



## Mini-invasive approach to intra bony defects

Leonardo Trombelli

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In the last few decades, technical and technological innovations have been proposed in an attempt to minimize the invasiveness of periodontal regenerative procedures while maintaining or enhancing their regenerative performance. Based on preclinical evidence indicating that flap design has an impact on the quality of wound maturation, surgical techniques characterized by a limited flap extension without vertical releasing incisions were proposed to minimize the surgical impact on vascular supply, promote a faster revascularization, and optimize the primary intention healing and wound stability. These techniques, whose distinctive element is the elevation of a single flap to access the defect were demonstrated to enhance the clinical outcomes of the procedure when compared with traditional techniques based on the elevation of double flaps.

Also, technological advancements have made new regenerative devices available, the application of which are technically less demanding (as in the case of gels compared with membranes). This contributed to simplification of the surgical procedure (e.g., eliminating the need for an additional surgical procedure, as for resorbable membranes and bone substitutes compared with non-resorbable membranes and autogenous bone grafts, respectively) and a reduction of chair time.

Lastly, other perioperative and postoperative pharmacological protocols have been investigated in an effort to favorably modulate the healing phase and reduce the incidence and severity of postoperative complications. A recent systematic review on the effect of flap design, regenerative treatment and perioperative or postoperative clinical and/or pharmacological protocols on the invasiveness of surgical treatment of periodontal intraosseous defects.



*He is a full professor and chair of the Department of Periodontology, School of Dentistry at the University of Ferrara. He has served as the director of the Research Center for the Study of Periodontal and Peri-implant Diseases at the University of Ferrara and the director of the Dental Clinic, University Hospital, Ferrara. He has been the dean of the Dental School at the University of Ferrara since 2013. He also served as the president of the Medical School at the University of Ferrara from 2014 to 2016.*

*Past president of the SIO from 2007 to 2009.*

*He is an active member of SIoP and an editorial board member for the Journal of Clinical Periodontology.*