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*This issue's guest editorial is by one of the IJP's long-serving and gifted Associate Editors, the International College of Prosthodontists current Co-President, Dr Rhonda F. Jacob. Her leadership in maxillofacial prosthodontics, as a consummate clinical scholar, has just been recognized with the Ackerman Award from the American Academy of Maxillofacial Prosthodontics. She recently retired into private practice following a stellar 30-year clinical academic career at the MD Anderson Cancer Center at the University of Texas.*

—George A. Zarb, Editor-in-Chief

## On Witnessing Transitions in Maxillofacial Prosthodontics

While in the throes of our careers, we often focus on the rewards of personal goals and accomplishments. In October, I attended a combined meeting of the American Academy of Maxillofacial Prosthetics and the International Society for Maxillofacial Rehabilitation in the United States. And in September, I attended the International College of Prosthodontists meeting in Italy. While maxillofacial presentations are expected at maxillofacial meetings, I was impressed by the response to the call for papers at the ICP meeting that described arch reconstructions. I reflected on those meetings and quickly recognized other satisfactions I have been privileged to witness in my fulfilling career.

During my 30 years in maxillofacial prosthetics, I witnessed the world of head and neck reconstruction transformed by the parallel development of the oral endosseous implant and the microvascular fibula flap. The art and science of implants and microvascular reconstruction were being pioneered prior to the 1980s, but it was the establishment of focused centers studying, teaching, and employing the team approach that set the stage for this extraordinary transformation in reconstruction.

A review of 1990s head and neck reconstruction revealed various donor sites selected by our medical colleagues for arch reconstruction. Some of these, including the rib, radius, scapula, metatarsal, and even the flanges, iliac crest, and fibula may seem absurd today. The success, ease, and morbidity of developing the flap were the primary treatment planning considerations. One cannot discount that these fledgling centers were designing microvascular centers for an orphan population. They required special procedures and monitoring equipment and trained personnel where none previously existed. Many times the



surgeons were “out there” alone, performing variations on a procedure that they had only performed a few times, backed-up by a team that had never been involved in the procedures. Survival of the patient, flap, and the team took precedence over facial form. With the success of microvascular flaps in the head and neck and the success of dental implants, combining the two treatments in the 1990s was of interest. The previously mentioned bone flaps could support implants, but the bone length was so short

that only short arch defects could be reconstructed. The fibula was not an easy donor site to develop and its aberrant blood vessels to the flap and skin paddle were early complication risks. New methods of bone fixation for such large bony defects were required, maintenance of preoperative occlusal relationships were often overlooked, and malocclusion and impaired temporomandibular joint function were common detriments to postoperative prosthodontic restoration. Thankfully, the concerns of prosthodontic colleagues throughout the world prevailed within their reconstructive teams. The consistent bone volume of the fibula to accept implants, along with its ability to be osteotomized and appropriately secured to restore facial form and occlusion, has made the fibula the surgical world's predilected donor site for mandibular reconstruction.

The late Tom Curtis coined the classic term “the forgotten patient” to describe the predicament of the mandibulectomy patient. Forgotten was indeed an apt term given the unsuccessful morphologic, societal, and functional rehabilitative outcomes throughout the period from the 1940s to the 1970s. The fibula flap, with the addition of dental implants, has addressed all three concerns.



Restoration of the resected maxilla has been the successful domain of the prosthodontist for the past 80 years using acrylic resin. The microvascular free flap development focused primarily on the mandible, but around 2004, use of the fibula flap and implants to restore total or near total palate resections began to appear on the world microvascular stage. This is a much more difficult recipient site due to space and fixation constraints in the small space between the floor of the orbits and the palatal plane. However, while the obturator prosthesis serves this group well, the success and skill being gained in using the fibula flap for maxillary reconstruction is beginning to bring this reconstructive option to the forefront for new and legacy maxillectomy patients. In centers with surgical and prosthodontics experience, the maxillary fibula option can be offered with a high degree of restorative success.

Describing any previous transformation in world business, science, art, or literature demands recognition of the magnitude and speed of transformation that could have only resulted from the explosion of the digital age. At the recent international maxillofacial meeting, several representatives from diverse global reconstructive teams showcased the use of digital surgical planning for simultaneous fibula flap reconstruction and implant placement. Available

three-dimensional surgical planning software and virtual communication allows the entire resection and reconstructive team to meet remotely and agree on resection margins, fibula osteotomy sites, implant sites, and method of dental rehabilitation. The presenters described preoperative digital fabrication of bone margin resection guides and guides for implant placement in the flap while still attached at the donor site. There was preoperative fabrication of custom titanium reconstruction plates with fixation holes interdigitated between the implant sites. Some plans included immediate fixed prosthesis delivery. However, it was acknowledged that only a few international centers employ this complexity of digital planning and sequencing.

I was overwhelmed by the presentations and proud of my prosthodontic colleagues who continue to shape the world of maxillofacial reconstruction. I am gratified that mine has been the opportunity to witness the launching of the fibula's unique role as a donor site in maxillofacial reconstruction. Routine prosthodontics now drives digital implant treatment, and I am anxious to witness prosthodontic implant rehabilitation's universal role in multidisciplinary head and neck rehabilitation.

Rhonda F. Jacob, DDS, MS, FACP

**T**he next **IJP/Karlsruhe Workshop for Young Prosthodontic Educators (YPE)** will take place on October 12–15, 2014, in Baden-Baden, Germany. It will be funded by the Foundation for Rehabilitation (FOR) which is an independent, international initiative that seeks to improve oral health care and support humanitarian leadership.

These unique workshops are presented by a faculty selected from the IJP editorial team whose pro bono commitment helps develop and nurture clinical scholarship. The 2014 Workshop is open to new participants as well as a small number of past workshop attendees. Attendance and free registration are limited to 36 participants who are preferably already ICP members.

#### Participation Criteria

- Candidates should be at a relatively “early career” stage of their teaching commitment and currently contracted to a part-, or full-time university teaching position in the discipline.
- Candidates are requested to submit an application, a brief current/recent CV, and a one-page essay on how workshop participation could impact their scholarly development. Each application should also be endorsed by the applicant's department/discipline head or faculty dean.
- Applications should be emailed to the IJP office ([ijp.prostho@utoronto.ca](mailto:ijp.prostho@utoronto.ca)) with copies emailed to the ICP Administration office ([icp@icp-org.com](mailto:icp@icp-org.com)) to confirm ICP membership status.

The ICP provides limited workshop support through competitive funding to assist attendance for participants from developing countries. Potential participants should provide confidential information about their funding limitations, confirmed by their Head of Department/Program Director and submit their funding request to the ICP office.

#### Registration Deadline Date: June 1, 2014

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