

Microsurgery in periodontal regeneration

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Harrel and Rees (1995) ¹ reported the focus of Minimally Invasive Surgery (MIS) was minimal wound , flap reflection, and precise handling of soft tissue. Cortellini and Tonetti (2001) found periodontal regeneration utilizing a microscope to achieve a higher rate of primary closure of papilla with a 5.4 mm clinical attachment gain.

Coretellini, Tonetti, et al. (2007) ³ further noted a Minimally Invasive Surgical Technique (MIST), which is a procedure that is less invasive than conventional periodontal regenerative surgery, and the Modified Minimally Invasive Surgical Technique (M-MIST) in 2009, which stresses the principles of space provision ⁴.

Cortellini (2012) ⁵ proposed a decision-making algorithms for a surgical approach in periodontal regeneration specifically created for intrabony defects. By means of this algorithm, practitioners can have a clear pathway for cases which may be good candidates for minimally invasive surgery or a conventional flap design (Extended Flap) procedure, and are able to decide the flap design using either regenerative materials or a suture pattern.

This presentation will describe the key points for successful MIST and M-MIST procedures and conventional flap design (Extended Flap) utilizing a microscope for various types of periodontal defects.

1. Harrel SK, Rees TD. Granulation tissue removal in routine and minimally invasive procedures. *Compend Contin Educ Dent* 1995; **16**: 960, 962, 964 passim.
2. Cortellini P, Tonetti MS. Microsurgical approach to periodontal regeneration. Initial evaluation in a case cohort. *J Periodontol* 2001; **72**: 559-569.
3. Cortellini P, Tonetti MS. A minimally invasive surgical technique with an enamel matrix derivative in the regenerative treatment of intra-bony defects: a novel approach to limit morbidity. *J Clin Periodontol* 2007; **34**: 87-93.
4. Cortellini P, Tonetti MS. Improved wound stability with a modified minimally invasive surgical technique in the regenerative treatment of isolated interdental intrabony defects. *J Clin Periodontol* 2009; **36**: 157-163.
5. Cortellini P. Minimally invasive surgical techniques in periodontal regeneration. *J Evid Based Dent Pract* 2012; **12**: 89-100.

Education

Professional Experience:

Kitajima Dental Clinic, private practice, Iwata, Shizuoka, Japan, 1990-present
Founder/instructor of 5-D Japan (Institute of periodontics, endodontics, implantology, microscopic dentistry and esthetics) 2009-present

Membership:

American Academy of Periodontology
Academy of Osseointegration
Japanese Society of Oral Implantology
Japanese Society of Periodontology
The Japanese Academy of Clinical Periodontology

Education:

Hiroshima University School of Dentistry, 1987

International Publications:

Kitajima H, Ogawa T. (2016). The Use of Photofunctionalized Implants for Low or Extremely Low Primary Stability Cases. *Int J Oral Maxillofac Implants* 2016; 31: 439-447.

Ishikawa, T., Vela-Nebot, X., Kida, K., Moroi, H., Kitajima, H., Ogawa, T., (2014). Restoration of optimal esthetics in complex clinical situations. *Journal of Cosmetic Dentistry*. Winter 2014, Vol. 29 Issue 4, p. 61-72. 12p.

Funato, A., Ishikawa, T., Kitajima, H., Yamada, M., Moroi, H., (2013). A novel combined surgical approach to vertical alveolar ridge augmentation with titanium mesh, resorbable membrane, and rhPDGF-BB: a retrospective consecutive case series.

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Ishikawa, T., Salama, M., Funato, A., Kitajima, H., Moroi, H., Salama, H., Garber, D., (2010). Three-dimensional bone and soft tissue requirements for optimizing esthetic results in compromised cases with multiple implants.

Int J Periodontics Restorative Dent. 2010 Oct; 30 (5):503-11.

International Lectures:

2016 Association for Dental Sciences of the Republic of China 20th Annual Meeting
“Possibilities and Challenges in Periodontal Regeneration”

2009 The Department of Periodontology of Pusan National University 25th
Anniversary Symposium on Esthetic Periodontics

“Tissue Management Strategies for Esthetic Gingival Reconstruction; Natural Teeth
and Implants”