Dental materials: Are we all deviants?

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When I was training at university, every stage of a procedure was supervised, step by tedious step. The "idiot sheets" (as our restorative dentistry professor called them) for each material were available to be referred to and followed religiously. Deviating from those instructions was not an option.

A few years into practice, it begins to be difficult recalling what was said about which particular materials. You know that you were told what was compatible with what, and what was not. When a sales representative turns up with something wonderful and new and better, a little alarm rings in your head, cautioning you that what the representative is telling you is contrary to what you were taught. But no, the representative quite confidently assures you that the research says, the studies show and the in vitro trials prove. And most importantly, the new product is faster. Yes, faster, much faster. You can save a whole 30 seconds per procedure. You do not have to wait for the next step: this does two steps in one or even three, if you want to be really good. And faster is better.

At this point, you begin to regret your failing recall of material science. How am I supposed to evaluate which material is best, when each of the glossy brochures shows that they are all better than each other?

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The truth of the matter is, of course, that virtually all of the mainstream products out there are fit for purpose. What makes any material good, bad or indifferent is how the clinician uses it, including skill, time, effort and the amount of care. Even the best of products is going to be rubbish in the hands of someone who uses it badly.

"Lithium disilicate crowns are useless," I was told by a dentist recently. “Every one I have placed has fractured.” With twice as many years of clinical experience as me, this dentist was preparing for this material exactly as he would for a porcelain-fused-to-metal (PFM) crown, using a coarse diamond fissure bur. The same internal angles, same margins, same lack of surface finish, same flat occlusal surface on the preparation that he had always had, and cementing the final product with glass ionomer. This had served him well for PFM crowns, but this new material was letting him down.

What was his conclusion? The material was to blame. Progress was a bad thing. He was going to stick with what he knew worked, full coverage PFM crowns for everyone, and disregard progress.

Maybe we all have a bit of that in us. All of the exact details of every process can be lost in the day-to-day stresses of the workload. That little step being skipped just this once, then once again, and then another step gone the next time. It is the normalisation of deviance: people becoming so accustomed to deviating a little from procedure that “they don’t consider it as deviant, despite the fact that they far exceed their own rules for elementary safety”. Just skipping that little step this time, not performing the process exactly to the manufacturer’s instructions, finding a way that is convenient, and assuming no responsibility for the results of the deviance. When something goes wrong, when a restoration fails, when a patient is in pain, it is the fault of the material, or the patient, or the laboratory or the nurse.

The next time you are placing or cementing or layering, stop and ask yourself: am I being a deviant? Refer to your idiot sheet and take the time to recall the correct process step by step. And deviate back to normality.