PANEL DISCUSSION

11:45 a.m. QUESTIONS AND ANSWERS FROM THE ZOOM AUDIENCE AND VIDEOCAST AUDIENCE

12:00 Noon VIRTUAL LUNCH

1:00 p.m. Session Two - Current Structural Imaging Approaches with Potential Application to Myofascial Pain Syndrome
Chair- Guoying Liu (NIBIB)
Co-chair- Merav Sabri (NCCIH)

1:05 p.m. Garry Gold (Stanford Schools of Engineering and Medicine)
Current Magnetic Resonance Imaging (MRI) Approaches with Potential Application to Myofascial Pain Syndrome

1:17 p.m. Bruce Damon (Vanderbilt University)
Quantitative MRI Methods with Potential Application to Myofascial Pain Syndrome

1:29 p.m. Sandip Biswal (Stanford University)
Use of Molecular Imaging and MR Neurography in the Identification of Peripheral Pain Generators

1:41 p.m. Siddhartha Sikdar (George Mason University)
From Qualitative to Quantitative Musculoskeletal Imaging for the Evaluation of Myofascial Tissues: Opportunities and Limitations

1:55 p.m. PANELIST COMMENTS
Christine Chung (University of California San Diego)
Bharti Khurana (Harvard Medical School)
Levon Nazarian (Thomas Jefferson University)
Antonio Stecco (NYU Langone Health)

2:05 p.m. PANEL DISCUSSION

2:35 p.m. QUESTIONS AND ANSWERS FROM THE ZOOM AUDIENCE AND VIDEOCAST AUDIENCE

2:50 p.m. BREAK
3:05 p.m.  **Session Three - Elastography Imaging Approaches with Potential Application to Myofascial Pain Syndrome**  
*Chair- Helene Langevin (NCCIH)*  
*Co-chair- Merav Sabri (NCCIH)*

3:10 p.m.  *Kevin Parker (University of Rochester)*  
Ultrasound Elastography for Evaluation of Tissue Mechanical Properties

3:22 p.m.  *Helene Langevin (NCCIH)*  
Measurement of Shear Plane Tissue Mobility Using Ultrasound Elastography Techniques

3:34 p.m.  *Richard Ehman (Mayo Clinic College of Medicine and Science)*  
MR Elastography: Quantitatively Characterizing the Mechanical Properties of Skeletal Muscle and Myofascial Interfaces

3:46 p.m.  **PANELIST COMMENTS**  
*Shigao Chen (Mayo Clinic Rochester)*  
*Dieter Klatt (University of Illinois Chicago)*  
*Neil Roberts (University of Edinburgh)*  
*Sergio Sanabria (Stanford University School of Medicine)*  
*Siddhartha Sikdar (George Mason University)*  
*Robert Vining (Palmer College of Chiropractic)*

4:00 p.m.  **PANEL DISCUSSION**

4:30 p.m.  **QUESTIONS AND ANSWERS FROM THE ZOOM AUDIENCE AND VIDEOCAST AUDIENCE**

4:45 p.m.  **WRAP UP**

5:00 p.m.  **ADJOURN**

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**Day 2: September 17, 2020**

8:45 a.m.  **Welcome Back**  
*Jill Heemskerk (NIBIB Deputy Director)*

9:00 a.m.  **Session Four - Emerging Promising Technologies for Myofascial Pain Syndrome: Electrophysiology, MRI, and PET**  
*Chair- Alex Tuttle (NINDS)*  
*Co-chair- Chuck Washabaugh (NIAMS)*

9:05 a.m.  *Abhijit J. Chaudhari (University of California Davis)*  
Innovations in PET for Future Applications in Myofascial Pain Syndrome
9:17 a.m.  *Espen Spangenburg (East Carolina University)*
Application of Techniques that Assess Physiological and Metabolic Parameters of Skeletal Muscle to Advance Our Understanding of Myofascial Pain Syndrome

9:29 a.m.  *Seward Rutkove (Beth Israel Deaconess Medical Center, Harvard)*
Electrophysiology Techniques and Potential Applications for Myofascial Tissues

9:41 a.m.  *Els Fieremans (NYU Langone Health)*
In Vivo Imaging of Tissue and Muscle Microstructure

9:53 a.m.  **PANELIST COMMENTS**
*Vania Apkarian (Northwestern University)*
*Mark Does (Vanderbilt University)*
*Jordi Serra (King’s College Hospital, London)*
*Samuel Ward (University of California San Diego)*

10:05 a.m.  **PANEL DISCUSSION**

10:35 a.m.  **QUESTIONS AND ANSWERS FROM THE ZOOM AUDIENCE AND VIDEOCAST AUDIENCE**

10:50 a.m.  **BREAK**

11:10 a.m.  **Session Five - Emerging Promising Technologies for Myofascial Pain Syndrome: Tissue Engineering, Artificial Intelligence, and Computational Modeling**
*Chair* - Yolanda Vallejo (NIDCR)
*Co-chair* - Theresa Cruz (NICHD/NCMRR)

11:15 a.m.  *Jeffrey Lotz (University of California San Francisco)*
Quantifying Associations Between Paraspinal Muscle Quality, Spinal Pathologies, and Skeletal Biomechanics

11:27 a.m.  *Sharmila Majumdar (University of California San Francisco)*
The Role of Machine Learning for Muscle Segmentation and Characterization of Muscle Properties

11:39 a.m.  *Silvia Blemker (University of Virginia)*
Multi-scale Computational Modeling Integrates Biology and Mechanics to Prove New Insights into Muscle Dysfunction

11:51 a.m.  *Hai Yao (Clemson, Medical University of South Carolina)*
Integrating Multimodality Measurement and Multiscale Modeling to Assess Temporomandibular Disorders

12:05 p.m.  **PANELIST COMMENTS**
*Lucia Cevidan (University of Michigan)*
Adam Hantman (Janelia Research Campus)
Lealem Mulugeta (InSilico Labs, LLC and Medalist Performance)
Thomas Myers (University of Rochester)

12:15 p.m.  PANEL DISCUSSION
12:45 p.m.  QUESTIONS AND ANSWERS FROM THE ZOOM AUDIENCE AND VIDEOCAST AUDIENCE

1:00 p.m.  VIRTUAL LUNCH

2:00 p.m.  Session Six - General Discussion
            Chair- Wen Chen (NCCIH)
            Co-chair- Dena Fischer (NIDCR)

2:05 p.m.  PANELIST COMMENTS
            Allan Basbaum (University of California San Francisco)
            Christine Chung (University of California San Diego)
            Bill Maixner (Duke University)
            Julie Fritz (The University of Utah)
            Daniel Sodickson (NYU Langone Health)

2:30 p.m.  PANEL DISCUSSION

3:00 p.m.  Summary and Concluding Remarks
            Helene Langevin (NCCIH Director)

3:30 p.m.  ADJOURN

MEETING HASHTAG – #nihHEALinitiative