Physiology

Year 1 — Bachelor of Dental Surgery

Reference and Resource List — Chapters 1 to 13

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 topics covered, the relevant sections of the core texts, and additional chapter-specific sources.

PART 1 — CORE REFERENCES (ALL CHAPTERS)

1.1 Principal physiology textbooks

1. Hall JE, Hall ME. Guyton and Hall Textbook of Medical Physiology. 15th ed. Philadelphia: Elsevier; 2025.
2. Barrett KE, Barman SM, Brooks HL, Yuan JX-J, editors. Ganong's Review of Medical Physiology. 27th ed. New York: McGraw Hill; 2025.
3. Koeppen BM, Stanton BA, editors. Berne & Levy Physiology. 8th ed. Philadelphia: Elsevier; 2023.
4. Costanzo LS. Costanzo Physiology. 8th ed. Philadelphia: Elsevier; 2026.
5. Boron WF, Boulpaep EL. Medical Physiology. 3rd ed. Philadelphia: Elsevier; 2017.
6. Silverthorn DU. Human Physiology: An Integrated Approach. 9th ed. Hoboken (NJ): Pearson; 2023.
7. Widmaier EP, Raff H, Strang KT. Vander's Human Physiology: The Mechanisms of Body Function. 16th ed. New York: McGraw Hill; 2022.
8. Pocock G, Richards CD, Richards DA. Human Physiology. 5th ed. Oxford: Oxford University Press; 2017.
9. Sembulingam K, Sembulingam P. Essentials of Medical Physiology. 10th ed. New Delhi: Jaypee Brothers Medical Publishers; 2025.
10. Sembulingam K, Sembulingam P. Essentials of Physiology for Dental Students. 4th ed. New Delhi: Jaypee Brothers Medical Publishers; 2025.
11. Jain AK. Textbook of Physiology. 10th ed. New Delhi: Avichal Publishing Company; 2023.

1.2 Supporting basic science and oral biology

12. Standring S, editor. Gray's Anatomy: The Anatomical Basis of Clinical Practice. 42nd ed. Amsterdam: Elsevier; 2020.
13. Mescher AL. Junqueira's Basic Histology: Text and Atlas. 16th ed. New York: McGraw Hill; 2021.
14. Rodwell VW, Bender DA, Botham KM, Kennelly PJ, Weil PA, editors. Harper's Illustrated Biochemistry. 32nd ed. New York: McGraw Hill; 2022.
15. Nanci A. Ten Cate's Oral Histology: Development, Structure, and Function. 10th ed. St Louis: Elsevier; 2024.

16. Berkovitz BKB, Holland GR, Moxham BJ. Oral Anatomy, Histology and Embryology. 5th ed. Edinburgh: Elsevier; 2017.
17. Kandel ER, Koester JD, Mack SH, Siegelbaum SA, editors. Principles of Neural Science. 6th ed. New York: McGraw Hill; 2021.

1.3 Applied physiology and dental clinical correlation

18. Miller CS, Rhodus NL, Treister NS, Stoopler ET, Kerr AR. Little and Falace's Dental Management of the Medically Compromised Patient. 10th ed. St Louis: Elsevier; 2023.
19. Scully C. Scully's Medical Problems in Dentistry. 7th ed. Edinburgh: Churchill Livingstone Elsevier; 2014.
20. Glick M, Greenberg MS, Lockhart PB, Challacombe SJ, editors. Burket's Oral Medicine. 13th ed. Hoboken (NJ): Wiley Blackwell; 2021.
21. Malamed SF. Handbook of Local Anesthesia. 7th ed. St Louis: Elsevier; 2020.
22. Kumar V, Abbas AK, Aster JC, editors. Robbins Basic Pathology. 11th ed. Philadelphia: Elsevier; 2023.

1.4 Guidelines, standards and regulatory sources

23. National Institute for Health and Care Excellence. Hypertension in adults: diagnosis and management. NICE guideline NG136. London: NICE. Available from: https://www.nice.org.uk/guidance/ng136
24. 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
25. National Institute for Health and Care Excellence. Prophylaxis against infective endocarditis. Clinical guideline CG64. London: NICE. Available from: https://www.nice.org.uk/guidance/cg64
26. Scottish Dental Clinical Effectiveness Programme. Management of Dental Patients Taking Anticoagulants or Antiplatelet Drugs. 2nd ed. Dundee: SDCEP; 2022. Available from: https://www.sdcep.org.uk
27. Resuscitation Council UK. Resuscitation guidelines and quality standards for cardiopulmonary resuscitation practice and training: primary dental care. London: Resuscitation Council UK. Available from: https://www.resus.org.uk
28. World Health Organization. Guideline on haemoglobin cutoffs to define anaemia in individuals and populations. Geneva: WHO; 2024. Available from: https://www.who.int/publications/i/item/9789240088542
29. Joint United Kingdom Blood Transfusion and Tissue Transplantation Services Professional Advisory Committee. Handbook of Transfusion Medicine. 5th ed. Norwich: TSO; 2013. Available from: https://www.transfusionguidelines.org
30. Joint Formulary Committee. British National Formulary. London: BMJ Group and Pharmaceutical Press. Available from: https://bnf.nice.org.uk
31. General Dental Council. Preparing for practice: dental team learning outcomes for registration. London: GDC; 2015. Available from: https://www.gdc-uk.org
32. Dental Council of India. Bachelor of Dental Surgery (BDS) Course Regulations, 2007 (as amended). New Delhi: DCI.

1.5 Key journals for currency

The Journal of Physiology · Physiological Reviews · American Journal of Physiology · Advances in Physiology Education · Archives of Oral Biology · Journal of Dental Research · British Dental Journal · Journal of Oral Rehabilitation

PART 2 — CHAPTER-SPECIFIC REFERENCES

Chapter 1 — General and Cell Physiology

1.1 Introduction to physiology and homeostasis · 1.2 Body fluids and electrolytes · 1.3 Cell structure and functions · 1.4 Cell membrane and membrane transport · 1.5 Resting membrane potential and action potential · 1.6 Intercellular communication and second messengers · 1.7 Cell cycle and cell death

Core texts: [1] Unit I (Introduction to Physiology: The Cell and General Physiology) and Unit II (Membrane Physiology, Nerve and Muscle) · [2] Section I (Cellular and Molecular Basis of Medical Physiology) · [3] Section 1 (Cellular Physiology) · [4] Ch. 1 (Cellular Physiology) · [5] Part II (Physiology of Cells and Molecules) · [9] Section 1 (General Physiology) · [10] Section 1

Additional

- Alberts B, Heald R, Johnson A, Morgan D, Raff M, Roberts K, et al. Molecular Biology of the Cell. 7th ed. New York: W W Norton; 2022.
- Cannon WB. Organization for physiological homeostasis. Physiol Rev. 1929;9(3):399–431.
- Singer SJ, Nicolson GL. The fluid mosaic model of the structure of cell membranes. Science. 1972;175(4023):720–31.
- Skou JC. The influence of some cations on an adenosine triphosphatase from peripheral nerves. Biochim Biophys Acta. 1957;23(2):394–401.
- Hodgkin AL, Huxley AF. A quantitative description of membrane current and its application to conduction and excitation in nerve. J Physiol. 1952;117(4):500–44.
- Starling EH. On the absorption of fluids from the connective tissue spaces. J Physiol. 1896;19(4):312–26.
- Levick JR, Michel CC. Microvascular fluid exchange and the revised Starling principle. Cardiovasc Res. 2010;87(2):198–210.
- Kerr JFR, Wyllie AH, Currie AR. Apoptosis: a basic biological phenomenon with wide-ranging implications in tissue kinetics. Br J Cancer. 1972;26(4):239–57.

Chapter 2 — Blood and Immune Physiology

2.1 Composition and functions of blood · 2.2 Plasma proteins · 2.3 Red blood cells · 2.4 Anaemia and polycythaemia · 2.5 White blood cells and immunity · 2.6 Platelets and haemostasis · 2.7 Blood groups and transfusion · 2.8 Tissue fluid, lymph and the reticuloendothelial system

Core texts: [1] Unit VI (Blood Cells, Immunity and Blood Coagulation) · [2] Section I (Blood as a Circulatory Fluid; Immunity, Infection and Inflammation) · [3] Section 1 (Blood Components) · [9] Section 2 (Blood and Body Fluids) · [10] Section 2 · [18] Chs. on bleeding disorders, anaemias and haematological malignancy · [22] Ch. on haematological disorders

Additional

- Hoffbrand AV, Moss PAH. Hoffbrand's Essential Haematology. 8th ed. Oxford: Wiley Blackwell; 2019.
- Murphy K, Weaver C. Janeway's Immunobiology. 10th ed. New York: W W Norton; 2022.
- Macfarlane RG. An enzyme cascade in the blood clotting mechanism, and its function as a biochemical amplifier. Nature. 1964;202:498–9.
- Davie EW, Ratnoff OD. Waterfall sequence for intrinsic blood clotting. Science. 1964;145(3638):1310–2.
- Hoffman M, Monroe DM. A cell-based model of hemostasis. Thromb Haemost. 2001;85(6):958–65.
- Weiss G, Ganz T, Goodnough LT. Anemia of inflammation. Blood. 2019;133(1):40–50.
- Nemeth E, Ganz T. Hepcidin and iron in health and disease. Annu Rev Med. 2023;74:261–77.
- Dean L. Blood Groups and Red Cell Antigens. Bethesda (MD): National Center for Biotechnology Information; 2005. Available from: https://www.ncbi.nlm.nih.gov/books/NBK2261/

Chapter 3 — Nerve and Muscle Physiology

3.1 Structure of neurons and nerve fibres · 3.2 Nerve excitability and conduction · 3.3 Synaptic transmission · 3.4 Neuromuscular junction · 3.5 Skeletal muscle · 3.6 Smooth muscle · 3.7 Cardiac muscle (introductory)

Core texts: [1] Unit II (Membrane Physiology, Nerve and Muscle) · [2] Section II (Excitable Tissue: Nerve; Excitable Tissue: Muscle; Synaptic and Junctional Transmission) · [3] Section 1 (Homeostasis and Cellular Physiology – excitable tissues) · [4] Ch. 1 (Cellular Physiology) · [17] Part II (Cell and Molecular Biology of Cells of the Nervous System; Synaptic Transmission) · [9] Section 3 (Muscle Physiology) · [10] Section 3

Additional

- Huxley AF, Niedergerke R. Structural changes in muscle during contraction: interference microscopy of living muscle fibres. Nature. 1954;173(4412):971–3.
- Huxley HE, Hanson J. Changes in the cross-striations of muscle during contraction and stretch and their structural interpretation. Nature. 1954;173(4412):973–6.
- Fatt P, Katz B. Spontaneous subthreshold activity at motor nerve endings. J Physiol. 1952;117(1):109–28.
- Ebashi S, Endo M. Calcium ion and muscle contraction. Prog Biophys Mol Biol. 1968;18:123–83.
- Erlanger J, Gasser HS. Electrical Signs of Nervous Activity. Philadelphia: University of Pennsylvania Press; 1937.
- Rosenberg H, Pollock N, Schiemann A, Bulger T, Stowell K. Malignant hyperthermia: a review. Orphanet J Rare Dis. 2015;10:93.
- Hirsch NP. Neuromuscular junction in health and disease. Br J Anaesth. 2007;99(1):132–38.

Chapter 4 — Autonomic and Central Nervous System

4.1 Organisation of the CNS · 4.2 Sensory pathways · 4.3 Motor system and reflexes · 4.4 Cerebellum · 4.5 Thalamus, hypothalamus and limbic system · 4.6 Cerebral cortex and higher functions · 4.7 Cerebrospinal fluid · 4.8 Pain and temperature sensation · 4.9 Autonomic nervous system

Core texts: [1] Units IX–XI (The Nervous System: General Principles and Sensory Physiology; Motor and Integrative Neurophysiology) · [2] Section II (Central and Peripheral Neurophysiology) · [3] Section 2 (The Nervous System) · [4] Chs. 2–3 (Autonomic Nervous System; Neurophysiology) · [17] Parts IV–VII · [9] Section 10 (Nervous System) · [10] Section 9

Additional

- Purves D, Augustine GJ, Fitzpatrick D, Hall WC, LaMantia AS, Mooney RD, et al., editors. Neuroscience. 6th ed. New York: Oxford University Press; 2018.
- Melzack R, Wall PD. Pain mechanisms: a new theory. Science. 1965;150(3699):971–9.
- Raja SN, Carr DB, Cohen M, Finnerup NB, Flor H, Gibson S, et al. The revised International Association for the Study of Pain definition of pain: concepts, challenges, and compromises. Pain. 2020;161(9):1976–82.
- Sessle BJ. Peripheral and central mechanisms of orofacial inflammatory pain. Int Rev Neurobiol. 2011;97:179–206.
- Damkier HH, Brown PD, Praetorius J. Cerebrospinal fluid secretion by the choroid plexus. Physiol Rev. 2013;93(4):1847–92.
- Sherrington CS. The Integrative Action of the Nervous System. New Haven: Yale University Press; 1906.
- Wehrwein EA, Orer HS, Barman SM. Overview of the anatomy, physiology, and pharmacology of the autonomic nervous system. Compr Physiol. 2016;6(3):1239–78.

Chapter 5 — Special Senses

5.1 Vision · 5.2 Hearing · 5.3 Vestibular sense and equilibrium · 5.4 Taste and smell

Core texts: [1] Unit X (The Nervous System: The Special Senses) · [2] Section II (Vision; Hearing and Equilibrium; Smell and Taste) · [3] Section 2 (The Special Senses) · [17] Part VI (Perception) · [9] Section 11 (Special Senses) · [10] Section 10

Additional

- Hubel DH, Wiesel TN. Receptive fields, binocular interaction and functional architecture in the cat's visual cortex. J Physiol. 1962;160(1):106–54.
- Wald G. The molecular basis of visual excitation. Nature. 1968;219(5156):800–7.
- Hudspeth AJ. Integrating the active process of hair cells with cochlear function. Nat Rev Neurosci. 2014;15(9):600–14.
- Buck L, Axel R. A novel multigene family may encode odorant receptors: a molecular basis for odor recognition. Cell. 1991;65(1):175–87.

- Chandrashekar J, Hoon MA, Ryba NJP, Zuker CS. The receptors and cells for mammalian taste. Nature. 2006;444(7117):288–94.
- Roper SD, Chaudhari N. Taste buds: cells, signals and synapses. Nat Rev Neurosci. 2017;18(8):485–97.
- Cullen KE. The vestibular system: multimodal integration and encoding of self-motion for motor control. Trends Neurosci. 2012;35(3):185–96.
- World Health Organization. World report on hearing. Geneva: WHO; 2021. Available from: https://www.who.int/publications/i/item/9789240020481

Chapter 6 — Cardiovascular Physiology

6.1 Functional anatomy of the heart and circulation · 6.2 Properties of cardiac muscle · 6.3 Cardiac electrophysiology · 6.4 Electrocardiography · 6.5 Cardiac cycle · 6.6 Heart rate and cardiac output · 6.7 Blood pressure and arterial pulse · 6.8 Microcirculation and capillary dynamics · 6.9 Venous return and jugular venous pulse · 6.10 Regional circulations and cardiovascular homeostasis

Core texts: [1] Unit III (The Heart) and Unit IV (The Circulation) · [2] Section V (Cardiovascular Physiology) · [3] Section 4 (The Cardiovascular System) · [4] Ch. 4 (Cardiovascular Physiology) · [9] Section 6 (Cardiovascular System) · [10] Section 5 · [18] Chs. on cardiovascular disease and infective endocarditis

Additional

- Katz AM. Physiology of the Heart. 5th ed. Philadelphia: Lippincott Williams & Wilkins; 2011.
- Levick JR. An Introduction to Cardiovascular Physiology. 5th ed. London: Hodder Arnold; 2010.
- Patterson SW, Starling EH. On the mechanical factors which determine the output of the ventricles. J Physiol. 1914;48(5):357–79.
- Guyton AC. Determination of cardiac output by equating venous return curves with cardiac response curves. Physiol Rev. 1955;35(1):123–29.
- Woodcock TE, Woodcock TM. Revised Starling equation and the glycocalyx model of transvascular fluid exchange. Br J Anaesth. 2012;108(3):384–94.
- Duncker DJ, Bache RJ. Regulation of coronary blood flow during exercise. Physiol Rev. 2008;88(3):1009–86.
- Thornhill MH, Dayer M, Lockhart PB, Prendergast BD. Antibiotic prophylaxis of infective endocarditis. Curr Infect Dis Rep. 2017;19(2):9.
- Bazett HC. An analysis of the time-relations of electrocardiograms. Heart. 1920;7:353–70.

Chapter 7 — Respiratory Physiology

7.1 Functional anatomy of the respiratory system · 7.2 Mechanics of breathing · 7.3 Lung volumes and capacities · 7.4 Alveolar ventilation and dead space · 7.5 Pulmonary gas exchange · 7.6 Transport of gases · 7.7 Regulation of respiration · 7.8 Applied respiratory physiology

Core texts: [1] Unit VII (Respiration) · [2] Section VI (Respiratory Physiology) · [3] Section 5 (The Respiratory System) · [4] Ch. 5 (Respiratory Physiology) · [9] Section 5 (Respiratory System and Environmental Physiology) · [10] Section 6 · [18] Ch. on pulmonary disease

Additional

- West JB, Luks AM. West's Respiratory Physiology: The Essentials. 11th ed. Philadelphia: Wolters Kluwer; 2021.
- Lumb AB, Thomas CR. Nunn and Lumb's Applied Respiratory Physiology. 9th ed. Edinburgh: Elsevier; 2021.
- Clements JA. Surface tension of lung extracts. Proc Soc Exp Biol Med. 1957;95(1):170–2.
- Severinghaus JW. Simple, accurate equations for human blood O2 dissociation computations. J Appl Physiol Respir Environ Exerc Physiol. 1979;46(3):599–602.
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- Guyenet PG, Bayliss DA. Neural control of breathing and CO2 homeostasis. Neuron. 2015;87(5):946–61.

- National Institute for Health and Care Excellence, British Thoracic Society, Scottish Intercollegiate Guidelines Network. Asthma: diagnosis, monitoring and chronic asthma management. NICE guideline NG245. London: NICE; 2024. Available from: https://www.nice.org.uk/guidance/ng245
- Global Initiative for Chronic Obstructive Lung Disease. Global strategy for the diagnosis, management and prevention of chronic obstructive pulmonary disease. GOLD; 2025. Available from: https://goldcopd.org

Chapter 8 — Renal Physiology

8.1 Functional anatomy of the nephron and urinary tract · 8.2 Glomerular filtration · 8.3 Tubular functions · 8.4 Concentration and dilution of urine · 8.5 Renal regulation of volume, electrolytes and acid–base balance · 8.6 Micturition · 8.7 Renal failure (introduction)

Core texts: [1] Unit V (The Body Fluids and Kidneys) · [2] Section VII (Renal Physiology) · [3] Section 6 (The Renal System) · [4] Chs. 6–7 (Renal Physiology; Acid–Base Physiology) · [9] Section 7 (Renal Physiology and Skin) · [10] Section 7 · [18] Ch. on renal disease and dialysis

Additional

- Eaton DC, Pooler JP. Vander's Renal Physiology. 9th ed. New York: McGraw Hill; 2018.
- Koeppen BM, Stanton BA. Renal Physiology. 6th ed. Philadelphia: Elsevier; 2019.
- Guyton AC. Blood pressure control – special role of the kidneys and body fluids. Science. 1991;252(5014):1813–6.
- Levey AS, Stevens LA, Schmid CH, Zhang YL, Castro AF 3rd, Feldman HI, et al. A new equation to estimate glomerular filtration rate. Ann Intern Med. 2009;150(9):604–12.
- Kortenoeven MLA, Fenton RA. Renal aquaporins and water balance disorders. Biochim Biophys Acta. 2014;1840(5):1533–49.
- Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group. KDIGO 2024 clinical practice guideline for the evaluation and management of chronic kidney disease. Kidney Int. 2024;105(4S):S117–S314.
- National Institute for Health and Care Excellence. Chronic kidney disease: assessment and management. NICE guideline NG203. London: NICE. Available from: https://www.nice.org.uk/guidance/ng203

Chapter 9 — Gastrointestinal Physiology

9.1 Functional anatomy and general principles · 9.2 Gastrointestinal motility · 9.3 Gastrointestinal secretions, including saliva · 9.4 Digestion and absorption · 9.5 Gastrointestinal hormones · 9.6 Applied gastrointestinal physiology

Core texts: [1] Unit XII (Gastrointestinal Physiology) · [2] Section IV (Gastrointestinal Physiology) · [3] Section 7 (The Gastrointestinal System) · [4] Ch. 8 (Gastrointestinal Physiology) · [9] Section 4 (Digestive System) · [10] Section 4 · [15] Ch. on salivary glands

Additional

- Barrett KE. Gastrointestinal Physiology. 2nd ed. New York: McGraw Hill; 2014.
- Johnson LR. Gastrointestinal Physiology. 9th ed. Philadelphia: Elsevier; 2019.
- Dawes C, Pedersen AML, Villa A, Ekström J, Proctor GB, Vissink A, et al. The functions of human saliva: a review sponsored by the World Workshop on Oral Medicine VI. Arch Oral Biol. 2015;60(6):863–74.
- Proctor GB, Carpenter GH. Salivary secretion: mechanism and neural regulation. Monogr Oral Sci. 2014;24:14–29.
- Humphrey SP, Williamson RT. A review of saliva: normal composition, flow, and function. J Prosthet Dent. 2001;85(2):162–9.
- Matsuo K, Palmer JB. Anatomy and physiology of feeding and swallowing: normal and abnormal. Phys Med Rehabil Clin N Am. 2008;19(4):691–707.
- Furness JB. The enteric nervous system and neurogastroenterology. Nat Rev Gastroenterol Hepatol. 2012;9(5):286–94.
- Ranganath LR. The entero-insular axis: implications for human metabolism. Clin Chem Lab Med. 2008;46(1):43–56.

Chapter 10 — Endocrine Physiology

10.1 General endocrinology · 10.2 Hypothalamus and pituitary · 10.3 Thyroid gland · 10.4 Adrenal cortex and medulla · 10.5 Endocrine pancreas · 10.6 Parathyroid glands and calcium homeostasis · 10.7 Other hormones: RAAS, ANP, erythropoietin and local tissue hormones

Core texts: [1] Unit XIV (Endocrinology and Reproduction) · [2] Section III (Endocrine and Reproductive Physiology) · [3] Section 8 (The Endocrine and Reproductive Systems) · [4] Ch. 9 (Endocrine Physiology) · [9] Section 8 (Endocrinology) · [10] Section 8 · [18] Chs. on diabetes, thyroid and adrenal disease

Additional

- Melmed S, Auchus RJ, Goldfine AB, Rosen CJ, Kopp PA, editors. Williams Textbook of Endocrinology. 15th ed. Philadelphia: Elsevier; 2024.
- Molina PE. Endocrine Physiology. 5th ed. New York: McGraw Hill; 2018.
- Goltzman D. Physiology of parathyroid hormone. Endocrinol Metab Clin North Am. 2018;47(4):743–58.
- Bikle DD. Vitamin D metabolism, mechanism of action, and clinical applications. Chem Biol. 2014;21(3):319–29.
- Röder PV, Wu B, Liu Y, Han W. Pancreatic regulation of glucose homeostasis. Exp Mol Med. 2016;48(3):e219.
- Sanz M, Ceriello A, Buysschaert M, Chapple I, Demmer RT, Graziani F, et al. Scientific evidence on the links between periodontal diseases and diabetes: consensus report of the joint workshop by the European Federation of Periodontology and the International Diabetes Federation. J Clin Periodontol. 2018;45(2):138–49.
- World Health Organization. Use of glycated haemoglobin (HbA1c) in the diagnosis of diabetes mellitus. Geneva: WHO; 2011. Available from: https://www.who.int/publications/i/item/use-of-glycated-haemoglobin-(-hba1c)-in-diagnosis-of-diabetes-mellitus
- National Institute for Health and Care Excellence. Thyroid disease: assessment and management. NICE guideline NG145. London: NICE. Available from: https://www.nice.org.uk/guidance/ng145

Chapter 11 — Reproductive Physiology

11.1 Sex determination and puberty · 11.2 Male reproductive system · 11.3 Female reproductive system · 11.4 Pregnancy and parturition · 11.5 Lactation · 11.6 Contraception (introductory)

Core texts: [1] Unit XIV (Endocrinology and Reproduction: male and female physiology, pregnancy and lactation) · [2] Section III (Reproductive Development and Function of the Reproductive System) · [3] Section 8 (The Reproductive System) · [4] Ch. 10 (Reproductive Physiology) · [9] Section 9 (Reproductive System) · [10] Section 8

Additional

- Johnson MH. Essential Reproduction. 8th ed. Oxford: Wiley Blackwell; 2018.
- Hiller-Sturmhöfel S, Bartke A. The endocrine system: an overview. Alcohol Health Res World. 1998;22(3):153–64.
- Fuchs AR, Fuchs F, Husslein P, Soloff MS. Oxytocin receptors in the human uterus during pregnancy and parturition. Am J Obstet Gynecol. 1984;150(6):734–41.
- Neville MC, Morton J. Physiology and endocrine changes underlying human lactogenesis II. J Nutr. 2001;131(11):3005S–3008S.
- Steinberg BJ, Hilton IV, Iida H, Samelson R. Oral health and dental care during pregnancy. Dent Clin North Am. 2013;57(2):195–210.
- World Health Organization. Medical eligibility criteria for contraceptive use. 5th ed. Geneva: WHO; 2015. Available from: https://www.who.int/publications/i/item/9789241549158
- Faculty of Sexual and Reproductive Healthcare. UK medical eligibility criteria for contraceptive use (UKMEC). London: FSRH; 2016 (amended 2019). Available from: https://www.fsrh.org

Chapter 12 — Environmental and Exercise Physiology

12.1 Temperature regulation · 12.2 High-altitude and aviation physiology · 12.3 Deep-sea and hyperbaric physiology · 12.4 Exercise physiology

Core texts: [1] Unit XIII (Metabolism and Temperature Regulation), Unit VIII (Aviation, Space and Deep-Sea Diving Physiology) and Unit XV (Sports Physiology) · [2] Section VI (Respiratory Physiology – gas transport and adaptation) · [3] Sections 4–5 (integrated cardiorespiratory responses) · [9] Section 5 (Environmental Physiology) · [10] Sections 5–6

Additional

- Romanovsky AA. The thermoregulation system and how it works. Handb Clin Neurol. 2018;156:3–43.
- Bouchama A, Knochel JP. Heat stroke. N Engl J Med. 2002;346(25):1978–88.
- West JB. High-altitude medicine. Am J Respir Crit Care Med. 2012;186(12):1229–37.
- Luks AM, Auerbach PS, Freer L, Grissom CK, Keyes LE, McIntosh SE, et al. Wilderness Medical Society clinical practice guidelines for the prevention and treatment of acute altitude illness: 2019 update. Wilderness Environ Med. 2019;30(4S):S3–S18.
- Bove AA. Diving medicine. Am J Respir Crit Care Med. 2014;189(12):1479–86.
- Joyner MJ, Casey DP. Regulation of increased blood flow (hyperemia) to muscles during exercise: a hierarchy of competing physiological needs. Physiol Rev. 2015;95(2):549–601.
- American College of Sports Medicine. ACSM's Guidelines for Exercise Testing and Prescription. 11th ed. Philadelphia: Wolters Kluwer; 2021.

Chapter 13 — Applied and Dental-Relevant Physiology

Dental pain and nerve fibre types · local anaesthesia and analgesia · salivary physiology and xerostomia · haemostasis, bleeding disorders and anticoagulants · stress, anxiety, vasovagal syncope and hyperventilation · calcium, parathyroid hormone and bone · diabetes and its oral consequences

Core texts: [1] Units II, VI, XIII and XIV (excitable tissue; haemostasis; metabolism; endocrine control of calcium) · [2] Sections I–III · [10] Applied physiology sections · [18] Whole text · [19] Whole text · [20] Chs. on salivary gland disease and bleeding disorders · [21] Chs. on the pharmacology and clinical action of local anaesthetics · [26] and [27] for bleeding risk and medical emergencies

Additional

- Brännström M. The hydrodynamic theory of dentinal pain: sensation in preparations, caries, and the dentinal crack syndrome. J Endod. 1986;12(10):453–7.
- Chung G, Jung SJ, Oh SB. Cellular and molecular mechanisms of dental nociception. J Dent Res. 2013;92(11):948–55.
- Becker DE, Reed KL. Local anesthetics: review of pharmacological considerations. Anesth Prog. 2012;59(2):90–101.
- Villa A, Connell CL, Abati S. Diagnosis and management of xerostomia and hyposalivation. Ther Clin Risk Manag. 2015;11:45–51.
- Pedersen AML, Sørensen CE, Proctor GB, Carpenter GH, Ekström J. Salivary secretion in health and disease. J Oral Rehabil. 2018;45(9):730–46.
- Brignole M, Moya A, de Lange FJ, Deharo JC, Elliott PM, Fanciulli A, et al. 2018 ESC guidelines for the diagnosis and management of syncope. Eur Heart J. 2018;39(21):1883–948.
- Chapple ILC, Genco R; working group 2 of the joint EFP/AAP workshop. Diabetes and periodontal diseases: consensus report of the Joint EFP/AAP Workshop on Periodontitis and Systemic Diseases. J Clin Periodontol. 2013;40(Suppl 14):S106–12.
- Bartold PM. Lifestyle and periodontitis: the emergence of personalized periodontics. Periodontol 2000. 2018;78(1):7–11.