

FACULTY PERSPECTIVE

VIEWS ON DENTAL TOPICS & TRENDS

Penn Periodontics: A Legacy of Discovery

THE UPCOMING PENN Esthetics Symposium will celebrate the 60th anniversary of the establishment of the Department of Periodontics by Dr. D. Walter Cohen. This auspicious occasion will be all the more special as the final day of the conference, June 13, will be dedicated to honoring the life of Dr. Morton Amsterdam, the founder of our program in Periodontal Prosthesis. Together, these two pioneers laid the foundation for many of the tenets in periodontics and advanced restorative dentistry. In anticipation of these events, it is important and inspiring to consider how numerous other “Penn people” have contributed to the knowledge that serves as the basis for the practice of periodontics and how the specialty has changed.

It really all began with W.D. Miller, a member of Penn Dental Medicine’s first graduating class in 1879, who proposed that periodontal disease was caused by microorganisms. Years later, work done by Max Listgarten and his various collaborators provided critical information on the ultrastructure of the periodontium and mechanisms of periodontal pathogenesis. The partnership between research and clinical excellence has been a hallmark of Penn Periodontics. The recognition of the interplay between oral and systemic disease along with interdisciplinary therapy concepts remain as applicable today as they were 50 years ago. In the clinical arena, there are few if any individuals who have contributed more to the periodontal and implant literature than former Dean Jan Lindhe. His studies in beagle dogs and those by Alan Polson in squirrel monkeys are still discussed today in the context of occlusal trauma. This “list” is certainly not complete, but does give one an idea about what our colleagues have done and continue to do to improve the specialty.

Currently, Penn Periodontics continues to be focused on scholarly excellence. Most recently, Dean Denis Kinane and Dana Graves have added

greatly to our understanding of the microbial pathogenesis of periodontitis and factors that affect susceptibility to the disease. Advancements in nonsurgical periodontal care by Yota Stathopoulou have simplified treatment and increased efficiency. Dean Emeritus Marjorie Jeffcoat has enhanced our appreciation of the systemic effects of oral inflammation. Her findings that periodontal care of diabetic, coronary artery disease, cerebral vascular disease patients results in reduction in health care costs has changed insurance coverage by major insurers.

In clinical practice, the use of endosseous dental implants likely represents the most significant change in periodontal practice over the last four decades. Early on, one of the major obstacles to placing implants was the lack of bone in edentulous sites. Today, periodontists are able to overcome this problem by “regrowing” bone and the periodontium via novel surgical procedures using a variety of materials, including biomimetic substances, platelet derived growth factor, and bone morphogenetic protein-2. The findings of current Chair Joseph Fiorellini and his colleagues serve as the groundwork for the use of growth and differentiation factors in regenerative procedures. Today’s periodontist is practicing regenerative medicine on a daily basis. Protocols have been developed that can be used to eradicate a pocket by regeneration of both the hard and soft tissues that support teeth within the jaws. Furthermore, we have become very adept in our ability to address soft tissue defects around natural teeth and implant-supported restorations as a result of advances in periodontal plastic surgical techniques.

The compelling question of when to save a tooth versus replacing it with an implant-supported restoration has certainly complicated the treatment planning process relative to years ago. There are simply more options available to us today that must be considered in the context



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of each of our patient’s desires and needs. In spite of excellent implant success rates, problems can occur. One is a form of peri-implant bone loss generically referred to as “peri-implantitis.” Current research by Drs. Korostoff, Wada, Sarmiento, and Fiorellini of Penn Periodontics involves better disease identification, classification, and nonsurgical and surgical therapy. As the prevalence of peri-implant bone loss increases, foundational knowledge going forward will guide our peers as to the most efficacious approaches.

There is no doubt that in recent years very dramatic changes have occurred in the skill set required of a competent periodontist. Of course, maintaining the oral and systemic health of our patients is truly the end game. In striving to achieve this, Penn Periodontics continues to have a leadership position in the field, relying on the contributions from illustrious generations of Penn clinicians and researchers. And for this, we are all grateful. ■