

# Manuscript Review: Publishing 101

An introduction to the theory and mechanics of performing a peer review for scientific manuscripts

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Associate Editor

# Outline

## Peer Review

Types of Manuscripts

Decisions and Revisions

Author, Reviewer, and Editor roles

Elements of a Scientific Paper

Performing a Literature Search

Performing and Communicating a Review

Common Problems and Examples

# Peer Review – What is it?

Evaluation of the performance, or the quality of work, of a member of a peer group by the experts drawn from that group. In the science research community, for example, colleagues assess the value of one's contribution to the field by determining if the colleague's research report is publishable in the group's journal.

# Peer Review – Why do we do it

Separates Scientific Journals from tabloids



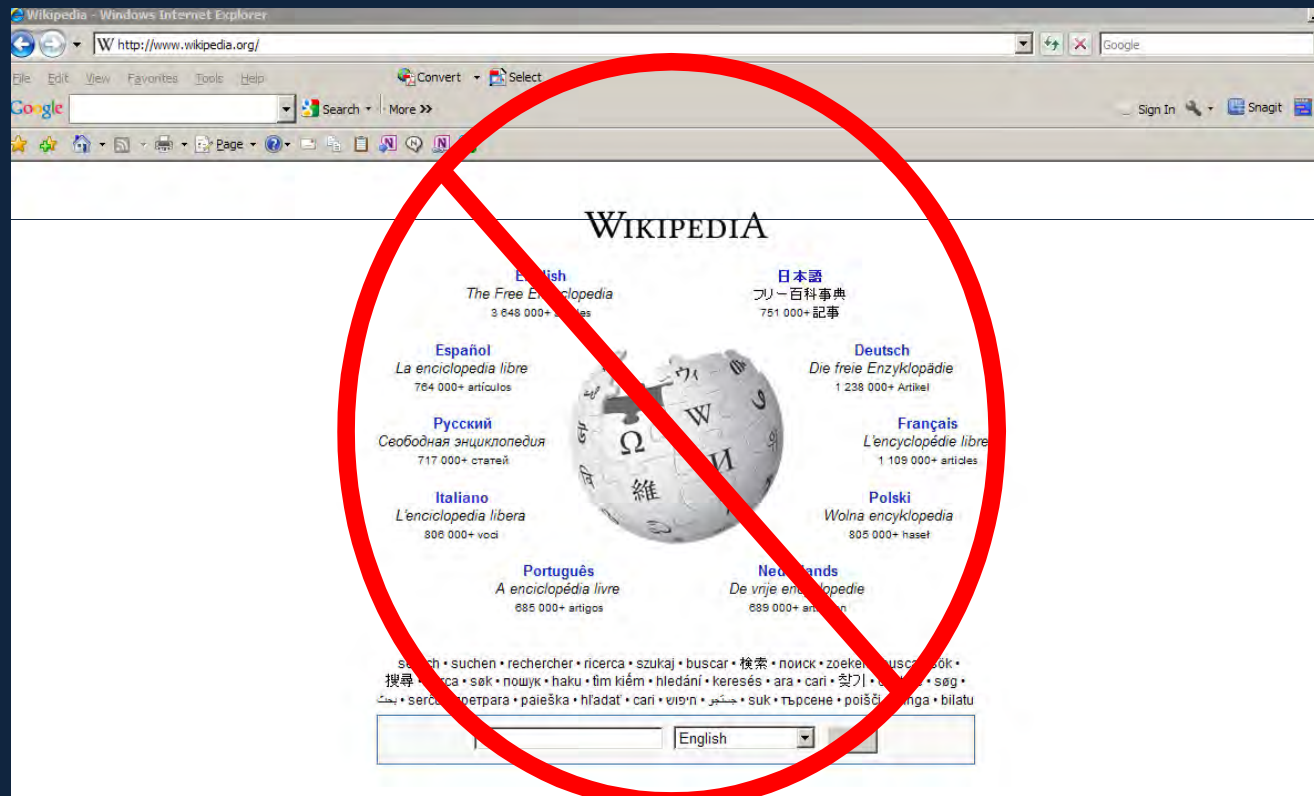
The screenshot shows the National Enquirer website with several headlines:

- Breaking news**: President Caught in "Sexting" Scandal. Controversy again struck the scandal ridden term of President Dempsey. Read more here.....
- TOP CELEBRITY NEWS**: Randy Merrills "love child" revealed. "I swear to god, it was just one time in college!"
- PHOTOS**: Security doubles as fear that possible AAPM "sleeper cell" may exist in St. Louis.

Other elements include a search bar, social media links, and a "REFINANCE 2.85% APR" advertisement.

# Peer Review – Why do we do it

Maintain the integrity of the published data



# Reasons we seek qualified reviewers

New submissions/year	150
1 <sup>st</sup> -re-submissions/year	75
2 <sup>nd</sup> -re-submissions/year	25
<hr/>	
Total	250

# Reasons we seek qualified reviewers

500

# Published Guidelines



## Editorial Practices and Guidelines

Submitted – December 11, 2009

### Medical Dosimetry Board:

Editor-in-Chief:

Lon Marsh, CMD, MBA

Associate Editors:

Michael S. Gossman, M.S., DABR

Todd Pawlicki, Ph.D., DABR

Timothy Ritter, Ph.D., DABR

Cheng B. Saw, Ph.D., DABR

# Types of manuscripts

- Research paper
- Review Article
- Technical note
- Case study
- Letter to Editor
- Erratum

# Research paper

A **Research Article** is a report of original experimental or theoretical research. Authors should keep in mind that attention to clarity and conciseness facilitates the review process and also the impact of the published article. *Limit: 10 journal pages.*

# Review Article

A **Review Article** is an authoritative review of a subject important to the field of radiation oncology. It may be either invited or proffered. In either case, the review process will be employed. *Limit: 10 journal pages*

# Technical note

A **Technical Note** is a brief description of a specific new development, procedure, or use of a device that offers a solution to a current specific problem and has sufficient relevance to be useful to many readers of *Medical Dosimetry*. *Limit: 3 journal pages.*

# Case Study

A **Case Study** is a concise description of a technique, procedure, clinical implementation, or clinical patient-related complication of relevance to the practice of medical dosimetry. Appropriate for this article type are "tricks-of-the-trade," helpful hints to solve a specific problem, or "how-tos" on application to clinical practice. *Limit: 3 journal pages*

# Letter to Editor

A **Letter to the Editor** is a brief response to a published article of general interest to readers. It may be either invited or proffered. Letter must reference *Medical Dosimetry* articles no older than two issues from the last published volume. *Limit: 1 journal page.*

# Erratum

An **erratum** is a correction of a book. An erratum is most commonly issued shortly after its original text is published.

An erratum should be limited to error which “SIGNIFICANT” impact communicated data, conclusions or intent.

# Options for decisions

1. Accept
2. Revise and Accept
3. Revise and Reconsider
4. Reject
5. Reject – Out of Scope

# Decision - Accept

## Recommendation:

Accept manuscript “AS IS”.

No revisions required, manuscript goes straight to publication.

# Decision – Accept Minor Revision

## Recommendation:

Manuscript requires minor revisions (i.e grammar format, clarity, etc).

Upon resubmission, point by point responses are verified by Editor. If compliant, manuscript proceeds to publication. Reviewer does not see again.

# Decision – Major Revision

## Recommendation:

Manuscript demonstrates notable deficiencies requiring significant re-work

Upon resubmission, manuscript is again sent to reviewer for publication decision.

# Decision – Reject

## Recommendation:

Manuscript requires major revisions such that it cannot be brought to publication quality within 2 revisions.

or

Manuscript is of poor quality, redundant data or ethical violations which would prohibit publication

# Decision – Reject out of Scope

## Recommendation:

Manuscript is judged inappropriate for publication in Medical Dosimetry due to subject matter.

No detailed review required.

# Number of Revisions Allowed

## Recommendation:

1 Major revision, 1 Minor revision

If a manuscript cannot be brought up to a standard of “Accept-Minor Revision” within 2 rewrites of the original, then based on fairness to the author, it should be rejected.

# Web interface Reviewer Guidelines

The screenshot shows a web browser window with the URL <http://ees.elsevier.com/meddos/default.asp>. The page header includes the journal title "MEDICAL DOSIMETRY" and navigation links: [home](#), [main-menu](#), [submit paper](#), [guide for authors](#), [journal info](#), [register](#), and [log in](#). The main content area features a cover image of the journal, a welcome message, and a description of the journal's scope. On the right side, there are two panels: "Author Information" and "Reviewer Information". The "Reviewer Information" panel is circled in red and contains the following links: [Reviewer Instructions](#), [Log in](#), [Reviewer Guidelines](#), [Tutorial for Reviewers](#), [Reviewers' Home](#), and [Reviewers' Update](#).

**Medical Dosimetry**  
**Official Journal of the American Association of Medical Dosimetrists**

Welcome to the online submission and editorial system for *Medical Dosimetry*.

*Medical Dosimetry*, the official journal of the American Association of Medical Dosimetrists, is the key source of information on new developments for the medical dosimetrist. Practical and comprehensive in coverage, the journal features original contributions and review articles by medical dosimetrists, oncologists, physicists, and radiation therapy technologists on clinical applications and techniques of external beam, interstitial, intracavitary and intraluminal irradiation in cancer management. Articles dealing primarily with physics will be reviewed by a specially appointed team of experts in the field.

**Hints:**

We strongly suggest you regularly check your spam folder for EES notifications. Update your **'Safe Senders'** list to ensure

**Author Information**

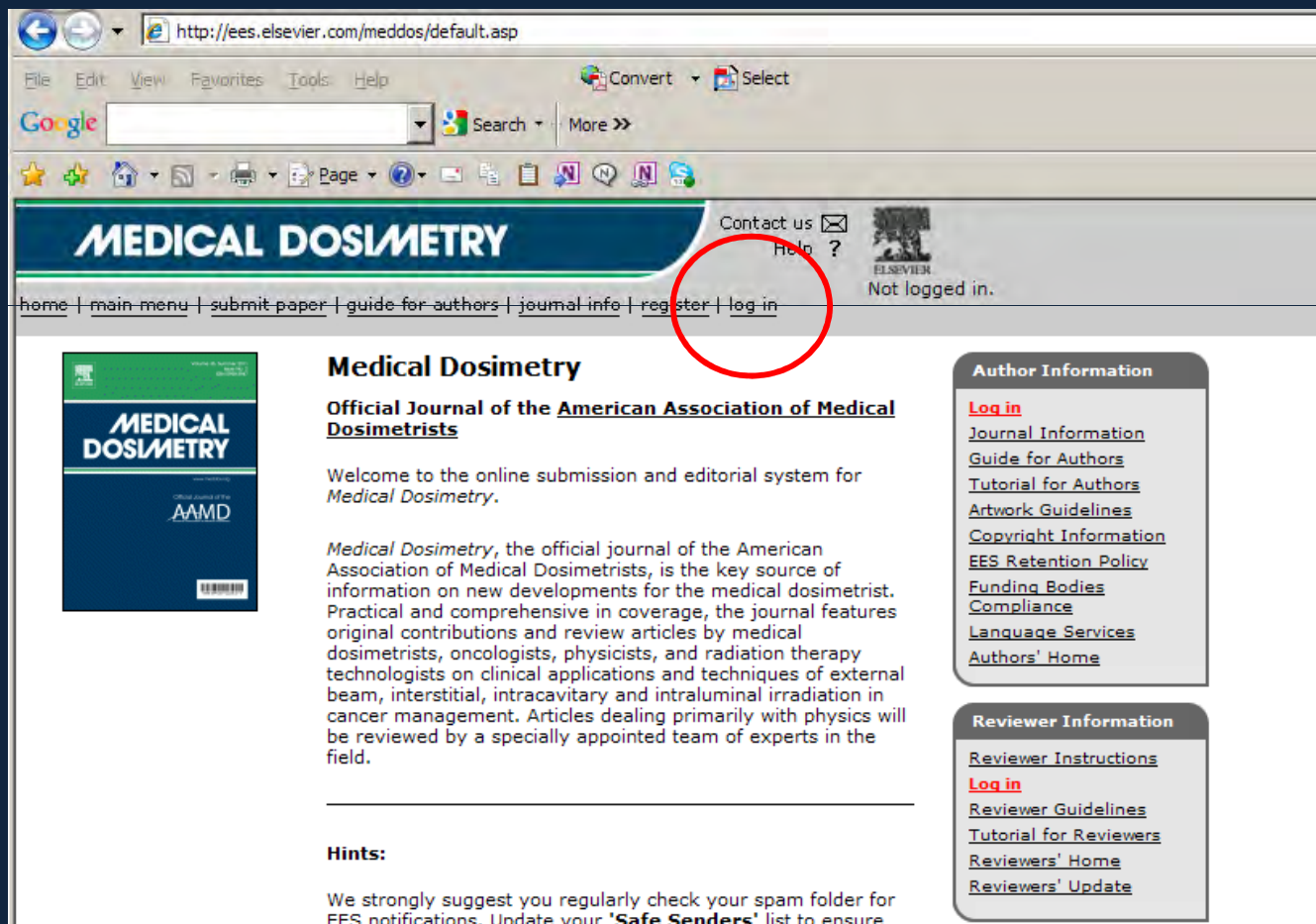
- [Log in](#)
- [Journal Information](#)
- [Guide for Authors](#)
- [Tutorial for Authors](#)
- [Artwork Guidelines](#)
- [Copyright Information](#)
- [EES Retention Policy](#)
- [Funding Bodies](#)
- [Compliance](#)
- [Language Services](#)
- [Authors' Home](#)

**Reviewer Information**

- [Reviewer Instructions](#)
- [Log in](#)
- [Reviewer Guidelines](#)
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- [Reviewers' Home](#)
- [Reviewers' Update](#)

# Web interface

## Accessing your account



The screenshot shows a web browser window displaying the Medical Dosimetry journal website. The address bar shows the URL <http://ees.elsevier.com/meddos/default.asp>. The browser's menu bar includes File, Edit, View, Favorites, Tools, and Help. A search bar with the Google logo is visible. The website header features the title "MEDICAL DOSIMETRY" and navigation links: home, main-menu, submit paper, guide for authors, journal info, register, and log in. The "log in" link is circled in red. Other links include "Contact us" and "Help ?". The main content area includes a cover image of the journal, the title "Medical Dosimetry", and the subtitle "Official Journal of the American Association of Medical Dosimetrists". A welcome message and a detailed description of the journal are provided. On the right side, there are two columns of links: "Author Information" (including Log in, Journal Information, Guide for Authors, Tutorial for Authors, Artwork Guidelines, Copyright Information, EES Retention Policy, Funding Bodies, Compliance, Language Services, and Authors' Home) and "Reviewer Information" (including Reviewer Instructions, Log in, Reviewer Guidelines, Tutorial for Reviewers, Reviewers' Home, and Reviewers' Update).

# Web interface

## Accessing your account

The screenshot shows a web browser window with the URL <http://ees.elsevier.com/meddos/default.asp>. The browser's address bar and menu bar are visible. The page header features the "MEDICAL DOSIMETRY" logo on the left and navigation links for "Contact us", "Help", and the Elsevier logo on the right. Below the header, a navigation menu includes links for "home", "main menu", "submit paper", "guide for authors", "register", "change details", and "log out". The user's account information is displayed as "Username: Ion" and "Role: Reviewer".

The main content area is titled "Reviewer Main Menu" and contains a "Review Assignments" section with the following items:

- [New Reviewer Invitations](#) (1)
- Pending Assignments (0)
- [Completed Assignments](#) (12)

# Web interface

## Accessing your account

http://ees.elsevier.com/meddos/default.asp

Convert Select

Google Search More >>

Sign In Snagit

### MEDICAL DOSIMETRY

Contact us Help ?

home | main menu | submit paper | guide for authors | register | change details | log out

Username: lon  
Role: Reviewer

Version: EES 2011

#### New Reviewer Invitations for Lon Marsh, CMD, MBA

You have been invited to review the following manuscripts. Please Agree to review or Decline to review the manuscript.

Page: 1 of 1 (1 total submissions) Display 10 results per page.

Action	Manuscript Number	Article Type	Article Title	Current Status	Date Reviewer Invited	Days Invitation Outstanding	Editor's Name	Corresponding Author	Other Authors	Keywords	Classifications
<a href="#">View Submission</a> <a href="#">Agree to Review</a> <a href="#">Decline to Review</a> <a href="#">Scopus Author Search</a> <a href="#">Scirus Title Search</a> <a href="#">Similar Articles in MEDLINE</a> <a href="#">Send E-mail</a>	MEDDOS-D-11-0-too-many	Case Study	Why Dosimetrists Should Rule the World	Required Reviews Completed			Timothy Ritter, Ph.D.	Alfred E. Newman		Key Words:	60: <a href="#">Basic Dosimetry</a>

Page: 1 of 1 (1 total submissions) Display 10 results per page.

<< Reviewer Main Menu

You should use the free Adobe Acrobat Reader 6 or later for best PDF Viewing results.

# Web interface

## Submitting your review

<b>Reviewer Recommendation Term:</b>	Major Revision / Re-review
<a href="#">View Manuscript Rating Card</a>	
<b>Rate Reviewer:</b>	95 (1-100)
<b>Manuscript Rating Questions</b>	

**Comments to Editor**

[Insert Special Character](#)

Most of the QA tests discussed in this paper are not new to the field any more. Considering there are other publications (like TG 104), the submitted paper is a little bit outdated in my opinion.

Not Seen By Author

**Comments to Author**

[Insert Special Character](#)

The submitted paper attempted to establish a set of QA procedures for Elekta's XVI cone beam system (XVIcbs). These procedures cover the QA of image quality, localization accuracy, and imaging dose. In the paper, the authors discussed the following major QAs:

1. use of Rando phantom to check XVIcbs localization accuracy. The authors shifted a target inside the Rando phantom by 1-2 cm, the measured shift is determined to be accurate within 1mm
2. flexmap study to check the alignment of KV isocenter to the MV isocenter. The authors found that the KV isocenter locus has a max span of 0.48mm, which meets the manufacturer's specification
3. cone beam image quality dependence on KV collimator cassette settings (Small, Medium, and Large). In Figure 9, the authors compared the image quality of 200 degree gantry rotation v.s. 360 degree gantry rotation for the S collimator setting. They explained why a 200 degree gantry rotation gives better image quality than a 360 degree gantry rotation
4. daily QA: shift a 2x2x2cm cubic phantom 1cm in one direction, the XVIcbs measured shift is determined to be accurate within 1mm
5. cone beam dose measurement: the authors measured 2.7cGy on the anterior surface and 2.6cGy on the lateral surface for pelvic phantom. For head phantom, they measured 7.1cGy

# Author Expectations

1. Authors should be competent in the English language
2. Authors will respect all ethical standards as relate to publishing.

# Author Expectations

If an Author fails at either of the former expectations, then the reviewer has no fiducial responsibility to render a decision

# Reviewer Expectations

- Accept or decline an invitation to review within a reasonable amount of time
- Once accepted, perform said review within a reasonable amount of time.
- Render an impartial decision based on merit of the manuscript alone.
- Maintain professional integrity in crafting a review
- Recuse oneself in the presence of a conflict of interest.

# Motivation???

- Contribute to the success the Medical Dosimetry
- Help maintain the professional integrity of the journal.
- Obtain “free” MDCB and CAMPEP CE credits

# What does an associate editor do?

- Editor-in-Chief assigns paper to an associate editor (AE).
- AE coordinates the peer review process.
- AE validates depth and breadth of each review and considers the reviewer's recommendations.
- AE uses the reviews to determine and support the final recommendation.
- AE communicates the recommendation to the Editor-in-Chief, who reviews and forwards to the author.

# Elements of a quality scientific paper

- Construct for a research paper:
  - Title – short, informative, specific
  - Abstract – summarizes all four sections
  - Introduction – why, from general to specific
  - Methods – where and how, provide details
  - Results – what, list & describe results, do not analyze
  - Discussion – so what, support all interpretations, compare to previous works
- Abstract is CRITICAL. It should stand on its own when read by the intended audience.

# Elements of a quality scientific paper

- Be consistent with tense, use primarily past tense (use common sense for exceptions).
- Use of 1<sup>st</sup> person is acceptable.
- When possible use active verbs.
- Do not use contractions.
- References, references, references.
- Follow the guidelines for each type of submission.

# Elements of a quality scientific paper

- When using statistics
  - Completely describe the statistical method.
  - Ensure you include whether a one-tailed or two-tailed population was assumed.
  - Report p values and confidence intervals in results when appropriate.
- Captions and labels need to fully explain the figure or table.

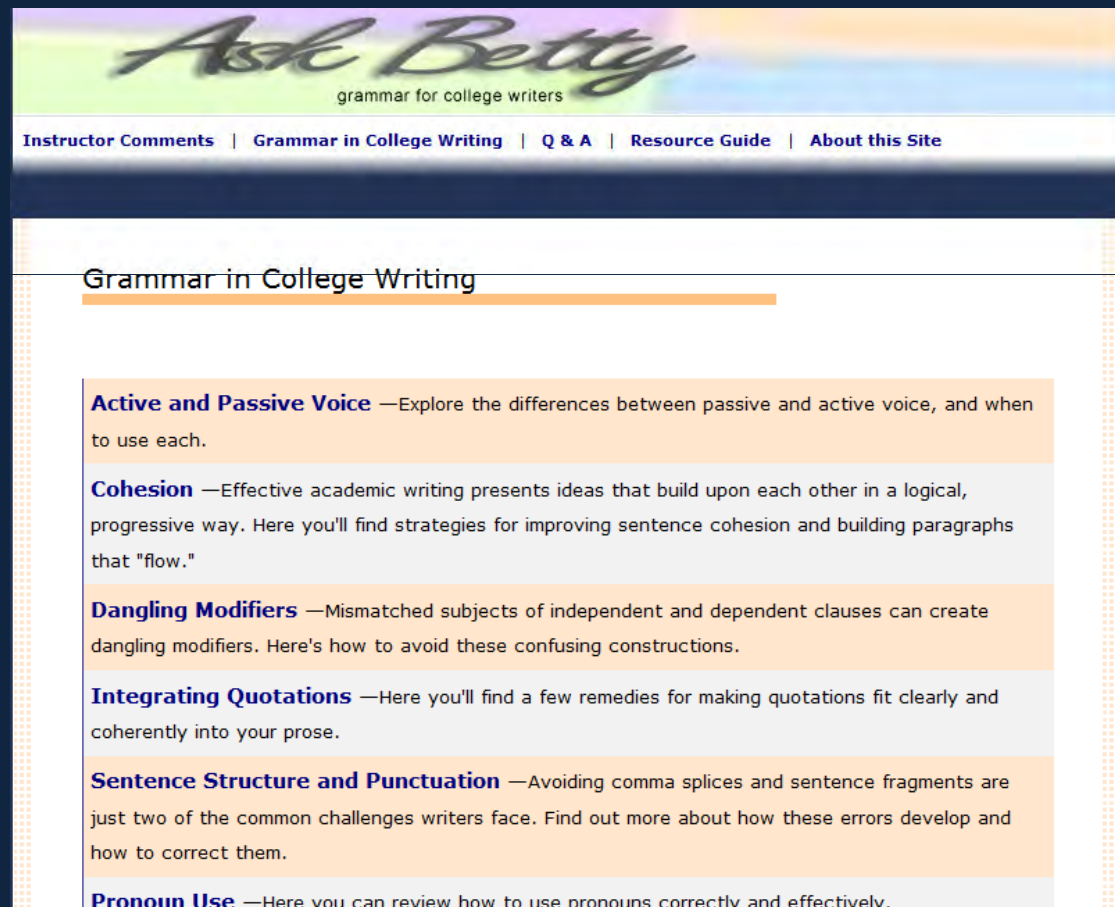
# Elements of a quality scientific paper

- Tailor your paper to the audience.....  
Medical Dosimetrists!
- Maintain integrity and avoid any plagiarism.
- Write clearly and concisely and use proper English.

*<http://depts.washington.edu/engl/askbetty/>*

# Elements of a quality scientific paper

*<http://depts.washington.edu/engl/askbetty/>*



The screenshot shows the 'Ask Betty' website, which is a resource for college writers. The header features the 'Ask Betty' logo in a cursive font, with the tagline 'grammar for college writers' underneath. A navigation menu includes links for 'Instructor Comments', 'Grammar in College Writing', 'Q & A', 'Resource Guide', and 'About this Site'. The main content area is titled 'Grammar in College Writing' and lists several topics with brief descriptions:

- Active and Passive Voice** —Explore the differences between passive and active voice, and when to use each.
- Cohesion** —Effective academic writing presents ideas that build upon each other in a logical, progressive way. Here you'll find strategies for improving sentence cohesion and building paragraphs that "flow."
- Dangling Modifiers** —Mismatched subjects of independent and dependent clauses can create dangling modifiers. Here's how to avoid these confusing constructions.
- Integrating Quotations** —Here you'll find a few remedies for making quotations fit clearly and coherently into your prose.
- Sentence Structure and Punctuation** —Avoiding comma splices and sentence fragments are just two of the common challenges writers face. Find out more about how these errors develop and how to correct them.
- Pronoun Use** —Here you can review how to use pronouns correctly and effectively.

# Performing a literature search

- If you are not following the subject closely in the literature you can still review the paper if it falls within your expertise.
- Perform a literature search on the subject to review the state-of-the-art, assess if the paper represents original work, and spot check the references.

# Performing a basic literature search

- Use the title and abstract of the manuscript to form a basic question using as many keywords as possible.
- Example...“Has proton radiation therapy been used to treat bone metastases in children?”
- Use the keywords and the sentence to search one of the large multi-journal databases.

# Performing a basic literature search

- PUBMED and MEDLINE work well.
- Use BOOLEAN operators to frame your search: AND, OR, NOT, \*
- \* is used (in most databases) to search different forms of the same word; simulat\* searches for simulation, simulator, etc.
- All Boolean operators must be uppercase.
- AND is often the default operator.

# Performing a basic literature search

- EXAMPLE...  
search  
*“proton AND  
radiation AND  
therapy AND  
bone AND  
metastases  
AND child\*”*  
in Medline.

The screenshot shows the PubMed.gov search interface. The search bar contains the query "proton AND radiation AND therapy AND bone AND metastases AND child\*". The search results are displayed in a list format, showing 4 results. Each result includes a checkbox, a title link, authors, journal information, and PMID. The first result is "The role of radiotherapy in osteosarcoma" by Schwarz R, Bruland O, Cassoni A, Schomberg P, Bielack S. The second result is "On the performances of Intensity Modulated Protons, RapidArc and Helical Tomotherapy for selected paediatric cases" by Fogliata A, Yartsev S, Nicolini G, Clivio A, Vanetti E, Wyttenbach R, Bauman G, Cozzi L. The third result is "Proton radiotherapy in management of pediatric base of skull tumors" by Hug EB, Sweeney RA, Nurre PM, Holloway KC, Slater JD, Munzenrider JE. The fourth result is "Radiation therapy for chordomas of the base of skull and cervical spine: patterns of failure and outcome after relapse" by Fagundes MA, Hug EB, Liebsch NJ, Daly W, Efid J, Munzenrider JE.

NCBI Resources How To

PubMed.gov  
U.S. National Library of Medicine  
National Institutes of Health

Search: PubMed

proton AND radiation AND therapy AND bone AND metastases AND child\* Search Clear

Display Settings: Summary, Sorted by Recently Added

Wildcard search for 'child\*' used only the first 600 variations. Lengthen the root word to search for all endings.  
See the search details.

Results: 4

- [The role of radiotherapy in osteosarcoma.](#)  
1. Schwarz R, Bruland O, Cassoni A, Schomberg P, Bielack S.  
Cancer Treat Res. 2009;152:147-64. Review.  
PMID: 20213389 [PubMed - indexed for MEDLINE]  
[Related citations](#)
- [On the performances of Intensity Modulated Protons, RapidArc and Helical Tomotherapy for selected paediatric cases.](#)  
2. Fogliata A, Yartsev S, Nicolini G, Clivio A, Vanetti E, Wyttenbach R, Bauman G, Cozzi L.  
Radiat Oncol. 2009 Jan 14;4:2.  
PMID: 19144155 [PubMed - indexed for MEDLINE] **Free PMC Article**  
[Free full text](#) [Related citations](#)
- [Proton radiotherapy in management of pediatric base of skull tumors.](#)  
3. Hug EB, Sweeney RA, Nurre PM, Holloway KC, Slater JD, Munzenrider JE.  
Int J Radiat Oncol Biol Phys. 2002 Mar 15;52(4):1017-24.  
PMID: 11958897 [PubMed - indexed for MEDLINE]  
[Related citations](#)
- [Radiation therapy for chordomas of the base of skull and cervical spine: patterns of failure and outcome after relapse.](#)  
4. Fagundes MA, Hug EB, Liebsch NJ, Daly W, Efid J, Munzenrider JE.  
Int J Radiat Oncol Biol Phys. 1995 Oct 15;33(3):579-84.  
PMID: 7558946 [PubMed - indexed for MEDLINE]  
[Related citations](#)

# Performing a basic literature search

- Repeat the search with different keywords and operators as needed.
- Also perform an author search to check for prior publications.
- Use the tutorials that are part of each search engine to explore advanced features.

# Performing a review

- Is the subject within the scope of the journal?
- Are the category and format of the submission appropriate?
- Review prior publications on the subject.
- Is the work original and does it contribute to the field?
- Can the abstract stand alone?

# Performing a review

- Is the paper “readable” and grammatically correct?
- You do not need to correct grammar. But more than a few grammatical errors should raise alarms. If the poor writing detracts from the ability to understand the manuscript then reject it.

# Performing a review

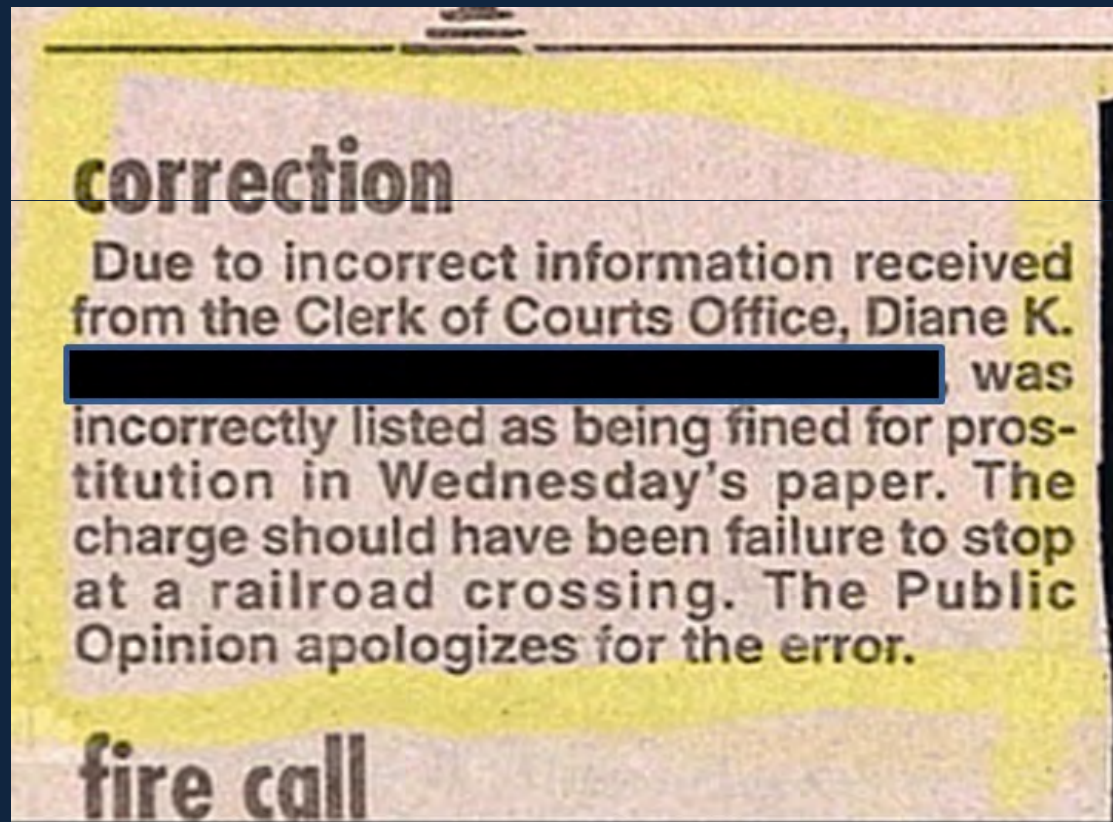
- Does the introduction answer “why?”
- Is the methods section valid?
  - Could you repeat the study?*
  - Are all equipment/materials described?*
- Are results presented clearly and concisely?
- Are the conclusions supported?
- Is the use of statistics appropriate?
- Is the research ethical?

# Performing a review

- Are the equations correct?
- Are figures and graphs appropriate, labeled correctly, and significant?
- Is a clinical tool presented appropriately?  
Would a table, plot, or nomogram be a useful addition?
- Spot check references.

# Performing a review

- Take the time to do a thorough review. We hate publishing an erratum!



# Communicating your review

1<sup>st</sup> and most important....

DO NOT SAY ANYTHING IN THE REVIEW THAT YOU WOULD NOT TELL THE PERSON TO THEIR FACE. Be honest and critical, but not insulting or condescending.

# Communicating your review

2<sup>nd</sup> most important....

Be specific with your comments:

- Refer to a section and paragraph number in the manuscript.
- If additional details, results, or comparisons are needed provide guidance to the authors.
- Use references as needed in your review.

# Communicating your review

- 3) Provide a quick summary at the beginning of the review. This tells us you understood the article.
- 4) Indicate whether a change is mandated (“The authors should change the scale on figure 3 to encompass all data points”) or a recommendation (“I recommend the authors provide a summary table with ...”)

# Communicating your review

- 5) Your review will consist of 3 parts: overall recommendation, comments to editor, comments to author. Comments that the authors need to address should be numbered.
- 6) Tip: Write your review in your favorite word processing software, stew on it overnight, finalize it the next day, then copy and paste it to the Elsevier web site when you are ready.

# Common problems with reviews

- Lack of any comments to the authors.
- General and useless recommendations with no specifics such as “this is not a well written paper and needs a major revision.”
- Only pointing out problems and not recommending solutions.
- Only pointing out problems and not identifying strengths.

# Common problems with reviews

- Telling the author to re-do the entire study and then making your official recommendation “Revise and Reconsider” .....are you kidding?
- Not doing a basic literature search to ensure the work is novel (or worse yet, was previously published by the same authors).

# Examples

A paper is submitted with the title: *“Monte Carlo calculations of entrance skin exposure and depth dose for common interventional radiology procedures.”* The paper is submitted as a technical note, the text is 22 double-spaced pages long, there are 21 figures and 47 references. The editor forwards it to you for consideration. What should be your response and how long will it take you to review the paper?

# Examples

A paper is submitted with the title: “Monte Carlo calculations of entrance skin exposure and depth dose for common interventional radiology procedures.” .....

*You would reject this paper as out of scope and also note that the format for a technical note was not followed. 20 minutes.*

# Examples

A reviewer writes: “I found this article interesting and informative. Give it a buff and it’s ready for the showroom.”

Recommendation is Revise and Reconsider

*Reviewer needs to summarize the article, describe strengths of the paper, offer numbered criticisms on where “to buff,” etc.....*

# Examples

An author writes: “Duct tape and a nail gun were used to immobilize the infant.”

*Assuming this was IRB approved.....author needs to identify how much tape was used, how the duct tape was applied, who manufactured the tape and gun, how many nails and what size, etc. A picture may be helpful.*

# Examples

A reviewer writes to the authors: “Your manuscript is a train wreck, a bottom-of-the-barrel publication that sets a new standard for shallow thought. Reject!”

*Reviewer is fired for being obnoxious and rude.*

*Reviewers are to support the field of radiation oncology and the journal by offering specific and useful criticisms to authors.*

# References

*[http://www.elsevier.com/wps/find/reviewershome.  
reviewers/ru\\_most](http://www.elsevier.com/wps/find/reviewershome.reviewers/ru_most)*

Provoenzale, J.M., and Stanley, R.J., “A Systematic Guide to Reviewing a Manuscript,” *Am. J. Roentgenol.*, October 1, 2005; 185(4): 848 – 854.

AIP (American Institute of Physics) Style Manual.

# Summary

- Review (and therefore reviewers) are the MOST critical component of the publication process for Scientific Journals
- The quality and reputation of a journal is directly related to the quality of its reviewers.

# Summary

In short, we need you to  
quality  
Journ  
Asso



tee the  
y of the  
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medical  
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We need YOU!

# Taking Applications for.....

- Associate Editors
- Email communication specialist...