From 17 to 21 May, the 37th Australian Dental Congress (ADC) 2017 is bringing together over 4,000 dental practitioners at the Melbourne Convention and Exhibition Centre. Established in 1907 and organized by the Australian Dental Association (ADA), the event is set to be the biggest ever this year. Held under the theme “Educating for dental excellence,” ADC 2017 has attracted an impressive line-up of four keynote speakers: acclaimed UK prosthodontist Dr John Besford, UK periodontics and prosthodontics specialist Dr Andrew Dawson, endodontist Prof. Azul Kushin from the University of Toronto in Canada and prosthodontist Dr Ken Mainment from the US.

With an additional 100 speakers from all over the world and a range of topics in all fields of dentistry, including oral cancer screening, root canal irrigation, ergonomics and infection control, ADC 2017 is the largest continuing professional development (CPD) event for dental practitioners in Australia and an ideal way to fulfil CPD requirements. According to the ADA, the main scientific programme and associated workshops, forums and “lunch and learn” sessions offer over 32 hours of CPD for dentists, 12 hours for dental hygienists, oral health therapists and dental therapists, and 11.5 hours for dental prosthetists.

Another key part of the congress programme is the ADA/FA National Emerging Young Lecturer Competition. Sponsored by the ADA, and Pierre Fauchard Academy (PFA), the competition gives ADA branch-nominated young clinicians the opportunity to present their clinical, research and lecture skills, providing insight into the latest work being undertaken in dental schools across Australia. Candidates hold 15-minute presentations with a short Q&A session and are judged by a panel of four experts from both sponsoring organisations.

The presentations will be held on Friday from 10:30 to 14:30. The winners will be announced at 15:00. The National Emerging Young Lecturer is granted a sponsorship from the PFA of A$5,000. A second prize, the Encouragement Award, is worth A$1,000.

Free industry exhibition
For the first time, the accompanying industry exhibition—the largest of its kind in Australia—is free, not just for congress attendees, but also for all those in dental practice. Hosting over 100 major companies, the exhibition is showcasing a wide selection of products and services available to the dental profession. It runs from 18 to 20 May in a building adjacent to the venues where the main congress programme will be presented. The exhibitors have been encouraged to make presentations at their stands on the morning and afternoon teas.

Graduate dentists should check out the extensive range of work opportunities at the Employment Fair, which has been brought back after its successful premier at the 2015 event. The fair features organisations from across the dental industry, including private practices, public sector employers and companies, with whom graduates will be able to book appointments to discuss the opportunities available.

“Your congress is not limited by a theme”
An interview with Dr Gordon Burt, Chairman of the Scientific Programme Division for the 37th Australian Dental Congress (ADC)

Providing three and a half days of presentations and over 100 speakers, this year’s edition of the ADC will be the largest continuing professional development (CPD) event for dental practitioners in Australia in 2017. Today international spoke with Dr Gordon Burt about highlights and new additions to the Australian Dental Association’s (ADA) flagship event, such as the “whole of practice” sessions and the new congress app—and coffee, which he believes is one of the best things Melbourne has to offer.

The congress has a very diverse schedule of sessions. What did you aim at when composing the scientific programme?

This year’s congress is not limited by a theme. We have tried to organise the concurrent sessions of the main scientific programme into “procedural” (practical), “holistic” (patient-centred) and “blue sky” (visionary and creative) streams. For example, attendees have the opportunity to attend lectures that inform them of techniques they could apply in their practices on Monday morning, or confirm their contribution to the health of a patient, or learn about the future directions of the profession.

We have invited four keynote speakers from the UK, the US and Canada, as well as other international and local presenters. Including the “lunch and learn” sessions, there are more than 100 speakers. The congress also features programmes for dental hygienists, oral health therapists and dental therapists.

What is the proportion of attendees in these professions, and have you noticed an increase in participation by these groups in recent years?

The ADA has selectively included allied dental health professions as part of the biennial congress since 2013. Two-day programmes are now offered to dental hygienists and therapists, dental assistants, practice managers and dental practitioners. While these make up a fraction of the total, they are none the less important. Generally, the participation figures are continuing to increase.

You have introduced a new congress app for recording of participants’ CPD hours. How does this work?

As well as providing general information about sessions and speakers, the congress app allows those attending the main scientific, dental hygiene and therapist, or dental assistant programmes to accrue CPD hours, by entering a unique code specific to the session they are attending into the app. The code is only displayed in the session venue.

For ADA members, the recorded CPD hours will flow back to the members’ CPD portal. For other participants, this information will form the basis of a CPD certificate of attendance of the congress. The app is available for smartphones and tablets.

Could you introduce the concept of the “whole of practice” sessions? The “whole of practice” sessions are a first for the congress. The dental profession has always relied on various clinicians and support from others to provide the best care for an individual. To include those providers who work closely with the dentist is logical.

The opportunity for the whole team to attend lectures together is valuable in reinforcing the bond between us and building mutual respect.

Melbourne is your home town. Could you give attendees some tips on making the most of their time in the host city after hours?

Walk the streets and be spontaneous. Melbourne is one of those cities that really need to be explored. Within a few metres from the congress site, there are arts venues, live music, clubs, bars, restaurants, lane- ways and graffiti-and-coffee. In my opinion, it is the best in the world. One of Melbourne’s most successful international exports seems to be the barista. There are plenty of online publications that will tell attendees what is on (apart from the ADA events). Do not worry about the weather; there will be some—a coat and umbrella may be necessary.

Thank you very much for the interview.
The link between lifestyle, the oral microbiome, health and well-being

An interview with ADC speaker Prof. Philip Marsh, UK

The oral microbiome is vulnerable to disruption by lifestyle and environmental changes. What exactly can cause a shift and what are potential consequences?

The symbiotic relationship between the oral microbiota and the host is dynamic and can alter if the oral environment undergoes a substantial change, often as a consequence of an altered lifestyle. A clear example is when salivary flow is reduced or when an individual more regularly consumes sugar-containing foods and beverages. In this situation, the dental biofilm spends more time at an acidic pH. This leads to an enrichment of acid-producing and tolerating bacteria at the expense of beneficial organisms and increases the risk of dental caries. Similarly, the host recruits an inflammatory response if biofilm accumulates around the gingival margin. If this fails to reduce the microbial load, then the protein-rich gingival exudate that delivers the host defenses inactively acts as a novel supply of nutrients for the proteolytic and obligately anaerobic bacteria in subgingival biofilms. These bacteria subvert the host response and continue to drive inflammation; this exaggerated response is responsible for host-tissue damage and the development of periodontal disease.

Is the composition of the oral microbiota mainly based on heredity or can it be managed through external factors?

Some elements of the make-up of the oral microbiota are linked to heredity, but the general composition and activity of these microbes can be managed by effective oral hygiene and an appropriate lifestyle, for example reducing the amount and frequency of intake of fermentable sugars in the diet, avoidance of tobacco smoking, etc. An unintended side-effect of some medications can reduce the risk of saliva flow, which would disrupt the natural balance of the oral microbiota and increase the risk of dental caries.

Dental care products aim to reduce harmful bacteria while maintaining the good ones. Is there a danger of using too much product and thereby destroying the oral flora?

The oral microbiota is natural and beneficial and therefore needs to be managed and maintained at levels compatible with oral health. Oral care products are designed and evaluated to support the patient in maintaining an appropriate level of oral microorganisms, so if they are used as intended, there is little danger of negatively disrupting the oral microbiota. In contrast, the long-term use of broad-spectrum antibiotics can lead to the suppression of significant numbers and types of beneficial oral bacteria, and this can result in overgrowth by exogenous or environmental microbes.

Bacteria play an important role in the development of diseases such as periodontitis or caries. Are there ways to manage harmful colonization other than with dental hygiene measures, for example with vaccines, or will there be in the future?

New strategies to promote beneficial oral bacteria and/or to suppress the likelihood of disease are being developed. These strategies include the development of oral probiotics or bacteria to prevent dental diseases and use of prophylactic medications, which will help prevent the growth of beneficial bacteria. Novel anti-inflammatory agents are being evaluated that would promote wound healing and reduce the tissue damage caused by a subverted host response to subgingival dental biofilms. Molecules that reduce biofilm formation or inhibit species implicated in dental disease are under active investigation. Some snack foods and drinks contain agents that cannot be metabolized into acid by oral bacteria.

In dentistry experiencing greater challenges with regard to biofilms and bacterial shifts today than in the past, and if so, why?

The main differences today compared with the past probably surround the increased amounts of sugar in snack foods and drinks. Also, people are living longer and are retaining their teeth into later life, so the dentin is vulnerable to dental disease for longer and this is coupled with the fact that the side-effect of many medications taken by the elderly is a reduction in saliva flow.

What strategies for keeping a healthy balance in the mouth can dentists teach patients?

The main strategies are for patients to practise effective oral hygiene and thereby reduce biofilm accumulation and to appreciate the impact of sugar in their diet on their risk of dental caries. It may be helpful if patients realise the relationship and direct link between their lifestyle, their oral microbiome, and their oral and general health and well-being.

Thank you very much for the interview.
Join the largest educational network in dentistry!
Welcome reception

Giving the opportunity to reconnect with close friends and colleagues in celebration and anticipation of the event to come, the welcome reception kicks off at 18:30 on Wednesday and runs until 20:30. The reception event is included in the registration fee regardless of the category you fall in.

For those still looking to party after the official event has ended, the nearby South Wharf Promenade offers many opportunities, including wonderful waterside dining options—likely boasting the most beautiful waterside views in Melbourne.

A ride along the Yarra River will add to the holiday feeling. Melbourne Water Taxis offer a pick-up and drop-off service for passengers at the Melbourne Convention and Exhibition Centre landing point. The water taxis operate day and night all week. More information can be found at www.melbournewatertaxis.com.au.

Accompanying persons programme

Not to be forgotten at ADC 2017 are the partners of dental professionals attending the congress. This year’s programme for accompanying persons has undergone some changes to make the event even more memorable. Instead of the traditional lunch, held on the Friday in the past, a Thursday meet-and-greet event will give accompanying persons the opportunity to become acquainted with one another in a relaxed and convivial setting.

Another addition is a tourism desk operated by Best of Victoria, which will be open for the duration of the event, allowing visitors to plan their own experience of the beautiful host city of Melbourne.

One thing that remains unchanged is the Accompanying Persons’ Lounge, where visitors will be able to help themselves to a range of hot and cold beverages while catching up with friends and colleagues from Australia and around the world.

Congress Late Night

What could be better than wrapping up a stimulating three days of learning from the best dental minds with Congress Late Night on Saturday? Under the theme “Dia de los Muertos” (Day of the Dead), attendees will witness calacas and calaveras—skeletons and skulls—adorning every vantage point, and brightly decorated altars covered in candles, fruit and toys, all of which are part of rituals to welcome the dead back into the land of the living.

Providing musical entertainment will be Los Románticos, a 22-piece Mariachi band whose music embodies the essence of Mexico and who play a vibrant mix of traditional folk and modern pop. Attendees can while away the evening strolling through the festively decorated space filled with Mexican dancers and food and drink stands serving tequila and churros. Visitors can even have their faces painted in the vividly coloured sugar skull tradition that is the literal face of this iconic Mexican festival.

More information on the social events is made available after registration.
In addition to the vast number of educational and scientific opportunities on offer at the 37th Australian Dental Congress (ADC) in Melbourne, there will be a series of social events, commencing with a welcome reception on opening night and ending with Congress Late Night on the final evening.

ADC 2017 features a range of social events, including the welcome reception, Dia de los Muertos: Social events at ADC 2017, and more information on the social events is made available after registration.

From welcome reception to Dia de los Muertos: Social events at ADC 2017

More information on the social events is made available after registration.

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News and Trends

A day for the dead.

What could be better than wrapping up a stimulating three days of learning from the best dental minds with Congress Late Night on Saturday? Under the theme “Dia de los Muertos” (Day of the Dead), attendees will witness calacas and calaveras—skeletons and skulls—adorning every vantage point. The event will be a vibrant mix of traditional folk and modern pop. At the welcome reception, attendees will be treated to musical entertainment provided by Los Románticos, a 22-piece Mariachi band whose music embodies the essence of Mexico. Attendees can while away the evening strolling through the festively decorated space filled with Mexican-themed stands and live music.

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To learn more about the social events at ADC 2017, visit www.dti-publishing.com.
There is mounting evidence in the literature of the diagnostic superiority of 3D imaging versus 2D. As a result, many clinicians today are using 3D imaging either by referring their patients to a CBCT scanning centre or having mobile units visit them—the only benefit of this is that there is no initial capital outlay to buy the machine. In contrast, the benefits of an in-house CBCT device are many, including the convenience of an on-demand service at any time (pre, peri or postoperatively if needed), learning one software programme and utilising it fully, rather than having to learn different ones for different machines from various manufacturers and thus not employing it to its full potential. Addi-
tionally, patients appreciate the convenience of not having to travel to another location.

Our X-Mind trium CBCT unit from ACTEON is rather new to our directors and other settings that reduce the radiation significantly, individual assessment of every case is still very important to obtain the most from the 3-D image without adding more radiation. We have found that taking a 2-D image that generally does not make sense to the untrained eye.

In order to show how a CBCT unit can affect day-to-day dentistry in a small family practice, it would be beneficial to share a week’s diary of its use. This article provides a small selection from a week’s diary regarding the use of the X-Mind trium CBCT unit in the clinic. More CBCT scans were often obtained on any one day depending on the cases on that day; however, owing to space limitations in this article, only one to two cases per day are described. It must be borne in mind that each patient’s need is different, but one thing should be common above all and that is to assess every case individually and never take 3-D scans routinely, despite their clear diagnostic benefits.

**Day 1**

The patient had had all of his mandibular teeth extracted many months before, owing to mobility and infections, and preferred to have a fixed solution through implant therapy. At that point, the patient was wearing a well-fitted temporary mandibular denture. Initially, the idea was to take a scan of the existing denture with radiopaque markers (gutta-percha in six to eight holes made in the denture) to plan for the placement stage. However, a decision was made to duplicate the existing denture using a duplicating flask (Lang

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**“Assess every case individually and never take 3-D scans routinely, despite their clear diagnostic benefits.”**
Dental) in order to fabricate a clear acrylic radiographic guide (Figs. 1 & 2).

A 3D scan was obtained using the X-Mind trium CBCT scanner to be utilized in the treatment plan-
ning of the case, and we found it to be an invaluable resource. Through the scan, the type and position of the implants in relation to the den-
sity of the surrounding bone were checked. The ACTEON Imaging Suite software that comes with the device includes a library of the most current implants on the mar-
et, allowing placement of the right implant with the right angulation, plus abutments and crowns, in or-
der to maximise the predictability of positioning the implants, thus improving the treatment success.

For clinicians who use more than one implant system, in order to change the implant model that was inserted from the library, one sim-
ply clicks in the middle of the im-
plant and the implant library is opened again, allowing the selec-
tion of another implant model. The software will retain the same insertion point and direction of the pre-
vious one.

In addition, the software evalu-
ates the bone density around the implant. The aim is to show, both through colour maps and numeri-
cally (Figs. 3 & 4), the values before commencing surgery (green if the

values are acceptable or high and red if the values are low; Fig. 5), al-
lowing the clinician to make the right decision. This can also be a very good educational tool to show the patient the bone density around any potential implant. In our expe-
xience, patients like this feature once shown what it means.

Day 2

An implant was planned to re-
place a missing mandibular molar, and the position of the mandibular canal was not very clear on a 2D image, the position was still a little confusing. For this case, we decided to use the ACTEON Imaging Suite’s FlyMode option, which is like a virtual endo-
scope that follows the mandibular canal tract from within and clar-
des the path to confirm that our nerve tracking is correct (Fig. 6).

This is one of the unique features of the software.

Day 3

Obtaining the correct position and trajectory of a retained maxil-
ary canine has conventionally been dealt with by taking 2D im-
ges (periapical radiography) at dif-
ferent angles and possibly an occu-
sal film to determine the correct po-
sition in the buccopalatal aspect, together with some guesswork. 3-D imaging can be an invaluable tool for this indication. The patient re-
fused orthodontic extraction of the maxillary left canine and wanted both the primary and permanent canines extracted and replaced
diabular left second molar, which served as the most posterior bridge abutment tooth, was beyond saving (visual inspection and probing). 3-D imaging helped with planning the case, including tracking the posi-
tion of the mandibular canal in re-
lation to the proposed positioning of the implants (Figs. 11 & 12). In addition, the density of the bone was checked (Fig. 13), and the re-

sults indicated that a wider implant would possibly be a better choice to improve integration, rather than the one chosen from the implant li-

brary. This would also allow us to de-
cide on perhaps performing an under-preparation of the osteotomy site in order for the implant to en-
gage the bone better. This obviously depends on the type of implant used and other factors with which the expert clinician will be famil-

ar.

Day 5

This case was performed by an
other clinician, who was hoping to achieve good integration after plac-
in two anterior implants with grafting material. According to the clin-

ician, primary stability was good at the time of placement and the implants were placed in bone with some buccal fenestrations, hence the grafting. It thus ap-
ppeared that further healing would be indicated. After the patient complained about some threads showing through the soft tissue, the clinician suggested further grafting to secure the im-
plants. A CBCT scan was obtained (Fig. 14) as part of the case plan-
ning, and it clearly showed that this may have gone wrong.

In addition, on the 3D image, we noted that the tip of the implant on the left side may have been rotated or align-
ing with the root of the adjacent tooth, with long-term uncertainty as a result (Fig. 15). In a scanning slice (Fig. 16), we also noted the challenge ahead for grafting this implant successfully, indicating that a great deal of consideration would have to be given and careful planning employed in order to ob-
tain a successful outcome for this case. However, and despite the out-

come at that point with these two implants, the patient appreciated the high quality of the 3-D technol-
ogy and being able to see the prob-
lem clearly and from different per-
spectives, eliminating any guess-
work that might have affected the final outcome and guiding the treatment in the right direction.

Conclusion

These cases and many more ev-
ery week pass through any dental clinic, with patients hoping too much to understand. In the best available treatment under the circumstances (clinical, isn
time, financial, etc.). We know that 3-D imaging is here to stay, and in order to make treatments safer and more predictable for our patients, we have to engage these technologies and involve patients more in show-

“We know that 3-D imaging is here to stay.”

Dr
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