Certificate in Medical Journalism

Medical Publishing and Peer Review

Abstract – A concise summary of a research article that highlights objectives, methods, results, and conclusions. Related terms: summary, synopsis. The abstract enables readers to quickly assess relevance. Example: A 250-word abstract for a clinical trial describing patient enrollment and primary outcome. Practical application: Editors use abstracts to select articles for peer review. Challenges: Must be clear yet limited in length, and may omit crucial nuances.

Article Processing Charge (APC) – Fee charged to authors to cover publishing costs, especially in open-access journals. Related terms: publication fee, open-access model. APCs support editorial work, typesetting, and online hosting. Example: A $2,500 APC for a manuscript in a high-impact oncology journal. Practical application: Institutions budget APCs for faculty publications. Challenges: Can create financial barriers for researchers from low-income settings.

Authorship – Attribution of credit to individuals who made substantial contributions to a manuscript. Related terms: contributorship, byline. Criteria often follow ICMJE guidelines: Conception, design, execution, drafting, and approval. Example: A multi-center study listing ten authors, each meeting authorship standards. Practical application: Journals require an authorship declaration form. Challenges: Disputes over order, honorary authorship, and ghostwriting.

Bias (Publication) – Systematic distortion of the literature due to selective reporting or editorial decisions. Related terms: publication bias, selective outcome reporting. Bias can inflate perceived efficacy of interventions. Example: Trials with positive results more likely to be published. Practical application: Systematic reviewers assess funnel plots for bias. Challenges: Detecting unpublished negative studies and encouraging transparent reporting.

Case Report – Detailed description of a single patient's clinical presentation, diagnosis, treatment, and outcome. Related terms: case series, clinical vignette. Case reports can highlight rare diseases or novel therapies. Example: A report of an unexpected adverse reaction to a new drug. Practical application: Educators use case reports to teach diagnostic reasoning. Challenges: Limited generalizability and risk of anecdotal evidence.

Clinical Trial Registry – Public database where investigators record trial protocols before enrollment. Related terms: registry, pre-registration. Registries promote transparency and reduce selective reporting. Example: Registration of a phase III trial on ClinicalTrials.Gov. Practical application: Journals often require registry numbers at submission. Challenges: Incompletely updated entries and inconsistent reporting standards.

Conflict of Interest (COI) – Situation where personal or financial interests could influence professional judgment. Related terms: disclosure, bias. COI statements disclose funding sources, stock ownership, or consultancy. Example: An author declares equity in a pharmaceutical company whose drug is studied. Practical application: Editors assess COI to decide on reviewer selection. Challenges: Hidden relationships

and varying disclosure policies.

CONSORT Statement – Consolidated Standards of Reporting Trials; a set of guidelines for reporting randomized controlled trials. Related terms: reporting standards, checklist. CONSORT includes flow diagram and 25-item checklist. Example: A manuscript adheres to CONSORT by providing participant flow. Practical application: Peer reviewers check compliance to improve reporting quality. Challenges: Authors may overlook items, leading to incomplete data.

Correspondence – Short communication between authors and journal, often addressing comments on published articles. Related terms: letter to the editor, response. Correspondence can clarify findings or highlight errors. Example: A letter questioning statistical methods of a recent study. Practical application: Editors publish correspondence to foster scholarly debate. Challenges: Limited space and potential for personal attacks.

Crew-size Review – Collaborative peer review involving multiple reviewers working together on a single manuscript. Related terms: team review, collaborative review. This model aims to reduce redundancy and improve consistency. Example: Three reviewers jointly annotate a manuscript using an online platform. Practical application: Journals pilot crew-size review to accelerate decisions. Challenges: Coordinating schedules and ensuring equal contribution.

Data Availability Statement – Section indicating where underlying data can be accessed. Related terms: open data, repository. Promotes reproducibility by providing datasets. Example: Authors deposit raw trial data in Dryad and cite the DOI. Practical application: Reviewers verify data integrity during assessment. Challenges: Privacy concerns and lack of standard repositories.

Double-Blind Peer Review – Review process where both author and reviewer identities are concealed. Related terms: blind review, anonymized review. Aims to minimize bias based on reputation or affiliation. Example: A manuscript submitted without author names; reviewers receive only the text. Practical application: Many biomedical journals adopt double-blind to enhance fairness. Challenges: Difficult to conceal self-citing or methodological clues.

Editorial Board – Group of experts overseeing a journal's content, policy, and peer-review standards. Related terms: editorial committee, advisory board. Board members may act as editors, reviewers, or advisors. Example: A journal's board includes senior physicians, statisticians, and ethicists. Practical application: Board members set scope and guide strategic direction. Challenges: Ensuring diversity and managing conflicts of interest.

Ethical Approval – Formal permission from an institutional review board (IRB) to conduct research involving human participants. Related terms: IRB, ethics committee. Approval confirms compliance with ethical standards. Example: A study receives IRB approval number 2023-045 before patient enrollment. Practical application: Journals require proof of approval during submission. Challenges: Varying international standards and retrospective approvals.

FAIR Principles – Guidelines for data management: Findable, Accessible, Interoperable, Reusable. Related terms: data stewardship, open science. FAIR enhances data sharing and reuse. Example: A dataset with

metadata indexed in a searchable repository follows FAIR. Practical application: Funders mandate FAIR compliance for grant-linked research. Challenges: Technical expertise and cost of implementation.

Impact Factor – Metric reflecting the average number of citations to articles published in a journal over a two-year period. Related terms: journal metric, citation index. Used as a proxy for journal prestige. Example: A journal with an Impact Factor of 12.3. Practical application: Authors target high-Impact Factor journals for visibility. Challenges: Susceptibility to manipulation and over-emphasis on quantity over quality.

Indexing – Inclusion of a journal's articles in bibliographic databases such as PubMed or Scopus. Related terms: abstracting, database inclusion. Indexing enhances discoverability. Example: A new journal achieves PubMed indexing after meeting quality criteria. Practical application: Researchers search indexed databases for literature reviews. Challenges: Rigorous evaluation processes and maintaining standards.

Informed Consent – Process by which participants agree to join a study after understanding risks and benefits. Related terms: patient consent, ethical consent. Documentation is essential for ethical compliance. Example: A consent form signed by participants before a clinical trial. Practical application: Journals request a copy of the consent form for verification. Challenges: Language barriers and ensuring comprehension.

Manuscript – Complete written work submitted for publication, including text, figures, tables, and supplementary material. Related terms: submission, draft. The manuscript undergoes editorial screening and peer review. Example: A 4,500-word manuscript reporting a meta-analysis of hypertension studies. Practical application: Authors follow journal-specific formatting guidelines. Challenges: Meeting word limits while preserving methodological detail.

Open Access – Publication model allowing free, immediate online access to research articles. Related terms: gold open access, green open access. Enables broader dissemination and citation. Example: An article published under a Creative Commons Attribution license. Practical application: Institutions negotiate transformative agreements for open-access publishing. Challenges: Funding APCs and maintaining quality control.

ORCID iD – Persistent digital identifier for researchers, linking their work across platforms. Related terms: author identifier, researcher ID. ORCID helps disambiguate author names. Example: Dr. Jane Smith's ORCID: 0000-0002-1825-0097. Practical application: Journals require ORCID during submission to auto-populate author details. Challenges: Adoption rates and integration with legacy systems.

Peer Review – Critical evaluation of a manuscript by experts in the same field before publication. Related terms: referee, reviewer. Peer review assesses validity, significance, and originality. Example: Three reviewers provide comments on methodology and statistical analysis. Practical application: Reviewers recommend acceptance, revision, or rejection. Challenges: Reviewer fatigue, bias, and variability in quality.

Preprint – Early version of a research article posted publicly before formal peer review. Related terms: pre-publication, manuscript deposit. Preprints accelerate knowledge sharing. Example: A COVID-19 study posted on medRxiv. Practical application: Authors receive early feedback and establish priority. Challenges: Potential dissemination of unvetted findings and media misinterpretation.

Publication Ethics – Set of principles governing responsible conduct in scholarly publishing. Related terms: integrity, misconduct. Includes plagiarism, duplicate publication, and data fabrication. Example: A journal follows COPE guidelines for handling ethical breaches. Practical application: Editors conduct investigations when allegations arise. Challenges: Detecting subtle plagiarism and cross-journal coordination.

Plagiarism – Unauthorized use of another's text, ideas, or data without proper attribution. Related terms: text recycling, self-plagiarism. Plagiarism undermines credibility. Example: Software flags 30% similarity between a submitted manuscript and previously published work. Practical application: Editors request revisions or reject the manuscript. Challenges: Distinguishing legitimate reuse from misconduct.

Post-Publication Peer Review – Ongoing evaluation of an article after it has been published, often via comments or formal letters. Related terms: open peer review, commentary. Allows correction of errors and addition of new data. Example: A published study receives a post-publication critique highlighting statistical flaws. Practical application: Journals host comment sections for community input. Challenges: Ensuring constructive discourse and preventing harassment.

Pre-Registration – Documentation of study hypotheses, design, and analysis plan before data collection. Related terms: protocol registration, prospective registration. Enhances transparency and reduces outcome switching. Example: A researcher registers analysis scripts on the Open Science Framework. Practical application: Reviewers evaluate adherence to the pre-registered plan. Challenges: Flexibility for exploratory analyses and administrative burden.

Qualitative Research – Study focusing on non-numeric data such as interviews, focus groups, or observations. Related terms: content analysis, thematic analysis. Provides depth on patient experiences. Example: A phenomenological study exploring physicians' coping mechanisms. Practical application: Journals assess rigor through criteria like credibility and transferability. Challenges: Subjectivity in interpretation and limited reproducibility.

Rapid Review – Accelerated peer-review process aimed at shortening time to decision, often for urgent topics. Related terms: fast track, expedited review. Used for emerging health crises. Example: A COVID-19 vaccine study undergoes rapid review within two weeks. Practical application: Editors assign reviewers with tight deadlines. Challenges: Maintaining thoroughness while reducing review time.

Reproducibility – Ability of independent researchers to obtain the same results using the original data and methods. Related terms: replication, verification. Core to scientific credibility. Example: A secondary analysis reproduces findings of a published meta-analysis. Practical application: Journals encourage sharing of code and data. Challenges: Proprietary data, insufficient methodological detail, and statistical variability.

Retraction – Formal withdrawal of a published article due to errors, misconduct, or unreliable data. Related terms: withdrawal, correction. Retractions preserve the integrity of the literature. Example: A paper is retracted after discovery of fabricated images. Practical application: Databases flag retracted articles to prevent citation. Challenges: Lingering citations and reputational damage.

Scopus – Large abstract and citation database covering peer-reviewed literature across disciplines. Related terms: bibliographic database, citation index. Used for tracking citations and assessing journal metrics.

Example: A researcher retrieves citation counts for their articles via Scopus. Practical application: Institutions use Scopus data for performance evaluation. Challenges: Coverage gaps for regional journals and subscription costs.

Scientific Writing – Structured communication of research findings using clear, concise language and standardized formats. Related terms: manuscript drafting, academic prose. Involves sections like Introduction, Methods, Results, and Discussion. Example: An author employs active voice and avoids jargon to improve readability. Practical application: Workshops teach medical journalists effective writing techniques. Challenges: Balancing technical detail with audience accessibility.

Search Strategy – Systematic plan for locating relevant literature in databases, using keywords, MeSH terms, and Boolean operators. Related terms: literature search, systematic review protocol. Critical for comprehensive reviews. Example: A reviewer documents a search using "(diabetes AND insulin) NOT type-1" across PubMed and Embase. Practical application: Authors include the full strategy in supplementary material. Challenges: Ensuring reproducibility and avoiding missed studies.

Selective Reporting – Presentation of only favorable outcomes while omitting non-significant or adverse results. Related terms: outcome reporting bias, cherry-picking. Distorts the evidence base. Example: A trial publishes primary efficacy data but excludes secondary safety endpoints. Practical application: Reviewers compare published results with trial registries. Challenges: Detecting hidden outcomes and encouraging full disclosure.

Statistical Significance – Probability that an observed effect is not due to random chance, typically expressed as a p-value p-value, confidence interval. Guides interpretation of results. Example: A study reports a p-value of 0.03 Indicating a significant difference between groups. Practical application: Reviewers assess whether statistical methods are appropriate. Challenges: Over-reliance on p-values and neglect of effect size.

Supplementary Material – Additional files (e.G., Datasets, extended methods, video) that support the main article but are not included in print. Related terms: appendix, online content. Provides depth without exceeding word limits. Example: A supplementary Excel file contains raw trial data. Practical application: Reviewers examine supplementary files for completeness. Challenges: Long-term accessibility and proper citation.

Systematic Review – Comprehensive synthesis of all relevant studies on a specific question, employing explicit methods to minimize bias. Related terms: meta-analysis, evidence synthesis. Generates high-level evidence. Example: A systematic review of randomized trials on antihypertensive therapy. Practical application: Clinicians use systematic reviews for guideline development. Challenges: Heterogeneity among studies and publication bias.

Target Audience – Primary readership for which a manuscript is intended, such as clinicians, researchers, or policy makers. Related terms: readership, stakeholder. Influences tone, depth, and terminology. Example: A paper written for cardiologists emphasizes clinical implications. Practical application: Authors tailor abstracts to match audience expectations. Challenges: Balancing technical detail with broader accessibility.

Thesis Statement – Concise declaration of the main argument or purpose of an article, often appearing at the end of the Introduction. Related terms: research question, hypothesis. Guides the narrative. Example: “We hypothesize that early intervention reduces stroke recurrence.” Practical application: Reviewers check alignment between thesis and results. Challenges: Vague statements leading to unfocused manuscripts.

Transparent Peer Review – Model where reviewer reports, and sometimes reviewer identities, are published alongside the article. Related terms: open peer review, disclosed review. Enhances accountability. Example: A journal publishes reviewer comments and author responses in an online appendix. Practical application: Readers assess the rigor of the review process. Challenges: Reviewer reluctance to critique strongly and potential for retaliation.

Trial Registration Number – Unique identifier assigned to a study upon registration in a clinical trial registry. Related terms: registration ID, NCT number. Provides traceability. Example: NCT04567890 listed in the Methods section. Practical application: Editors verify the number to confirm prospective registration. Challenges: Inconsistent reporting and multiple registry systems.

Unstructured Abstract – Abstract format without predefined headings, presenting information in a single paragraph. Related terms: free-text abstract, narrative abstract. Common in certain journals. Example: A 250-word unstructured abstract summarizing objectives, methods, results, and conclusions. Practical application: Authors must convey key points concisely. Challenges: Reduced clarity compared with structured abstracts.

Validity – Extent to which a study accurately measures what it intends to measure. Related terms: internal validity, external validity. Determines credibility of findings. Example: A randomized design enhances internal validity by controlling confounders. Practical application: Reviewers assess threats such as selection bias. Challenges: Trade-offs between internal and external validity.

Version of Record – The definitive, citable version of an article after final copyediting and typesetting. Related terms: final version, published article. Subsequent corrections are issued as errata. Example: The PDF labeled “Version of Record” with DOI 10.1001/Jama.2024.1234. Practical application: Citations should reference this version. Challenges: Ensuring that online updates propagate to indexing services.

Video Abstract – Short audiovisual summary of a research article, often used to increase engagement. Related terms: multimedia summary, visual abstract. Highlights key findings in a minute or less. Example: A 60-second video posted on the journal’s website and social media. Practical application: Authors use video abstracts for outreach and dissemination. Challenges: Production costs and maintaining scientific accuracy.

Vulnerability (Research) – Populations or individuals at increased risk of harm or exploitation in a study. Related terms: at-risk groups, protected subjects. Requires additional ethical safeguards. Example: A study involving children with chronic illness. Practical application: IRBs enforce stricter consent procedures for vulnerable groups. Challenges: Balancing scientific benefit with protection of participants.

Wiley Online Library – Platform hosting a wide range of scientific journals and books, offering access to full-text articles. Related terms: publisher portal, digital library. Provides tools for citation tracking and article alerts. Example: A researcher accesses an article via Wiley’s platform using institutional credentials. Practical

application: Librarians negotiate subscriptions for institutional access. Challenges: Navigation complexity and paywall restrictions for some content.

Word Limit – Maximum allowed number of words for specific sections of a manuscript, such as the main text or abstract. Related terms: length restriction, manuscript guidelines. Ensures concise reporting. Example: A journal imposes a 3,000-word limit for original research articles. Practical application: Authors edit rigorously to fit within constraints. Challenges: Truncating essential methodological details without sacrificing clarity.