Scientific Writing For the Surgical Trainee

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Outline

- Why
- How
- Tell the World
WHY?
Me, Myself and I

- MMed
- Before graduation
- Job
- Promotion/Tenure
- Grants
- Recognition
- Network with others
For Humanity

- Global or Local question
- Inform the world
- Validate a new technique/aspect
- Document your experience
- Stimulate Interest
How?
Start Early.....Now

- Join Existing Study
- Simple solo projects
- Practice makes Perfect
- Manage Expectations
Form Teams

- Learning
- Collaboration
- Impact
- Funding
Formulate Good Questions

- New
  - Treatment
  - Population
  - Knowledge
  - Disease distribution
- Interesting
- Practice Changing
- Based on Sound Science
Where Do I Start?

- Common Conditions
- Presenting as expected
- Managing them like others
- Outcomes any different
Starting Point...

- What is topical
  - Specialty
  - Global

- Aligning to Funders/Policy
  - COVID
  - NCDs
  - Maternal Health
Should be

- Clear – Easily Understood
- Focused – Narrows on a specific issue
- Concise – Needs few words
- Objective – Measurable
- Complex – Not Yes/No
- Arguable – Not Accepted Fact
- Relevant – To situation/times/specialty
Should be

- Original – Novel, New Aspect
- Interesting – Appeals to target audience
- Researchable – Using means available to you
- Ethical – Human/Animal, Special Groups
- Analytical - Better than Descriptive
Steps

• Choose a general topic
• Research on the topic – Better than Armchair Speculation
• Consider Target Audience
• List Preliminary Questions
• Evaluate the questions
Consider the Following

- Resources
  - Human
  - Facilities
  - Financial
- Expertise
  - HR
  - Clinical
  - Statistical
- Time
- Your Passion
Steps...

- Consider HOW they could be answered
- Find a niche/gap
- Answer ‘So What?’
- Hypothesize – For, Against
- PICO/PEO
- Begin your research!!!
TELL THE WORLD
Problems

- The dissertation is >50 pages long
- The dataset has >50 variables
- Journals will only accept about 3000 words or 4 pages
- You believe every single page of the dissertation/dataset is very important
- Not many people share that view
Solution

- 1 dissertation – 1 manuscript?
- Not Really
- What are the messages in your dissertation?
- Break them down into simple distinct messages
- Write a paper for each of the messages
Example - Dissertation

- Treatment and outcome of Ankle injuries
- Included data on closed fractures, open fractures and ligament injuries
Open Fractures should be managed early – Compare outcome of Early vs Late Mx

Unstable injuries should be operated on – Compare outcome of ORIF vs POP

Ligament injuries have poor outcome – Outcomes of ligament injuries
Condense the Material

- Introduction – 1st 2 lines of the Introduction
- Literature Review – Body of Introduction
- Justification, Hypothesis, Objectives – Last line of Introduction
Condense......

- Methodology – Just the important steps – 2 paragraphs
- Results
  - Summarise the raw data first
  - Be candid (dropouts, missing data etc)
  - Only include the variables that tell the story you want to state
  - Figures and Tables should summarise results not require detailed explanations
Forty percent of patients who had fractures reported excellent outcomes when compared with 20% of those who had dislocations and 30% of those who suffered fracture dislocations.
Examples.....

- Fracture dislocations were associated with a higher incidence of poor outcomes (Figure X)
Discussion

- Paragraph 1 – Summarise important results
- Paragraph 2 – How does your data compare to other studies
- Paragraph 3 – Postulate as to why your results are as they are
- Conclusion – What is the implication of the results in science
Summary

- Altruistic Research
- Collaboration
- Ask Good Questions
- Distil Dissertation
- Publish or Perish