



Research Methods & Biostatistics

Year 5 — Bachelor of Dental Surgery

Reference and Resource List — Chapters 1 to 22

Supporting the MCQ, SBA, SAQ and flashcard question bank

BM Education FZE

Disclaimer
Questions in this bank were generated with the assistance of artificial intelligence and reviewed against the references listed. They are provided for educational revision only, are not a substitute for prescribed textbooks, clinical guidelines or supervised clinical training, and no warranty is given as to their accuracy or completeness.

References are presented in Vancouver style. Part 1 lists the core sources that apply across the whole subject; Part 2 lists, for each chapter, the relevant sections of those core texts together with sources specific to that chapter. Numbers in square brackets in Part 2 refer to the core list in Part 1.

PART 1 — CORE REFERENCES (ALL CHAPTERS)

1.1 Principal research methods and evidence-based practice texts

1. Greenhalgh T, Dijkstra P. How to Read a Paper: The Basics of Evidence-Based Healthcare. 7th ed. Oxford: Wiley Blackwell; 2025.
2. Straus SE, Glasziou P, Richardson WS, Haynes RB. Evidence-Based Medicine: How to Practice and Teach EBM. 5th ed. Edinburgh: Elsevier; 2019.
3. Browner WS, Newman TB, Cummings SR, et al. Designing Clinical Research. 5th ed. Philadelphia: Wolters Kluwer; 2022.
4. Bowling A. Research Methods in Health: Investigating Health and Health Services. 4th ed. Maidenhead: Open University Press; 2014.
5. Guyatt G, Rennie D, Meade MO, Cook DJ, editors. Users' Guides to the Medical Literature: A Manual for Evidence-Based Clinical Practice. 3rd ed. New York: McGraw-Hill; 2015.

1.2 Biostatistics texts

6. Petrie A, Sabin C. Medical Statistics at a Glance. 4th ed. Oxford: Wiley Blackwell; 2020.
7. Bland M. An Introduction to Medical Statistics. 4th ed. Oxford: Oxford University Press; 2015.
8. Kirkwood BR, Sterne JAC. Essential Medical Statistics. 2nd ed. Oxford: Blackwell Science; 2003.
9. Altman DG. Practical Statistics for Medical Research. London: Chapman & Hall/CRC; 1990.
10. Peacock J, Peacock P. Oxford Handbook of Medical Statistics. 2nd ed. Oxford: Oxford University Press; 2020.

1.3 Epidemiology and dental public health

11. Bonita R, Beaglehole R, Kjellström T. Basic Epidemiology. 2nd ed. Geneva: World Health Organization; 2006. Available from: <https://www.who.int>
12. Lash TL, VanderWeele TJ, Haneuse S, Rothman KJ. Modern Epidemiology. 4th ed. Philadelphia: Wolters Kluwer; 2021.
13. Daly B, Batchelor P, Treasure E, Watt R. Essential Dental Public Health. 2nd ed. Oxford: Oxford University Press; 2013.
14. Burt BA, Eklund SA. Dentistry, Dental Practice, and the Community. 6th ed. St Louis: Elsevier Saunders; 2005.
15. World Health Organization. Oral Health Surveys: Basic Methods. 5th ed. Geneva: WHO; 2013. Available from: <https://www.who.int>

1.4 Reporting guidelines and appraisal tools

16. Schulz KF, Altman DG, Moher D; CONSORT Group. CONSORT 2010 statement: updated guidelines for reporting parallel group randomised trials. BMJ. 2010;340:c332.
17. von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandenbroucke JP; STROBE Initiative. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. BMJ. 2007;335(7624):806–8.
18. Page MJ, McKenzie JE, Bossuyt PM, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ. 2021;372:n71.
19. Bossuyt PM, Reitsma JB, Bruns DE, et al. STARD 2015: an updated list of essential items for reporting diagnostic accuracy studies. BMJ. 2015;351:h5527.
20. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. Int J Qual Health Care. 2007;19(6):349–57.
21. Chan AW, Tetzlaff JM, Altman DG, et al. SPIRIT 2013 statement: defining standard protocol items for clinical trials. Ann Intern Med. 2013;158(3):200–7.

22. EQUATOR Network. Enhancing the QUALity and Transparency Of health Research: reporting guidelines library. Oxford: UK EQUATOR Centre. Available from: <https://www.equator-network.org>
23. Critical Appraisal Skills Programme. CASP checklists. Oxford: CASP UK. Available from: <https://casp-uk.net>
24. Guyatt GH, Oxman AD, Vist GE, et al. GRADE: an emerging consensus on rating quality of evidence and strength of recommendations. BMJ. 2008;336(7650):924–6.
25. Higgins JPT, Thomas J, Chandler J, et al., editors. Cochrane Handbook for Systematic Reviews of Interventions. Version 6.5. London: Cochrane; 2024. Available from: <https://training.cochrane.org/handbook>

1.5 Research ethics, governance and publication standards

26. World Medical Association. Declaration of Helsinki: ethical principles for medical research involving human participants. 2024 revision. Ferney-Voltaire: WMA; 2024. Available from: <https://www.wma.net>
27. Council for International Organizations of Medical Sciences. International Ethical Guidelines for Health-related Research Involving Humans. 4th ed. Geneva: CIOMS; 2016. Available from: <https://cioms.ch>
28. International Committee of Medical Journal Editors. Recommendations for the conduct, reporting, editing, and publication of scholarly work in medical journals. ICMJE; 2025. Available from: <https://www.icmje.org>
29. Health Research Authority. UK policy framework for health and social care research. London: HRA; 2017 (updated 2023). Available from: <https://www.hra.nhs.uk>
30. General Dental Council. Standards for the Dental Team. London: GDC; 2013. Available from: <https://standards.gdc-uk.org>
31. Dental Council of India. Bachelor of Dental Surgery (BDS) Course Regulations, 2007 (as amended). New Delhi: DCI.

1.6 Key journals for currency

Journal of Dental Research • Community Dentistry and Oral Epidemiology • Journal of Evidence-Based Dental Practice • Evidence-Based Dentistry • Journal of Dentistry • BMJ • The Lancet • Journal of Clinical Epidemiology • Statistics in Medicine • BMC Medical Research Methodology • Journal of Dental Education • European Journal of Dental Education

PART 2 — CHAPTER-SPECIFIC REFERENCES

Chapter 1 — Introduction to Research in Dentistry

1.1 Scope of dental research · 1.2 Research in dental education and practice · 1.3 Types of research

Core texts: [1] Chs. on why read papers and the evidence-based approach · [2] Chs. on asking answerable questions · [3] Chs. on getting started · [4] Chs. on the philosophy and scope of health research · [13] · [30]

Additional

- Sackett DL, Rosenberg WMC, Gray JAM, Haynes RB, Richardson WS. Evidence based medicine: what it is and what it isn't. *BMJ*. 1996;312(7023):71–2.
- Richards D, Lawrence A. Evidence based dentistry. *Br Dent J*. 1995;179(7):270–3.
- Ismail AI, Bader JD. Evidence-based dentistry in clinical practice. *J Am Dent Assoc*. 2004;135(1):78–83.
- Grimes DA, Schulz KF. An overview of clinical research: the lay of the land. *Lancet*. 2002;359(9300):57–61.
- Niederman R, Richards D, Brands W. The changing standard of care. *J Am Dent Assoc*. 2012;143(5):434–7.

Chapter 2 — Research Question, Aims and Objectives

2.1 Identifying a research problem · 2.2 Formulating research questions · 2.3 Aims, objectives and hypotheses

Core texts: [1] Chs. on formulating the question · [2] Chs. on asking answerable clinical questions · [3] Chs. on conceiving the research question and the FINER criteria · [4]

Additional

- Richardson WS, Wilson MC, Nishikawa J, Hayward RSA. The well-built clinical question: a key to evidence-based decisions. *ACP J Club*. 1995;123(3):A12–3.
- Farrugia P, Petrisor BA, Farrokhhyar F, Bhandari M. Research questions, hypotheses and objectives. *Can J Surg*. 2010;53(4):278–81.
- Thabane L, Thomas T, Ye C, Paul J. Posing the research question: not so simple. *Can J Anaesth*. 2009;56(1):71–9.

Chapter 3 — Literature Review and Evidence Searching

3.1 Purpose of literature review · 3.2 Sources of evidence · 3.3 Database searching · 3.4 Search strategy

Core texts: [1] Chs. on searching the literature · [2] Chs. on finding the evidence · [4] Chs. on reviewing the literature · [18] · [25]

Additional

- National Library of Medicine. PubMed [database]. Bethesda (MD): National Center for Biotechnology Information. Available from: <https://pubmed.ncbi.nlm.nih.gov>
- McGowan J, Sampson M, Salzwedel DM, Cogo E, Foerster V, Lefebvre C. PRESS Peer Review of Electronic Search Strategies: 2015 guideline statement. *J Clin Epidemiol*. 2016;75:40–6.
- Grant MJ, Booth A. A typology of reviews: an analysis of 14 review types and associated methodologies. *Health Info Libr J*. 2009;26(2):91–108.
- Lefebvre C, Glanville J, Briscoe S, et al. Searching for and selecting studies. In: Higgins JPT, Thomas J, Chandler J, et al., editors. *Cochrane Handbook for Systematic Reviews of Interventions*. Version 6.5. London: Cochrane; 2024.

Chapter 4 — Research Designs in Dentistry

4.1 *Observational study designs* · 4.2 *Experimental study designs* · 4.3 *Laboratory and in-vitro studies* · 4.4 *Qualitative study designs*

Core texts: [1] Chs. on study design and the hierarchy of evidence · [3] Chs. on designing cross-sectional, cohort, case-control and randomised studies · [4] Chs. on quantitative and qualitative research designs · [12] · [16] · [17] · [20]

Additional

- Grimes DA, Schulz KF. Descriptive studies: what they can and cannot do. *Lancet*. 2002;359(9301):145–9.
- Grimes DA, Schulz KF. Cohort studies: marching towards outcomes. *Lancet*. 2002;359(9303):341–5.
- Schulz KF, Grimes DA. Case-control studies: research in reverse. *Lancet*. 2002;359(9304):431–4.
- Faggion CM Jr. Guidelines for reporting pre-clinical in vitro studies on dental materials. *J Evid Based Dent Pract*. 2012;12(4):182–9.
- Percie du Sert N, Hurst V, Ahluwalia A, et al. The ARRIVE guidelines 2.0: updated guidelines for reporting animal research. *PLoS Biol*. 2020;18(7):e3000410.

Chapter 5 — Epidemiological Concepts for Dental Research

5.1 *Disease frequency* · 5.2 *Measures of association* · 5.3 *Measures of effect*

Core texts: [11] Chs. on measuring health and disease and on causation · [12] Chs. on measures of occurrence and measures of effect · [13] Chs. on oral epidemiology · [14] · [15] · [8] Chs. on rates, risks and odds

Additional

- Broadbent JM, Thomson WM. For debate: problems with the DMF index pertinent to dental caries data analysis. *Community Dent Oral Epidemiol*. 2005;33(6):400–9.
- Kassebaum NJ, Bernabé E, Dahiya M, Bhandari B, Murray CJL, Marcenes W. Global burden of untreated caries: a systematic review and metaregression. *J Dent Res*. 2015;94(5):650–8.
- Bland JM, Altman DG. Statistics notes: the odds ratio. *BMJ*. 2000;320(7247):1468.
- Cook RJ, Sackett DL. The number needed to treat: a clinically useful measure of treatment effect. *BMJ*. 1995;310(6977):452–4.
- Hill AB. The environment and disease: association or causation? *Proc R Soc Med*. 1965;58(5):295–300.

Chapter 6 — Sampling Methods and Sample Size

6.1 *Study population and sampling frame* · 6.2 *Probability sampling* · 6.3 *Non-probability sampling* · 6.4 *Sample size principles*

Core texts: [3] Chs. on choosing the study subjects and estimating sample size · [4] Chs. on sampling · [6] Chs. on sample size calculations · [8] Chs. on calculation of required sample size · [10]

Additional

- Cohen J. *Statistical Power Analysis for the Behavioral Sciences*. 2nd ed. Hillsdale (NJ): Lawrence Erlbaum; 1988.
- Charan J, Biswas T. How to calculate sample size for different study designs in medical research. *Indian J Psychol Med*. 2013;35(2):121–6.
- Sullivan GM, Feinn R. Using effect size – or why the P value is not enough. *J Grad Med Educ*. 2012;4(3):279–82.
- Altman DG. Statistics and ethics in medical research: III. How large a sample? *BMJ*. 1980;281(6251):1336–8.
- Elfil M, Negida A. Sampling methods in clinical research: an educational review. *Emerg (Tehran)*. 2017;5(1):e52.

Chapter 7 — Variables, Data Types and Measurement

7.1 Variables in research · 7.2 Types of data · 7.3 Measurement quality · 7.4 Dental measurement examples

Core texts: [3] Chs. on planning the measurements: precision, accuracy and validity · [6] Chs. on types of data · [7] Chs. on measurement and the study of variation · [8] Chs. on types of variable · [15]

Additional

- Streiner DL, Norman GR, Cairney J. Health Measurement Scales: A Practical Guide to Their Development and Use. 5th ed. Oxford: Oxford University Press; 2015.
- Stevens SS. On the theory of scales of measurement. *Science*. 1946;103(2684):677–80.
- Bland JM, Altman DG. Statistical methods for assessing agreement between two methods of clinical measurement. *Lancet*. 1986;1(8476):307–10.
- Landis JR, Koch GG. The measurement of observer agreement for categorical data. *Biometrics*. 1977;33(1):159–74.
- Cronbach LJ. Coefficient alpha and the internal structure of tests. *Psychometrika*. 1951;16(3):297–334.
- Slade GD. Derivation and validation of a short-form oral health impact profile. *Community Dent Oral Epidemiol*. 1997;25(4):284–90.

Chapter 8 — Bias, Confounding and Validity

8.1 Bias in research · 8.2 Confounding · 8.3 Validity · 8.4 Strategies to reduce error

Core texts: [1] Chs. on assessing methodological quality · [3] Chs. on enhancing causal inference and minimising bias · [11] Chs. on bias and confounding · [12] Chs. on validity, bias and confounding · [17]

Additional

- Sackett DL. Bias in analytic research. *J Chronic Dis*. 1979;32(1–2):51–63.
- Grimes DA, Schulz KF. Bias and causal associations in observational research. *Lancet*. 2002;359(9302):248–52.
- Delgado-Rodríguez M, Llorca J. Bias. *J Epidemiol Community Health*. 2004;58(8):635–41.
- Sterne JAC, Hernán MA, Reeves BC, et al. ROBINS-I: a tool for assessing risk of bias in non-randomised studies of interventions. *BMJ*. 2016;355:i4919.
- Skelly AC, Dettori JR, Brodt ED. Assessing bias: the importance of considering confounding. *Evid Based Spine Care J*. 2012;3(1):9–12.

Chapter 9 — Data Collection Methods

9.1 Clinical data collection · 9.2 Questionnaires and surveys · 9.3 Interviews and qualitative data · 9.4 Data management

Core texts: [3] Chs. on designing questionnaires, interviews and data management · [4] Chs. on questionnaire design, interviewing and qualitative methods · [15] · [20]

Additional

- Boynton PM, Greenhalgh T. Selecting, designing, and developing your questionnaire. *BMJ*. 2004;328(7451):1312–5.
- Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol*. 2006;3(2):77–101.
- O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. *Acad Med*. 2014;89(9):1245–51.

Chapter 10 — Descriptive Statistics

10.1 Summarising categorical data · 10.2 Measures of central tendency · 10.3 Measures of dispersion · 10.4 Data presentation

Core texts: [6] Chs. on describing data · [7] Chs. on summarising data and presenting data · [8] Chs. on displaying and summarising data · [9] Chs. on describing data · [10] Chs. on summarising and presenting data

Additional

- Altman DG, Bland JM. Statistics notes: quartiles, quintiles, centiles, and other quantiles. *BMJ*. 1994;309(6960):996.
- Altman DG, Bland JM. Standard deviations and standard errors. *BMJ*. 2005;331(7521):903.
- Whitley E, Ball J. Statistics review 1: presenting and summarising data. *Crit Care*. 2002;6(1):66–71.
- Spriestersbach A, Röhrig B, du Prel JB, Gerhard A, Blettner M. Descriptive statistics: the specification of statistical measures and their presentation in tables and graphs. *Dtsch Arztebl Int*. 2009;106(36):578–83.

Chapter 11 — Probability and Distributions

11.1 Basic probability concepts · 11.2 Normal distribution · 11.3 Other distributions

Core texts: [6] Chs. on theoretical distributions · [7] Chs. on probability and the normal distribution · [8] Chs. on the normal distribution and sampling variation · [9] Chs. on theoretical distributions · [10]

Additional

- Altman DG, Bland JM. Statistics notes: the normal distribution. *BMJ*. 1995;310(6975):298.
- Bland JM, Altman DG. Transforming data. *BMJ*. 1996;312(7033):770.
- Whitley E, Ball J. Statistics review 2: samples and populations. *Crit Care*. 2002;6(2):143–8.

Chapter 12 — Inferential Statistics

12.1 Principles of inference · 12.2 Hypothesis testing · 12.3 Confidence intervals · 12.4 Statistical power

Core texts: [6] Chs. on sampling and sampling distributions, confidence intervals and hypothesis testing · [7] Chs. on estimation, significance tests and power · [8] Chs. on confidence intervals and hypothesis tests · [9] · [10]

Additional

- Gardner MJ, Altman DG. Confidence intervals rather than P values: estimation rather than hypothesis testing. *BMJ*. 1986;292(6522):746–50.
- Greenland S, Senn SJ, Rothman KJ, et al. Statistical tests, P values, confidence intervals, and power: a guide to misinterpretations. *Eur J Epidemiol*. 2016;31(4):337–50.
- Wasserstein RL, Lazar NA. The ASA statement on p-values: context, process, and purpose. *Am Stat*. 2016;70(2):129–33.
- Altman DG, Bland JM. Absence of evidence is not evidence of absence. *BMJ*. 1995;311(7003):485.
- Whitley E, Ball J. Statistics review 3: hypothesis testing and P values. *Crit Care*. 2002;6(3):222–5.
- Whitley E, Ball J. Statistics review 4: sample size calculations. *Crit Care*. 2002;6(4):335–41.

Chapter 13 — Statistical Tests for Dental Research

13.1 Choosing a statistical test · 13.2 Tests for categorical data · 13.3 Tests for continuous data · 13.4 Correlation and regression

Core texts: [6] Chs. on basic techniques for analysing data, correlation and regression · [7] Chs. on comparing means and proportions, non-parametric methods and regression · [8] Chs. on comparison of means, proportions and regression · [9] · [10]

Additional

- McCrum-Gardner E. Which is the correct statistical test to use? *Br J Oral Maxillofac Surg*. 2008;46(1):38–41.
- Bland JM, Altman DG. Multiple significance tests: the Bonferroni method. *BMJ*. 1995;310(6973):170.

- Bewick V, Cheek L, Ball J. Statistics review 8: qualitative data – tests of association. *Crit Care*. 2004;8(1):46–53.
- Bewick V, Cheek L, Ball J. Statistics review 9: one-way analysis of variance. *Crit Care*. 2004;8(2):130–6.
- Bewick V, Cheek L, Ball J. Statistics review 7: correlation and regression. *Crit Care*. 2003;7(6):451–9.
- Whitley E, Ball J. Statistics review 6: nonparametric methods. *Crit Care*. 2002;6(6):509–13.

Chapter 14 — Diagnostic Test Evaluation

14.1 Principles of diagnostic accuracy · 14.2 Diagnostic accuracy measures · 14.3 ROC analysis awareness

Core texts: [1] Chs. on papers that report diagnostic or screening tests · [2] Chs. on diagnosis and screening · [6] Chs. on diagnostic tools · [9] Chs. on diagnostic tests · [19]

Additional

- Altman DG, Bland JM. Diagnostic tests 1: sensitivity and specificity. *BMJ*. 1994;308(6943):1552.
- Altman DG, Bland JM. Diagnostic tests 2: predictive values. *BMJ*. 1994;309(6947):102.
- Altman DG, Bland JM. Diagnostic tests 3: receiver operating characteristic plots. *BMJ*. 1994;309(6948):188.
- Deeks JJ, Altman DG. Diagnostic tests 4: likelihood ratios. *BMJ*. 2004;329(7458):168–9.
- Whiting PF, Rutjes AWS, Westwood ME, et al. QUADAS-2: a revised tool for the quality assessment of diagnostic accuracy studies. *Ann Intern Med*. 2011;155(8):529–36.
- Gimenez T, Piovesan C, Braga MM, et al. Visual inspection for caries detection: a systematic review and meta-analysis. *J Dent Res*. 2015;94(7):895–904.

Chapter 15 — Clinical Trials and Intervention Studies

15.1 Clinical trial design · 15.2 Randomisation and allocation · 15.3 Clinical trial outcomes · 15.4 Reporting clinical trials

Core texts: [1] Chs. on papers that report trials of drugs and other interventions · [3] Chs. on designing a randomised blinded trial · [16] · [21] · [26]

Additional

- Friedman LM, Furberg CD, DeMets DL, Reboussin DM, Granger CB. *Fundamentals of Clinical Trials*. 5th ed. Cham: Springer; 2015.
- Hopewell S, Chan AW, Collins GS, et al. CONSORT 2025 statement: updated guideline for reporting randomised trials. *BMJ*. 2025;389:e081123.
- Moher D, Hopewell S, Schulz KF, et al. CONSORT 2010 explanation and elaboration: updated guidelines for reporting parallel group randomised trials. *BMJ*. 2010;340:c869.
- Schulz KF, Grimes DA. Generation of allocation sequences in randomised trials: chance, not choice. *Lancet*. 2002;359(9305):515–9.
- Schulz KF, Grimes DA. Allocation concealment in randomised trials: defending against deciphering. *Lancet*. 2002;359(9306):614–8.
- Sterne JAC, Savović J, Page MJ, et al. RoB 2: a revised tool for assessing risk of bias in randomised trials. *BMJ*. 2019;366:l4898.

Chapter 16 — Systematic Reviews and Meta-Analysis

16.1 Systematic review principles · 16.2 Critical components · 16.3 Meta-analysis awareness · 16.4 Evidence grading

Core texts: [1] Chs. on papers that summarise other papers (systematic reviews and meta-analyses) · [2] Chs. on systematic reviews · [18] · [24] · [25]

Additional

- Borenstein M, Hedges LV, Higgins JPT, Rothstein HR. *Introduction to Meta-Analysis*. 2nd ed. Chichester: John Wiley & Sons; 2021.

- Shea BJ, Reeves BC, Wells G, et al. AMSTAR 2: a critical appraisal tool for systematic reviews that include randomised or non-randomised studies of healthcare interventions, or both. *BMJ*. 2017;358:j4008.
- Higgins JPT, Thompson SG, Deeks JJ, Altman DG. Measuring inconsistency in meta-analyses. *BMJ*. 2003;327(7414):557–60.
- Egger M, Davey Smith G, Schneider M, Minder C. Bias in meta-analysis detected by a simple, graphical test. *BMJ*. 1997;315(7109):629–34.
- Balshem H, Helfand M, Schünemann HJ, et al. GRADE guidelines: 3. Rating the quality of evidence. *J Clin Epidemiol*. 2011;64(4):401–6.

Chapter 17 — Critical Appraisal and Evidence-Based Dentistry

17.1 Principles of critical appraisal • 17.2 Appraising different study types • 17.3 Evidence-based dentistry process • 17.4 Applying evidence to patient care

Core texts: [1] Chs. on assessing methodological quality and applying evidence • [2] Chs. on critical appraisal of therapy, diagnosis, prognosis and harm • [5] • [23] • [24]

Additional

- OCEBM Levels of Evidence Working Group. The Oxford 2011 levels of evidence. Oxford: Oxford Centre for Evidence-Based Medicine; 2011. Available from: <https://www.cebm.ox.ac.uk>
- Guyatt GH, Sackett DL, Cook DJ; Evidence-Based Medicine Working Group. Users' guides to the medical literature. II. How to use an article about therapy or prevention. A. Are the results of the study valid? *JAMA*. 1993;270(21):2598–601.
- Ioannidis JPA. Why most published research findings are false. *PLoS Med*. 2005;2(8):e124.

Chapter 18 — Research Ethics and Governance

18.1 Ethical principles • 18.2 Informed consent in research • 18.3 Research governance • 18.4 Research integrity

Core texts: [3] Chs. on addressing ethical issues • [4] Chs. on ethics and research governance • [26] • [27] • [28] • [29] • [30] • [31]

Additional

- National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. The Belmont Report: ethical principles and guidelines for the protection of human subjects of research. Washington (DC): US Department of Health, Education, and Welfare; 1979.
- The Nuremberg Code (1947). *BMJ*. 1996;313(7070):1448.
- International Council for Harmonisation. ICH E6(R3) Guideline for Good Clinical Practice. Geneva: ICH; 2025. Available from: <https://www.ich.org>
- Data Protection Act 2018. London: The Stationery Office; 2018. Available from: <https://www.legislation.gov.uk>
- Committee on Publication Ethics. Core practices. COPE; 2017. Available from: <https://publicationethics.org>
- World Conferences on Research Integrity. Singapore statement on research integrity. 2010. Available from: <https://www.wcrif.org>
- Fanelli D. How many scientists fabricate and falsify research? A systematic review and meta-analysis of survey data. *PLoS One*. 2009;4(5):e5738.

Chapter 19 — Scientific Writing and Publication

19.1 Research proposal writing · 19.2 Dissertation and thesis writing · 19.3 Manuscript preparation · 19.4 Reporting guidelines

Core texts: [1] Chs. on getting your bearings: what is this paper about? · [3] Chs. on writing a proposal for funding · [16] · [17] · [18] · [22] · [28]

Additional

- Gastel B, Day RA. How to Write and Publish a Scientific Paper. 9th ed. Cambridge: Cambridge University Press; 2022.
- Hall GM, editor. How to Write a Paper. 5th ed. Chichester: BMJ Books, Wiley Blackwell; 2013.
- Patrias K. Citing Medicine: The NLM Style Guide for Authors, Editors, and Publishers. 2nd ed. Bethesda (MD): National Library of Medicine; 2007 (updated 2015). Available from: <https://www.ncbi.nlm.nih.gov/books/NBK7256>
- Simera I, Moher D, Hoey J, Schulz KF, Altman DG. A catalogue of reporting guidelines for health research. Eur J Clin Invest. 2010;40(1):35–53.

Chapter 20 — Data Analysis Software and Digital Research Tools

20.1 Statistical software awareness · 20.2 Reference management tools · 20.3 Digital survey tools · 20.4 Artificial intelligence in research awareness

Core texts: [1] Chs. on big data and artificial intelligence · [6] · [10] Chs. on statistical software · [28]

Additional

- IBM Corp. IBM SPSS Statistics [computer software]. Armonk (NY): IBM Corp. Available from: <https://www.ibm.com/products/spss-statistics>
- R Core Team. R: a language and environment for statistical computing [computer software]. Vienna: R Foundation for Statistical Computing. Available from: <https://www.r-project.org>
- StataCorp. Stata Statistical Software [computer software]. College Station (TX): StataCorp LLC. Available from: <https://www.stata.com>
- GraphPad Software. GraphPad Prism [computer software]. Boston (MA): Dotmatics. Available from: <https://www.graphpad.com>
- Harris PA, Taylor R, Thielke R, Payne J, Gonzalez N, Conde JG. Research electronic data capture (REDCap) – a metadata-driven methodology and workflow process for providing translational research informatics support. J Biomed Inform. 2009;42(2):377–81.
- Corporation for Digital Scholarship. Zotero [computer software]. Vienna (VA). Available from: <https://www.zotero.org>
- Clarivate. EndNote [computer software]. Philadelphia: Clarivate. Available from: <https://endnote.com>
- Elsevier. Mendeley Reference Manager [computer software]. Amsterdam: Elsevier. Available from: <https://www.mendeley.com>
- Zielinski C, Winker MA, Aggarwal R, et al.; WAME Board. Chatbots, generative AI, and scholarly manuscripts: WAME recommendations on chatbots and generative artificial intelligence in relation to scholarly publications. Colomb Med (Cali). 2023;54(3):e1015868.
- Sallam M. ChatGPT utility in healthcare education, research, and practice: systematic review on the promising perspectives and valid concerns. Healthcare (Basel). 2023;11(6):887.

Chapter 21 — Presentation of Research Findings

21.1 Oral presentation · 21.2 Poster presentation · 21.3 Communicating research to different audiences

Core texts: [1] Chs. on getting evidence into practice · [6] Chs. on presenting data · [7] Chs. on presenting data · [22]

Additional

- Alley M. *The Craft of Scientific Presentations: Critical Steps to Succeed and Critical Errors to Avoid*. 2nd ed. New York: Springer; 2013.
- Bourne PE. Ten simple rules for making good oral presentations. *PLoS Comput Biol*. 2007;3(4):e77.
- Erren TC, Bourne PE. Ten simple rules for a good poster presentation. *PLoS Comput Biol*. 2007;3(5):e102.
- Rowe N, Illic D. What impact do posters have on academic knowledge transfer? A pilot survey on author attitudes and experiences. *BMC Med Educ*. 2009;9:71.
- Altman DG, Bland JM. Presentation of numerical data. *BMJ*. 1996;312(7030):572.

Chapter 22 — Applied Dental Research Examples

22.1 Clinical dental research examples · 22.2 Public health research examples · 22.3 Dental education research examples

Core texts: [1] · [13] Chs. on oral epidemiology and evidence-based public health · [14] · [15] · [16] · [17] · [18]

Additional

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