

## Logic-ology: The Study of What Makes Sense



Many years ago, while I was in middle school, there was a language elective that provided a quick glimpse of three languages: Spanish, French, and Latin. Our Latin teacher had a way of removing all life from this dead language, a fact that probably led to my pursuit of Spanish for the next 4 years. Regardless, I did learn that most prefixes and suffixes that we use in daily communication have their roots in Latin. You may not consider this a great accomplishment for 9 weeks of continuous study, but it was something that has found a home in my memory for 40 years and this alone must qualify as an accomplishment at some level.

In our professional lives, if we could identify a favorite suffix it would have to be “-ology” as the suffix describes the science or study of the noun that precedes it. The penultimate suffix is probably “-ics” as this suffix describes a field of study. Obviously the two suffixes are similar and both are found throughout dentistry and medicine. The reason for this is clear, as study traditionally defines a profession.

In dentistry it is very appropriate that professionals embrace different “-ologies” or areas of study. Clinical specialists should investigate those factors that influence diagnosis, treatment, and prognosis, for these are the primary areas of concern for every professional. Indeed one can identify the study of soft and hard tissue support for teeth in the specialty of periodontology. The study of hard and soft tissue replacement finds a home in the specialty of prosthodontics. The study of tooth malposition occurs in orthodontics, and the list goes on until all dental specialties/disciplines are described.

However, the linkage of “study of” to many terms makes little logical sense as we discuss a specific clinical discipline. For example, what does “implantology” mean as it applies to a discipline in dentistry? Using the suffix that we have been discussing, it seems that this term refers to the study of alloplastic devices placed within the body. On first blush implantology has a nice sound to it, but careful scrutiny shows us that implantology represents a commitment to the clinical use of a device, the dental implant.

Ultimately, a line in the sand is drawn when we identify a field of interest, as such clinical fields identify valuable topics for investigation. When a discipline is linked to a device, the future of this discipline is limited to the device itself while the potential for investigation of the device continues to be meritorious. Is it possible that a group of individuals involved in a specific clinical discipline could spend the bulk of their careers investigating the pros and cons, the ins and outs, or the risks and benefits of a specific device, committing to that device only while eschewing all other devices?

Logically, research in implant dentistry needs to involve more than research on the implant itself. Bone

biologists investigate the interaction of the implant and surrounding bone. Biomechanical engineers discuss the forces on the implant and prosthetic components. Surface chemists work on modification to surfaces that may speed integration. Clinicians investigate the clinical performance of the implant and the prosthesis. There are many investigators working in all facets of implant dentistry.

The initial reaction to “implantology” is that the term validates the concept of study of the dental implant. But we need to remember that the early motivation to eliminate the term “implantology” had nothing to do with purity of language. Instead it was proposed as a method to distance “osseointegration” (as an observed healing event) from the previous days of gradual deterioration of the underlying foundation for implants. So the term “implantology” fell into disuse as it was a linkage to failure rather than a pathway to success. Today we are seeing a rebirth of the term without a consistent appreciation of the term that is being embraced.

To me, the greatest risk of exclusive study of the implant is that we lose an appreciation for the role that implants play in total patient care. Clearly if we embrace implants above all other support mechanisms then we discard the periodontium and the dentition. This is a huge paradigm shift, as the initial demand of an implant was that it acts as a root substitute for severely debilitated patients. Today many clinicians describe the implant as an improvement on nature. The logic is that if we eliminate the risk of caries and reduce the risk of periodontitis-like disease, then the patient is vastly improved and the duration of this improvement is unlimited. Truly, this is the end result if dentistry embraces the faulty thinking associated with the study of implants through “implantology,” as practitioners in this field devote their studies to the device rather than the condition. The question that begs to be asked is whether patients are truly enhanced without natural teeth and with implant-supported ones, as this is the ultimate target for “implantology.”

Although there is a risk in maintaining hopeless teeth too long for nothing more than sentimental reasons, there is a greater risk in discarding what nature provides simply because we embrace the study of a device. Logic-ology tells us that this approach is illogical. The logical approach is to seek methods to manage or eliminate the symptoms of patient afflictions, with or without the use of implants, rather than committing to the wholesale provision of devices simply because this is a chosen field of study.

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