How to Write an Abstract

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Qualities of a Good Abstract

- Clear and concise
- Uses active voice whenever possible
- Conforms to the required length limit
- Uses abbreviations and technical terms sparingly
- For abstracts of journal articles:
    - Has the same tone and emphasizes the same points as the overall manuscript
    - Does not contain information that is not in the body of the article

Original Research Abstracts

Typically have 4 short sections: Introduction, Methods, Results, and Discussion (or Conclusions)

Introduction

- Does not simply repeat the information in the title
- Consists of 1-3 sentences that accomplish the following objectives:
    - Introduce the topic and explain why it is important

      "Patients with chronic kidney disease (CKD) who undergo thoracoabdominal aortic aneurysm (TAAA) repair are vulnerable to worse postoperative outcomes. How CKD affects the outcomes of patients who undergo the most extensive repairs—who are probably at highest risk because of extended ischemic times and other factors—is unknown."
    - Briefly state your research question in specific terms

      "We sought to determine whether preoperative CKD predicts poor outcomes in patients who undergo Crawford extent II TAAA repair."

Methods

- Indicates the way you addressed the research question with phrases like *randomized controlled trial*, *case-control study*, *systematic review*, etc

  "Data were retrospectively collected regarding patients with CKD (defined as a preoperative estimated glomerular filtration rate <60 mL/min/1.73 m^2; n=399) and without CKD (n=604) who underwent extent II TAAA repair during 1991-2016."
- Describes the essential details of the study, including primary end point(s)

  "We used univariate and multivariable analyses to compare outcomes between these 2 groups. Adverse event, a composite, was defined as operative death or persistent stroke, paraplegia, paraparesis, or renal failure necessitating dialysis."

Results

- Describes the principal findings of the study
  > "Compared with patients without CKD, patients who presented with CKD were older and had greater rates of comorbidities, including coronary artery disease, cerebrovascular disease, and peripheral vascular disease. Patients with CKD had greater rates of operative mortality and adverse events."
- Provides a result for every method (eg, if the Methods describes a particular analysis, the Results should include the main results of that analysis)
  > "Multivariable modeling indicated that CKD independently predicted adverse event (relative risk ratio [RRR]=1.61, P=.01) and renal failure (RRR=1.86, P=.02) after repair. After adjustment for age, patients with CKD had substantially worse mid-term survival than those without (23.9±2.4% vs 48.5±2.5% at 10 y, P<.001)."

Conclusions

- Summarizes your findings and their implications
- Answers the question raised in the Introduction
  > "In patients who present with CKD, extensive (extent II) open TAAA repair carries considerable risk of operative death and adverse events. Further investigation is needed to improve renal protection during such repair."

(Example from Coselli et al, The impact of chronic kidney disease on outcomes after Crawford extent II thoracoabdominal aortic aneurysm repair in 1003 patients. Presented at the 97th Annual Meeting of the American Association for Thoracic Surgery, April 29 – May 3, 2017, Boston, Massachusetts.)

Case Report Abstracts

Usually unstructured

Often have a low word limit (eg, 100-150 words)

Should emphasize what is unique, important, or illustrative about the case or treatment described in the report

Typical content

- Introduces the topic
  > "Open surgical repair of ruptured thoracic aortic aneurysms is associated with high mortality and morbidity, especially in patients with significant comorbidities. In such patients, endovascular aneurysm repair may be a better approach."
- Explains how the case is relevant to the topic
  > "We successfully deployed endovascular stent-grafts to repair a contained rupture of a descending thoracic aortic aneurysm in an 86-year-old man with prohibitive comorbidities."
- Summarizes the most important information provided in the report
  > "Magnetic resonance angiography performed 2 months after the procedure showed a patent stent graft, a patent left subclavian artery, and complete exclusion of the aneurysm."

- Describes the potential implications of the case
  "This case suggests that endovascular treatment can produce satisfactory outcomes in patients with significant comorbidities."

(Example from DeFrain et al. Endovascular repair of a ruptured descending thoracic aortic aneurysm. Tex Heart Inst J 2006;33:241-245.)

Tips for Reducing Word Count

Use plurals to eliminate articles and awkward constructions

- "A typical CHF patient has" → "Typical CHF patients have"
- "Each surgeon used his or her own judgment" → "Surgeons used their own judgment"

Use abbreviations where permitted (but use sparingly, and define at first use)

- "Of the 403 coronary artery bypass grafting (CABG) operations performed...The 28 CABG procedures performed concomitantly with aortic valve repair…"

Remove words and phrases that convey no additional information

- "a past history of" → "a history of"
- "in order to discover" → "to discover"
- "cytokines are known to promote inflammation" → "cytokines promote inflammation"

Avoid prepositional phrases

- "Blood flow to the spinal cord" → "Spinal cord blood flow"
- "The mean hospital stay for the control patients" → "The control patients' mean hospital stay"
- "Induction of anesthesia involved" → "Inducing anesthesia involved"

Avoid starting sentences with numbers so that you can use digits instead of words

- "Five hundred and seventy-two patients underwent mitral valve operations" → "Mitral valve operations were performed on 572 patients"

Do not put spaces between mathematical operators and numbers

- "(n = 25)" → "(n=25)"

Hyphenate where possible (because hyphenated terms are counted as 1 word)

- "Stent grafts" → "stent-grafts"