The Medical School of the University of Arizona have developed a “Curriculum on Medical Ignorance” programme with which defines levels of knowledge. It is aptly called:

**The Ignorance Map**

There are six levels of knowledge:

- **Known Unknowns**: all the things you know you don’t know.
- **Unknown Unknowns**: all the things you don’t know you don’t know
- **Errors**: all the things you think you know but don’t
- **Unknown Knowns**: all the things you don’t know you know
- **Taboos**: dangerous, polluting or forbidden knowledge
- **Denials**: all the things too difficult, time consuming or painful to know, so you don’t!

**INTRODUCTION**

A prosthodontist was recently called by a dentist who was asking for advice about a patient who was anaesthetized and lying in the chair at that time. The patient was partially dentate in the mandible, with severe periodontal disease and over-eruption of the remaining six anterior teeth. These were opposed by a complete maxillary denture. The patient had been unable to tolerate a mandibular partial denture resulting in development of a classical combination syndrome. The dentist planned to extract the remaining teeth and at the same time insert six implants in each arch. These were going to be immediately loaded with complete over-dentures, and later restored with two fixed implant supported prostheses. As a new implant system was to be used, the company representative had volunteered to assist with the instrumentation, componentry and surgical placement. However, once the teeth were extracted, neither the dentist nor the representative could decide on the best position, length and diameter implants to use in each arch. They were also concerned that the anterior maxillary ridge seemed to be severely resorbed and flabby, while posteriorly it was enlarged and encroaching on the restorative space.

This scenario is neither fictitious nor is it an isolated occurrence. Many clinicians are attending short courses or subscribing to internet sites which provide virtual “hands-on” demonstrations and training using new materials and techniques. They are then embarking on complex treatment without ever having previously carried out these procedures, and in fact are using their own patients as “learning material”. This raises countless professional, ethical and legal concerns regarding the behaviour of the dentist, the welfare and rights of the patient, the responsibilities of those teaching or being consulted for advice, as well as the issue concerning company representatives. Focus questions and concerns will differ with each situation. However the above scenario will be used as an example in highlighting how many aspects potentially could be involved, and, indeed, should have been considered.

**a. Issues and questions related to the clinician:**

- Was the oral hygiene status assessed and education given before considering any rehabilitation? If not, any prosthesis is destined to become a “plaque applicator”
- Was there any attempt to address the periodontal condition before extractions? It has been shown that pre-existing periodontal disease predisposes a patient to subsequent peri-implantitis.
- Why were no diagnostic dentures made to assess tooth position, arch form and patient adaptation?
- Why was there no surgical stent to guide implant placement?
- Had the patient been sent for CT scans to assess available bone quality and quantity?
- What levels of pre-operative planning had been carried out?
- Had the dentist considered the implications of immediate loading?
If the prosthodontist / third party don't help, how is it ethical to refuse to help, but do nothing to prevent it? Does the prosthodontist / third party have the right to be asked to help, or is it the duty of the dentist to try and help? Had there been any consideration for the occlusal character? Does the dentist have the right to refuse to help, if the patient had previously been involved in the clinical aspects of treatment? If complications arise, could the patient lay charges against them because of the advice they offered? What will happen to the patient if the dentist does agree to stop the procedure? The teeth had already been extracted and the patient was anaesthetized.

b. Issues and concerns for the consultant

- Was the patient informed that the interim dentures were diagnostic and as such would be removable, and would need to be replaced at a later stage (with costs)?
- Were there any anatomical limitations that could have impacted on the definitive prosthesis, necessitating it to also be restored with removable rather than fixed option? For example: Had the dentist considered the biomechanical forces that would be exerted on the prosthesis and whether there was sufficient bone to handle these forces? Had the inter-arch distance been measured as this space dictates the type of prosthesis that can be accommodated? Both of these will have a direct bearing on the treatment options and associated costs.
- Was the patient informed of his/her rights to seek a second opinion before embarking on such extensive treatment?
- Was the dentist’s level of training and scope of expertise adequate to ensure competency in both the surgical and prosthodontic aspects of this treatment?
- How can the dentist justify using a system without being fully acquainted with it, and adept at using its componentry?
- Had the patient been informed of all the cost and time implications? Many patients are unaware that they will need to pay for surgical as well as restorative components, laboratory charges, clinician fees, and that they may require an interim and definitive prosthesis.
- Who would handle complications if they arose? Was the dentist able to do this?
- Was there a back-up plan should any implants fail for whatever reason?
- How would the situation be handled if the implants were not in the correct aesthetic or functional position after placement?
- Had there been any consideration for the occlusal scheme that would be used?
- How had the combination syndrome been addressed in terms of the occlusal plane discrepancies, the flabby anterior maxillary tissue and lack of bone, the bulbous maxillary tuberosities, the resorbed posterior mandible and the reverse occlusal plane of the mandibular arch?

If I don’t know I don’t know - I think I know.

b. Issues and concerns for the consultant

- Does the prosthodontist / third party have the right to caution the dentist not to proceed, and if so how do they go about doing this?
- If the dentist still insists on proceeding, does the prosthodontist / third party have an ethical obligation to try help for the sake of the patient in order to prevent possible harm?
- Is it ethical to refuse to help, but do nothing to prevent the dentist from proceeding?
- If the prosthodontist / third party don’t help, how could they warn the patient of their concerns given that they do not know the identity of the patient? In addition, if they did manage to make contact with the patient, could they be indicted for defamation of character?
- Can they be held accountable because of their implicit knowledge of the situation?
- If complications arise, could the patient lay charges against them because of the advice they offered?
- What will happen to the patient if the dentist does agree to stop the procedure? The teeth had already been extracted and the patient was anaesthetized.
- Can the dentist be reported to HPCSA? If so on what grounds as no wrong had yet been done, and it would be difficult to prove that the latter is not capable to carry out this procedure.
- Who, where, when and how does a clinician report a colleague?

C. Legal implications, and conflicts of interest when company representatives act as advisors:

- Is a representative legally allowed to be assisting in surgery as well as training clinicians? What is their scope of practice and are there limitations to their involvement?
- Are the representatives accountable for failures if they have been involved in the clinical aspects of treatment, or will they only take responsibility for defects with their components?
- To whom are representatives accountable, who oversees their actions, and to whom can they be reported to if they overstep the boundaries?
- Do they have unbiased peer-reviewed literature to back up their products or is it based on company sponsored research?
- What literature was available to justify using the new system? Has it been tested clinically, and are there long-term follow up studies?
- Is the patient aware that a new system is being used, and that those promoting it may have a conflict of interest? This is often concealed and patients are enticed by being offered components at a “special” rate.
- What follow-up guarantees do the company extend to patients?

DUTIES OF CARE

The Online Medical Dictionary defines clinical treatment as “the management and care of a patient by provision of therapy focused on combatting a disease or disorder, or with interventions aimed at improving health.” The clinician usually follows accepted standards, aims to provide a therapeutic benefit to the patient, and has an expectation of success. When a patient consents to dental treatment, the agreement is based on an expectation that the dentist is competent, that the materials have been approved by the appropriate authorities, that the techniques are recognized and accepted in the scientific community, and that the results will achieve the desired outcomes.

Problems arise when a clinician knowingly decides to “test out” a new material or procedure, or to carry out work that is beyond his/her expertise and scope of training. Dental specialists have to complete an accredited training programme and thereafter limit their practice exclusively to this specialized area. However, general dentists do not have to adhere to these restrictions and can undertake work in any aspect of dentistry they choose. In this situation, because of the dentist’s inexperience and lack
of training, the patient could be subject to extended surgical time and discomfort, more pronounced post-operative morbidity, potential implant or prosthesis failure, wasted time and money, and even possible catastrophic complications.

At the same time much industry-sponsored research is being carried out in the private sector with patients becoming “research subjects”. They are often offered sponsored products in order for manufacturers to boost their sales and redistribute their market share. This may act as an undue influence, which could cloud the patient’s judgement and undermines the ethical protection of free and informed consent. Dentists may knowingly or unwittingly promote the product for their own interest, which can be construed as either soft or hard paternalism. Thus, dentists are obliged to reveal verbally and in writing whether they have any financial interests in institutions, diagnostic equipment and by extrapolation products they may be promoting.

Currently many general dentists are undertaking various short training courses, including those offered by recognized teaching institutions, informal study groups, and dental companies. In addition many have begun using social media to communicate with colleagues as well as other web-based sites for professional development. Applications such as YouTube are saturated with videos offering practical “hands-on” training tutorials. However, one has to question how well this virtual reality reflects the actual clinical situation and if it is adequate to equip dentists to carry out the procedures on their own patients? There will need to be effectiveness studies to test out the value and usefulness of SM training before it can convincingly be accepted as a “practical” practical educational alternative. The same questions may apply in cases where Tele-dentistry offers remote provision of dental care, advice or treatment using information technology. Who is responsible for establishing the patient’s personal, social, medical and dental history? Who should conduct the clinical examination? What other tests have been carried out? Who is custodian of the records? And who is accountable for complications that may arise after a procedure, the clinician who carried out the work or the colleague who gave the advice?

RECOMMENDATIONS

The Health Professions Council of South Africa (HPCSA) clearly outlines core ethical values and standards of good practice which include acting in the best interest and well-being of the patient, being truthful, and allowing patients to make autonomous, informed decisions regarding their own oral health. It also acknowledges that while practitioners should continually strive for self-improvement and endeavour to gain the highest levels of knowledge and skills, they should also be cognizant of their capabilities and skills, and only practice within their areas of expertise. However, as professionals, in addition to their ethical and moral obligations, they also have legal duties to follow procedures and to use recommended skills when dealing with patients.

This raises the issue of how the third party should handle a colleague who “Doesn’t know, doesn’t know they don’t know, or thinks they do know!”

The guidelines regarding interactions between contemporaries are less explicit. Health-care practitioners are expected to refrain from speaking ill of colleagues, to not make patients doubt the knowledge or skills of their clinician, and to work with other professionals in pursuit of the best care for all patients. They also have a duty to advise those who are impaired to seek professional help and to report unprofessional, illegal or unethical conduct.

However, a dentist practicing outside his/her scope is not impaired per se, and is not necessarily acting unethically or illegally, which puts the third party in an awkward position. There is also the added dilemma that they have a very real concern that the patient is at risk, but no damage has yet been done. When faced with such issues ethical, moral and altruistic reasoning should prevail. The prosthetist should try to advise and caution the dentist against proceeding, and suggest that the patient be referred to someone more experienced. If necessary, and feasible, they may even offer to take over certain aspects of the treatment – patient willing. Importantly, failure to voice concern could be seen as complicity. If the dentist does not take heed of the advice, the third party should raise a concern with the HPCSA. This will offer protection if the treatment fails and there are repercussions, and may prime the Council to be attentive to repeated reports or complaints from other practitioners or patients.

The General Dental Council consider it an obligation for dental professionals to take protective measures and raise a concern if they consider patients or colleagues to be at risk. They offer valuable advice on when and how to raise a concern. Note that a concern is not a formal complaint but rather providing information about something that is believed to be putting others at risk. In Dentistry, it relates to any matter that may pose a risk for patients or for other colleagues. It could be related to the health, behaviour or professional performance of a colleague; any aspect of the clinical environment where treatment is provided; where a practitioner has been asked to do something that conflicts with their duties to put their patient’s interest first; where there is a suspected wrongdoing without the person having actually witnessed it; or where there is a risk for patients but nothing has yet happened. Sometimes it is difficult to act because of feelings of loyalty, fear of victimization, being subordinate to the offender or merely being unsure of who to approach. Some self-directed questions may help with this decision. Consider whether you would be concerned if this person was treating a family member; their behaviour was repeated; they have a health or dependency issue; their actions are putting others at risk; whether you can justify not raising the concern; and what may happen in the short and long term if the concern is not raised.

On the other hand, if the offending dentist is reasonable and receptive, a more philanthropic approach would be to avoid direct confrontation and accusation and rather try to educate the dentist as to possible shortcomings and ineptitude. The dentist may also be directed to reputable channels the requisite knowledge and skills may be gained.

The one outstanding issue for which there are no clear guidelines or directives is that of the representatives
offering advice and training. Can they be reported? To whom? And how? As yet there does not appear to be any legal channel to address this.

He that knows not, and knows not that he knows not, is a fool. Shun him.
He that knows not, and knows that he knows not, is a pupil. Teach him.
He that knows, and knows not that he knows, is asleep. Wake him.
He that knows, and knows that he knows, is a teacher. Follow him.

(Arabic proverb)

References