RESEARCH HIGHLIGHTS

Dental pulp cells can protect the retina

Researchers at the University of Birmingham have discovered that stem cells isolated from the teeth, dental pulp stem cells (DPSC), can protect retinal ganglion cells (RGCs) from death following injury and promote regeneration of their axons along the optic nerve.

RGC loss is the leading cause of blindness and can arise through traumatic injury or degenerative diseases such as glaucoma.¹

Periodontitis and atherosclerosis

Chronic oral infection with the periodontal disease pathogen *Porphyromonas gingivalis* not only causes local inflammation of the gums leading to tooth loss but also is associated with an increased risk of atherosclerosis. A study published on 10 July in *PLOS Pathogens* now reveals how the pathogen evades the immune system to induce inflammation beyond the oral cavity.²

Teeth protein for bone regeneration

Patients suffering from osteoporosis or bone fractures might benefit from a new discovery of a protein that plays an important role in bone regeneration made by

bioengineers at Queen Mary University of London.

Normally found in the formation of enamel, an important component of teeth, the scientists discovered that a partial segment of the protein statherin can be used to signal bone growth.³

Diabetes increases head and neck cancer risk

People with diabetes are at a significantly greater risk of developing head and neck cancer, according to new research.⁴ In the study, groups of patients with diabetes were found to be almost 50% more likely to develop the disease compared to those without diabetes. For those cancers identified, it was cancer of the mouth and throat that were the most common areas diagnosed, with diabetics aged 40–65 found to be the most at risk.

1. Mead B, Logan A, Berry M, Leadbeater W, Scheven B A. Dental pulp stem cells, a paracrine-mediated therapy for the retina. *Neural Regen Res* 2014; **9**: 577–578.
2. Slocum C, Coats S R, Hua N *et al*. Distinct lipid a moieties contribute to pathogen-induced site-specific vascular inflammation. *PLoS Pathog* 2014; **10**: e1004215. DOI: 10.1371/journal.ppat.1004215.
3. Tejeda-Montes E, Klymov A, Nejadnik M R *et al*. Mineralization and bone regeneration using a bioactive elastin-like recombinamer membrane. *Biomaterials* 2014; **35**: 8339–8347.
4. Tseng K S, Linc C, Lin Y S, Weng S F. Risk of head and neck cancer in patients with diabetes mellitus: a retrospective cohort study in Taiwan. *JAMA Otolaryngol Head Neck Surg* 2014; 1–8. DOI: 10.1001/jamaoto.2014.1258. [Epub ahead of print]

PHOTO STORY

The Dental Department at HMS Sultan promoted oral health at the HMS Sultan Summer Show with a Treasure Island themed stall.

Prizes donated from a number of dental companies, which included electric toothbrushes, were awarded to the lucky raffle winners who pulled the winning tickets from a pirate treasure map. Designed by Dental Nurse Sarah Mercer and produced by Allied Trades within HMS Sultan, the 'Treasure Map' included a number of tooth themed locations including Molar Mountain, Cavity Cove, Flossette Forest, Halitosis Harbour and Gold Crown Chest.

BOOK REVIEW

MOSBY'S DENTAL DICTIONARY, 3RD EDITION

Mosby
Elsevier

price £38.99; pp 808

ISBN 9780323100120

The third edition of this concise dental dictionary is thoroughly revised and updated.

The dictionary covers definitions across all dental specialties including restorative, paediatric dentistry, oral surgery and oral medicine. This new edition contains more than 10,000 terms and is a useful reference for the entire dental team. The book also highlights medical terms that are commonly used.

The two new selling points of this dictionary are its new illustrations and companion website. It contains over 300 illustrations that clarify and enhance definitions. The dictionary also enables readers to hear and learn the pronunciation of words via its companion website. Other features contained in its companion website include videos and animations. The image collections in the website are expandable, which allow better understanding of the word.

It has extensive practical appendices that serve as helpful references to abbreviations, anxiety and pain management, clinical oral structures, dental professional organisations, infection control and many more. The other unique feature of this dictionary is its coloured thumb tabs, which allow for prompt locating of definitions.

Being an A5 paperback, it is an excellent resource that can handily be carried around. I would highly recommend it to any student studying dentistry. It is also a good reference for other members of the dental team.

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