Memorandum

To: **Grant Applicant**
From: SAGES Research Committee
RE: Suggestions to Assist with Completing a Winning Application

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Dear Applicant:

Fortunately, SAGES receives an increasing number of research grants each year. To assist you in preparing your most competitive proposal, the SAGES Research Committee has put forth some key "Grantsmanship Pointers" for your consideration.

We use six main criteria to judge proposals:

1. **Scientific Merit**
2. **Experimental Design/Methods**
3. **Potential of Proposed Topic**
4. **Qualifications of Applicant**
5. **Facilities**
6. **Overall Grant Presentation**

SCIENTIFIC MERIT

Without doubt, this is the MOST important criterion for any grant. Here are some "Grantsmanship Pointers" to consider.

a. What is your global objective?
b. Do you have a clearly stated Central Hypothesis?
c. Can you convince reviewers your hypothesis is experimentally testable?
d. Do you indicate Specific Aims that target the Hypothesis directly?
e. Have you cited too many Specific Aims...perhaps indicating a lack of focus or over-ambition?
f. "You can't win it on the first page, but you can lose it!"...be brief in the introduction, but clear and enticing.

EXPERIMENTAL DESIGN/METHODS

Here is where many proposals fail. This area, coupled with scientific merit, carries the most weight. We suggest presenting your experimental design according to the Specific Aims as follows:

a. The Hypothesis to be tested
b. Rationale with any preliminary data, if appropriate
c. Design and Methods
d. Anticipated Results/Interpretation
e. Controls
f. Statistical Considerations - Is your planned statistical analysis appropriate for the type of data you will collect? Did you remember to include your power analysis?
g. Pitfalls

Demonstrate your insight for your experimentally testable hypothesis. If calcium, manometry, endoscopy, etc. fail you, explain what you will try next and why? Several applications are not accepted because key statistical considerations are omitted or poorly cited: sample sizes must be sufficient and justified, triplicate experiments. Elegant methodology descriptions are suspect in the absence of preliminary data. A power analysis is crucial to selling your study design. Be specific and thorough. Seek help if necessary.

Power Analysis:

In order to minimize the reporting of false-negative data, a power analysis should be performed for sample size determination. Power is the capability of a study to detect a difference if the difference really exists. A type II error occurs when a true difference exists between study populations but there are insufficient numbers of subjects to detect this difference.

Any grant submitted without one of the items below will not be eligible for review.

1. Power analysis. Please provide the following data: alpha and beta, sample size needed in each group, what difference is expected. (Example: "A power analysis was performed with a beta of .20 and an alpha of 05. Assuming that a 10% difference exists between patient and control groups, 150 subjects will be needed in each arm. Thus the study would provide an 80% chance that a difference would be detected if one exists.")

2. If a power analysis in not appropriate for the submitted project, a statement should be included explaining why a power analysis is not appropriate for the study.

Consultation with a statistician is recommended. However, there are many statistical software programs available, such as: http://www.mc.vanderbilt.edu/prevmed/ps.htm

POTENTIAL OF PROPOSED TOPIC
Here is where one demonstrates the significance and potential impact of the proposed topics. Convince the reviewer that your approach to the question/topic fills a void in our general knowledge of the topic. Be frank, i.e., "These studies can answer whether A is better or worse than B." Don't summarize the literature; rather interpret it in the context of your proposed research. Above all, stay "Hypothesis Driven" while writing the entire proposal. Get the reviewer to agree that your study will provide new, useful and interesting information about minimally invasive surgery and that it has potential to lead to further studies or funding.

QUALIFICATION OF APPLICANT AND FACILITIES
A 4-page NIH format Curriculum Vitae is necessary to demonstrate the experience of the entire research team. Demonstrating that you can execute your proposed study and have the adequate facilities and resources to carry out the research is critical. There are many, many qualified applicants. A strong CV is no guarantee of funding.

Applications with anything other than a four-page NIH format CV will not be reviewed.

OVERALL GRANTSMANSHIP
Finally, presentation is very important. Type the forms. Otherwise, it appears the entire proposal may have been prepared hastily. Make the text of the proposal visually stimulating/soothing and user friendly for the reviewer. Use your page allotments and do not use more than the allotted number of pages. Check for typos. Follow the directions carefully. The grant reviewers are very concerned about making the granting process equivalent for all investigators, so they're likely to frown upon grants that use additional pages or do not follow directions.

SEEK PEER-REVIEW before submitting . . . It's guaranteed to help you!

We hope these "Grantsmanship Pointers" can be helpful to you! Most importantly, thank you for supporting the Research Mission of SAGES.

Best Wishes with your application,

The SAGES Research Committee