

The Formation of a Medical Student Research Committee and Its Impact on Involvement in Orthopaedic Departmental Research

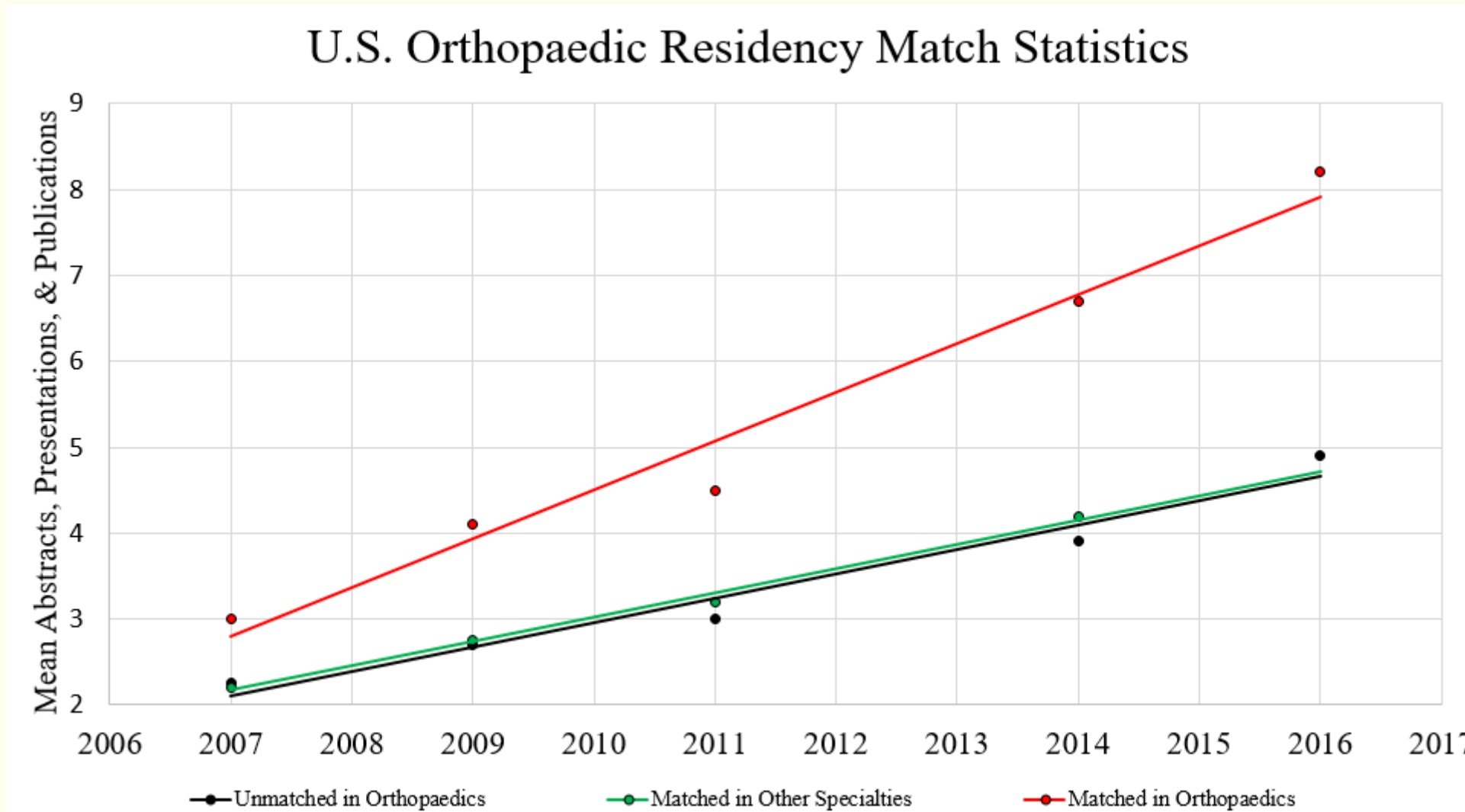
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Abstract

Over the past ten years, medical students have increased their research activity to be competitive for orthopaedic residency positions throughout the country. This increase has favored students at institutions with a strong history of research production and well-established research departments with supporting staff. To compete with these institutions, a Musculoskeletal Research Committee was developed at a southern academic institution to provide a mutually beneficial link between orthopaedic research faculty and medical students as well as provide a stratified level of study participation among upper and lower level students for continued mentorship. A description of how this committee was formed, the resources developed, and the resultant involvement of young medical students in departmental research over a one year period was collected. In one calendar year, the total number of 1st and 2nd year students participating in department research increased 460% (5 to 28) and the total number of research projects with student involvement increased 780% (5 to 44). Early participation results are promising, and this method may be applicable to other institutions hoping to increase research productivity.

Introduction



Medical students seeking to be competitive for orthopaedic residencies, have increased their research activities significantly over the past 10 years (above figure). This growing emphasis on research in the application process across the country favors medical students training at institutions with a strong history of research production, established programs, and support staff in place for assistance. Medical students without access to those resources must seek research opportunities external to the formal curriculum, but face significant barriers including a lack of time, competing educational demands, and unfamiliarity with the research process. Therefore, the Musculoskeletal Research Committee was developed to provide a mutually beneficial link between orthopaedic research faculty and medical students at a southern academic institution with the goal to overcome these barriers and increase the amount, quality, and interest in research within the department of orthopaedics.

Members of the Committee

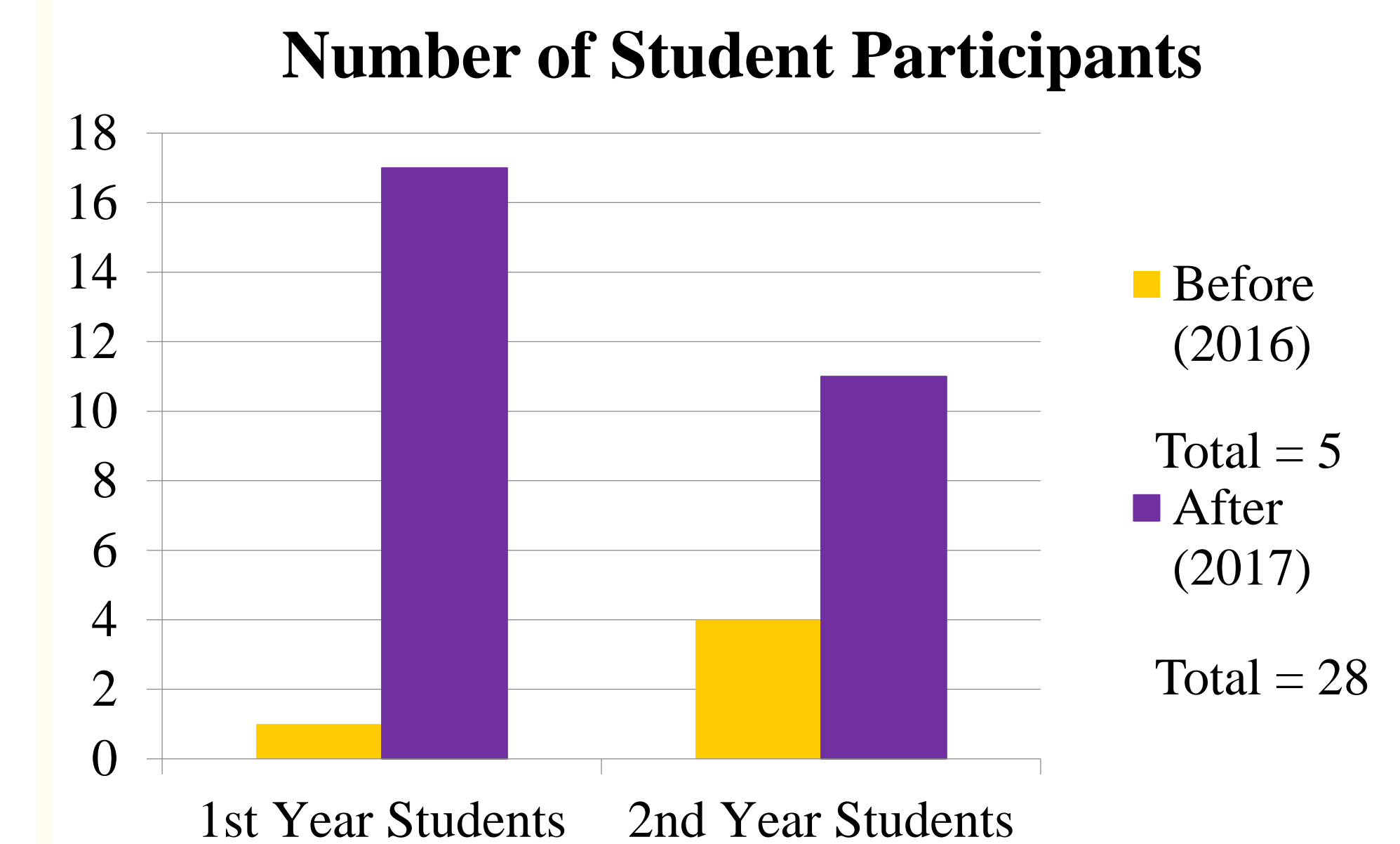
Committee Director – Vinod Dasa MD (Orthopaedic Director of Research)
Faculty Advisor – Robert Zura MD (Chairman of the Dept. of Orthopaedics)
Committee Coordinator – Cara Rowe (Research Coordinator of the Dept. of Orthopaedics)
Faculty Statistician – Claudia Leonardi PhD (School of Public Health Biostatistician)
Project Developer – Arthur M. Mora PhD (Tulane University School of Public Health)
Chairman – Stuart Schexnayder (3rd Year Medical Student)
Chair-Elect – Hunter Starring (2nd Year Medical Student)
Senior Advisor to the Chair – Matt Fury (4th Year Medical Student)

Resources

- Committee Members** – Students of the committee act as a bridge between students, residents, and faculty involving research. Specifically each student member acts a liaison to their class due to familiarity. The Director and Chairman are responsible for all faculty and student research respectively, while keeping open communication with each other. The Chairman controls and updates the below resources with help of the Chair-Elect.
- Medical Student's Webpage** – provide all research resources in one setting.
- Step By Step Research Guide** – details how to complete institutional training modules, IRB documentation, obtaining data privileges, how to find/join/start a study.
- Research Database and Student List** – communicates research opportunities to students.
- Routing Form** – requires students to complete a literature review, formulate a research questions and hypothesis, determine study design, data source, variables of interest, selection of measurements, and assignment of authorship inclusion. This is approved by the faculty advisor, Committee Director, Project Developer, Faculty Statistician in that order. Then students receive assistance from the Coordinator for IRB completion.
- Examples** – past Literature Reviews, Routing Forms, and IRBs provide a reference to help familiarize students with the style and content required.
- Quarterly Meetings** – to discuss new and ongoing projects, network for study recruitment, as well as provide instruction on the research process:

Quarter	Q1	Q2	Q3	Q4
Topic:	Intro to Webpage, Lit Review, & IRB	Research Design & Methodology	Data Collection, Analysis, & Biostatistics	Manuscript Completion
Lead By:	Chairman	Project Developer	Statistician	Director

Before and After



(Left) In one calendar year, from February 2016 to February 2017, the total number of 1st and 2nd-year students (~200 students per class) participating in orthopaedic department research **increased 460%** from 5 to 28

(Right) The total number of orthopaedic department projects with student involvement **increased 780%** from 5 to 44 over this timespan. This was calculated as the summation of the number of projects that each individual student had participation in. Whereas there were no students involved in multiple projects before the development of this committee (2016), there were 11 students involved in multiple projects after (2017).

Extent of Involvement

Student Classification	Before (2016)	After (2017)
1 st Year Students	n=1	n=17
1 Project	1	14
2 Projects	-	1
3 Projects	-	2
2 nd Year Students	n=4	n=11
1 Project	4	3
2 Projects	-	6
3 Projects	-	1
4 Projects	-	1
Total Projects Involving Students	5	44

Conclusion

To build a competitive curriculum vitae, a significant portion of medical students take a year off from school to allow enough time to pursue research. 59% of the students that make this decision are interested in matching into a highly competitive specialty and do so to increase their competitiveness of their residency application. This decision extends the educational process and sacrifices a year of peak earnings for future physicians. Therefore the notable increase in research participation in early year medical students via the development of this committee provides a solution to the dilemma of taking a year off from school. The introduction of the committee stimulated interest in research and eased barriers that had previously discouraged students from seeking out studies. Thus along with supportive department faculty, the formation of a student research committee may quickly grow the research environment at institutions seeking to improve their research activity, and this partnership may benefit students, residents, faculty, and the medical profession as a whole.