

SURG238: PRACTICAL INTRODUCTION TO CLINICAL RESEARCH

Welcome to Week 3!

Agenda

1. Zotero- Chris Stave
2. How to write the introduction
3. Importance of accurate citations
4. Advanced literature search

Write like a factory. Same format, every time.

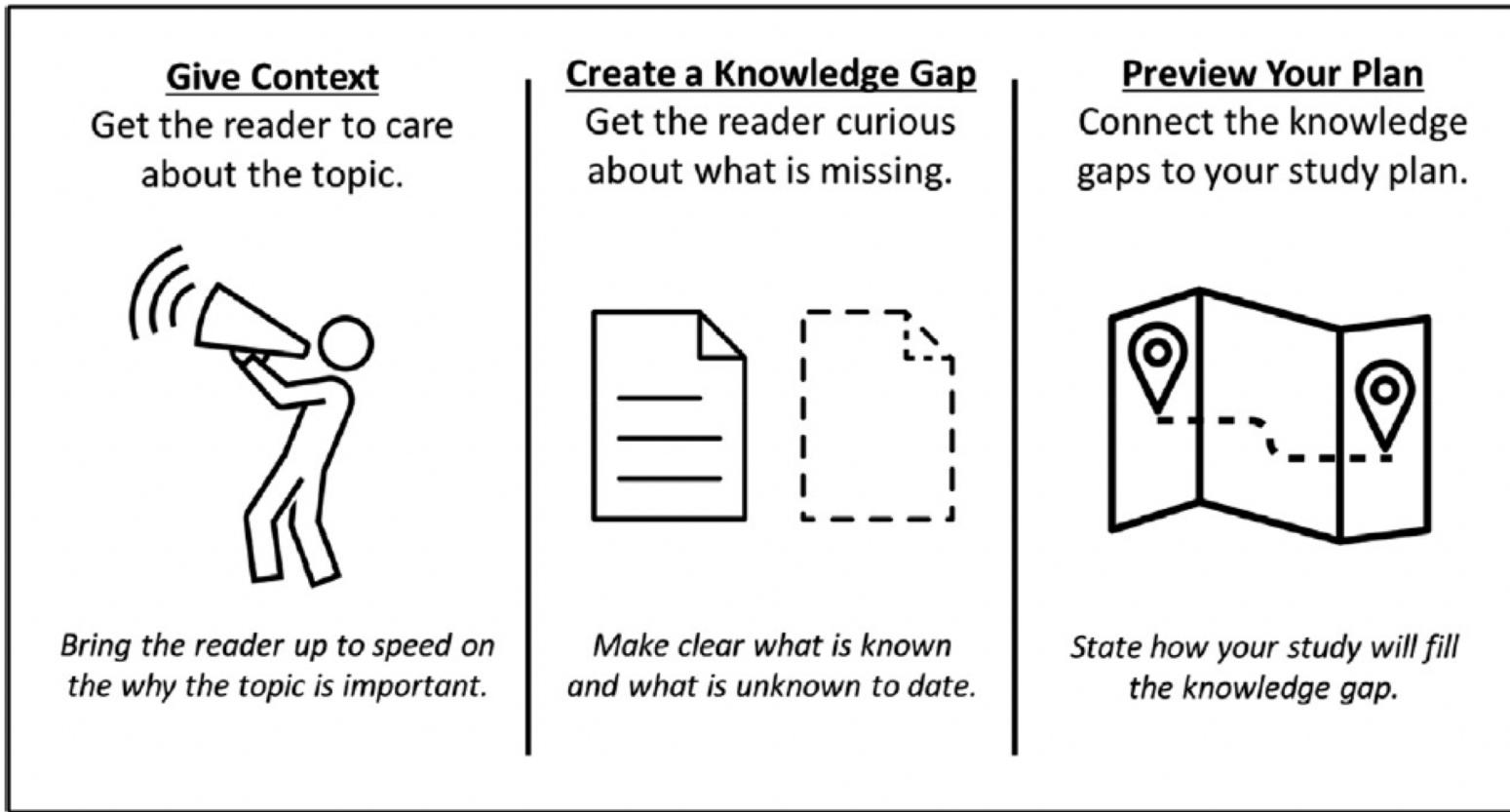


FIGURE 9.2 The three paragraphs of an effective introduction.

Table II

Themes noted in making recommendations to initially accept a manuscript

Theme	n	Selected comments
Importance/relevance	6	High interest to the readership Answers a clinically relevant question Adds new knowledge Improves understanding of a disease process Improves patient outcomes Conclusions are useful and important
Data analysis	5	Conclusions are supported by the results Data analysis is appropriate Supports or challenges a hypothesis in a valid evidence-based manner
Study design	3	Study is well designed and appropriate Hypothesis-driven Mechanistically based
Manuscript construction	3	Well written and organized

Malangoni MA, Evans DB, Prinz RA, Hodin RA, Rege R, Harken AH. Tips for authors of surgical manuscripts from senior reviewers. *Surgery*. Published online January 22, 2021. doi:[10.1016/j.surg.2020.12.020](https://doi.org/10.1016/j.surg.2020.12.020)

Rib fractures are common injuries that affect more than 500,000 Americans annually.¹ Growing evidence has informed optimizing inpatient management over the past decade (e.g. multimodal analgesia, standardized rib fracture bundles); improving outcomes after hospitalization is the emerging frontier. Understanding quality-of-life (QoL) after hospital discharge can inform expectation-setting with patients and guide efforts to improve outcomes beyond hospitalization. Trauma-specific QoL questionnaires are now available to provide nuanced natural history of injury convalescence.^{2,3}

Long-term (≥ 12 months post-injury) QoL after traumatic rib fractures remains understudied. Previous studies reported that rib fractures are associated with disability and suboptimal QoL up to three months after discharge.^{4,5} Although most patients with rib fractures undergo non-operative management nationally,⁶ long-term QoL after rib fractures has more frequently been assessed for patients undergoing surgical stabilization.^{7,8} A study that did explore long-term QoL after non-operatively managed rib fractures was limited to victims of major trauma.⁹ To advance the next frontier of rib fracture management, there is a critical need to better characterize long-term QoL using trauma-specific questionnaires.

We aimed to evaluate long-term QoL after traumatic rib fractures in the contemporary decade of standardized rib fracture management. Using a validated trauma-specific questionnaire and a rib fracture-specific frailty assessment tool, we detail recovery experiences to inform patient expectation-setting and guide future efforts to improve long-term outcomes after hospitalization. We hypothesized that patients with rib fractures, even as an isolated injury, continue to suffer suboptimal long-term QoL.

3 paragraphs (can combine 1+2 if explaining background to knowledgeable audience)

3 phrases I always use:

- “There is a critical need...”
- “We aimed to...”
- “We hypothesized that”

Choi J, Khan S, Sheira D, Hakes NA, Aboukhater L, Spain DA. Prospective study of long-term quality-of-life after rib fractures. *Surgery*. Published online December 27, 2021:S0039-6060(21)01174-0. doi:[10.1016/j.surg.2021.11.026](https://doi.org/10.1016/j.surg.2021.11.026)

We live in the era of information overload

The Weight of Surgical Knowledge Navigating Information Overload



Choi, Jeff MD, MSc^{*,†}; Stave, Christopher MLS[‡]; Spain, David A. MD^{*}

On average, 367 new peer-reviewed articles (including 16 RCTs) are added to surgical literature DAILY

Inaccurate citations are prevalent in literature

[CITATION] **The art of writing a scientific article**

J Van der Geer, JAJ Hanraads, RA Lupton - J. Sci. Commun, 2000

☆ 99 Cited by 1163 Related articles

Inaccurate citations are prevalent in literature

Dan Quintana @dsquintana · Oct 9, 2020 ...
This paper has been cited 1163 times, except it DOES NOT EXIST.
This 'paper' was used in a style guide as a citation example, was included in some papers by accident, and then propagated from there, illustrating how some authors don't read *titles* let alone abstracts or papers

[CITATION] The art of writing a scientific article
J Van der Geer, JAJ Hanraads, RA Lupton - J. Sci. Commun, 2000
☆ 1163 Cited by 1163 Related articles

Inaccurate citations are prevalent in literature

- Biomedical literature: up to 20-25% citation inaccuracy rate^{1,2}
- Most highly-cited articles in influential surgical journals: 9% citation inaccuracy rate

May 26, 2021

JAMA Surgery

Citation Inaccuracies in Influential Surgical Journals

Jeff Choi, MD, MSc^{1,2,3}; Anshal Gupta, MTM^{1,2}; Aydin Kaghazchi, BS^{1,3}; et al

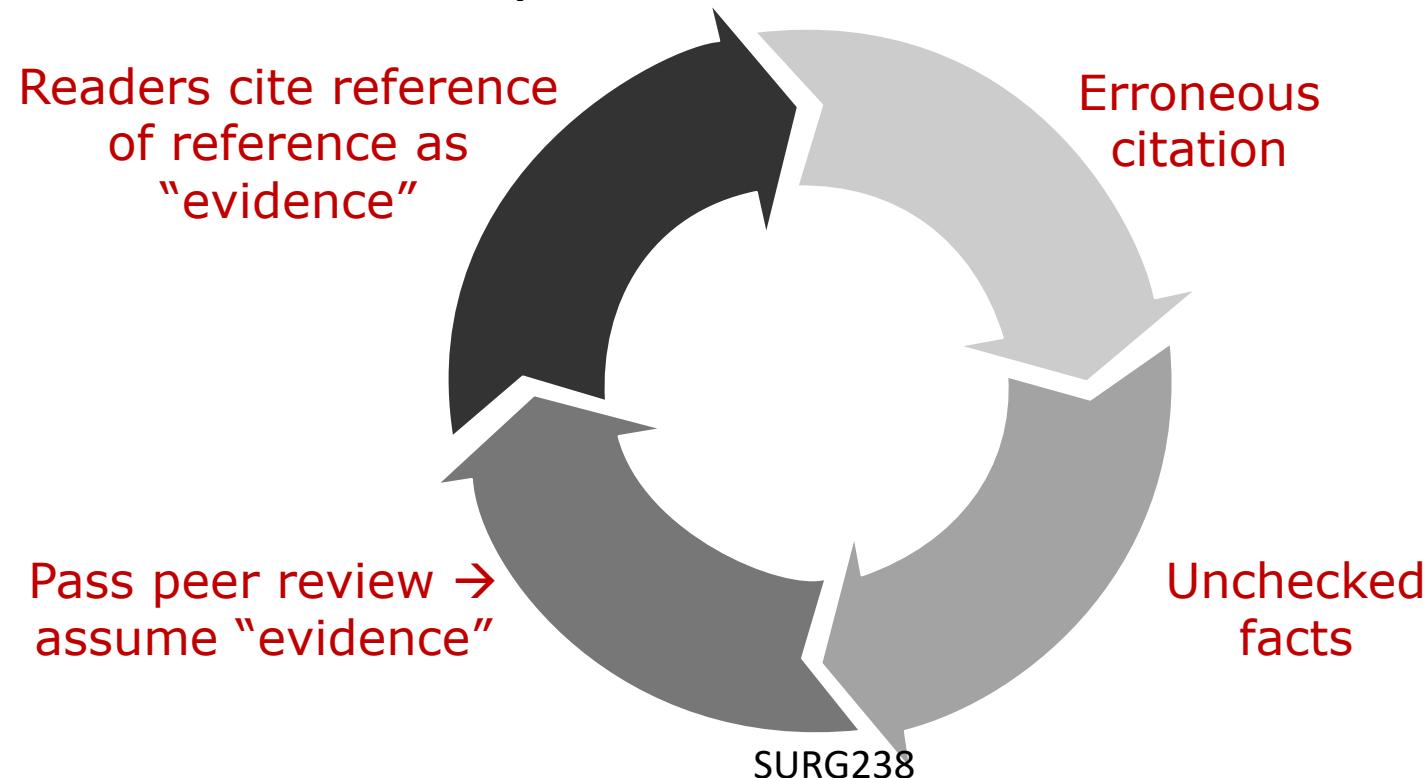
¹Jergas H, Baethge C. Quotation accuracy in medical journal articles-a systematic review and meta-analysis. PeerJ. 2015;3:e1364. doi:[10.7717/peerj.1364](https://doi.org/10.7717/peerj.1364)

²Wager E, Middleton P. Technical editing of research reports in biomedical journals. Cochrane Database Syst Rev. 2008;(4):MR000002. doi:[10.1002/14651858.MR000002.pub3](https://doi.org/10.1002/14651858.MR000002.pub3)

Why are accurate citations important?

Citations= critical framework for disseminating knowledge

Many co-authors, reviewers, editors, readers likely *assume* citations are accurate → Citation Error Trap



Mitigating citation errors

Box. Checklist to Mitigate Citation Inaccuracies

Consider

- Using a reference manager (eg, Zotero, Endnote)
- Citing material after reading the body of the article
- Citing primary source^a
- Confirming referenced article's population can be extrapolated; consider including enough information to allow readers to judge for themselves
- Being explicit when citing animal studies
- Double-checking important citations (principal investigators and peer reviewers)

Avoid

- Manually updating references
- Citing based on title or abstract alone
- Citing secondary citation (ie, reference of a reference) without reading primary source
- Substantiating findings or scope of problem from different populations
- Suggesting animal studies reflect clinical practice
- Assuming citations are accurate

^a Citing evidence synthesis after reading would be appropriate.

For every fact you cite, READ the paper (not just title/abstract), make sure you agree with authors' claims, cite the original source (not reference of a reference).

of citations is NOT a proxy for quality (might reflect “Matthew effect”: the rich get richer)

How to search literature: PubMed field tags

“Chest tube for hemothorax”



("thoracic injuries/complications"[Mesh] OR "thoracic injuries/therapy"[Mesh] OR traumatic[TW] OR trauma[tiab] OR "thoracic injur*"[tw]) AND (hemothorax[Mesh] OR hemothora*) AND ("thoracostomy"[Mesh] OR thoracostom* OR “chest tub*” OR “chest tubes”[Mesh] OR drain*[TW])

Searching the literature: PubMed field tags & mesh

[ti] TITLE searching is an incredibly effective initial strategy as it quickly retrieves highly relevant citations that you can build from. *hispanic* [ti] AND screening [ti] AND colorect* [ti]*

[tw] TEXTWORD searching is a broad search of multiple fields within a reference, *not* the full text of the article. These fields include: title, abstract, medical subject headings, and author keywords.

hispanic [ti] AND colorect* [ti] AND screen* [tw] AND (outcome* [tw] OR surviv* [tw])*

[mesh] MEDICAL SUBJECT HEADINGS. Standardized headings that retrieve synonyms for a particular term, e.g., the mesh term *kidney calculi* will retrieve articles where the authors use synonyms like *kidney stones*, *renal calculi*, *nephrolithiasis*, etc. Roughly 90% of PubMed contains mesh. *"Colorectal Neoplasms/diagnosis"[mesh] AND "Hispanic Americans"[mesh]*

More on mesh: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2651214/>

Searching the literature: PubMed booleans, operators

AND: each search term in the query must occur within the reference

- *co-management AND surgery AND internal medicine*

OR: any of the search terms can occur within the reference

- *kidney stones OR kidney calculi OR renal calculi*

NOT: none of the search terms should occur within the reference

- *skull based AND endoscopic AND surgery NOT cadaver*

Parentheses: group conceptual units

- *Eating disorders AND teenagers OR adolescents*
- *Eating disorders AND (teenagers OR adolescents)*

*Capitalize Boolean operators

Searching the literature: PubMed wild cards

Wildcards (*): variants in spelling or word endings

- *hypertens** = *hypertension, hypertensive, ...*

Phrase searching: double quotes to search exact terms

- *“laryngeal mask airway”*