



Nick Malden

So You Would Like To Be A Successful Implant Dentist?

Have you been placing implants for a while? Encountered any complications, failures, disasters? Oh, you haven't? Then I might suggest this might be for a number of reasons. You have exercised an uncanny skill, or even clairvoyance, in your case selection and your equipment has performed faultlessly. You are not managing to review your patients effectively, perhaps you move around a lot. You have been lucky. Or you just haven't done enough cases yet!

If I had any claim to have experience in implant dentistry, it would be in the mandibular implant overdenture, and over the 20 years or so I was involved with this group, I did attempt to emulate Per-Ingvar Brånemark's impressive success/survival rates.¹ However, I did also manage to encounter the complication of fracture of the mandible as described by Gerry Raghoobar,² but unlike him, I wasn't treating cases of extreme mandibular atrophy. What constituted my implant training programme? Well, after attending a few 1- or 2-day events in the UK, and being awakened to what was going on in the American oral surgery scene, I went to the USA in 1986 for a 3-day purely observational event, and returned with a tool kit and 10 implants.

Once I had completed my tool up by investing in the necessary hardware, a micro motor and everything that went with it, I took a trip to my local butcher. I had my eye on some cow ribs and when I got to the front of the queue I was met with, 'what do you want them for?' I replied that I wanted them for my dog. 'Oh no you can't feed your dog those; you will end up with a hefty vet bill or worse!' I glanced over my shoulder at the line of scowling Nora Battys waiting impatiently for me to shift. I don't remember exactly how the conversation went thereafter, but I did manage to leave with some ribs without revealing what I intended to use them for. Practising in my kitchen was a useful, if messy experience, exposing some areas of weakness in my skills and equipment, but it wasn't long before I was treating my first patients.

Starting with single tooth replacement I soon found myself involved in the management of the atrophic edentulous mandible in a teaching hospital environment. I remember a case where

both implants exfoliated within weeks of placement. It left me scratching my head, thinking of reasons for such an intolerance. We were fortunate, at the time, to have someone on the staff whom I considered to be the doyen of Scottish implant dentistry. He popped along one lunchtime, and we sat down and had a case-based discussion, the conclusion of which was that I had overheated both implant sites. This I found a little hard to swallow, but I had to concede, on reflection, it was probably the most likely cause. How had this happened? Well, I had got to a point in my implant experience that I had access to five different systems from which I would select according to the preference of the prosthodontist whose case it was. The great majority of cases that I worked on, however, used single-bladed spade drills for the implant-site preparation. This drill has a most efficient 'chip clearance' and by inference, also a low heat production and high heat dissipation. Was switching to a twin cutting edge twist drill system on this occasion, which can so easily 'clog', the reason for my downfall? I always used to tell my students that 'all implant systems basically follow the same procedures.' Well that maybe true at the macro level, but as I found out, not at the micro level: surgical protocols differ. The patient did not take up my offer of a second attempt on this occasion.

I recall another case when the patient experienced acute severe pain from one of her recently placed implants, so much so that I removed it. A small amount of puss from the site came back positive for *Staphylococcus aureus*.³ After it was treated, we successfully placed another implant into the same site and went on to a successful completion.

Another case comes to mind that went swimmingly well until the second surgical stage, when the patient complained that she didn't like the feel of the ball-end retainers in her mouth and she wanted them to be removed. I reviewed her a couple of times, expecting her attitude to soften, but instead, she became adamant she wanted them both removed. I offered

to remove the retainers leaving the implants as sleepers, but she was insistent that she wanted the whole lot removed. So, I reluctantly ordered a couple of bone-cutting trephines of adequate length and internal diameter. My plan was to eyeball the implant once exposed, line up a trajectory, and then rely on the implant to guide the trephine as it cut. The process seemed to go well, the trephine cutting most efficiently, but on teasing the implant out, it was obvious that it had been cutting into the side of the implant. I set-to on the opposite side, determined to get a better trajectory, but low and behold, the same thing happened. A post-operative radiograph revealed a scattering of hydroxyapatite and titanium throughout both explant sites. On explaining what had happened, I was expecting the patient to demand I go back and remove it all, but to my surprise, she said 'Well, at least they are out' and that was the end of it. My understanding is that these days, implant companies supply their own 'explant' trephines with a guide that replaces the retainer and guides the trephine around the implant. A luxury we didn't always have 30 years ago.

Another case went very well, both patient and I were most happy until, at review, progressive peri-implant bone loss became apparent. Attempts at rescuing the implants with debridement surgery failed, and after a few years I had to suggest that I remove them both or she would be at risk of a mandibular fracture. The suggestion was met with abject defiance, 'no way are you removing my implants!' She wasn't for turning. It was sometime later that I got a message through the grapevine that she had been admitted to the oral and maxillofacial unit with a pathological fracture through one of the implant sites. Now, I have always found our OMF colleagues to be most magnanimous, but I was at least expecting a short note of some sort. Apparently, however, the patient had gone to great pains to inform them that I had warned her that this was going to happen and that it was all her fault. I received further news that attempts at treating her fracture had been complicated by a fibrous union. To add some history here, she was a 20/20 smoker (a tobacco habit of 20 per day for more than 20 years). We didn't consider such a habit an absolute contraindication to implants in those days, but if we knew then what we know now, she would not have been offered implants.⁴ Her inability to give up her tobacco habit probably also contributed to her fracture complication.

A final case comes to mind. My first contact was at the post-operative review when the patient was very upset, and in a lot of discomfort as a result of the mental nerve being involved in the incision line. I couldn't tell you how many cases of avoidable iatrogenic nerve damage I have been responsible for over the years, but on this occasion, it wasn't one of mine. I remember her tearfully saying that if she had known this was going to happen she would never have gone through with it. I was lost for words, for a moment my mouth opened and closed silently like my son's goldfish. I apologized to her profusely, and spent a lot of time getting her across the line, and in time, her symptoms became less distressing and her implant overdenture was a success. Sometime after completion, our Clinical Director came to me clutching a letter from the patient. Oops, I thought, may have a case to answer here, but she had in fact donated £10,000 to be spent as I saw fit. This became the basis of the department's endowment fund, which helped to finance equipment, trips to conferences, courses for nurses and even the odd Christmas party. Those were the days!

It may be of interest that I have never received a formal complaint from my failed implant cases; this may of course be due in part to the fact that patients treated in the teaching hospital setting were never charged large sums of money for the privilege.

Some advice: don't do what I did. Don't practice at home using raw animal bones with instruments you intend to use later on patients (by the way, marrow bones are for making stock not for giving to your dog). Don't get involved with more than one implant system unless you really need to. Don't use an explant trephine on a cylindrical implant without using a guiding attachment. Don't treat heavy smokers (or bruxists for that matter). Do get yourself an experienced mentor: it may not be cheap, but it will be worth it. When things don't go to plan, sit down with your peers and discuss the case. Do familiarize yourself with the changing anatomy of the ageing and edentulous jaw, particularly the apparent migration of the mental foramen. The article by Cawood and Howell is a seminal paper on this subject.⁵

Finally, I have two requests. First, if you are involved with the teaching or training of implant dentistry, give the monitoring, maintenance, rescue and removal of implants an important place. I would go as far as to say that participation on implant review clinics should be a prerequisite before any student places an implant in anger. And secondly, if any of my patients come to you, that you look after them and if necessary pro gratis. Let's be frank, in 10, 20, 30 years' time, you may literally not be around to look after yours.

On that mundane note, I will sign off. If you are determined to become an implant dentist, I wish you well and that you find it as interesting and rewarding as I did, and if you are as yet undecided, then I hope I haven't put you off.

Compliance with Ethical Standards

Conflict of Interest: The author declares that they have no conflict of interest.

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