



Dr **David Gerdolle**, born in France and now residing in Switzerland, is a dentist with a private practice in Montreux. He graduated from the University of Nancy I in 1993 and went on to earn several post-graduate diplomas, including in Prosthodontics, Forensics, and Oral Biology. He also holds a European Certificate in Oral Implantology from Gothenburg (2010).

Alongside his clinical practice, Dr Gerdolle has held numerous academic positions and lecturer roles in Prosthodontics and Biomaterials at the University of Nancy. He also used to be responsible for postgraduate training in adhesive and aesthetic dentistry in Nice and Paris. Since 2013, he has been an active member of international dental organizations such as the Bio-emulation Group, the International Academy of Adhesive Dentistry, and the European Academy of Digital Dentistry.

With over 30 years of clinical experience in France and Switzerland, Dr Gerdolle is highly skilled in aesthetic dentistry, implantology and prosthodontics. He is also a certified instructor with the Academy of Biomimetic Dentistry and has published numerous scientific papers on advanced dental techniques.

Minimal invasive principles applied to prosthodontics

An interview with **David Gerdolle**, Switzerland

We're excited of having the possibility to talk to Dr David Gerdolle with us today as we prepare for his upcoming webinar on Monday, October 28, 2024, at 19:00 CET.

As a leading expert in biomimetic dentistry, he will be discussing "biomimetic prosthetic retreatments", a cutting-edge approach that focuses on mimicking the natural properties of teeth to ensure more durable and aesthetic outcomes. We're looking forward to learning more about what our readers can expect from you.

Thank you, Dr. Gerdolle, for joining us today! We are used to hearing you talk about minimally invasive dentistry and adhesive techniques. What led you to shift focus to prosthodontics in current lectures?

I understand it might be surprising to hear me discuss prosthodontics, but I'm focusing on a specific area: prosthodontic retreatment. Over the past decades, many patients have undergone extensive dental work, and now we're reaching a point where some work will need to be redone. In these cases, minimally invasive concepts remain essential, though applied within the context of existing severe tissue loss. Adhesive techniques also continue to play a crucial role. So, while the focus has shifted slightly, the core principles I've always advocated remain the same.

Do you think adhesive cementation is always necessary?

If you are referring to cementing versus bonding in prosthodontics, both approaches have their merits, but the key factor is retention. If there is adequate retention and the materials allow it, the restoration can be cemented. However, if retention is insufficient, bonding becomes necessary. While this may seem straightforward, clinical situations often present mixed indications that complicate the choice. Bonding is more demanding and complex than cementation, so unless it offers significant benefits in a particular case, cementation might be more convenient. In scenarios where isolation is challenging, such as with subgingival margins, and in patients with high caries risk, using glass ionomer-based cements can be the

preferable alternative. Nevertheless, ensuring sufficient retention remains essential.

When you talk about prosthodontic retreatments, you are treating teeth that have already been prepared before. Is tissue preservation still relevant?

I would even dare to say that it becomes more relevant, that is, it is crucial in these cases. The cycle of re-restoration often leads to progressively larger restorations. But none of the materials we use, work as well as the natural tooth tissue, so the teeth are gradually weakened this way. Therefore, we absolutely need to avoid further drilling and focus on preserving as much tissue as possible.

With vertical preparation techniques, we penetrate less into the crown and we are in better control of the finish line. Hence, we can preserve more of the dentine. The space left due to the previously prepared chamber or shoulder can be refilled with composite. In periodontal cases, this is particularly of interest, as the diameter decreases the further we go subgingival.

Is vertical preparation really considered better than horizontal preparation nowadays?

In dentistry, as in other medical fields, very few things are ever truly black and white. So it's not simply a matter of following trends or choosing vertical preparation just because it's perceived as less invasive. In some cases, it isn't the best approach. Horizontal preparation can be the more appropriate and satisfying choice, for example when you would like to preserve the enamel rim that would diminish with bevelling. Enamel margins are extremely precious.

A commonly cited benefit of vertical preparation is the possibility to reshape the periodontium around the crown. The idea of thickening the gum might seem almost magical. Could you elaborate on that?

With a vertical preparation technique, such as the BOPT (biologically oriented preparation technique as proposed by Loi et al., Ed.), one can revert the anatomical dominance of the gingiva to a prosthetic dominance, governed by the profile of the crown. The provisional restoration is key here, as it will determine the new emergence context. If the angulation of the emergence profile is increased, the gingiva tends to thicken and migrate apically. Without a clear finishing line, you can relocate the cervical profile accordingly. With this in mind, you can transform a thin gingiva in a thick one in about 8 weeks.

And what about the inside of the tooth? Many teeth that need prosthetic retreatment have been endodontically treated.

High tissue loss and questionable tissue quality are definitely challenges here. While it's known that a post does not strengthen the tooth, there is no other possibility to find anchorage rather than into the root. Again: adhesion is key. We need good adhesion to the root canal dentine and we will need to reinforce these inside walls of the root. Here, glass fibres that are adequately bonded to the surrounding resin and tooth tissue, are certainly assets to create an internal adhesive ferrule. The everStick fibres, combined with short-fibre composite like everX Flow, really help to reinforce the structure. They are pre-treated for a good adhesion with composite. Combined with a strong, regular

composite, such as G-ænial Universal Injectable, which has a very pleasant consistency for these purposes - we can build a solid core for the new crown.

Once again, ferrule is the most important factor. With a vertical preparation technique, a new ferrule can be created without sacrificing too much tissue. And a zirconia restoration, conventionally cemented, will be the preferred restoration option here.

Dr Gerdolle, thank you very much for this insightful conversation!

On Monday 28 October 2024, at 19h00 CET, Dr Gerdolle will give a live webinar on biomimetic prosthetic retreatments. Join us and find all your questions on this topic answered!

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