

Nursing Research Series

Essentials of Science: Methods, Appraisal and Utilization

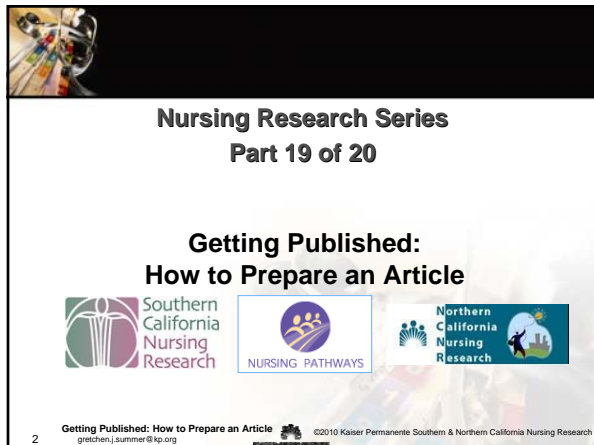


Nursing Research Series

*Essentials of Science:
Methods, Appraisal and Utilization*






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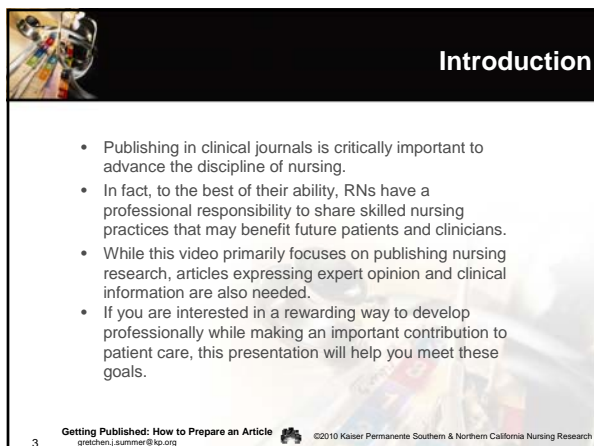


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Part 19 of 20

**Getting Published:
How to Prepare an Article**



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Introduction

- Publishing in clinical journals is critically important to advance the discipline of nursing.
- In fact, to the best of their ability, RNs have a professional responsibility to share skilled nursing practices that may benefit future patients and clinicians.
- While this video primarily focuses on publishing nursing research, articles expressing expert opinion and clinical information are also needed.
- If you are interested in a rewarding way to develop professionally while making an important contribution to patient care, this presentation will help you meet these goals.

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Objectives

By the completion of this presentation the participant will be able to:


1. Understand how to define and support a topic for a written article—also referred to in science as a *manuscript*.
2. Become familiar with the *main elements* of a published article.
3. Define the journal article *peer review* process.
4. Review the scientific integrity responsibilities associated with authorship
5. Describe three strategies to improve your writing style
6. Understand common author conflicts of interest and how to minimize them

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Getting Started

First, familiarize yourself with the kinds of scientific writing and with the names given the traditional parts of a scientific article or *manuscript*.




- What is your area of clinical interest? Population?
- What clinical problems are you passionate about?
- Do not underestimate the content or the value of your knowledge!
- Having clinical experience makes you an expert in patient care.
- Many researchers are not clinical—your insight into patient care is needed.
- Write about something you know and care about.

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Define Your Topic

- How is your topic defined in the literature?
 - Use commonly accepted and understood terminology, which is the foundation of rigorous scholarship
- What is the 'state of the science'?
 - What is known about your topic?
 - How will your paper contribute to what is known?
 - Compare & contrast your project with what has been done



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dwd5

Main Elements of a Manuscript

- **Title and abstract**
- **Background and significance:**
 - What is the problem/phenomenon?
 - What is known about the problem?
 - Ask your librarian for help or search the literature to determine the “state of the science” for your topic
 - Has it been studied in your patient population? In your setting? If not, replicating (i.e., duplicating) a study with a new population and/or setting and reporting your results would be a valuable contribution to patient care
 - State the purpose of your paper

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Elements of a Manuscript continued

Methods:

- Overview of design
- Study subjects/participant: Gender, demographic variables of importance to the study
- Design for sampling
- How subjects were recruited
- Statistical issues: Hypotheses, sample size, and power – *not relevant for qualitative studies*
- Measurements: Define how you measured your phenomenon or how you collected your data.

Use valid and reliable measurement instruments. Only previously tested and published measurement tools are valid and reliable.

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Elements of a Manuscript continued

- **Analyses** – either statistical or how you analyzed qualitative data
 - When reporting means, always include an associated measure of variability, such as standard deviations, variances, or mean square errors (Harris & Taylor, 2008)
- **Results:** Promote speedy comprehension by summarizing findings in a table
- **Discussion**
 - Include limitations
 - Conclusion: Make sure your findings support your conclusion
- **Paragraphs and headings**
 - Break up text so paragraphs are not longer than one page
 - Do the levels of headings accurately reflect the organization of the paper? Headings are a good way to guide the reader
- **References**
 - Are references cited both in the text and in the reference list? (American Psychological Association [APA], 1995)


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Slide 7

dwd5 This is a repeat of a previous slide - do we need to delete one?
Dawn Wendy Dowding, 10/19/2009


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Choosing a Title

- Your manuscript's title should focus on your research question
- Ideally, the research question would have been set at the time the study was designed
- The best titles use the shortest description of the project and population
- Use common clinical language—your paper will be read by clinicians and researchers who may not be familiar with your patient population or clinical problem




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Use Consistent Terminology

- Avoids confusion
- Makes it easier for the reader to follow and comprehend what you have written
- For example, if you are writing about 'electronic medical records', use the full term or acronym (e.g., EMR)
 - Do not change to another term such as, *monitor*, *screen*, *display* and *system*
- Eliminate unnecessary abbreviations
- Explain necessary abbreviations



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Avoid Run-On Sentences



- Research literature is different from prose
- Be as brief as possible—*parsimonious* is the scientific term for distilling the facts down to as few words as possible
- Limit sentences to 25 words or less
- Publishers will expect you to count the number of words in parts of your manuscript.
 - Counting words is easy: In Word, click on "Tools", then click on "Word Count"


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Choosing a Journal


- What is your clinical focus?
 - What audience will benefit most from your contribution to patient care?
- What's new about your topic?
 - Avoid writing about topics that have been well described before
- Choose the journal that reaches your widest audience
- Send a 'query' letter asking the editors if they are interested in publishing about your topic?



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Instructions to Authors


- Instructions to authors can be found inside the cover of most journals as well as online at the journal or publisher's web site.
- Various journals utilize slightly different formats and/or writing styles.
- Therefore, following directions is important.
- Browse the scientific journals and find an article you think is well organized.
- Use it as a template: You don't have to 'reinvent the wheel!'
 - Ideally, choose an article from the journal to which you plan to submit
 - Copying another author's layout is not plagiarism—it is well within the norms of scientific integrity for authors.



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Journal Editor Responsibilities

- Journal editors serve a gatekeeping function in that they determine what manuscripts, letters, corrections, or retractions are published.
- Editorial policies provide for high-quality reviewers and assure prompt, fair and collegial feedback with authors, with appropriate explanations for declining manuscripts.
- Most journal editors refer new manuscripts to an expert panel of reviewers for a *peer review*



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Slide 14

dwd6 I wouldn't specify how long the background/significance should be - as it varies so much between journals.

Dawn Wendy Dowding, 10/19/2009

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What is a Peer Review?

- A journal sends submitted manuscripts to an independent group of experts in the same field of study
- Reviewers have no ties to the project
- Reviewers are blinded to the authors and their institutional affiliations
- Most manuscripts are rejected because:
 - Study is of poor quality
 - Sample size is too small
 - Biased interpretation of results
 - The results may be statistically significant, but they must be *clinically significant* to warrant publication
 - Poorly written
- If your manuscript is accepted subject to revision (and revisions are almost always required) there is often a timeline for 'turning around' the completed manuscript

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Peer Review continued



- The best known current standards are used in reviewing manuscripts or proposals.
- Peer reviewers maintain confidentiality, avoid conflicts of interest and provide constructive comments.
- Any sources of bias that jeopardize objectivity should be made known in advance.
- Although it can elicit differing opinions, the peer review process is reasonably fair.
- Peer review enhances the quality of the health care literature.

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A Word about Editing

- If you are an inexperienced author, find an editor or ask a friend read your paper
 - Your paper should be easy to read and comprehend, even for consumers with a non-medical background
 - Is it clearly written?
 - Grammar and spelling count—use spell check!
 - Is it well organized or are there confusing parts?
 - “Transition sentences” at the end of each paragraph can help bridge an abrupt change in the focus of your writing
 - Is the conclusion based on your findings?
- American Psychological Association (APA) format (APA, 1998)
 - Commonly used for health care publications, including nursing

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Authorship

- Authors contribute substantively to published work and are able to defend it publicly, should the need arise. Substantive contribution may involve assumption of responsibility for two or more of the following areas:
 - Conception and design
 - Execution
 - Analysis and interpretation of data
 - Preparation and revision of manuscripts
- Order of authors is best discussed openly at the beginning of a project.
- Acquisition of funding, data collection or supervision of a research group does not justify authorship, but does warrant an *acknowledgment*.
- Status or rank of individuals should not be factors in authorship decisions.
- All authors must give final approval.
(Fitzpatrick, 1998, p. 522)


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Authorship continued

- More and more, editors expect *multidisciplinary* authors
- Seek collaborators that with strengths to complement your weaknesses—we all have weaknesses and strengths!
- Collaborators frequently might not carry out the tasks they agreed to, (e.g., fail to carry out data analyses or prepare a first draft)
- Changes in authorship should be negotiated when decisions are made to shift responsibilities for the work
- There are resources with detailed suggestions about how to carry out such negotiations diplomatically



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Strategies to Improve Writing Style


- Authors use various strategies in putting their thoughts on paper.
- The fit between author and strategy is more important than the particular strategy used.
- Three approaches to achieving professional and effective communication are:
 - Writing from an outline
 - Putting aside the first draft, then rereading it after a delay
 - Asking a colleague to critique the draft for you
- Let's examine these three strategies more closely.

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Writing Strategy #1: How to Organize an Outline

1. Decide upon a topic
2. Gather research material:
 - ✓ Obtain detailed material that will support your topic
 - ✓ Decide upon a sentence, paragraph or gather ideas into sections
3. Organize your outline
 - ✓ Number major ideas in a logical order
 - ✓ Use brief words or phrases
 - ✓ Expand upon a point of view and provide examples
4. Decide upon your major ideas
 - ✓ Two or three main ideas at the most are plenty for a logical, well constructed paper
5. Write down information to support main ideas
 - ✓ Eliminate anything not closely related to your main ideas
 - ✓ Too much information is confusing and overwhelming!
6. Create your final draft ☺
(Adapted from WikiHow at <http://www.wikihow.com/Write-an-Outline>)

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Example: Writing from an Outline

PERIOPERATIVE CARE OUTLINE

- I. Introduction
- II. The Preoperative Phase
 - A. Preoperative Assessment
 1. History
 - a. allergies
 2. Physical Exam
 - a. vital signs
 - b. height & weight
 3. Laboratory Tests
 - a. CBC
 - b. blood glucose
 - B. Preoperative Teaching
 1. Informational needs
 2. The Surgical Procedure
 3. Postoperative dressings
 4. Pain Management
 - a. PCA
- III. Etc.


DRAFT: My Manuscript

Introduction
 Perioperative nursing care is the practice of nursing related to the surgical setting; thus, it plays a central role in the care and management of the hospitalized patient. This paper will focus on perioperative nursing of the burn-injured patient...

The Preoperative Phase
 The preoperative phase begins once the patient is scheduled for surgery and ends at the time of transfer to the operating room. The primary goals during this time are...


(Adapted from Summer, Hansen & Sharar, 1998)

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Writing Strategy #2: Putting Aside the First Draft


- Put your work aside and do something completely different.
- It is difficult to judge your own work and RNs do not normally receive the support they need to publish like medical students and residents do—there is a steep “learning curve”—don’t be too hard on yourself—In the end it’s well worth the effort!
- Rereading your first draft after setting it aside for a few days will give you a fresh perspective.
- Reading the paper aloud enables you to “see” problems you did not notice before.



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Writing Strategy #3: Ask a Friend to Critique Your Work

- After all corrections have been made, give a draft to a colleague or friend to review—preferably a person who has published within the last ten years but who is not too familiar with your work.
- Out of respect for other researchers and to avoid wasting their time, make sure all abbreviations are defined and only use them when absolutely necessary.
- Also, explain clinical procedures with which other clinicians or the public may not be familiar




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Ready to Submit Your Article?

- Almost all journals require electronic submission of all articles, including tables, figures and photographs.
- Allow enough time to become familiar with this process—it will become much easier each time you submit an article!
- The journal will require all authors to sign a “*conflict of interest*” form, attesting they do not have anything to gain from the publication of your article
- The next few slides will examine *conflicts of interest* more closely



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Conflicts of Interest: Patient Care versus Research Role

- Dual Roles for Clinician Investigators:
 - Patient may fear that their future care will be jeopardized if they decline to participate
 - They may not distinguish between standard care and research
 - What is best for the patient may differ from what is best for the research project
 - Welfare of the participant is paramount
 - To maintain scientific integrity, clinicians must do what is best for the participant




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Conflicts of Interest: Financial


Financial conflicts of interest:

- Studies of new drugs are frequently funded by pharmaceutical companies or biotechnology firms
 - Ethical concern is that certain financial ties may lead to
 - Bias in the design and conduct of the study
 - Over interpretation of positive results
 - Failure to publish negative results

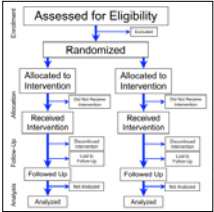


Health Care Stock Market

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How to Minimize Conflicts of Interest



Flowchart of four phases (enrollment, intervention/allocation, follow-up, and data analysis) of a RCT of two groups. (Modified from the CONSORT [Consolidated Standards of Reporting Trials], Schulz, Altman, Moher, 2010 as cited on Wikipedia, 2010).

- Peer Review Process
- Investigators can be blinded: For example, Randomize Clinical Trials (RCT) involve the **random** allocation of different interventions (treatments or conditions) to **subjects**. The most important advantage of proper randomization is that "it eliminates **selection bias**, balancing both known and unknown prognostic factors, in the assignment of treatments."^[2]
- Clinical trials: Data Safety Monitoring Board

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How to Minimize Conflict continued: Institutional Review Board (IRB)

- In institutional review, a study is examined for ethical concerns, including potential author conflicts of interest
- Publisher's often require IRB approval in writing
- Must obtain IRB approval or obtain a letter from your IRB stating the study was reviewed and it was determined an IRB review was not necessary—it is essential to obtain *before you begin* your project!
- Levels of IRB Review
 - Exempt from IRB review: Studies that carry no risk, including QI projects if you plan to publish
 - Expedited IRB review: Studies that carry minimal risks, minor changes to in previously approved research, only takes a few days
 - Complete or Full IRB review: Studies that carry greater than minimal risk (Burns & Grove, 2007, p. 222-225)

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You can do it!

- If your project is not published, how will other patients and clinicians benefit?
- Identify your weaknesses: Clinicians often can't write, but they have much to offer!
- Recruit collaborators whose strengths will complement your weaknesses
- Researchers love to do research and many will consult for free
- Remember, to become an accomplished writer, you must practice *writing* and *thinking* the structure of a scientific paper. *and* learn by example from the writings of others.
- You will learn by example from the writings of others. Observe how professional scientists write about their work. You *will* see improvement in your own scientific writing skills by repeatedly practicing reading, writing, and critiquing of other's writing.


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Additional Tips

- If at first you don't succeed, try again
 - A journal somewhere will publish your study
- Be prepared to accept constructive criticism and realize that you don't have to agree with a reviewer
- Find a mentor who has published in the last ten years to help you respond to the reviewer's critique—reviewer's require a thoughtful and purposeful response
- No paper is ever perfect! Once it is good enough, submit it for peer review

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In Conclusion


Key concepts reviewed in this presentation:

- The *main elements* of a published article:
 - Title and abstract, background and significance, methods, analyses, results, discussion, paragraphs and headings, and references
- The *peer review* process
 - Peer reviewers maintain confidentiality, avoid conflicts of interest and provide constructive comments
- Responsibilities for scientific integrity associated with authorship
- Three strategies to improve your writing style
 - Use an outline to organize and logically order your ideas
 - Put aside the first draft for a few days before you read it again
 - Ask a friend to critique your draft
- Common author conflicts of interest and how to minimize them

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Additional Resources

- The *American Journal of Nursing* "Information for Authors" Web Site offers many free resources for beginning authors. To access google "AJN" or cut and paste the following URL into your browser:
<http://edmgr.ovid.com/lww-final/accounts/authT.pdf>
- **Become an excellent writer!**
Read these books:
 - The Elements of Style
 - The Chicago Manual of Style
 - Merriam-Webster's Collegiate Dictionary
 - Roget's International Thesaurus
 - The New York Times Manual of Style and Usage
 - A Manual for Writers of Research Papers, Theses, and Dissertations
 - Publication Manual of the American Psychological Association

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