



COMPETITIVE RESEARCH GRANT GUIDELINES UPDATED JUNE 2017

Spring Application Deadline *February 7*
Fall Application Deadline *August 15*

The Foundation for Endodontics will offer additional awards of \$500 to the top-rated student and non-student proposals.

Grant Application Policies

1. Submissions will not be accepted after 5 p.m. Central Standard Time on the day of the deadline. Applicants are notified that their proposal was received and deemed complete within one week of the deadline. Funding is announced *after* the Foundation's Annual Board meeting in the spring and Interim Board meeting in the fall.
2. No dollar limits are set for grants. Proposals with budgets over \$25,000 must directly address an AAE research priority (Attachment A). Funds awarded are made payable to the principal investigator and his/her institution. Unused funds must be returned to the Foundation within 60 days of completing the grant.
3. The Foundation does not support indirect costs to a recipient's institution. All funds must be spent in support of the proposed investigation and within the funding period of the grant.
4. An abstract of the results must be submitted within six months after completion of the project. The timeline for projects is one year. The failure of a grantee to submit a final abstract will make his/her school ineligible for funding for one year. All grant recipients are highly encouraged to present their research at the AAE annual meeting within one year of the project's completion.
5. Applicants who are submitting a revised proposal should write an introduction in which they respond to the Research and Scientific Affairs Committee's critique of their original proposal on a point-by-point basis.
6. New submissions from previous grantees must include a progress report that outlines the status of any previously funded project. If the previous project is complete, the grantee must include evidence that the results have been published, are in press or have been submitted for publication. Former grantees who do not include a progress report will be disqualified.
7. Manuscripts based on research supported by the Foundation must be submitted first to the *Journal of Endodontics*. The following statement must be included in any written or oral presentation of research supported by the Foundation:

This research was supported in part by a Research Grant from the Foundation for Endodontics.

8. The principle investigator must be the individual that creates the account in the CadmiumCD submission system and submits the grant proposal under their name.



General Information

Purpose and Priorities

The Foundation inspires and supports research and the genesis of new knowledge in endodontics. To make the best use of funds, the AAE has identified research priorities, included with these guidelines (Attachment A). Where two proposals are judged equal, the one that addresses AAE priorities will be given preference. Proposals with budgets over \$25,000 must directly address a priority.

Eligibility

Researchers who meet the following criteria are eligible: students of an advanced specialty education program in endodontics at a dental school that is accredited by or has a reciprocal agreement with the Commission on Dental Accreditation of the American Dental Association (ADA); faculty or researchers in endodontology or related fields (microbiology, pathology, physiology) of a dental school that is accredited by or has a reciprocal agreement with the Commission on Dental Accreditation of the ADA; active members of the AAE. Dental school faculty or research staff who are not endodontists are strongly encouraged to include an endodontist as consultant or co-investigator. To encourage international scientific exploration, an international researcher may be included as a collaborator on projects that are carried out at institutions that are accredited by or have a reciprocal agreement with the Commission on Dental Accreditation of the American Dental Association.

Postgraduate Students

Postgraduate students must be AAE members. The student should decide on a research project early in his/her training so that it may be completed by graduation.

Review Process

Applications are reviewed by the AAE Research and Scientific Affairs Committee. Each protocol is evaluated in competition with all others. The committee submits recommendations to the Board of Trustees of the Foundation. The Trustees allocate and award funds. Committee members who have a vested interest in a project or an institution are excluded from evaluating that grant application. When necessary, the committee obtains evaluations from outside reviewers.

Applications are evaluated based on the following criteria:

1. Literature Review
2. Previous Research
3. Aims and Hypotheses
4. Research Design
5. Materials and Methods
6. Statistical Analysis
7. Probability of Success
8. Originality, Creativity and Innovation
9. Significance to Endodontics
10. Overall Impact

Following the Foundation's Board meeting, all applicants will receive two critiques of their proposal. For further information, call the development manager of the Foundation at 312/266-7255, ext. 3025.

Outline and Instructions for Preparing a Proposal

All proposal materials must be submitted within the CadmiumCD submission website (link found on Foundation website). Below you will see an outline of what will be submitted online.

A. Abstract

Include hypothesis, aims and a brief outline of the methodology. The abstract should not exceed 150 words in length. (The Foundation reserves the right to publish abstracts of funded grants for the purpose of informing the AAE membership of research funded by the Foundation.)

B. Research Proposal

Word limits for each section are listed below.

Resubmission Introduction

Applicants who are submitting a revised proposal should write an introduction in which they respond to the Research and Scientific Affairs Committee's critique of their original proposal on a point-by-point basis. All other changes should be noted throughout the body of the research proposal. (1150 word max)

1. Introduction and Specific Aims of the Project

Include the scope, objectives, rationale and a clear statement of hypothesis for the research. Underline the hypothesis. (1,100 word max)

2. Previous Work and Background of the Project

Describe the relevant literature and previous experience of both the principal investigator and other investigators involved in research related to the proposal. Inclusion of preliminary data is strongly suggested. (1,400 word max)

3. Significance of Research in Relation to the AAE Research Priorities

Explain how the proposal relates to the AAE Research Priorities. If the proposal does not directly pertain, explain its significance to endodontics. (200 word max)

4. Experimental Method

Describe the methodology, experimental format and time lines. Include techniques to be used, selection of sample and use of human or animal subjects. Include information on how the sample size was determined. (1,600 word max)

5. Data Analysis

Provide detailed statistical methodology: including data collection and analysis, power analysis, description of statistical tests and the reasons for their selection. Omission of this information may lower the ranking of a protocol. (850 word max)

6. Resources and Environment

Describe the facilities available for the research. (850 word max)

7. Time Schedule for Research

Provide the approximate dates of the project's duration. Students must demonstrate that the project can be completed prior to graduation. (850 word max)

C. References Cited

References must follow the format required by the *Journal of Endodontics*. (1150 word max)

D. Budget (Must be created in Excel and uploaded to the Uploads section)

Provide budget justification and itemize specific needs. **Funding is not permitted nor intended to supplement salaries**, tuition, travel (Travel expenses related to international collaboration may be included as part of the itemized budget), alterations, renovations of facility or publication. Funding for consultants or other research resources will be considered on an individual basis.

State the total funding requested. Include other sources of funding committed to the budget. List any grants previously received or applied for and specify where there is overlap with the current research proposal. The requested funding must equal the expenses. Applicants should request the total amount needed for the project.

Funding is permitted for the following:

1. **Equipment (permanent)**: Requests must not duplicate any equipment in the principal investigator's department and must be justified and essential. All equipment purchased shall remain the property of the institution. Equipment requests of \$1,000 or more must include a signed statement from the university to verify need and itemized price quotes.
2. **Expendable Supplies**: Requests must be justified and should not include supplies expected to be available from other sources.
3. **Costs for Animal Care and Human Subjects**
4. **Data Analysis**

E. Biographical Sketch (upload to the submission site)

Provide biographies for the principal investigator and all co-investigators, not to exceed three pages each. Include recent publications and any publications relating to the proposal.

F. Recommendations and Approvals (upload to submission site)

Applications will not be considered without these documents.

1. Letters of Recommendation (upload in the Grant Submitter section)

Postgraduate students must include two letters of recommendation from faculty members familiar with the proposal. One letter must be from the faculty member supervising the student's research. Proposals that have been submitted previously must include new letters of recommendation.

2. Statistical Approval (upload to the Uploads section)

Download the provided Statistical Approval letter from the submission site (Task 8: Statistical Approval) or find in Attachment B of this document, for completion by statistician or research director. The individual who signs the document will verify that statistics have been appropriately review. The signee must agree to on of three statements indicating their involvement in the statistical review of the proposal. The signee must be a participant in the study, who is not at the level of the



principal investigator. Once complete, the form should be uploaded as a PDF in Task 9: Uploads.

3. Statement of Approval or Exemption from Human/Animal Use Committees (upload to the Uploads section)

Approvals for the use of humans or animals. If these are not yet available, include a letter or statement from the institutional review board, human/animal use committee, associate dean of research or the director of research, indicating that the proposal has been submitted for approval.

Private practitioners must include the consent form and HIPAA-related forms which will be used to obtain consent from participating patients.

A proposal will not be funded until all necessary approvals are received by the Foundation.

G. Conflict of Interest Declaration (upload to the submission site)

Application will not be considered without this document. **Please see Attachment C, print and have all research participants sign. Then, upload the document to the designated place in the CadmiumCD submission site Uploads Task.**

Any research that is not consistent with, or does not advance, the Foundation's mission will not be funded.

All investigators must disclose any conflict of interest that they might have with respect to any grant application to the Foundation. Having an interest in a product, service, course or company does not necessarily impact an applicant's status. Applicants should exercise particular care that no detriment to the Foundation for Endodontics will result from conflicts between self-interest and those of the Foundation. The overall purpose of Foundation research grants is to advance the specialty and therefore any potential or real conflict of interest (see below) should be disclosed and the project should be independent of any self-interest.

ATTACHMENT A
AAE Research Priorities Research

The AAE accepts proposals in the following areas of investigation. Systematic reviews of topics related to the priority list will be considered along with other types of research.

A. Assessment of Clinical Outcomes

1. Factors affecting success of endodontic treatment
 - a. Nonsurgical and surgical endodontic treatment
 - b. Effect of number of visits
 - c. Effect of instrumentation and obturation techniques
 - d. Timeliness and quality of the coronal restoration
 - e. Effect of the dental operating microscope on the success of nonsurgical retreatment and surgical endodontic treatment
 - f. Effect of residual microorganisms following instrumentation and/or medication
2. Management of anxiety, infection, inflammation and pain
3. Long-term cost effectiveness of endodontic treatment compared to treatment alternatives

B. Assessment of New Technology Such as Devices and Materials

C. Biology of Pulpal and Periradicular Disease

1. Focal infection (relationship, if any, of endodontic treatment to systemic diseases)
 - a. Fate of remaining microorganisms in endodontically treated teeth and the supporting periodontium
 - b. Effects of acute and chronic periradicular infections and their management on systemic health
 - c. Epidemiological relationship between endodontic treatment and systemic diseases
 - d. Pathogenesis and healing of endodontic infections in patients with chronic systemic diseases
2. Development of sophisticated methods of diagnosis including enhanced imaging of teeth and periradicular tissues
3. Identification, clarification and use of neurotransmitters, growth factors, genetic or genomic factors, and other biologic regulators to manage endodontic disease
4. Effect of endodontic materials on local tissue response and systemic health
5. Contribution of microorganisms to the pathogenesis of pulpal and periradicular disease

D. Cracks and Fractures in Teeth

1. Diagnosis of cracked teeth
2. Management of cracked teeth and repair of root fractures
3. Investigation of treatment modalities for vital teeth and endodontically treated teeth
4. Development of *in vitro* and *in vivo* model systems to evaluate materials, techniques, and assessment of clinical outcomes
5. Epidemiology of cracked teeth and endodontic sequelae

E. Demographics/Epidemiology of Pulpal and Periradicular Disease

1. Prevalence of pulpal and periradicular disease and projections
2. Current and projected demand for endodontic services
3. Current and projected status of the endodontic practice

F. Endodontic/Implant Relationships

1. Relationship between endodontically treated teeth and adjacent implant(s)
2. Assessment of clinical outcomes of implants vs. endodontically treated teeth

G. External and Internal Resorption

1. Etiology and biology of root resorption
2. Effective treatment modalities with assessment of clinical outcomes

H. Educational Research

1. Current and projected status of endodontic education
2. Development and assessment of creative models and application of these models in graduate student, dental student and continuing education programs
3. Design of innovative programs that would use technology to improve the quality and efficiency of graduate student, dental student and continuing education programs
4. Development of a telecommunication system, “teledentistry,” to enhance continuing education and consultations

I. Tissue Engineering—Regeneration of the Pulpodentin Complex and Periradicular Tissues

1. Optimal scaffold materials and signaling molecules needed to regenerate the pulp-dentin complex
2. Source of cells needed to regenerate pulp-dentin complex
3. Molecular processes that control stem cell activity within the pulp-dentin complex
4. The fate of the stem cells within the pulp-dentin
5. Advantages and disadvantages of different sources of cells to regenerate the pulp-dentin complex
6. Animal models that can be used to replicate disease conditions and test hypotheses related to regenerating the pulp-dentin complex
7. The influence of enhanced methods of disinfecting and shaping the root canal system on regenerative procedures
8. Identification of desirable/undesirable outcomes of regenerative procedures
9. Identification of appropriate outcome measures of regenerative endodontic procedures :for example; bioimaging, new technologies, laser Doppler flowmetry, micro CT, etc.
10. Patient and clinical factors affecting the outcomes of regenerative endodontic procedures



ATTACHMENT B

RE: Statistical approval

Institution Name and Address:

Dear Committee Members,

I am writing in support of the application, (insert name of project)

“ _____
_____, with Dr. _____
_____ listed as principal investigator (PI).

For the purpose of this application, I declare that I:

_____ Have contributed to study design, sample power calculations and proposal of data analysis methods, and will be involved in the statistical analysis of the results

_____ Have not contributed to study design, but approve of the sample size and data analysis methods proposed, and will be involved in the statistical analysis of the results

_____ Have not contributed to study design, but approve of the sample size and data analysis methods proposed, and will not be involved in the statistical analysis of the results

Sincerely,

Signature and Credentials (Signature required, no electronic signature)

Date



**ATTACHMENT C
CONFLICT OF INTEREST DECLARATION**

All investigators must disclose any conflict of interest that they might have with respect to any grant application to the Foundation for Endodontics. Having an interest in a product, service, course or company does not necessarily impact an applicant’s status. Applicants should exercise particular care that no detriment to the Foundation for Endodontics will result from conflicts between self-interest and those of the Foundation. The overall purpose of Foundation research grants is to advance the specialty and therefore any potential or real conflict of interest (see below) should be disclosed and the project should be independent of any self-interest.

Initial either Declaration A or Declaration B:

Declaration A

In accordance with this policy, I declare that I have NO past, present, or known future financial relationship, consulting position or affiliation, or other personal interest of any nature or kind in any product, service, course and/or company, or in any firm beneficially associated therewith – and that I have not received any gifts of any kind (including intangible remuneration) from any company, individual, or other entity that might benefit from my contribution to the Foundation for Endodontics.

Initials _____ (If you initial here, do not initial Declaration B.)

Declaration B

In accordance with this policy, I declare I have a past or present proprietary or relevant financial relationship or receive gifts in kind (including soft intangible remuneration), consulting position or affiliation or other personal interest of any nature or kind in any product service, course and/or company, or in any firm beneficially associated therewith as indicated below.

Please indicate each relationship, financial interest, corporate, institutional or educational entity and whether it is past or present.

- Employee _____
- Grants/Research Support _____
- Consultant: _____
- Stock Shareholder (directly purchases) _____
- Honorarium/Gift: _____
- Financial/Material Support: _____

Initials: _____

NAME(S):

SIGNATURE(S):

DATE: _____

Application will not be considered without this document. Please see Attachment B, print and have all research participants sign. This document will then need to be uploaded to the CadmiumCD submission site in the designated Uploads Task.