



Royal Australasian College
of Dental Surgeons
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RACDS

Recommended Reading & Topics for the Primary Dental Sciences Examination



Recommended Reading for the Primary Examination

The following list of articles and resources have been compiled by examiners as a guide to self-directed study. They are provided to aid understanding of the biomedical sciences underpinning dentistry and evidence-based practice and enable candidates to update in topic areas as they prepare for the Primary Dental Sciences Examination. The referenced articles are intended to be a helpful starting point for reading broadly and at the depth expected for MRACDS(PDS). These readings are not the only articles or textbooks candidates should use for preparation but provide an indication of the breadth of dentistry that is examined. The bibliography at the end of the articles and textbook chapters are also helpful for developing a deeper understanding and critical thinking across themes in dentistry.

Some of the readings are open access and some links are provided to the publicly available information. If readings are not open access, then abstracts will be available online and candidates are able to contact their Regional Committee / Candidate Advisor to discuss readings.

Examination questions do not come directly from suggested readings, so there is no disadvantage if candidates do not read the specific article or textbook. Reading others in the theme which are contemporary and appropriate will assist their learning and preparation.

For the Primary Dental Sciences Examination, candidates are expected to use the available evidence in responses but are not required to provide references from the literature. Each discipline will provide a list of readings that you may find useful in learning the basic sciences as they apply to dentistry.

Anatomy

The course notes: Lecture Notes in Anatomy, by Prof John McGeachie OAM published by the Royal Australasian College of Dental Surgeons, 2008.

Recommended Texts

These cover most of the requirements for the Primary Dental Sciences Examination.

- Norton, NS. Netter's Head & Neck Anatomy for Dentistry, 3rd edition 2017, published by Elsevier. ISBN: 978-0-323-39228-0

Comment: This text, using Netter's outstanding illustrations, with relevant text written by NS Norton. Many of the same illustrations as seen in the Atlas (below) are used in this textbook.

- Sadler, TW. Langman's Medical Embryology, 13th edition, 2016, published by Lippincott, Williams & Wilkins. ISBN: 9789-351-29624-9

Comment: This is the longstanding and user-friendly book on Embryology. It has been used for decades and the latest edition (above) is excellent for basic embryology.

- Dental Anatomy: Wheeler's Dental Anatomy, Physiology and Occlusion, 11th edition, 2019, Stanley J Nelson and published by Elsevier. ISBN 9780323638784

Alternative Texts

- Liebgott, B. The Anatomical Basis of Dentistry, 4th edition, 2017, published by Elsevier. ISBN 13: 9780323477284

Comment: It is an excellent book on all aspects of anatomy but is brief on neuroanatomy and embryology. Thus, some supplementary references are recommended below.

- Netter, FH. Atlas of Human Anatomy, 7th edition, 2019, published by Elsevier. ISBN: 978-0-323-39322-5 8

Comment: This atlas is very useful for viewing anatomy and neuroanatomy. Now that Norton has published Netter's Head and Neck Anatomy for Dentistry (2007), many of the images in the Atlas are in the text, thus it is not really necessary to have both books. Note: Netter also publishes Flash Cards of the illustrations for rapid reference. ISBN: 1-929007-08-6.

- McMinn, R.M. Hutchins, R.T. & Logan, B.M. A Colour Atlas of Head & Neck Anatomy 5th edition, 2017, published by Elsevier. ISBN: 9780702070174.

Comment: This atlas has excellent photographs of the skull and component bones, together with high quality and well labelled photographs of anatomical dissections. It is well-suited for revision and preparation for the viva voce, where many anatomical specimens will be used.

- Gray's Anatomy: Anatomical Basis of Medicine and Surgery, 39th edition 2005, published by Churchill Livingstone. ISBN: ISBN: 04430 06676 0. (It has a CD-ROM + online access included)

Comment: Gray's is the long established "encyclopedia" of anatomy and is most useful as a reference book. Some candidates prefer to use this traditional, comprehensive and up-to-date book from which to study all aspects of Anatomy, because it includes all the embryology and neuroanatomy as well, although in more detail than required in some areas.

- Sinnatamby, CS., Last's Anatomy, Regional and Applied Anatomy, 12th edition, published by Churchill Livingstone, 2022. ISBN: 0702033944.

Comment: This is also a general book on anatomy of the whole body and is not as applicable to the head and neck as the principal texts listed above. Some candidates have this from their undergraduate days and it is useful if one is familiar with its content.

Additional References

Neuroanatomy: Any modern text on neuroanatomy will be adequate. Be sure to study the book carefully before purchasing, because many books are too complex and specialised for what is needed.

- Kiernan, JA. Barr's - The Human Nervous System - An Anatomical Viewpoint. 8th edition, published by Lippincott, Williams & Wilkins, 2005. ISBN: 0781751543

Comment: Kiernan and Barr have published informative books on neuroanatomy for many years. This latest book is more than adequate for the Primary Dental Sciences Examination and is recommended for those who need to understand more about neuroanatomy. It is well written, and comprehensive.

- Goldberg, S. Clinical Neuroanatomy Made Ridiculously Simple, Interactive edition, published by MedMaster Medical Books, 2014. ISBN: 1935660195

Comment: Dr Goldberg had gone to an enormous amount of trouble to simplify and demystify neuroanatomy. His book is excellent for those who find the topic daunting. The book is brief, inexpensive, and very easy to read. It has humour and simple diagrams.

Embryology

- Cochard, L. Netter's Atlas of Human Embryology published by Saunders Elsevier, 2012. ISBN: 9781455739776.

Comment: Netter is famous for his outstanding illustrations and this book is no exception. The diagrams will certainly help candidates understand the events which occur in embryology: The understanding of which is fundamental for learning meaningful anatomy. It also has graphically illustrated versions of various developmental abnormalities.

- Moore, KL. & Persaud, TVN. Before We Are Born – Essentials of Embryology and Birth Defects, 8th edition, published by Saunders, 2013, ISBN: 9781437720013.

Comment: Moore's book is also a longstanding text it is quite detailed and comprehensive. Its section on birth defects is the most informative.

Cell Biology and Biochemistry

Recommended Texts

- Baynes, J.W. and Dominiczak, M. H. (2022) Medical Biochemistry 6th Edition, Elsevier ISBN: 9780323834506
- Alberts, B., Johnson, A., Lewis, J., Raff, M., Roberts, K. and Walter, P. (2022) Molecular Biology of the Cell, 7th Edition, Garland Science
https://archive.org/stream/alberts-molecular-biology-of-the-cell-7th/Alberts%20Molecular%20Biology%20of%20the%20Cell%207th_djvu.txt
- Lodish, L., D Berk, A., Kaiser, C. A., Krieger, M., Bretscher, A., Ploegh, H., Martin, K. C., Yaffe, M., Amon, A. (2021) Molecular Cell Biology, 9th Edition, Macmillan Learning.
https://archive.org/details/mol_cell_bio_lodish_9
- Cooper GM, Adams, KW. (2023) The Cell: A Molecular Approach 9th Edition ISBN: 9780197583722, 0197583725

Histology

Recommended Texts

- Ovalle WK, Nahirney PC, Netter FH. Netter's essential histology: with correlated histopathology [Internet]. Elsevier, Inc.; 2021 [cited 2025 Feb 10]. Available from: <https://research.ebsco.com/linkprocessor/plink?id=3dad7c4b-e1bc-3249-b9ec-bb2a05a5bfb1>
- Holland GR and Moxham BJ. Oral Anatomy, Histology and Embryology. 5th ed Elsevier, 2017. ISBN: 9780723438120

Comment: this is a comprehensive text coupling detailed stylised drawings with high quality histological images taken from microscope slides (various staining). The chapters also have 'clinical points'. The relevant chapter is Chapter 12: Upper Digestive System. The chapter is relevant with exception of the sections on 'Structure and Function of the Esophagus' and beyond. The chapter 'Cartilage and Bone' contains a comprehensive account of bone structure and make-up, including the periosteum and synovial joints (although not the temporomandibular joint in particular).

- Willard VP, Arzi B, Athanasiou KA. The attachments of the temporomandibular joint disc: A biochemical and histological investigation. Archives of Oral Biology [Internet]. 2012 Jun 1 [cited 2025 Feb 10];57(6):599–606. Available from: <https://research.ebsco.com/linkprocessor/plink?id=70ab4521-79c4-3624-83a6-03730e1341c0>

Comment: this article gives a histological insight into the structures of the temporomandibular joint.

Alternative Texts

- Textbook of Histology Gartner LP. Textbook of histology [Internet]. Elsevier; 2021 [cited 2025 Feb 10]. Available from: <https://research.ebsco.com/linkprocessor/plink?id=7932a076-949b-3f52-89c8-8334eb0e2a96>

Comment: this text is a comprehensive text on the oral cavity, including the development of the teeth. In addition, it has a section on 'histology laboratory instructions: digestive system: oral cavity'. The relevant chapter is 'Digestive System: Oral Cavity'.

- [Dudás B. Human histology](https://books.google.com.au/books/about/Human_Histology.html?id=zn9dEAAAQBAJ&redir_esc=y): a text and atlas for physicians and scientists [Internet]. Academic Press;2023[cited 2025 Feb 10]. https://books.google.com.au/books/about/Human_Histology.html?id=zn9dEAAAQBAJ&redir_esc=y

Comment: this text has a set of high-resolution images of light microscopy slides of oral mucosa and salivary glands. There are also images of sections of demineralised teeth, but none of ground sections (which would show the mineralised components of teeth). Particularly relevant are the sections on lip, tongue, teeth and gingiva and major salivary glands in the chapter: Digestive System I: Upper Alimentary Tract.

Microbiology

Recommended Texts

Candidates may benefit from the current edition of a textbook in dental microbiology.

- Samaranayake LP. Samaranayake's Essential Microbiology for Dentistry, 6th Edition, 2024 ISBN: 9780443117213.
- Marsh and Martin's Oral Microbiology 6th ed. June 2016. Elsevier Health Sciences ISBN: 9780702061066
- Lamont RJ, Hajishengallis GN, Jenkinson, HF, Oral Microbiology and Immunology. 3rd ed April 2019. ASM Press, ISBN: 9781555819989.

Physiology

Candidates are advised to use current (or recent) editions of textbooks of Physiology and Pharmacology suitable for dental undergraduate students in Australia. Study should be directed towards gaining an understanding of the basic principles and concepts of physiology and their application to situations that are relevant to the practice of dentistry.

Access to a recent textbook of medical physiology is essential. There are a number of suitable texts, and anything used during your Dentistry studies should be fine.

Recommended Texts for Medical Physiology

If you are searching for medical physiology textbooks to assist in this course, the following would be worth considering.

ONE of the following:

- Guyton AC, Hall JE. Textbook of Medical Physiology. Elsevier; 14th edition, 2020. ISBN:

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9780323597128

Comment: A comprehensive systems-oriented medical physiology textbook, with clear explanations of clinically relevant pathophysiology. In my view, the best medical physiology textbook if you want to go beyond a basic textbook like Sherwood.

- Boron WF, Boulpaep EL. Medical Physiology, Elsevier; 3rd edition, 2016. ISBN: 9781455743773

Comment: This edition comes with 'student consult' online access. This book is very strong on cellular mechanisms.

- Sherwood, L. Human Physiology. From cells to systems, Brooks Cole; 9th edition, 2015. <https://archive.org/details/studyguidehumanp0000pric>

Comment: A good general physiology text. Less detailed than Guyton or Boron (quicker and easier read and explanations), however, less coverage of pathophysiology. This edition has online resources. 8th ed (2012) is also good, not much different, and can be found much cheaper online.

Principal Text for Oral Physiology Topics

- Miles TS, Nauntofte B, Svensson P. Clinical Oral Physiology, Copenhagen, Quintessence, 2004. <https://www.quintessence-publishing.com/usa/en/product/clinical-oral-physiology>

Recommended Text for Management of Medical Emergencies

- Malamed SF. Medical Emergencies in the Dental Office. Mosby, Elsevier St Louis; 7th edition, 2015. ISBN: 9780323171250

Useful Reference Books

- Ferguson DB. Oral Bioscience. Churchill Livingstone; paperback edition, 2006. <https://archive.org/details/oralbioscience0000ferg>

Comment: Excellent for many oral physiology topics.

- Neal MJ. Medical Pharmacology at a Glance. Wiley-Blackwell; 9th edition, 2020.
- Dowd FJ, Johnson BS, Mariotti AJ. Pharmacology and Therapeutics for Dentistry. Mosby Elsevier; 7th edition, 2016. ISBN: 9780323393072

Pathology

Principal text for Pathology

- V. Kumar, A.K. Abbas, J.C. Aster and T. Deyrup. Robbins and Kumar Basic Pathology. 11th edition, 2023, Elsevier, ISBN: 9780323790185).

Useful Reference books

- Little & Falace's Dental Management of the Medically Compromised Patient, 10th edition, 2023, Elsevier ISBN: 9780323809450
- Kumar and Clark's Clinical Medicine, 10th Edition, 2021 Elsevier ISBN: 9780702078682
- Davidson's Principles and Practice of Medicine, 24th edition, 2022 Elsevier **ISBN:** 9780702083471
- Clinical overviews: for detailed point-of-care guidelines on specific pathological states.
- June 2023 release of Therapeutic Guidelines (<https://tgldcdp.tg.org.au/etgcomplete>)

Note: No single textbook of Pathology provides ideal coverage at appropriate depth for use by candidates. This text is perhaps the best available compromise. Candidates are advised to select chapters of the books and study in depth, to gain an overall perspective of processes in Pathology. However, portions of "Robbins Basic Pathology" are beyond the scope of the examination requirements.