Ivoclar Vivadent discusses monolithic restorations in London

LONDON, UK: For over 150 years, the Westminster Hospital in London took care of the sick and disabled until making way for the Queen Elizabeth II Convention Centre in 1991. One of the most high-profile convention venues in the British capital today, this modern flat-roofed building opposite Westminster Abbey now stages over 550 events each year.

Recently, dental manufacturer Ivoclar Vivadent from Liechtenstein hosted hundreds of professionals from all over the globe at the prestigious venue to discuss the latest in monolithic restorations. Following the principle that dental restorations should always mimic the natural dentition, prominent clinicians from Europe and the Americas presented a number of clinical cases that demonstrated what can be achieved with dental ceramics. Impressive restorative work was shown by German dental technician Oliver Irix and the UK’s own Dr James Russell, among others, who discussed clinical cases treated using Ivoclar Vivadent’s IPS e-max. While it is still not able to reproduce nature entirely, the restorative system, along with other modern dental materials, has not only changed how cosmetic dentistry is performed, but also allowed it to be increasingly less invasive, Russell said.

The use of CAD/CAM technology, was further shown by Italian technician Michele Temparini to achieve higher aesthetic outcomes when combined with all-ceramic materials. Issues in the field were also addressed, including the correct bonding technique, which, according to Belgian presenter Bart van Meerbeek, depends on functional monomers. While research has shown that self-etching is often the most effective approach, the etch and rinse technique is still recommended in many cases, he explained.

During a round-table discussion held on the first day, all experts agreed that a thorough diagnosis and good working relationship between the clinician and dental technician are still among the most important criteria for achieving the best results.

Improved zirconia announced by Kuraray Noritake

TOKYO, Japan: Kuraray Noritake Dental has said it has developed a new kind of zirconia that, according to the Japanese company, features higher flexural strength and fracture toughness than any other material of its kind. The material demonstrated significantly improved flexibility in a three-point flexural strength test when compared with results from a test conducted with a conventional zirconia.

Fracture toughness was even found to be twice as high in the new material, the company reports. More importantly, unlike in most conventional zirconia, the crystal structure of the new material does not appear to change to a monoclinic phase under high pressure and temperatures. This process usually makes materials more prone to damage by inducing stress.

According to Kuraray Noritake Dental, the material also does not need to be subjected to hot isostatic pressing, an industrial process for improving physical or chemical characteristics of ceramics and metals.

The yet unnamed material is intended to be used in the production of a new generation of durable and more resistant dental materials. In addition, it will offer benefits for the development of prosthetic joints and other industrial applications.

In the next step, the company said it will ready the material for launch to dental markets and other commercial industries.

The material is the first joint development announced by the company, which was formed from a merger of dental material manufacturers Kuraray Medical and Noritake Dental Supply two years ago.