



# Impact of a Virtual Physical Medicine and Rehabilitation Rotation for Fourth-Year Visiting Medical Students During the COVID-19 Pandemic.

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## Objectives

- Opportunities for fourth-year medical students to obtain exposure to Physical Medicine and Rehabilitation (PM&R) have been limited because of the COVID-19 pandemic.
- Few medical schools have required rotations in PM&R and others may not have PM&R rotations available with a residency program.
- The goal was to create a one-week virtual rotation (VR) to provide an introductory exposure to PM&R with an accredited residency program.

## Design

- A one-week VR was designed to include an interactive introductory rotation with exposure to residents and faculty, and conclusion with student presentations.
- The curriculum committee at the Brody School of Medicine at East Carolina University approved to offer credit for the rotation.
- This was offered over two separate weeks and seven students participated.
- Pre- and post-rotation surveys were used to evaluate students' understanding of the associated topics in PM&R.
- This included 23 topics graded on a scale of 1-4 with 1 being poor understanding and 4 being excellent understanding.
- An anonymous rotation evaluation was also included.

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	<ul style="list-style-type: none"><li>8 am: Intro to PM&amp;R and to the Residency Program at ECU</li></ul>	<ul style="list-style-type: none"><li>8 am: General Rehab and associated topics</li></ul>	<ul style="list-style-type: none"><li>8 am: PM&amp;R Grand Rounds</li><li>9 am: Lifestyle Medicine with Dr. Norbury</li><li>10 am: Join into Resident Didactics</li><li>11 am: MSK US cases with Dr. Norbury</li></ul>	<ul style="list-style-type: none"><li>8 am: Intro to Wound Clinic and Hyperbaric Oxygen</li><li>Tour of HBO with Dr. Faulk our Program Director</li></ul>	<ul style="list-style-type: none"><li>8 am: Intro to Spinal Cord Injury and Pediatric Rehab</li></ul>
PM	<ul style="list-style-type: none"><li>1 pm: Intro to MSK Ultrasound</li></ul>	<ul style="list-style-type: none"><li>1 pm: Interventional Spine</li></ul>	<ul style="list-style-type: none"><li>1 pm: Intro to Traumatic Brain Injury and Stroke Rehab</li></ul>	<ul style="list-style-type: none"><li>1 pm: Intro to NCS/EMG</li></ul>	<ul style="list-style-type: none"><li>1pm: Ten Minute Talks by Visiting Students</li><li>Conclusion: Post-Surveys</li></ul>

General Medical Student Survey - Physical Medicine & Rehabilitation Topics	
Based on your medical training to date, please rate your current level of understanding of each topic listed below. Use the scale below. All responses are anonymous. THANK YOU	
FOR YOUR PARTICIPATION!	
4	Excellent; I understand this topic extremely well & could teach others about it
3	Very Good; I understand this topic well
2	Fair; I have a limited understanding of this topic
1	Poor; I do not understand this topic well at all
	Topics:
1	Amputation rehabilitation
2	Assistive devices (e.g., wheelchairs, prosthetics/orthotics, adapted living space)
3	Brain injury rehabilitation
4	Chemodenervation/botox/phenol
5	Debility (cardiac/pulmonary/cancer)
6	Developmental problems in disabled children
7	Disability awareness
8	EMGs/nerve conduction studies
9	Impact of disability on patients' & caregivers' social lives
10	Medical aspects of disability (diagnosis & examination)
11	Multidisciplinary/team management of rehabilitation patients
12	Musculoskeletal medicine/neuropathic pain
13	Patient/caregiver education related to rehabilitation
14	Pediatric rehabilitation medicine
15	Prevention of disability
16	Prevention of secondary medical problems in disabled patients
17	Psychosocial aspects of disability/rehabilitation
18	Referral of patients to PM&R
19	Spasticity/intrathecal pump issues
20	Spinal cord injury rehabilitation
21	Stroke rehabilitation
22	Support services for disabled patients/families
23	Therapeutic exercises/procedures for rehabilitation patients

## Results

- 100% of students responded to the pre-survey and 71% to the post-survey.
- On the graded scale with scores of 1-4, average pre-survey score is 1.78 and average post-survey score is 3.5 for each associated topic.
- With 92 being the highest possible score on the survey equivalent to excellent understanding on all 23 topics, the average total was 40.4 on the pre-survey and 80.8 on the post-survey.
- 71% of students responded to the rotation evaluation which includes quantitative and qualitative data.
- On the quantitative 8 question portion, students reported an average of 5/5 for satisfaction with the course.

## Conclusion

- Introductory VRs in PM&R can be a substitute for in-person rotations during the pandemic to expose students to the field and provide face-to-face interaction.
- There is potential for VRs to be offered in the future for students otherwise unable to pursue a rotation.

## References

- Faulk CE, Mali J, Mendoza PM, Musick D, Sembrano R. Impact of a required fourth-year medical student rotation in physical medicine and rehabilitation. Am J Phys Med Rehabil. 2012 May;91(5):442-8. doi: 10.1097/PHM.0b013e31824ad41c. PMID: 22377823.
- Norbury JW, Faulk CE, Harrell KM, Lawson LE, Moore DP. Impact of a Revised Curriculum Focusing on Clinical Neurology and Musculoskeletal Care on a Required Fourth-Year Medical Student Physical Medicine and Rehabilitation Clerkship. Rehabil Res Pract. 2016;2016:6197961. doi: 10.1155/2016/6197961. Epub 2016 Nov 29. PMID: 28025624; PMCID: PMC5153487.

