Emergency Medicine Foundation/ Foundation for the Education and Research in Neurological Emergencies

Neurological Emergencies Research Grant

Request for Proposal

Please read these instructions carefully. Applications that do not follow these instructions with regards to type size, length, format, and supporting documentation will be summarily rejected. No extension of the deadline will be granted.

Before submitting your application, please be sure that the following items have been addressed:

- Information page is included as the first page of the application packet and is fully completed (sample attached)
- Type size is 11 pt. font, single-spaced and margins are one-half (.05) inch
- Evidence of IRB approval, or at least evidence of submission to IRB, from each institution, is included in application packet (for multi-centered studies, approval from or evidence of submission to IRB/AUC for all sites is required)
- Clearly stated research hypothesis
- Statement of Conditions is signed by **Principal Investigator** and **Institutional Official** and is included in application packet (see below).
- Letter of support from Emergency Medicine Chair is included in application packet
- Letter of support from each co-investigator is included in application packet
- Other grant support for all investigators is included in application packet
- Submission via the on-line application system is required. Late applications will not be considered. Submit application at https://emfoundation.aibs-scores.org

EMERGENCY MEDICINE FOUNDATION
FOUNDATION FOR THE EDUCATION AND RESEARCH IN NEUROLOGICAL EMERGENCIES

NEUROLOGICAL EMERGENCIES RESEARCH GRANT

Application Deadline	February 4, 2022
Notification of Award	June 2022
Funding Period	July 2022 – June 2023
Funding Amount Per Award	$10,000
Number of Awards	One
Eligibility	Emergency medicine resident or emergency medicine attending physician

GRANT TOPIC

The Emergency Medicine Foundation awards funds to support the development of research in emergency medicine. The goals of the EMF/FERNE Research Program are: 1) to promote research within the specialty of emergency medicine, 2) to advance emergency medical care, and 3) to facilitate the academic growth and development of future researchers in emergency medicine and thereby invest in the future of the specialty of emergency medicine.

Research projects of interest for this EMF/FERNE research grant include the following:

1. Clinical research and/or case series of ED COVID-19 patients who experience acute infectious, thromboembolic, hemorrhage, headache, pain and/or other significant neurological emergencies.

2. Clinical research and/or case series of ED or other clinical setting COVID-19 patients who experience long-term neurological complications, including fatigue/weakness, headache/brain fog, anosmia/ageusia, and neurological signs and symptoms consistent with chronic inflammation following an acute COVID-19 infection.

The optimal research and/or case series will include information from 50-100 or more patients that fall into one of the above specific categories or groups, so that patient care can be enhanced from the lessons learned from this patient research.

In the acute ED COVID-19 patient category, a case series describing ED TIA and ischemic CVA patients treated during a six month or one year period of the COVID-19 global pandemic could answer some of the following questions:

- Was the volume of ED TIA and ischemic CVA patients higher or lower during the early or more recent COVID-19 pandemic time periods, and why?

- Have the demographics of ED TIA and ischemic CVA patients changed significantly during the early or more recent COVID-19 pandemic time periods, and why?

- Has the diagnosis and treatment of ED TIA and ischemic CVA patients been modified during the early or more recent COVID-19 pandemic time periods, and why?

- Was the outcome of ED TIA and ischemic CVA patients enhanced or diminished during the early or more recent COVID-19 pandemic time periods, and why?

In the long-term COVID-19 patient category, a case series describing COVID-19 long-haul neurological symptom patients treated during a six month or one year period of the COVID-19 global pandemic could answer some of the following questions:

- Which of the important COVID-19 long-haul neurological symptoms (fatigue/weakness, headache/brain fog, inflammation symptoms, anosmia/ageusia) are most often troubling patients with a history of COVID-19 infection, and when do they occur?

- How are the important COVID-19 long-haul neurological symptoms (fatigue/weakness, headache/brain fog, inflammation symptoms, anosmia/ageusia) being evaluated diagnostically, and what are the results of these diagnostic evaluations?

- How are the important COVID-19 long-haul neurological symptoms (fatigue/weakness, headache/brain fog, inflammation symptoms, anosmia/ageusia) being treated, and what are the results of these treatment strategies?

- How are the important COVID-19 long-haul neurological symptoms (fatigue/weakness, headache/brain fog, inflammation symptoms, anosmia/ageusia) related to the severity of the acute COVID-19 infections, the presence of early neurological symptoms, and the early COVID-19 treatments?

DEFINITION OF EMERGENCY MEDICINE RESEARCH

Emergency medicine research is broadly defined as scientific investigation designed to furnish new knowledge relating to emergency medical care. Such investigations may focus on basic science research, clinical research, preventive medicine, epidemiology, health care policy, or emergency medicine teaching and education.

QUALIFICATIONS AND RESPONSIBILITIES OF THE INVESTIGATORS

The principal investigator must either be an emergency medicine resident or an emergency medicine attending physician with a primary faculty appointment in Emergency Medicine. The principal investigator will make all arrangements for conduct of the proposed research projects and assumes responsibility for conducting the research projects and supervising the work of all associate investigators.

INSTITUTIONAL SUPPORT

The applicant and preceptor assume responsibility for conducting the research projects and supervising the work of the resident and associate investigators. The applicant and preceptor must demonstrate that access to a suitable caseload or patient population will be available for study during the funding period if a clinical research project is proposed. If a basic science or nonclinical project is proposed, the applicant must show that adequate and appropriately equipped laboratory space will be available during the funding period. **Research involving animals or human subjects must be approved by the institutional review board (IRB), or its equivalent, and a copy of the approval or pending approval sent with this application. IRB approval must be documented prior to dispensation of EMF funds. Letters of support from the Emergency Medicine Chair and Residency Director are required.**

EVALUATION OF APPLICATIONS

Each application will be reviewed by emergency medicine specialists who are involved/informed in basic and clinical emergency medicine research. Each application will be judged by: 1) the educational experience for the

resident, including a program of instruction on research methods and the format for evaluating the progress of the award year, 2) the role of the resident applicant in the initiation, development, conduct, and reporting of the project, 3) the scientific content of the research projects, including background support, hypothesis statement, methodology, sample size calculations and planned statistical analysis, 4) the significance of the project, and 5) the qualifications of the preceptor. There should be an acknowledgement that the resident is the author of the grant application. The final funding decision will be made by the Emergency Medicine Foundation Board of Trustees, and all decisions are final.

TERMS OF THE GRANT

Change of Status of Designated Preceptor or Resident

If the named preceptor or resident changes affiliations or ceases research in the field for which the award was made, the award will terminate, and the remaining balance will be returned to the Emergency Medicine Foundation.

Location of Work

Grants are awarded for investigations in the United States at an accredited medical school, medical center, or institution affiliated with a university teaching program. The preceptor will make all arrangements for conduct of the proposed research projects.

Financial Support

Semi-annual payments will be made to the preceptor's research institution that will be responsible for administering the funds. The Emergency Medicine Foundation will not be responsible for institutional overhead. Detailed audited financial reports may be required.

Liability of the Emergency Medicine Foundation

The EMF assumes no financial liability if patient care responsibilities of any kind are undertaken by the resident or preceptor. The preceptor and the preceptor's institution acknowledge that the EMF is not legally liable for the conduct of the resident or the preceptor and associate investigators.

Patent Policy

The preceptor and preceptor's institution acknowledge that if a patentable invention or discovery is conceived or conceived and reduced to practice by the resident during the term of their award, the EMF must be apprised of the invention and the institution's plans for protecting such invention under existing institutional patent policy. The EMF will defer to institutional policies where they are in compliance with those of the Federal government. The EMF reserves the right where the institution has no patent policy, or policies not in compliance with those of the Federal government, to claim rights and interests in the invention or discovery.

Limitations on Grants

The EMF is not fiscally responsible for funds necessary for the project’s completion. Funds are not to be used for capital equipment purchases (i.e. equipment costing more than $500 and with a life of over one year), faculty salary support, publication costs, travel, or institutional overhead.

It is required that the applicant submit a letter of support from a preceptor at the applicant's institution. This letter must describe the preceptor's and the resident's roles and responsibilities in the proposed project.

The applicant must also submit a letter from their residency director indicating that the applicant is a resident in good standing and that they will have adequate time for completion of the proposed project. If the applicant is a medical student at the time of submission of this application, the applicant must send proof of their matching to the emergency medicine residency within 5 days after the match.

The applicant must also submit a letter from the Chair/Director of Emergency Medicine stating that adequate funds will be available to the resident to complete the proposed project.

SUPPORT FACILITIES
The preceptor must submit letters of support if the proposed project uses facilities not routinely available to or directly under the supervision of the sponsoring program.

PUBLICATIONS
All discoveries resulting from work supported in part by the Emergency Medicine Foundation should be made available to the public and scientific community through approved scientific channels such as national meetings and peer reviewed publications. Publications will acknowledge the support of the Emergency Medicine Foundation and the appropriate corporate underwriter, if any. Two electronic reprints of each publication will be forwarded to the Emergency Medicine Foundation.

PROGRESS REPORTS AND MONEY MANAGEMENT
The preceptor and resident will submit a six-month progress report and a final progress report within thirty days of the conclusion of the award year. Additional reports may be required. Failure to provide the reports will delay transmission of funds. Furthermore, failure to provide interim and final reports to the Foundation may negatively impact your institution's ability to apply for future EMF awards. The EMF will maintain the copyright of all such reports. Progress reports must include an accounting report using Generally Accepted Accounting Procedures showing the distribution of funds with a signature from an institutional official (e.g., accountant, grants manager, administrator from the Office of Sponsored Research). The EMF reserves the right to with hold release of interim funds if >25% of the previous cycle remains unspent. The EMF allows up to 25% of funds to be carried over from one cycle to the next.

ABSTRACT PRESENTATION – ACEP RESEARCH FORUM
Awardees are required to present their work at the American College of Emergency Physicians (ACEP) Scientific Assembly/Research Forum immediately following the completion of the award. At the time of submission, abstracts must not have been accepted for publication in any journal. Also, abstracts may not be presented at any U.S. nationwide emergency medicine meeting or major international emergency medicine meeting prior to the ACEP Scientific Assembly. Presentation at non-emergency medicine meetings is allowed after presentation at ACEP. Funds cannot be requested to cover the travel cost nor registration to Research Forum.

GRANTEE WORKSHOP
Grantees are expected to attend a grantee workshop in Bethesda, MD. The workshop is designed to bring together EMF grant recipients to present their progress and discuss any problems they may be facing. Senior researchers and faculty will be available to help solve problems, such as enrollment efforts, managing staff and life-work balance. NIH program officers participate in this workshop to discuss funding opportunities, provide research career advice and network with the grantees. Travel expenses will be reimbursed by the Emergency Medicine Foundation.

CONTACT INFORMATION
Please address questions to Cynthia Singh, MS, Deputy Executive Director at csingh@acep.org.

APPLICATION INSTRUCTIONS

Do **not** submit an incomplete application. **An application will be considered incomplete if it is illegible, if it fails to follow instructions, or if the material presented is insufficient to permit an adequate review.** Unless specifically required by these instructions (e.g. human subjects certification, vertebrate animals verification) do **not** send supplementary material.

The application consists of the following sections:

1. COVER PAGE

Name the **one** person responsible to the applicant organization for the scientific and technical direction of the project. Choose a title that is descriptive and specifically appropriate, rather than general. List any mentors and/or associate investigators. (See sample below)

2. ABSTRACT (limit 1 page)

Summary of educational program and research proposal. Include coursework (or degree) to be completed and rationale, research hypothesis, specific aims, and significance.

3. TABLE OF CONTENTS

4. INTRODUCTION TO REVISED APPLICATION, if applicable. (limit 2 pages)

EMF will consider revised proposals, and two additional pages are provided to introduce reviewers to the revised proposal. Key things to keep in mind when submitting a revised grant:

a. The introduction to the revision should provide a concise summary of reviewers' comments from the previous application and should, point-by-point, discuss how the revised application has addressed these concerns.
b. Revised applications are not reviewed outside of the normal review process. Such applications may be more competitive than first-time submissions, but not necessarily so.
c. Revised applications are reviewed as new science. Revised applications will not automatically be considered better applications within the review process.
d. In the event of a resubmission, the committee will attempt to return applications to their original reviewers when possible. However, regular turn-over of the committee membership prevents the SRC from guaranteeing that a grant will be reviewed by the same individuals reviewing the original application.

5. RESEARCH PROPOSAL (limit 6 pages)

Please use the following subheadings:

Specific Aims

- State concisely the goals of the proposed research and summarize the expected outcome(s), including the impact that the results of the proposed research will exert on the research field(s) involved.
- List succinctly the specific objectives of the research proposed, e.g., to test a stated hypothesis, create a novel design, solve a specific problem, challenge an existing paradigm or clinical practice, address a critical barrier to progress in the field, or develop new technology.
- Specific Aims are limited to one page.

Significance

- Explain the importance of the problem or critical barrier to progress in the field that the proposed project addresses.
- Explain how the proposed project will improve scientific knowledge, technical capability, and/or clinical practice in one or more broad fields.

- Describe how the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field will be changed if the proposed aims are achieved.

Innovation

- Explain how application challenges and seeks to shift current research or clinical practice paradigms.
- Describe any novel theoretical concepts, approaches or methodologies, instrumentation or interventions to be developed or used, and any advantage over existing methodologies, instrumentation, or interventions.
- Explain any refinements, improvements, or new applications of theoretical concepts, approaches or methodologies, instrumentation, or interventions.

Approach

- Describe the overall strategy, methodology, and analyses to be used to accomplish the specific aims of the project.
- Discuss potential problems, alternative strategies, and benchmarks for success anticipated to achieve the aims.
- If the project is in the early stages of development, describe any strategy to establish feasibility, and address the management of any high-risk aspects of the proposed work.
- Preliminary Studies. Include information on Preliminary Studies. Discuss the PD/PI's preliminary studies, data, and or experience pertinent to this application. Preliminary data can be an essential part of a research grant application and help to establish the likelihood of success of the proposed project.

6. PERSONAL STATEMENT (limit 1 page)

The applicant should compose and submit a personal statement that addresses:

a. the applicant's interest in the topic and this project
b. the applicant's perception of his/her role in the project
c. any additional pertinent experience or interests the applicant wishes the committee to consider

7. ROLE OF PARTICIPANTS (limit 1 page)

List any Mentors and/or associate investigators and/or consultants. Include a brief description of how and to what extent each will be involved in the proposed project.

8. BIOGRAPHICAL SKETCHES

Use the NIH Biographical Sketch Format Page available on the internet at https://grants.nih.gov/grants/forms/biosketch.htm Information is requested for the applicant, mentor and any associate investigators who will be involved with the projects.

9. RESOURCES AND ENVIRONMENT

Describe the research facilities (laboratory space, clinical population, etc.) available for fellowship training. If computer access or statistical support is available, it should be described in this section.

10. BUDGET

Use the NIH Form Detailed Budget for Initial Budget Period available on the internet at www.grants.nih.gov/grants/funding/phs398/phs398.html# Provide a budget narrative to indicate how the money will be spent. Justify all major expenditures. Institutional overhead is not allowed.

11. OTHER SUPPORT

List all current and pending intramural and extramural research funding for the applicant, Mentor and co-investigators. For each item indicate the grant identification number, grant type, PI, funding source, annual direct costs, funding period, percent effort, grant title, and brief description of project. For all items indicate whether there is any scientific or budgetary overlap with the current proposal.

12. ETHICS

Human subjects. For all research involving human subjects, a part of the peer review process will include careful consideration of protections from research risks, as well as the appropriate inclusion of women, minorities, and children. The EMF Scientific Review Committee (SRC) will assess the adequacy of safeguards of the rights and welfare of research participants, and the appropriate inclusion of women, minorities, and children, based on the information in the application. This evaluation will be factored into the overall score. The information on the protection of human subjects that you are required to provide in this section is identical to information that you will be required to provide for IRB at your own institution and are required by most Federal agencies. This section must address the following items. These can be copied and pasted directly into your application.

The applicant should include specific measures on how protected health information (as defined by the Human Health Services) will be handled in accordance with the Privacy Rule of the Health Insurance Portability Accountability Act (HIPAA).

1. RISKS TO THE SUBJECTS

a. Human Subjects Involvement and Characteristics

Describe the proposed involvement of human subjects in the work outlined in the Research Design and Methods section. Describe the characteristics of the subject population, including their anticipated number, age range, and health status. Identify the criteria for inclusion or exclusion of any subpopulation. Explain the rationale for the involvement of special classes of subjects, such as fetuses, neonates, pregnant women, children, prisoners, institutionalized individuals, or others who may be considered vulnerable populations. Note that 'prisoners' includes all subjects involuntarily incarcerated (for example, in detention centers) as well as subjects who become incarcerated after the study begins. List any collaborating sites where human subjects research will be performed and describe the role of those sites in performing the proposed research.

b. Sources of Materials

Describe the research material obtained from living human subjects in the form of specimens, records, or data.
Describe any data that will be recorded on the human subjects involved in the project.
Describe the linkages to subjects and indicate who will have access to subject identities.
Provide information about how the specimens, records, or data are collected and whether material or data will be collected specifically for your proposed research project.

c. Potential Risks

Describe the potential risks to subjects (physical, psychological, social, legal, or other), and assess their likelihood and seriousness to the subjects.
Where appropriate, describe alternative treatments and procedures, including the risks and benefits of the alternative treatments and procedures to participants in the proposed research.

2. ADEQUACY OF PROTECTION AGAINST RISKS

a. Recruitment and Informed Consent

Describe plans for the recruitment of subjects (where appropriate) and the process for obtaining informed consent. If the proposed studies will include children, describe the process for meeting requirements for parental permission and child assent.
Include a description of the circumstances under which consent will be sought and obtained, who will seek it, the nature of the information to be provided to prospective subjects, and the method of

documenting consent. Informed consent document(s) need not be submitted to the PHS agencies unless requested.

b. Protection Against Risk

Describe planned procedures for protecting against or minimizing potential risks, including risks to confidentiality, and assess their likely effectiveness. Where appropriate, discuss plans for ensuring necessary medical or professional intervention in the event of adverse effects to the subjects. Studies that involve clinical trials (biomedical and behavioral intervention studies) must include a description of the plan for data and safety monitoring of the research and adverse event reporting to ensure the safety of subjects.

3. POTENTIAL BENEFITS OF THE PROPOSED RESEARCH TO THE SUBJECTS AND OTHERS

Discuss the potential benefits of the research to the subjects and others.
Discuss why the risks to subjects are reasonable in relation to the anticipated benefits to subjects and others.

4. IMPORTANCE OF THE KNOWLEDGE TO BE GAINED

Discuss the importance of the knowledge gained or to be gained as a result of the proposed research.
Discuss why the risks to subjects are reasonable in relation to the importance of the knowledge that reasonably may be expected to result.

5. DATA AND SAFETY MONITORING PLAN (if applicable)

If your research includes a clinical trial, create a heading entitled "Data and Safety Monitoring Plan." Provide a general description of a monitoring plan that you plan to establish as the overall framework for data and safety monitoring.

Vertebrate Animals. For all applications involving vertebrate animals, the applicant must address the following five items. These five points may be copied and pasted directly into the application.

1. Provide a detailed description of the proposed use of the animals in the work outlined in the Research Design and Methods section. Identify the species, strains, ages, sex, and numbers of animals to be used in the proposed work.
2. Justify the use of animals, the choice of species, and the numbers to be used. If animals are in short supply, costly, or to be used in large numbers, provide an additional rationale for their selection and numbers.
3. Provide information on the veterinary care of the animals involved including the name of the supervising veterinarian. Include information from the Association for Assessment and Accreditation of Laboratory Animal Care International: the name of the accredited parent organization (e.g., University of X) and the certificate number and date of last inspection.
4. Describe the procedures for ensuring that discomfort, distress, pain, and injury will be limited to that which is unavoidable in the conduct of scientifically sound research. Describe the use of analgesic, anesthetic, and tranquilizing drugs and/or comfortable restraining devices, where appropriate, to minimize discomfort, distress, pain, and injury.
5. Describe any method of euthanasia to be used and the reasons for its selection. State whether this method is consistent with the recommendations of the Panel on Euthanasia of the American

Veterinary Medical Association. If not, present a justification for not following the recommendations

13. LITERATURE CITED

14. APPENDIX

Include letters of support from the department chairs, and associate investigators (required). Include proof of IRB approval or submission. Copies of questionnaires and relevant testing forms should also be included as appendices. No page numbering is necessary for Appendix. Do not use appendix to circumvent page limitations for research plans. Do not include experimental methods, protocols or figures that should be incorporated within the research project description.

15. SIGNED STATEMENT OF CONDITIONS (see below)

Applicant (*Last, first, middle*): _____

Table of Contents

Page Numbers

Cover Page Sample

Full Name with Titles: _____

Name of Institution: _____

Grant Category: _____

Project Title: _____

Amount Requesting: _____

Mentor, if applicable: _____

Applicant *(Last, first, middle)* _____

STATEMENT OF CONDITIONS GOVERNING THE EMERGENCY MEDICINE FOUNDATION GRANT

It is understood that any Emergency Medicine Foundation Research Grant approved by the Emergency Medicine Foundation will be made with the following conditions:

1. Institutional overhead is not allowed.
2. The principal investigator's institution is organized for humanitarian purposes and is not a profit-making organization.
3. All reports of work achieved with this grant will acknowledge the support of the Emergency Medicine Foundation and any co-sponsors.
4. Any discovery that arises from work supported by the Emergency Medicine Foundation will be submitted for publication. Two electronic reprints of each electronic publication will be forwarded to the Emergency Medicine Foundation.
5. Independent progress reports by the applicant will be submitted to the Emergency Medicine Foundation mid-project, and within thirty days of completion of the funding period. Additional reports may be required. The Emergency Medicine Foundation will maintain the copyright of all such reports.
6. Participation in the Emergency Medicine Foundation Grantee Workshop is expected. The Emergency Medicine Foundation will reimburse travel expenses.
7. Grantees must submit the abstract of the funded project to the ACEP Research Forum at the end of the project. Research Forum is held each year during the American College of Emergency Physicians Scientific Assembly. Grant funds may not be used for registration nor travel.
8. If the named principal investigator leaves the institution or terminates research in the designated field, all remaining funds revert to the Emergency Medicine Foundation. If unused funds exist at the completion of the project, all remaining funds revert to the Emergency Medicine Foundation.
9. Patent rights will conform to institutional standards. If none exist, the Emergency Medicine Foundation reserves the right to protect such interests.
10. No research proposal will be funded unless the Principal Investigator and the Institutional Official of the sponsoring institution affirm:
    a. That the investigation(s) proposed in this application are endorsed by the Animal and/or Human Subjects Committee or other designated body of the preceptor's institution, and
    b. That any research involving human subjects conforms with the principles of the Helsinki Code of the World Medical Association, and
    c. Research involving animals or human subjects must be approved by the institutional review board (IRB), or its equivalent, and a copy of the approval or pending approval sent with this application. IRB approval must be documented prior to dispensation of Emergency Medicine Foundation funds.
    d. That research involving vertebrate animals will conform with the "Guiding Principles in the Care and Use of Animals" as approved by the Council of the American Physiological Society.
    e. Research involving vertebrate animals must have approval from the Institutional Animal Care and Use Committee.

_____	_____	_____	_____
Date	Signature of Principal Investigator		Type Name of Principal Investigator
_____	_____	_____	_____
Date	Signature of Mentor, if applicable		Type Name of Mentor, if applicable
_____	_____	_____	_____
Date	Signature of Institutional Official		Type Name of Institutional Official