Published in final edited form as:

Biol Res Nurs. 2011 January ; 13(1): 5–14. doi:10.1177/1099800409356796.

Beyond the PhD: Putting the Right Tools in Your Research Toolbox

Charles A. Downs, MSN, ACNP-BC¹ [PhD Candidate] and Helena W. Morrison, RN, BS, BSN¹ [PhD Candidate]

¹The University of Arizona, College of Nursing, Tucson, AZ, USA

Abstract

Postdoctoral training is vital to a successful career for nurse researchers with a biological or biobehavioral focus. Such training provides structured time to devote to gaining substantive knowledge, expanding one's biological-methods repertoire, and writing grants. However, for unknown reasons, relatively few nurses pursue postdoctoral training. A few plausible explanations include a near critical shortage of nursing faculty coupled with an aging population in need of health care, a lack of available mentoring for predoctoral students to pursue postdoctoral training, and the difficulty of navigating the process of finding and choosing the right match for a postdoctoral experience. The purposes of this article are to provide a rationale for choosing postdoctoral training, review common fellowship opportunities, and discuss the process of finding and choosing the right match for postdoctoral training. The authors provide two prospective plans for postdoctoral training and include a plan for staying on track during the postdoctoral experience.

Keywords

postdoctoral; research training; biobehavioral

Postdoctoral training is designed for doctoral-prepared individuals to engage in a temporary period of mentored research and scholarly training for the purpose of acquiring additional tools necessary to build successful careers as independent investigators (National Postdoctoral Association [NPA], 2008). For the novice nurse-scientist with an interest in biological or biobehavioral research, postdoctoral training is vital. Biological and biobehavioral research use potentially complex frameworks requiring extensive substantive and theoretical knowledge. Postdoctoral education assists in developing this knowledge and expanding methodological expertise while providing the opportunity for manuscript and grant writing. The importance of nurses pursuing postdoctoral training is further magnified by the increasing complexity of health care and the continued expansion of nursing practice. These factors require that nurses conduct rigorous research that addresses nursing practice issues in a complex health care environment.

In spite of these compelling motivations, only a limited number of nurses pursue postdoctoral training. According to the National Science Foundation, in 2006, there were

© The Author(s) 2011

Corresponding Author: Charles A. Downs, The University of Arizona, College of Nursing, 1305 N. Martin, P.O. Box 201203, Tucson, AZ 85721, USA. cdowns@nursing.arizona.edu.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interests with respect to the authorship and/or publication of this article.

35,846 graduate students in nursing and only 58 postdoctoral appointees (National Science Foundation [NSF], Division of Science Resources Statistics, 2008). Furthermore, 46 were supported by federal fellowships, research grants, or traineeships. Other health disciplines (pharmacy, biomedical engineering, and psychology) had significantly more postdoctoral appointees supported by the same mechanisms.

There are limited data to describe why nurses are not pursuing postdoctoral training. A few plausible explanations include a near critical shortage of nursing faculty coupled with an aging population in need of health care, a lack of available mentoring to assist predoctoral students in pursuing postdoctoral training, and the difficulty of navigating the process of finding and choosing the right match for a postdoctoral experience. We aim to address these issues here by providing a rationale for choosing postdoctoral training, reviewing common fellowship opportunities, and discussing the process of finding and choosing the right match for postdoctoral training.

What Are the Right Tools for Your Research Toolbox?

The goals of a researcher are to function as an independent (but collaborative) scientific investigator to develop new knowledge while maintaining a successful funding track record. Successful investigators are equipped with the right tools to assist them in achieving these goals. The foundation for success begins with doctoral education and is further enhanced with postdoctoral education. Postdoctoral education provides the opportunity to expand a new investigator's research repertoire by protecting his time from other responsibilities (e.g., teaching and service), allowing for a research-focused experience that enhances skills learned in the doctoral program. A research-focused postdoctoral experience includes continued mentoring, expansion of knowledge of research methods and skills, dissemination of research findings, and establishment of a research funding record via grant writing (Byrne & Keefe, 2003; Montgomery, Semenic, & Edwards, 2008; Morrison-Beedy, Aronowitz, Dyne, & Mkandawire, 2001; Nunez, 2008).

Mentoring

Mentoring is a relationship where an experienced person (mentor) imparts knowledge, guidance, and emotional support to a novice (protégé) over a period of time (Yoder, 1990). In general, mentors should have four attributes to successfully foster a scientist's transition from novice to independent investigator: (a) be well established in their field, (b) have a strong funding history, (c) have expertise that will help the protégé further develop desired methodological and topical knowledge, and (d) be housed at a center that has a strong collegial environment that offers opportunities for networking, continued learning, and collaboration (Montgomery et al., 2008). Successful mentors have strong and measurable records. They have a history of mentoring prolific postdoctoral fellows (measured by postdoctoral-fellow publications), lead a productive and funded program of research, and have a developed framework for teaching methodological and topical knowledge to fellows. In addition, a good mentor recognizes areas for improvement in postdoctoral trainees and provides opportunities to enhance the research skills of those they mentor. Knowing how to choose a mentor is an important part of the postdoctoral process, and there are excellent reviews available on the subject (see Reckelhoff, 2008).

Substantive Knowledge Development

At times, additional coursework or extensive reading is needed to address deficiencies uncovered during doctoral education. This supplemental education may include advanced statistical methods or content from basic or behavioral sciences. A good postdoctoral experience will allow time for coursework or reading specific to previously identified gaps

in substantive knowledge. Both deepening and broadening knowledge (e.g., as might occur when working with collaborators outside of the discipline) related to focal content is essential in postdoctoral training. Such an effort may serve as an impetus for new research ideas or methods, provide multiple perspectives about a given concept, which can lead to innovative ideas, and enhance scientific, statistical, and factual knowledge.

Expansion of Research Methods

In science, the pursuit of knowledge not only contributes to a profession but also facilitates a program of research. A program of research is limited only by the knowledge and methodological skills of the investigator. Therefore, protected time for continued expansion of both topical knowledge and research methods is important to the novice nurse-scientist. To use the precious protected time only to hone previously acquired skills and knowledge would be shortsighted. Rather, postdoctoral trainees should work to expand their methodological repertoire, not only to increase their expertise but also to create a combination of skills that serve an identified niche. For example, suppose a researcher studies the role of inflammation in ischemic injury during her doctoral program; however, the focus of the dissertation was not genomics. This researcher would benefit from learning molecular biology methods (e.g., polymerase chain reaction, Southern blotting) during a postdoctoral experience (e.g., gene regulation of inflammatory response). Learning these methods would expand the researcher's methodological repertoire, enabling her to foster a more robust program of research focused on inflammation in ischemic injury.

Purposeful Writing

The postdoctoral fellowship provides protected time for purposeful writing such as the publication of research findings and writing grants. However different these two writing endeavors are in practice, they both support the scientist throughout a career. Publications serve two purposes. First, they communicate knowledge to a profession. Second, they provide evidence that an investigator is expert and productive in a given field of research—attributes that are important to grant-reviewing bodies. Publications are, therefore, a reflection of success as a scientist. Because multiple publications are a standard measure of scientific success, it is imperative to publish early and publish often.

Most predoctoral programs do not provide specific mentoring in grantsmanship; therefore, it is imperative to choose a mentor that has a consistent funding record, a measure of grant-writing success. Consistent funding demonstrates flexibility, ingenuity, innovation, and communication skills, grantsmanship characteristics a protégé must also possess to establish his own continuous funding record. Funding entities will invest their money in those that demonstrate expertise, productivity, and skill in combination with the ability to ask significant and innovative research questions in a well-written grant proposal.

Funding for Research Tool Development

Postdoctoral training may take numerous forms, typically categorized according to the type of funding—that is, extramural or intramural. Both types are funded by the National Institutes of Health (NIH). Intramural funding is housed at campuses of the NIH, whereas research supported by extramural funding is conducted at a sponsoring university or other non-NIH institute. Extramural funding may be further categorized by its funding mechanism (i.e., F, T, or K awards).

Extramural Funding Opportunities

The postdoctoral National Research Service Award (F32) mechanism is funded by the National Institute of Nursing Research (NINR). The F32 award is a competitive award

designed for individuals who have received a doctorate and have an identified postdoctoral appointment that affords them the opportunity to broaden their scientific background. Research is conducted at a sponsoring institution under the direction of a mentor who supervises the training and research experience. The F32 mechanism allows for 3 years of aggregate support at the postdoctoral level. Novice researchers funded through this mechanism are more likely to progress to becoming independent researchers compared to nurses supported through other mechanisms (e.g., the T-32, a mentor's R01; National Research Council for the National Academies, 2005).

The NINR (2009) also supports individual career development awards (K01, K22, K23, and K24 only). K awards are designed to provide protected time for intensive research-career development with specific outcomes. Traditionally, K grants are regarded as career transition awards—assisting in the transition from graduate student to postdoctoral fellow or postdoctoral fellow to faculty position/new independent investigator or both. Table 1 provides an overview of each mechanism and its relevance to postdoctoral training. For a more detailed discussion, please review descriptions of the individual awards, which can be found at <http://grants.nih.gov/training/careerdevelopmentawards.htm>.

Institutional training awards (T-32) are granted by the NINR to individual institutions to provide predoctoral and postdoctoral training related to a given focus (e.g., biobehavioral nursing). The director of the program (at the institution) selects the trainees that will be supported by this mechanism, usually through a competitive application process. The T-32 mechanism offsets the costs of stipends and tuition support for the appointed trainees. An advantage of the institutional T-32 mechanism is that considerably more trainees and fellows publish while in these programs compared to fellows funded through the individual F-32 mechanism (National Research Council for the National Academies, 2005). An up-to-date listing of NINR-funded T-32 programs can be found at <http://www.ninr.nih.gov/ResearchAndFunding/FundedNinrGrantsCollaborativeActivities/InstitutionalFile.htm>.

In addition to the T-32 mechanism, universities may receive federal funds through Clinical Translational Science Awards (CTSA). The CTSA program unites participating institutional centers (e.g., Center for Healthy Aging, Center for Cancer Research) under the auspice of one consortium with the purpose of advancing clinical and translational science. Postdoctoral opportunities are common in CTSA-funded centers and afford the opportunity for collaboration across many disciplines. These institutional centers are focused and frequently support postdoctoral training. Advantages of a postdoctoral experience in a major research center include opportunities for extensive collaboration and for pursuing pilot funding.

When considering extramurally funded postdoctoral experiences, it is important to evaluate the supporting institution. Table 2 provides a list of institutions with postdoctoral scholars' associations, professional groups of postdoctoral fellows that provide resources, information, and representation for postdoctoral fellows at the institutional level. These associations assist the institution in addressing issues relevant to postdoctoral fellows such as salary, program goals, and benefits. The presence of a postdoctoral scholars' association may thus be another consideration when prioritizing potential postdoctoral experiences.

Intramural Funding Opportunities

In addition to funding extramural research, the NIH also awards Postdoctoral Intramural Research Training Awards (IRTAs), which are housed at campuses of the NIH. NIH campuses include over 1,200 biomedical laboratories located at the main center in Bethesda, MD, as well as at locations in Baltimore and Frederick, MD; Research Triangle Park, NC; Phoenix, AZ; and Hamilton, MT. Recipients are able to conduct either clinical or bench

science depending on the center and research foci of the associated PI. Additional information about IRTAs is provided in Table 3.

Non-NIH Funded Opportunities

Postdoctoral fellowships can also be funded through non-NIH entities such as alternative government resources (Veterans Affairs, Department of Defense, and National Science Foundation) or a multitude of health-related nonprofit agencies (Heart and Stroke Associations, American Cancer Society, American Psychiatric Association, etc.). Table 3 provides information about these fellowships as well.

Personal Perspectives From Two Predoctoral Fellows

Choosing the best postdoctoral experience can be an arduous but rewarding process, requiring one to commit to serious self-reflection and an outlay of time and energy for the investigation of available options. Therefore, developing a systematic plan for choosing a postdoctoral experience is vital. Here, we outline our prospective plans for pursuing postdoctoral training in the hope that it may be useful for others and offer tangible suggestions for choosing the best postdoctoral experience.

Self-Assessment

Before choosing a postdoctoral experience, it is vital that a researcher critically determines her short- and long-term goals. Although it may seem counterintuitive, we have found that evaluating long-term goals should be the first step. For us, and perhaps for most researchers at similar stages in their careers, the long-term goal is simple: to establish independence as a researcher in a tenure-track faculty position and to be equipped with the skills necessary to be successful. Achieving this goal requires an honest and critical self-appraisal of strengths and weaknesses. A recognition of deficiencies or gaps in substantive knowledge provides insight into the additional training a researcher should seek out in a postdoctoral fellowship. An extensive methods repertoire is also vital for successful biological research. Although we have had extensive experience in biologic- and bench-based methods as part of our predoctoral training, we recognize that to remain competitive we need to broaden our methodological expertise. In addition, grant writing experience—especially for a novice researcher—is vital. Finally, networking among professionals from various educational foci allows for a richer, broader understanding of the substantive area of interest. Therefore, both of our short-term goals are (a) to gain additional methodological expertise, (b) to engage in grant writing, (c) to gain substantive knowledge, and (d) to network with other researchers with similar interests.

Locating a Mentor

The next step is to locate a mentor. The goal at the beginning of this process should be to compile a large pool of potential mentors and then pare the choices down so that the best match is made. When considering potential mentors, we first looked in the literature to identify who is publishing in our fields. We evaluated the potential mentors based on the following attributes: (a) ingenuity of research questions, (b) experience with methodologies, (c) publishing with postdoctoral trainees, and (d) sustained funding. We also considered our current mentor's network of colleagues as potential future mentors and networked with family and friends and at conferences. We did not discriminate among disciplines and interviewed at every opportunity. Reckelhoff (2008) provides a detailed discussion on how to choose a mentor.

In addition to these career considerations, however, researchers also need to take into account extenuating factors that can limit the pool of potential mentors. For example,

geographical constraints, particularly a reluctance to uproot family, can inhibit a researcher's ability to consider particular mentors. It is our contention, however, that researchers should pursue the best mentor possible for a postdoctoral experience, even if it involves moving and/or a temporary reduction in salary. Although the rewards may not be immediate, the benefits will come in the researcher's ability to achieve his long-term goal—a successful independent research trajectory with consistent funding.

Supporting the Postdoctoral Experience

Although we have similar career goals, our respective plans for achieving these goals are different, and the divergence manifests in our plans for obtaining support for our postdoctoral experiences.

Extramural funding—To maximize my (C.A.D.) potential for learning new methods beyond what I acquired in my doctoral nursing program, I have chosen to pursue a postdoctoral experience with a basic science focus outside of a nursing program. I plan to seek extramural funding to support this postdoctoral experience and am considering either pursuing support from a mentor's R01 or applying for support through an institutional T-32 mechanism. Once I have obtained this initial funding, my plan is to submit a proposal for an F-32 NRSA Individual Postdoctoral Training Fellowship, which, as described above, is designed to assist in the development of an independent researcher through postdoctoral funding. I am interested in applying for an NRSA fellowship for a number of reasons: First, data from the National Science Foundation suggest that NRSA (predoctoral and postdoctoral) recipients are more likely to be successful independent researchers compared to researchers supported through other mechanisms (NSF, 2008). Second, an individual F-32 award allows the novice researcher more time to devote to his own project by reducing the time required for completing institutional requirements (institutional T-32) or working on a mentor's R01. Third, the process of applying for the F-32 award provides experience in proposal development for competitive NIH monies. And finally, during the NRSA award period, the recipient can devote time to pilot studies and project development in preparation for applying for a K award.

Intramural funding—In contrast to my coauthor, I (H.W.M.) have decided to pursue intramural funding to support my postdoctoral training goals of developing knowledge, adding to my methodological expertise, networking, and gaining experience in grant writing related to biological injury. There are multiple ways to investigate postdoctoral fellowship opportunities housed at the NIH. For example, fellowship opportunities are offered by specific intramural research scientific programs such as the NINR or National Institute of Neurological Disorders and Stroke (NINDS). More information on program-specific intramural funding is available by contacting the institutes, themselves, and accessing their Web sites (programs are listed at <http://www1.od.nih.gov/oir/sourcebook/sci-prgms/sci-prgms-toc.htm>). In general, each center offers a discipline-specific, topic-focused fellowship program that includes complementary activities in career development. A program with a good balance between research and career development fosters the development of successful independent investigators who will later enter academia or industry research centers. Applicants must ensure that the fellowship matches both their professional and research foci. As such, a nurse-scientist with a research focus in ischemic stroke might, for example, find an appropriate postdoctoral fellowship program in the NINDS or National Institute of Heart Lung and Blood (NHLBI) rather than in the NINR.

Alternatively, IRTA (Table 3) positions are offered by funded laboratories at a variety of NIH campuses. These opportunities continuously change as laboratory and program funding changes. At a minimum, applicants for these positions share the investigator's research foci,

are familiar with the methodologies used by the specific lab, have less than 5 years of postdoctoral experience, and submit a CV and three letters of reference. Researchers can apply for up to 12 positions per year.

Advanced graduate students interested in pursuing postdoctoral positions in the intramural research program at the NIH should consider attending the NIH National Graduate Student Research Festival (NGSRF) held in the fall of each year. The purpose of this festival is to students to postdoctoral positions in the program. The festival includes poster sessions for students to present their research and seminars given by NIH investigators. Applications for this event are due by the spring of each year and are highly competitive; publications are a must.

I have chosen to pursue intramural support for my postdoctoral training because, in such programs, there is no need to write grants to maintain funding of current research projects or a stipend. Instead, time can and should be spent writing for future funding such as the K00/R99 or K22 grant. The K00/R99 and K22 grants are young investigator transition awards designed to help the postdoctoral fellow transition into an independent investigator position. Ideally, this grant should be written during the 1st or 2nd year of a fellowship, with the purpose of transitioning the fellow into an independent academic or NIH position.

Staying on Target

An individual development plan (IDP) is a document that outlines short- and long-term goals. Although IDPs vary according to the individual and profession, at minimum, an IDP should contain three types of content: (a) areas of responsibilities and the competencies needed to carry out defined responsibilities (clinical, research, service, publishing, etc.); (b) development activities that are needed to expand expertise and knowledge in each area of responsibility (education or training, conference attendance); and (c) a timeline associated with each area of responsibility with measurable milestones. A sample IDP template is provided in Figure 1. The IDP protégée–mentor framework (Figure 2) was developed by the Federation of American Societies for Experimental Biology's (FASEB) Science Policy Committee. FASEB endorses this framework as an interactive protégé/mentor process to facilitate communication of current and future expectations. It should be used to track and evaluate annual progress toward goals and to determine what specific experiences are needed to maximize the postdoctoral experience.

Conclusion

Despite the rigor of the process of planning a postdoctoral education, such an experience is one of the key tools in the biological or biobehavioral nurse-scientist's research toolbox. Planning and pursuing the postdoctoral experience with purpose should be the primary focus for new PhD nurses seeking careers in biological or biobehavioral research.

Acknowledgments

We are grateful to Carrie J. Merkle, PhD, RN, FAAN (CAD), and Leslie Ritter, PhD, RN, FAAN (HWM), for their excellent mentoring and support during our dissertation work and for enhancing the doctoral experience. Their knowledge, guidance, dedication, enthusiasm, and friendship have been invaluable.

Funding

The authors disclosed receipt of the following financial support for the research and/or authorship of this article: CAD is supported through NIH F31-NR010843-01 and HWM is supported through NIH F31-NR010658-01.

References

- Byrne MW, Keefe MR. A mentored experience (KO1) in maternal-infant research. *Journal of Professional Nursing*. 2003; 19:66–75. [PubMed: 12748931]
- Montgomery P, Semenic S, Edwards N. Postdoctoral training in nursing: A consideration of opportunities and strategies. *Nursing Leadership (Toronto, Ont)*. 2008; 21:36–43.
- Morrison-Beedy D, Aronowitz T, Dyne J, Mkandawire L. Mentoring students and junior faculty in faculty research: A win-win scenario. *Journal of Professional Nursing*. 2001; 17:291–296. [PubMed: 11712114]
- National Institute of Nursing Research. Training opportunities. 2009. Retrieved November 9, 2009, from <http://www.ninr.nih.gov/Training/>
- National Postdoctoral Association. Postdoctoral scholars factsheet. New York: Author; 2008.
- National Research Council for the National Academies. Advancing the nation's health needs. Washington, DC: National Academies Press; 2005.
- National Science Foundation, Division of Science Resources Statistics. Graduate students and postdoctorates in science and engineering: Fall 2006. 2008. Retrieved April 8, 2009, from <http://www.nsf.gov/statistics/nsf08306/>
- Nunez JB. Speaking out on the postdoctoral experience: What is the value of completing a postdoctoral fellowship? *ASHA Leader*. 2008; 13:24–24.
- Reckelhoff J. How to choose a mentor. *The Physiologist*. 2008; 51:152–154. [PubMed: 18780679]
- Yoder L. Mentoring: A concept analysis. *Nursing Administration Quarterly*. 1990; 15:9–19. [PubMed: 2234538]

Individual development plan		
Short-term goals:		Long-term goals:
Identified responsibilities and competencies	Developmental activities needed to address responsibilities and competencies	Timeline to achieve developmental activities and measurable milestones
1.		
2.		
3.		

Figure 1.
Sample of an individual development plan (IDP) template.

Figure 2.

Roles of the protégé and mentor in the development and implementation of an individual development plan (IDP).

SOURCE: Federation of American Societies for Experimental Biology's Individual Development Plan (<http://opa.faseb.org/pdf/idp.pdf>).

Table 1**K Awards Funded by the National Institute of Nursing Research (NINR)**

Award	Description	Goal
K01	Provides support for 3–5 years for intensive career development under the guidance of a mentor	To develop independent researchers who will be competitive for new research project grant (R01) funding
K22	Provides up to 5 years of support to recent doctoral graduates and occurs over 2 phases: (a) Intramural phase through participation in NINR intramural laboratory for up to 2 years and (b) extramural phase through the submission of competitive applications from the extramural institution on behalf of the candidate for funding lasting up to 3 years	To support outstanding individuals by providing research training at NIH research laboratories and facilitate their successful transition to an extramural environment as independent researchers
K23	Provides support for the career development of scientists who have made a commitment to focus on patient-oriented research	To develop independent researchers who will be competitive for NIH research project (R01) grant support
K24	Provides support for mid-career investigators to devote more time to patient-oriented research and to mentor new clinical investigators in the conduct of patient-oriented research	To develop researchers with an interest in patient-oriented research, who will be competitive for new research project grant (R01) funding

SOURCE: <http://grants.nih.gov/training/careerdevelopmentawards.htm> (NINR supports only those K awards listed here).

Table 2**Institutions With Postdoctoral Scholars' Associations**

Institution	Web site
Albert Einstein College of Medicine	http://einsteinpostdocs.info/Site/Welcome.html
California Institute of Technology	http://cit.hr.caltech.edu/postdoc/default.htm
Duke University	http://www.dukepostdocs.org/
Emory University	http://med.emory.edu/postdoc/index.cfm
Massachusetts Institute of Technology	http://web.mit.edu/mitpostdocs/
Oxford University	http://users.ox.ac.uk/*rss/
Scripps Research Institute	http://www.scripps.edu/services/sof/
Stanford University	http://postdocs.stanford.edu/
University of Alabama at Birmingham	http://www.postdocs.uab.edu/
University of Calgary	http://www.acs.ucalgary.ca/*pdac/
University of California, Los Angeles	http://www.gdnet.ucla.edu/postdocs.html
University of California, San Francisco	http://saa49.ucsf.edu/psa/
University of North Carolina	http://postdocs.unc.edu/
University of Pennsylvania	http://www.med.upenn.edu/postdoc/
University of Pittsburgh	http://www.uppda.pitt.edu/

SOURCE: <http://grants.nih.gov/training/resources.htm>.

Table 3
Summary of National Institutes of Health (NIH) Intramural and Non-NIH Postdoctoral Fellowships

Funding Entity	Deadline	Program Summary	Source of Information
NIH Postdoctoral Intramural Research Training Awards (IRTA)	Year-round	For recent doctoral-degree recipients to enhance their research skills in the resource-rich NIH environment	http://www.training.nih.gov/postdoctoral/irta.asp
Government agencies			
National Science Foundation (NSF)	First Monday in November	For recent recipients of a doctoral degree to pursue research and training in selected areas of biology supported by the NSF Directorate in Biology (BIO). Current BIO programs are broadening participation of underrepresented groups in biology and biological informatics	http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=12720
Department of Veterans Affairs	Year-round	The Postdoctoral Nurse Fellowship Program is designed to provide nurses the opportunity to broaden their scientific or research background or to extend their potential for clinical research in nursing	http://www.va.gov/oaa/residencies_fellowships.asp
Nonprofit agencies			
American Association of University Women	November	Funds women researchers in the natural sciences	http://www.aauw.org/education/fga/fellowships_grants/american.cfm
American Brain Tumor Association	January	For postdoctorates who have demonstrated the potential to do basic brain tumor research	http://www.abta.org/index.cfm?contentid=38
American Cancer Society	April 1, October 15	Supports postdoctoral training in cancer research, including basic, preclinical, clinical, cancer control, psychosocial, behavioral, epidemiology, health	http://www.cancer.org/docroot/RES/content/RES_5_2x_Postdoctoral_Fellowships.asp?sitearea=RES

Funding Entity	Deadline	Program Summary	Source of Information
American Diabetes Association	January 15	services, and health policy research Multiple award mechanisms available for postdoctoral research	http://professional.diabetes.org/Diabetes_Research.aspx?typ=18&cid=64376
American Federation for Aging Research	December	AFAR offers several grant programs that support postdoctoral research in aging	http://www.afar.org/ellisonpostdoc.html
American Heart Association	January	Supports research broadly related to cardiovascular function and disease and stroke or to related basic science, clinical, bioengineering or biotechnology, and public health problems	http://www.americanheart.org/presenter.jhtml?identifier=9713
American Institute for Cancer Research	February	Postdoctoral Grant Awards are designed to encourage new researchers to enter the field of nutrition-cancer research.	http://www.aicr.org/site/PageServer?pagename=research_funded_grant_application
American Lung Association of California	September	Offered to individuals who are in training at a California institution and who have demonstrated a commitment to a career in investigative or academic research relevant to lung biology, health, and disease	http://www.californialung.org/
American Physiological Society	January	Supports a postdoctoral fellow for a project combining organ-system physiology with molecular biology/genomics, hosted or sponsored by a member of the American Physiological Society	http://www.the-aps.org/awards/student.htm#Postdoc
American Psychological Association	January	The Postdoctoral Mental Health and Substance Abuse Fellowship is for researchers engaged full time in postdoctoral	http://www.apa.org/mfp/postdocpsych.html

Funding Entity	Deadline	Program Summary	Source of Information
		training in neuroscience. Its aim is to support development of psychologists who maintain a professional focus on research related to mental health and substance abuse services for ethnic minorities	
American Society for Microbiology	January	Provides 2-year tenure for postdoctoral scientists to conduct research in infectious disease or public health microbiology at one of the national laboratories of Centers for Disease Control (CDC)	http://www.asm.org/index.php?option=com_content&view=article&id=2016&Itemid=604
Anyotrophic Lateral Sclerosis Association	January	The investigator-initiated grant program is offering an annual postdoctoral fellowship award	http://www.alsa.org/research/process.cfm?CFID=8075&CFTOKEN=47331518
Lance Armstrong Foundation	March	Supports research projects that may lead to significant improvements in quality of life for cancer survivors	http://www.livestrong.org/site/c.khLXK1PxHmF/b.2661097/k.D25F/Research.htm
Arthritis Foundation	February	Postdoctoral fellowships	http://www.arthritis.org/our-research-program.php
Autism Speaks	May	Fellowships support young scientists interested in pursuing careers in autism research	http://www.autismspeaks.org/science/research/grants/open_grants_how_to_apply.php
Burroughs Wellcome Fund (BWF)	Varies	BWF makes grants within six focus areas: biomedical sciences, infectious disease, interfaces in science, population and laboratory-based sciences, science education, and translational research	http://www.bwfund.org/page.php?mode=privateview&pageID=129
California HIV/AIDS Research Program, University of California Office of the President (UCOP)	September for letter of intent	Postdoctoral research fellowships in basic biomedical sciences support training under a	http://chrp.ucop.edu/applicants/appl_award_types.html

Funding Entity	Deadline	Program Summary	Source of Information
Cancer Research and Prevention Foundation	March, September	designated mentor/advisor in a basic biomedical field related to HIV/AIDS Awards fellowships in the following categories: basic, clinical, translational, and population-based research; education programs in cancer prevention; early detection; behavioral intervention	http://www.preventcancer.org/research2c.aspx?id=36&ekmense=15074e5e_28_30_bmlink
Jane Coffin Childs Memorial Fund for Medical Research	February	Supports full-time postdoctoral studies in the medical and related sciences bearing on cancer	http://info.med.yale.edu/jccfund/fellowship
Cystic Fibrosis (CF) Foundation	September	Awards offered to MDs, PhDs, and MD/PhDs interested in conducting basic or clinical research related to CF	http://www.cff.org/research/ForResearchers/FundingOpportunities/TrainingGrants/#Postdoctoral_Research_Fellowships
Damon Runyon Cancer Research Foundation	August 15, March 15	Encourages theoretical and experimental research relevant to the study of cancer and the search for cancer causes, mechanisms, therapies, and prevention	http://www.damonrunyon.org/for_scientists/categories/category/awards/
Epilepsy Foundation of America	Varies	Develops academic physicians and scientists committed to research related to epilepsy	http://www.epilepsyfoundation.org/research/grants.cfm
Claire M. Fagin Fellowship in partnership with the American Academy of Nursing and Building Academic Geriatric Nursing Capacity FRAXA—Fragile X Research Foundation	June 1	Provides \$60,000/year for 2 years to support advanced research training and mentorship designed to assist doctoral-prepared nurses committed to faculty careers in geriatric nursing	http://www.geriatricnursing.org/applications/cmf-fellowship.asp
	February	Supports postdoctoral fellows who want to pursue research in fragile X	http://www.fraxa.org/research_howtoapply.aspx

\$watermark-text

\$watermark-text

\$watermark-text

Funding Entity	Deadline	Program Summary	Source of Information
Elizabeth Glaser Pediatric AIDS Foundation	July	Provides 2 years of salary support (\$30,000 to \$46,000) to postdoctoral scientists for research on pediatric HIV/AIDS	http://www.pedaids.org/GrantsandAwards/Awards/Two-YearScholar.aspx
National Hemophilia Foundation	November	Supports research on clinical or basic research on the biochemical, genetic, hematologic, orthopedic, psychiatric, or dental aspects of the hemophilias or von Willebrand disease. Other topics include rehabilitation, therapeutic modalities, psychosocial issues, women's health issues, liver disease, or AIDS/HIV as they pertain to the hemophilias or von Willebrand disease	http://www.hemophilia.org/NHFWeb/MainPg/MainNHF.aspx?menuid=5&contentid=349
Irvington Institute Fellowship Program of the Cancer Research Institute	April 1, October 1	Supports qualified young scientists at leading universities and research centers around the world, who wish to receive training in cancer immunology or general immunology	http://www.irvingtoninstitute.org/
Juvenile Diabetes Research Foundation International	Varies	Multiple award mechanisms available for postdoctoral investigators to undertake diabetes-relevant research	http://www.jdrf.org/index.cfm?page_id=103207
Susan G. Komen Breast Cancer Research Foundation	October	Fellows develop skills and expertise in one of two research tracks, basic or translational research leading to reductions in breast cancer incidence and/or mortality	http://ww5.komen.org/researchgrants/researchgrants.html
Leukemia and Lymphoma Society	September 15 for letter of intent	Funds research on leukemia, lymphoma, or myeloma under the direction of a sponsor	http://www.leukemia-lymphoma.org/all_page?item_id=11632

Funding Entity	Deadline	Program Summary	Source of Information
Myasthenia Gravis Foundation of America	October	A 12-month postdoctoral research fellowship for clinical or basic research pertinent to myasthenia gravis or related neuromuscular disorders	http://www.myasthenia.org/hp_fellowships.cfm
National Kidney Foundation	December	Supports training of young and new investigators with the potential of making contributions to the understanding and cure of kidney diseases	http://www.kidney.org/professionals/research/pdf/RFinstructions.pdf
National Multiple Sclerosis Society	August	Supports fundamental as well as applied studies, nonclinical or clinical in nature, including projects in patient management, care, and rehabilitation	http://www.nationalmssociety.org/for-professionals/researchers/get-funding/postdoctoral-fellowships/index.aspx
Paralyzed Veterans of America Research Foundation	September	Supports innovative research and fellowships that improve the lives of those with spinal cord injury and disease	http://www.pva.org/site/PageServer?pagename=research_resfdn
Pharmaceutical Research and Manufacturers of America Foundation	September 1, October 1	Supports research and education related to drug discovery, with postdoctoral fellowships in four areas: health outcomes, informatics, pharmacology/toxicology, and pharmaceuticals	http://www.phrmafoundation.org/
RAND Corporation	February	Supports junior scholars in demographic and aging research	http://www.rand.org/labor/fellows/aging.html
Christopher and Dana Reeve Foundation (CDRF)	December	Supports research related to developing treatments and cures for paralysis caused by spinal cord injury	http://www.christopherreeve.org/site/c.ddJFKRNoFIG/b.4434991/k.73EF/Scientific_Grants_Programs.htm
Tobacco-Related Disease Research Program, University of California Office of the President	December	Supports research on the prevention, causes, and treatment of tobacco-related disease and the reduction of the human and economic costs of	http://www.tdrtp.org/fundingopps/callawardmechs.asp#postdoc

\$watermark-text

\$watermark-text

\$watermark-text

Funding Entity	Deadline	Program Summary	Source of Information
Tourette Syndrome Association	October 1 for letter of intent	tobacco use in California Funds research that has the potential to contribute to the understanding of Tourette syndrome, including genetics, pathogenesis, pathophysiology, clinical studies, and animal model development	http://www.tsa-usa.org/research.html
United Negro College Fund	December	Supports African American postgraduate students in obtaining postdoctoral training and preparing for careers in biomedical research	http://www.uncf.org/portal/Default.aspx?tabid=93#Postdoctoral
Helen Hay Whitney Foundation	July	Supports early postdoctoral research training in all basic biomedical sciences	http://www.hhwf.org/HTMLSrc/ResearchFellowships.html

SOURCE: University of California, Berkeley, Office of Sponsored Research, <http://www.spo.berkeley.edu/Fund/biopostdoc.html>