



**GUIDE FOR AUTHORS**

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## **Introduction**

The Journal of Radiography and Radiation Sciences (JRRS) is the official journal of the Association of Radiographers of Nigeria (ARN). It covers all aspects of diagnostic and therapeutic radiography, diagnostic and interventional radiology, hospital practice, radiography education, forensic and industrial radiography. Papers published include original articles, case reports, systematic reviews, technical notes, and relevant letters to the editor geared towards advancing the knowledge and practice of radiography in Africa and beyond.

## **General Information**

Our journal follows the ICMJE recommendations for the conduct, reporting, editing, and publication of scholarly work in medical journals. You can read more about the current recommendations at [www.icmje.org](http://www.icmje.org). The recommendations by ICMJE are listed hereunder with slight modifications to suit the referencing and submission process specific to our journal.

## **Authorship**

Authorship is based on the following four criteria (ICMJE)

1. Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work
2. Drafting the manuscript or revising it critically for important intellectual content
3. Final approval of the version to be submitted for publication.



4. Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

All those designated as authors should meet all four criteria for authorship, and all who meet the four criteria should be identified as authors. Those who do not meet all four criteria should be acknowledged. It is the collective responsibility of the authors to determine that all people named as authors meet all four criteria. The corresponding author takes primary responsibility for communicating with us during manuscript submission, ensuring that our requirements for publication are met.

The list of authors and the order they appear should be carefully considered before the manuscript is submitted. This should be included in the cover letter addressed to the editor-in-chief. The corresponding author is expected to consider carefully the list and order of authors before submitting their manuscript and provide the definitive list of authors at the time of the original submission. Any addition, deletion or rearrangement of author names in the authorship list should be made only before the manuscript has been accepted and only if approved by the journal Editor. To request such a change, the Editor must receive the following from the corresponding author:

1. The reason for the change in author list and,
2. A written confirmation with the signature of all the authors that they agree with the addition, removal or rearrangement. In the case of removal of authors, this includes confirmation from the author being removed.

#### **Conflict of interest and disclosure**

Existing conflicts of interest should be declared by all authors concerned. If there are none, this should be stated in writing. The potential for conflict of interest and bias exists when professional judgment concerning a primary interest (such as patients' welfare or the validity of research) may be influenced by a secondary interest (such as financial gain). Perceptions of conflict of interest are as important as actual conflicts of interest. Please note that you are responsible for disclosing all relationships and activities that might bias or be seen to bias your work. You can [click here](#) to download the disclosure form, which was developed by ICMJE.



## **Peer review**

Because unbiased, independent, critical assessment is an intrinsic part of all scholarly work, including scientific research, we use a double-blind peer review system to ensure an unbiased review system. Kindly ensure that there is no information in the body of the manuscript that can directly or indirectly identify the author(s). Decisions on a manuscript are based on its relevance to our journal, originality of the manuscript, quality, and contribution to evidence about important questions.the existing body of knowledge in the subject area. Acceptance is at the discretion of the editors, after having received the opinions of the reviewers.

## **Use of human subjects**

Please ensure that that the planning, conduct, and reporting of human research follow the Helsinki Declaration ([www.wma.net/policies-post/wma-declaration-of-helsinkiethical-principles-for-medical-research-involving-humansubjects/](http://www.wma.net/policies-post/wma-declaration-of-helsinkiethical-principles-for-medical-research-involving-humansubjects/)).

All authors should seek approval to research from an independent local, regional, or national review body (e.g., ethics committee, institutional review board). The ethical clearance certificate is a required supplementary file and the certificate number should be quoted in the manuscript. Patients have a right to privacy that should not be violated without informed consent. Identifying information, including names, initials, or hospital numbers, should not be published in written descriptions, photographs, or pedigrees unless the information is essential for scientific purposes and the patient (or parent or guardian) gives written informed consent for publication. Informed consent for this purpose requires that an identifiable patient be shown the manuscript to be published. When reporting experiments on animals, authors should indicate whether institutional and national standards for the care and use of laboratory animals were followed. Further guidance on animal research ethics is available from the International Association of Veterinary Editors' Consensus Author Guidelines on Animal Ethics and Welfare (<http://www.veteditors.org/consensus-author-guidelines-on-animal-ethics-and-welfare-for-editors>).

## **Data sharing**

We encourage authors to upload the data they used for analysis to an appropriate repository. An example is <https://data.mendeley.com/>. If the data is available, a statement affirming this in the materials and methods section is required and a permanent unchanging link, usually a doi, should be provided, either in the body



of the work or as part of the references. Data sharing statements in the cover letter must indicate the following: whether individual de-identified participant data (including data dictionaries) will be shared (“undecided” is not an acceptable answer); what data, in particular, will be shared; whether additional, related documents will be available (e.g., study protocol, statistical analysis plan, etc.); when the data will become available and for how long; by what access criteria data will be shared (including with whom, for what types of analyses, and by what mechanism).

#### **Article processing charge**

Though our publication is open access, we, however, charge an article processing fee of 10,000 naira (N10,000) or one hundred dollars (\$100 for foreign authors) to cover the cost of manuscript processing only. This fee is subject to review. **Please note that ability to pay the article processing charge does not guarantee acceptance of submitted papers.**

#### **Declaration of funding sources**

The authors are required to state if their work was funded or not. In cases where the work was funded, the source of funding(s) should be listed with the corresponding grant number/code. The role that the sponsor(s) played in the study should equally be explicitly stated, and should this constitute a conflict of interest, it should be clearly stated.

#### **Other considerations**

When submitting a work to the journal, we assume that:

1. The work described has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis or as an electronic preprint).
2. The work is original. We verify the originality of the work and validate references. Articles that show indications of having been published elsewhere or has unacknowledged sources will not be accepted for publication.
3. It is not under consideration for publication elsewhere
4. Its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out.



5. If accepted, it will not be published elsewhere in the same form, in English or any other language, including electronically without the written consent of the Journal of Radiography and Radiation Sciences.
6. There is no salami-slicing tactics or any other suspicious manipulation of data

### **The manuscript**

The manuscript should be written preferably in British English. American format is acceptable, both methods of written English should not be combined. Formatting for submitted manuscript include:

1. Times New Roman,
2. Font size 12,
3. 1.5 cm line spacing,
4. 1.5 cm on all four margins, and
5. A4 paper size.
6. Insert a continuous line numbering
7. The text, except the tables and figures. must be justified.

### **Types of paper**

In keeping with the requirements of ICJME, the journal follows the IMRAD structure, which includes the Introduction, Methods, Results, and Discussion. Reporting guidelines have been developed for different study designs; examples include CONSORT ([www.consort-statement.org](http://www.consort-statement.org)) for randomized trials, STROBE for observational studies (<http://strobe-statement.org/>), PRISMA for systematic reviews and meta-analyses (<http://prisma-statement.org/>), and STARD for studies of diagnostic accuracy (<http://www.equator-network.org/reporting-guidelines/stard/>). It is advised that the authors follow these guidelines because they help to describe the study in enough detail for it to be evaluated by editors, reviewers, readers, and other researchers evaluating the medical literature. Authors of review manuscripts are encouraged to describe the methods used for locating, selecting, extracting, and synthesizing data; this is mandatory for systematic reviews. Good sources for reporting guidelines are the EQUATOR Network ([www.equator-network.org/home/](http://www.equator-network.org/home/)) and the NLM's Research Reporting Guidelines and Initiatives



([www.nlm.nih.gov/services/research\\_report\\_guide.html](http://www.nlm.nih.gov/services/research_report_guide.html)). Blinded manuscripts should take one of the following forms:

1. **Original full-length research article (3000 – 4000 words):** It should be definitive and describe a reasonably complete investigation following empirical scientific pattern. It should have an Introduction, Methods, Results, Discussion, Acknowledgements, Conflict of interest, and References.
2. **Review articles (<3500 words):** A review article is a scholarly discussion of the literature, bringing together ideas and observations into a coherent discussion of a topic. It is especially appropriate when a field of study has undergone changes that have not yet made their way into standard textbooks. It is not a case report, and it is not a scientific article in the sense of having materials methods and results. Because of the nature of a review article, the structured format of a scientific manuscript is not required. The text can be a continuous narrative as required by the author(s). The Abstract is limited to 250 words but is otherwise non-structured. All other requirements for a scientific manuscript apply. A "Critical Review" or "Meta-Analysis" is a scientific article that combines and analyzes the data from multiple published studies to improve the statistical power of results. The format is like that of a Scientific Article.
3. **Case studies (<850 words):** These are reports on rare radiographic findings in the clinic. It can be pathologies that presented imaging challenges, rare presentations. These are often accompanied by high-quality images and demonstrate the clinical study. A clear explanation of how the images were obtained and how potential obstacles such a situation presented would be pivotal to the write-up. A typical case study report should have Abstract, Keywords, Introduction, Case report, Discussion, and Conclusion.
4. **Technical notes (<1500 words):** These notes cover aspects of radiography practice that may be novel or modified methods that will be of relevance to clinicians.
5. **Letters to the editor (<500 words):** These can be opinions on articles published, questions raised that an author may need to respond to

In preparing a manuscript for submission, the following are required:

#### **Title page information**

The title page should be on a separate page and should contain the following:



**Title:** This should be brief, concise, and informative. A title that will give the work the desired interest from prospective readers is advised. Also, note that the title is used in information retrieval systems. So, a well-structured title will make it easier for your work to be accessed. Since a double-blind peer review system is utilized, it is advised that authors structure the title in such a way as not to compromise the review system. Authors therefore should avoid the use of locality names, hospitals names, etc on their title page.

**Author names and affiliations:** The surname comes first and separated by a comma, followed by the first name in full, and other names in abbreviation e.g. Ugwu, Charles O. C. This is followed by the author's highest academic qualification only. The affiliations of the authors should be presented below the names of authors, using numbered superscripts to match the author names to their affiliations e.g. <sup>1</sup>Ugwu, Charles O. C. Several authors with similar affiliations ordinarily share the same number superscript. The ORCID of the author, where available, should be listed

**Corresponding author:** Details of the author that will handle correspondences should be provided: Full name, institutional affiliation with the address of the institution, email, and phone number.

#### **Cover letter**

The cover letter should contain the following information.

1. Statement from the authors authorizing the corresponding author to handle communication and review with the journal.
2. Sources of funding if any
3. Conflicts of interest where they exist.
4. Ethical approval and informed consent where required
5. Roles authors played in the manuscript
6. A disclaimer stating that the views expressed in the submitted article are the author's own and not an official position of the institution or funder.

It should be signed by the corresponding author.

#### **Abstract and keywords**

The abstract should be of a structured type consisting of Background, Objective, Methods, Results, and Conclusion. Each should be a single paragraph. Do not include references and unnecessary abbreviations in the abstract. In total, the



abstract should not be more than 300 words. Please ensure your abstract reflects the content of the article.

A maximum of five (5) keywords is required. For indexing purposes, ensure the keywords are in keeping with the title of the paper. Keep the keywords short and simple, and avoid the use of abbreviations, complex phrases, etc.

### **Blinded Manuscript**

The manuscript should contain only the title and the body of the work. The following manuscript formats are described below:

### **Structure of the article.**

The article should consist of the following subheadings

#### **Introduction:**

Provide a context or background for the study (that is, the nature of the problem and its significance). State the specific purpose or research objective of, or hypothesis tested by, the study or observation. Cite only directly pertinent references, and do not include data or conclusions from the work being reported.

#### **Methods**

The guiding principle should be clarity about how and why a study was done in a way. The Methods section should aim to be sufficiently detailed such that others with access to the data would be able to reproduce the results. In general, the section should include only information that was available at the time the plan or protocol for the study was being written; all information obtained during the study belongs in the Results section. If an organization was paid or otherwise contracted to help conduct the research (examples include data collection and management), then this should be detailed in the methods. The Methods section should include a statement indicating that the research was approved by an independent local, regional or national review body (e.g., ethics committee, institutional review board). If doubt exists whether the research was conducted following the Helsinki Declaration, the authors must explain the rationale for their approach and demonstrate that the local, regional or national review body explicitly approved the doubtful aspects of the study.



#### Selection and Description of Participants

Clearly describe the selection of observational or experimental participants (healthy individuals or patients, including controls), including eligibility and exclusion criteria and a description of the source population. Because the relevance of such variables as age, sex, or ethnicity is not always known at the time of study design, researchers should aim for the inclusion of representative populations into all study types and at a minimum provide descriptive data for these and other relevant demographic variables. Ensure correct use of the terms sex (when reporting biological factors) and gender (identity, psychosocial or cultural factors), and, unless inappropriate, report the sex and/or gender of study participants, the sex of animals or cells, and describe the methods used to determine sex and gender. If the study was done involving an exclusive population, for example in only one sex, authors should justify why, except in obvious cases (e.g., prostate cancer). Authors should define how they determined race or ethnicity and justify their relevance. Authors should use neutral, precise, and respectful language to describe study participants and avoid the use of terminology that might stigmatize participants. For example, the term “participants” is better than “subjects”

#### Technical Information

Specify the study’s main and secondary objectives— usually identified as primary and secondary outcomes. Identify methods, equipment (give the manufacturer’s name and address in parentheses), and procedures in sufficient detail to allow others to reproduce the results. Give references to established methods, including statistical methods (see below); provide references and brief descriptions for methods that have been published but are not well-known; describe new or substantially modified methods, give the reasons for using them, and evaluate their limitations. Identify precisely all drugs and chemicals used, including generic name(s), dose(s), and route(s) of administration. Identify appropriate scientific names and gene names.

#### Statistics

Describe statistical methods with enough detail to enable a knowledgeable reader with access to the original data to judge its appropriateness for the study and to verify the reported results. When possible, quantify findings and present them with appropriate indicators of measurement error or uncertainty (such as confidence intervals). Avoid relying solely on statistical hypothesis testing, such as *P* values, which fail to convey important information about effect size and precision of estimates. References for the design of the study and statistical



methods should be to standard works when possible (with pages stated). Define statistical terms, abbreviations, and most symbols. Specify the statistical software package(s) and versions used. Distinguish prespecified from exploratory analyses, including subgroup analyses.

### **Results**

Present your results in logical sequence in the text, tables, and figures, giving the main or most important findings first. Do not repeat all the data in the tables or figures in the text; emphasize or summarize only the most important observations. Provide data on all primary and secondary outcomes identified in the Methods section. Extra or supplementary materials and technical details can be placed in an appendix where they will be accessible but will not interrupt the flow of the text, or they can be published solely in the electronic version of the journal. Give numeric results not only as percentage derivatives but also as the absolute numbers from which the derivatives were calculated. An example is: (76.1%,  $n = 40$  or 76.1% ( $n= 40$ ))

Restrict tables and figures to those needed to explain the argument of the paper and to assess supporting data. Use graphs as an alternative to tables with many entries; do not duplicate data in graphs and tables. Avoid nontechnical uses of technical terms in statistics, such as “random” (which implies a randomizing device), “normal,” “significant,” “correlations,” and “sample.” Separate reporting of data by demographic variables, such as age and sex, facilitate the pooling of data for subgroups across studies and should be routine unless there are compelling reasons not to stratify reporting, which should be explained.

### **Discussion:**

It is useful to begin the discussion by briefly summarizing the main findings and explore possible mechanisms or explanations for these findings. Emphasize the new and important aspects of your study and put your findings in the context of the totality of the relevant evidence. State the limitations of your study and explore the implications of your findings for future research and clinical practice or policy. Discuss the influence or association of variables, such as sex and/or gender, on your findings, where appropriate, and the limitations of the data. Do not repeat in detail data or other information given in other parts of the manuscript, such as in the Introduction or the Results section. Link the conclusions with the goals of the study but avoid unqualified statements and



conclusions not adequately supported by the data. Distinguish between clinical and statistical significance and avoid making statements on economic benefits and costs unless the manuscript includes the appropriate economic data and analyses. Avoid claiming priority or alluding to work that has not been completed. State new hypotheses when warranted but label them clearly. The conclusion of the study shall come at the end but not as a subtopic.

**Acknowledgement(s):** It should be placed in a separate section at the end of the article but before the references. It should not be included in the title page, as a footnote to the title or otherwise. List those individuals who provided help during the research but did not meet up with the requirements for authorship (see the section on authorship)

### **References**

Authors should provide direct references to original research sources whenever possible. References should not be used by authors, editors, or peer reviewers to promote self-interests. Authors should avoid citing articles from predatory or pseudo-journals. Although references to review articles can be an efficient way to guide readers to a body of literature, review articles do not always reflect original work accurately. On the other hand, extensive lists of references to original work on a topic can use excessive space. Fewer references to key original papers often serve as well as more exhaustive lists, particularly since references can now be added to the electronic version of published papers, and since electronic literature searching allows readers to retrieve published literature efficiently. References to papers accepted but not yet published should be designated as “in press” or “forthcoming.” Information from manuscripts submitted but not accepted should be cited in the text as “unpublished observations” with written permission from the source. Published articles should reference the unique, persistent identifiers of the datasets employed. Avoid citing a “personal communication” unless it provides essential information not available from a public source, in which case the name of the person and date of communication should be cited in parentheses in the text. For scientific articles, obtain written permission and confirmation of accuracy from the source of personal communication.

The journal uses the Vancouver style with a superscript in square brackets for inline citations. The references cited at the end of the journal should list all the authors. If there are more than six authors, the first six authors will be listed



followed by et al. The journal name should be abbreviated and italicized, followed by the year, issue number, pages, and doi. Ensure that the doi of the journals cited are included in the references to help with crosslinking with Crossref and Pubmed and for confirmation of authenticity of the reference. Examples are shown below

#### Journal article

Onwuzu S., Eze CU., Ike A., Abonyi O., Asogwa K. Disinfection of Ultrasound Transducers Using Non-Sterile Tissue Paper in Some Low-Cost Private Ultrasound Centres in Nigeria – Implications for Nosocomial Infection Management. *J Radiogr Radiat Sci* 2018;**32**(1):1–7. Doi: 10.48153/jrrs/2020/twsr9397.

#### Website

Jones S., Quach C. Plain Film X-Ray -. *Teach Me Anatomy*. Available from: <https://teachmeanatomy.info/the-basics/imaging/x-ray/>.

#### Book section

Cullen JM., Stalker MJ. Liver and Biliary System. *Jubb, Kennedy and Palmer's Pathology of Domestic Animals: Sixth Edition*, vol. 2, Elsevier Inc.; 2016, p. 258-352.e1.

This format can also be [downloaded](#) for authors using referencing software like Mendeley/Endnote/Zotero.

#### **Math formulae:**

Please insert equations using the Microsoft insert equation feature and ensure that the equation remains in an editable format. You can also use any other suitable program for this e.g. Microsoft Maths. It is preferable that the equations stand by itself, but should there be a need for them to appear inline, use the inline option for them, displaying divisions with a solidus (/) instead of a proper fraction. Lastly, number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text).

#### **Figure captions:**

Each figure should be uploaded either in the .png, .jpeg, or .jpg format. The minimum resolution is 300 dpi for halftones (colour and grayscale images), 1000 dpi for bitmapped (black and white) images, and 600 dpi for a combination of



halftones/bitmapped images. Ensure that each illustration has a caption placed below the figure. The caption should comprise a brief title (not on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used. Roman numerals should be used for figure numbers e.g. Figure I, Figure II... and so on. Figures should be numbered consecutively according to the order in which they have been cited in the text. If a figure has been published previously, acknowledge the source and submit written permission from the copyright holder to reproduce it. Permission is required irrespective of authorship or publisher except for documents in the public domain. Figures once published, become the property of JRRS

### **Tables:**

Tables capture information concisely and display it efficiently; they also provide information at any desired level of detail and precision. Including data in tables rather than text frequently makes it possible to reduce the length of the text. Please submit tables as editable text and not as images. Each table should be uploaded as a separate document and titled accordingly. Give each column a short or an abbreviated heading. Place an explanatory matter in footnotes, not in the heading. Explain all nonstandard abbreviations in footnotes and use symbols (\*, †, ‡, §) to explain them. Identify statistical measures of variations, such as standard deviation and standard error of the mean. If you use data from another published or unpublished source, obtain permission and acknowledge that source fully. Like the numbering for figures, use roman numerals for the tables, ensuring that they are consecutive following their referencing in the text. Strike a balance between a scanty table that can be merged with another, and a complicated one containing a lot of information that will be difficult for the readers to decipher. Please avoid using vertical rules and shading in table cells.

### **Final checklist**

1. Conflict of interest form
2. Ethical clearance certificate/informed consent form (where applicable)
3. Title page
4. Cover letter
5. Blinded manuscript



**Submission**

Articles can be submitted [here](#)