

Pearls: How to Choose a Research Project as a Resident or Fellow

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Residents or fellows beginning their postgraduate training programs are often inundated with research ideas and projects proposed by potential mentors. Getting involved in research projects as a resident or fellow can be rewarding, but it can be difficult to determine whether a proposed project will be worth the time invested, and whether it will be possible to complete it during training. When making this important choice, I suggest that residents and fellows consider three elements: The mentor, the scope of the project, and for those projects unlikely to be completed before graduation, the availability of others to complete it (and their willingness to keep the resident involved).

Before taking on a project, trainees should do a little homework on the

proposed faculty mentor. The most important questions to consider are: Does the mentor's availability include a regular research meeting? Does (s)he have a research team to assist with projects? If the answer to both questions is yes, then the mentor is likely committed to research, which should give the fellow or resident more confidence. I also recommend asking prior graduates, and in the case of junior residents, more-senior trainees, about the most-productive mentors who have a good track record of getting trainee research published. A PubMed search of the mentor's name may also be instructive to see who his or her coauthors have been, and how often (s)he has succeeded in getting trainees' projects from the drawing board into journals. It's also important for the resident to consider whether the mentor is in the resident's subspecialty of interest, as letters of recommendation and connections within subspecialties are an important part of the fellowship match [1, 2].

After identifying a supportive, productive, effective research mentor, then evaluate the proposed project. Fellows in 1-year programs and senior residents might consider maximizing productivity by concentrating on biomechanical projects, invited reviews or book chapters, systematic reviews or meta-analyses, simple and focused

retrospective studies, and projects examining radiographic, in-hospital, or short-term clinical outcomes, as they are generally easier to complete than those looking at 2-year or more clinical outcomes. When considering biomechanical projects, make sure the lab has a track record of completing orthopaedic projects and appropriate engineer support to design and troubleshoot your projects. Junior residents have more flexibility to pursue longer-term studies, but realistic projects should be given priority depending upon the speed with which your institution's research machinery is known to function, which can vary between different centers.

For projects involving a prospective study or those requiring substantial followup data, confirm that the study is already in progress or consider collaborating with someone (research personnel or a resident that will be in the program for multiple more years) who can carry the project through to completion and keep the resident or fellow involved, even if remotely. Generally, projects with collected data or verified data in the medical record system will be easier to complete than those requiring significant additional data collection from patients. In addition, projects where even a negative result is publishable help to ensure that the researchers will get credit for their time and hard work. An upfront discussion with your mentor and his or her research team about authorship is important to protect yourself from being excluded from a paper where you put in a lot of time and effort.

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Those who do their due diligence before choosing a mentor and research project may have more time to diversify their research portfolios. Just like investing money, a diversified research portfolio can maximize a trainee's research productivity, and protects against coming up empty-handed if one study does not pan out,

which can happen no matter how careful one is about choosing a project. But as important as the project itself is, the relationship is what usually endures; I recommend that residents and fellows choose projects supervised by thoughtful mentors, whose interest in the subject is equaled by an interest in promoting the careers of their protégés.

References

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