



Obtaining Research Funding as an Orthopedic Surgery Resident

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Research funding as a whole is becoming more and more limited each year. This can indirectly affect research opportunities for orthopedic residents by reducing the availability of research faculty/collaborators to work with or departmental funds allocated to residents. However, even with these restrictions, residents still have a wide array of potential sources to obtain funding for research projects.

Selecting a Mentor and Area of Study

Like any young investigator, the first and foremost important step in the process should be selecting a research mentor and area of study. One could argue which of these are most vital to having a productive research experience. Although not absolute rules, a resident should look for a faculty member who: (1) is available, realizing that both of your schedules are busy and unpredictable, (2) has independent research support and resources, (3) has a proven track record for completing research, and (4) understands your research goals. Although selecting a project within your future subspecialty can be beneficial, it is not necessary and can be even more frustrating if a resident tries to create a productive research environment when it does not exist within their subspecialty, particularly when the resident has limited research experience. In general, selecting an area of study with some reliable support by way of faculty, research infrastructure/resources, and/or additional funding can lead to a more rewarding learning experience and successful outcome.

Funding Sources

After an area of study and mentor have been chosen, a resident should look into applying for funding. Although that may be unnecessary if a mentor has additional funds, securing financial support for your project via an inde-

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pendent grant gives your mentor and yourself a sense of ownership to the project, along with the obvious notoriety.

Currently, there are numerous potential avenues for research funding as an orthopedic resident including the Orthopaedic Research and Education Foundation (OREF), orthopedic subspecialty organizations, non-orthopedic medical/research foundations, and private foundations (Table I). In deciding which grants to apply for, a resident should keep in mind the grant's timeline, as well as their own timeline, applicability, and eligibility. For example, the OREF Resident Clinician Scientist Training Grant requires a minimum of three months dedicated research time—six months is preferred—which some residency program's schedules may not accommodate.

Designated resident grants should be the first funding sources investigated, as they are traditionally less competitive and regulated than young investigator grants. The amounts may range from \$1,500 up to \$20,000 for OREF or Orthopaedic Trauma Association resident grants. Post-graduate year-4 and post-graduate year-5 residents may also be eligible for young investigator grants that provide more substantial funding, but are more competitive since they are designed for senior residents, fellows, and young faculty with prior research experience (ie, seed or start-up grants).

Other potential, less commonly remembered sources of funding, include geographic or disease specific grants for which some projects may be eligible. Certain state orthopedic associations or charity foundations have awards or grants designated for medical students or residents in their respective state. For example, the McBride Foundation has a \$25,000 grant for a resident of Oklahoma to study musculoskeletal diseases (<http://www.mcbridefoundation.org/research>). Looking further outside the box, a resident can inquire about any available funds from national organizations supporting the disease process being studied, such as the effects of smoking or nicotine on bone healing or joint reconstruction in hemophiliacs.

Preparing a Grant

Plan ahead. A resident's prior research experience, project, and chosen grant will determine how long one should allocate to completing the application process before the corresponding deadline. However, no matter the grant, this process should not be looked at as a weekend project. Writing a grant proposal can be a challenging task espe-

Table. Potential Funding Sources for Orthopedic Residents

Source	Grant	Max Amount	Next Deadline	Website
American Medical Association	Seed Grant Research Program	\$2,500	TBD	http://www.ama-assn.org/ama/pub/about-ama/ama-foundation/our-programs/medical-education/seed-grant-research.page
American Orthopaedic Society for Sports Medicine	AOSSM/ConMed Livatec Young Investigators Grant	\$40,000	TBD	http://www.sportsmed.org/Research/Research_Grants/Grants/AOSSM/_/ConMed_Livatec_Young_Investigator_Grants/
American Society for Bone and Mineral Research	ASBMR John Haddad Young Investigator Award	\$1,600	TBD	http://www.asbmr.org/Grants/Detail.aspx?cid=72bf2226-3777-433a-83e2-f4f23de1f768
American Society for Bone and Mineral Research	ASBMR Harold M. Frost Young Investigator Award	\$1,500	4/4	http://www.asbmr.org/Grants/Detail.aspx?cid=7b7523aba236-4dcf-bc42-b7a6958a126a
American Society for Surgery of the Hand	Hand Surgery Resident & Fellow Fast-Track Seed Grant	\$4,000	8/1	http://www.assh.org/Professionals/Research/Grants/Pages/Resident-Seed-Grants.aspx
AO Trauma North America	AOTNA Resident Research Support	\$10,000	Biannual (9/15, 1/15)	http://applications.aona.org/?ApplicationId=58&PersonId=0#AONA_MICME=
Cervical Spine Research Society	Fielding Resident/Fellow Award	\$2,000	5/19	http://www.csr.org/web/research/instructions.htm
J. Robert Gladden Orthopaedic Society	DePuy Johnson & Johnson/J Robert Gladden Orthopaedic Society/ OREF Resident Research Grant	\$10,000	9/30	http://www.gladdensociety.org/web/ScholGrants/new_RRG.docx
Mid-America Orthopaedic Association	Multipurpose Resident Grant	\$4,000	7/1	http://www.maoa.org/downloads/grantinfo.pdf
Orthopaedic Trauma Association	OTA Resident Research Grant	\$20,000	Biannual (6/19)	http://www.ota.org/proposal_resident/proposal_resident.cfm
Orthopaedic Research & Education Foundation	OREF/DePuy Resident Research Project Grant	\$5,000	TBD (Fall)	http://www.oref.org/site/PageServer?pagename=grants_homepage
Orthopaedic Research & Education Foundation	OREF Resident Clinician Scientist Training Grant	\$20,000	TBD (Fall)	http://www.oref.org/site/PageServer?pagename=grants_homepage
Orthopaedic Research & Education Foundation	OREF/Zimmer Young Investigator Grant in Total Joint and Trauma Surgery	\$50,000	TBD	http://www.oref.org/site/PageServer?pagename=grants_homepage

cially for the inexperienced researcher. With the help of your mentor, you should fine-tune the specific research aims before the application is started and always remain cognizant that good research starts with a good question. There are several resources available to help with successful grant writing, including books, articles,¹⁻⁴ websites (http://grants.nih.gov/grants/grant_tips.htm), and workshops (OREF Grant Writing Workshops). However, having an experienced grant writer, inside or outside your institution, to review and offer suggestions about your

drafted application can be the most insightful method of improvement.

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