



**Annual Conference 2024 6<sup>th</sup> – 8<sup>th</sup> September**

**Coylumbridge Hotel, Aviemore Scotland**



**Edward malton**



**John Brown**



**James Green**



**Richard Eggleton**



**Dr Rebecca Nix**



**Wakeel Shah**



**Christian Born**



**Chris Keating**



**CHRISTIAN BORN:**

**Digital Orthodontic Appliances**

We can design and manufacture digital metal orthodontic appliances. But we can also produce plastic plates digitally? Yes we can.

Immerse yourself in my digital world and let yourself be inspired. Everything is now possible. Hawley Retainer- Aktivator- Bionator- And much more

**CHRIS KEATING:**

**From the laboratory to the operating theatre:**

The application of digital workflows in the management of complex mandible fractures

**NEIL NAIRN:**

**Make the change in your life, before your life changes you:** Dental students have been identified as individuals who may be prone to excessive stress that could result in burnout and psychological distress (Colin et al, 2020). Contributing factors can include workload, expectation of high levels of performance, extreme attention to detail, financial pressures, family, complaints, to name but a few. Stress is inherent with almost all university students and in some instances; this can be a motivator to perform well. The challenge many students encounter is preventing stress becoming overwhelming resulting in mental health difficulties (Akram et al, 2023). The World Health Organisation (WHO) states "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". Mental health, emotional health, physical health and a healthy lifestyle are closely intertwined, all of which influence and contribute to an individual's health and wellbeing. In 2023/24, a comprehensive day-long programme was implemented to educate students about the potential impact of poor health and wellbeing, whilst promoting positive lifestyle choices aimed at mitigating and, ideally, preventing declines in mental health. Emphasis was placed on the positive effects that health and wellbeing can have on an individual's academic performance and overall health.

**GRZEGORZ PIATKOWSKI:**

**Herbst appliance on individually designed sintered bands:** During the lecture, the process of making the Herbst appliance will be presented. After a short clinical introduction, we will discuss step by step the laboratory work in digital technology. From the moment of preparation of virtual working models, design of interlocked bands, sinter processing, connection of Herbst hinges from Dentaurum® and final processing. You will also be able to see the finished work and how it works live.



**EDWARD MALTON:**

**3D Printing Anatomical Models-** [This](#) will go into CT imaging, advantages of medical models, step by step guide to Materialise Imprint software and image segmentation. [Also](#) 3d printing the models.

**JOHN BROWN:**

**Time Bomb** - This presentation was made because of the standard of pressure formed appliances. The first part of the lecture will look at the materials available and their applications. Then we will look at the machines. How they heat the blanks and the type of pressure used. Then we will compare the machines. We will then look at the problem areas and how these can be avoided.

**JAMES GREEN:**

**A custom-made device to maintain dimensions and projection following second stage auricular reconstruction** - A custom-made medical device called an auricular splint has been developed at Great Ormond Street Hospital that maintains the temporoauricular sulcus and prevents the loss of projection. The auricular splint is straightforward to fit and remove, self-retaining, lightweight, inconspicuous, and fabricated from ethylene-vinyl acetate, which is inert and non-toxic (no local tissue or allergic reactions, graft loss or necrosis), soft to avoid pressure sores, non-absorbent and non-adherent, sufficiently rigid for auricular support and to avoid rupture but sufficiently elastic to allow for fitting and removal. This presentation begins by examining the indications for auricular reconstruction and techniques used for carrying out the procedure before providing a step-by-step guide for constructing auricular splints.

**RICHARD EGGLETON:**

**Custom Nasal Contour Splints to definitive silicone nasal prosthesis.**

**DR REBECCA NIX & WAKEEL SHAH**

**Medical Devices Regulations – Insights from an ISO 13485 certificated NHS Maxillofacial Laboratory-** The United Kingdom's Medical Devices Regulations (MDR) are expected to be updated in 2024/5. It is expected these will change to reflect best practice as a consequence of, for example, significant changes to the European Union MDR (2017/745) which has applied in the EU since May 2021.

The new legislation is complex and is expected to introduce requirements for health institutions and their clinical services, including Maxillofacial and Dental Laboratories, who make and / or modify medical devices, and which were previously unregulated.

In preparation, Swansea Bay's Maxillofacial Laboratory successfully implemented an ISO 13485 certified Quality Management System (QMS) that provides assurance of compliance to the evolving legislation as well as the internationally recognised medical device manufacturing standard. It is believed that Swansea was the first Maxillofacial Laboratory of its kind to achieve this certification in the UK.