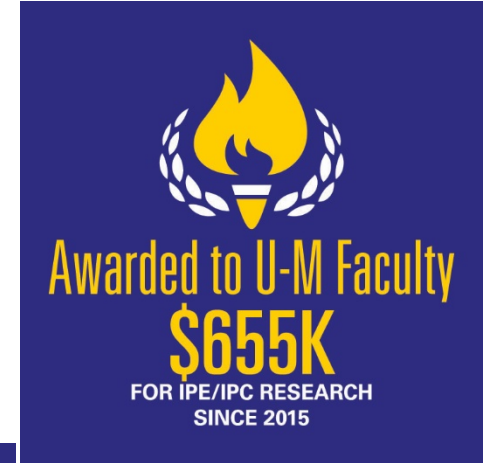
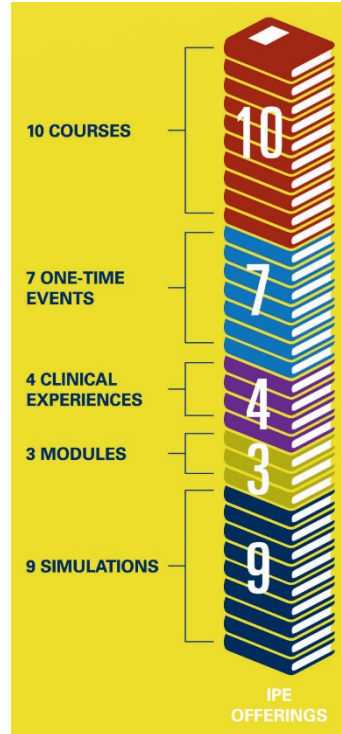
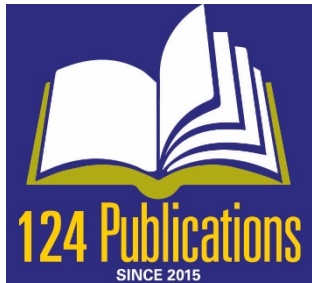


TMD Professional Education, Research, Specialization



Interprofessional Education at Michigan



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.*

- a. Primary care physicians, nurses, and medical students
- b. Public health care providers
- c. Nursing home care providers
- d. Pharmacists and other allied health personnel
- e. 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

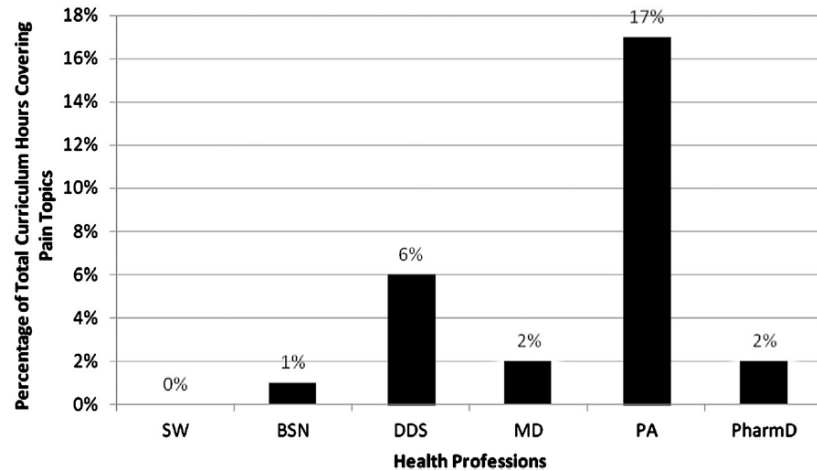
What is the nature and extent of TMD education and training at your institution?

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



www.geopain.com

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



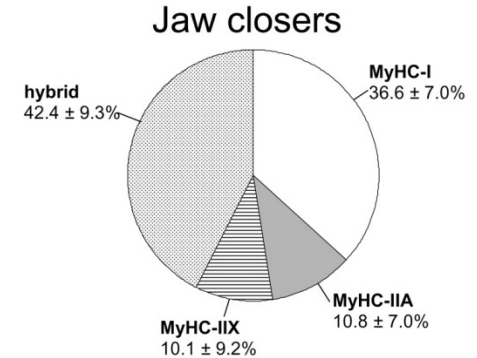
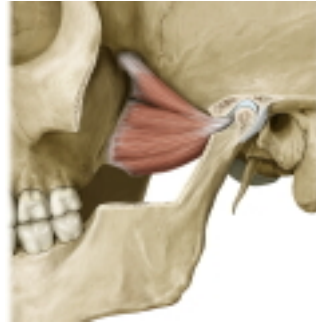
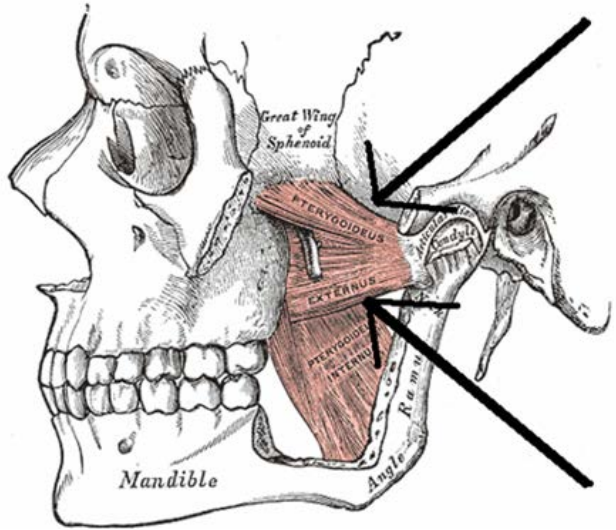
*Doorenbos et al
J Pain, 2013*

D-1 Year

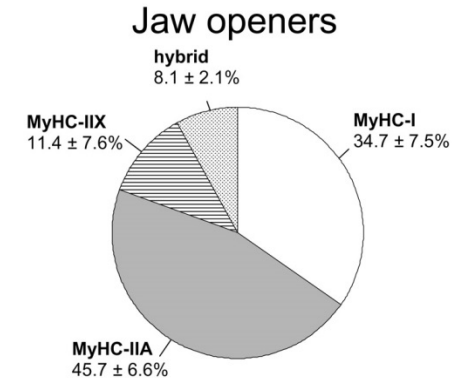
- Oralfacial Complex (I and II)
- Dental Head and Neck Anatomy
- Dental Anatomy and Occlusion (I and II)
- Nervous system
- Musculoskeletal system
- Diagnostic Sciences I

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



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

Dentist Operator's Name: _____

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:

Made available in the Foundation Clinic, provided by Dispensing (you do not need to stand in line)	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 ___M___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 charting helps determine whether a functional limitation is due to muscle (myogenous) or joint (arthrogenous) conditions.

Occlusal evaluation (requires mm ruler and Endo-ice)	
___mm	Overbite
___mm	Overjet
___mm	Midline discrepancy. Which side? L___ R___ NA___ (upper midline is 0)
Add <u>overbite</u> to next 4 measurements	
___mm	Unassisted maximum pain-free opening: "Open as wide as you can without pain"
___mm	Unassisted 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 end feel? 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 <u>overjet</u>)
___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 Noises	
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?

Clinical Exam Form: Instructional

Dentist Operator's Name: _____

3. A reciprocal click (joint noises on both opening and closing) likely indicates what problem?
4. How does applying unilateral pressure to the jaw while your patient opens and closes help with joint assessment?
5. If there are joint noises without pain, should you treat this?

III. Dental occlusion evaluation

Record your results on the figure, right.

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

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

What teeth contact in left laterotrusion?

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17

What teeth contact in right laterotrusion?

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17

What teeth contact in protrusion?

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17

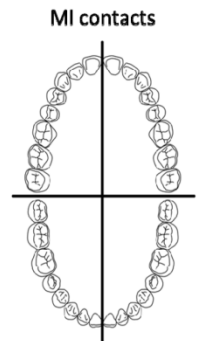
6. What information, above, helps you distinguish between canine guidance, group function, and laterotrusive, mediotrusive and protrusive interferences?
7. If your patient has mediotrusive or protrusive interferences what might you consider as treatment?
8. Regarding laterotrusive interferences, how 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 polysomnograms (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 only) or D (wear into dentin) in the boxes below the teeth showing wear.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17

9. What is excessive tooth wear?
10. What treatments would you provide for a bruxer?



Clinical Exam Form: Instructional

Dentist Operator's Name: _____

V. Muscle evaluation

Palpate muscles, joints and vertex at positions shown, below. Palpate flat muscles with your index finger tip. Palpate strap muscles by pinching them between your thumb and index finger. Palpating intraoral muscles is often useless due to high false positive rates. Ramp up pressure from 0 – 1 kg (0 – 0.5 kg for TMJs) over one second followed by a quick release.

If you find painful sites, maintain pressure for several seconds and see whether the pain stays localized, spreads or radiates. Ask the patient to describe the pain using a 10-point scale (0 = no pain; 10 = most intense pain imaginable). Indicate positive findings with a circle over positive sites. Place a number inside the circle corresponding to the patient's pain rating. Use arrows anchored to the circle to indicate the direction and extent of pain spread if spreading occurs.

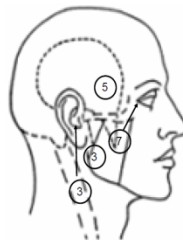


11. How would you use radiating pain and other palpation data collected to determine patient's pain source(s)?

12. Why palpate the vertex?

13. How could you use the charting in managed care or outcomes-tracking?

14. Write out in long-hand what the findings on the diagram, right, indicate.



Clinical Exam Form: Instructional

Dentist Operator's Name: _____

VI. OSA Screening

The following examination can be performed in your practice either routinely (baseline data in new patients) or when you have a patient with suspected obstructive sleep apnea (OSA). The following information is useful in identifying patients at risk of OSA, and you would include findings in reference letters to the patient's PCP or sleep medicine doctor.

Measure the neck circumference with a tape measure and record.

Neck Size: _____ (inches)

Score tongue size with the **Mallampati** scale, right. Have patient open, stick out tongue but **DO NOT** say "ah". Check appropriate box, below.

- ☐ Class I
- ☐ Class II
- ☐ Class III
- ☐ Class IV

Tongue: (check all that apply)

- ☐ Normal
- ☐ Macroglossia
- ☐ Scalloping
- ☐ Rests above occlusal table

Uvula: (check all that apply)

- ☐ Normal
- ☐ Elongated
- ☐ Bifurcated

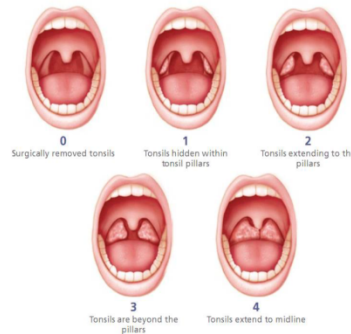
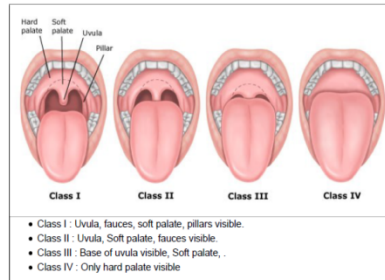
Record positive findings for any of the following that apply

- ☐ Tori or exostosis
- ☐ Retrognathia
- ☐ Excessive curve of Spee
- ☐ Mouth breathing

Inspect **tonsils** for size using the grading scale, right; check box, 0 – 4 below, that describes patient best.

- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4

15. Why should you do OSA screening routinely in your practice?



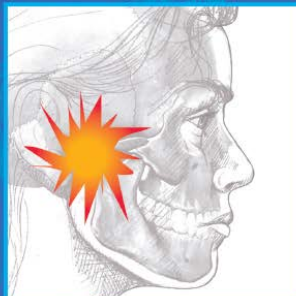
References

1. Ferro KJ, et al. The glossary of prosthodontic terms. (2017) JPD 117: e1-105.
2. Lobbezoo F, et al. Bruxism defined and graded: an international consensus. J Oral Rehab (2013) 40:2-4.
3. Ramar K., et al. Clinical practice guideline for the treatment of obstructive sleep apnea and snoring with oral appliance therapy: an update for 2015. J Clin Sleep Med 11:773-827.
4. Schiffman E, et al. Diagnostic criteria for temporomandibular disorders (DC/TMD) for clinical and research applications: recommendations of the international RDC/TMD consortium network and orofacial pain special interest group. J Oral Facial Pain Headache (2014) 28:6-27.

Clinical Exam Form: Instructional

T M J

DISORDERS



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
National Institutes of Health

**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.*

© 2014 American Academy of Orofacial Pain

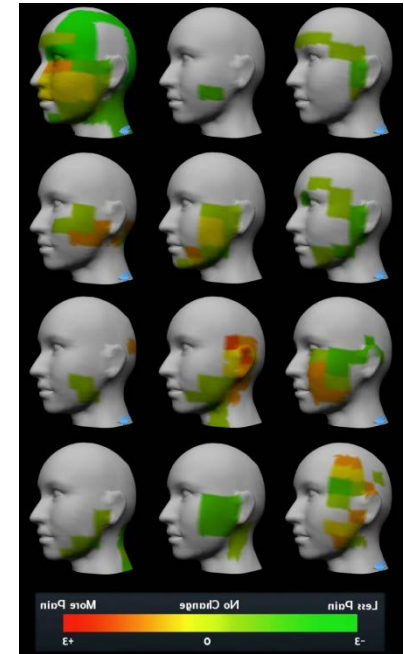


**AMERICAN ACADEMY
OF OROFACIAL PAIN**

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