

# Manuscript Submission

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## Manuscript Submission

Submission of a manuscript implies: that the work described has not been published before; that it is not under consideration for publication anywhere else; that its publication has been approved by all co-authors, if any, as well as by the responsible authorities – tacitly or explicitly – at the institute where the work has been carried out. The publisher will not be held legally responsible should there be any claims for compensation.

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## How to submit your manuscript

Please prepare your manuscript following the guidelines here [as explained step by step](#).

# Journal-specific and general guidelines for authors

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The journal follows the Springer Nature [Peer Review Policy, Process and Guidance](#), Springer Nature [Journal Editors' Code of Conduct](#), and COPE's [Ethical Guidelines for Peer-reviewers](#).

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[Thermophysics and Aeromechanics. Guidelines for Authors.](#)

We recommend that you familiarize yourself with the [samples of manuscripts](#) and follow the format that most closely matches the subject of the manuscript. Please note also that the style of references to cited literature may vary from one journal to another. Please choose the style appropriate for the journal to which you are planning to submit a manuscript. Please consult the guidelines for authors or the editor when necessary.

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# Instructions for Authors

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## Title Page

Please make sure your title page contains the following information.

### **Title**

The title should be concise and informative.

### **Author information**

The name(s) of the author(s).

- The name(s) of the author(s).

- The affiliation(s) of the author(s): (department), institution, city, (state), zip code, country. Footnotes to the list of authors should be indicated by superscript lower-case italicized letters.

- A clear indication and an active e-mail address of all authors.

- If available, the 16-digit ORCID of the author(s); use the following format: Shuaiqi Li(<https://orcid.org/0000-0006-3034-6315>) and Xiaoxu Han (<https://orcid.org/0000-0004-3016-6317>).

Please do not include address information.

### **Abstract**

Please provide an abstract of 150 to 250 words. The abstract should not contain any undefined abbreviations or unspecified references.

For life science journals only (when applicable).

- Trial registration number and date of registration for prospectively registered trials.
- Trial registration number and date of registration, followed by “retrospectively registered”, for retrospectively registered trials.

## Keywords

Please provide 4 to 6 keywords which can be used for indexing purposes.

## Text

### Text Formatting

- When preparing manuscripts, we suggest that you use [manuscript samples](#) that meet publisher's requirements.
- Use only standard fonts: 10-point Times New Roman for text, Symbol for Greek symbols, MathematicalPi2 for handwritten and gothic symbols.
- Use tab stops or other commands for indents, not the space bar.
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- Use the International System of Units (SI) for physical quantities and units of measure, and IUPAC nomenclature for chemical compounds.
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- Dates should be rendered in the following format: January 27, 2014.
- There should not be periods after manuscript title, list of authors, affiliations, keywords, section headings and subheadings, table titles and most of the units of measure.
- Italicize variables and physical quantities, but not abbreviations of words in superscripts and subscripts.

- Save your file in docx format (Word 2007 or higher) or doc format (older Word versions).

## Headings

Please use no more than three levels of displayed headings:

### **FIRST-LEVEL HEADING (centered)**

Second-Level Heading (centered)

**Third-level heading.** (Beginning of a paragraph)

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Mathematical formulas created using MathType should be in one frame. Do not compose a single formula of several MathType objects or a MathType object and text, table, or embedded frame.

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Please put a formula that do not fit ordinary lines to a separate line or use format that is most suitable; e.g.,  $a/b$  and  $a \times b^{-1}$  is better than a common fraction with a numerator displayed above the line and a denominator displayed below the line.

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Avoid word contractions altogether and word abbreviations whenever possible. They should be defined at first mention and used consistently thereafter.

## Units of Measure

- Use the International System of Units (SI) for physical quantities and units of measurement.
- Separate units of measure from numbers by a space. Exceptions are: 90°, 20°C, 50%, 10‰.
- Use units of measure consistently throughout the manuscript.
- In ranges and series, retain only the final unit of measure (10–12 mg; 5, 10, and 20 kV; 25–30%; 30, 60, and 90°C). The degree when it indicates angles sign is an exception.
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Include the following standard sections for Statements and Declarations. Please follow the [link](#) for details.

- ACKNOWLEDGMENTS. Any information about any assistance received when carrying out the work and preparing the manuscript.
- FUNDING. Information on grants and other sources of financial support.
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- SUPPLEMENTARY INFORMATION. This section notifies of the availability of supplementary materials.
- ADDITIONAL INFORMATION. Everything that should be stated but is not suitable for other sections.

## Reference

### Citation

Reference citations in the text should be identified by numbers in square brackets. Some examples:

- Negotiation research spans many disciplines [3].

- This result was later contradicted by Becker and Seligman [5].
- This effect has been widely studied [1–3, 7].

## Reference list

The list of references should only include works that are cited in the text and that have been published or accepted for publication. Personal communications and unpublished works should only be mentioned in the text.

All references are numbered in order of their appearance in the manuscript.

Every item in the list of references should contain a reference to one source.

The entries in the list should be numbered consecutively.

If available, please always include DOIs as full DOI links in your reference list (e.g. “<https://doi.org/abc>”).

- Journal article

**F.X. Gamelin, G. Baquet, S. Berthoin, D. Thevenet, C. Nourry, S. Nottin, and L. Bosquet**, Effect of high intensity intermittent training on heart rate variability in prepubescent children, *Eur. J. Appl. Physiol.*, 2009, Vol. 105, P. 731–738.  
<https://doi.org/10.1007/s00421-008-0955-8>

Ideally, the names of all authors should be provided, but the usage of “et al.” in long author lists will also be accepted:

**J. Smith, M. Jones, Jr., L. Houghton, et al.**, Future of health insurance, *N. Engl. J. Med.*, 1999, Vol. 965, P. 325–329.

- Book

**S.V. Alekseenko, P.A. Kuibin, and V.L. Okulov**, *Theory of Concentrated Vortices: An Introduction*, Springer, Berlin, 2007.

- Book chapter

**B. Brown and M. Aaron**, The politics of nature, in *The Rise of Modern Genomics*, Wiley, New York, 2001, P. 230–257.

- Online document

**J. Cartwright**, Big stars have weather too. IOP Publishing PhysicsWeb.  
<http://physicsweb.org/articles/news/11/6/16/1>. Accessed June 26, 2007.

- Dissertation

**J.W. Trent**, Experimental acute renal failure, Ph. D. Thesis, University of Southern California, Los Angeles, 1975.

Always use the standard abbreviation of a journal's name according to the ISSN List of Title Word Abbreviations, see [ISSN.org LTWA](#) or [CASSI](#). If you are unsure, please use the full journal title.

## Tables

- All tables are to be numbered using Arabic numerals.
- Tables should always be cited in text in consecutive numerical order.
- For each table, please supply a table caption (title) explaining the components of the table.
- Identify any previously published material by giving the original source in the form of a reference at the end of the table caption.
- Footnotes to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data) and included beneath the table body.
- Use the table function, not spreadsheets, to make tables. Avoid creating tables by hand using multiple spaces or tabs and containing no cells.
- For table formats, please see [sample manuscripts](#).

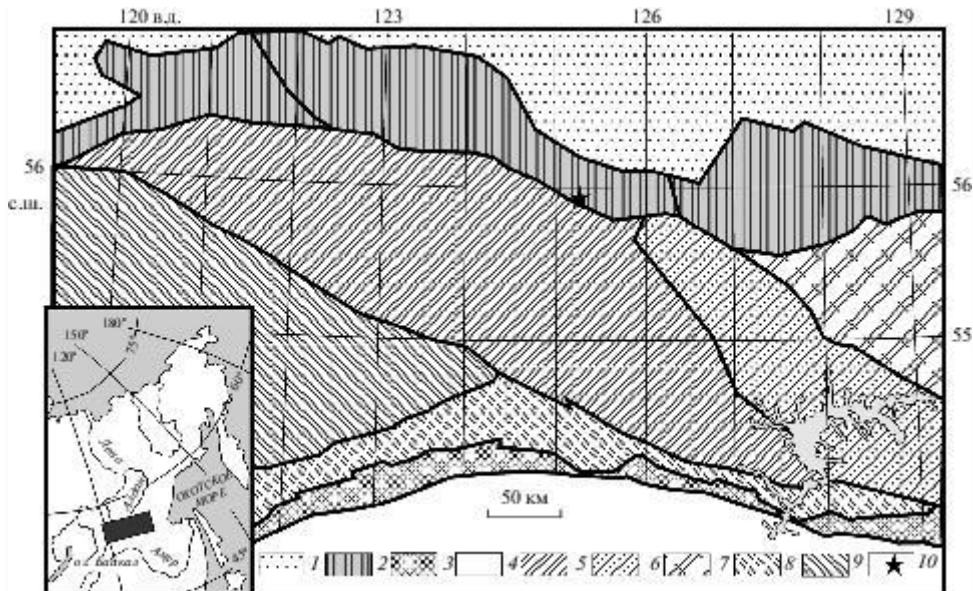
## Artwork and Illustrations Guidelines

### General Requirements

- Supply all figures electronically.
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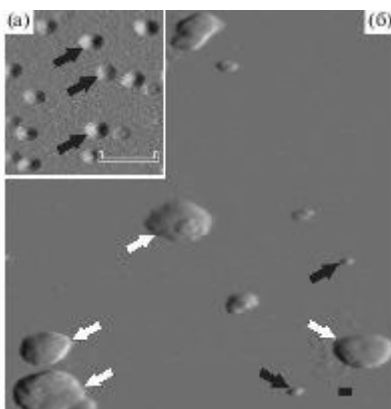
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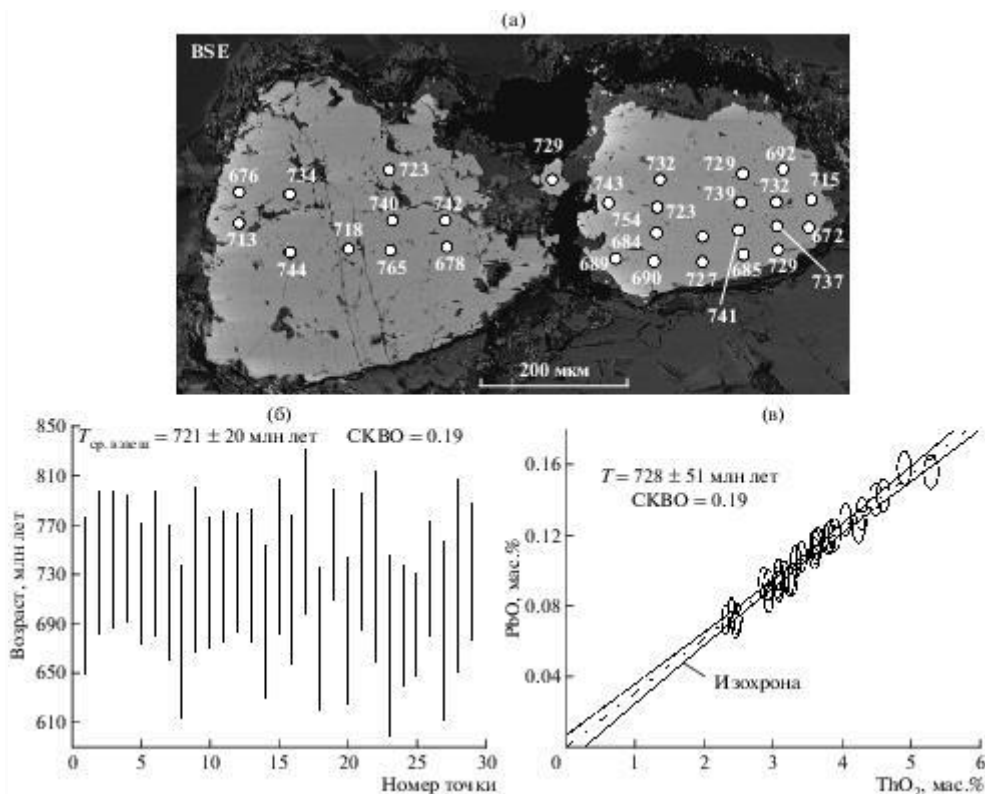


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\* Based on/adapted from:

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All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by [full name], [full name] and [full name]. The first draft of the manuscript was written by [full name] and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

#### Example: CRediT taxonomy:

- Conceptualization: [full name], ...; Methodology: [full name], ...; Formal analysis and investigation: [full name], ...; Writing - original draft preparation: [full name, ...]; Writing - review and editing: [full name], ...; Funding acquisition: [full name], ...; Resources: [full name], ...; Supervision: [full name],....

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[A Graduate Student's Guide to Determining Authorship Credit and Authorship Order, APA Science Student Council 2006](#)

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Authors are recommended to use their ORCID ID when submitting an article for consideration or acquire an ORCID ID via the submission process.

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For cases in which a co-author dies or is incapacitated during the writing, submission, or peer-review process, and the co-authors feel it is appropriate to include the author, co-authors should obtain approval from a (legal) representative which could be a direct relative.

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### **Compliance with Ethical Standards**

To ensure objectivity and transparency in research and to ensure that accepted principles of ethical and professional conduct have been followed, authors should include information regarding sources of funding, potential conflicts of interest (financial or non-financial), informed consent if the research involved human participants, and a statement on welfare of animals if the research involved animals.

Authors should include the following statements (if applicable) in a separate section entitled "Compliance with Ethical Standards" when submitting a paper:

- Disclosure of potential conflicts of interest
- Research involving Human Participants and/or Animals
- Informed consent

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The corresponding author should be prepared to collect documentation of compliance with ethical standards and send if requested during peer review or after publication.

The Editors reserve the right to reject manuscripts that do not comply with the above-mentioned guidelines. The author will be held responsible for false statements or failure to fulfill the above-mentioned guidelines.

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**Authors:** are requested to disclose interests that are directly or indirectly related to the work submitted for publication. Interests within the last 3 years of beginning the work (conducting the research and preparing the work for submission) should be reported. Interests outside the 3-year time frame must be disclosed if they could reasonably be perceived as influencing the submitted work. Disclosure of interests provides a complete and transparent process and helps readers form their own judgments of potential bias. This is not meant to imply that a financial relationship with an organization that sponsored the research or compensation received for consultancy work is inappropriate.

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Interests that should be considered and disclosed but are not limited to the following:

**Funding:** Research grants from funding agencies (please give the research funder and the grant number) and/or research support (including salaries, equipment, supplies, reimbursement for attending symposia, and other expenses) by organizations that may gain or lose financially through publication of this manuscript.

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**Financial interests:** Stocks or shares in companies (including holdings of spouse and/or children) that may gain or lose financially through publication of this manuscript; consultation fees or other forms of remuneration from organizations that may gain or lose financially; patents or patent applications whose value may be affected by publication of this manuscript.

It is difficult to specify a threshold at which a financial interest becomes significant, any such figure is necessarily arbitrary, so one possible practical guideline is the following: "Any undeclared financial interest that could embarrass the author were it to become publicly known after the work was published."

**Non-financial interests:** In addition, authors are requested to disclose interests that go beyond financial interests that could impart bias on the work submitted for publication such as professional interests, personal relationships or personal beliefs (amongst others). Examples include, but are not limited to: position on editorial board, advisory board or board of directors or other type of management relationships; writing and/or consulting for educational purposes; expert witness; mentoring relations; and so forth.

Primary research articles require a disclosure statement. Review articles present an expert synthesis of evidence and may be treated as an authoritative work on a subject. Review articles therefore require a disclosure statement. Other article types such as editorials, book reviews, comments (amongst others) may, dependent on their content, require a disclosure statement. If you are unclear whether your article type requires a disclosure statement, please contact the Editor-in-Chief.

The above should be summarized in a statement and placed before the reference list under appropriate headings 'Funding' and 'Conflict of interest'. Please see the various examples of wording below and revise/customize the sample statements according to your own needs.

When all authors have the same (or no) conflicts and/or funding it is sufficient to use one blanket statement.

**Examples of statements to be used when funding has been received:**

Partial financial support was received from [...]

The research leading to these results received funding from [...] under Grant Agreement No[...].

This study was funded by [...]

This work was supported by [...] (Grant numbers [...] and [...])

**Examples of statements to be used when there is no funding:**

The authors did not receive support from any organization for the submitted work.

No funding was received to assist with the preparation of this manuscript.

No funding was received for conducting this study.

No funds, grants, or other support was received.

**Examples of statements to be used when there are interests to declare:**

**Financial interests:** Author A has received research support from Company A. Author B has received a speaker honorarium from Company W and owns stock in Company X. Author C is consultant to company Y.

**Nonfinancial interests:** Author C is an unpaid member of committee Z.

**Financial interests:** The authors declare they have no financial interests.

**Nonfinancial interests:** Author A is on the board of directors of Y and receives no compensation as member of the board of directors.

**Financial interests:** Author A received a speaking fee from Y for Z. Author B receives a salary from association X. X where s/he is the Executive Director.

**Nonfinancial interests:** none.

**Financial interests:** Author A and B declare they have no financial interests. Author C has received speaker and consultant honoraria from Company M and Company N. Dr. C has received speaker honorarium and research funding from Company M and Company O. Author D has received travel support from Company O.

**Nonfinancial interests:** Author D has served on advisory boards for Company M, Company N and Company O.

**Examples of statements to be used when authors have nothing to declare:**

The authors have no relevant financial or nonfinancial interests to disclose.

The authors have no conflicts of interest to declare that are relevant to the content of this article.

All authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or nonfinancial interest in the subject matter or materials discussed in this manuscript.

The authors have no financial or proprietary interests in any material discussed in this article.

Authors are responsible for correctness of the statements provided in the manuscript. See also Authorship Principles. The Editor-in-Chief reserves the right to reject submissions that do not meet the guidelines described in this section.

## Research involving human participants, their data or biological material

### **Ethics approval**

When reporting a study that involved human participants, their data or biological material, authors should include a statement that confirms that the study was approved (or granted exemption) by the appropriate institutional and/or national research ethics committee (including the name of the ethics committee) and certify that the study was performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards. If doubt exists whether the research was conducted in accordance with the 1964 Helsinki Declaration or comparable standards, the authors must explain the reasons for their approach, and demonstrate that an independent ethics committee or institutional review board explicitly approved the doubtful aspects of the study. If a study was granted exemption from requiring ethics approval, this should also be detailed in the manuscript (including the reasons for the exemption).

### **Retrospective ethics approval**

If a study has not been granted ethics committee approval prior to commencing, retrospective ethics approval usually cannot be obtained and it may not be possible to consider the manuscript for peer review. The decision on whether to proceed to peer review in such cases is at the Editor's discretion.

### **Ethics approval for retrospective studies**

Although retrospective studies are conducted on already available data or biological material (for which formal consent may not be needed or is difficult to obtain) ethics approval may be required dependent on the law and the national ethical guidelines of a country. Authors should check with their institution to make sure they are complying with the specific requirements of their country.

### **Ethics approval for case studies**

Case reports require ethics approval. Most institutions will have specific policies on this subject. Authors should check with their institution to make sure they are complying with the specific requirements of their institution and seek ethics approval where needed. Authors should be aware to secure informed consent from the individual (or parent or guardian if the participant is a minor or incapable) See also section on Informed Consent.

### **Cell lines**

If human cells are used, authors must declare in the manuscript: what cell lines were used by describing the source of the cell line, including when and from where it was obtained, whether the cell line has recently been authenticated and by what method. If cells were bought from a life science company the following need to be given in the manuscript: name of company (that provided the cells), cell type, number of cell line, and batch of cells.

It is recommended that authors check the [NCBI database](#) for misidentification and contamination of human cell lines. This step will alert authors to possible problems with the cell line and may save considerable time and effort.

Further information is available from the [International Cell Line Authentication Committee](#) (ICLAC).

Authors should include a statement that confirms that an institutional or independent ethics committee (including the name of the ethics committee) approved the study and that informed consent was obtained from the donor or next of kin.

## Research Resource Identifiers (RRID)

Research Resource Identifiers (RRID) are persistent unique identifiers (effectively similar to a DOI) for research resources. This journal encourages authors to adopt RRIDs when reporting key biological resources (antibodies, cell lines, model organisms and tools) in their manuscripts.

### Examples:

**Organism:** Filip1tm1a(KOMP)Wtsi RRID:MMRRC\_055641-UCD

**Cell Line:**RST307 cell line RRID:CVCL\_C321

**Antibody:**Luciferase antibody DSHB Cat# LUC-3, RRID:AB\_2722109

**Plasmid:**mRuby3 plasmid RRID:Addgene\_104005

**Software:**ImageJ Version 1.2.4 RRID:SCR\_003070

RRIDs are provided by the [Resource Identification Portal](#). Many commonly used research resources already have designated RRIDs. The portal also provides authors links so that they can quickly [register a new resource](#) and obtain an RRID.

## Clinical Trial Registration

The World Health Organization (WHO) definition of a clinical trial is “any research study that prospectively assigns human participants or groups of humans to one or more health-related interventions to evaluate the effects on health outcomes“. The WHO defines health interventions as “A health intervention is an act performed for, with or on behalf of a person or population whose purpose is to assess, improve, maintain, promote or modify health, functioning or health conditions” and a health-related outcome is generally defined as a change in the health of a person or population as a result of an intervention.

To ensure the integrity of the reporting of patient-centered trials, authors must register prospective clinical trials (phase II to IV trials) in suitable publicly available repositories. For example [www.clinicaltrials.gov](http://www.clinicaltrials.gov) or any of the primary registries that participate in [WHO](#)

[International Clinical Trials Registry Platform](#). The trial registration number (TRN) and date of registration should be included as the last line of the manuscript abstract.

For clinical trials that have not been registered prospectively, authors are encouraged to register retrospectively to ensure the complete publication of all results. The trial registration number (TRN), date of registration and the words 'retrospectively registered' should be included as the last line of the manuscript abstract.

## **Standards of reporting**

Pleiades Publishing and Springer Nature advocate complete and transparent reporting of biomedical and biological research and research with biological applications. Authors are recommended to adhere to the minimum reporting guidelines hosted by the [EQUATOR Network](#) when preparing their manuscript.

Exact requirements may vary depending on the journal; please consult the journal editor when necessary.

Checklists are available for a number of study designs, including:

Randomised trials ([CONSORT](#)) and Study protocols ([SPIRIT](#))

Observational studies ([STROBE](#))

Systematic reviews and meta-analyses ([PRISMA](#)) and protocols ([Prisma-P](#))

Diagnostic/prognostic studies ([STARD](#)) and ([TRIPOD](#))

Case reports ([CARE](#))

Clinical practice guidelines ([AGREE](#)) and ([RIGHT](#))

Qualitative research ([SRQR](#)) and ([COREQ](#))

Animal pre-clinical studies ([ARRIVE](#))

Quality improvement studies ([SQUIRE](#))

Economic evaluations ([CHEERS](#))

## **Summary of requirements**

The above should be summarized in a statement and placed under a heading of 'Compliance with Ethical Standards'.

Examples of statements to be used when ethics approval has been obtained:



- All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The study was approved by the Bioethics Committee of the Medical University of A (No. ...).
- This study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Ethics Committee of University B (Date.../No. ...).
- Approval was obtained from the ethics committee of University C. The procedures used in this study adhere to the tenets of the Declaration of Helsinki.
- The questionnaire and methodology for this study was approved by the Human Research Ethics committee of the University of D (Ethics approval number: ...).

Examples of statements to be used for a retrospective study:

- Ethical approval was waived by the local Ethics Committee of University A in view of the retrospective nature of the study and all the procedures being performed were part of the routine care.
- This research study was conducted retrospectively from data obtained for clinical purposes. We consulted extensively with the IRB of XYZ who determined that our study did not need ethical approval. An IRB official waiver of ethical approval was granted from the IRB of XYZ.
- This retrospective chart review study involving human participants was in accordance with the ethical standards of the institutional and national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The Human Investigation Committee (IRB) of University B approved this study.

Examples of statements to be used when no ethical approval is required/exemption granted:

- This is an observational study. The XYZ Research Ethics Committee has confirmed that no ethical approval is required.
- The data reproduced from Article X utilized human tissue that was procured via our Biobank AB, which provides de-identified samples. This study was reviewed and deemed exempt by our XYZ Institutional Review Board. The BioBank protocols are in accordance with the ethical standards of our institution and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Authors are responsible for correctness of the statements provided in the manuscript. See also Authorship Principles. The Editor-in-Chief reserves the right to reject submissions that do not meet the guidelines described in this section.

## Informed consent

All individuals have individual rights that are not to be infringed. Individual participants in studies have, for example, the right to decide what happens to the (identifiable) personal data gathered, to what they have said during a study or an interview, as well as to any photograph that was taken. This is especially true concerning images of vulnerable people (e.g., minors,

patients, refugees, etc.) or the use of images in sensitive contexts. In many instances authors will need to secure written consent before including images.

Identifying details (names, dates of birth, identity numbers, biometrical characteristics (such as facial features, fingerprint, writing style, voice pattern, DNA or other distinguishing characteristic) and other information) of the participants that were studied should not be published in written descriptions, photographs, and genetic profiles unless the information is essential for scholarly purposes and the participant (or parent/guardian if the participant is a minor or incapable or legal representative) gave written informed consent for publication. Complete anonymity is difficult to achieve in some cases. Detailed descriptions of individual participants, whether of their whole bodies or of body sections, may lead to disclosure of their identity. Under certain circumstances consent is not required as long as information is anonymized and the submission does not include images that may identify the person.

Informed consent for publication should be obtained if there is any doubt. For example, masking the eye region in photographs of participants is inadequate protection of anonymity. If identifying characteristics are altered to protect anonymity, such as in genetic profiles, authors should provide assurance that alterations do not distort meaning.

#### **Exceptions where it is not necessary to obtain consent:**

- Images such as x rays, laparoscopic images, ultrasound images, brain scans, pathology slides unless there is a concern about identifying information in which case, authors should ensure that consent is obtained.
- Reuse of images: If images are being reused from prior publications, the Publisher will assume that the prior publication obtained the relevant information regarding consent. Authors should provide the appropriate attribution for republished images.

#### **Consent and already available data and/or biologic material:**

Regardless of whether material is collected from living or dead patients, they (family or guardian if the deceased has not made a pre-mortem decision) must have given prior written consent. The aspect of confidentiality as well as any wishes from the deceased should be respected.

#### **Data protection, confidentiality, and privacy:**

When biological material is donated for or data is generated as part of a research project authors should ensure, as part of the informed consent procedure, that the participants are made aware what kind of (personal) data will be processed, how it will be used and for what purpose. In case of data acquired via a biobank/biorepository, it is possible they apply a broad consent which allows research participants to consent to a broad range of uses of their data and samples which is regarded by research ethics committees as specific enough to be considered "informed". However, authors should always check the specific biobank/biorepository policies or any other type of data provider policies (in case of non-bio research) to be sure that this is the case.

### **Consent to Participate:**

For all research involving human subjects, freely given, informed consent to participate in the study must be obtained from participants (or their parent or legal guardian in the case of children under 16) and a statement to this effect should appear in the manuscript. In the case of articles describing human transplantation studies, authors must include a statement declaring that no organs/tissues were obtained from prisoners and must also name the institution(s)/clinic(s)/department(s) via which organs/tissues were obtained. For manuscripts reporting studies involving vulnerable groups where there is the potential for coercion or where consent may not have been fully informed, extra care will be taken by the editor.

### **Consent to Publish:**

Individuals may consent to participate in a study, but object to having their data published in a journal article. Authors should make sure to also seek consent from individuals to publish their data prior to submitting their paper to a journal. This is in particular applicable to case studies. A consent to publish form can be found [here](#). ([Download docx, 36 kB](#))

### **Summary of requirements:**

The above should be summarized in a statement and placed in a 'Declarations' section before the reference list under a heading of 'Consent to participate' and/or 'Consent to publish'. Other declarations include Funding, Competing interests, Ethics approval, Consent, Data and/or Code availability and Authors' contribution statements.

Please see the various examples of wording below and revise/customize the sample statements according to your own needs.

### **Sample statements for "Consent to participate":**

Informed consent was obtained from all individual participants included in the study.

Informed consent was obtained from legal guardians.

Written informed consent was obtained from the parents.

Verbal informed consent was obtained prior to the interview.

### **Sample statements for "Consent to publish":**

The authors affirm that human research participants provided informed consent for publication of the images in Figure(s) 1a, 1b and 1c.

The participant has consented to the submission of the case report to the journal.

Patients signed informed consent regarding publishing their data and photographs.

Sample statements if identifying information about participants is available in the article:

Additional informed consent was obtained from all individual participants for whom identifying information is included in this article.

Authors are responsible for correctness of the statements provided in the manuscript. See also Authorship Principles. The Editor-in-Chief reserves the right to reject submissions that do not meet the guidelines described in this section.

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Open Access (OA) model: published articles are freely and permanently available online. Anyone, anywhere can read and build upon this research.