

## BIOGRAPHICAL SKETCH AND MEMBERSHIPS

### Adj. Asst. Prof. Maurice Valen

86-90 188<sup>th</sup> Street, Dental Building

Jamaica, NY 11423

(718) 465-1810 Fax (718) 464-9620



Maurice Valen has been actively involved in research and product development for over 60 years. His first patent was a Popular Mechanics International application at the age of 14 filed by my school to receive the funds. From age 17-21, he developed four patents for Dr. Leonard Linkow (1956-1961), and structured a laboratory system to produce a 14 unit bridge in two days using the old copper band technique from the patient's mouth retrieved with a plaster impression, at the Queens, NY office. Two additional design patents were granted to both their names (Linkow/Valen) 1983 (D281904 and D282580). The original patent was received 10 years earlier by Maurice as the inventor of the FlexiCup<sup>®</sup> Three Dimensional Blade Implant having 35mm of Load Bearing Area for support, with bone entering into their implant vents on day of insertion, versus 9mm to 12mm conventional two-dimensional blade implants with no bone in their vents day of placement for the same osteotomy. He was privileged to be chairside surgical assistant to Dr. Linkow for three years learning surgical techniques from a master. Sometime thereafter, he was accepted and donated funds to conduct his basic research in bone physiology, animal and human clinical studies having previously developed a synthetic bioactive resorbable non-ceramic calcium phosphate implant material for testing at the University of Medicine and Dentistry of New Jersey (UMDNJ) Periodontal Department with Dr. Deasy (the Chair) and Dr. Martin, and Prosthetic Department with Dr. Cinotti (1980-1984) where he structured and developed transducers and took bite force registrations on patients as an Adjunct Assistant Professor. At the Robert Schultz Orthopaedic Institute in NJ, from 1984-1986, where he conducted dog studies using the OsteoGen<sup>®</sup> Strips (OsteoTape<sup>®</sup>). While at the Orthopaedic Department at Joint Diseases Hospital (1984) and the Hospital for Special Surgery Orthopaedic Division (1984-1988), he conducted studies on OsteoGen<sup>®</sup> crystal physicochemical and crystallographic property characterization by x-ray diffraction and infrared spectroscopy having similar calcium phosphate components to human mineral crystals. To-date he has developed 20 products and 25 patents. He lectures world-wide and has published many clinical and scientific papers and two chapters in two books on dental implants and bone grafts. He was formerly assistant to Dr. Raquel LeGeros at NYU College of Dentistry laboratory; including Departments of Biomaterials and Dental Implants as a Lecturer on Restorative and Prosthodontic Sciences and wrote a paper with Dr. Alan Schulman. He is a Fellow of the International Congress of Oral Implantology, served on the Board of Directors for the American Academy of Implant Dentistry's Research Foundation, and is the honored recipient of the **Academy's Isaiah Lew Research Award** for continued dedication to the advancement of implantology. **By invitation, on two separate occasions, he lectured before the Dental Products Panel of the Food and Drug Administration on the topics of dental implants and cell response to various "bone filling and augmentation materials" (ceramic and non-ceramic), and has received government grants for putty grafts with or without BMP (NIH/NDIR Grant 1R43DE014128-01).**

He developed and introduced the surgical implant function of osteocompression in dentistry as a surgical technique by using surgical instrumentation he designed in the cassette for an immediate load screw implant having 45mm of Load Bearing Areas (vs conventional implants of 18mm to 22mm) day of placement for the same osteotomy, without the need to wait for osseointegration using LaminOss<sup>®</sup> and PhysioLock<sup>®</sup> FDA cleared implant devices.

Maurice Valen is the inventor, developer and manufacturer of the product OsteoGen<sup>®</sup> Synthetic Bioactive Resorbable Calcium Apatite Crystals and hydrophilic clusters, OsteoGen<sup>®</sup> Dense Pellets, OsteoGen<sup>®</sup> Bone Grafting Plugs, Strips and OsteoGen<sup>®</sup> Malleable Bone Blocks secured with the TriStar<sup>®</sup> Screw System for Bone Fixation, which can also

be used as tenting screws in various surgical techniques. He received a patent for OsteoXcel<sup>®</sup> (2017) that recruits bone forming cells 3 times faster with Andrew Valen and Microtopographic tool with Andrew (2020). He received the first FDA 510(k) approval for HA Coating on Dental Implants (#K812321-Hydroxi-Flex<sup>®</sup> without delamination of HA coating under bending stress using OsteoGen<sup>®</sup> crystals). **October 1980 ASTM records confirm Maurice Valen as the first in the world to develop and manufacture hydroxylapatite coatings on dental implants**, authored by Tom Driskell and published in the Characterization and Performance of Calcium Phosphate Coatings for Implants (ASTM STP 1196). Maurice developed OsteoGen<sup>®</sup> Putty, **and the chair-side SuperSplint<sup>™</sup> immediate implant splinting system, without the need for abutment parallelism, including associated instrumentation**, prosthetics, attachments and surgical motors for bone density diagnosis with force registration for patients.

#### MEMBERSHIPS:

American Academy of Implant Dentistry (AAID) 1965-present  
AAID Research Foundation Board of Directors (1999)  
AAID Research Foundation Board of Trustees (1998)  
AAID Research Foundation Board of Governors (1997)  
Fellow of International Congress of Oral Implantology 1975-present  
Academy of Osseointegration 1996-present  
Columbia University Mineralized Tissue Seminar in Orthopaedics  
ANSI/ADA Committee for Standardization of Dental Implants  
American Society for Testing and Materials Panel on HA Materials  
Society for Biomaterials (1979-1986)  
American Academy of Implant Prosthodontics  
International Association for Dental Research  
Institute for Advanced Dental Research  
Academy of Dental Materials

#### PUBLICATIONS:

1. Valen M: The relationship between endosteal implant design and function: Maximum stress distribution with computer-formed three-dimensional Flexi-Cup blades. *J. of Oral Implantol*, 11, 49-71, 1983.
2. Valen M and Schulman A: Establishment of an implant selection protocol for predetermined success. *Journal of Oral Implantology* Vol XVI No 3 166-171, 1990.
3. Valen M and Judy KWM: Chapter 15-Flexi-Cup three dimensional blade implant device. Endosteal Dental Implants [edited by Ralph V McKinney Jr], 174-187, 1991.
4. Valen M and Locante WM: LaminOss<sup>®</sup> Immediate-Load Implants: Part I-Introducing Osteo-compression in Dentistry. *J Oral Implantol*, 26(3):177-184, 2000.
5. Locante WM and Valen M: LaminOss<sup>®</sup> Immediate-Load Implants: Part II- Clinical Considerations of Osteocompression. *J Oral Implantol*, 26(3):185-192, 2000.
6. Epstein SR and Valen M: An Alternative Treatment of the Periodontal Infrabony Defect: A Synthetic Bioactive Resorbable Composite Graft. *Compendium*, submitted for publication 2001.
7. Valen M and Ganz SD: Part I - A Synthetic Bioactive Resorbable Graft (SBRG) for Predictable Implant Reconstruction. *J Oral Implantol*, 28(4):167-177, 2002.
8. Ganz SD and Valen M: Part II - Predictable Synthetic Bone Grafting Procedures for Implant Reconstruction. *J Oral Implantol*, 28(4):178-183, 2002.
9. Valen M: Letter to the Editor. *J Oral Implantol*, 39(2), 2013.
10. Various bone graft materials submerged in simulated body fluid increase in density over time. N.T. Edmunds, H.F. Roberts, V.P. Parashar, R.D. Carpenter, J.C. Mitchell, Midwestern University, Glendale, AZ, USA; M. Valen, A. Valen, Impladent, LTD, Jamaica, NY, USA
11. Ion Release from Experimental Fluoride-Containing Bone Graft Materials. H. F. Roberts, MA, N. T. Edmunds, MA, A. Valen, MHA, M. Valen, J. C. Mitchell, PhD