

A Focus on Nerves and Joints: Impact of a Revised Curriculum for the 4<sup>th</sup> Year Physical Medicine and Rehabilitation (PM&R) Clerkship at Brody School of Medicine



Department of Physical Medicine and Rehabilitation, Brody School of Medicine

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2<sup>nd</sup> Annual REACH  
Medical Education Day  
April 20, 2016

# Rationale/Need

- Relative weakness in exposure to clinical neuroscience at The Brody School of Medicine based on student self report and standardized testing
- 4<sup>th</sup> year required PM&R clerkship improved students' knowledge and enhanced clinical skills,<sup>1</sup> however PM&R had the lowest student rankings among the 8 required clerkships

<sup>1</sup>Faulk et Al. Impact of a required fourth-year medical student rotation in physical medicine and rehabilitation. *Am J Phys Med Rehabil.* 2012;91:442-448.

# Rationale / Need

- This is not a Brody specific issue:
  - Study at Harvard Medical School found that medical students lacked the “clinical confidence” and “cognitive mastery” with regard to musculoskeletal (MSK) care<sup>2</sup>
  - Similar research demonstrates lack of comfort with neurology or “neurophobia”<sup>3</sup>
- AAMC Entrustable Professional Activities (EPAs)
  - EPA 1: Gather a history and perform a physical examination
  - EPA 2: Prioritize a differential diagnosis

<sup>2</sup>Day CS, Yeh AC, Franko O, Ramirez M, Krupat E. Musculoskeletal medicine: An assessment of the attitudes and knowledge of medical students at harvard medical school. *Acad Med.* 2007;82(5):452-457

<sup>3</sup>Zinchuk AV, Flanagan EP, Tubridy NJ, Miller WA, McCullough LD. Attitudes of US medical trainees towards neurology education: "Neurophobia" - a global issue. *BMC Med Educ.* 2010;10:49-69.

# Collaborative Team Members

- John Norbury MD, RMSK, Clerkship Director, 2014-present
- Clinton Faulk MD, Clerkship Director 2009-2014, Residency Director 2014-present
- Kelly Harrell PhD, MPT, Department of Anatomy and Cell Biology
- Luan Lawson MD, BSOM Academic Affairs
- Daniel Moore MD, PM&R Chairman
- Jayveeh Navarro MD, PM&R faculty and case study preceptor

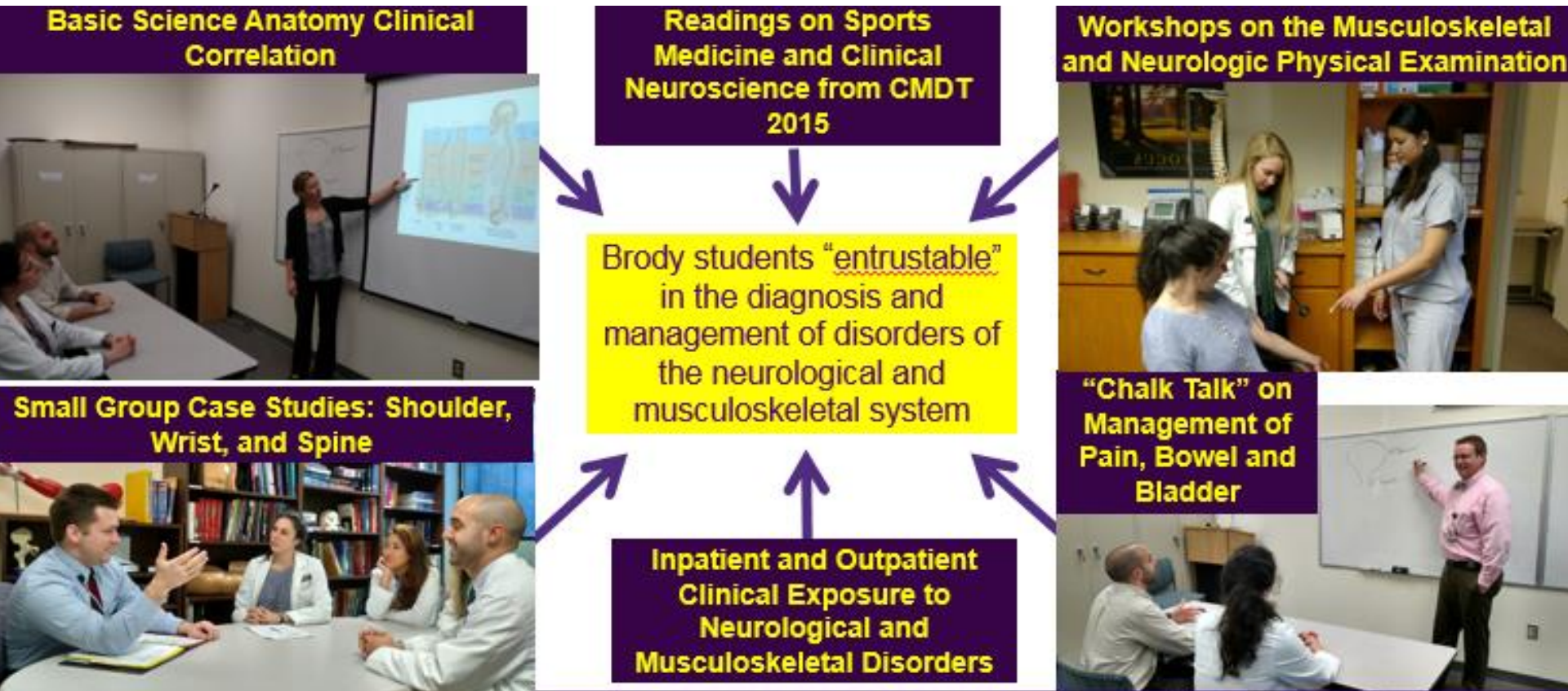
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# Clerkship Changes

- Required Readings on General Neurology and MSK Topics<sup>4</sup>
  - (Previous readings from PM&R Literature on Rehab Topics)
- Basic Science Anatomy Clinical Correlation
- Hands on workshops on Neuro and MSK Physical Examination
- Case based workshop on shoulder pain, wrist pain, and back pain
- “Chalk talk” on pain, bowel, and bladder management (3P’s)

<sup>4</sup> Papadakis, M. McPhee, SJ, Rabow, MW. *Current medical diagnosis and treatment 2015*. 54th ed. New York: McGraw Hill Education Medical; 2014.

# Conceptual Framework for the revised BSOM 2 Week PM&R Clerkship

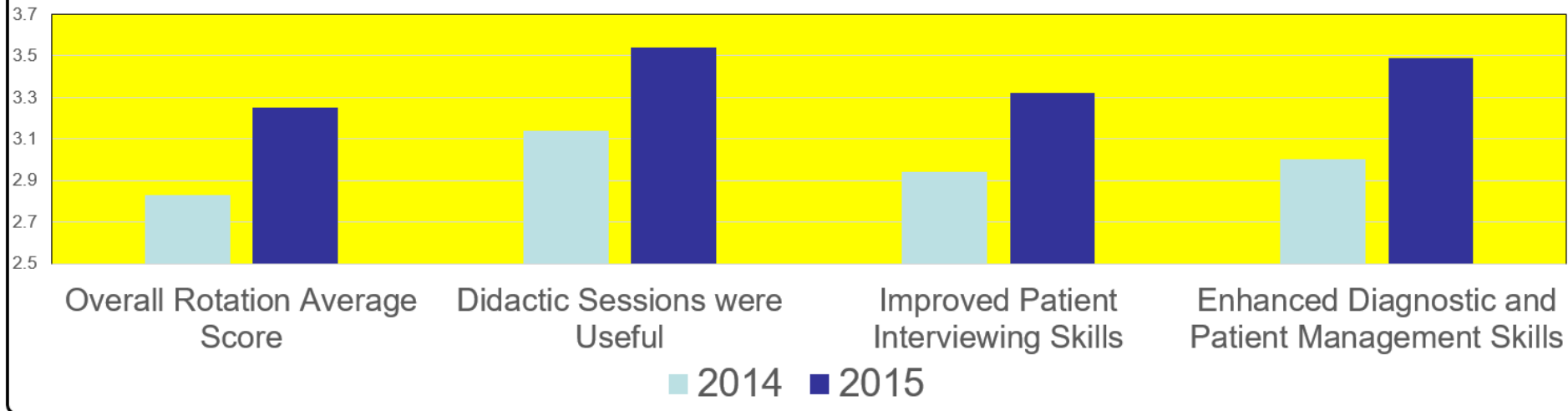


# Results

- Welch's T-test found a statistically significant improvement in the overall rotation evaluation by students
- In 2015, 92% of students ranked the PM&R clerkship as either "excellent" or "very good" compared to 64% in 2014.

# Results

## Fourth Year Brody Medical Student Rotation Evaluation Results 1st Semester 2014 versus 1st Semester 2015



- All improvements on the rotation evaluation statistically significant except for
  - “supervising physicians available for discussions regarding patient care”
  - “rotation complied with duty hour requirements”
    - (92% said we “always” comply; 8% said we “usually” comply)
- The clerkship coordinator, clerkship director, PM&R faculty, and clinical experiences were the same 2014-2016



# Results

## **Selected Excerpts from Medical Student Comments**

### **Strengths of the Rotation**

**“I learned how to complete a more thorough neuro and MSK exam. I learned a lot more about the different levels of dermatomes, myotomes, etc. and how to put all of that information together in a differential. THIS WAS INVALUABLE!!”**

**“Great in depth review of musculoskeletal and neuro that rotations 3<sup>rd</sup> year skimmed over.”**

**“I enjoyed increasing my knowledge on how to complete a full and expansive neurologic exam and musculoskeletal complaints.”**

**“Love that [the lecturer] really focused on the primary care and neurology issues that we will see in the future. The PM&R information was interesting but not always applicable to what we plan to do in the future. I appreciate that [the lecturer] took the parts that were applicable and taught us valuable tips for intern year.”**

# Results

## Specific Ways the Rotation Could be Improved

**“Would enjoy ‘a what is PM&R’ lecture that talks about the various things they do and common reasons for referral for people entering other fields”**

**“More presence before 4<sup>th</sup> year”**

**“I actually would recommend that this would be a 3<sup>rd</sup> year course as I think it would help with [USMLE] Step 2 [Clinical Skills].”**

**“Some of the resident didactics were over our heads at the M4 level. The time might be better spent reading or in a lecture for our level of training.”**

# Lessons Learned

- A sharp focus on the MSK care and neurology needed by the pluripotent medical school graduate is essential in a PM&R clerkship that supports Brody's mission of training primary care providers
- Key Ingredients
  - Anchored learning
  - Basic science correlation
  - A variety of pedagogic methods
  - Teach to the learner's level of training
  - Utilize residents as teachers
  - Pizza

# Next Steps

- Increase the neurology content in the rotation
- Incorporate recent CDC Guideline for Prescribing Opioids for Chronic Pain
- Assess impact of a “flipped classroom”
- Target other EPAs
  - EPA 8: Give or receive patient handover to transition care responsibilities
  - EPA 9: Collaborate as a member of an interprofessional team

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