For the first time, Dr. Gary Finelle will be teaching the “1 Year Clinical Masters Program in Implant Dentistry” at the Reims Implant Institute in November 2015.

Dr. Finelle received his dental degree from Université Paris Diderot, Paris 7, in France in 2009. He completed his doctoral thesis on soft-tissue healing around dental implants. In 2011, he joined the Advanced Graduate Education Program in Implant Dentistry at Harvard School of Dental Medicine in Boston, Mass., U.S., as a full-time resident. Since 2013, Dr. Finelle has been based in Paris and works in a private practice limited to implant treatment and prosthodontic rehabilitation. In January 2015, he joined the mimetic unit (Université Paris Descartes, Paris V), headed by Dr. Gil Tirlet, at Charles Foix hospital in Ivry-sur-Seine, France, as a part-time fellow.

Dr. Finelle’s major interests are the application of digital technologies to the surgical and prosthetic implant treatment workflow and patient diagnostic virtualization. He has been involved in research on digital impressions and 3-D printing technologies, computer-guided implant surgery, CAD/CAM prosthodontics and implant rehabilitation. He has published in scientific peer-reviewed international journals. He has lectured nationally and internationally at various scientific meetings and is a member of a number of scientific societies, including the Academy of Osseointegration and the American Dental Club of Paris. He is currently a recognized speaker for the International Team for Implantology and a scientific opinion leader for Straumann France.

Q: Dr. Finelle, your major field of interest is the application of digital technologies in dentistry. What do you consider the main advantages of these technologies for dental implant planning and treatment?

A: The overall digital workflow in implant dentistry can be divided into four treatment phases: virtual planning, computer-guided surgery, digital impressions, and CAD/CAM rehabilitation. Although the technology available on the market today is advanced enough to implement a fully digital approach to treat patients, it does not mean that dentists have to follow a digital protocol from A to Z. I believe that the success of our treatment depends more on the decisions we make during the planning phase, rather than the procedures at execution. In fact, the main benefits of working digitally today may be found in the treatment planning process. Indeed, data from different type of scanners (CBCT, surface intra-oral impression or laboratory, and facial scanners) can be merged together in 3-D planning software to produce a comprehensive 3-D reconstruction of the clinical situation. The ultimate goal is to visualize a 3-D virtual patient and superimpose orofacial structures (such as bone volume, soft tissue, dental arches, temporomandibular joints, prosthetic projection, and facial contour) on the same 3-D image to optimize the concept of prosthetically driven implant placement. Techniques of digital smile design are also powerful treatment planning tools to prepare properly for challenging aesthetic cases. By analyzing on the screen the 3-D relationship between the implant, the future prosthesis, and the smile, we can improve our understanding of the case and enhance communication between the team members and patients.

As technologies become increasingly attuned to the clinical reality—not to mention accurate and cost-efficient—we are seeing an enhanced interest in using digital tools, such as 3-D-printed guides and intra-oral cameras. However, while computers can help simplify and speed up our treatment, the advances only work effectively in the hands of skilled and knowledgeable professionals.

Q: In your opinion, how have digital technologies changed dentistry over the past decades? Do you think they will determine the global dental market in the future?

A: In the last decades, digital technologies have been utilized to a far greater extent in laboratories than in dental offices. The advancement of laboratory scanners in combination with optimized CAD/CAM production centers has provided dentists with enhanced accuracy, a wider range of abutment design options, greater flexibility in materials, and more efficient communication. However, until recently, the expertise in using the technology was concentrated in laboratories, rather than in dental offices.

Today, we are seeing a second technological move towards the clinical side. Indeed, the market offers workflows that are more integrated, higher compatibility between manufacturers, and greater competition from more affordable devices, specifically in the intra-oral scanner segment. Combined with the rapid emergence of new-generation 3-D printers, we are witnessing the democratization of chairside technological devices in the dental office. The prospects for the field of 3-D printing are highly promising, and one can envisage that the dental market will soon be built around computerized fabrication techniques. The digital dentist is on the rise.

Q: At the age of 30, you are a very young specialist. Do you think that there are differences between older dentists and professionals of your generation regarding their attitude towards digitalization in dentistry?

A: As I am partnered with my father in the practice, I feel I am well placed to answer this question. Regardless of his or her generation, every clinician is aware of the current and upcoming changes in our profession. The older generation may face a steeper learning curve, but we are all aware that the era of the stone model will soon pass. Today’s dental students train in a more digitalized environment, so we can expect them to be more comfortable with computerized dentistry than clinicians utilizing conventional analog methods. Interestingly, the Division of Regenerative
and Implant Sciences at the Harvard School of Dental Medicine (Lee & Gallucci, 2012) has found that non-trained dental students are more proficient at digital impressions than are trained dentists.

When my father was my age, neither implants nor composite materials existed. Colleagues who have been practicing for decades may think that the investment of time and energy to bring oneself up to speed is not worth it. That is understandable.

The new generation of dentists is lucky to work in a period of such dramatic technological progression. There is a deluge of new procedures to appreciate and huge potential to innovate. All this should lead to an enhanced service for patients.

Q: Who can benefit most from the implementation of such technologies—general dentists or specialists? Are they tools for everyone?
A: For more than a decade, general dentists have been routinely delivering CAD/CAM-milled prosthetic restorations. This trend is inevitably increasing as digital in-office equipment (CAD software, intra-oral scanners) is continuously being implemented into general practices. Nevertheless, specialists are the first to be exposed to new cutting-edge technology, largely because they benefit the most from technological advancements. They are what we call the early adopters. Many of the technologies are interesting and profitable for everyone, but as with all such advances, it may take some time before we see universal usage.

Q: Do you think that more training in digital technologies is needed for dental professionals?
A: You probably know my answer to this question. We are at the onset of a new era of dentistry. It is important to be aware of the transition and to have a vision of where the future lies, but we do not all have to dive en masse into the latest digital technology. The vast majority of analog procedures are still relevant today.

Most of our dentist colleagues are willing to learn and see how far we can go with digital technology, but before making considerable investments, they prefer to have a better and more objective understanding of the relative benefits. While the latest developments are regularly addressed in professional meetings and congresses, there is still a lack of structured training that would provide dentists with the means to compare the different systems and to operate them through workshops.

Digital development in other industries informs the dental industry in terms of understanding and implementing the digital processes. Nevertheless, we face two main challenges specific to dentistry: (a) the number of companies and products are introduced continuously into the market, making it almost impossible to follow every evolution; and (b) it is difficult to maintain a solid body of evidence-based research to follow the continuous developments in digital and CAD/CAM dentistry. In other words, the speed of technological change makes it difficult to support the promises with evidence.

Q: What would you describe as the overall aim of the course? How does it differ from other courses?
A: The goal of our course is to provide participants with comprehensive information about the computer-assisted surgery workflow. We will present the technological devices and 3-D imaging acquisition system required. We will cover in detail the clinical sequence, from virtual planning to implant placement. Then we will consider clinical cases and discuss the benefits of, limits of and indications for treating patients with this type of procedure. Finally, we will introduce innovative solutions to treat fully edentulous patients with computer-guided surgery.

Q: Do you think that programs such as the Tribune CME program could help raise awareness of what these technologies have to offer?
A: Digital is everywhere today and the industry is trying hard to market products. It is important to have scientific institutions that help to disseminate proper information about digital dentistry in a controlled and scientific manner (as far as possible). In each one of its master courses, Dental Tribune International has collaborated with recognized and prestigious opinion leaders. Dental Tribune International has the credibility and resources to be an important participant in the digital field.

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