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NON-PLAQUE RELATED PERIODONTAL CONDITIONS.

Gingival recessions

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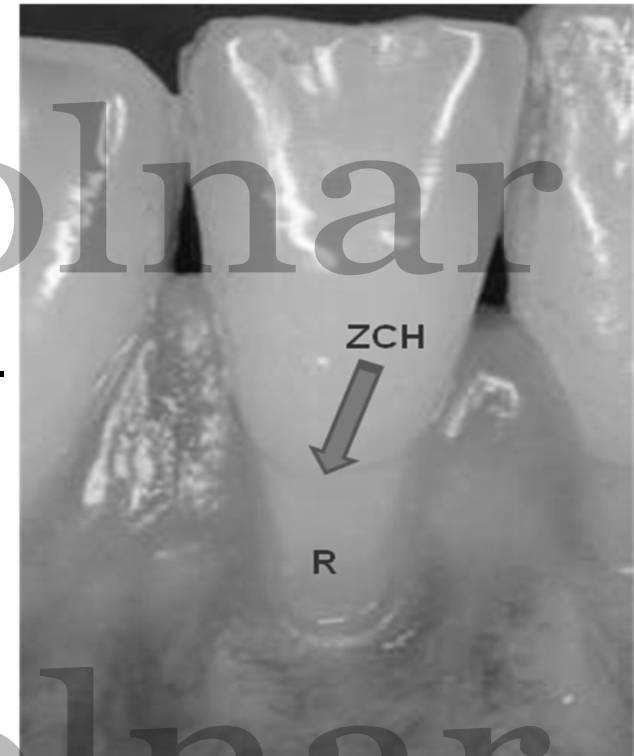
Gingival recession: etiology and complications

Gingival recession: apical displacement of the soft tissue margin from to the cemento-enamel junction (Wennström 1994).

Aesthetic complaints, root hypersensitivity.

Etiology: obsessive tooth brushing (Daprile et al. 2007), destructive periodontal disease (Susin et al. 2004), overcontoured tooth shape and malposition, alveolar bone dehiscence, muscle attachment, iatrogenic dental treatments (Wennström 1996).

Thin gingival biotype is considered to be the most relevant anatomical factor of gingival recession (Müller et al. 1998),



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Etiology and consequences

- Etiology:
 - Thin biotype
 - Pull syndrome
 - Traumatic brushing
 - Mechanical irritation (piercing)
 - **Iatrogenic factors (crown overhangs!)**
- Consequences
 - Esthetic disturbance
 - Sensitive teeth
 - Root caries

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Treatment of gingival recessions

The treatment might aim at:

Stopping the progression of gingival recession and modifying the biotype

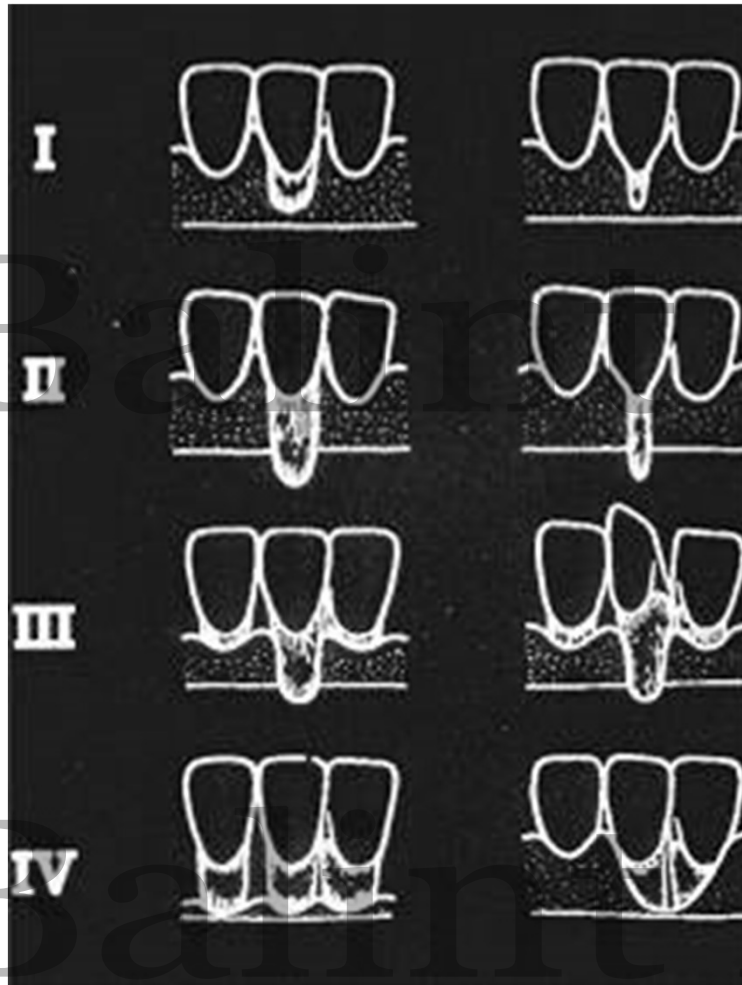
Partial root coverage may be acceptable

Esthetic correction, stopping tooth sensitivity

100% coverage is the ultimate goal



Classification of gingival recessions according to Miller



Class I.

- Recession doesn't extend over the mucogingival line
- Interproximal bone and gingiva is intact

Class II.

- Recession extends over the mucogingival line
- Interproximal bone and gingiva is intact

Class III.

- Interproximal bone and gingiva is not intact
- Irregular tooth position

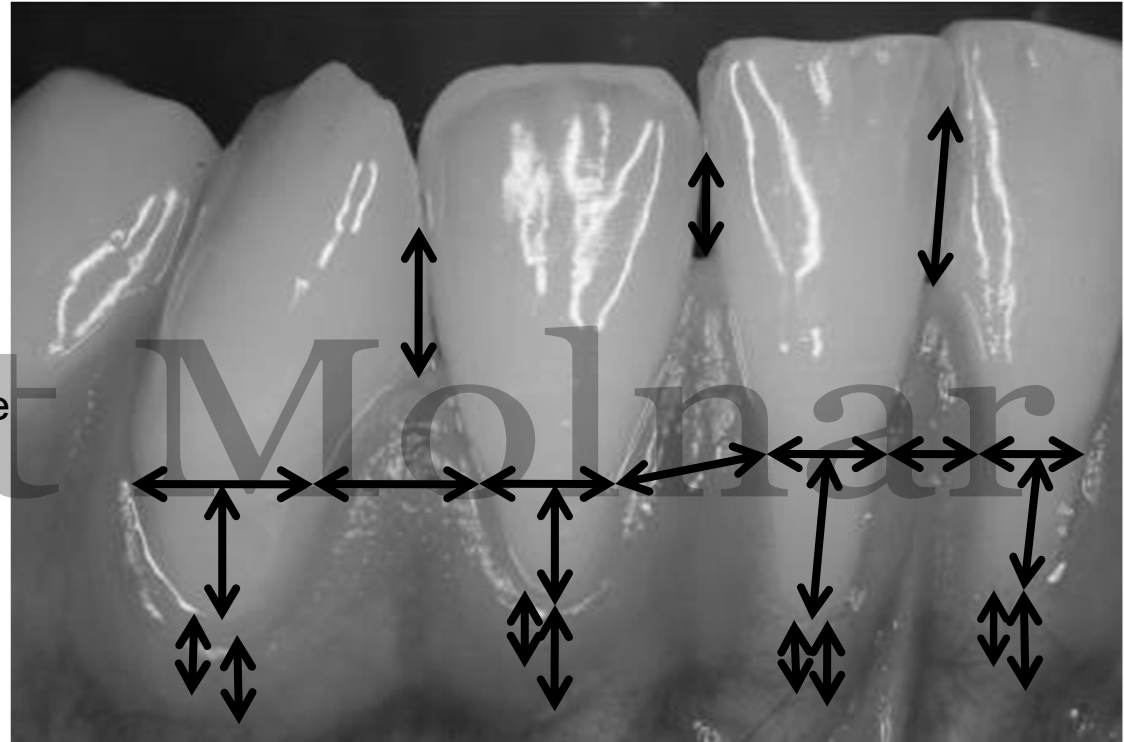
Class IV.

- Combine loss of soft- and hard tissues

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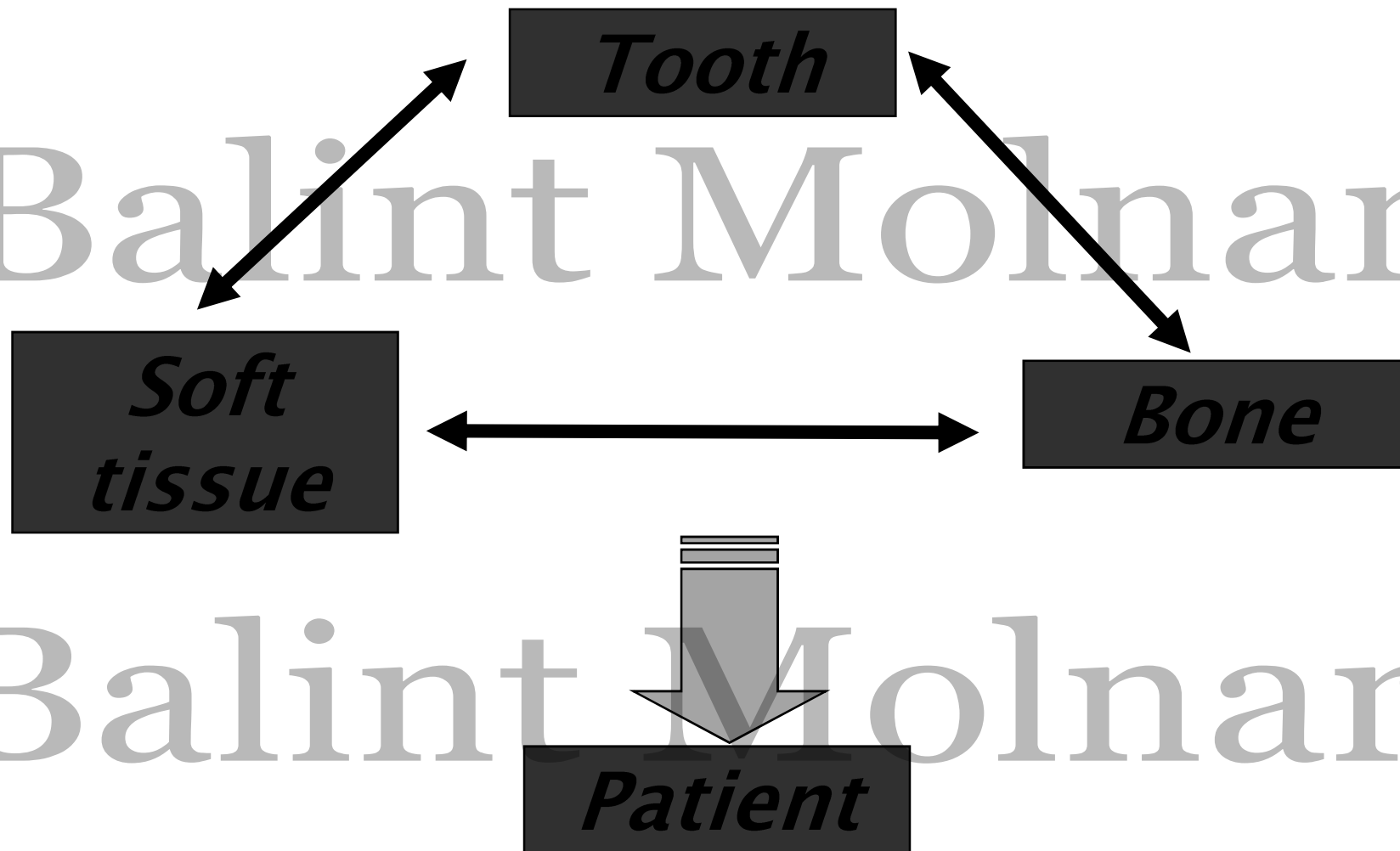
Clinical assessment

- **GRD:** gingival recession depth
- **GRW:** gingival recession width
- **KGW:** keratinised gingiva width
- **PCD:** papilla contactpoint distance
- **PW:** papilla width
- **PPD:** probing pocket depth



	44	43	42	41	31	32	33	34	
GRM									GRM
GRSZ									GRSZ
KGSZ									KGSZ
PKD									PKD
PSZ									PSZ
PD									PD
BUCCAL									

Risk factors *Facteurs de Risque*



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Assessment of surgical risk factors II

- Patient

- Smoking
- Poor oral hygiene
- Traumatic brushing

- Soft tissues

- Interdental tissue integrity (Miller)
- Recession depth, width
- Gingival botype



Aroca S, Keglevich T, Barbieri B, Gera I, Etienne D. Clinical evaluation of modified coronally advanced flap alone or in combination with a Platelet-Rich Fibrin membrane for the treatment of adjacent multiple gingival recessions: a 6-month study. J Periodontol 2009; 80:244-252.

Erley K.J., Swiec G.D., Herold R., Bisch F.C., Peacock M.E. Gingival recession treatment with connective tissue grafts in smokers and non-smokers. J Clin Periodontol 2006; 77:1148-1155

Silva CO, Sallum AW, de Lima AF, Tatakis DN. Coronally positioned flap for root coverage: poorer outcomes in smokers. J Periodontol. 2006 ;77:81-7.

Trombelli L, Scabbia A. Healing response of gingival recession defects following guided tissue regeneration procedures in smokers and non-smokers. J Clin Periodontol 1997; 24:529-533

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Assessment of surgical risk factors III

- Tooth, bone
 - Root prominence
 - Maxilla / mandible
 - Anterior/Posterior
- Surgical approach
 - Flap design
 - Sutures
 - Graft type
 - Graft thickness
 - Tension free adaptation



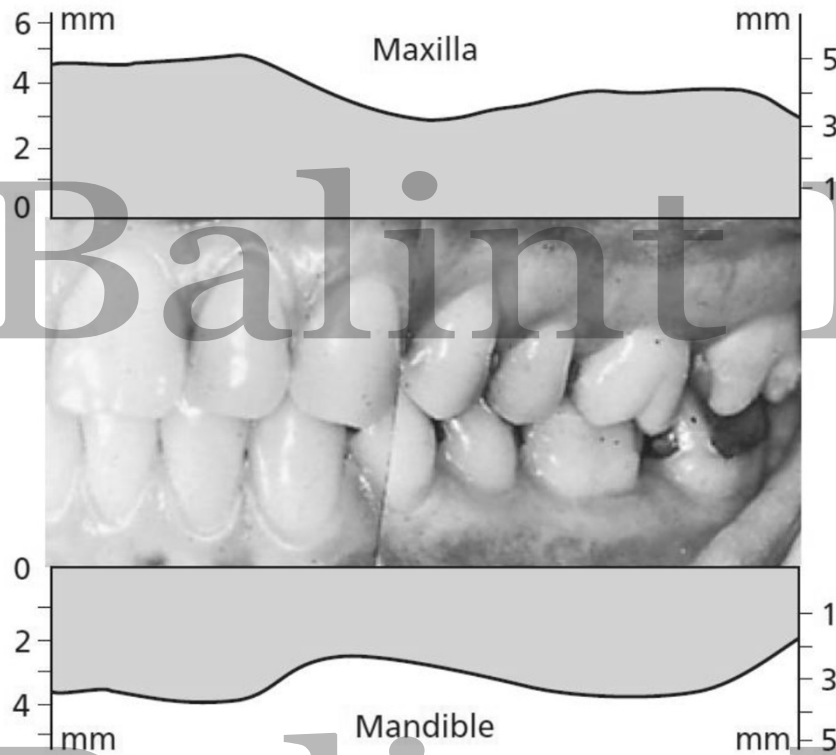
Wennström JL , Zucchelli G. Increased gingival dimensions. A significant factor for successful outcome of root coverage procedures? A 2-year prospective clinical study. J Clin Periodontol 1996, 23: 770-777.

Pini-Prato G, Pagliaro U, Baldi C, Nieri M, Saletta D, Cairo F, Cortellini P. Coronally advanced flap producer for root coverage. Flap with tension versus flap without tension: Randomized controlled clinical study. J Periodontol 2000a;71:188-201.

Borghetti A, Gardella JP. Thick gingival autograft for the coverage of gingival recession: A clinical evaluation. Int. J. Periodont & Restorative Dent 1990; 10:217-229.

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Changes in gingival biotype base don anatomical positions



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(Lindhe 1976)

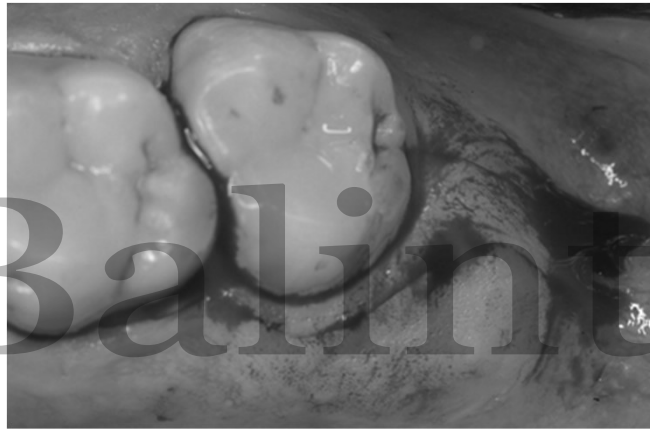
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Adjuvant factors

- Free grafts
 - Free gingival graft
 - **Subepithelial connective tissue graft (SCTG)**
- Platelet-rich Fibrin (PRF)
- Enamel matrix proteins (EMD)
- GTR
 - Xenograft membranes
- Acellular derminal allograft matrix (ADM)

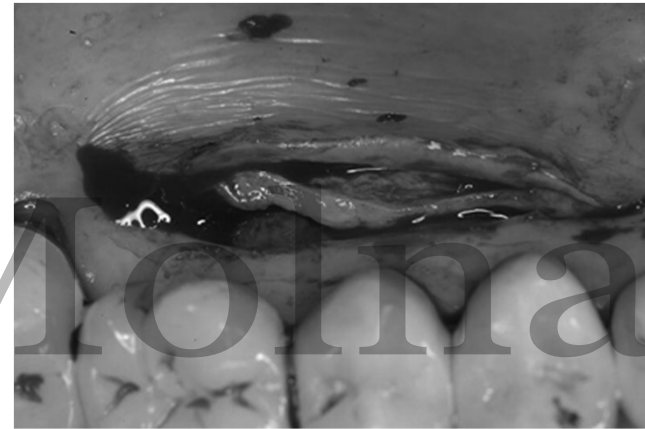
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Harvestment of connective tissue grafts



Distal wedge

- Edel 1974 door
- Langer & Calagna 1980 epithelial strip
- Langer & Calagna 1982 epithelial strip
- Langer & Langer 1985 epithelial strip and door
- Raetzke 1985 2 crescent-shaped incisions

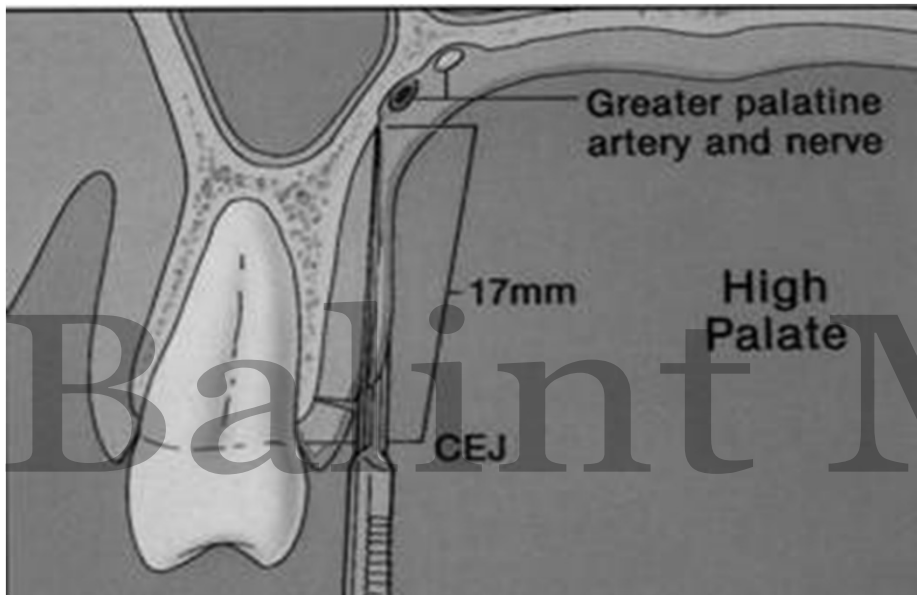
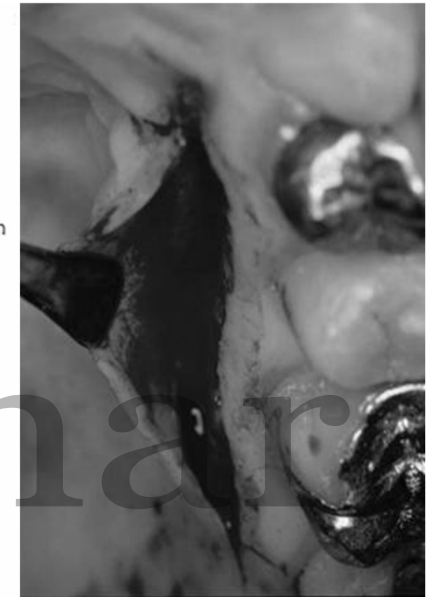
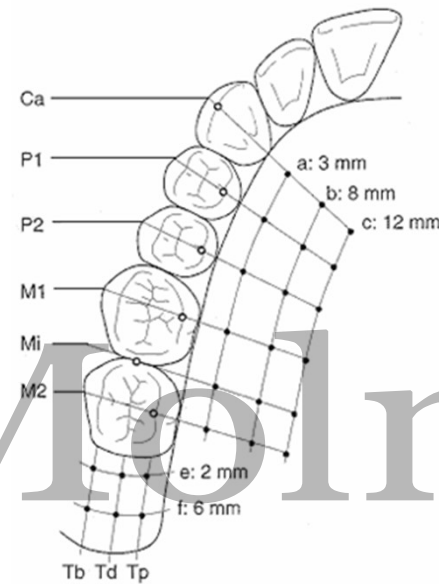
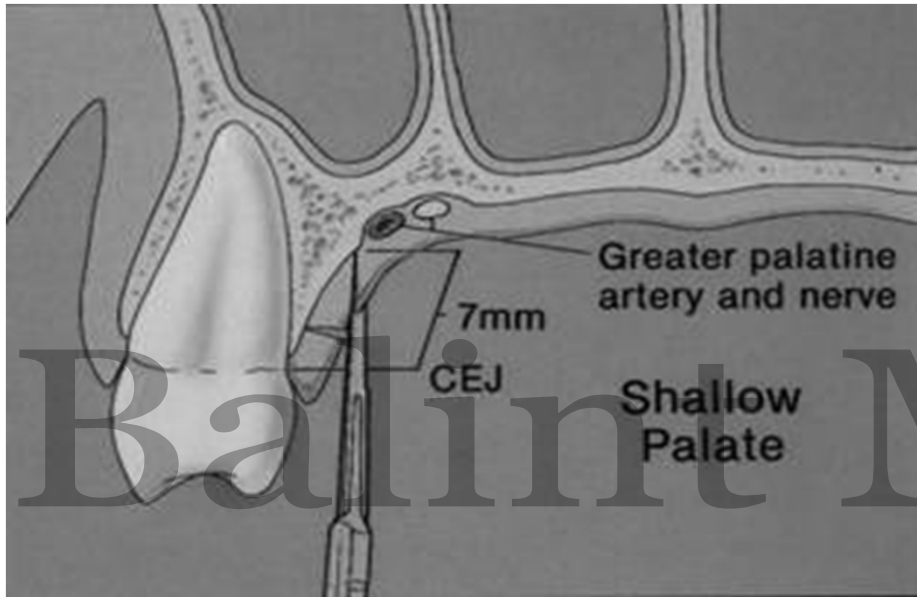


Single incision

- Azzi & Etienne 1991 distal wedge
- & back on the flap
- Harris 1992 2 parallel incisions
- Hürzeler & Weng 1999 One incision
- Lorenzana & Allen 2000 One incision

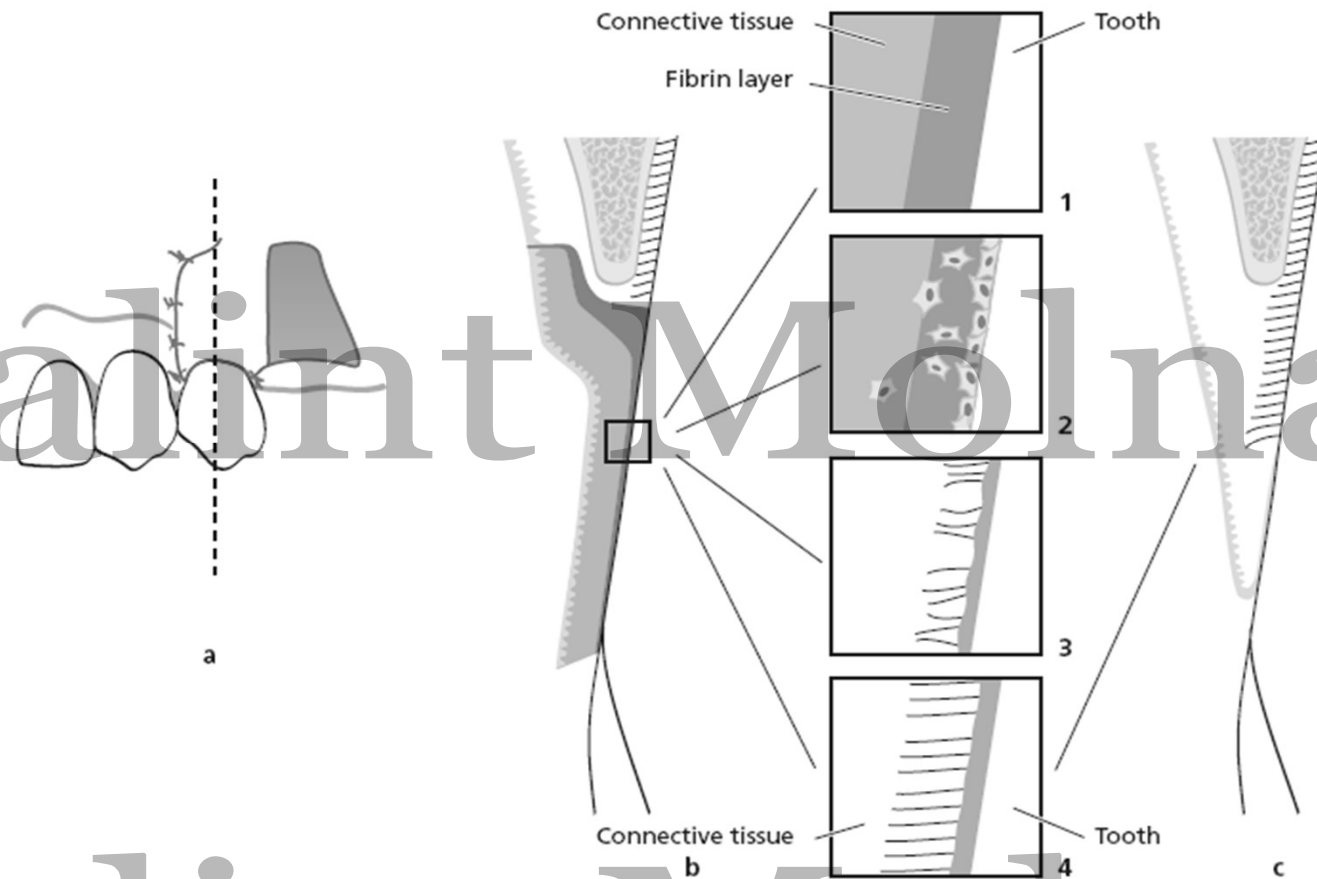
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Harvestment of connective tissue grafts



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Graft adhesion



Clinical Periodontology and Implant Dentistry Fifth Edition *Edited by* Jan Lindhe Niklaus P. Lang
Thorkild Karring *Associate Editors* Tord Berglundh William V. Giannobile Mariano Sanz
Blackwell, Munksgaard 2008.

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Symmetrical donor area
/Multiple recessions/



Baseline



12 months

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A satisfied patient

Symmetrical donor area /Multiple recessions/

Baseline



Donor Area



↓ A satisfied patient?



2 weeks
postop
!!!



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SCTG

/unilateral harvestment/

Baseline



Baseline

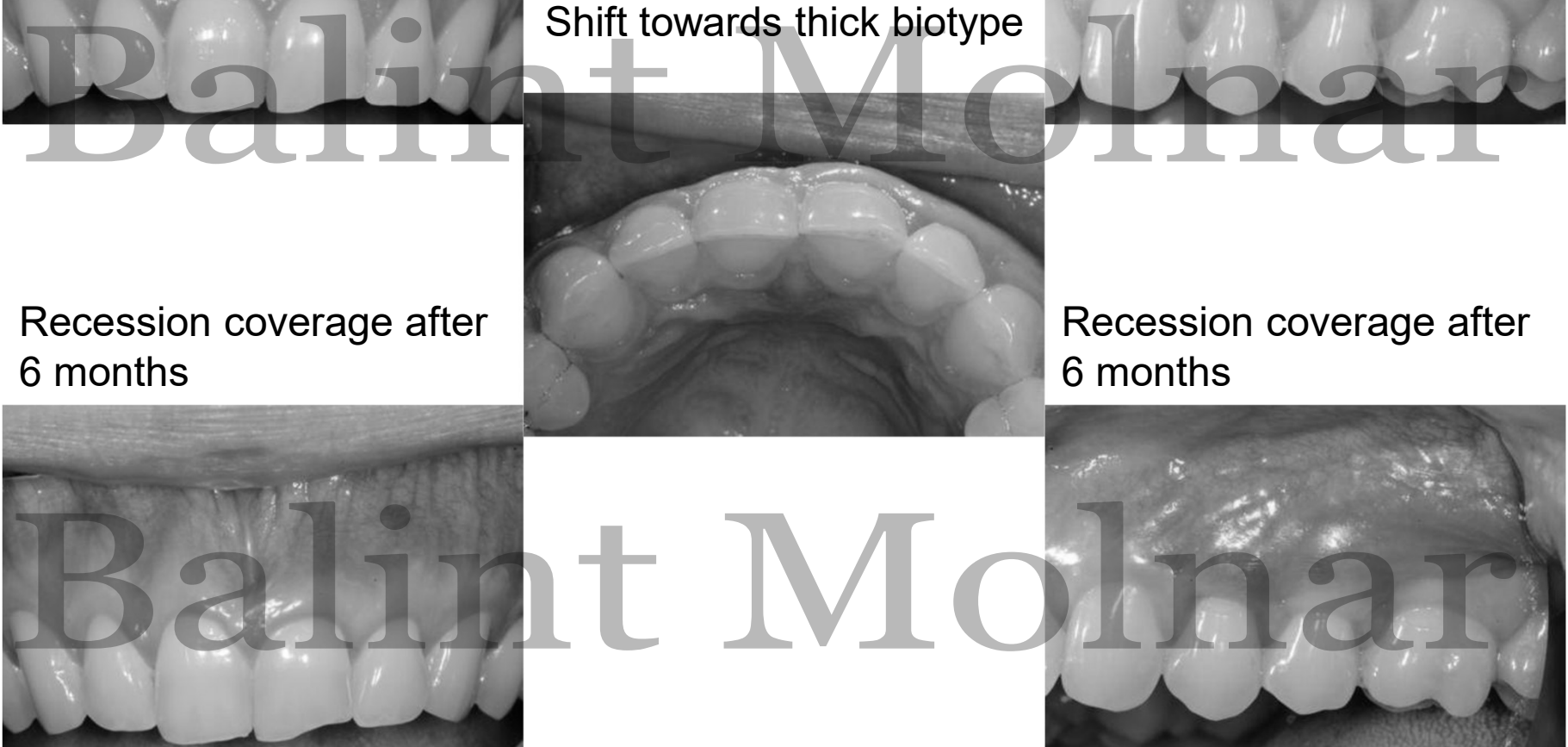


Shift towards thick biotype

Recession coverage after 6 months



Recession coverage after 6 months



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Surgical approach

SCTG

Mucograft



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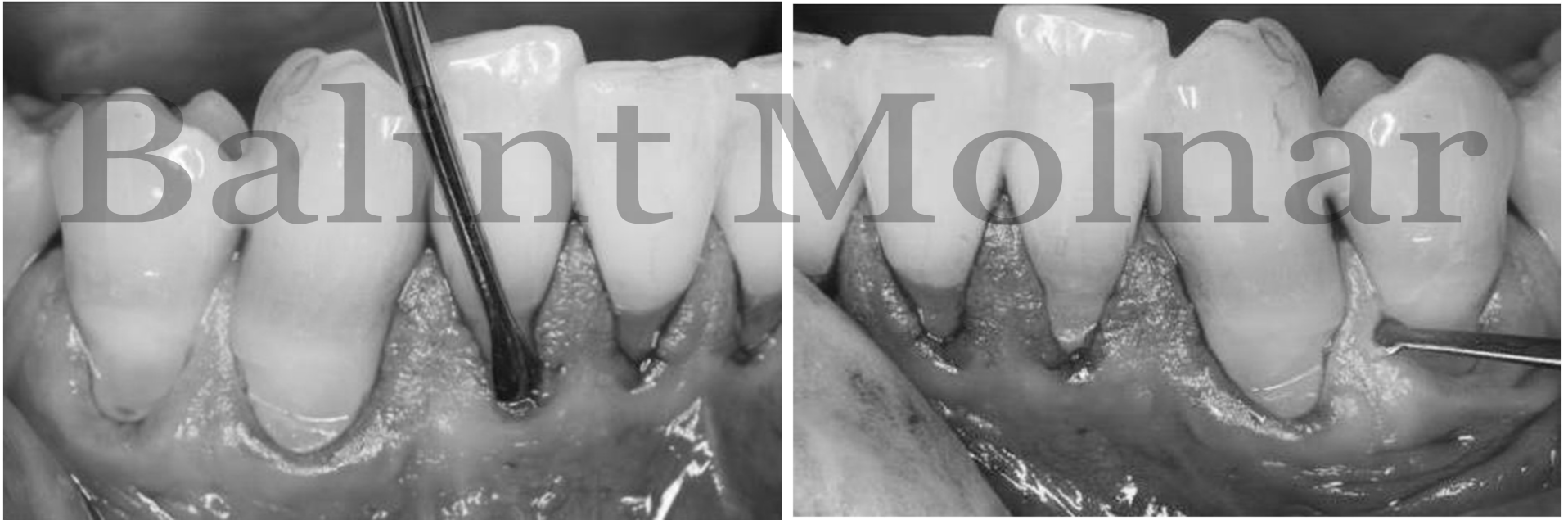
Root planing

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Surgical approach

SCTG

Mucograft



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Tunnel preparation

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Surgical approach

SCTG



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Connective tissue harvestment

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Surgical approach

SCTG



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Graft adaptation

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Surgical approach

Mucograft



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Matrix adaptation

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Surgical approach

SCTG

Mucograft



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Suspended sutures

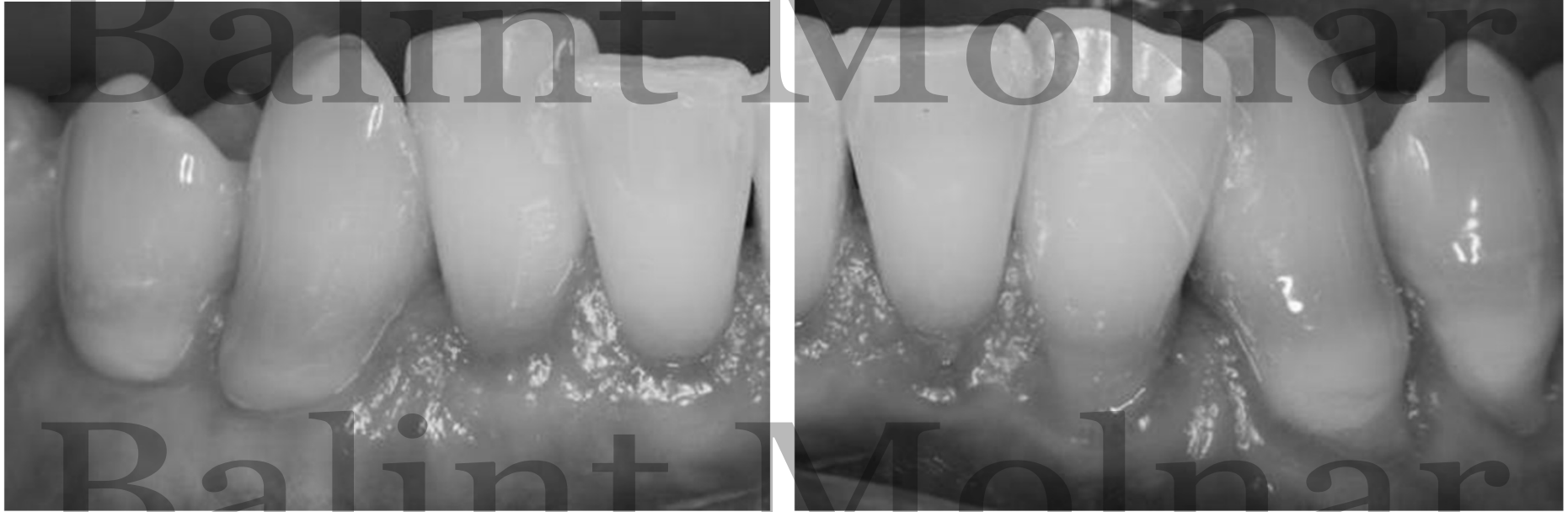
SCTG • Baseline Mucograft



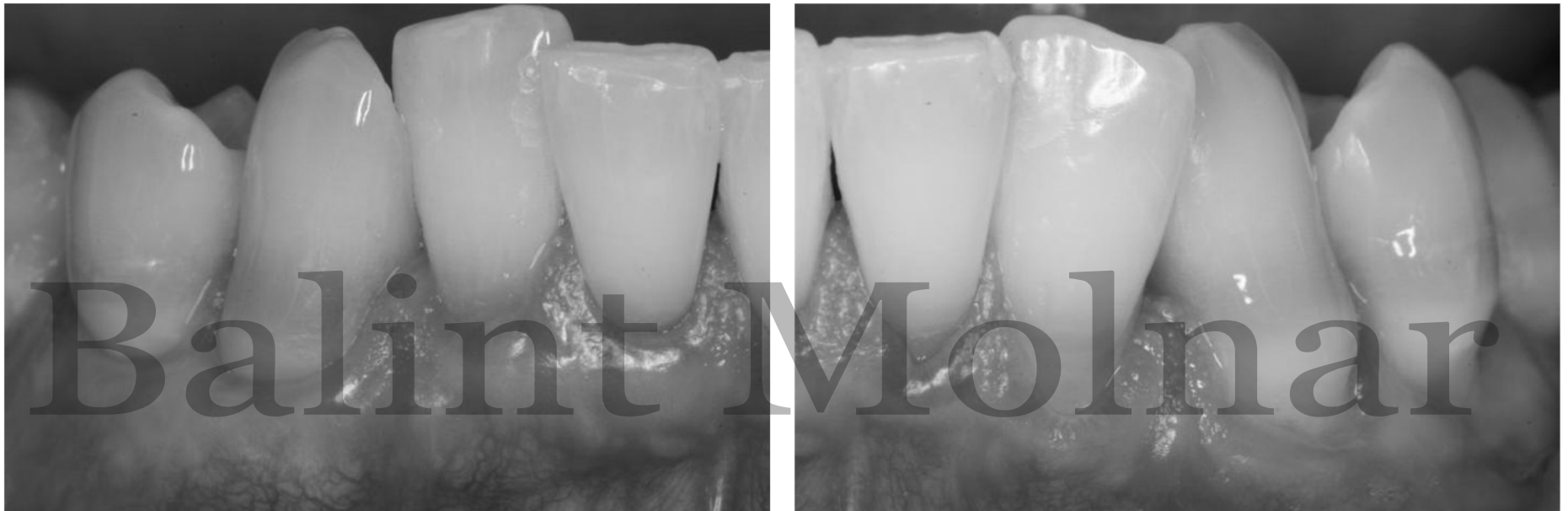
SCTG 1 month Mucograft



SCTG • **3 months** **Mucograft**



SCTG **6 months** **Mucograft**



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Before - after



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Conclusions

- Gingival recession is an irreversible condition but surgical treatment options exist

- Patient related local and habitual risk factors have to be addressed prior to surgery

- Long term maintenance and high level of oral hygiene is of high importance

Thank you for your attention!

