How to optimize the emergence profile
An interview with clinician Dr. Léon Pariente

by Michael Stuart, Nobel Biocare

According to Dr. Léon Pariente, a leading clinician based in Paris, France, the emergence profile matters. In this short interview on the topic, he explains why efforts to optimize the emergence profile should begin at the planning stage.

Nobel Biocare: Dr. Pariente, what are the most important things to consider in working to establish an optimal emergence profile?

Dr. Léon Pariente: The emergence profile should be considered holistically: It is the portion of the prosthesis that allows the implant to change into a natural-looking tooth. It is the border between the surgical and prosthetic worlds.

An optimal emergence profile gives a smooth transition from the circular implant platform to the natural shape of the tooth at the gingival level. It should be customized for every restoration. To be ideal, it should be considered during the implant planning phase, particularly in selecting a suitable implant, both in terms of connection type and platform diameter, as well as in determining the implant positioning in all three dimensions. Clinical factors to take into consideration are the thickness of the gingiva in the area of implant placement, the size of the horizontal cross-section of the future crown at the gingival level, and the position of the future crown relative to the bone.

How does the choice of implant affect the emergence profile?

Firstly, the discrepancy between the diameter of the platform of the implant and the diameter of the cross-section of the future crown at the gingival level needs to be compensated for by the abutment. The contour of the abutment from the platform to the gingival level constitutes the emergence profile. The angle between the platform of the implant and the wall of the abutment should be as wide as possible to avoid creating a bacteria reservoir.

In addition, the connection type (external or internal) and the collar of the implant, whether polished or not, have a direct influence on the depth to which an implant can be placed under the bone level, therefore allowing more flexibility when placing the implant. Smaller-platform implants should be placed deeper, leaving more vertical room to compensate for the discrepancy in diameter between the horizontal cross-section of the future crown at the gingival level and the platform itself.

Why is it worth investing time and effort in optimizing the emergence profile?

An optimal emergence profile supports the gingiva around the implant-retained crown. This prevents the formation of proximal or buccolingual food traps and allows the patient to maintain the required level of hygiene around the implant. Furthermore, it is a prerequisite for the formation of pseudo-papillae in the interproximal spaces. Poor emergence profile design can have consequences that can ultimately lead to the loss of the implant.

What are the main challenges in establishing an optimal emergence profile?

The main challenges that prevent a clinician achieving an optimized emergence profile are improper choice of implant diameter or incorrect implant placement depth. Furthermore, in anterior cases, an ideal gingival contour must be created with a provisional crown before taking the impression for the final crown. The main challenge in this case can be transferring the soft-tissue contour to the cast accurately.

Finally, what are the main misconceptions about establishing the emergence profile?

Because of the popularity of standard abutments that are cheap and easy to use, people often think that it is very complicated or expensive to create abutments with a customized emergence profile. The accessibility of the NobelProcera solution should make customized abutments the standard of care.
KaVo MASTERSurg LUX Wireless surgical unit

Taking dental surgery to a whole new level

by KaVo Kerr Group

The KaVo MASTERSurg LUX Wireless was designed to redefine surgical standards, offering all dentists and oral surgeons an ideal surgical solution, no matter what their individual needs.

With an eye toward maximizing comfort, the unit features wireless foot control, allowing the user great freedom of movement, and a modern touchscreen with a non-reflecting display to allow optimal viewing from all angles. Valuable for the comfort that comes from peace of mind, the data documentation allows programming to address individual needs.

A modern touchscreen with a non-reflecting display of the torque and other important digital data, saving it concurrently.

Another critical feature is the customizable programming to address individual requirements. With simple and intuitive settings for different bone densities, implant systems and users, a clinician can customize up to ten programs, each with ten individually programmable steps.

These outstanding features are the foundation for the quality and high performance provided by the INTRA LUX 6400 LED, one of the world’s lightest surgical motors.

Delivering on the promise of innovation and quality, KaVo users worldwide have come to expect, the KaVo MASTERSurg LUX Wireless is taking dental surgery to a whole new level, providing a feature set that makes a substantial difference in delivering maximum performance on a daily basis.

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Treatment planning: Begin with the end in mind

The value of planning for final results before treatment initiation

by Dr. Gary Orentlicher, US

I have frequently remarked that in the last 15 years there has not been a greater practice builder for me, as an oral and maxillofacial surgeon, than my involvement in guided surgery. Using my i-CAT (Imaging Sciences International), in combination with NobelClinician Software (Nobel Biocare), has made me a better, more accurate dental implant surgeon, and most importantly, has greatly improved my patients’ case outcomes. It has changed the way I practice daily in all aspects of patient diagnosis, planning and surgery.

i-CAT and NobelClinician allow for treatment planning and surgical predictability with full 3-D and restorative outcomes in mind. i-CAT’s high-resolution volumetric images provide complete views for a more thorough analysis of bone volume and structure and of teeth and implant orientation. This means more precise evaluations, minimally invasive procedures, more predictable treatment results, shorter appointment times and happier patients.

In a presentation I made this spring, I spoke about what I regard as the indications for guided surgery. They include:

- Three or more implants in sequence
- Cases with anatomical and/or structural issues
- Implant position critical to a planned restoration
- Problems related to proximity of adjacent teeth
- Fully edentulous patient cases
- Immediate extraction and implant placement

Significant alteration of bony anatomy (e.g., trauma, grafting, distraction and pathology)

Medical problems (e.g., radiation therapy, bleeding dyscrasias, and orthopedic and psychological problems).

In each case, there are four primary steps to a successful guided surgery workflow:

1. 3-D imaging with a scanning protocol and/or scans
2. 3-D treatment planning with planning software
3. Creation of a computer-generated guide, laboratory and surgery
4. Knowledge of the appropriate implant-specific drilling instrumentation

In my clinical experience, the quality of the product one uses makes a significant difference in the process and final treatment result. I look for quality, ease of use and support that helps me practice with the greatest amount of confidence.

I use the i-CAT cone beam 3-D unit, which offers many valuable features, including flexible imaging control. This allows me to customize my scans by minimizing the field of view and radiation dosage while maximizing resolution. With i-CAT, I gain greater control over my workflow and the entire scanning process.

I have my CBCT scans converted into DICOM data sets and imported into NobelClinician for treatment planning. I have used most implant software on the market and I feel strongly that NobelClinician is the premier product.

For clinicians with an interest in using the power of 3-D to create implant treatment plans, they will be making an investment in their clinical skills and improving their patients’ experiences and outcomes. This will lay the groundwork for increasing treatment acceptance rates and implant practice growth.

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About the author