



# Why you hate your MMed research project... and shouldn't

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# Why you hate your MMed research project...

- Research not a focus in undergrad
- Fear:
  - What is this research you speak of?
  - A T-Test will tell me all I need to know
  - What do you mean my pipetting sucks??
    - *Said to me by a surgeon (He who shall not be named).*
- Alienation:
  - Do I need help?
  - Who do I ask for help?
  - HELP!!!!!!!!!!
- Clinical Workload



<https://i.insider.com/5c936008dd0861233d44d8c3?width=700>

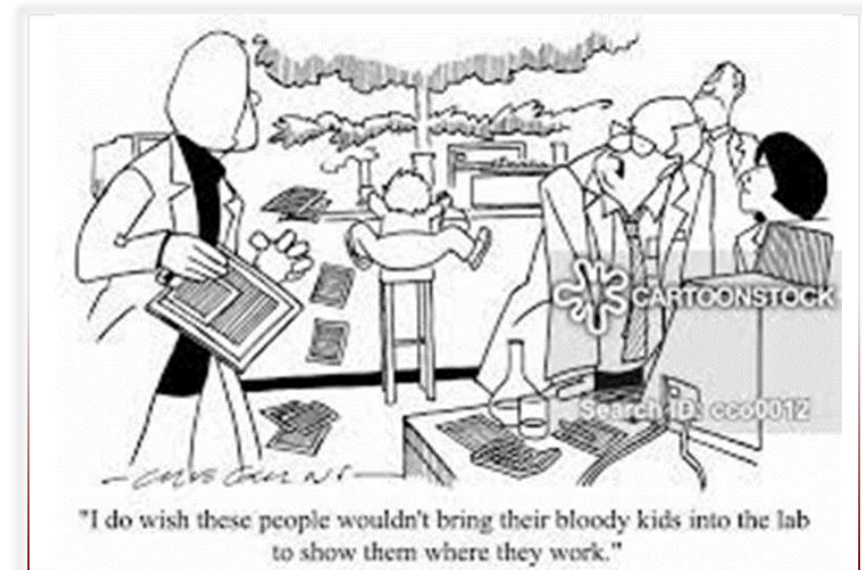
... and why you shouldn't

- Undergrad perspectives...
  - Early exposure to medical research<sup>1</sup>
  - Positive attitude to research

BUT

- Lack of confidence in interpreting articles
- The performative student?
  - Interpretation vs sinking your teeth in

Research?  
But no-one taught me  
this



*"Only the fundamentals need to be covered and not too much extra coursework must be added without first removing other unnecessary coursework."*<sup>2</sup>

# MMed Purpose...

"Problems surrounding students are that they are not interested in the subject, since they do not see the value..."<sup>2</sup>

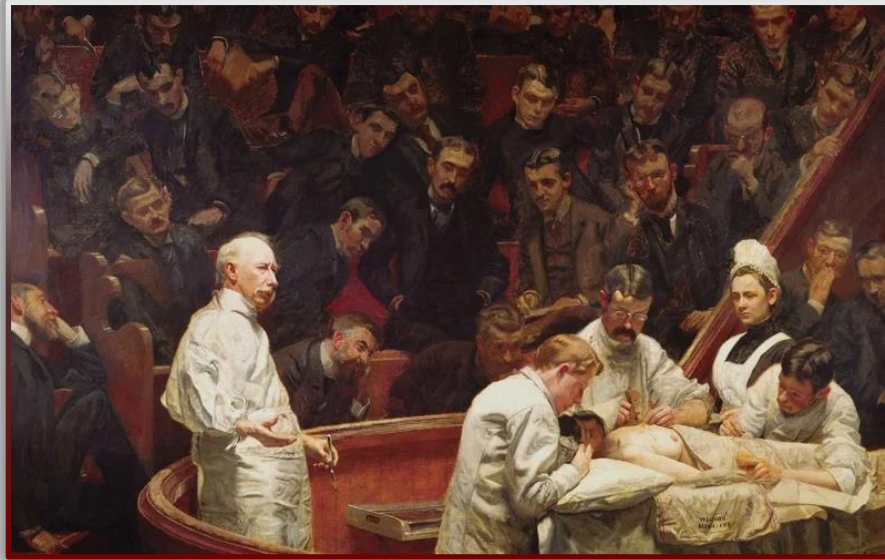


"Good news.  
Your cholesterol has stayed the same,  
but the research findings have changed."

[www.google.com](http://www.google.com) (an example of a terrible citation)

- Exploratory & Explanatory
- Build knowledge - learn
- Double-check!
  - Disprove hypotheses
  - Substantiate claims
- *Inform action*

# Surgical Advancements



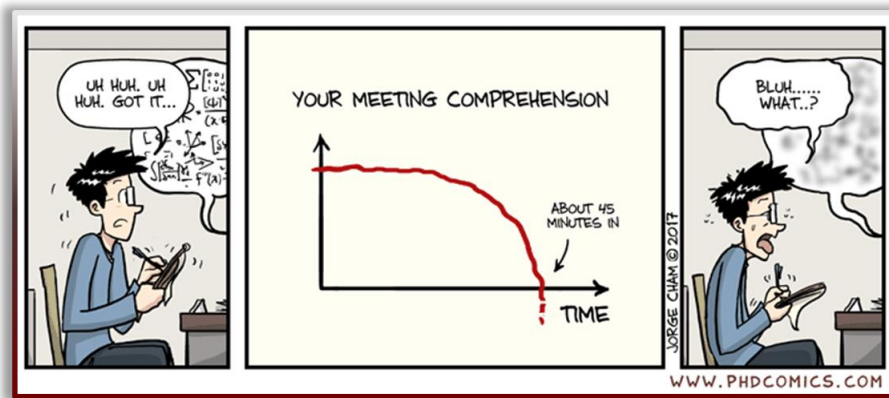
<https://static.scientificamerican.com/sciam/cache/file/9CAD602D-B0E2-412A-B25103BC2AF402A6.jpg>

- Surgical Care
- Treatment & Procedures
- Robotics
  - Telesurgery
  - Robotics + Wireless
- Artificial Intelligence
  - Decision –making/precision-making algorithms

What do YOU find interesting & exciting?

# MMed Topics ... ... & supervisors

- How do I find a research question?
  - Reading
  - Talking
  - Refining



[www.google.com](http://www.google.com) (another example of a terrible citation)

- How do I find a supervisor?
  - Expectations...
- Research support
  - Department
  - Faculty courses

# MMed Topics ... ... & supervisors

- Choose your topic:
  - *Not based on what scares you least*
    - Retrospective reviews
    - Prospective studies
    - Laboratory-based

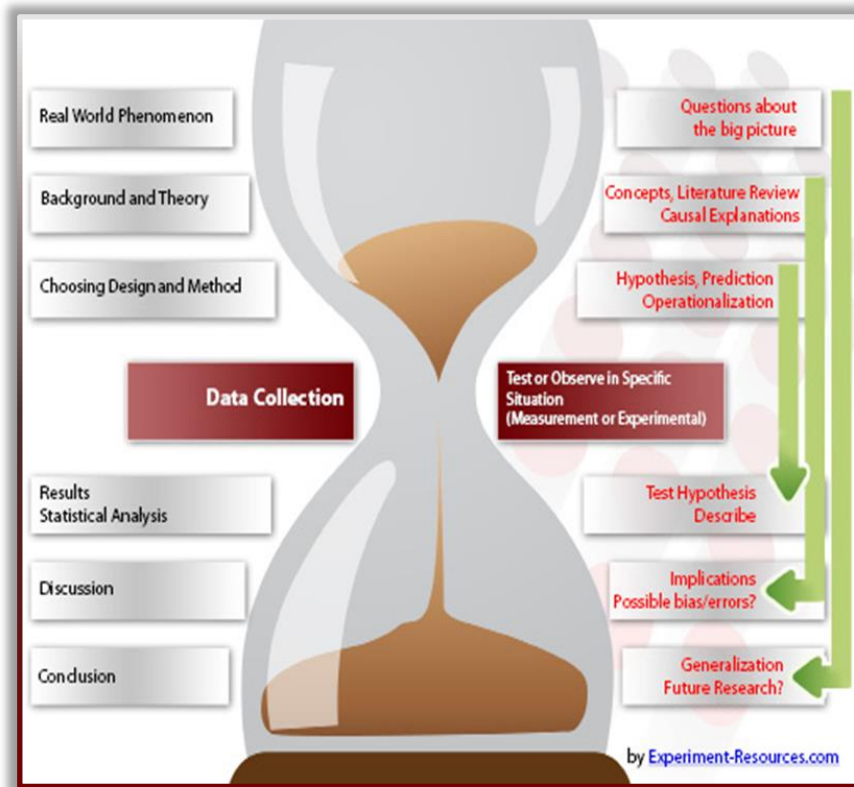


## Proposal Preparation:

- Rational rationale
- Comprehensive background
- Methods
  - Feasibility (can this actually be done??)
  - Funding
  - Timelines
  - Data collection & analysis
- Expected results to guide interpretation

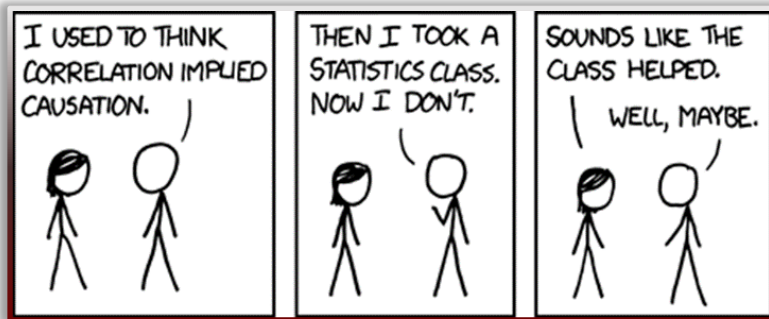


# Conducting the actual project>>..



- Post-ethics clearance & proposal review
- Data collection:
  - Planning!
- Engage – identify questions & problems
  - Putting out fires
- Reading
  - New questions
- Chatting about your research...

# Data analysis...



[www.google.com](http://www.google.com) (terrible citation)

*"It is not necessary for medical students to know exactly how each of the summary tools is calculated because it will be done by a statistical computer software package." <sup>2</sup>*

- So, before you collect the data: Study design is everything
  - Factor the data analysis upfront – know what you are looking for!
  - Biological questions
- Bad data in, bad data out
- Can you explain it?
  - Biological questions
- A story about a surgeon named Jack Allen 😊

... And then you have to write it-up

- Writing is an art itself...
- Write for your reader, supervisor or examiner
  - Never write for yourself
- Reading... again

**DECIPHERING ACADEMESE** YES, ACADEMIC LANGUAGE CAN BE OBTUSE, ABSTRUSE AND DOWNRIGHT DAEDAL. FOR YOUR CONVENIENCE, WE PRESENT A SHORT THESAURUS OF COMMON ACADEMIC PHRASES

"To the best of the author's knowledge..."	=	"WE WERE TOO LAZY TO DO A REAL LITERATURE SEARCH."	"It should be noted that..."	=	"OK, SO MY EXPERIMENTS WEREN'T PERFECT. ARE YOU HAPPY NOW??"
"Results were found through direct experimentation."	=	"WE PLAYED AROUND WITH IT UNTIL IT WORKED."	"These results suggest that..."	=	"IF WE TAKE A HUGE LEAP IN REASONING, WE CAN GET MORE MILEAGE OUT OF OUR DATA..."
"The data agreed quite well with the predicted model."	=	"IF YOU TURN THE PAGE UPSIDE DOWN AND SQUINT, IT DOESN'T LOOK TOO DIFFERENT."	"Future work will focus on..."	=	"YES, WE KNOW THERE IS A BIG FLAW, BUT WE PROMISE WE'LL GET TO IT SOMEDAY."
			"...remains an open question."	=	"WE HAVE NO CLUE EITHER."

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WHY PUBLISH?

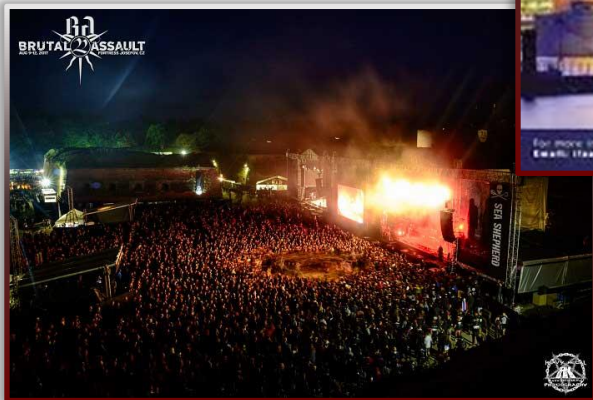
# ... Why attend conferences... Why publish?



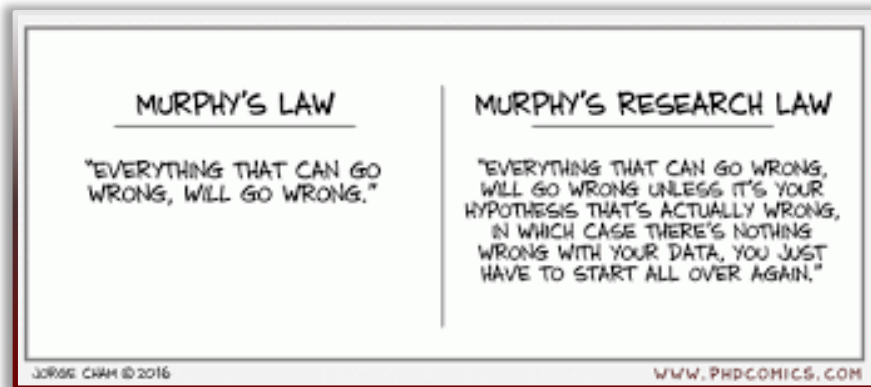
- Presentations
  - Faculty events
  - Local & International conferences
    - Rub shoulders & network
    - Get new ideas & learn

## ○ Publish

- Get your work out there!
  - DHET/ISI accreditation
- Value & Impact



# Help... is on it's way



- Supervisor
- Friends:
  - MMed Coordinators
  - Other MMed candidates
  - MSc and PhD students (your best friends in lab work)
- Get involved
- Ancillary support
  - Faculty does have helpful courses
  - University counselling
    - Burnout is real
- Foes:
  - Uhm. Reviewer Number 2

# Lastly, but not least ... Clinical Workload

- I can say very little on this

EXCEPT

Find a super(human) mentor

- Been there, done that & happy to teach, mentor and facilitate



Prof Pradeep Navsaria as *Batman*  
Dr Jenny Edge as *Wonderwoman*  
Dr Ines Buccimazza as *Princess Leia*  
Prof Dan Montwedi as *Superman*

&

Prof Martin Smith as *Chuck Norris*

# REFERENCES

1. Adefolalu A., et al. (2018). Knowledge and attitudes of undergraduate medical students with regard to medical research at a South African university. *Afr J Health Professions Educ*; 10(4):205-209.
2. Dommissie J and Joubert G. (2009). Profile of research methodology and statistics training of undergraduate medical students at South African universities. *SA Fam Pract*; 51(2):158-161

○ Contact for mentorship  
(really, they let me do this):

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