Adult stem cells control their own fate

A team of researchers at King’s College London and their collaborators have discovered why laboratory-grown tissues may fail when used to treat a range of conditions. For the last 20 years stem cells have been routinely placed within 3D biodegradable materials or “scaffolds” to grow new tissues to treat conditions such as osteoarthritis or heart failure. The discovery of why these engineered tissues have often failed to live up to their promise may now resolve some long-standing conflicts in the field and enable more successful transplants in the future.

The study is a collaboration by a team of researchers at King’s College London, Imperial College London, University College London and the Francis Crick Institute. The impact for the field will be that scaffold design will no longer be simple. Researchers will now have to design scaffolds that take into account that cells will modify their surroundings once they are inside.

“The positive side of this discovery is that now we know cells make these modifications and it impacts their fate,” explains Dr Gentleman. “When we provide stem cells with a 3D structure to help them form a tissue, we have to remember that they will modify the environment we present to them. To really coax them to form a tissue, and control their own fate, we have to provide them with a 3D environment that we want, we have to find ways to influence this effect so that the local environment they create is one that will drive their differentiation downstream the correct path.”

By King’s College London

Find out more:
• kcl.ac.uk/dental-postgraduate
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• Masterclasses, short and CPD courses for the whole dental team at LoDIEC, our London clinical skills teaching centre.

By King’s College London

As the Dental Institute at King’s College London enters the 20th year of its formation, they emerge with a fresh leadership team and a new name to recognise the breadth and depth of their education and research portfolios.

• Professor Michael Escudier as Deputy Executive Dean. Professor Escudier is the current Dean for the Dental Faculty at the Royal College of Surgeons London.
• Professor Kim Piper as Dean for Education. Professor Piper is currently Head of Admissions and Widening Participation for Medicine and Dentistry at Queen Mary University of London, and Professor of Oral Pathology.
• Professor Abigail Tucker as Dean for Research. Principal Investigator and Professor of Development & Evolution, Professor Tucker holds a Wellcome Senior Investigator award to study the middle ear.
• Professor Nigel Pitts as the academic lead for Impact. Professor Pitts is the leader of the Global Collaboratory for Caries Management initiative and chair of the Alliance for Cavity Free Future.

King’s distinguishes itself with a unique research portfolio in dental, oral and craniofacial sciences, embracing blue skies discovery research in addition to translational and clinical sciences. The research focuses on three key pillars which will link with each other, the wider health sciences at King’s, and with external partnerships.

• Development, Regeneration, Repair & Tissue Engineering, led by Professor Paul Sharpe
• Immunity, Infection & Host Microbiome Interactions, led by Professor Gordon Proctor
• Clinical, Translational & Population Health, led by Professor David Bartlett

The International agenda is led by:
• Professor Jeremy Green - Principal Academic leadership. Professor Curtis’ current research is focused on the role of the oral microbiome in maintaining oral health and developing disease, and key microbial virulence determinants of oral bacteria.

Certificate & Diploma in Clinical Implantology

From British Academy of Dental Implantology & British Academy of Restorative Dentistry

Faculty Leads:

Prof. Göran Urde, Sweden
Programme Director of Implantology
Postgraduate Education Faculty of Odontology, Malmo University

Prof. Paul Tipton, UK
Specialist in Prosthodontics
President, British Academy of Restorative Dentistry

Dr. Chester Dahlin, Sweden
Specialist Oral & Maxillofacial Surgery
Professor in Oral Surgery and Guided Tissue Regeneration

Prof. Anwa Al-Sayed, Saudi Arabia
B.D.S., M.S., M.Sc., M.C.D.

Dr. Ninette Banday, UAE/USA
Specialist Restorative Dentist & Implantologist

Certificate | 3 Modules | 12 Days

Module 1 | 25-28 June 2019 (4 days) | Basics of Implantology
Programme outline: implant market, osseointegration, treatment alternatives, treatment planning and patient selection, basic surgical techniques and protocols. Hands-on training: surgical techniques and medico-legal aspects to implant dentistry.

Module 2 | 31 October - 03 November 2019 (4 days) | Treatment Planning and Surgical Treatment
Programme outline: implant design, radiographic techniques, implant surgery, implant specific treatment planning. Basic practice management.

Module 3 | 23-26 January 2020 (4 days) | Restorative Aspects of Implantology
Programme outline: restorative techniques, prosthetic hands-on training, patient treatment, follow-up and oral hygiene, complications to avoid and treat. In depth practice management.

Diploma | 3 Modules | 12 Days

Module 4 | 16-19 April 2020 (4 days) | Immediate and Early Loading Concepts and Treatment of the Resorbed Jaw
Programme outline: tooth now concept, immediate and early loading concepts from single tooth to fully edentulous patients, severely resorbed jaws, sinus lift and ridge splitting techniques, hands-on training and live patient surgical treatment.

Module 5 | 11-14 June 2020 (4 days) | Medical Compromised Patient and Soft and Hard Tissue Management | Aesthetic and Restorative Challenging Patient
Programme outline: medications related osteonecrosis, GBR techniques, soft tissue management, implant aesthetics, ceramics and implants.

Module 6 | 03-06 September 2020 (4 days) | Rare Complications and Techniques
Programme outline: rare complications, combination implants and teeth, live patient treatment, written and oral examination and case presentations.

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CAPP upgrades and relocates its state-of-art phantom head training centre

In September 2018, CAPP opened its brand new dental training centre in Dubai. CAPP Training Institute is a world-class facility hosting continuing professional development events and hands-on training courses since 2016. CAPP has been organising continuing dental educational programs since 2005.

By Dental Tribune MEA / CAPPmea

The CAPP Training Institute is equipped with the latest dental equipment such as phantom heads, clinical units with high, low and speed-increasing handpieces supported by dental compressors, microscopes, the latest TV/AV equipment and a lot more. The training centre consists of two sections—a lecture room hosting up to 35 delegates and a phantom head facility hosting up to 30 delegates in a modern and trendy atmosphere. It is easily accessible by road and public transport and offers free of charge parking facilities.

Only from its opening on the 27th of September until end of November 2018, 42 training days have taken place educating over 400 dental professionals in various topics such as implants, restorative, aesthetic, laser, endodontics, dental technology and others. In 2019, the CAPP Training Institute is already booked for 168 days and it is open for external companies and educational institutions to rent the facility.

The institute is a venue for a broad range of short and long intensive dental specialised hands-on training courses organised in a friendly teaching environment by presenters and facilitators who are well experienced and highly regarded within their fields of expertise. The main courses running are namely the Restorative Aesthetic Dentistry Certificate and Diploma, the Clinical Endodontics Certificate & Diploma, the Clinical Implantology Certificate & Diploma and the Lasers in Dentistry Mastership programme.

For more info visit: www.cappmea.com/diplomas

Minimal Invasive Dentistry

HANDS-ON COURSE

13 February 2019 Wednesday

CAPP Training Institute Dubai | UAE

Area of interest: General Dentistry

AED 2,200 $ 600

Course Objectives

The morning session will consist of lectures covering minimally invasive dentistry and the afternoon practical will include minimally invasive dentistry, ozone, the latest methods for caries removal, use of GICs, adhesives and composites, and the placement of the conservative new minimally invasive One Visit Crowns.

Course Outcome

On completion of this day, the delegate will be able to understand the principles of minimal invasive dentistry:

- Comprehensively detect and diagnose carious lesions (occlusal caries attached dental plaque, proximal or smooth surface lesions. Electrical conductance, quantitative laser fluorescence, laser fluorescence, tuned aperture computer tomography, optical coherence tomography.)
- Apply effective treatment to identified carious lesions (remineralisation and pH, adjustment of oral environment. Air abrasion. Cavitatation. Minimal cavity designs. Adhesive materials such as glass ionomers (GICs). Resin based composites/dentine bonding agents. Lamination. Tunnel/internal/minibox/slot preparations. Laser cavity preparations.)
- Monitor those patients given minimal invasive surgery and evaluate (portfolio of patients, their needs vs treatments, outcomes, corrective/further treatments.)
- Learn the latest methods and research with tooth whitening
- Learn all about and place, bond, finish and polish the new minimally invasive One Visit Crowns

Visit Crowns

Prof. Edward Lynch, UK/USA

He is a specialist in 3 disciplines, Endodontics, Prosthodontics and Restorative Dentistry as well as being a BUPA Consultant in Oral Surgery, and presents at many prestigious postgraduate courses worldwide each year.

Contact

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