Pharmacology

Year 2 — Bachelor of Dental Surgery

Reference and Resource List — Chapters 1 to 14

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 sources together with references 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 pharmacology textbooks

1. Ritter JM, Flower RJ, Henderson G, Loke YK, MacEwan DJ, Robinson E, et al. Rang & Dale's Pharmacology. 10th ed. Edinburgh: Elsevier; 2024.
2. Katzung BG, Vanderah TW, editors. Basic & Clinical Pharmacology. 15th ed. New York: McGraw Hill; 2021.
3. Brunton LL, Knollmann BC, editors. Goodman & Gilman's The Pharmacological Basis of Therapeutics. 14th ed. New York: McGraw Hill; 2023.
4. Tripathi KD. Essentials of Medical Pharmacology. 8th ed. New Delhi: Jaypee Brothers Medical Publishers; 2019.
5. Sharma HL, Sharma KK. Principles of Pharmacology. 3rd ed. Hyderabad: Paras Medical Publisher; 2017.
6. Whalen K, editor. Lippincott Illustrated Reviews: Pharmacology. 8th ed. Philadelphia: Wolters Kluwer; 2022.
7. Bennett PN, Brown MJ, Sharma P. Clinical Pharmacology. 12th ed. Edinburgh: Elsevier; 2018.
8. Waller DG, Sampson AP. Medical Pharmacology and Therapeutics. 6th ed. Edinburgh: Elsevier; 2022.
9. Neal MJ. Medical Pharmacology at a Glance. 9th ed. Oxford: Wiley Blackwell; 2020.

1.2 Dental pharmacology, therapeutics and applied texts

10. Yagiela JA, Dowd FJ, Johnson BS, Mariotti AJ, Neidle EA, editors. Pharmacology and Therapeutics for Dentistry. 7th ed. St Louis: Elsevier; 2017.
11. Seymour RA, Meechan JG, Yates MS. Pharmacology and Dental Therapeutics. 3rd ed. Oxford: Oxford University Press; 1999.
12. Malamed SF. Handbook of Local Anesthesia. 7th ed. St Louis: Elsevier; 2020.
13. Malamed SF. Medical Emergencies in the Dental Office. 8th ed. St Louis: Elsevier; 2022.
14. Scully C. Scully's Medical Problems in Dentistry. 7th ed. Edinburgh: Elsevier; 2014.

15. Meechan JG. Practical Dental Local Anaesthesia. 2nd ed. London: Quintessence Publishing; 2010.

16. Little JW, Miller CS, Rhodus NL. Little and Falace's Dental Management of the Medically Compromised Patient. 10th ed. St Louis: Elsevier; 2023.

17. Glick M, Greenberg MS, Lockhart PB, Challacombe SJ, editors. Burket's Oral Medicine. 13th ed. Hoboken (NJ): Wiley Blackwell; 2021.

1.3 Formularies and prescribing references

18. Joint Formulary Committee. British National Formulary. London: BMJ Group and Pharmaceutical Press. Available from: https://bnf.nice.org.uk

19. Paediatric Formulary Committee. BNF for Children. London: BMJ Group, Pharmaceutical Press and RCPCH Publications. Available from: https://bnfc.nice.org.uk

20. Dental Practitioners' Formulary. In: British National Formulary. London: BMJ Group and Pharmaceutical Press.

21. Scottish Dental Clinical Effectiveness Programme. Drug Prescribing for Dentistry: Dental Clinical Guidance. 3rd ed. Dundee: SDCEP; 2016. Available from: https://www.sdcep.org.uk

22. World Health Organization. WHO Model List of Essential Medicines. 23rd list. Geneva: WHO; 2023. Available from: https://www.who.int/publications/i/item/WHO-MHP-HPS-EML-2023.02

23. Ministry of Health and Family Welfare, Government of India. National List of Essential Medicines. New Delhi: MoHFW; 2022.

24. British Pharmacopoeia Commission. British Pharmacopoeia. London: The Stationery Office; 2024.

25. Indian Pharmacopoeia Commission. Indian Pharmacopoeia. 9th ed. Ghaziabad: IPC; 2022.

26. Baxter K, Preston CL, editors. Stockley's Drug Interactions. 12th ed. London: Pharmaceutical Press; 2019.

27. Briggs GG, Freeman RK, Towers CV, Forinash AB. Drugs in Pregnancy and Lactation. 12th ed. Philadelphia: Wolters Kluwer; 2021.

1.4 Guidelines, regulatory and professional standards

28. National Institute for Health and Care Excellence. NICE guidance. London: NICE. Available from: https://www.nice.org.uk/guidance

29. Medicines and Healthcare products Regulatory Agency. Drug Safety Update and the Yellow Card scheme. London: MHRA. Available from: https://www.gov.uk/drug-safety-update

30. Resuscitation Council UK. Resuscitation Guidelines. London: RCUK; 2021. Available from: https://www.resus.org.uk/library/2021-resuscitation-guidelines

31. Faculty of General Dental Practice (UK). Antimicrobial Prescribing in Dentistry: Good Practice Guidelines. 3rd ed. London: FGDP(UK) and FDS RCS; 2020.

32. General Dental Council. Preparing for Practice: Dental Team Learning Outcomes for Registration. London: GDC; 2015. Available from: https://www.gdc-uk.org

33. General Dental Council. Standards for the Dental Team. London: GDC; 2013. Available from: https://www.gdc-uk.org

34. Dental Council of India. Bachelor of Dental Surgery (BDS) Course Regulations, 2007 (as amended). New Delhi: DCI.

35. World Health Organization. Guide to Good Prescribing: A Practical Manual. Geneva: WHO; 1994. Available from: https://www.who.int/publications/i/item/WHO-DAP-94.11

36. Uppsala Monitoring Centre. The Use of the WHO-UMC System for Standardised Case Causality Assessment. Uppsala: UMC. Available from: https://who-umc.org

1.5 Key journals for currency

British Journal of Clinical Pharmacology · Clinical Pharmacology & Therapeutics · Drug Safety · British Dental Journal · Journal of the American Dental Association · Anesthesia Progress · Oral Surgery, Oral Medicine, Oral

Pathology and Oral Radiology · Journal of Dental Research · Dental Clinics of North America · Periodontology 2000 · International Endodontic Journal · Cochrane Database of Systematic Reviews

PART 2 — CHAPTER-SPECIFIC REFERENCES

Chapter 1 — Introduction to Pharmacology

1.1 Definitions and scope · 1.2 Routes of drug administration · 1.3 Factors affecting drug response · 1.4 Dosage forms

Core texts: [1] Chs. on general principles of drug action and drug delivery · [2] Chs. 1–3 · [3] Introductory section on drug invention and pharmacokinetic principles · [4] Chs. 1–2 · [6] Unit I · [8] Chs. 1–3 · [10] Chs. on general principles and routes of drug administration in dentistry · [18] Guidance on prescribing · [22] · [35]

Additional

- Aulton ME, Taylor KMG, editors. Aulton's Pharmaceutics: The Design and Manufacture of Medicines. 6th ed. Edinburgh: Elsevier; 2021.
- de Vries TPGM, Henning RH, Hogerzeil HV, Fresle DA. Guide to Good Prescribing: A Practical Manual. Geneva: World Health Organization; 1994.
- Relling MV, Evans WE. Pharmacogenomics in the clinic. Nature. 2015;526(7573):343–50.
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- Osterberg L, Blaschke T. Adherence to medication. N Engl J Med. 2005;353(5):487–97.
- National Institute for Health and Care Excellence. Medicines adherence: involving patients in decisions about prescribed medicines. Clinical guideline CG76. London: NICE. Available from: https://www.nice.org.uk/guidance/cg76

Chapter 2 — Pharmacokinetics

2.1 Absorption · 2.2 Distribution · 2.3 Metabolism (biotransformation) · 2.4 Excretion

Core texts: [1] Chs. on drug absorption, distribution, metabolism and elimination · [2] Chs. 3–4 · [3] Section on pharmacokinetics · [4] Ch. 2 · [6] Unit I · [7] Chs. on pharmacokinetics and individual variation · [8] Chs. 2–3 · [9] Introductory chapters

Additional

- Rowland M, Tozer TN. Clinical Pharmacokinetics and Pharmacodynamics: Concepts and Applications. 5th ed. Philadelphia: Wolters Kluwer; 2019.
- Birkett DJ. Pharmacokinetics Made Easy. 2nd ed. Sydney: McGraw-Hill; 2010.
- Zanger UM, Schwab M. Cytochrome P450 enzymes in drug metabolism: regulation of gene expression, enzyme activities, and impact of genetic variation. Pharmacol Ther. 2013;138(1):103–41.
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- Toutain PL, Bousquet-Mélou A. Plasma clearance. J Vet Pharmacol Ther. 2004;27(6):415–25.

Chapter 3 — Pharmacodynamics

3.1 Drug receptors and mechanisms · 3.2 Dose–response relationships · 3.3 Drug interactions

Core texts: [1] Chs. on how drugs act — general and molecular principles · [2] Chs. 1–2 · [3] Section on pharmacodynamics · [4] Ch. 3 · [6] Unit I · [7] Chs. on drug action and interactions · [8] Ch. 1 · [26]

Additional

- Kenakin T. A Pharmacology Primer: Techniques for More Effective and Strategic Drug Discovery. 6th ed. London: Academic Press; 2022.
- Neubig RR, Spedding M, Kenakin T, Christopoulos A. International Union of Pharmacology Committee on Receptor Nomenclature and Drug Classification. XXXVIII. Update on terms and symbols in quantitative pharmacology. Pharmacol Rev. 2003;55(4):597–606.
- Alexander SPH, Christopoulos A, Davenport AP, et al. The Concise Guide to PHARMACOLOGY. Br J Pharmacol. Published annually. Available from: https://www.guidetopharmacology.org
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- Moore PA, Hersh EV. Principles of pain management and pharmacological interactions in dentistry. Dent Clin North Am. 2010;54(4):557–68.
- Ansell J, Hirsh J, Hylek E, et al. Pharmacology and management of the vitamin K antagonists. Chest. 2008;133(6 Suppl):160S–98S.

Chapter 4 — Adverse Drug Reactions and Toxicology

4.1 ADR classification · 4.2 Drug allergy and hypersensitivity · 4.3 Drug dependence, tolerance and abuse · 4.4 Basics of poisoning management

Core texts: [1] Ch. on harmful effects of drugs · [2] Chs. on adverse drug reactions, pharmacogenomics and toxicology · [3] Section on drug toxicity and poisoning · [4] Ch. 4 · [7] Chs. on unwanted effects and drug dependence · [8] Ch. 3 · [26] · [29] · [36]

Additional

- Edwards IR, Aronson JK. Adverse drug reactions: definitions, diagnosis, and management. Lancet. 2000;356(9237):1255–9.
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- Dart RC, Mullins ME, Matoushek T, et al. Management of acetaminophen poisoning in the US and Canada: a consensus statement. JAMA Netw Open. 2023;6(8):e2327739.

Chapter 5 — Autonomic Nervous System Pharmacology

5.1 Cholinergic system · 5.2 Anticholinergic drugs · 5.3 Adrenergic system · 5.4 Dental links (vasoconstrictors, beta-blocker interaction, atropine)

Core texts: [1] Chs. on cholinergic and noradrenergic transmission · [2] Chs. 6–11 · [3] Section on neurotransmission and the autonomic nervous system · [4] Chs. on autonomic pharmacology · [6] Unit II · [10] Chs. on autonomic drugs in dentistry · [12] Ch. on vasoconstrictors · [13]

Additional

- Brown DA. Acetylcholine and cholinergic receptors. Brain Neurosci Adv. 2019;3:2398212818820506.
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- Resuscitation Council UK. Adult bradycardia algorithm. In: Resuscitation Guidelines. London: RCUK; 2021.

Chapter 6 — Cardiovascular Pharmacology

6.1 Antihypertensives · 6.2 Antianginal drugs · 6.3 Antiplatelet and anticoagulant drugs

Core texts: [1] Chs. on the heart, the vascular system and haemostasis · [2] Chs. 11–13 and the chapter on antithrombotic drugs · [3] Section on cardiovascular drugs · [4] Chs. on cardiovascular pharmacology · [6] Unit IV · [7] Chs. on hypertension, angina and thrombosis · [10] · [16] · [18] · [28]

Additional

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- National Institute for Health and Care Excellence. Atrial fibrillation: diagnosis and management. NICE guideline NG196. London: NICE. Available from: https://www.nice.org.uk/guidance/ng196
- Scottish Dental Clinical Effectiveness Programme. Management of Dental Patients Taking Anticoagulants or Antiplatelet Drugs: Dental Clinical Guidance. 2nd ed. Dundee: SDCEP; 2022. Available from: https://www.sdcep.org.uk
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Chapter 7 — Central Nervous System Pharmacology

7.1 General anaesthetics · 7.2 Sedatives and hypnotics · 7.3 Opioid analgesics · 7.4 Antiepileptic drugs

Core texts: [1] Chs. on general anaesthetics, anxiolytics, analgesics and antiepileptic drugs · [2] Chs. on sedative-hypnotics, general anaesthetics, opioids and antiseizure drugs · [3] Section on CNS drugs · [4] Chs. on CNS pharmacology · [6] Unit III · [10] Chs. on sedation, general anaesthesia and opioid analgesics · [13] · [18]

Additional

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- Perucca P, Gilliam FG. Adverse effects of antiepileptic drugs. Lancet Neurol. 2012;11(9):792–802.

Chapter 8 — Pain and Inflammation Pharmacology

8.1 NSAIDs · 8.2 Paracetamol · 8.3 Aspirin · 8.4 Corticosteroids

Core texts: [1] Chs. on anti-inflammatory and immunosuppressant drugs and on the pituitary and adrenal cortex · [2] Chs. on NSAIDs, antirheumatic drugs and adrenocorticosteroids · [3] Section on inflammation and immunopharmacology · [4] Chs. on NSAIDs and corticosteroids · [6] Unit V · [10] Chs. on non-opioid analgesics and corticosteroids · [16] · [18] · [21]

Additional

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- Woodcock T, Barker P, Daniel S, et al. Guidelines for the management of glucocorticoids during the peri-operative period for patients with adrenal insufficiency. Anaesthesia. 2020;75(5):654–63.

Chapter 9 — Local Anaesthetics

9.1 Classification · 9.2 Mechanism of action · 9.3 Vasoconstrictors · 9.4 Toxicity and complications · 9.5 Topical anaesthetics

Core texts: [1] Ch. on local anaesthetics and other drugs affecting sodium channels · [2] Ch. on local anaesthetics · [3] Section on local anaesthetics · [4] Ch. on local anaesthetics · [10] Section on local anaesthesia in dentistry · [12] · [15] · [18]

Additional

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Chapter 10 — Antimicrobial Pharmacology

10.1 Principles of antimicrobial therapy · 10.2 Antibiotic classes · 10.3 Antifungals · 10.4 Antivirals · 10.5 Dental infections and antibiotic choices · 10.6 Antibiotic prophylaxis

Core texts: [1] Chs. on antibacterial, antifungal and antiviral drugs · [2] Chs. on chemotherapeutic drugs · [3] Section on chemotherapy of infectious disease · [4] Chs. on antimicrobial drugs · [6] Unit VII · [10] Chs. on antibacterial and antifungal agents in dentistry · [18] · [21] · [31]

Additional

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- National Institute for Health and Care Excellence. Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use. NICE guideline NG15. London: NICE. Available from: https://www.nice.org.uk/guidance/ng15
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- Pappas PG, Kauffman CA, Andes DR, et al. Clinical practice guideline for the management of candidiasis: 2016 update by the Infectious Diseases Society of America. Clin Infect Dis. 2016;62(4):e1–50.
- Whitley RJ, Roizman B. Herpes simplex virus infections. Lancet. 2001;357(9267):1513–18.
- Sánchez AR, Rogers RS, Sheridan PJ. Tetracycline and other tetracycline-derivative staining of the teeth and oral cavity. Int J Dermatol. 2004;43(10):709–15.

Chapter 11 — Drugs Acting on the Gastrointestinal System

11.1 Antiemetics · 11.2 Antacids and antiulcer drugs

Core texts: [1] Ch. on the gastrointestinal tract · [2] Ch. on drugs used in gastrointestinal disease · [3] Section on gastrointestinal pharmacology · [4] Chs. on gastrointestinal drugs · [6] Unit VI · [8] Chs. on nausea, vomiting and dyspepsia · [18]

Additional

- Gan TJ, Belani KG, Bergese S, et al. Fourth Consensus Guidelines for the Management of Postoperative Nausea and Vomiting. Anesth Analg. 2020;131(2):411–48.
- Sanger GJ, Andrews PLR. A history of drug discovery for treatment of nausea and vomiting and the implications for future research. Front Pharmacol. 2018;9:913.
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- Medicines and Healthcare products Regulatory Agency. Metoclopramide: risk of neurological adverse effects. Drug Safety Update. London: MHRA; 2013. Available from: https://www.gov.uk/drug-safety-update
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Chapter 12 — Endocrine Pharmacology

12.1 Diabetes drugs · 12.2 Thyroid drugs

Core texts: [1] Chs. on the control of blood glucose and on the thyroid · [2] Chs. on pancreatic hormones, antidiabetic drugs and thyroid agents · [3] Section on endocrine pharmacology · [4] Chs. on antidiabetic and thyroid drugs · [6] Unit VI · [10] Ch. on drugs used in endocrine disease · [16] · [18]

Additional

- American Diabetes Association Professional Practice Committee. Standards of Care in Diabetes—2024. Diabetes Care. 2024;47(Suppl 1):S1–321.
- National Institute for Health and Care Excellence. Type 2 diabetes in adults: management. NICE guideline NG28. London: NICE. Available from: https://www.nice.org.uk/guidance/ng28
- National Institute for Health and Care Excellence. Type 1 diabetes in adults: diagnosis and management. NICE guideline NG17. London: NICE. Available from: https://www.nice.org.uk/guidance/ng17
- Joint British Diabetes Societies for Inpatient Care. The Hospital Management of Hypoglycaemia in Adults with Diabetes Mellitus. 4th ed. London: JBDS-IP; 2022. Available from: https://abcd.care/jbds-ip
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Chapter 13 — Dental Therapeutics and Prescription Writing

13.1 Elements of a prescription · 13.2 Common dental prescriptions · 13.3 Special situations (pregnancy, hepatic and renal impairment, polypharmacy)

Core texts: [10] Sections on prescription writing and dental therapeutics · [11] · [18] · [19] · [20] · [21] · [26] · [27] · [33] · [35]

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Chapter 14 — Emergency Drugs in Dental Practice

14.1 Common emergencies (recognition) · 14.2 Emergency drugs: indications and purpose

Core texts: [10] Ch. on management of medical emergencies · [13] · [14] · [16] · [18] · [21] · [30] Adult advanced life support and anaphylaxis guidelines

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