RESEARCH PLAN AND SUPPORTING DATA

(See separate Research Plan documents for Registry Grants, QSVI grants, and Microgrants)

Grants should emphasize the following:

a) Potential to have a profound effect on the quality and/or safety of the orthopaedic care of children.
b) Potential applicability on a global level.
c) Clear and measurable outcomes.
d) Ability to successfully complete the funding proposal as measured by past experience, preliminary data and pilot work.
e) Potential for expanded research, future publications and continued (extramural) grant funding.
f) Collaborative nature of the grant (number of investigators and institutions involved).

Please take note that POSNA's grant format aligns with the standards of the NIH RO3 and R21 granting mechanisms to facilitate applicants to apply for federal funding without restructuring their grants. If the proposal does not comply with the following specifications, it will be returned to the applicant.

1)Required Documents:

a) Lay Summary – space for this is included in Proposal Central Application
b) Project Summary – space for this is included in Proposal Central Application
c) Specific Aims – space for this is included in Proposal Central Application
d) Research Strategy
e) References
f) Role of Orthopaedic Surgeon
g) Animal IACUC or Human IRB Statement if applicable
h) Supplemental material – if applicable

2) Document Descriptions:

a) Lay Summary:
Lay summary is a brief summary of a research project or a research proposal that has been written for members of the public, rather than researchers or professionals. It should be written in plain English, avoid the use of jargon, and explain any technical terms that have to be included. These summaries are essential to communicate to the public the focus of POSNA research.

b) Project Summary
Include the project's broad, long-term objectives and specific aims. Include a description of the research design and methods for achieving the stated goals. Write in plain language, so even a non-scientist can understand the importance of the project. *This summary most contain a statement of relevance of the project to the mission of the Pediatric Orthopaedic Society of North America.* This is a condensed version of the specific aims. These summaries are essential to communicate to the scientific community the focus of POSNA research.

c) Specific Aims
Briefly state: Significance, Hypothesis, Innovation and Impact if hypothesis is proven true and delineate the specific aims for the project with brief description of methods. This is the 'blue-print' of the proposed project. It serves as an overview for reviewers of your grant and allows others who were not assigned to read your grant gain a quick overview of your proposal so that they can participate in discussion of your grant.

d) Research Strategy
Background: Provide background for the clinical problem and key studies performed in the past.
Significance: Explain the epidemiology, morbidity, mortality and cost of the clinical problem. Provide the context of the proposed work and summarize the relevant literature regarding historical and current treatments and why they are limited.
Hypothesis: Clearly state a hypothesis and provide rationale for the hypothesis.
Innovation: Explain how the hypothesis is innovative.
Immediate and Long-Term Impact: Explain what part of clinical significance would change if your hypothesis is proven true both a) from the work proposed witching and b) from future work stemming off of the broader theory of your work.
Approach: Give details of your research plan, including how the results will be analyzed. For each specific aim mentioned in "A", show how your plan is expected to fulfill the aim.
Sample Size: *Power studies justifying sample sizes, and therefore cost of the grant, are required*. If not applicable, an explanation as to being exempt is required.
Timeline: Delineate a plan as to when the research will be completed. Be sure that the plan is not overly ambitious.

e) References
Not counted against research strategy listed immediately after research strategy

f) Role of Orthopaedic Surgeon
Provide statement, clarifying role of orthopaedic surgeon, stating significant part taken in the planning and/or execution of the design and analysis of model. Simple technical roles such as obtaining tissue samples at surgery or providing patients for analysis are not generally considered to be substantial roles.

g) Animal IACUC or Human IRB

h) Supplemental Material
(Pilot Study, Figures, and/or Appendices if necessary) – On projects where human subjects are placed at some risk, in some cases where animals are used for experimentation, or where there is a laboratory methodology with which the applying institution has not had well documented experience, the investigator may submit a pilot study. In some cases, the applicant may want to provide a copy of a questionnaire or outcomes instrument as supplementary information for the grant reviewers, especially if the instrument is not readily available in the literature. Figures may be submitted in the supplementary material, rather than in the body of the grant. **Please be advised, however, that the reviewers will be primarily assessing the main body of the proposal (sections A through E). Material that is crucial for the assessment of the proposal should be included in the main body of the grant, not in the supplementary information.**

i) Response to reviewers

If this is a resubmission, please provide a one-page explanation as to how the research group addressed the concerns raised by the previous cycle's reviewers. The POSNA research committee will be sure to consider how the investigators were able to overcome the previous cycle's reviews. Failure to provide an adequate response will reflect poorly on the resubmission. If a similar grant has been funded by POSNA in the past, please specify in detail what work has previously been completed and what will funded by the current grant proposal.

3) Page Limits:

1) Lay Summary: 15 lines of text or less
2) Project Summary: 35 lines of text or less
3) Specific Aims: 1 Page
4) Research Strategy: 6 Pages including figures and media
5) References: 2 pages
6) Role of Orthopaedic Surgeon: 15 lines of text
7) Animal IACUC or IRB: Unlimited
8) Supplemental Material: Unlimited – however, this section may not include material essential for grant review, i.e. methodology etc.

4) Paper Size and Margins

Use paper size no larger than standard letter paper size (8 ½" x 11").
Provide at least *one-half inch margins* (top, bottom, left, and right) for all pages. No applicant-supplied information can appear in the margins.

5) Font (size, color, type density) and Line Spacing

Adherence to font size, type density, line spacing and text color requirements is necessary to ensure readability and fairness. Although font requirements apply to all attachments, they are most important and most heavily scrutinized in attachments with page limits.

Text in your attachments must follow these minimum requirements:

- Font size: Must be 11 points or larger. Smaller text in figures, graphs, diagrams, and charts is acceptable, as long as it is legible when the page is viewed at 100%.
- Some PDF conversion software reduces font size. It is important to confirm that the final PDF document complies with the font requirements.
- Type density: Must be no more than 15 characters per linear inch (including characters and spaces).
- Line spacing: Must be no more than six lines per vertical inch.
- Text color: No restriction. Though not required, black or other high-contrast text colors are recommended since they print well and are legible to the largest audience.

We recommended the following fonts, although other fonts (both serif and non-serif) are acceptable if they meet the above requirements.

- Arial
- Georgia
- Helvetica
- Palatino Linotype

Legibility is of paramount importance. Applications that include PDF attachments that do not conform to the minimum requirements listed above may be withdrawn from consideration.