TMD Professional Education, Research, Specialization

- Genetics
- Co-morbid conditions
- Radiography & Imaging
- Muscle Physiology
- Inflammation
- Pathology
- Pharmacology
- Biomechanics
- Behavioral Science
- Social Determinants
- Clinical Rotations
- Treatment Planning
- Therapeutics
- Anatomy
- Occlusion
- Surgery

Laurie K. McCauley, DDS, MS, PhD
SCHOOL OF DENTISTRY
UNIVERSITY OF MICHIGAN
Interprofessional Education at Michigan

100% IPE EXPOSURE
FOR TARGETED LEARNERS IN DENTISTRY, KINESIOLOGY, MEDICINE, NURSING (ANN ARBOR AND FLINT), PHARMACY, PHYSICAL THERAPY (FLINT), PUBLIC HEALTH, RESPIRATORY THERAPY (FLINT), AND SOCIAL WORK INTEGRATED HEALTH SCHOLARS

124 Publications
SINCE 2015

10 COURSES
7 ONE-TIME EVENTS
4 CLINICAL EXPERIENCES
3 MODULES
9 SIMULATIONS

10
7
4
3
9

FACULTY CHAMPIONS!
215 FACULTY ENGAGED IN CENTER EFFORTS

Awarded to U-M Faculty
$655K FOR IPE/IPC RESEARCH SINCE 2015

Year 4: 2874
Year 1: 859
LEARNERS ENGAGED IN IPE ACTIVITIES

SCHOOL OF DENTISTRY
UNIVERSITY OF MICHIGAN

https://interprofessional.umich.edu/
Interprofessional Education

What are the drivers?

CODA Standard 2-20
“Graduates must be competent in communicating and collaborating with other members of the health care team to facilitate the provision of health care.”

Intent: In attaining competence, students should understand the roles of members of the health care team and have educational experiences, particularly clinical experiences that involve working with other healthcare professional students and practitioners. Students should have educational experiences in which they coordinate patient care within the health care system relevant to dentistry.

- Primary care physicians, nurses, and medical students
- Public health care providers
- Nursing home care providers
- Pharmacists and other allied health personnel
- Social workers
Interprofessional Education

*What are your ideas on how to increase and incentivize interprofessional education on TMD and orofacial pain?*

1. Bolster overall IPE/IPC philosophy and practice across disciplines
2. Identify exemplars and highlight
3. Provide faculty development opportunities
4. Expand GME support
Education and training on TMD

What is the nature and extent of TMD education and training at your institution?

1. Lecture
2. Pre-clinical
3. Rotation
4. Clinical

Dentistry is well positioned to play a key role in team pain management

Doorenbos et al J Pain, 2013
D-1 Year

• Oralfacial Complex (I and II)
• Dental Head and Neck Anatomy
• Dental Anatomy and Occlusion (I and II)
• Nervous system
• Musculoskeletal system
• Diagnostic Sciences I
Musculoskeletal System

- Skeletal muscle fiber type differences jaw vs limb/trunk
- Hybrid fibers in jaw not limb/trunk
- Fiber diameter differences

Korfage J et al. J DENT RES 2005;84:784-793

Provided by Dr. Geoff Gerstner, Univ Michigan
D-2 Year

- Comprehensive Care Clinic – Oral Medicine and Radiology (I and II)
- Pathways
- Treatment Planning
- Oral facial Complex III
- IPE Collaboration Seminar
- Occlusion Fundamentals
- Diagnostic Sciences
- Applied Nutrition
D-3 Year

- Pathways
- Advanced Clinical Head & Neck Anatomy
- Comprehensive Care Clinic and Clinic Rotations
- Clinical Rotation – Hospital Dentistry
- Clinical Neuroscience – Orofacial Pain
- Health Professions IPE: Team-Based Clinical Decision Making
D-4 Year

- Pathways
- Comprehensive Care Clinic and Clinic Rotations
- Clinical Rotation – Hospital Dentistry
  - CODA accredited Orofacial Pain Program (L. Ashman)
  - ~1000 cases/yr ~54 OR cases
- IPE Collaboration Seminar
- Advanced Oral Surgery
Clinical Exam Form: Instructional

General Instructions
Your partner is the “patient”, the form contains her/his data. Do all exercises and complete all questions for credit. Use best practices for Infection Control, Risk Management and Instrument Procurement during this exercise.

Supplies you will need:
- 1 millimeter ruler per student
- 1 basic cassette per student
- Endo-ice 1 – 2 per session
- 2 strips red occlusal ribbon per student
- From Foundation Clinic 2 strips black occlusal ribbon per student

I. Patient Demographics
Sex ______ F Age ______ years Weight ______ lbs Height ______ Ft-In’ BP / / Sys/Dia HR ______ bpm

1. What information can you glean from demographics?

II. Functional occlusal evaluation
The following chart helps determine whether a functional limitation is due to muscle (myogenous) or joint (arthrogenous) conditions.

<table>
<thead>
<tr>
<th>Occlusal evaluation (requires mm ruler and Endo-ice)</th>
</tr>
</thead>
<tbody>
<tr>
<td>_____ mm Overbite</td>
</tr>
<tr>
<td>_____ mm Overjet</td>
</tr>
<tr>
<td>_____ mm Midline discrepancy. Which side? L_____ R_____ NA_____ (upper midline is 0)</td>
</tr>
</tbody>
</table>

Add overbite to next 4 measurements
- _____ mm Unassisted maximum pain-free opening; “Open as wide as you can without pain”
- _____ mm Assisted maximum opening; “Open as wide as you can, even if it hurts a little”
- _____ mm Assisted maximum opening; Gently use thumb and a finger to increase opening
- Y N Hard and fast? Do this with assisted maximum opening above
- _____ mm Assisted maximum opening with vapocoolant spray. e.g., Endo-ice. Use only if MO < 40 mm

- _____ mm Maximum protrusion (add overjet)
- _____ mm Maximum left laterotrusion (add or subtract midline discrepancy if it exists)
- _____ mm Maximum right laterotrusion (add or subtract midline discrepancy if it exists)

Joint Noise:
- Right joint: Popping or clicking _____ crepitus open _____ close _____
- Left joint: Popping or clicking _____ crepitus open _____ close _____

Jaw movements
- R_____ L_____ NA_____ Deviation on opening? Which side?
- R_____ L_____ NA_____ Deviation on closing? Which side?

Occlusal relations
- R_____ L_____ NA_____ Crossbite? Which side(s)?

2. What information, above, could help you distinguish limited function due to joint versus muscle problems?
III. Dental occlusion evaluation

Record your results on the figure, right.

MI contacts: Indicate on diagram, right, which teeth contact in maximum intercuspidation.

Excursive contacts: (Mark which teeth contact with an X)

What teeth contact in left lateralization?

What teeth contact in right lateralization?

What teeth contact in protrusion?

6. What information, above, helps you distinguish between canine guidance, group function, and interocclusal, medioocclusal and protractive interferences?

7. If your patient has medioocclusal or protractive interferences what might you consider as treatment?

8. Regarding lateralocclusal interferences, how would you identify successful treatment management?

IV. Dental Wear

A common finding is tooth wear. We don’t know how to tell sleep bruxism (SB)-induced tooth wear from other causes of tooth wear. The research gold standard for SB requires interpreting polysonograms (PSG), whereas the clinical gold standard is patient self-report, or report by a sleeping partner, of grinding noises plus excessive tooth wear. Place an E (wear into enamel) or D (wear into dentin) in the boxes below the teeth showing wear.

9. What is excessive tooth wear?

10. What treatments would you provide for a bruxer?
Clinical Exam Form: Instructional

Provided by Dr. Geoff Gerstner Univ Mich
Clinical Exam Form:

Instructional

References
Students are directed to patient educational resources

NIDCR

and

American Academy of Orofacial Pain

Compliments of:

Temporo-Mandibular Joint Disorders

To support TMD research, or locate knowledgeable and experienced experts in orofacial pain, please contact:
The American Academy of Orofacial Pain
174 S New York Ave
POB 478
Oceanville, NJ 08231
1-609-504-1311

For more information please visit the AAOP website at www.aaop.org and select Patient Resources.

This brochure is produced by the American Academy of Orofacial Pain.
The American Academy of Orofacial Pain is an organization of healthcare professionals dedicated to alleviating pain and suffering through the promotion of excellence in education, research and patient care in the field of Orofacial Pain and associated disorders.

This brochure is intended to provide general information on temporomandibular disorders and is not a substitute for careful evaluation and treatment by a dentist, physician, or orofacial pain expert.

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Education and training on TMD

What are your thoughts on what needs to be done to improve TMD education and training?

1. Bolster graduate programs in orofacial pain
2. Improved healthcare system financial reimbursement for TMD
3. Assure clinical experiences in assessment and treatment of TMD
4. Continually develop contemporary basic sciences that highlight critical thinking and clinical integration
5. Robust research programs to support critical thinking in TMD and orofacial pain
6. Implementation of emerging technologies in the TMD/Pain classroom and clinic (e.g. AI, AR/VR/MR, mobile technology, wearables, simulation, remote therapy)

Donnell et al 2015
A. DaSilva lab