

GRANT WRITING SECRETS

*Be Kind to the Reviewers -
Be Kind to Yourself*

R.A. Pierson, MS PhD

Obstetrics, Gynaecology and Reproductive Sciences
College of Medicine



UNIVERSITY OF
SASKATCHEWAN

CIHR has Four Research Themes

- Biomedical
- Clinical
- Health Services and health systems
- Population Health
 - Societal and cultural
 - Environmental influences



CIHR **IRSC**

Canadian Institutes of
Health Research

Instituts de recherche
en santé du Canada

CIHR Strategic Blueprint 2003-2008

- Strengthen Canada's health research community
- Address emerging health challenges and develop national platforms and initiatives
- Develop and support a balanced research agenda that includes disease mechanisms, prevention and cure, and health promotion
- Harness research to improve health status of vulnerable populations
- Support health innovations that contribute to a more productive health system and prosperous economy

CIHR – Making a Difference

- Improving health of Canadians
- Strengthening the Canadian economy
- Turning knowledge into action
- Supporting development of a health care system that is leading edge, evidence based and cost effective
- Building capacity in all regions of Canada
- Training the next generation of health researchers
- Attracting and retaining world class researchers

CIHR Supports

Investigator initiated research proposals

- Any area of health research
- Open competitions

Strategic Research Initiatives

- Priority areas chosen by institutes
- Requests for applications (RFA)

If you have a *novel* idea to address a specific question of clinical or scientific relevance with adequate resources, its time to write a Grant Proposal...



Thinking of Writing a Grant ?





CIHR IRSC
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CIHR Institutes

- [Funding Health Research](#)
- [Funding Opportunities](#)
- [Application Information](#)
- [Description of CIHR Funding Programs](#)
- [How to Apply for Funding](#)
- [Eligibility](#)
- [Grants and Awards Guide and other Research Policies](#)
- [All Forms and Guidelines](#)

[CIHR](#) > [Funding Health Research](#) > [Application Information](#) > [How to Apply for Funding](#)

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How to Apply for a Grant or Award

Since guides and policies change periodically, all applicants must:

1. Identify the appropriate program and eligibility requirements from the [Description of CIHR Funding Programs](#) and [Eligibility Requirements](#) for Researchers.
2. Read the [CIHR Grants and Awards Guide](#).
3. [Review the document: CIHR Application Packages](#).
4. [Acquire a PIN \(Personal Identification Number\)](#).
5. [Read the Technical Requirements to choose a PDF or WEB format](#).

As well, applicants new to CIHR must:

[Frequently Asked Questions](#)

[Tips For Writing a Successful CIHR Grant Application](#)

[Forms](#)
[CIHR Web Forms](#)

[PIN or your PASSWORD?](#)

[Print this Section](#)

To start a new application once you have identified the appropriate program, click on one of the sections below:







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1. [Research Funding Programs Application Packages](#)

2. [Research Personnel Programs: Training Award and Salary Support Programs Application Packages](#)

3. [Randomized Controlled Trials Application Package](#)

4. [Industry-Partnered Program Application Packages](#)

5. [Strategic Programs Application Package](#)

Created: 4/3/2003

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What's in Tips?

- Registration
- Rating Scale
- Resubmissions
- Adherence to Format guidelines
- Committee assignments
- Budgets
- Co-applicants
- Ethics
- Attention to Renewal Dates

Critter Cam....

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A Successful Grant Application Will Convince Reviewers *That*:

- Your proposed research addresses important questions in basic or clinical science
- Has a Central Hypothesis – The Big Picture
- Has Specific Objectives
- Your experimental plan will answer those questions in an efficient and convincing manner
- You know and understand the contemporary literature
 - Succinct Rationale
- You have sufficient mastery of the techniques required to execute your plan
- You are the best person in the world to do this project

Successful Applications *(continued)*

- You have access to all of the equipment and reagents necessary to execute your plan
- You have budgeted appropriately
- You will analyze your data in a thoughtful and honest manner
- You will publish your results in a timely manner
 - *Acknowledging support from the CIHR*
- You will accomplish your experimental plan within the time and budget requested
- Significant new knowledge will be obtained
- Improvements to health will result

What Are Reviewers Looking For?

Significance

Approach

Novelty

Team

Environment



What Are Reviewers Looking For?

In the Proposal

- Clear, testable hypothesis or central research problem
- Originality and innovation in concept or approach
- Significance and relevance to health
- Feasibility and usefulness
- Knowledge of field



What Are Reviewers Looking For?

In the Applicant

- Relevant experience
- Productivity and reputation, appropriate to stage of career
- Supportive environment



How to Aggravate the Reviewers

- Use all of the space and more
 - *Impression is that you cannot articulate your ideas*
 - *You're trying to snow the readers*
- Fill – and then some - the space for OBJECTIVES
 - *Immediately the criticism “unfocused” or “they can't do all of THAT” arises*
- Write a research plan in micro-jargonese, understandable only to your colleagues
- Ignore other workers in your area
 - *These are the people, of course, who are usually asked to review your proposal*
 - *Canada is a very small country*

How Does the Review Process Work?

- Each Committee has a **Chair** and a **Scientific Officer** who lead the group and work with the CIHR to assign **Internal and External Reviewers**
- The CIHR solicits opinions on the quality of the proposal from **External and Internal Reviews**
- **External reviewers** (2 or 3) are typically recognized experts in their field.
- Primary and Secondary **Internal Reviewers** are typically selected for the closest field of expertise

How Does the Review Process Work?

- Applications are assigned to a **Primary** and a **Secondary Internal Reviewer**
 - These people are your advocates at the review table
 - If they like your proposal, they defend it..
 - If not, they set a negative tone for voting
- Detailed written reports from the **External Reviewers** are returned to the granting agency and Internal Reviewers
 - *NB the internals know what the externals have written*

The Review Committee Meeting

Imagine that you've been working on your reviews for the past 6 weeks and having to let your own work slide

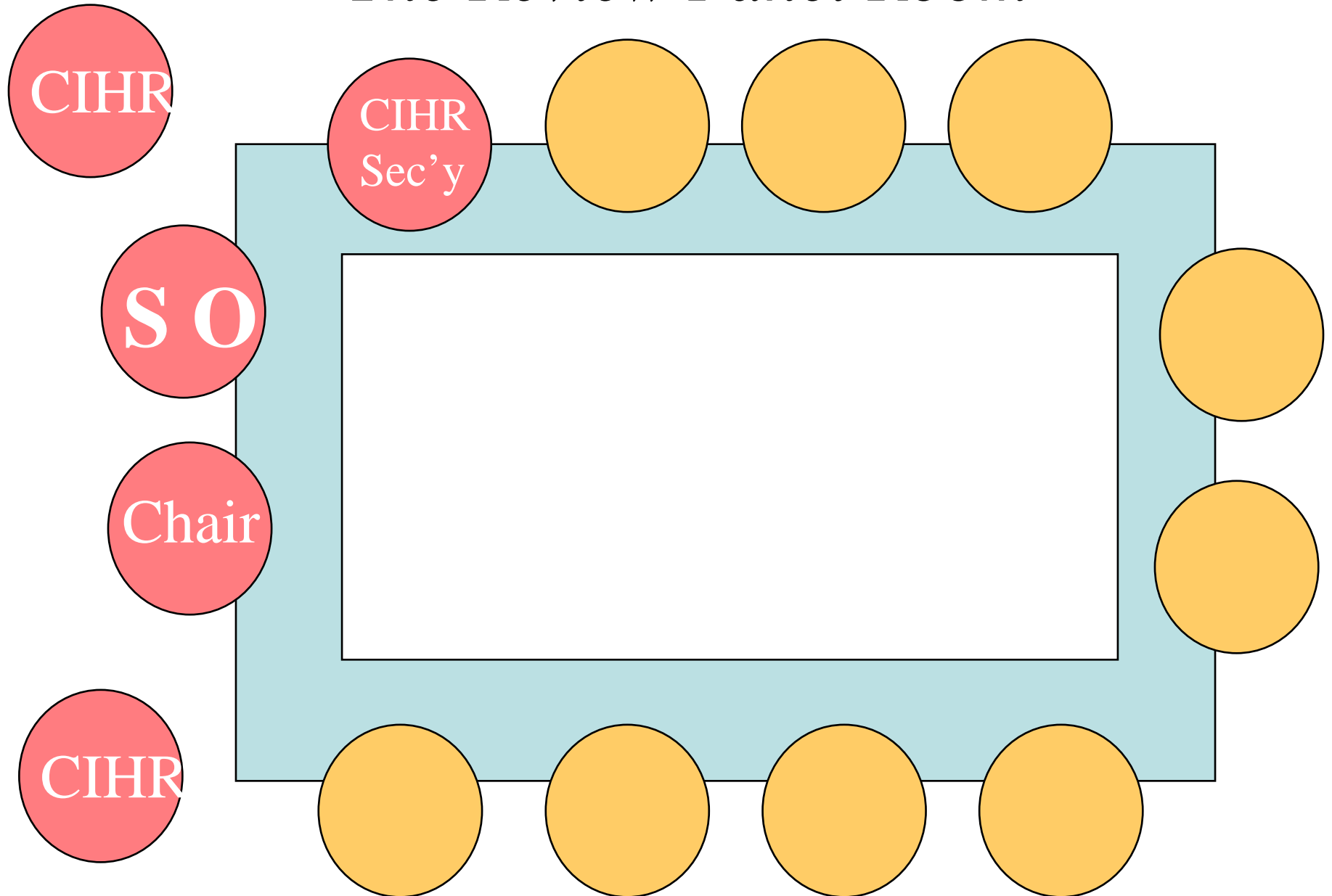
You're now in a cheap Ottawa hotel, jet-lagged, and worried about who is doing your work back at the U,

Your own chances for funding at renewal and depressed about the number of good people you are going to be a part of turning down.....



These are the members of your review panel

The Review Panel Room



At the Review Meeting

- The **Scientific Officer** announces the Title and Investigators of the Proposal and asks for potential conflicts
 - *People from the same University leave the room*
- The **Primary and then Secondary Reviewers** declare an opening score on a scale from 0 to 5
- The **Primary Reviewer** provides a synopsis of the project and investigator
- The **Secondary Reviewer** then adds information and/or perspective as appropriate
- If the 1^o and 2^o scores are close, the mean is used for the vote

At the Review Meeting


- If the 1^o and 2^o scores are distant, discussion - sometimes heated- ensues.
- Committee members may question the 1^o and 2^o Reviewers or ask who the External Reviewers were
- The 1^o and 2^o Reviewers are offered the option of changing their score based upon the discussion and a voting mean is determined.
- The remainder of the Review Panel votes within ± 0.5 points of the mean

At the Review Meeting

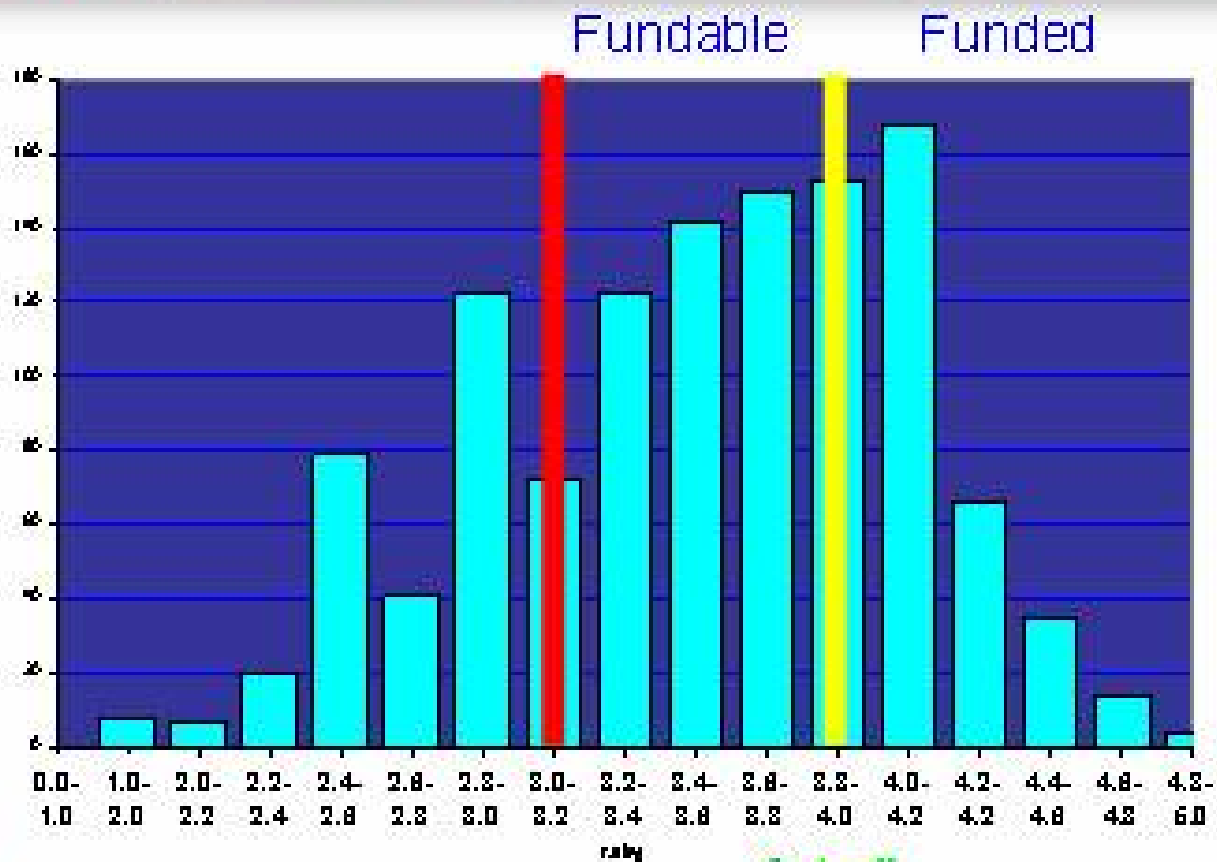
- For better or worse, the mean of the committee scores is your final score
- All external and internal reviews are collected by the granting agency and become part of the permanent file.
- The **Scientific Officer** records the score along with a synopsis of the discussion to be communicated to the investigator



The Rating Scale

4.5 – 4.9	Outstanding	Usually Funded
4.0 – 4.4	Excellent	
3.5 - 4.0	Very Good	May Be Funded
3.0 – 3.4	Solid/Significant	Seldom Funded
2.5 – 2.9	Needs Revision	
2.0 – 2.4	Needs Major Revision	
1.0 – 1.9	Seriously Flawed	
0	Not Acceptable	

Distribution of Ratings, Typical Operating Grants Competition



Funding !!

- **CIHR Council** then decides what the cut-off score for funding will be and the CIHR administrative staff does the rest
- If your score, the mean of all votes from the committee, is above the Council's cut-off point, **You WIN!**
- A letter of notification along with a copy of the reviewer's comments is forwarded to you.
- The accountant's office will set up a research account and you're off...

Why Was My Proposal Rejected ?

- If your score was lower than the cut-off
 - Well, you know the rest.....
- If funds are available, geography is not a criterion and political considerations not present - success depends on
 - Quality of the project
 - Quality of the presentation

Dealing with Rejection



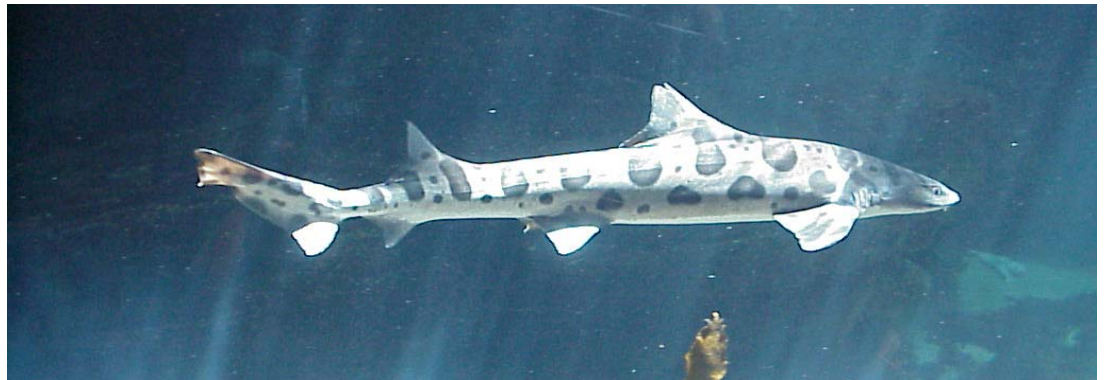
Dealing with Rejection

- Develop a thick skin...
 - its going to be a long career
- Read the reviewer's comments carefully
- You will be sad and angry
 - Spend a week being angry
- Write NASTY rebuttal letters
 - **DON'T** send them to anyone
 - They are for Therapy only



Dealing with Rejection

- After you have calmed down, re-read the critique of your application
- Gauge whether or not the reviewers showed any enthusiasm for your proposal
- A senior colleague skilled in reading critiques can help you decipher the comments
- Consider the reviewer's suggestions and requests for preliminary data



Dealing with Rejection

- Determine which parts of your proposal confused or misled the reviewers
- Decide whether or not to reapply
- If you reapply...
 - Respond explicitly to each suggestion
 - Indicate how and where you have revised your application
 - If you disagree with a reviewer, state your arguments in a logical and forthright manner

Dealing with Rejection

- **NEVER** impugn the motives or intelligence of the reviewer
- Add any improvements that you have thought of and point these out as well
 - Reviewers may have found 20 problems with your proposal, but only mentioned the most important 10
 - They will be impressed if you fix the others on your own

Thought du Jour

There is nothing so useless as doing efficiently that which should not be done at all.

Peter Drucker, 1997



Why Was My Proposal Rejected?

The 3 Most Important Considerations are:

- The Problem (58%)
- The Approach (73%)
- The PI (55%)



Why Proposals are Rejected

The Problem (58%)

- Problem is not of sufficient importance or is unlikely to produce any new or useful information (33%)
- Research based on hypothesis that rests on insufficient evidence (9%)
- Problem is more complex than the investigator appears to realize (8%)
- Problem has only local significance, or fails to fall clearly within the general field of health related research (4%)

Why Proposals are Rejected

The Problem (continued)

- Problem is scientifically premature and warrants at most a pilot study (3.1%)
- Research proposed is overly involved with too many elements under simultaneous investigation (3%)
- Description of research and its significance leaves the proposal nebulous and without clear aim (2.6%)

Why Proposals are Rejected

The Approach (73%)

- Proposed tests, methods or procedures unsuited to stated objective (35%)
- Description of the approach too nebulous to permit adequate evaluation (29%)
- Overall design not adequately thought out (15%)
- Statistical aspects not given adequate consideration (8%)

Why Proposals are Rejected

The Approach (continued)

- Approach lacks scientific imagination (7.5%)
- Controls inadequately conceived or described (7%)
- Materials the PI proposes to use are unsuited to the objective or are difficult to obtain (4%)
- Inadequate sample size (2.5%)
- Equipment outmoded or unsuitable (1 %)

Why Proposals are Rejected

The Investigator (55%)

- Inadequate experience/training for this research (33%)
- Investigator unfamiliar with recent literature or methods (14%)
- Previously published work does not inspire confidence (13%)
- Relies too heavily on insufficiently experienced associates (5%)

Why Proposals are Rejected

The Investigator (continued)

- Investigator spreading herself/himself too thin (4%)
- Needs more liaison with colleagues in the field or collateral fields (2%)
- Equipment or personnel requirements unrealistic (10%)
- Other responsibilities prevent devotion of adequate time and attention to research (3%)
- Institutional setting is unfavorable (2.5%)
- Current grants are adequate to cover costs of proposed research (1.5%)

How Do You Enhance Your Probability of Success ?

In 11 pages you must explain...

- How you are going to do it
 - Detailed work plan
 - Analysis and interpretation
 - Pitfalls, ways around them, alternatives
- Why YOU should do it
 - Relevant experience and skills
 - Collaborators for technical gaps
 - Preliminary data



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Obvious “Secrets”

- Find, cultivate and use as a mentor an established researcher with a good track record of funding
 - The mentor relationship is one of the most valuable things you will ever develop in your career as a scientist
- Perseverance and hard work are the hallmarks of success
 - *success takes ongoing dedicated effort*
- Develop collaborative relationships
 - *no one can do everything*
 - *use co-workers within and without of your institution*
 - *multidisciplinary collaborative projects are harder to turn down*

Obvious “Secrets”

Prepare your proposal well in advance

This sounds easy, but is really much harder to actually do....

Applying for a Grant: timing

Program	Registration	Deadline	Adjudication	Notification	Funding start
Operating Grants	Aug. 15	Sep. 15	Dec.	End Jan.	Apr. 1
	Feb. 1	Mar. 1	May	End June	Oct. 1
RFAs		vary			

Plan Ahead

- Have a colleague (or 2, or 3) critique your proposal
 - *It is far better to be humiliated at home than in a national forum i.e., the granting agency's review committee.*
 - *A non-critical internal review does not do you any favors.*
 - *A poorly considered, sloppy proposal will haunt you for years to come*
- Leave the writing after 2 or 3 drafts and re-edit in 1-2 weeks
 - *You lose objectivity when you are too close and too intensely involved in the project and under a deadline*
- A practical deadline is to have the proposal completed 4 to 6 weeks in advance of the CIHR deadline...
 - Mandated Internal Review
 - Optional Reading Service

Obvious “Secrets”

- Include preliminary data
 - *Important for rationale and hypothesis*
 - *Show that your proposal is based upon original observations and has a sound foundation*
- Publish preliminary data
 - *Shows that you are working in the area and are likely to publish your results*
- Submit the proposal to more than one granting agency
 - *“Don’t put all your eggs in one basket” is still true*
 - *You may have to return some money*
 - *Slightly different proposals are complementary*

Obvious “Secrets”

- Leave **NOTHING** to chance
 - *Granting agencies are looking for reasons to reject proposals*
- Do **NOT** aggravate reviewers
 - *Poor grammar, spelling errors, small type and poor copies make reviewers angry and they will miss the science in piques of irritation.*

So, go swim with the sharks...







Some are actually quite tame