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Pharmacy 476: How to Write an Introduction

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Objectives

- Discuss the components of a research proposal
 - role of the introduction section
- Discuss the format of the PharmD Investigation proposal
- Review citation of the literature

The Research Proposal

- The conduct of research is proceeded by a research proposal (plan)
 - it helps the investigator think about what is going to be done
 - it is an overall plan, scheme, structure and strategy to obtain answers to a research question or problem
 - it also ensures reviewers of the validity of the approach (that it is objective and accurate) you will use

The Research Proposal

- A research proposal should tell the reviewer(s):
 - what you are proposing to do
 - how you plan to do it
 - why you're going to do it the way you propose

The Research Proposal

- The proposal should be written so that:
 - you, the author (investigator), can use it as a guide to conduct your work
 - a reviewer will be convinced that your approach (methods) are valid, appropriate and *feasible*
 - a reviewer will be convinced of the importance and significance of the work (this research needs to be done!!)

The Research Proposal

- The proposal needs to follow specific guidelines
 - granting agency (e.g., NIH)
 - P476- see rubrics
 - PharmD investigations
- The proposal needs to be referenced with a bibliography at the end

The Research Proposal

- Introduction
 - is also referred to as the “background”
 - includes the “significance” and “relevance”
- Typically, the first section of the proposal
 - “make your case” section
 - the “attention getter” section
 - provides support for the rationale and importance of the project
 - needs to be concise and to the point
 - literature review is a central component

PharmD Investigation Proposal

- Begin to familiarize yourself with the PharmD Investigation website
 - updates and changes; due dates
 - format of the proposal
 - find a project!
- Presently, the main body of the proposal includes sections entitled:
 - Introduction
 - Background

Current Students

Current Students

- [AccessPharmacy Site](#)
- [Buildings, Laboratories, and Study Areas](#)
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- [Financial Aid Programs](#)
- [Find A Mentor](#)
- [Leadership Scholarship](#)
- [Libraries](#)
- [Other Important Sites at U-M](#)
- [PharmD Investigations Class of 2012-2013](#)
- [PharmD Investigations](#)
- [Request for Travel Funds](#)

Michigan Pharmacy Students Making an impact on their Community, at Home and Abroad



Upcoming Events

- MedChem Seminar**
Thursday, December 2
[more info...](#)
- ASHP Midyear Alumni & Friends Reception**
Monday, December 6
[more info...](#)
- Special Med Chem Seminar**
Tuesday, December 7
[more info...](#)
- MedChem Seminar**
Thursday, December 9
[more info...](#)
- Fall Term Classes End**
Monday, December 13

News



P-4 Jennifer Uns Nets APhA 2010 Patient Counseling Award



Pharmacists Score Big In Gallup Poll - Again

[More News...](#)

Message Board

Congratulations Class of 2010!

Posted by johnpj 06/02/10 11:03 AM



PharmD Investigations Class of 2012- 2013

Proposal Guidelines

Project Guidelines and
Procedures

Research Proposal
Evaluation

Timeline for Proposal
and Project
Completion

PharmD Investigations
Research Projects

Faculty Research
Interests and Projects

Faculty Individual
Section Numbers

Proposal Cover Sheet

Application for
Student Project
Funding

Updates

PharmD Investigations
Research Project
Preceptors

PharmD Investigations

Request for Travel Funds

Student Organizations

Pharm.D. Investigations Project

Pharm. D. Investigations Project is a 3 credit required course that is elected in the winter term (1.5 credits) of the third year and in the fall term (1.5 credits) of the fourth year. During the winter term of the second year, students must identify a faculty advisor and project prior to course registration. The procedure for obtaining the permission to register is provided by the Academic Services Office before registration. College of Pharmacy investigation project courses include:

- Medicinal Chemistry 569
- Pharmaceutical Sciences 569
- Pharmacy 569

Students working with investigations project advisors outside the College (after receiving permission from the Chairman of the Investigations Committee) will register for the Investigations Project Course, Pharmacy 569.

PharmD Investigation Proposal

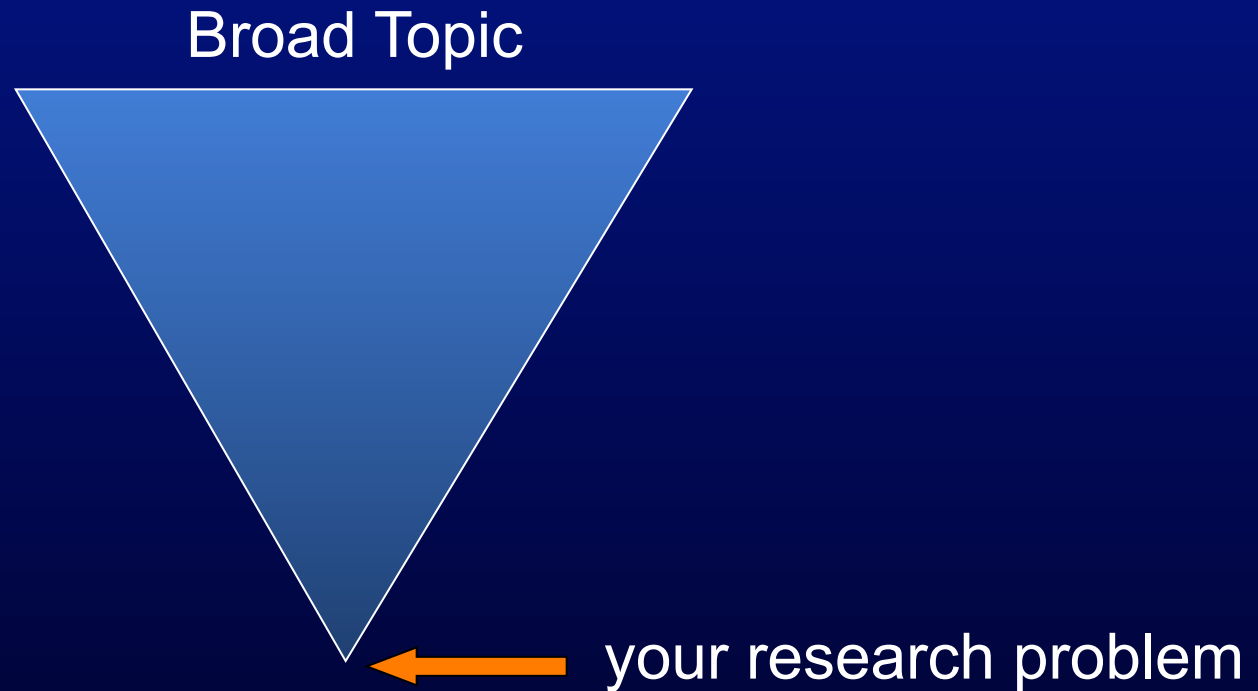
- Introduction
 - general description of topic
 - clear statement of problem
 - discussion of rationale for the project
- Background
 - concise review of published studies pertinent to the project (literature review)
 - describe what gap in knowledge the proposed work will fill

P476 Proposal

- Introduction/Background (combined) = Introduction

Introduction

- Start with a very broad perspective of the topic and gradually narrow it down to the specific element of the topic that you are going to study (your research problem).



Introduction

- Think about these aspects of your research problem as you write your introduction:
 1. the main topic (e.g., statins for IBD)
 2. historical perspective (what's been done)
 3. major theories or paradigms (what's accepted, if applicable)
 4. main issues, problems, what hasn't been addressed (gaps in our knowledge)
 5. rationale for your work; how will your study fill the gap and advance the field (why is it important)
 6. support for your hypothesis

Referencing

- You are required to develop a bibliography for your final proposal
 - RefWorks
 - <http://guides.lib.umich.edu/gradrefworks>
 - other referencing software
 - by hand

Referencing

- What to cite
 - to support the rationale for your proposed study
 - should mostly consist of the primary literature
 - websites
 - secondary and tertiary references
 - to address conflicting studies or work done to date
 - to illustrate gaps in our knowledge
 - comprehensive and concise

Bibliography

(literature cited)

- Keep track of the references you use
 - you can create a “library” in RefWorks
- In your proposal, number sequentially in the order of citation using Arabic numbers in parentheses or superscript
 - these numbers are the numbers associated with each respective reference

HLHS is a rare congenital heart disease (CHD) that has non-cardiac consequences (1).

Plastic bronchitis is a rare but life-threatening complication of the Fontan procedure. Plastic bronchitis (PB) is a rare disorder characterized by the formation of large rigid casts in the lungs that result in the obstruction of the central and lower airways (2, 6, 7). Although PB can occur in patients with cystic fibrosis or asthma, it is most often associated with the Fontan procedure, which is the third and final surgical palliation of single left ventricle physiology in children (figure 1). Most of these patients have HLHS (6, 8, 9). HLHS accounts for 7-9% of all congenital heart disease (CHD) diagnosed in the first year of life (1). Its prevalence is estimated to be 2.4 per 10,000 live births and it occurs more often in males than in females.

Literature cited:

- (1) Hirsch JC, Ohye RG, Devaney EJ, Goldberg CS, Bove EL. The lateral tunnel Fontan procedure for hypoplastic left heart syndrome: results of 100 consecutive patients. *Pediatr Cardiol* 2007; 28: 426-32.
- (2) Cajaiba MM, Borralho P, Reyes-Mugica M. The potentially lethal nature of bronchial casts: plastic bronchitis. *Int J Surg Pathol* 2008; 16: 230-2.
- (3) Madsen P, Shah SA, Rubin BK. Plastic bronchitis: new insights and a classification scheme. *Paediatr Respir Rev* 2005; 6: 292-300.
- (4) Costello JM, Steinhorn D, McColley S, Gerber ME, Kumar SP. Treatment of plastic bronchitis in a Fontan patient with tissue plasminogen activator: a case report and review of the literature. *Pediatrics* 2002; 109: e67.
- (5) Dunn JS, Nayar R, Campos J, Hybertson BM, Zhou Y, Manning MC, et al. Feasibility of tissue plasminogen activator formulated for pulmonary delivery. *Pharm Res* 2005; 22: 1700-7. PMC ID# 2040297
- (6) Zaccagni HJ, Kirchner L, Brownlee J, Bloom K. A case of plastic bronchitis presenting 9 years after fontan. *Pediatr Cardiol* 2008; 29: 157-9.
- (7) Park JY, Elshami AA, Kang DS, Jung TH. Plastic bronchitis. *Eur Respir J* 1996; 9: 612-4.
- (8) Quasney MW, Orman K, Thompson J, Ring JC, Salim M, Schoumacher RA, et al. Plastic bronchitis occurring late after the Fontan procedure: treatment with aerosolized urokinase. *Crit Care Med* 2000; 28: 2107-11.
- (9) Tzifa A, Robards M, Simpson JM. Plastic bronchitis; a serious complication of the Fontan operation. *Int J Cardiol* 2005; 101: 513-4.

Bibliography Format

- Output style: Vancouver
- Format:
 - List first six authors:
Halpern SD, Ubel PA, Caplan AL. Solid-organ transplantation in HIV-infected patients. *N Engl J Med*. 2002;347:284-7.
 - More than six authors:
Rose ME, Huerbin MB, Melick J, Marion DW, Palmer AM, Schiding JK, et al. Regulation of interstitial excitatory amino acid concentrations after cortical contusion injury. *Brain Res*. 2002;935(1-2):40-6.

Bibliography Format

- International Committee of Medical Journal Editors (<http://www.icmje.org/>)
 - uniform requirements for manuscripts





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Slide 5: Kumar, R. Chapter 13: Writing a Research Proposal. In: Research Methodology, 2nd Edition.

Slide 6: Kumar, R. Chapter 13: Writing a Research Proposal. In: Research Methodology, 2nd Edition.

Slide 10: <http://sitemaker.umich.edu/pharmdinvestigations/home>

Slide 11: Regents of the University of Michigan, <http://pharmacy.umich.edu/pharmacy/home>

Slide 12: Regents of the University of Michigan, <http://sitemaker.umich.edu/pharmdinvestigations/home>

Slide 13: <http://sitemaker.umich.edu/pharmdinvestigations/home>

Slide 16: Kumar, R. Chapter 13: Writing a Research Proposal. In: Research Methodology, 2nd Edition.

Slide 20: Source Undetermined

Slide 23: Colin_K, Flickr.com, <http://www.flickr.com/photos/colinkinner/2200500024/>

Slide 24: University of Michigan, <http://www.umich.edu/>