Harvard Anesthesia Research Training Grant (T32) Application Instructions

Re: Applying to the Harvard Anesthesia Research Training Program

From: Stuart A. Forman, MD-PhD, Program Director (saforman@mgh.harvard.edu) **and**
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Purpose of the Training Grant (a Postdoctoral T32)

The overall goal of the Training Grant is to provide early-phase research training (from 2 to 3 years) to anesthesiologists who plan to become independent researchers. The program puts a heavy emphasis on both mentorship and acquiring the skills and, when not pre-existing, the credentials to launch a career as an independent researcher. A typical successful trainee will transition from the T32 to another grant that continues career development towards this goal. Examples of such awards include NIH Mentored Career Development Awards (K08), Mentored Research Training Grants from the Foundation for Anesthesia Education and Research (FAER) or the International Anesthesia Research Society (IARS), and early career awards from The Boston Foundation, the Anesthesia Patient Safety Foundation (APSF), American Heart Association, or other foundations.

T32 trainees are supported by their clinical department and by US taxpayers through NIH—thus expectations of them are high. Successful trainees will typically conduct research for eight or more years before obtaining an independent grant, such as an NIH Investigator Initiated R award. T32 trainees with MDs must commit 80% effort to research and career development and are usually clinically active part-time. Before applying for T32 support, they must gain approval for their plan from the Chief of their affiliated department. Applicants who are not already employed in a Harvard-affiliated anesthesia department generally need to obtain a clinical appointment before or concurrent with initiation of T32 training.

Eligibility (http://grants.nih.gov/grants/guide/pa-files/PA-14-015.html#_Section_III._Eligibility)

The individual to be trained must be a citizen or a noncitizen national of the United States or have been lawfully admitted for permanent residence at the time of appointment. Additional details on citizenship, training period, and aggregate duration of support are available in the NIH Grants Policy Statement.

Foreign Nationals with Student Visas are not eligible for this award.

Initial planning

It is important to meet with the Program Director(s) to discuss whether this training program is appropriate for your career trajectory and long-term goals. For some anesthesiologists with extensive prior research expertise in their field of interest, other mechanisms of support may be more appropriate. Selection of an expert, experienced, and supportive mentoring team is critically important. **The primary mentor and if needed, other mentors, should be selected in consultation with the Program Director.** Appropriate mentors may be chosen from any academic institution in the Boston area.

The Training and Research Plans

Applicants are encouraged to submit written application drafts (without all supporting materials) at least 4 months before the target start date for T32 training. This provides time for feedback from the Program Director(s) and revisions to strengthen the application.

The written application must present both a career development plan and a research project. Strong career development plans include specific goals (skills, knowledge, experience, and career milestones) and mechanisms to reach them, beyond the performance of research. Research plans may include work on a mentor's ongoing project (this is often an effective

strategy for introducing inexperienced trainees to the research process), but also should identify a pathway to eventually diverge on an independent path and a project led by the trainee. Applicants with strong written plans will be invited to present their T32 proposal to the T32 Executive Committee (the T32 Directors and the Harvard Anesthesia Chairs). In addition to their career and research plans, applicants will be evaluated based on their communication skills, enthusiasm, dedication, resilience, and support from recommendation letters, mentors, and institutions, all of which influence likelihood of success in academia.

Format for the Formal T32 Research Training Proposal (≤ 6 pages).

I. Information required (Cover Sheet): —

Title of project.

Your name.

Your cell phone #.

Your departmental affiliation.

Proposed start date.

Primary research supervisor's name/address/department/institution/telephone/e-mail address.

Other mentors for your T32 training.

II. Executive Summary (page 1)

Provide an overview of your background (relevant experience to date), long and short-term goals, and how the T32 will advance these goals. Think of your career as a multi-leg journey with the T32 training period being one critical part. **Limit to one page in length.**

II.1) Your Background: Your prior clinical, research, and academic experience.

II.2) Your Long-term Career Goals: Envision your career about 10 years in the future, after completing research training. What kind of research and clinical work will you be doing? What will be your fields of expertise?

II.3) Goals for your T32 training period. How far toward your long-term goals will T32 training take you?

II.4) Your Plans for additional post-T32 career-development. What steps immediately beyond the T32 do you envision to carry your research training and career forward? (We recognize that career development typically takes more than 7 years to achieve "independence" in the form of funding for investigator-initiated research such as an NIH R series or equivalent grant support.)

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III Training Plan (pages 2–3):

III.1) Training Goals

III.1.a) What motivates you to include research as a significant part of your future career? Where would you like your career to be in10 years and how do you plan to get there?

III.1.b) Formal course work is encouraged during your training. In what areas are you already an expert and what additional formal knowledge/training/certification do you anticipate needing in your chosen field of study? **All trainees are required to complete a formal course in Responsible Conduct of Research**, which are offered by many Harvard-affiliated institutions, including HMS (http://bioethics.hms.harvard.edu/rcr-responsible-conduct-research), MGH (http://www2.massgeneral.org/facultydevelopment/orcd/training-grants.html), BWH (http://cfdd.brighamandwomens.org/initiatives-and-resources/for-researchers/rcr-rounds/), and HSPH (https://www.hsph.harvard.edu/ohra/responsible-conduct-of-research-course/). In addition, you may take formal courses to develop expertise in new areas. For example, candidates aiming to do population research may seek a Masters in Public Health at HSPH or study research methods for Clinical Effectiveness (https://www.hsph.harvard.edu/clinical-effectiveness/). Candidates interested in translational/clinical research may benefit from training programs and courses offered by Harvard Catalyst (https://catalyst.harvard.edu/education.html).

III.1.c) What skills and techniques will be learned through mentored research and other career-development activities? If you plan to have more than one mentor (highly recommended for multi-disciplinary research), specify which learning goals will be guided by each member of your mentor team. Courses on research statistics, laboratory research safety, scientific writing, grant writing, preparing IRB applications, etcetera are also available at many affiliated institutions.

III.2) Primary research supervisor's training experience. Who have they trained and where are their trainees now? This information is in their Harvard CV. You may attach the appropriate section (not the whole CV) as *Appendix 1*.

III.3) Primary research supervisor's research experience and grant support. Attach the Biosketch & Other Support pages from an NIH grant application as *Appendix 2*.

III.4) Other research mentors. Attach additional Biosketches & Other Support pages as *Appendix 3*.

IV. Research Project Description (pages 4–5):

IV.1) Overall aim of research (long-term objective).

IV.2) Specific aims of the work or hypothesis to be tested during the T32.

IV.3) Why the project is important (background & rationale) – keep it short.

IV.4) Research strategy. What research domains (basic, translational, clinical) will be explored? What methodologies will you employ to achieve your specific aims? For each aim,

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what results will you measure, how many measurements will you make, and how will you analyze your data to draw robust inferences?

V. Deliverables (page 6):

Specify "deliverables" that you expect to complete during the T32, including: skills learned, publications, abstract presentations, courses completed, certificates or degrees acquired, grant applications submitted. This must include completion of a course on Responsible Conduct of Research. A timetable detailing expected completion dates is highly encouraged.

Be realistic. If you are awarded a T32 slot, this list will be used to assess your progress.

VI. Citations (extra pages):

Attach citations from your Research Project Description as extra pages (beyond the 6 page text limit) at the end of the application text. Do not include your prior publications here—they are in your CV.

VII. Supporting Materials

VII.1) Obtain letters of recommendation/support from:

VII.1.a) Your Department Chair.

VII.1.b) At least one previous research supervisor/mentor.

VII.1.c) Your primary mentor, and secondary mentors if included. Mentor letters should specify what role they will play in training, collaborative research, and career development, and any time limitations that apply.

VII.1.d) Your clinical Division Chief or another senior clinician who can attest to your clinical skills, if you will be a clinical practitioner during T32 training.

VII.2) Your CV.

VII.3) Primary mentor's CV, NIH Biosketch, and NIH Other Support.

VII.4) Other mentors' NIH Biosketches and Other Support.

Submit Your Application:

Send all application material in pdf files to:

Dr. Stuart A. Forman, Program Director: saforman@mgh.harvard.edu and copy

Dr. Ken Solt, Associate Program Director (ksolt@mgh.harvard.edu)

Ms. Michele Lopez, Assistant to the PD: MLOPEZ4@mgh.harvard.edu.

This program and the Harvard Medical School-affiliated Anesthesia Departments are strongly committed to enhancing diversity in academic anesthesiology. Interested individuals from racial/ethnic or socioeconomic background groups that are underrepresented in medicine and academia, women, and those with disabilities, are enthusiastically encouraged to apply.