

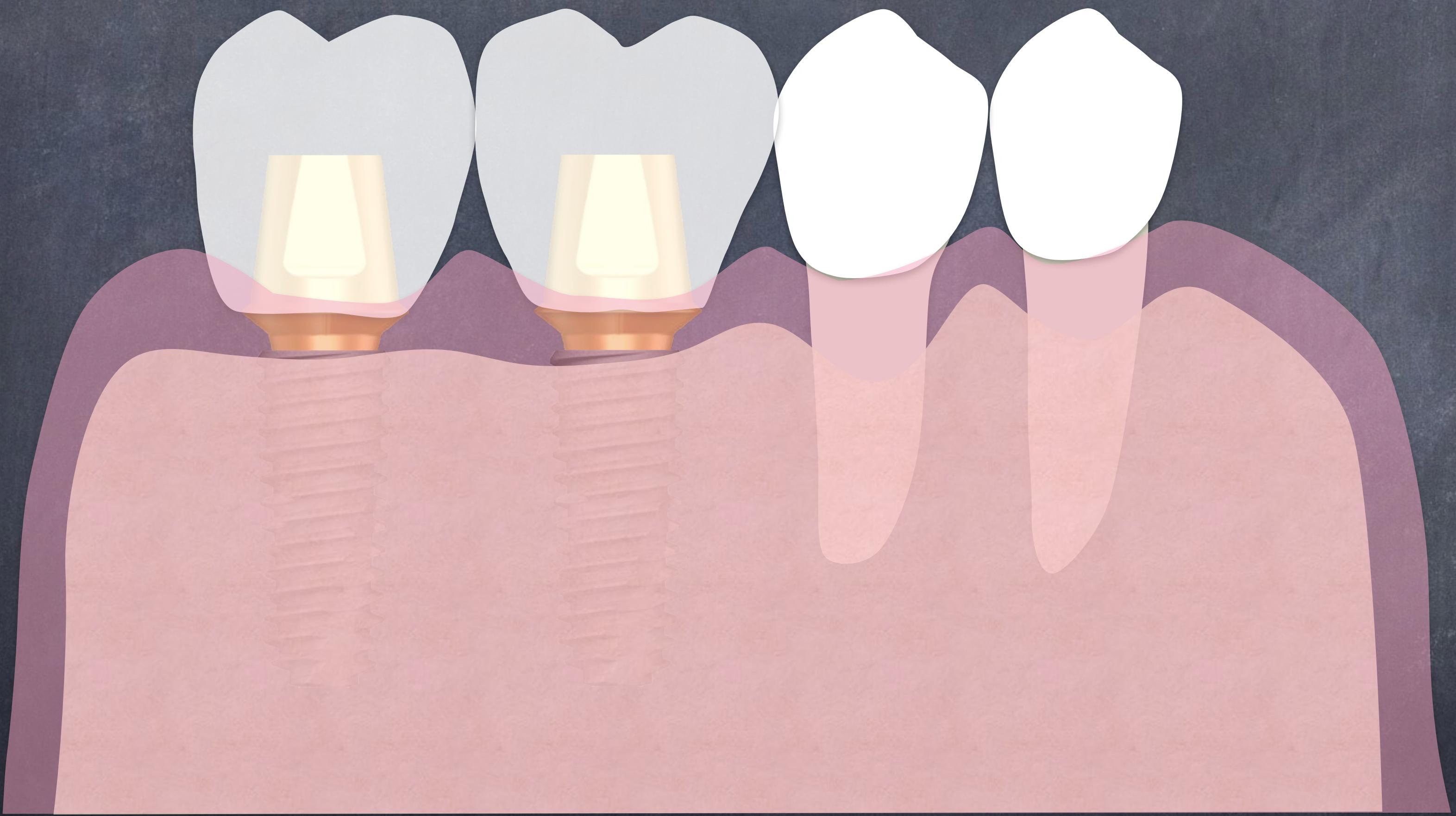
Surgical management of Peri-implantitis affected implants
: Overcoming peri-implantitis with easy bone graft

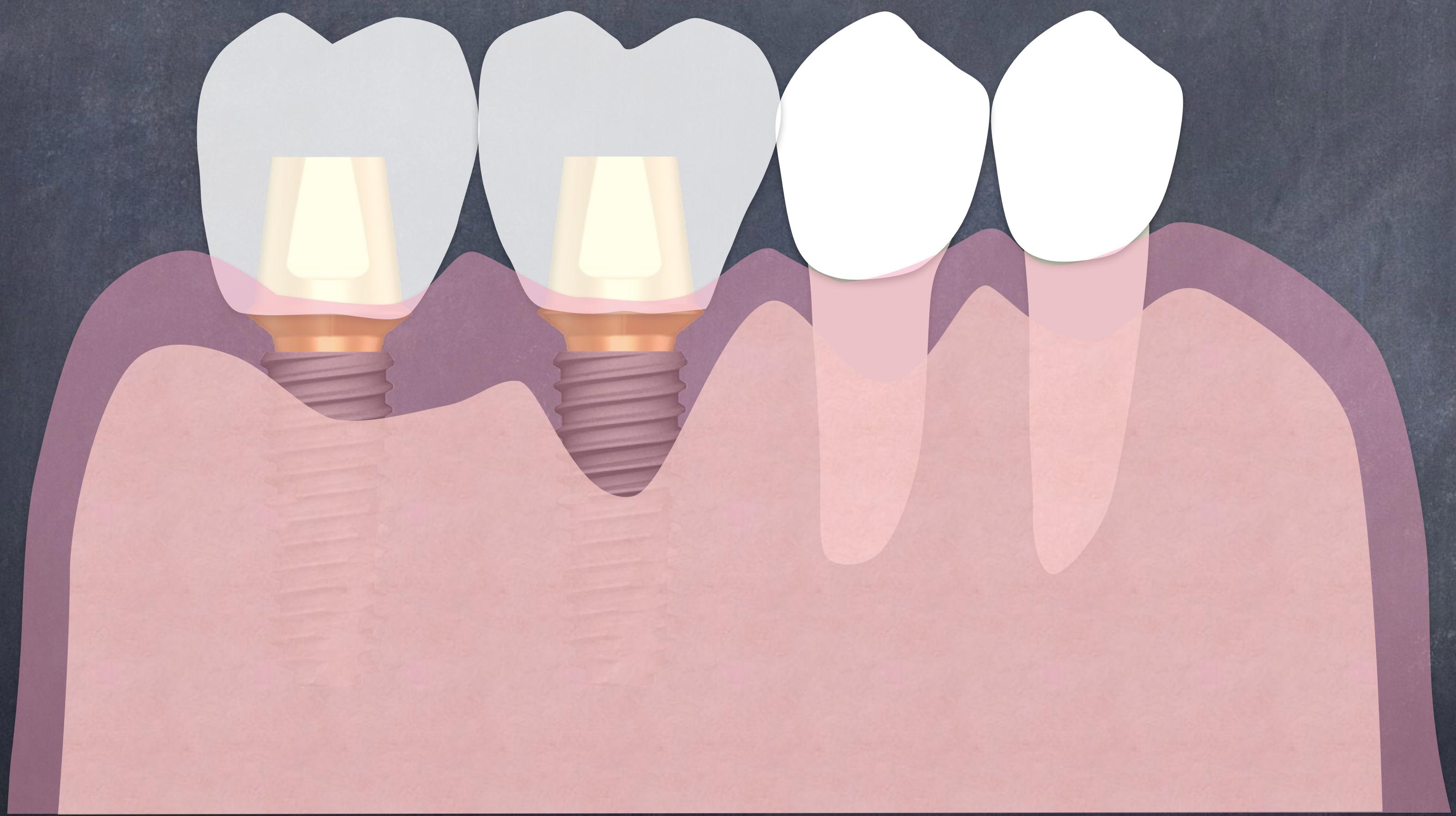
Han Seung Min D.D.S.
Seoul Ichon Dental Clinic



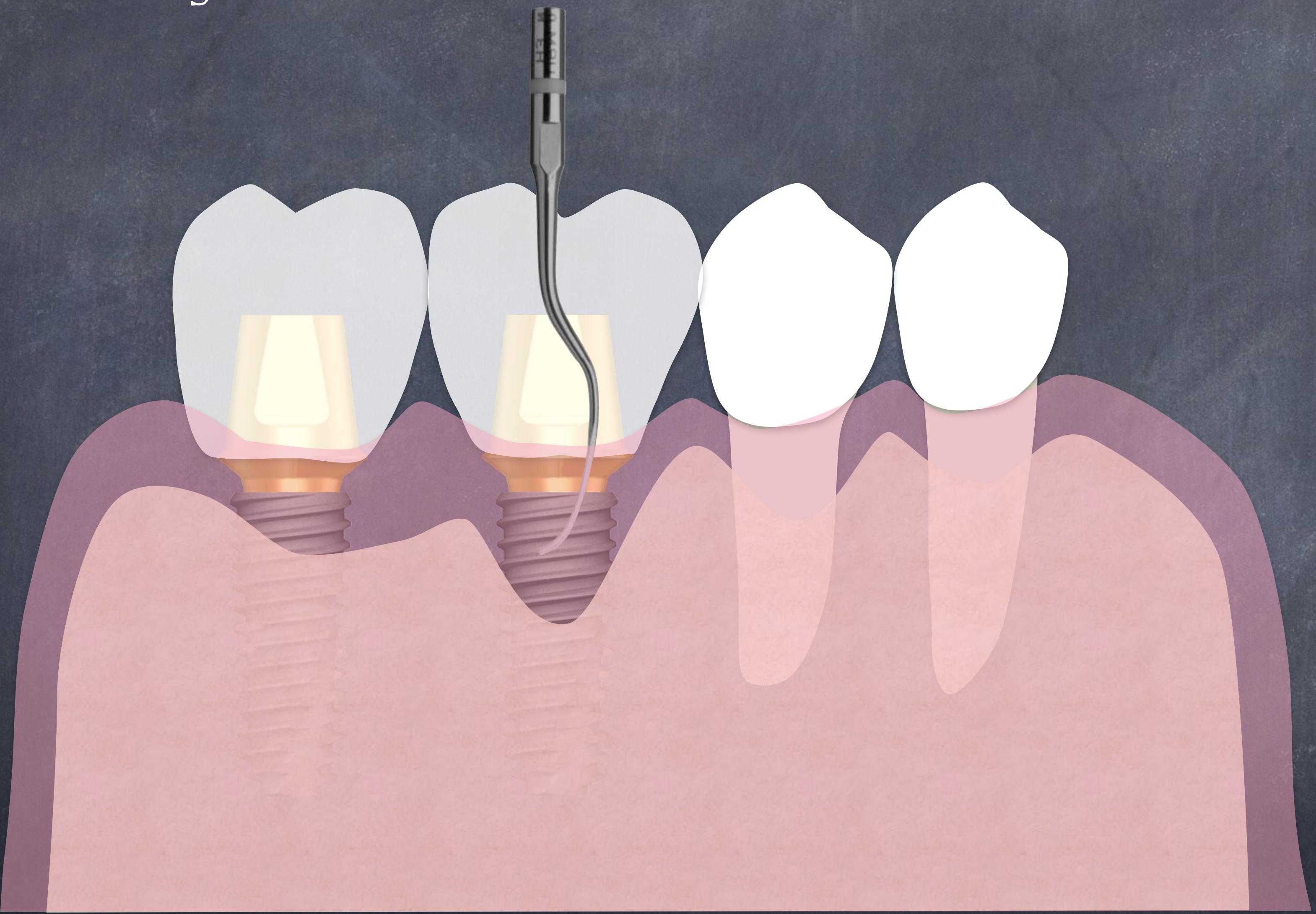
Surgical management of Peri-implantitis

Peri-implant disease





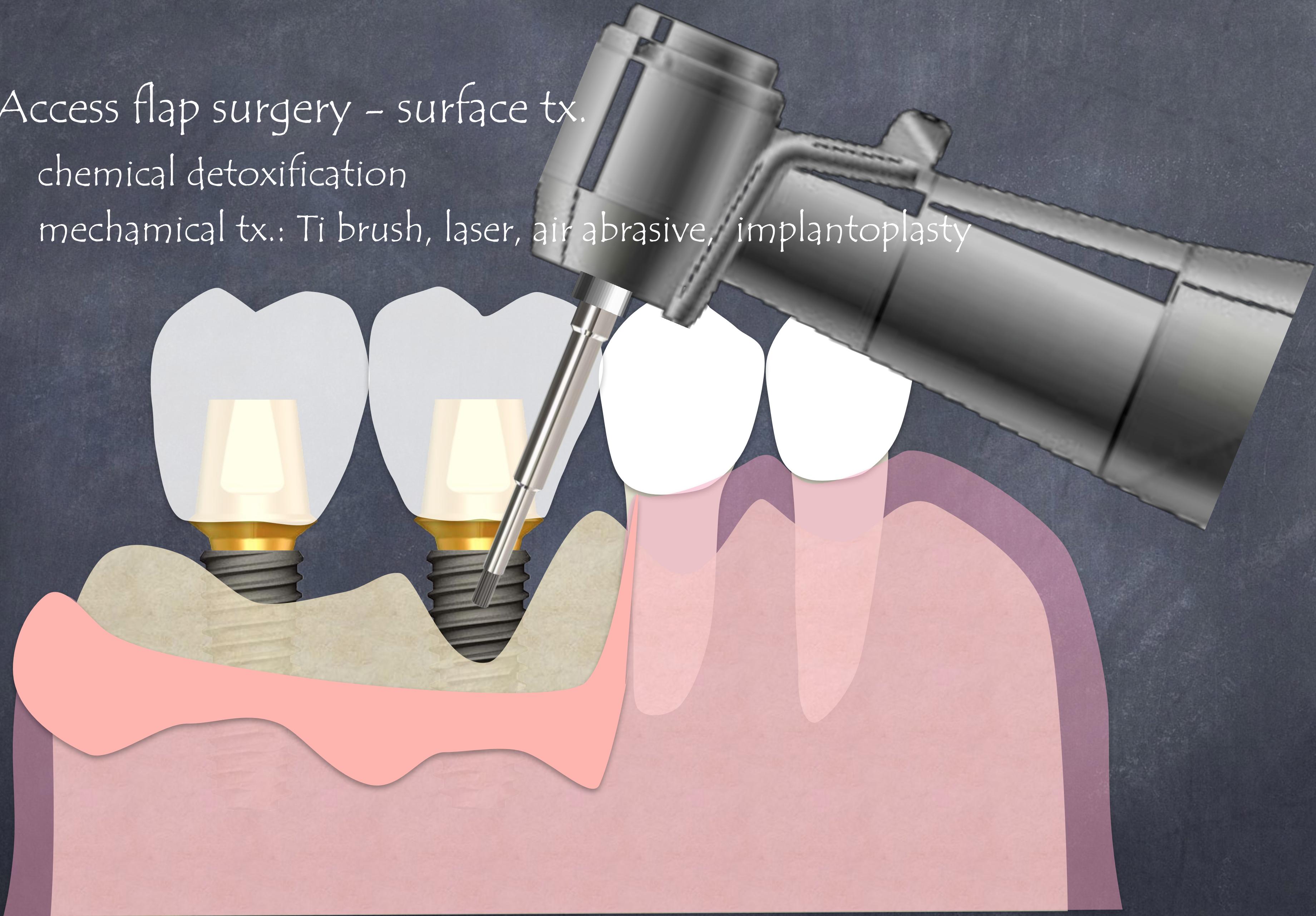
Non-surgical tx.



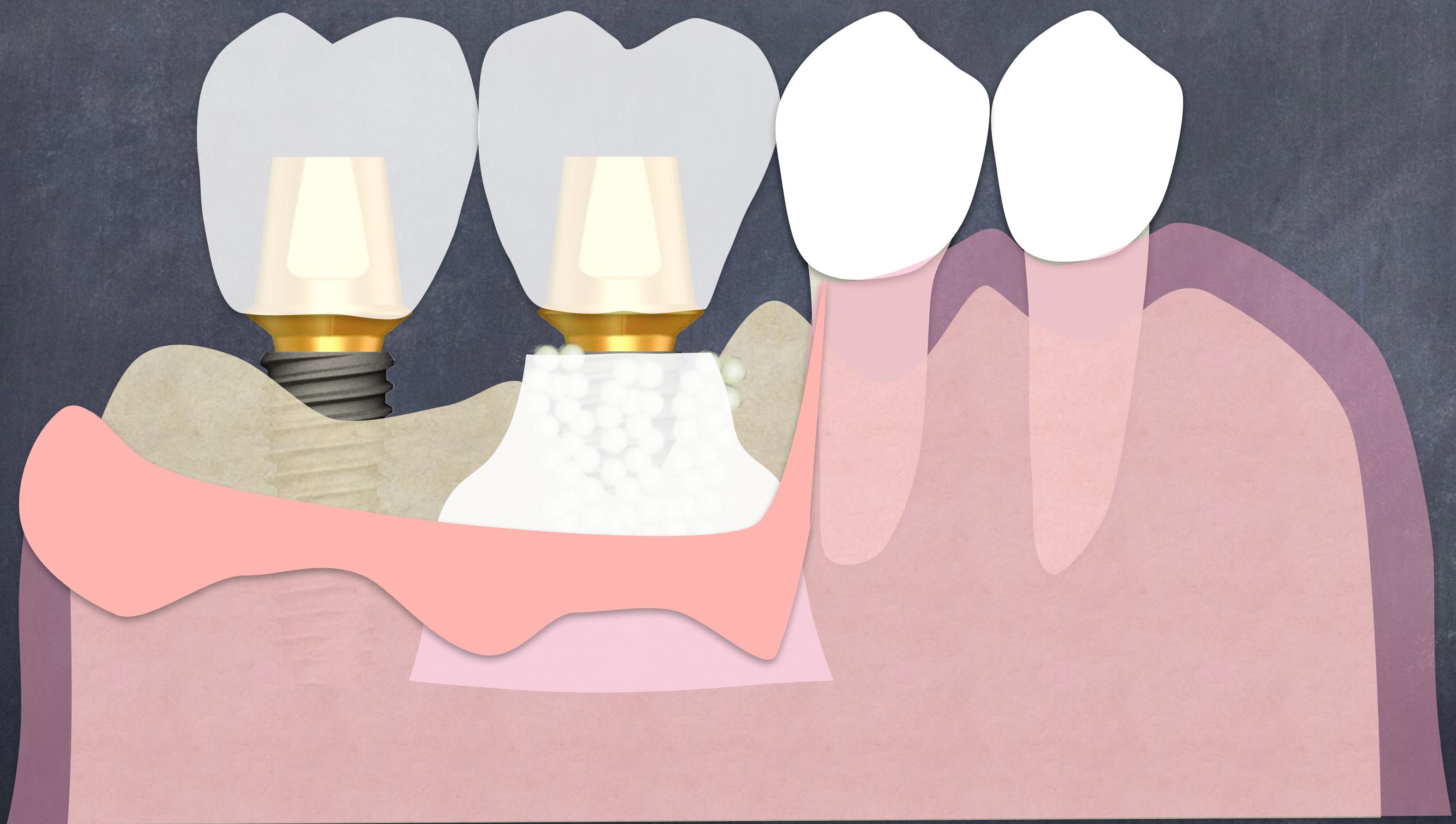
Access flap surgery - surface tx.

chemical detoxification

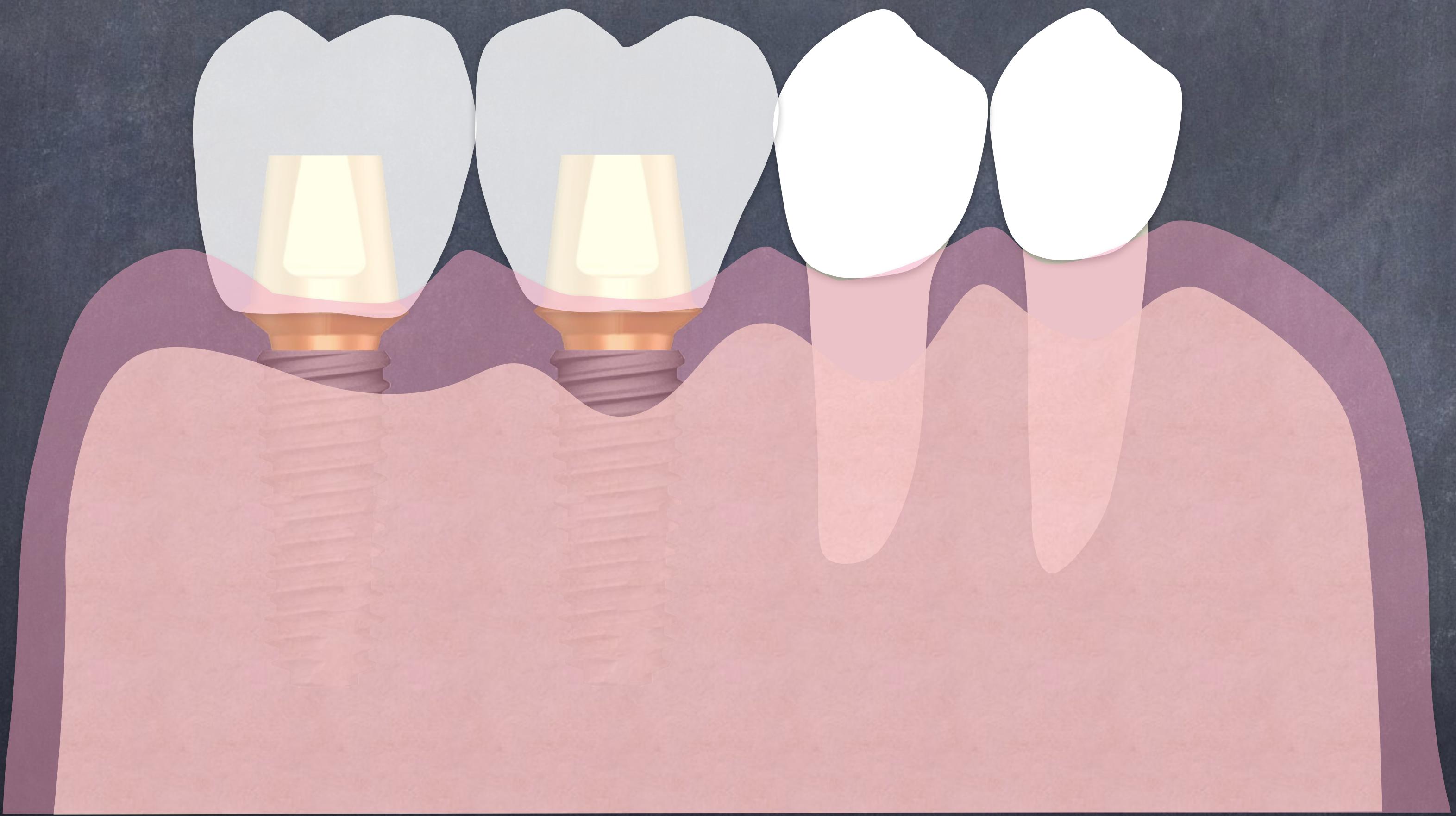
mechanical tx.: Ti brush, laser, air abrasive, implantoplasty

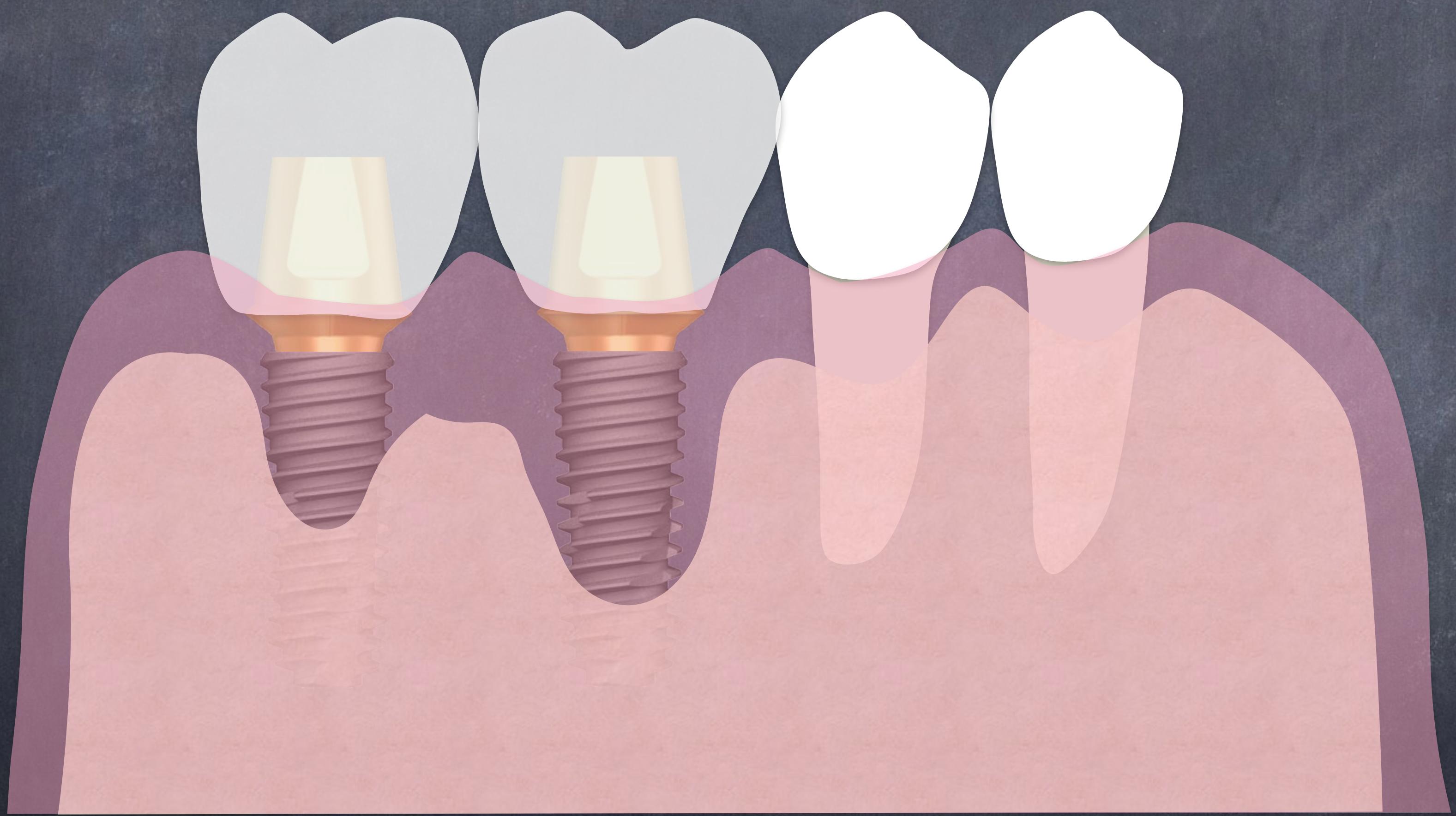


Regenerative surgery



Complete regeneration? Disease resolution





AO/AAP consensus on prevention and management of peri-implant diseases and conditions

Prevalence, incidence, systemic, behavioral, and patient-related risk factors and indicators for peri-implant diseases: AO/AAP systematic review and meta-analysis

Galarraga-Vinueza JOP 2025

Surgical and implant-related factors and onset/progression of peri-implant diseases: AO/AAP systematic reviews

Monje JOP 2025

The influence of prosthetic design-related factors on peri-implant MBL: AO/AAP systematic reviews

Lin JOP 2025

Prevalence, incidence, and risk and protective factors for soft tissue dehiscences at implant sites in the absence of disease: AO/AAP systematic reviews

Tavelli and Barootchi JOP 2025

AO/AAP consensus on prevention and management of peri-implant diseases and conditions

Treatment of Peri-implant Mucositis: AO/AAP systematic reviews

Lin JOMI 2025

Efficacy of decontamination methods for biofilm removal from dental implant surfaces and reosseointegration: AAP/AO systematic review on peri-implant diseases and conditions

Ravidia JOMI 2025

Efficacy of nonreconstructive surgical treatment of peri-implantitis: AAP/AO systematic review and meta-analysis of access flap versus osseous surgery procedures

Saleh JOMI 2025

Surgical reconstructive therapy for the management of peri-implantitis: AAP/AO systematic review and network meta-analysis

Barootchi JOMI 2025

AO/AAP consensus on prevention and management of peri-implant diseases and conditions

Clinical translation of the 2024 AO/AAP consensus on prevention and management of peri-implant diseases and conditions

Fiorellini IJPRD 2025

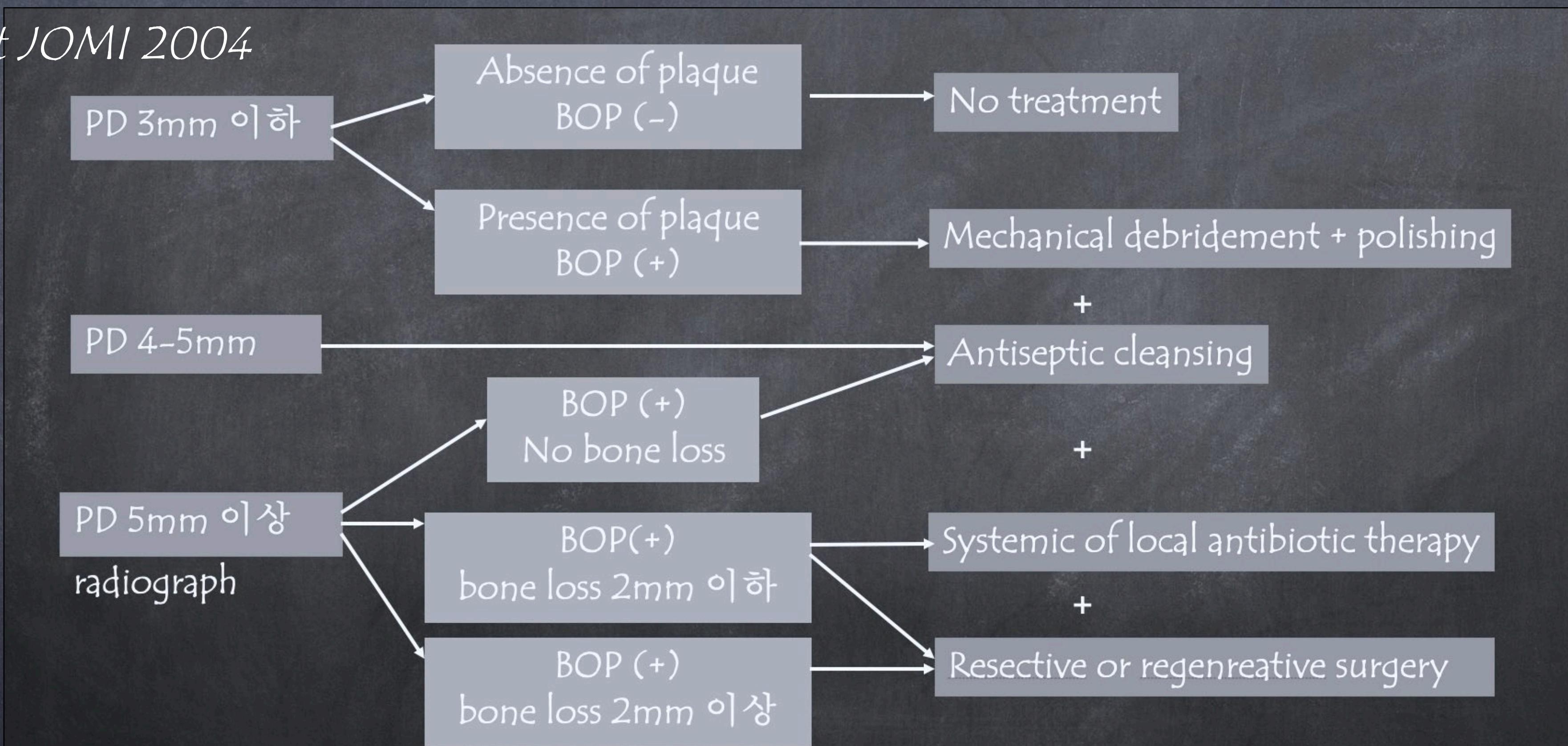
Risk for peri-implant diseases and defects: Report of work group 1 of the joint AO/AAP consensus conference on prevention and management of peri-implant diseases

Kumar Clinical advances in Periodontics 2025

Peri-implantitis should demonstrate inflammation in combination with bone loss.

Pravelance(pt. level) mucositis 43%, peri implantitis 22%

AO Consensus statement JOMI 2004



Peri-implantitis determined by the 2017 AAP/EFP World Workshop (*Berglundh JCP 2018*) are as follows:

presence of bleeding and/or suppuration on gentle probing
increased probing depth compared with previous examinations
presence of bone loss beyond crestal bone level changes from initial bone remodeling.

If previous diagnosis data are not available, the diagnosis can be made based on
the presence of bleeding and/or suppuration on gentle probing,
probing depths ≥ 6 mm, bone levels ≥ 3 mm apical to the most coronal portion of the intraosseous part of
the implant

Pravelance (pt. level) mucositis 46%, peri implantitis 22%

Galarraga-Vinueza JOP 2025 AO/AAP systematic review and meta-analysis

Decision making for the treatment of failing implants

no bone loss

peri-mucositis

non-surgical therapy

slight bone loss

< 3mm

physiologic

pathologic

non-surgical therapy, occlusal adjustment

surgical therapy

severe bone loss

≥ 3 mm

periimplantitis

remove or not

proper implant position - surgical therapy
or removal

improper implant position - removal

surgical therapy

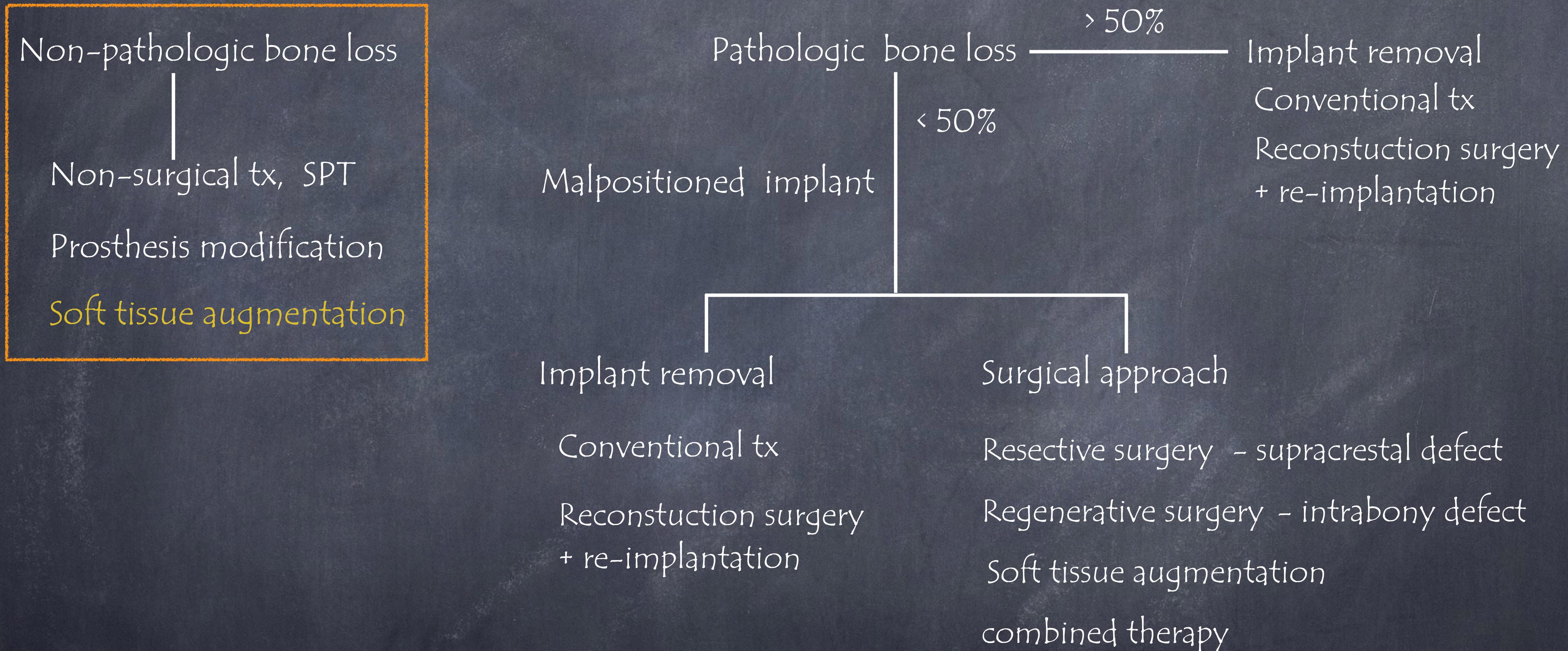
resective surgery - supracrestal defect

regenerative surgery - intrabony defect

soft tissue graft

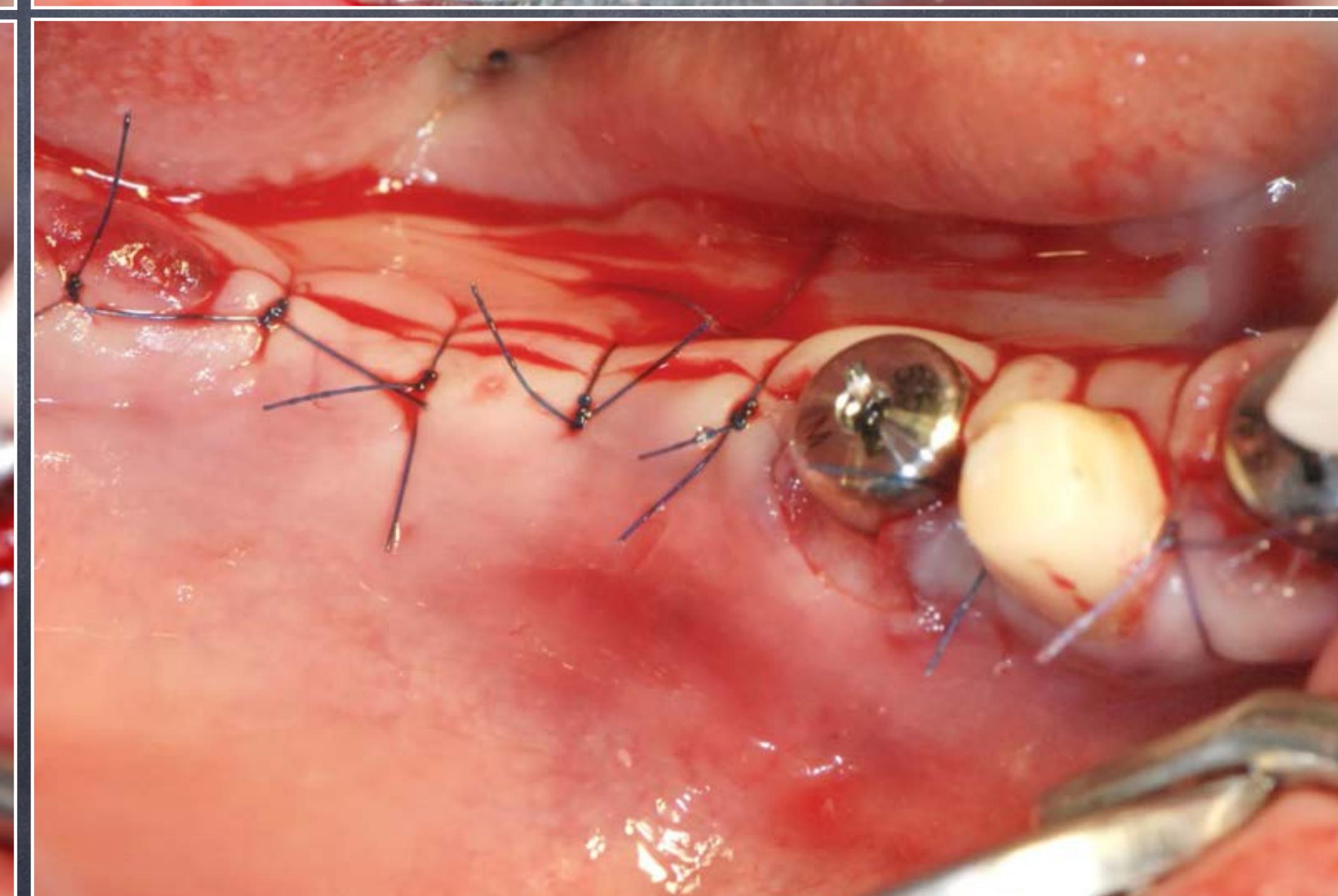
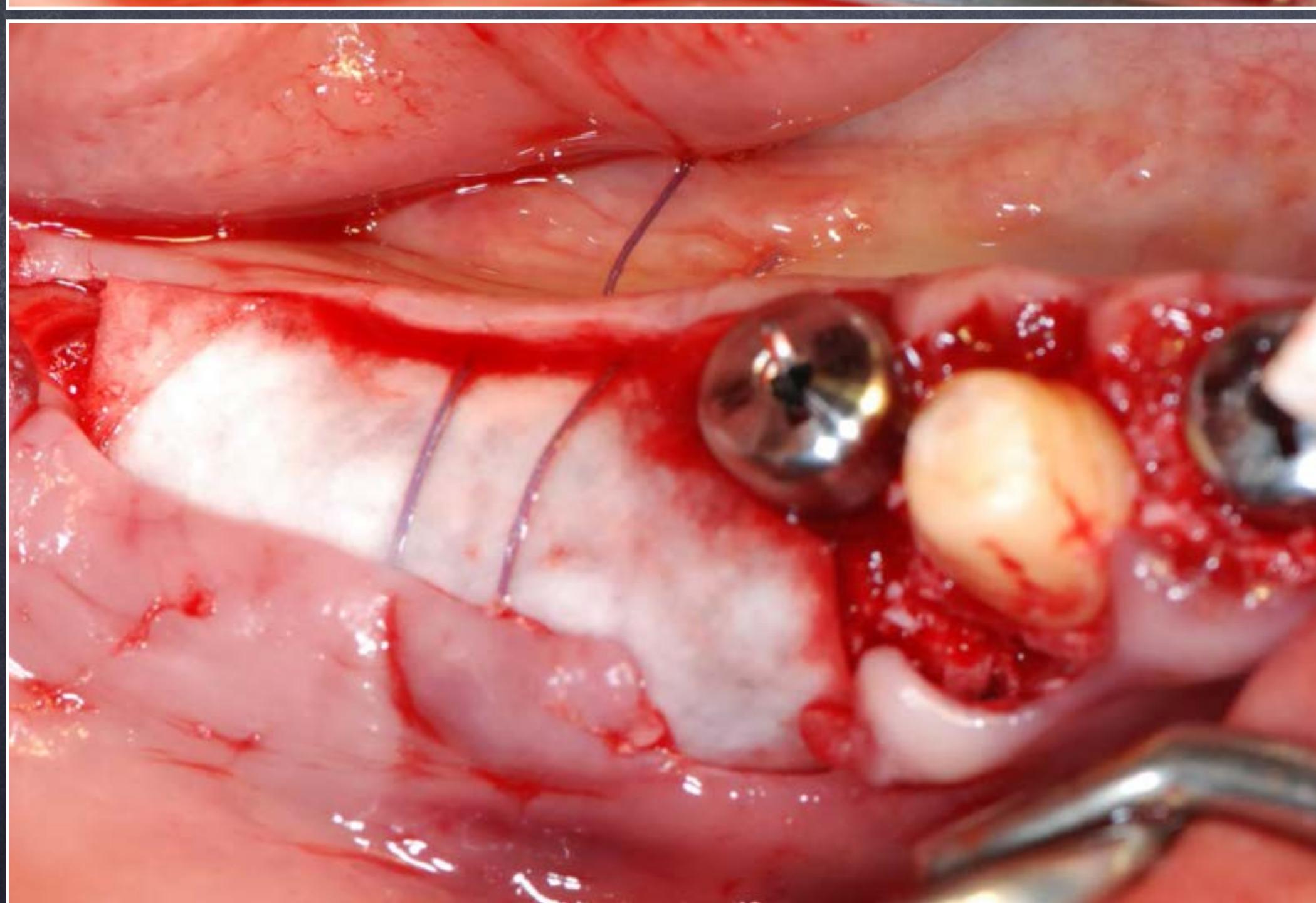
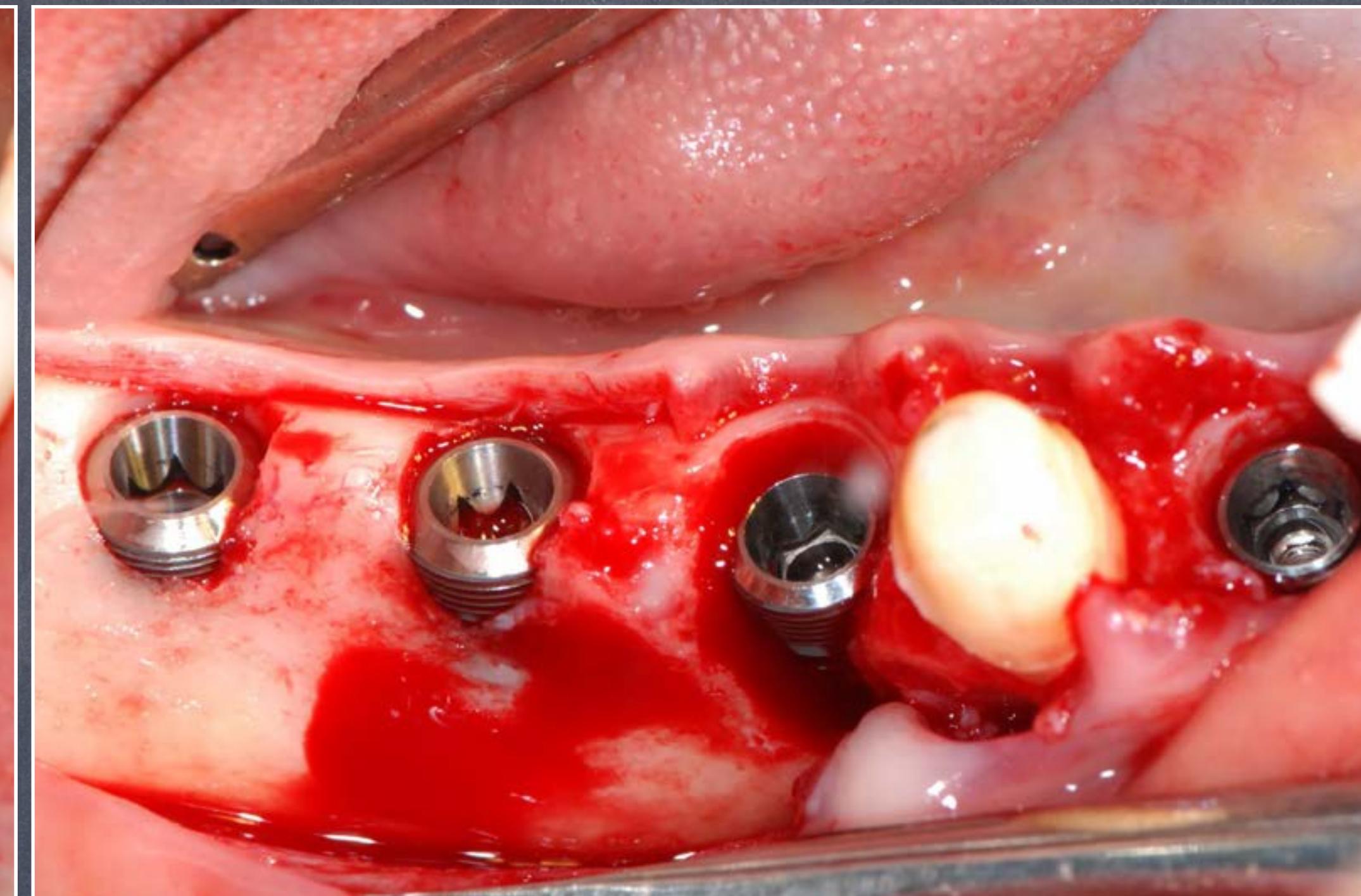
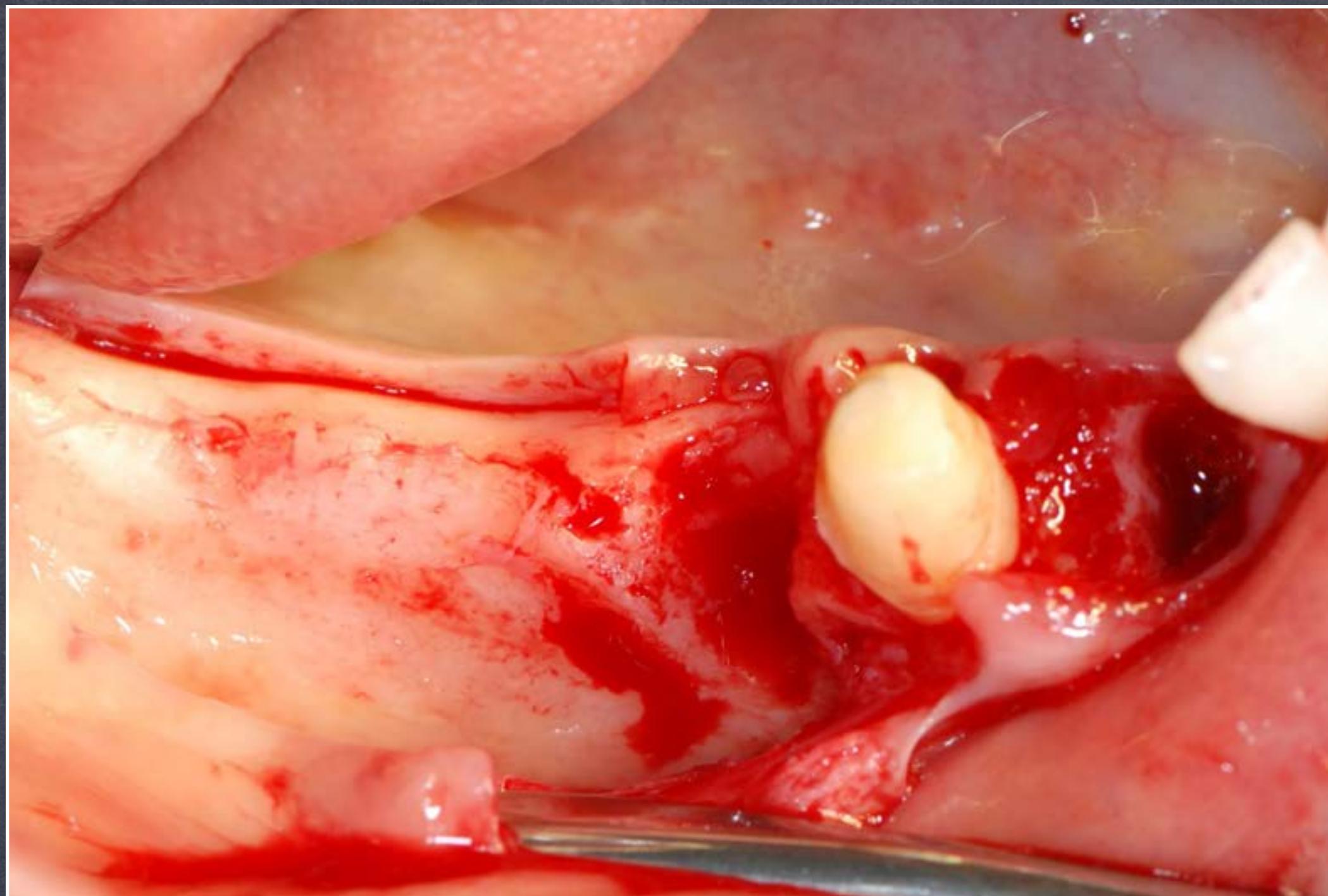
combined therapy

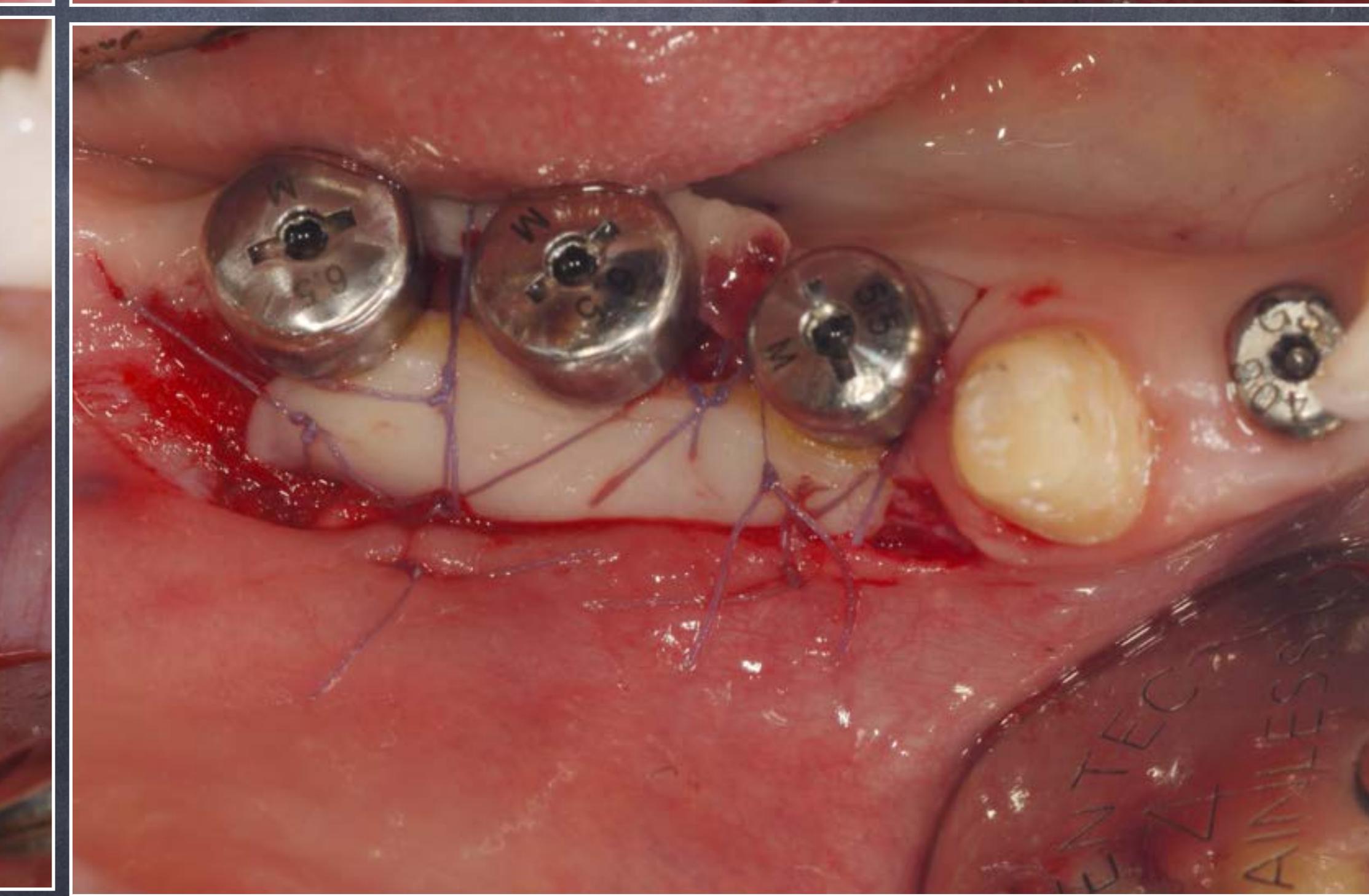
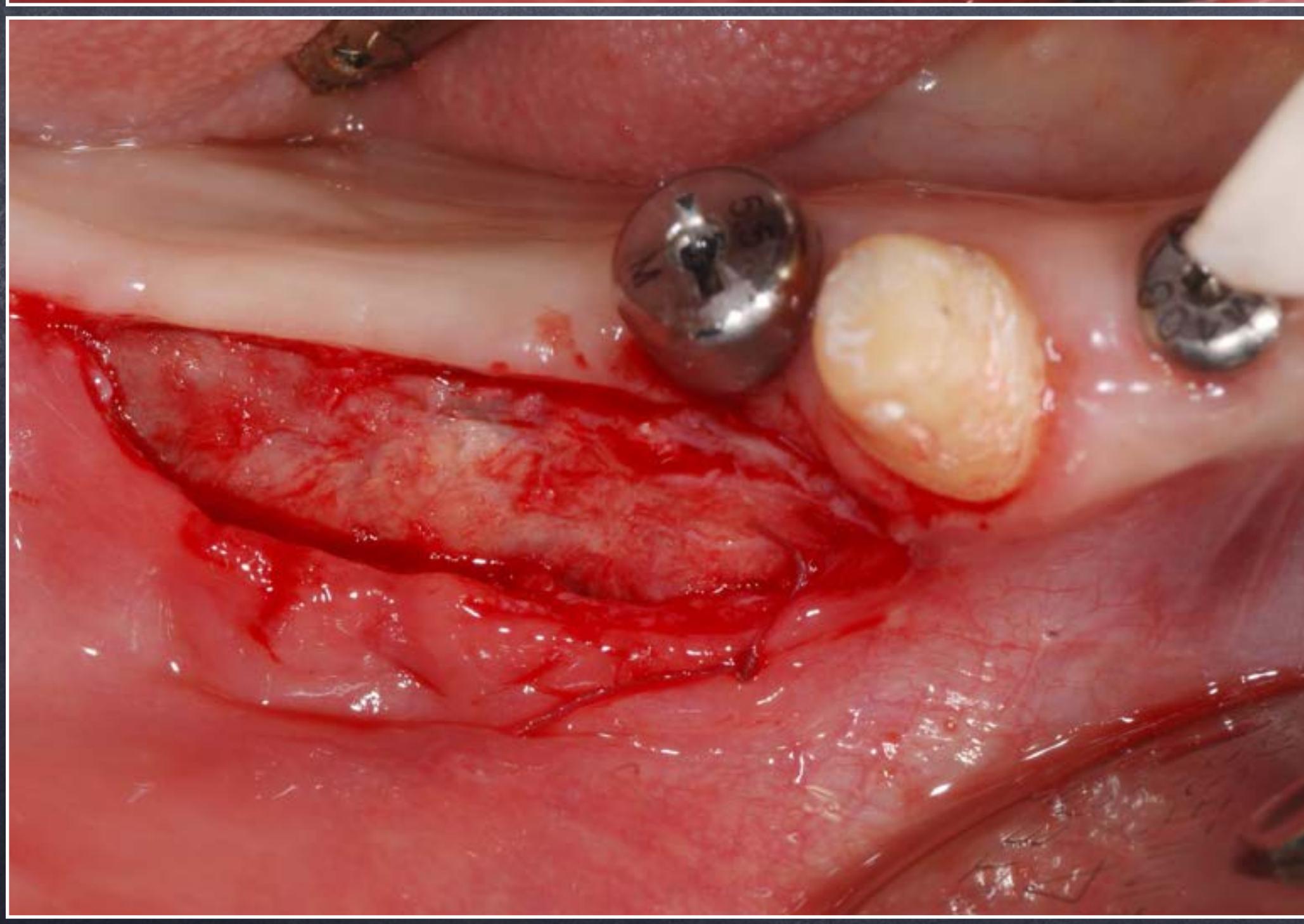
Decision making for the treatment of failing implants



2010





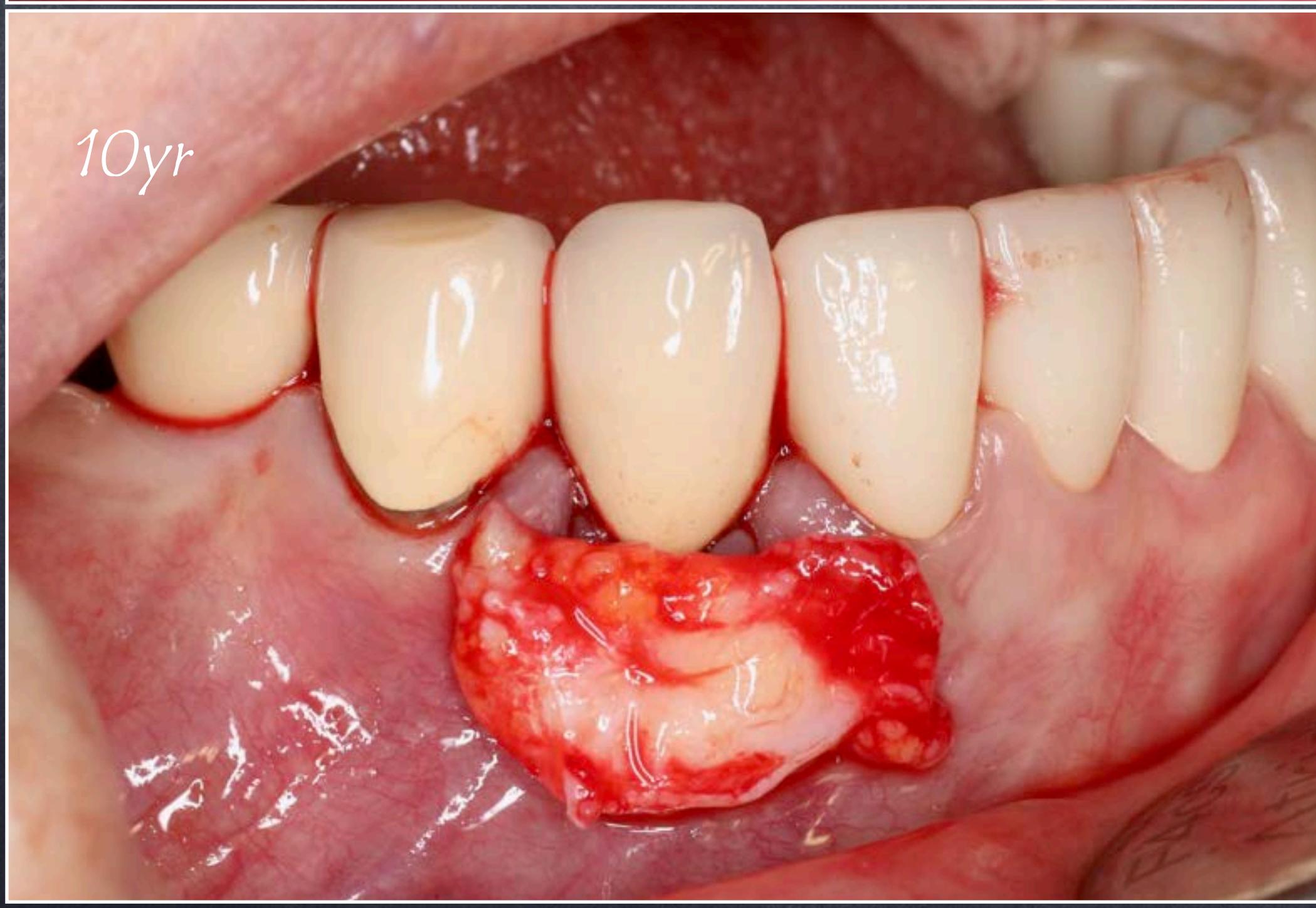


Oyr



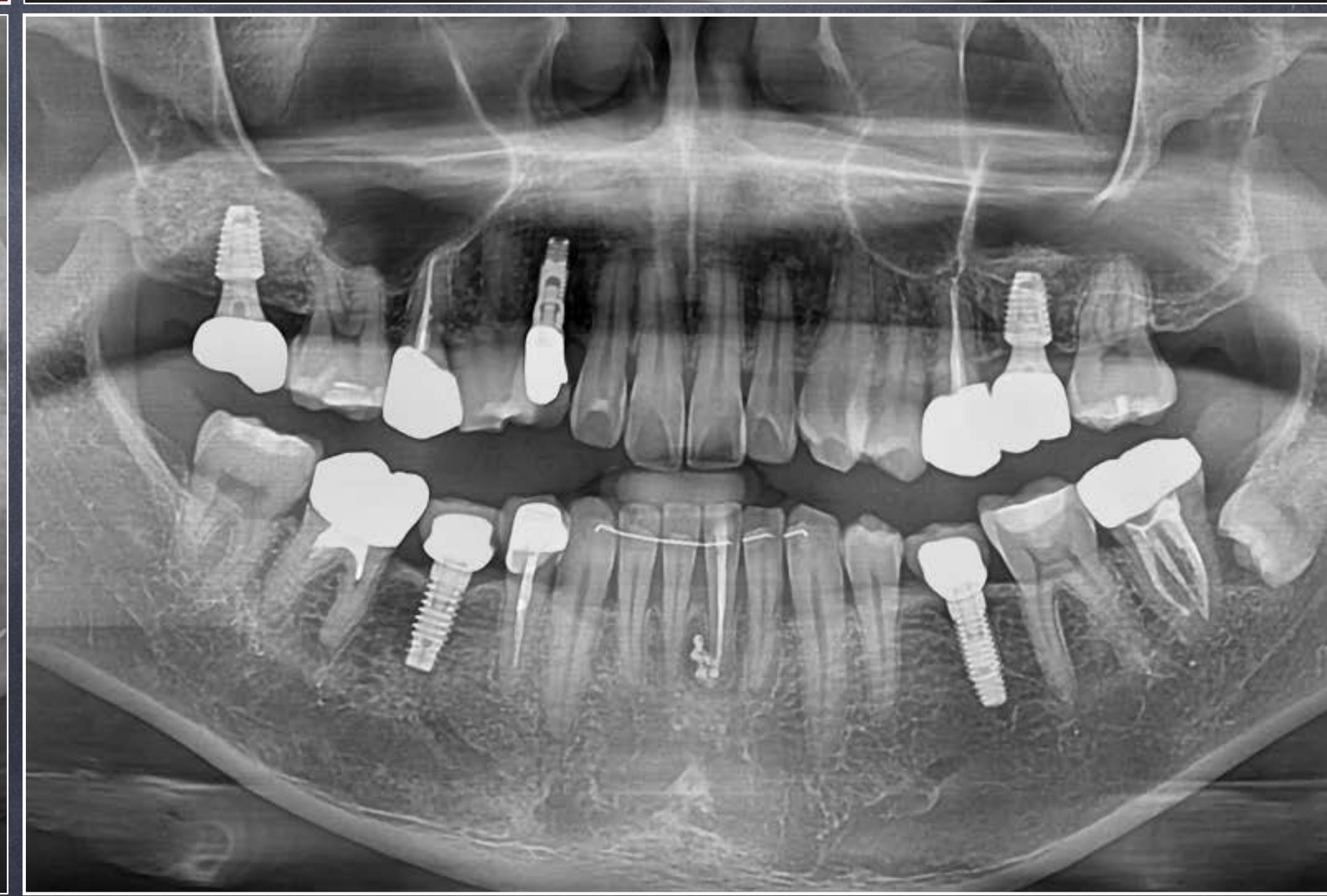
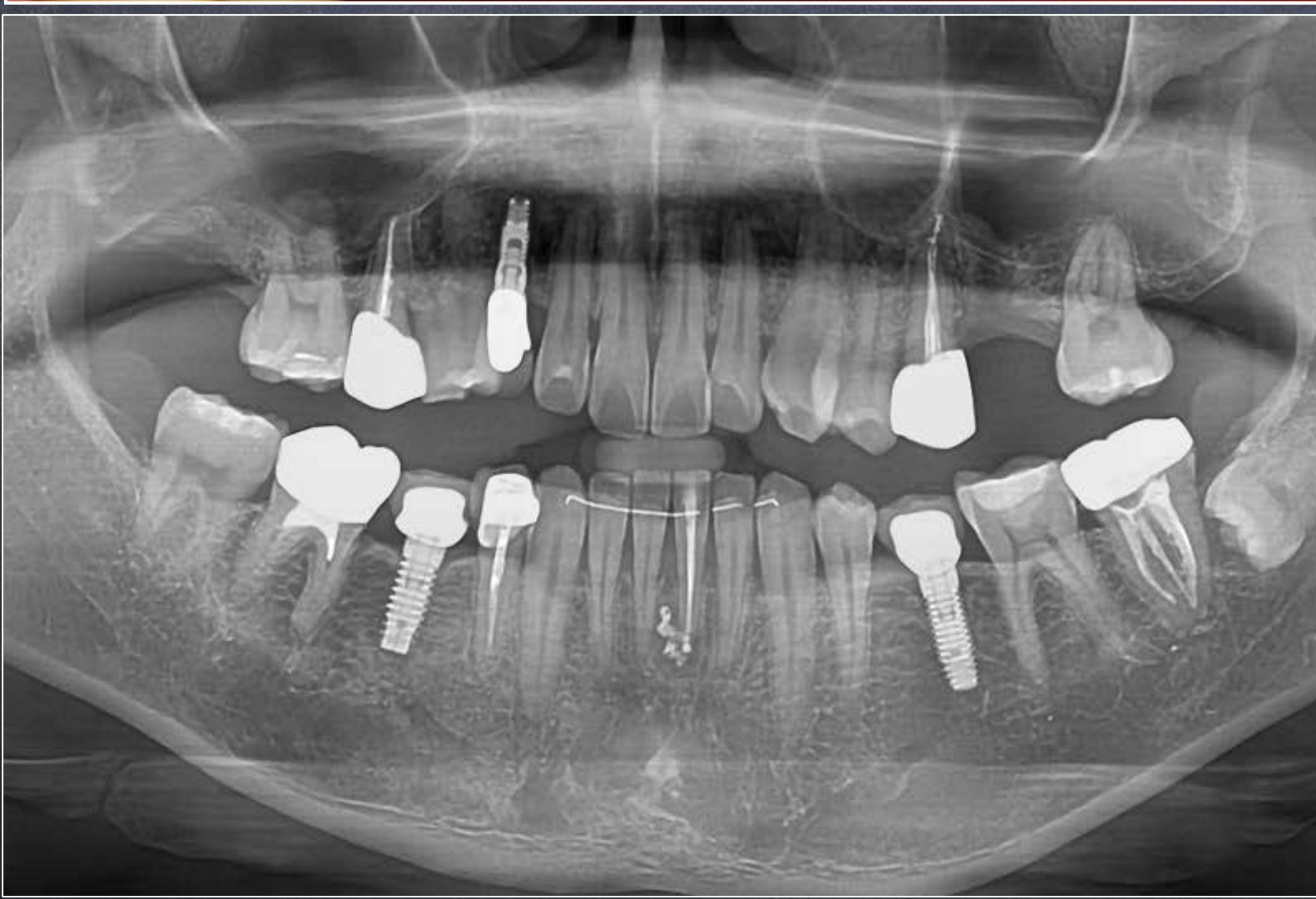
5yr



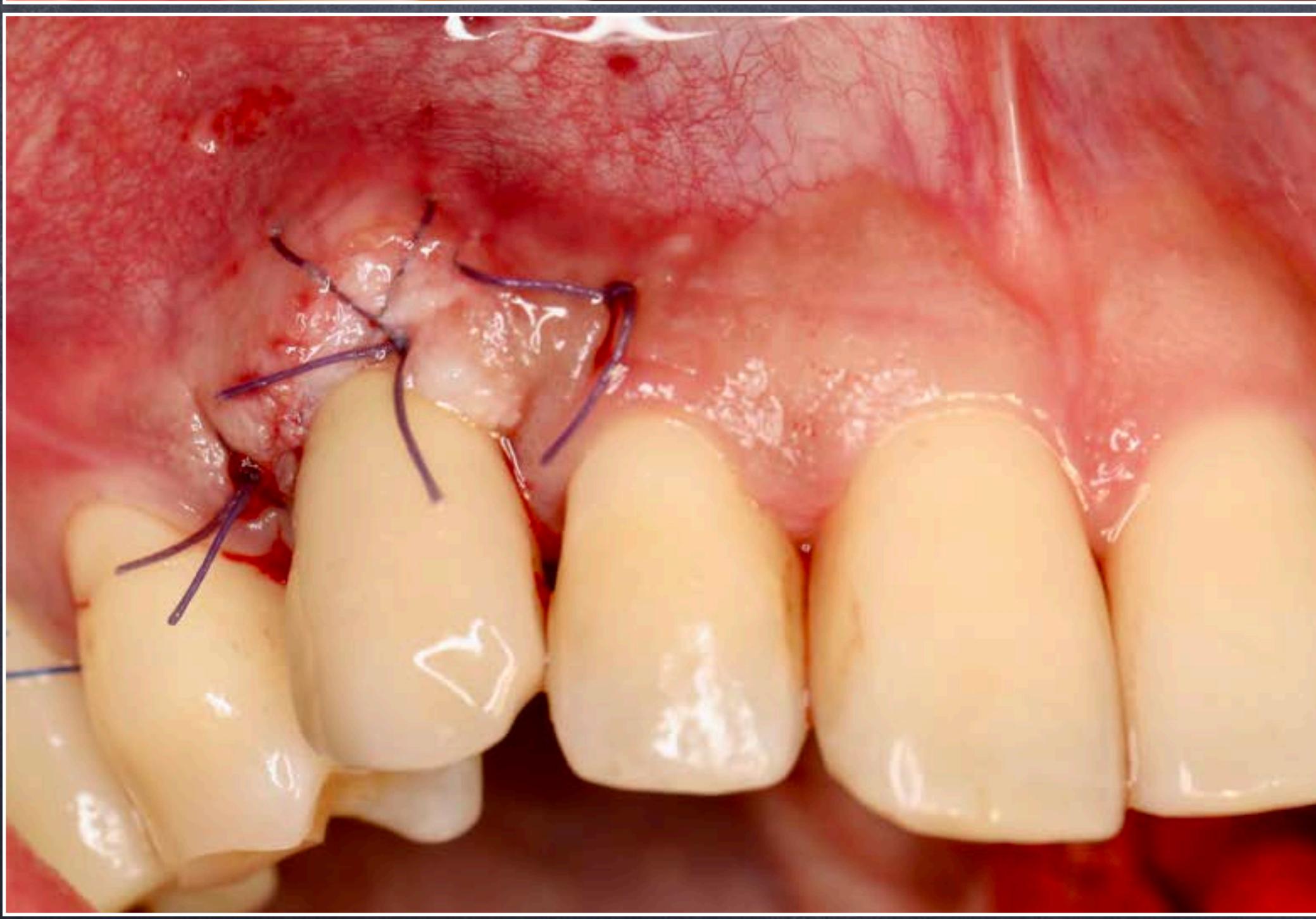
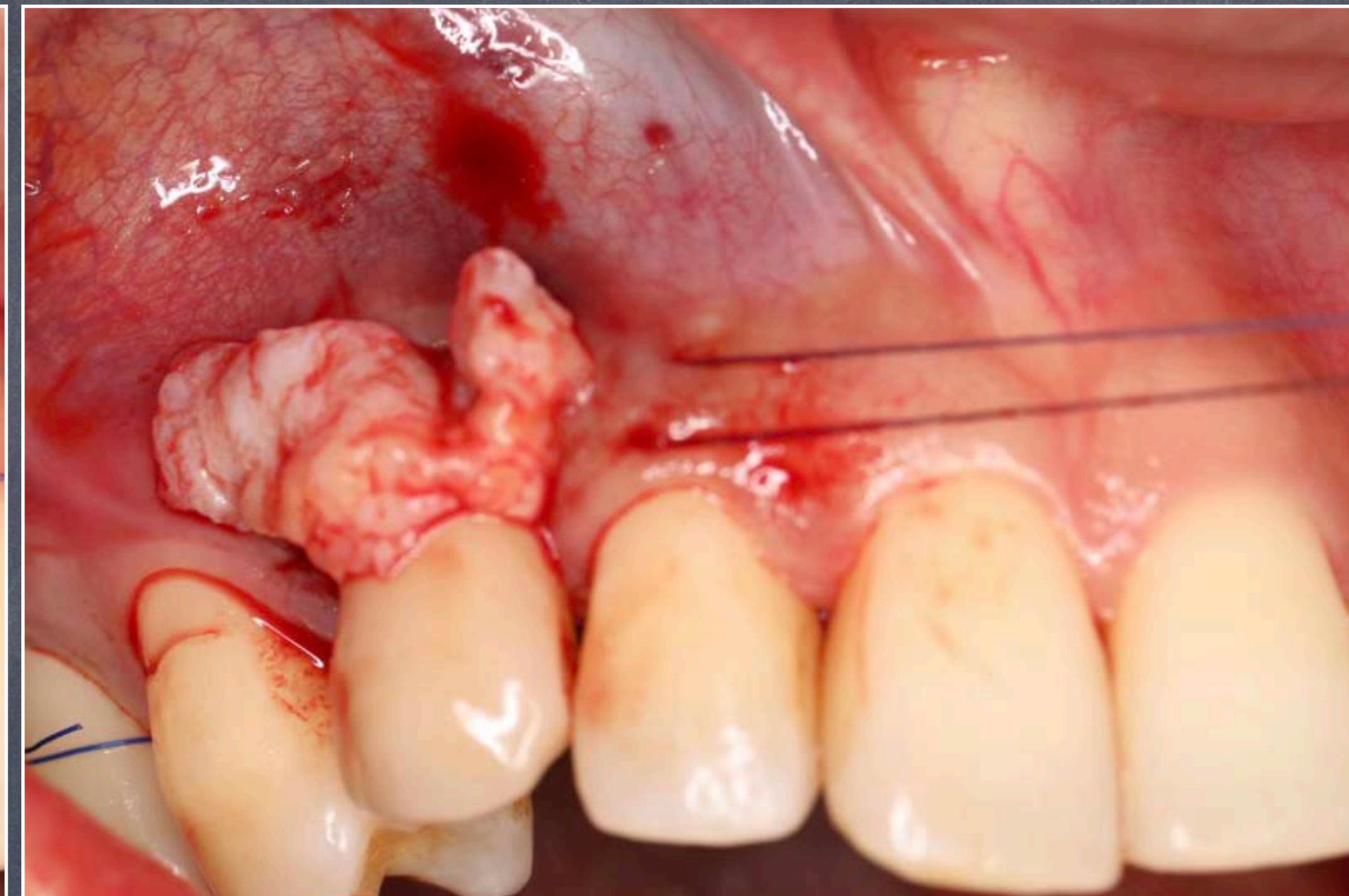
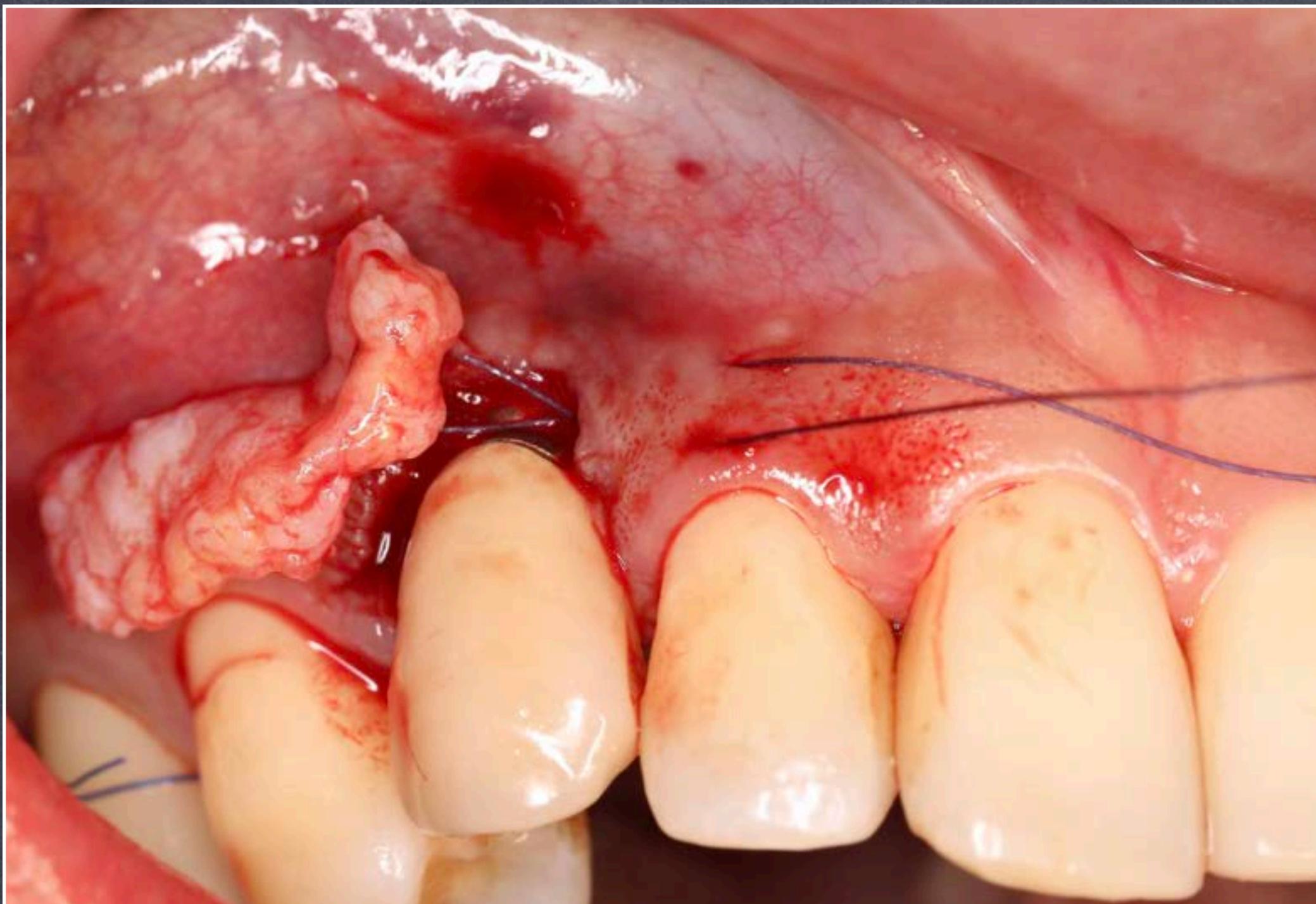


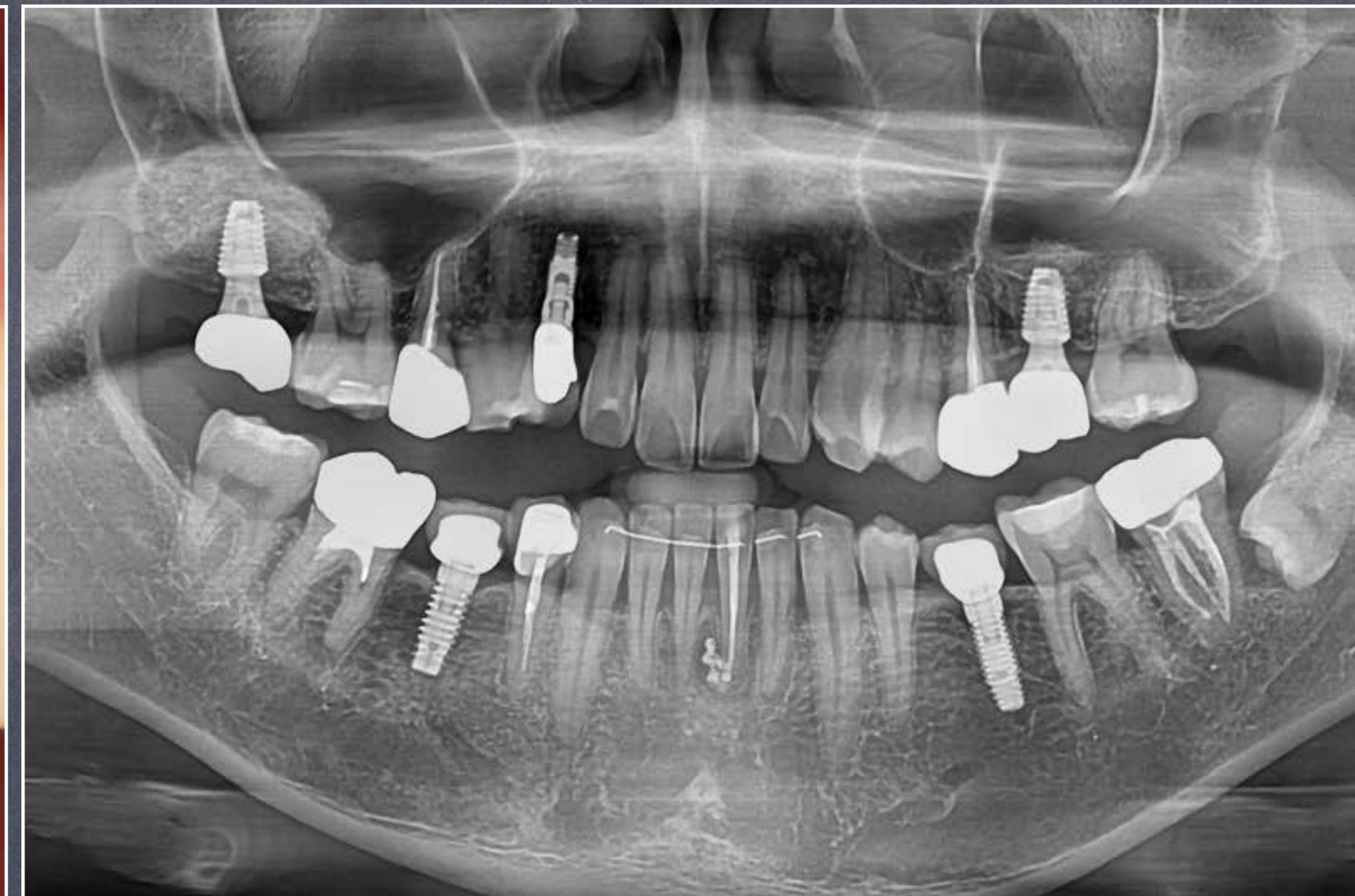




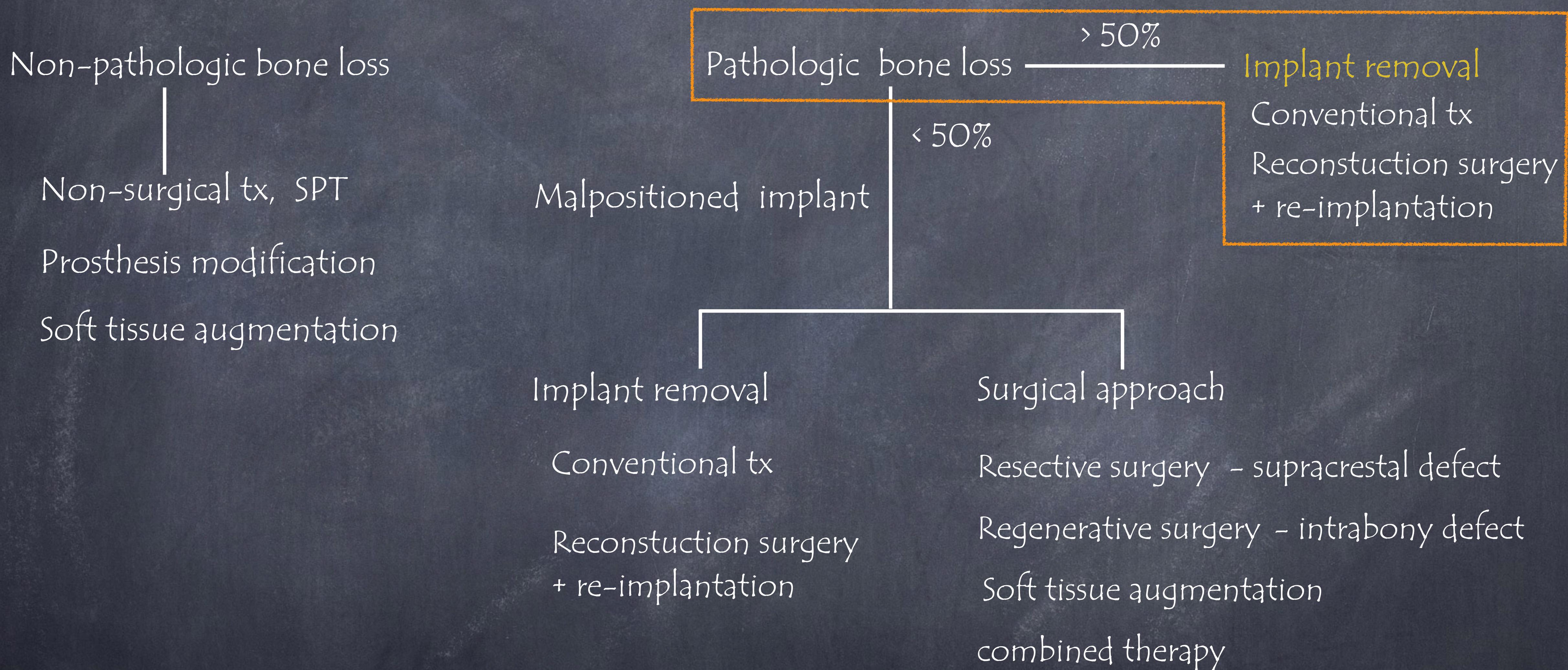


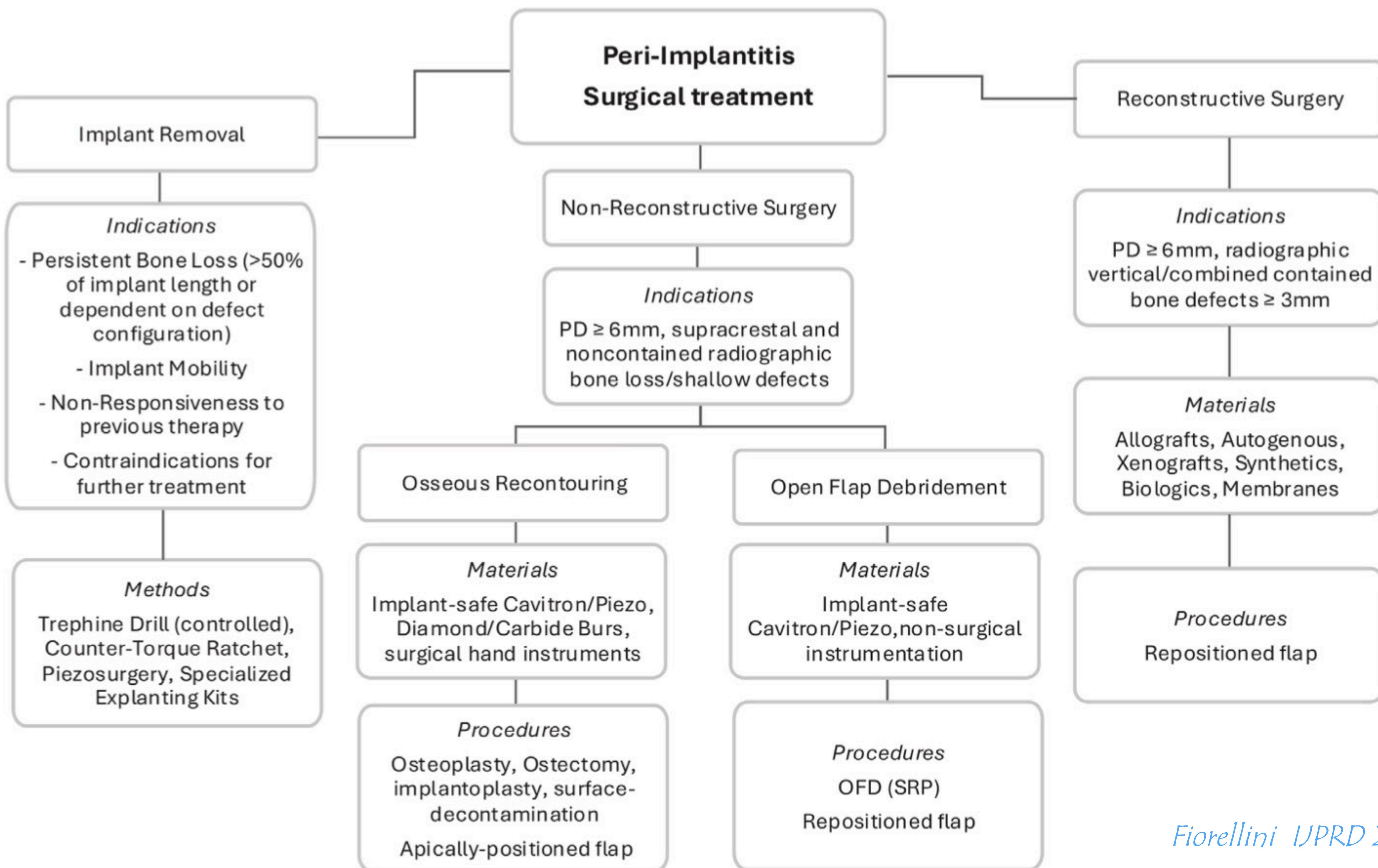




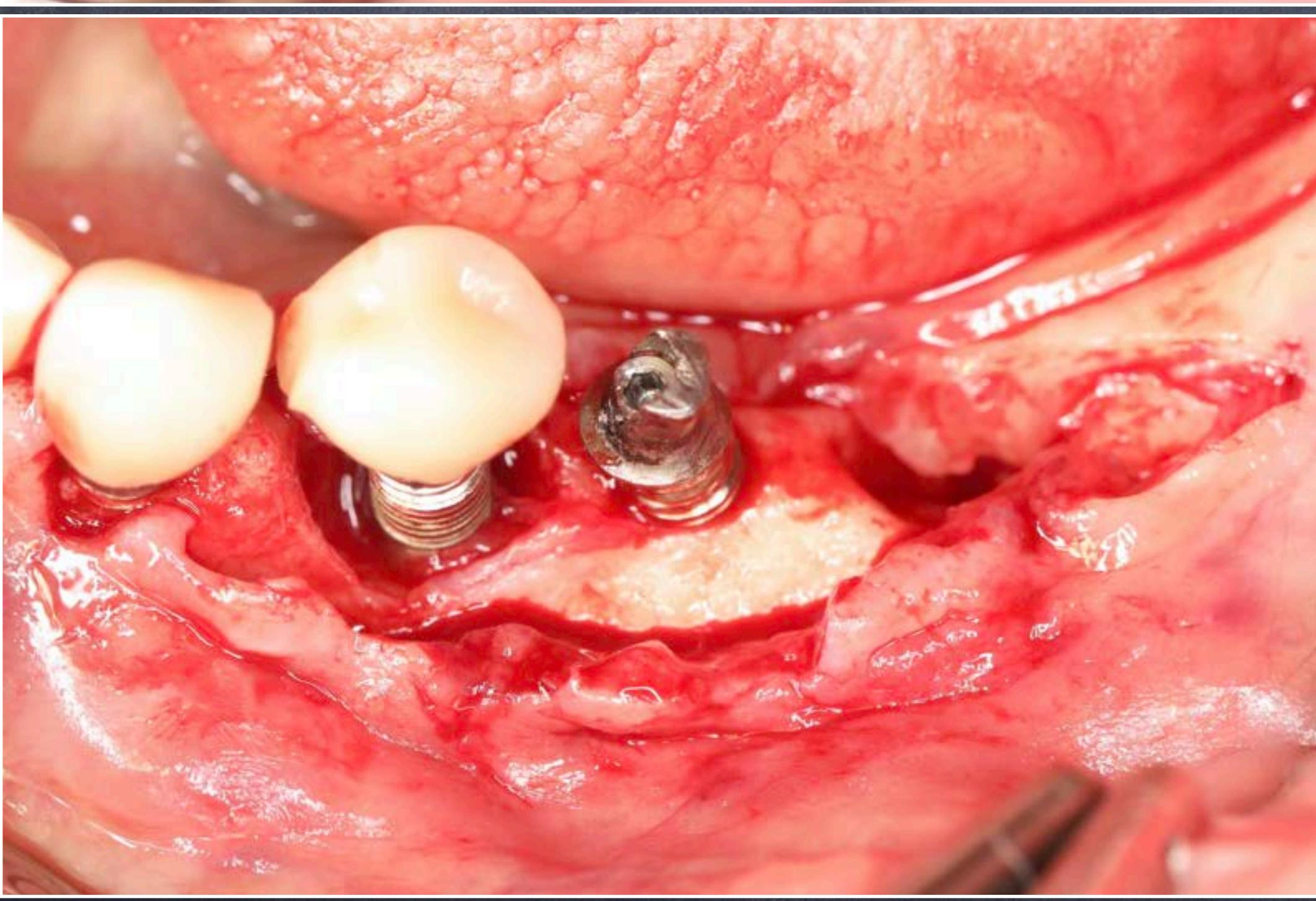
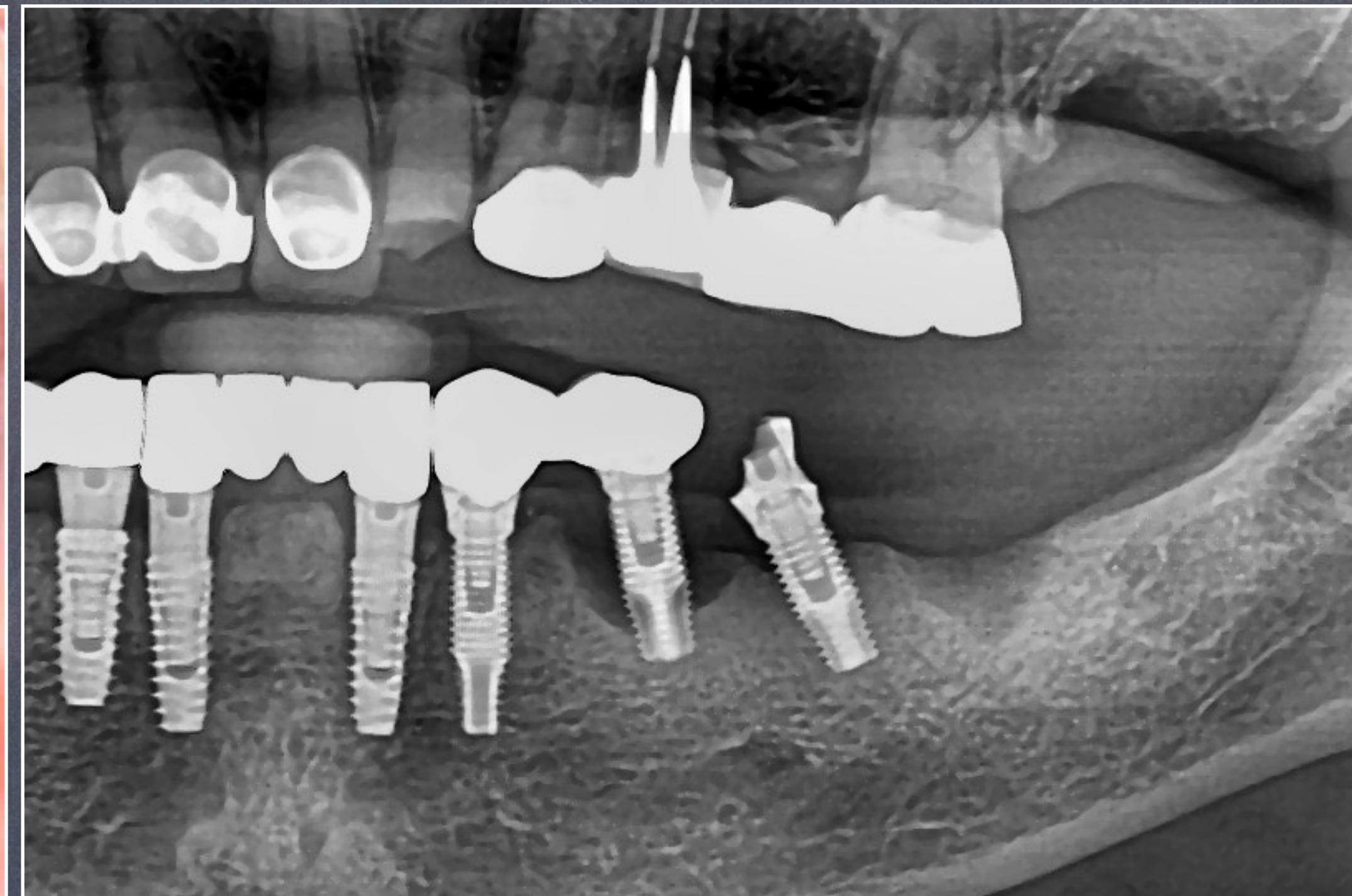
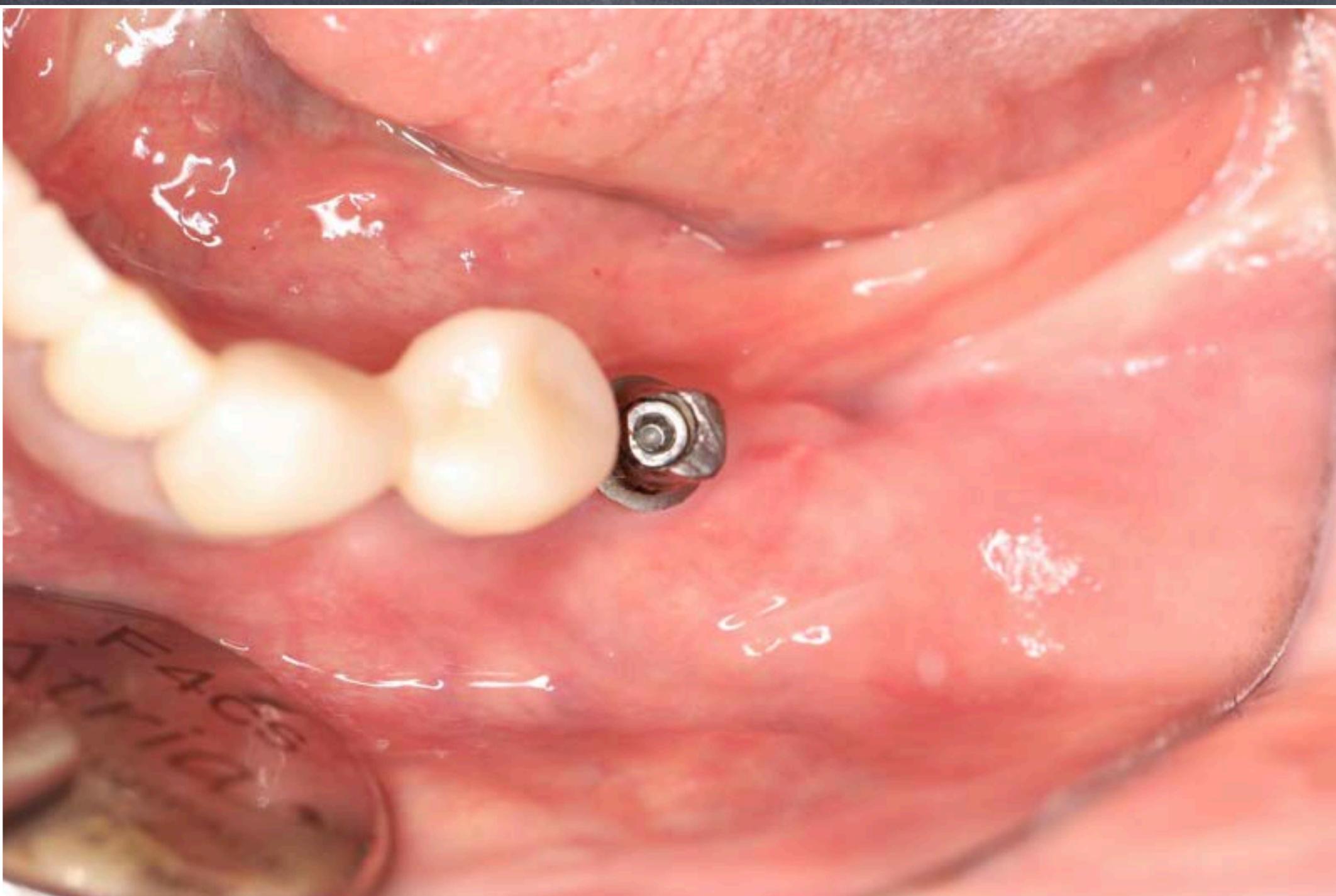


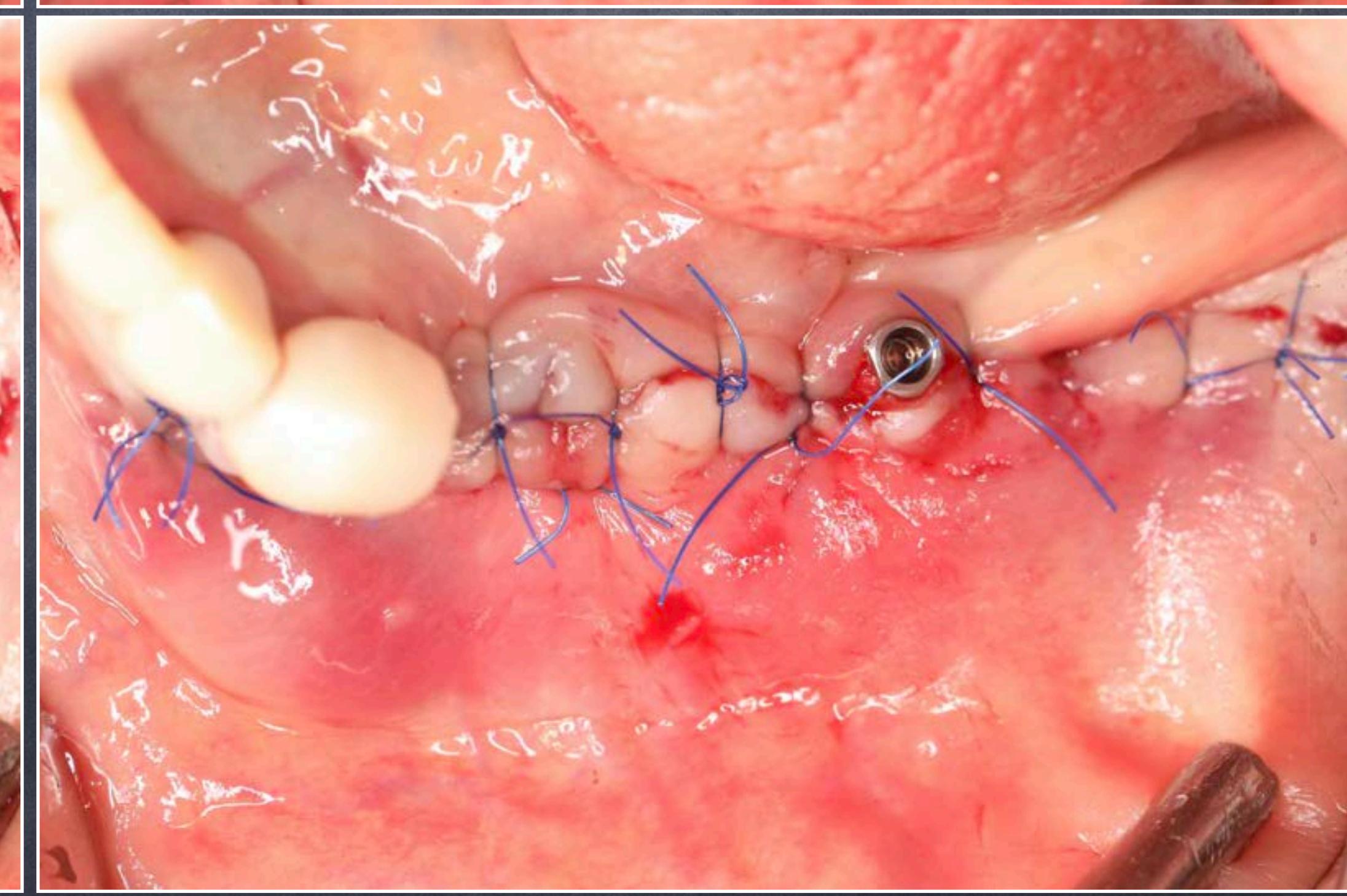
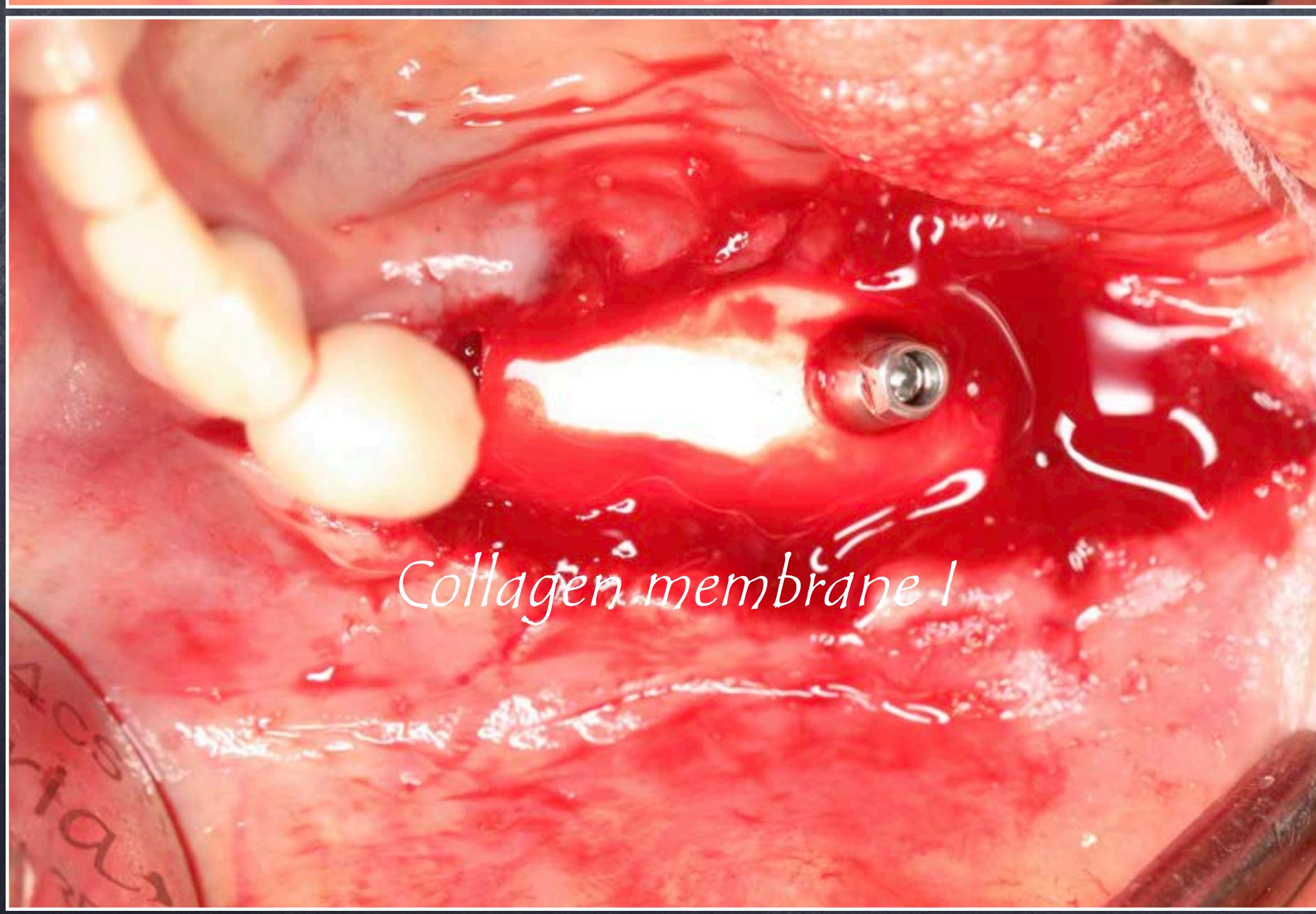
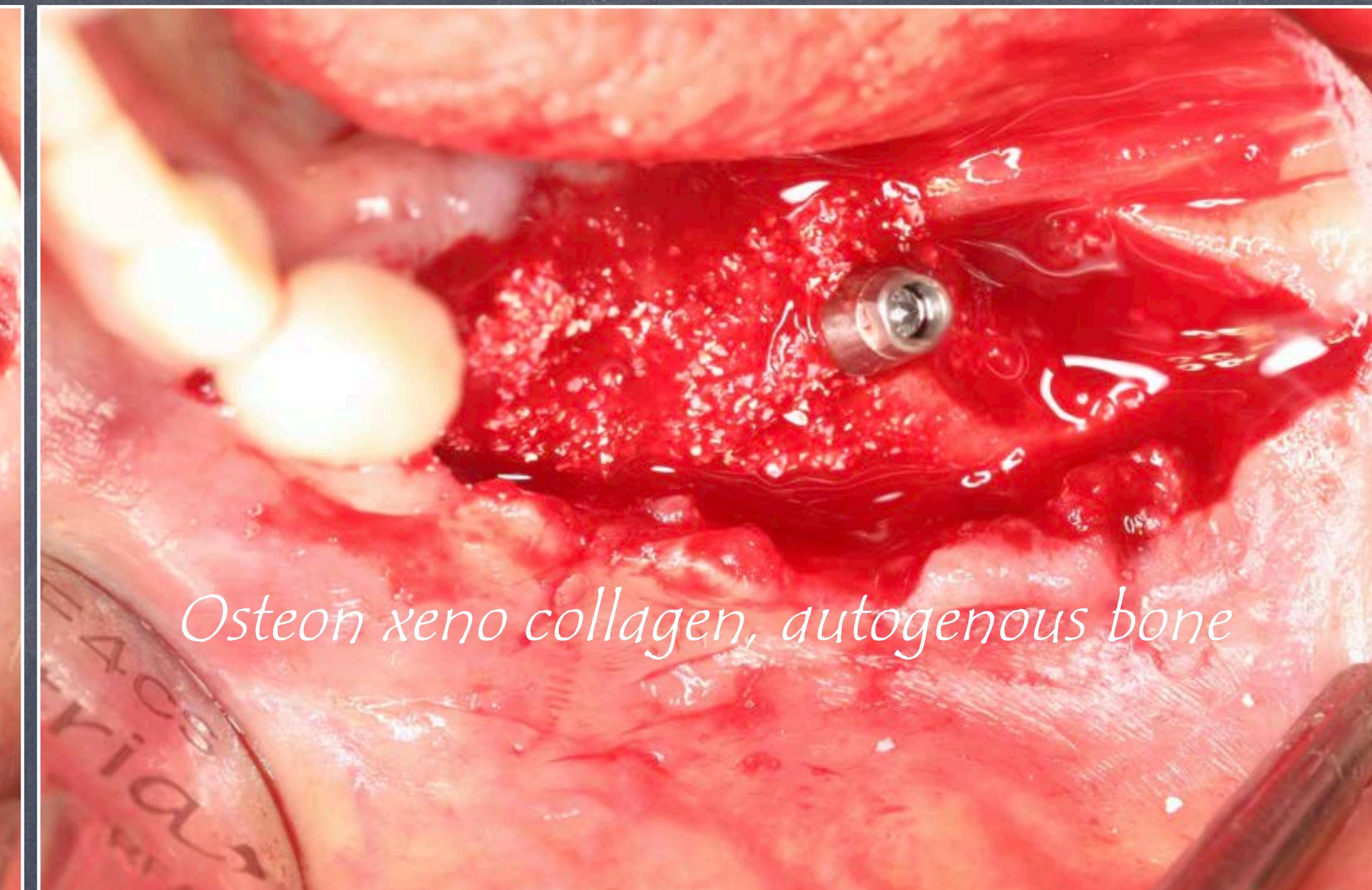
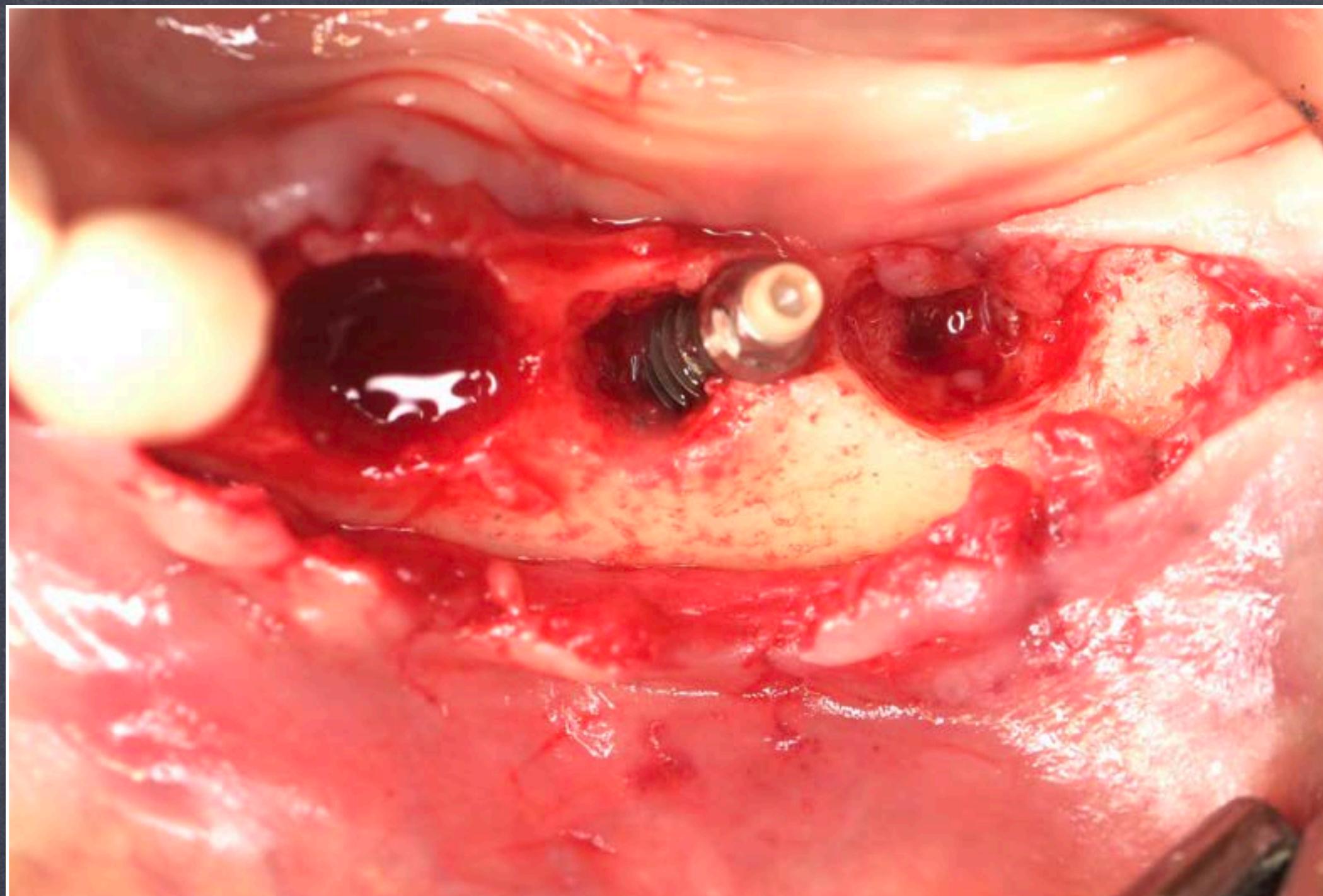
Decision making for the treatment of failing implants

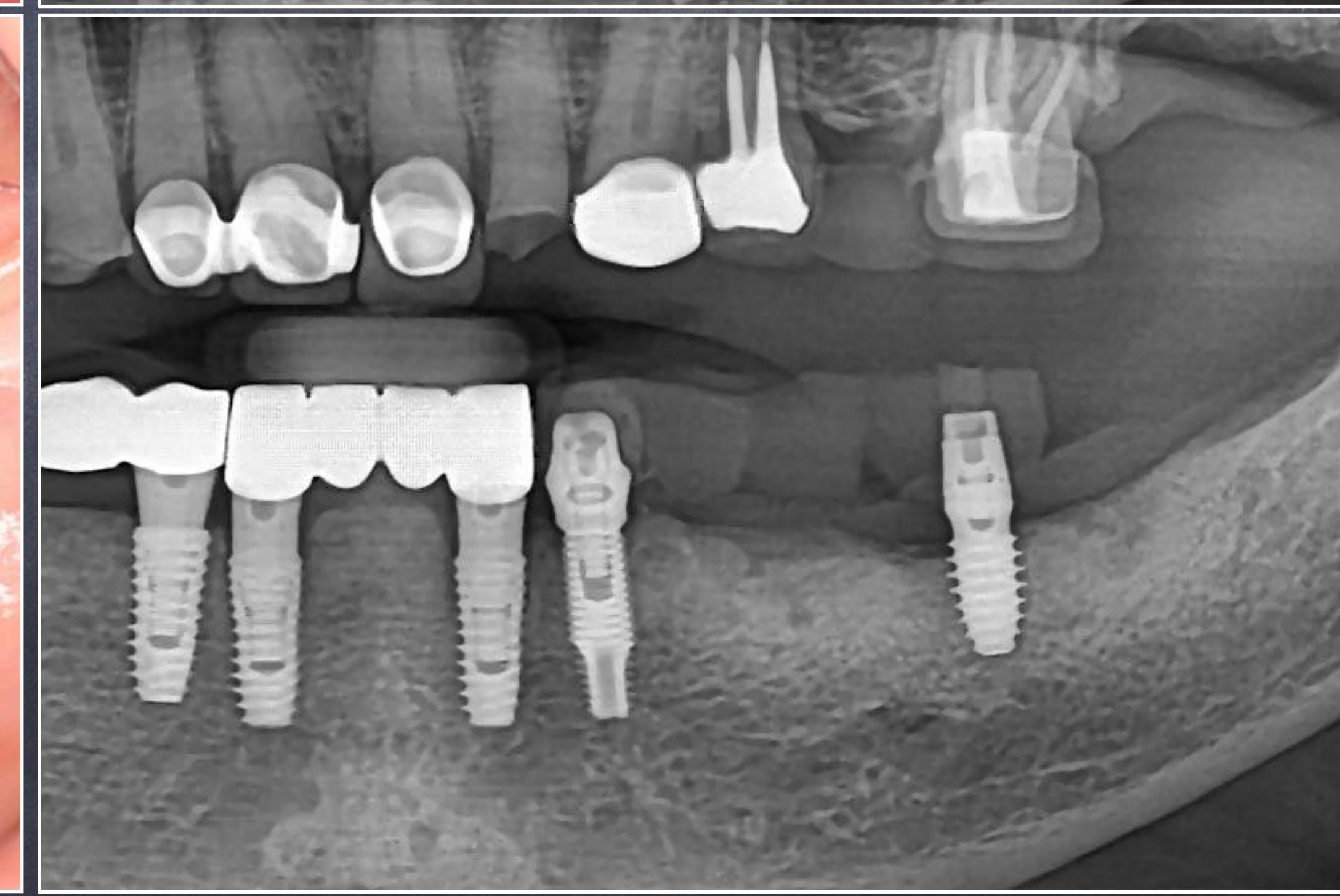
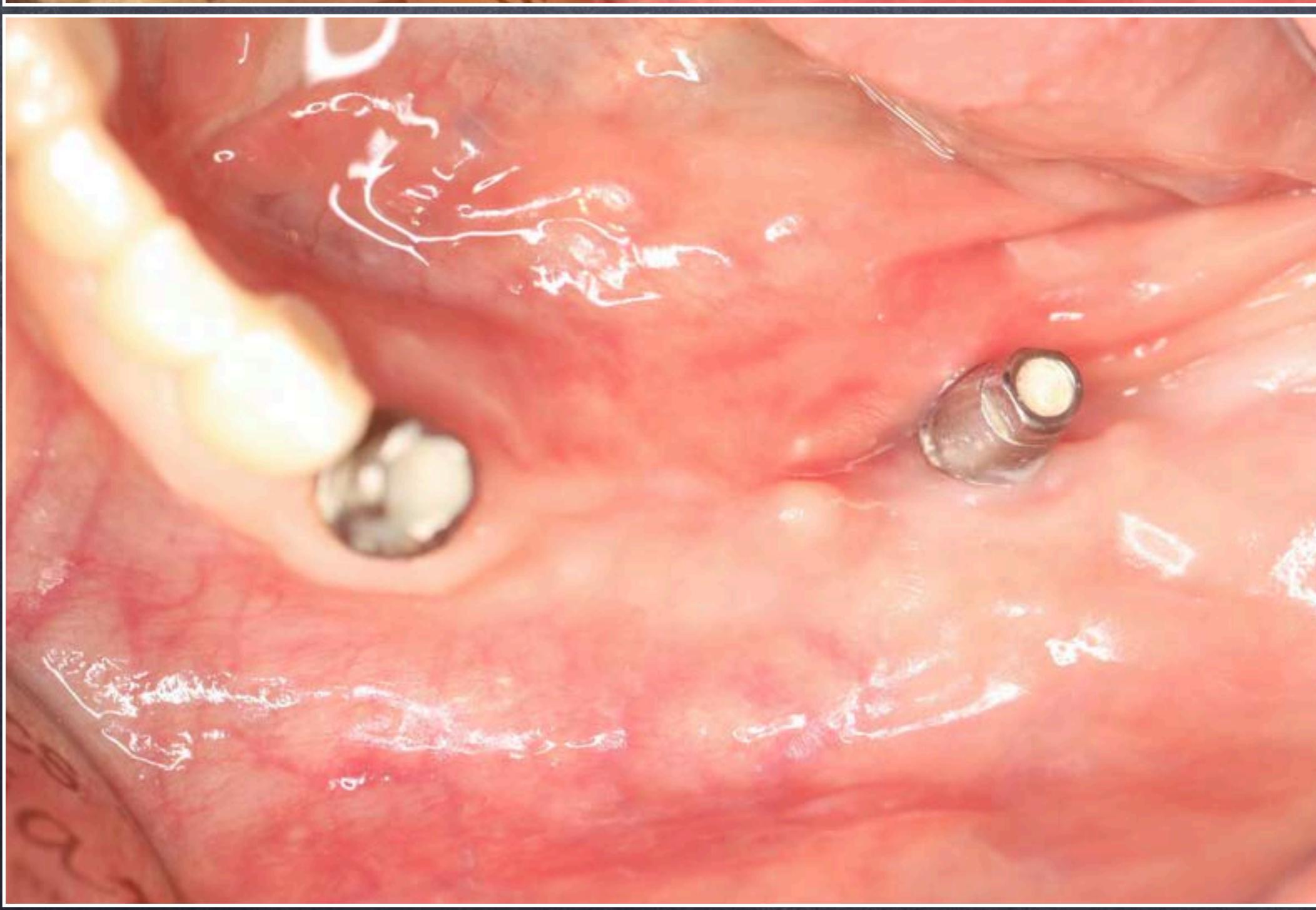
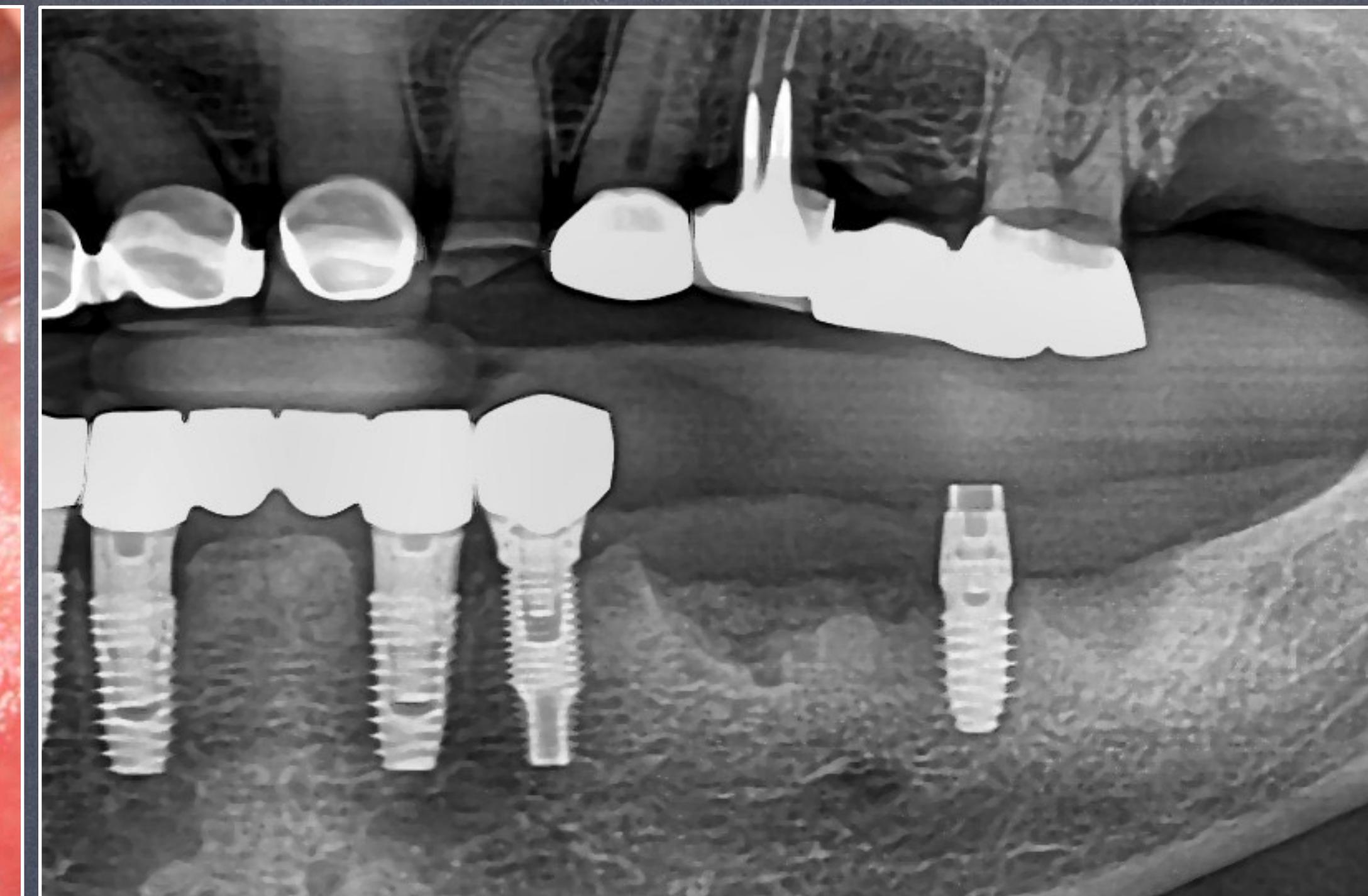


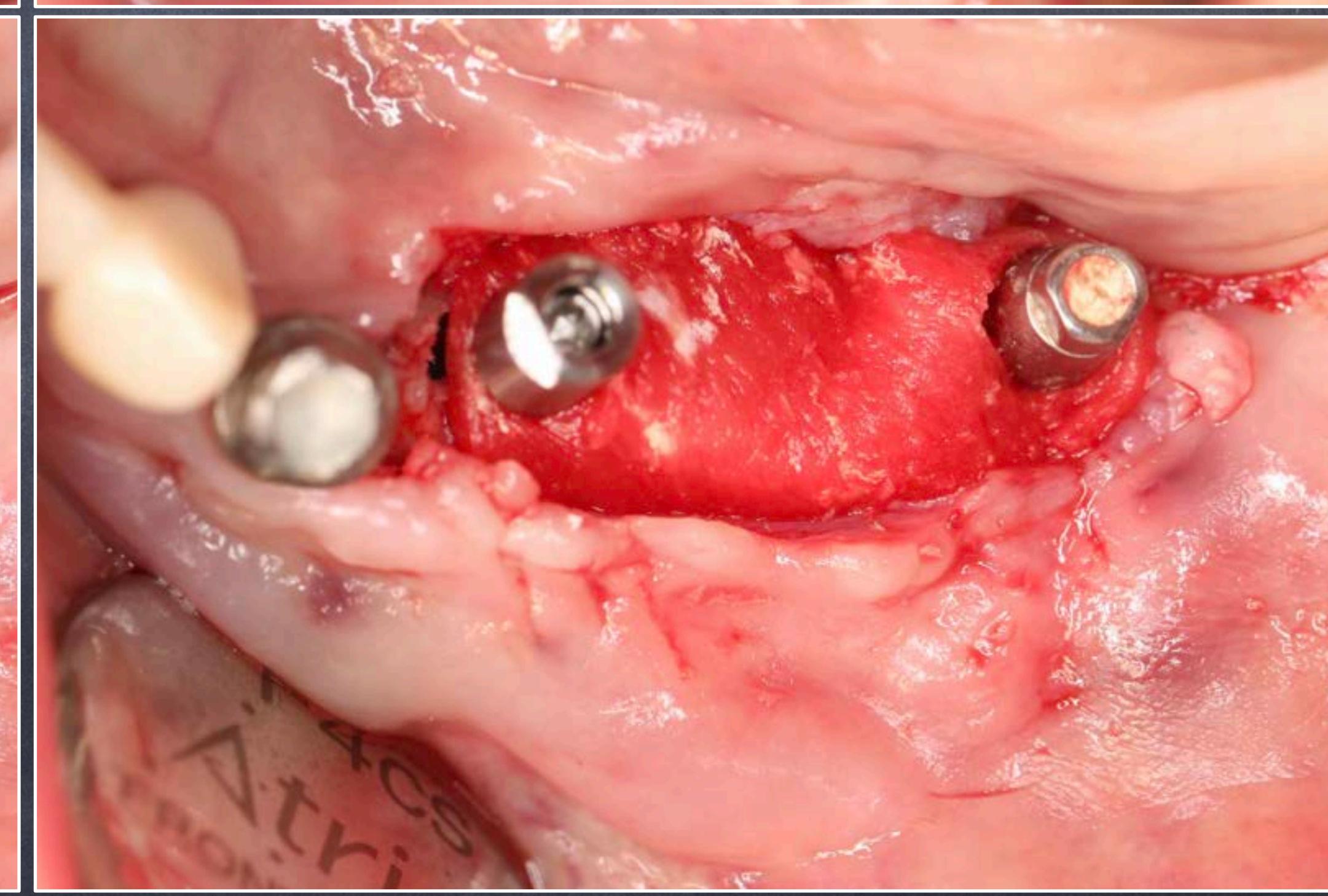
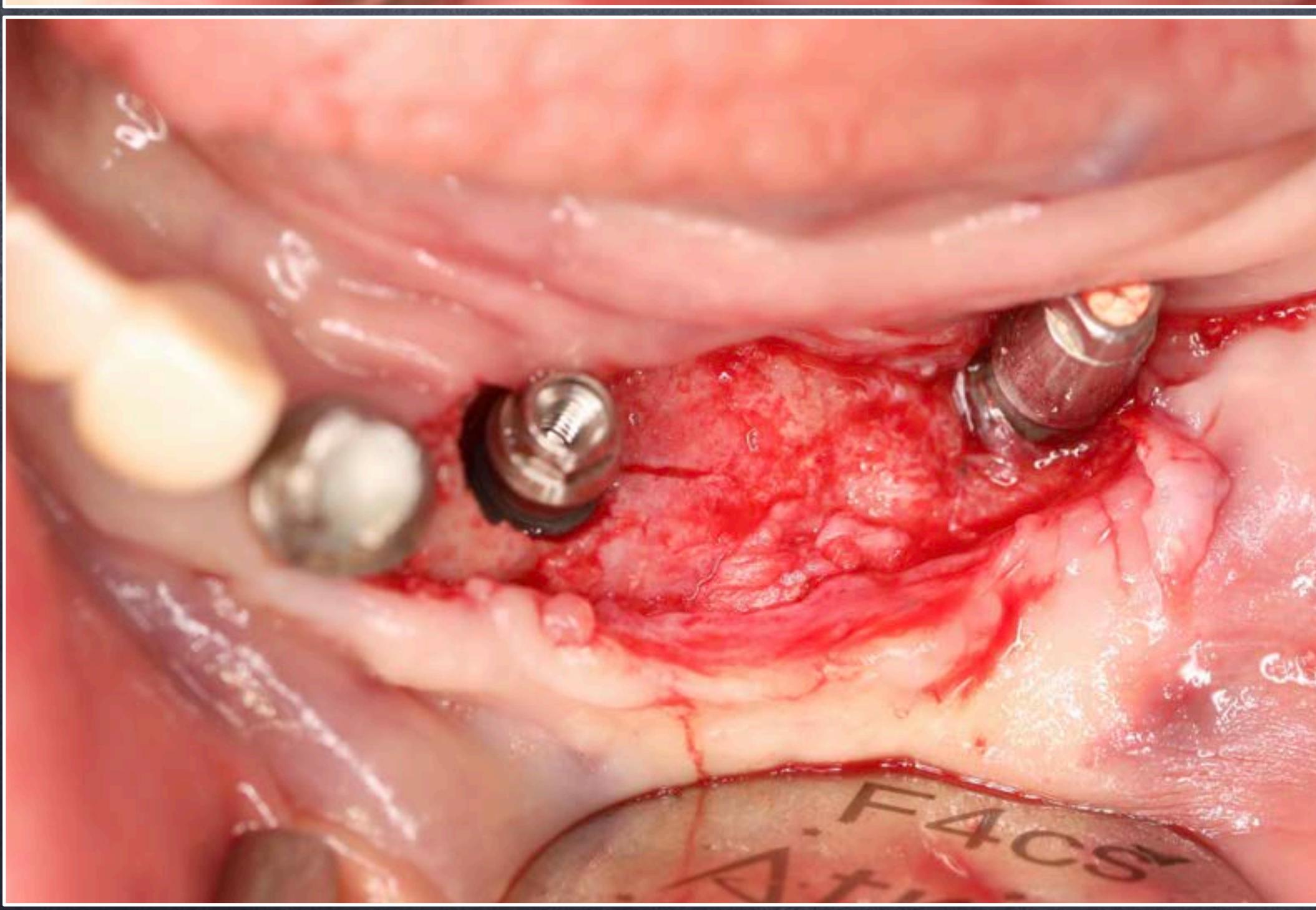
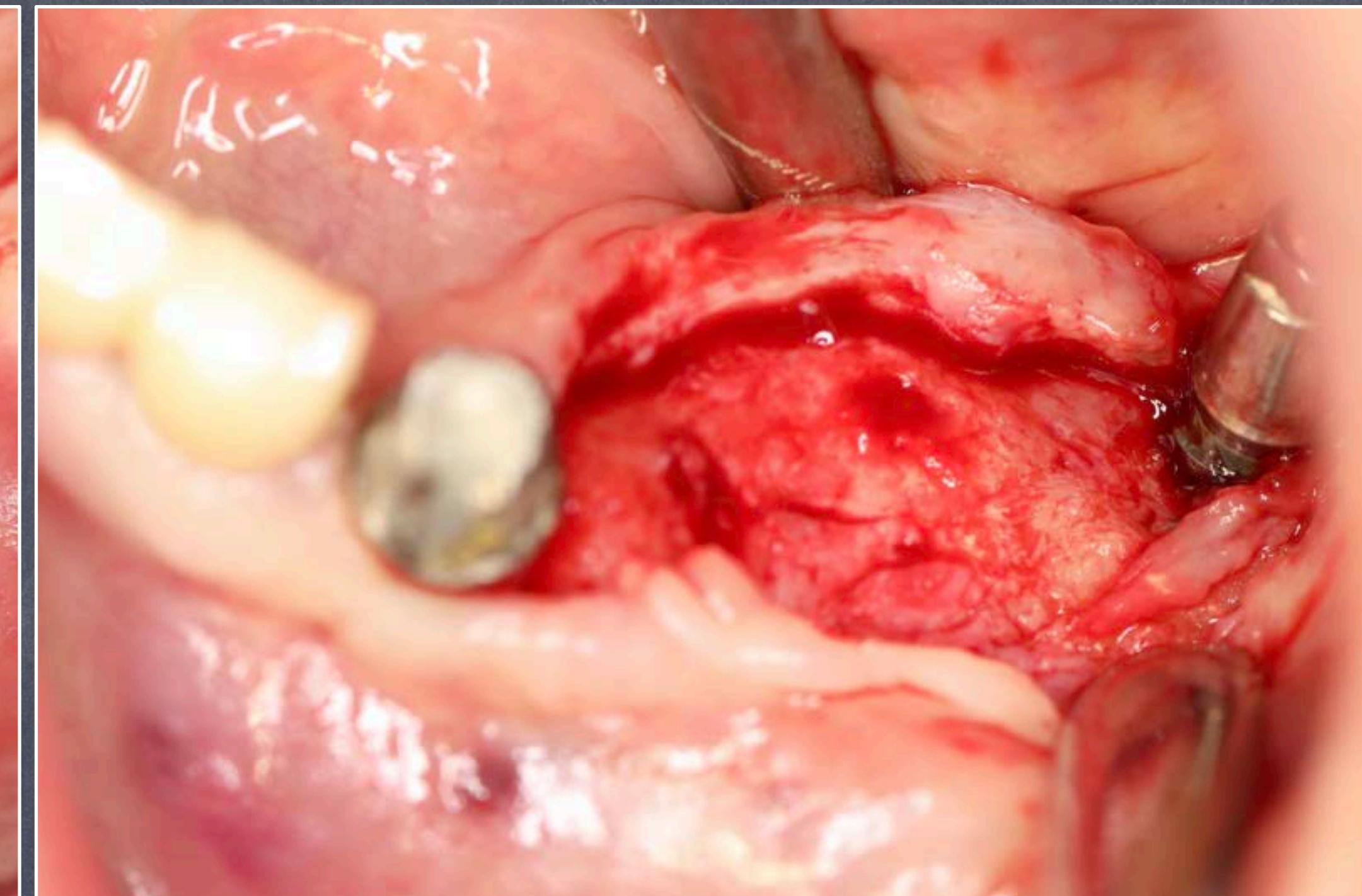
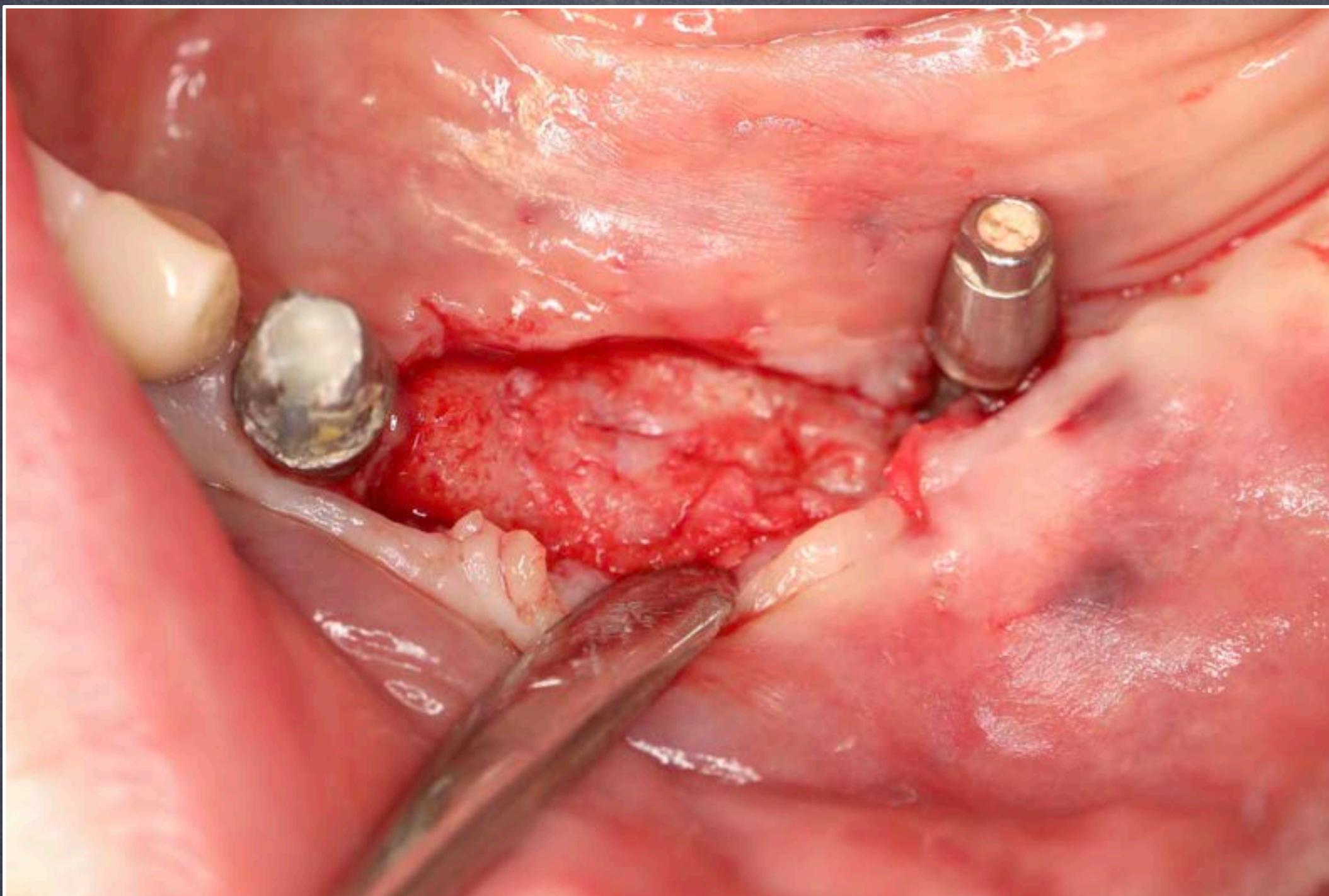


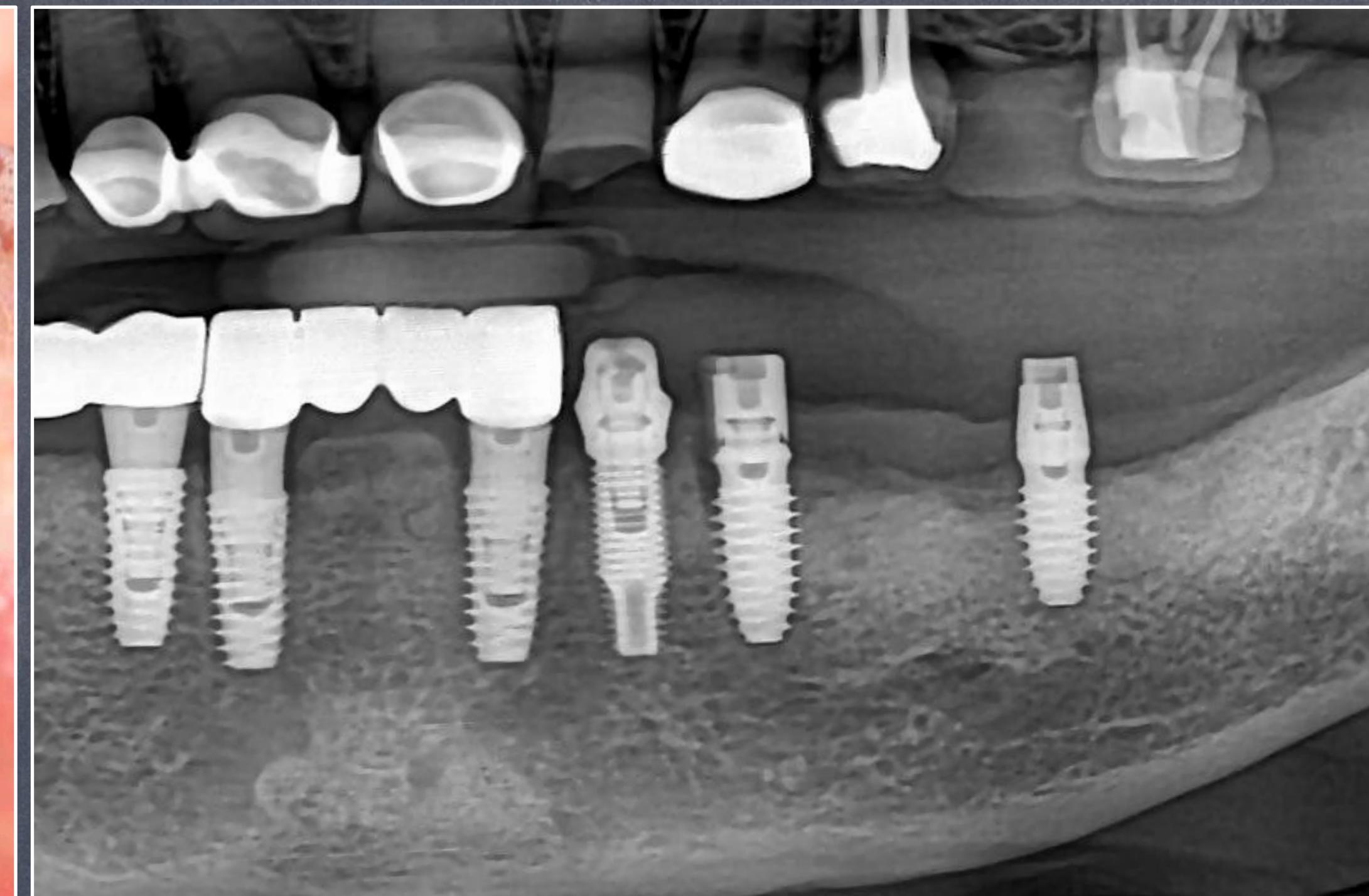
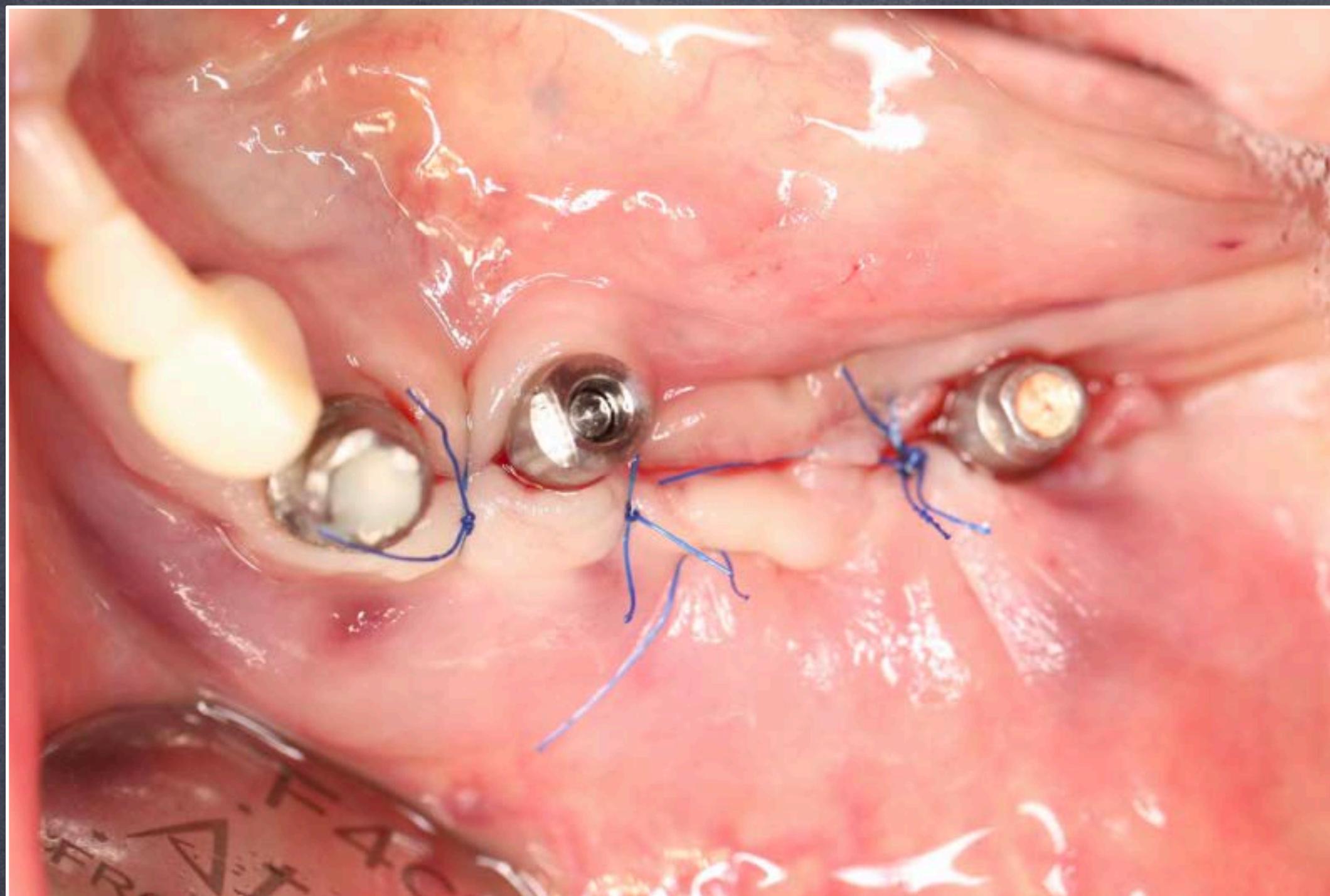


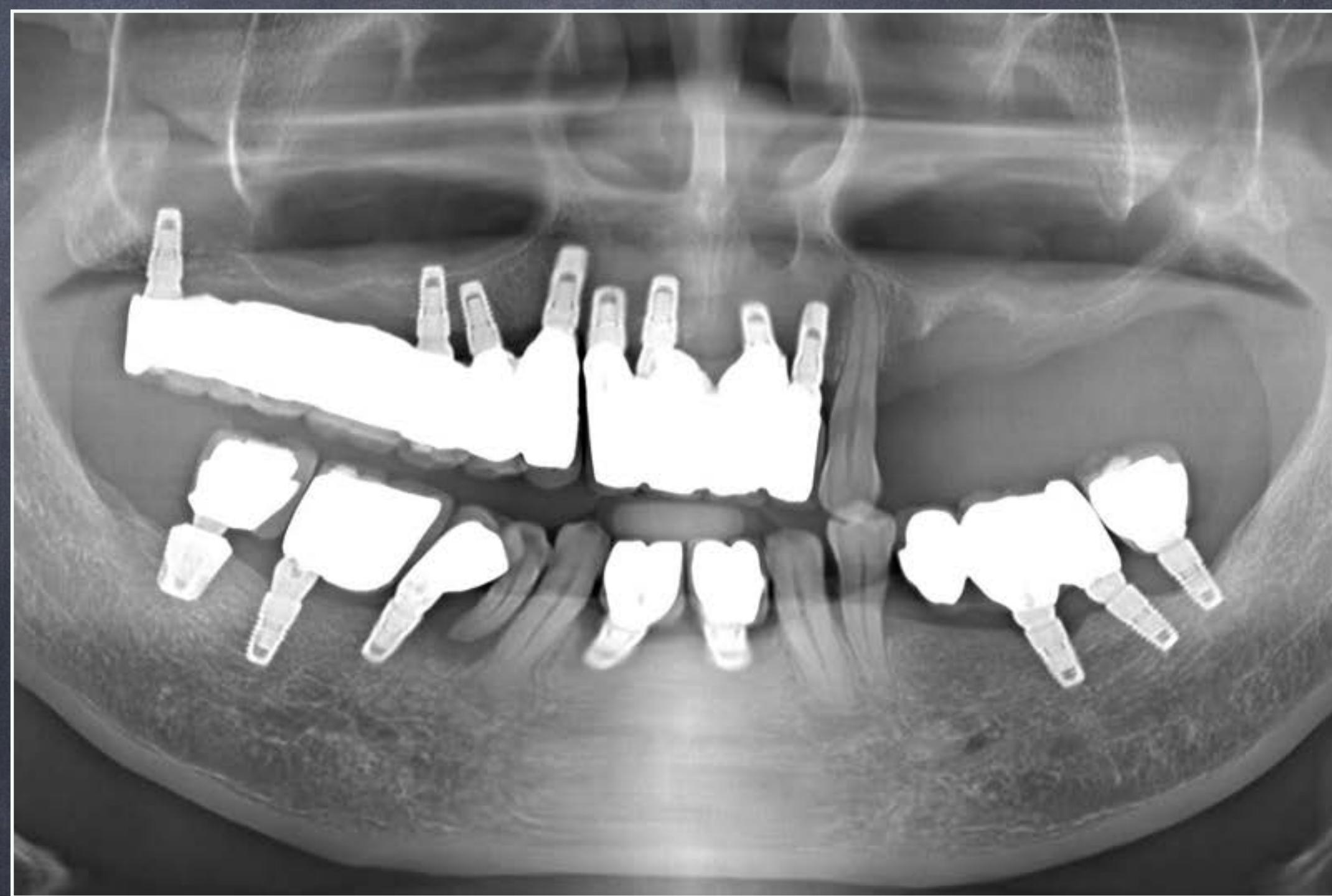
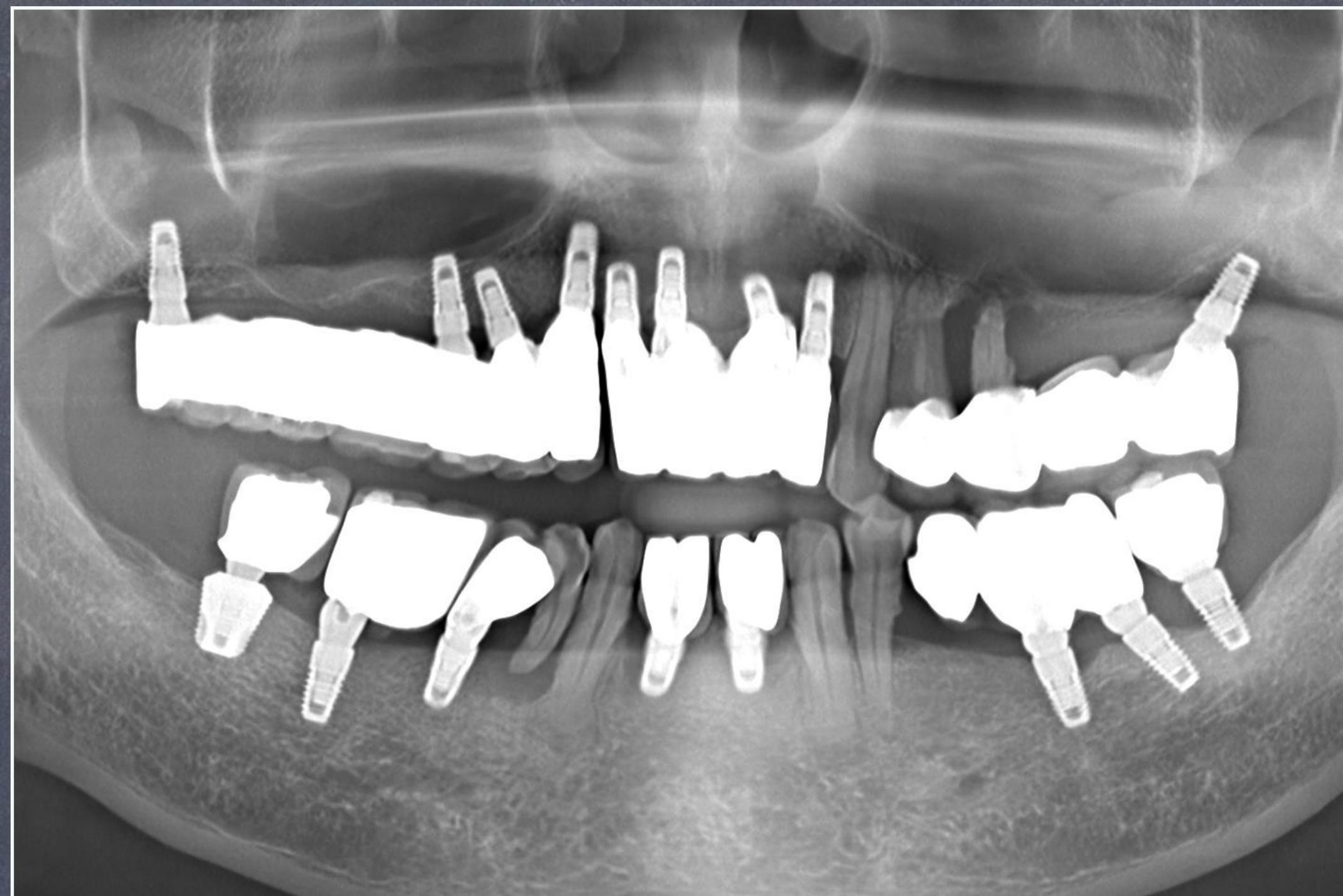
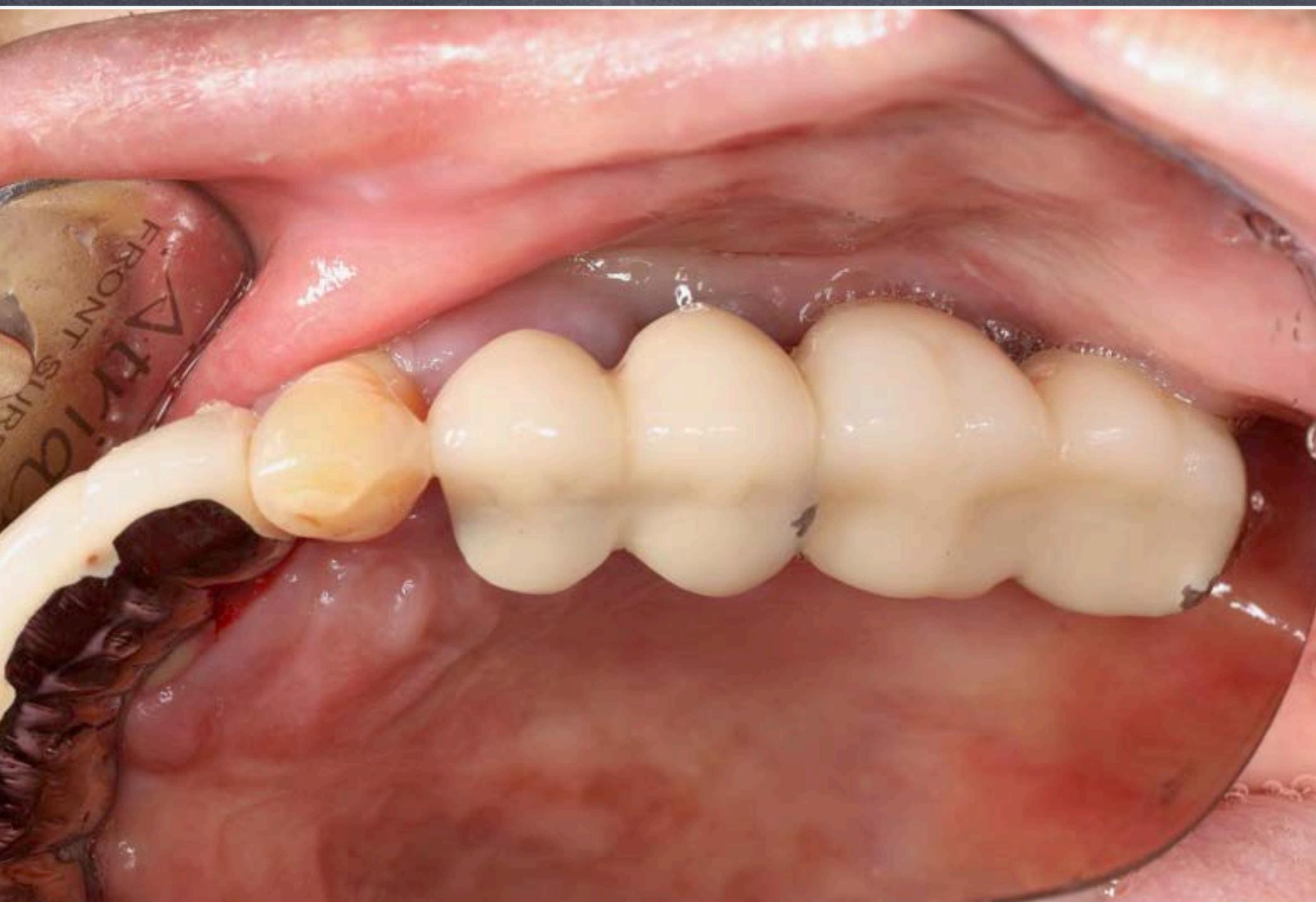


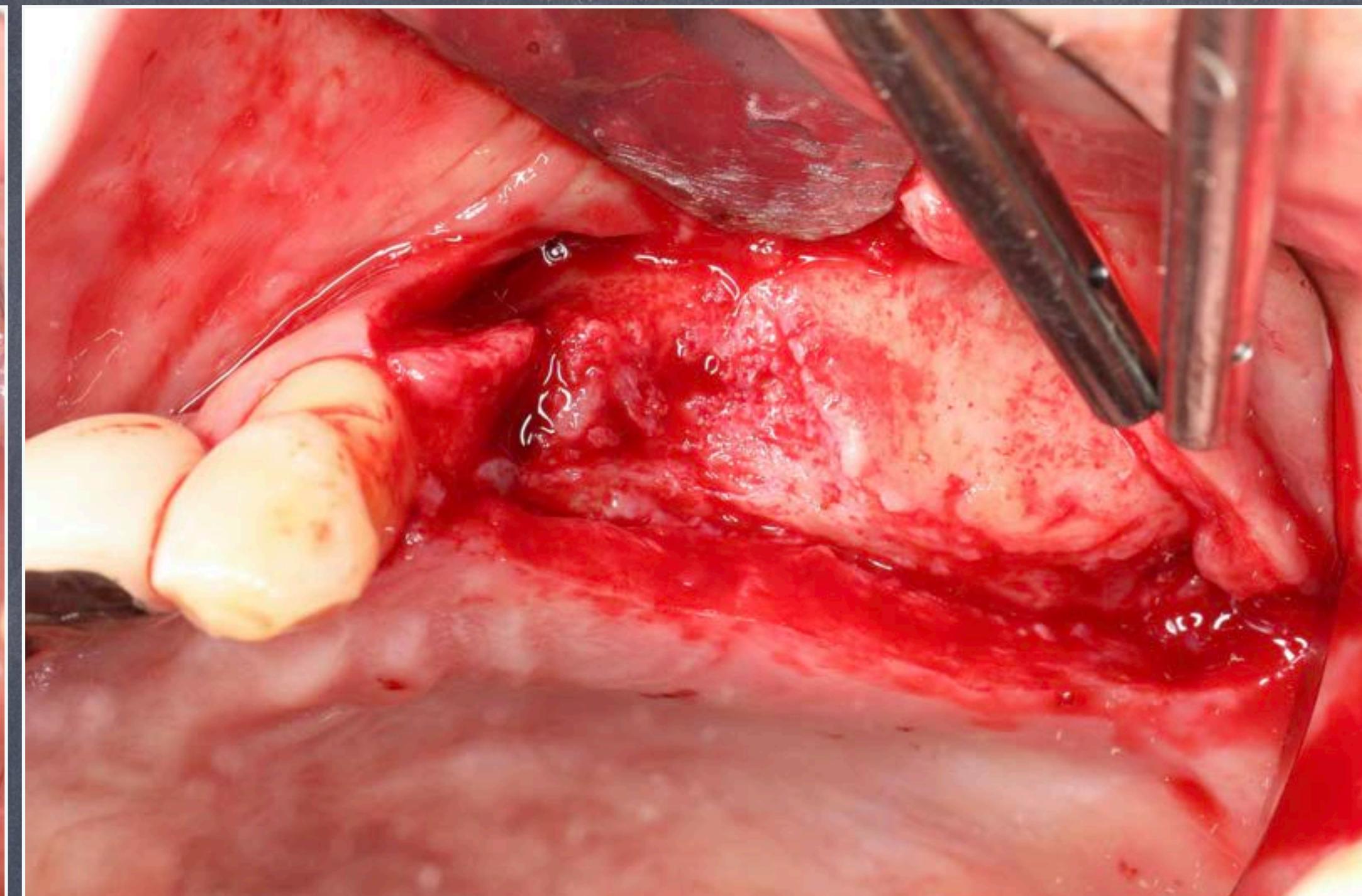


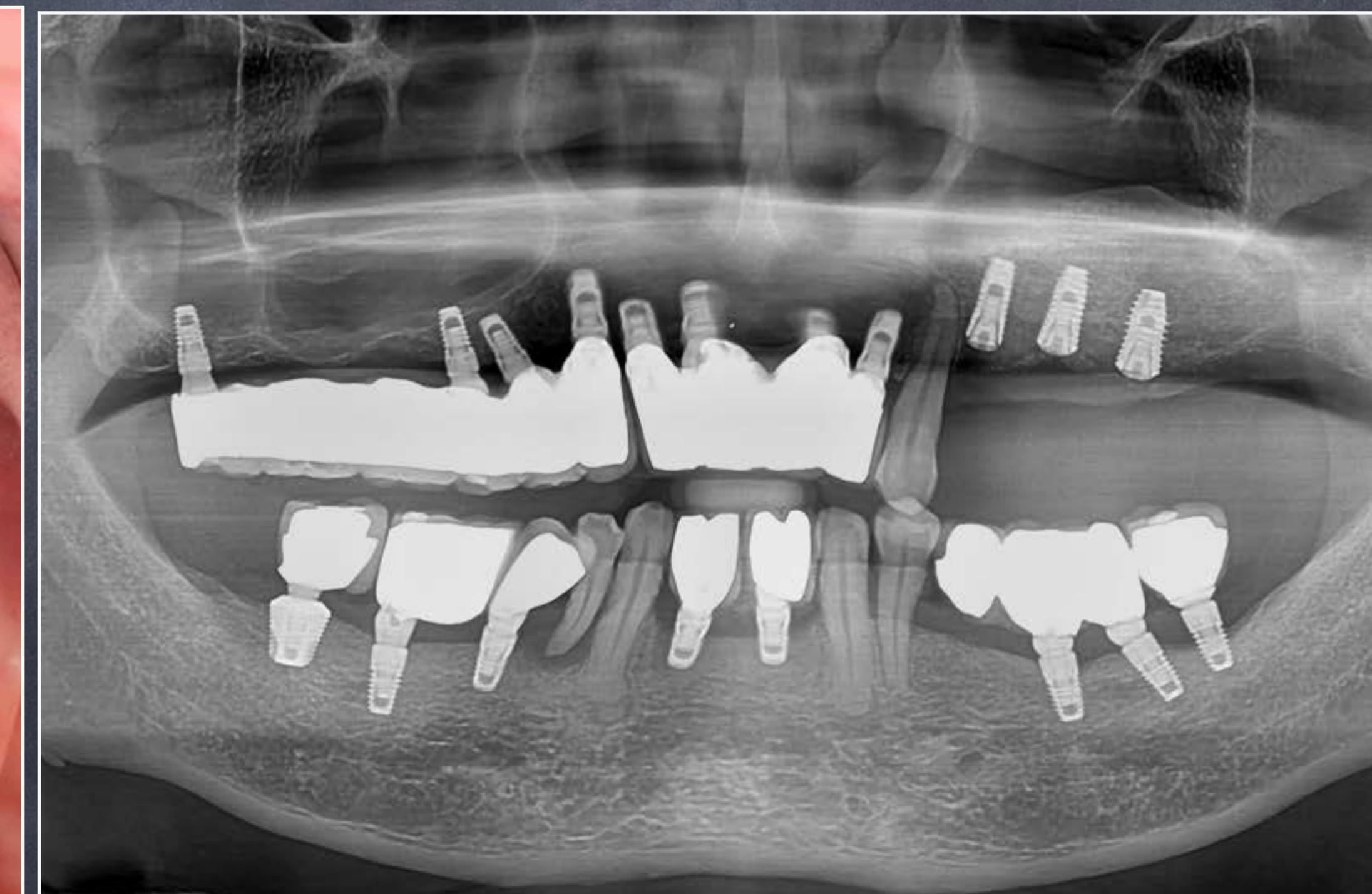
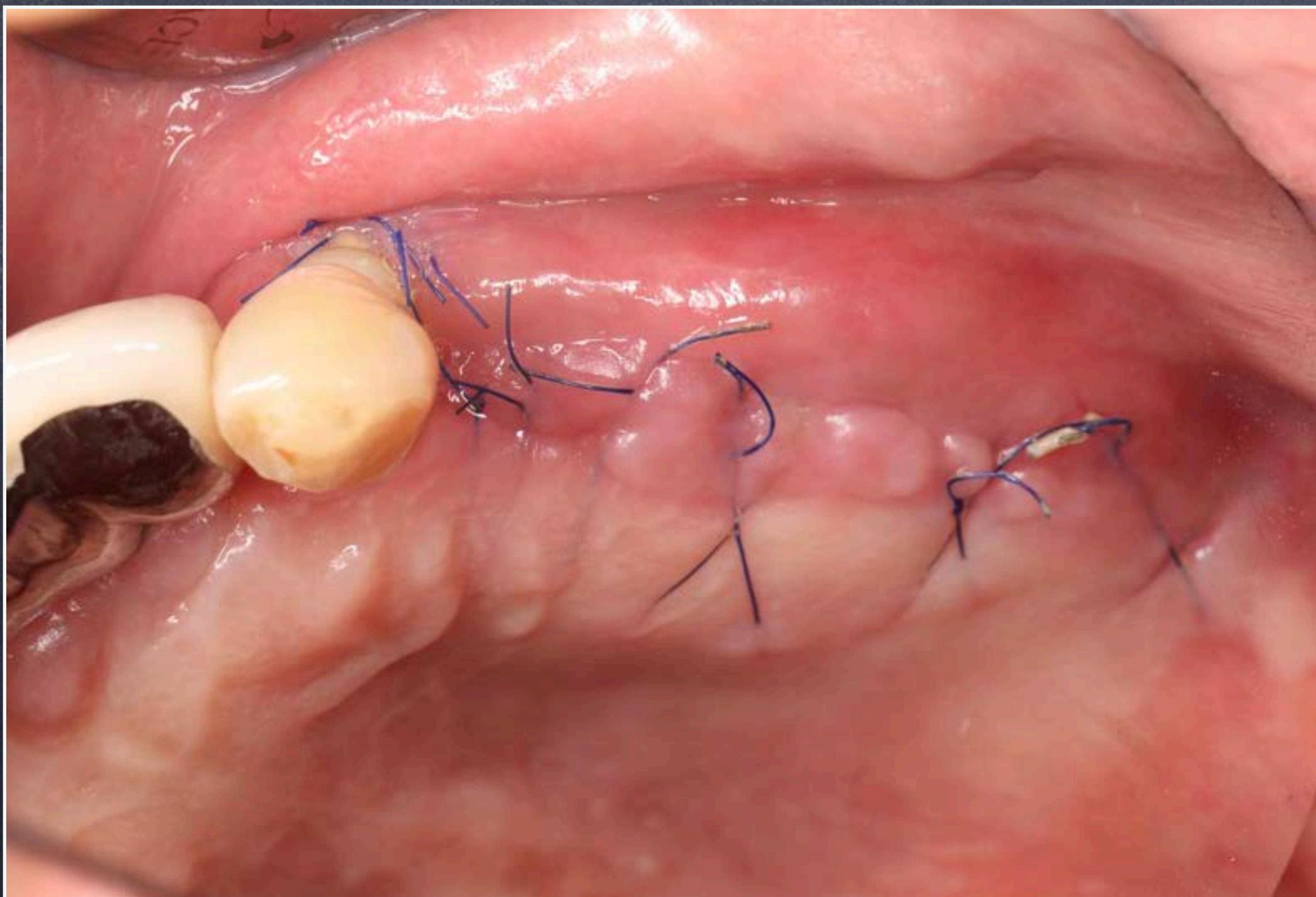
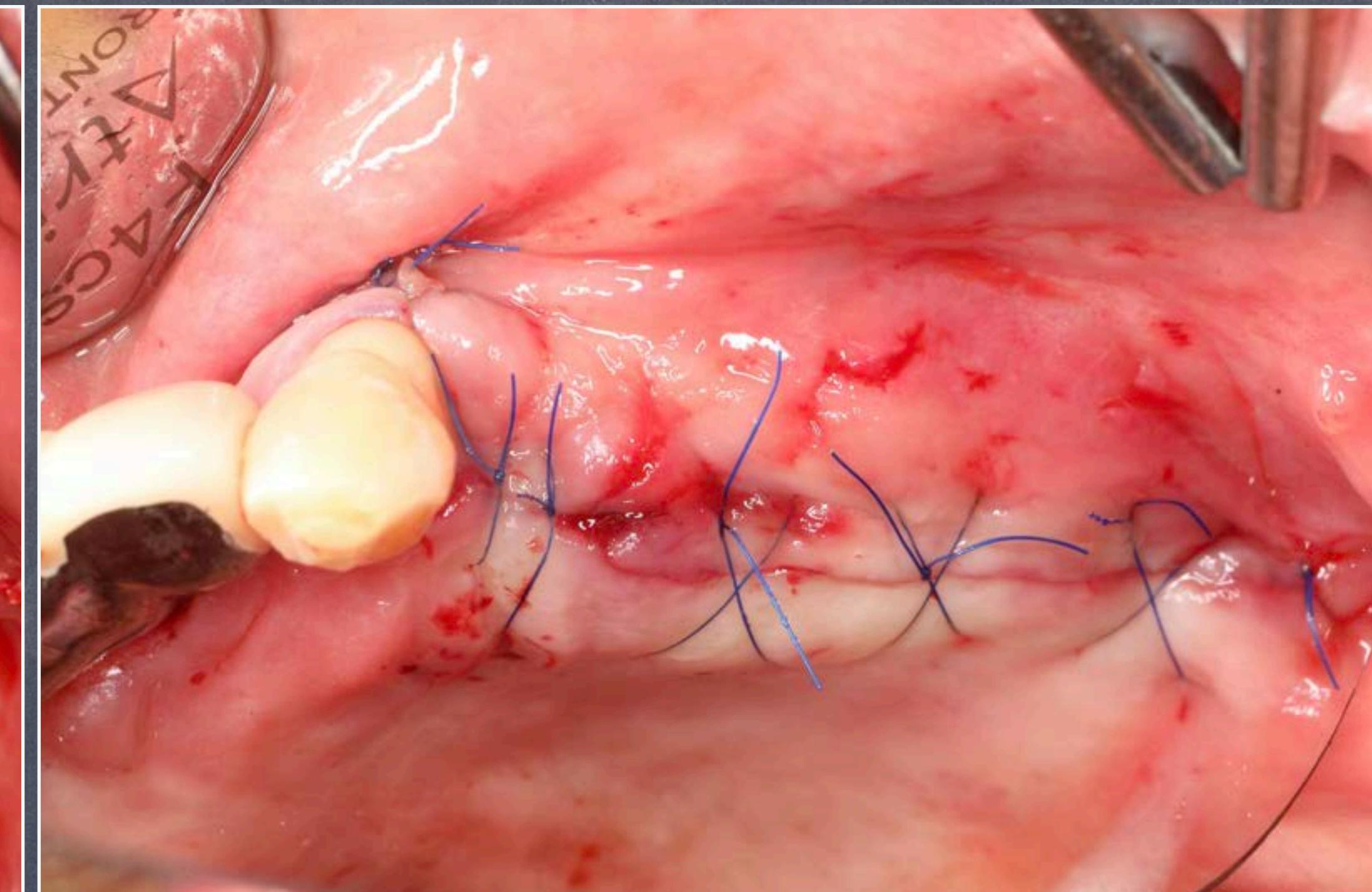
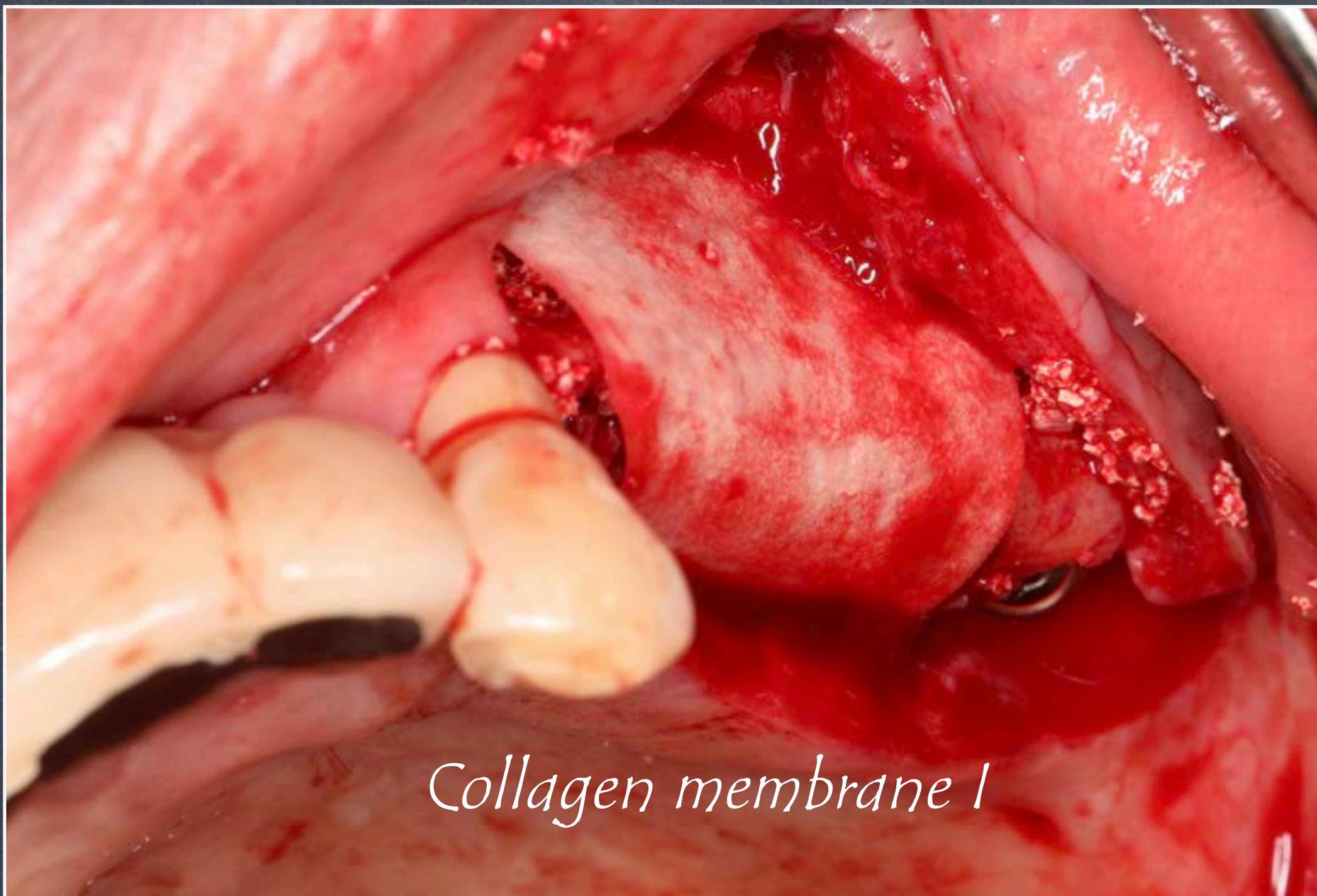


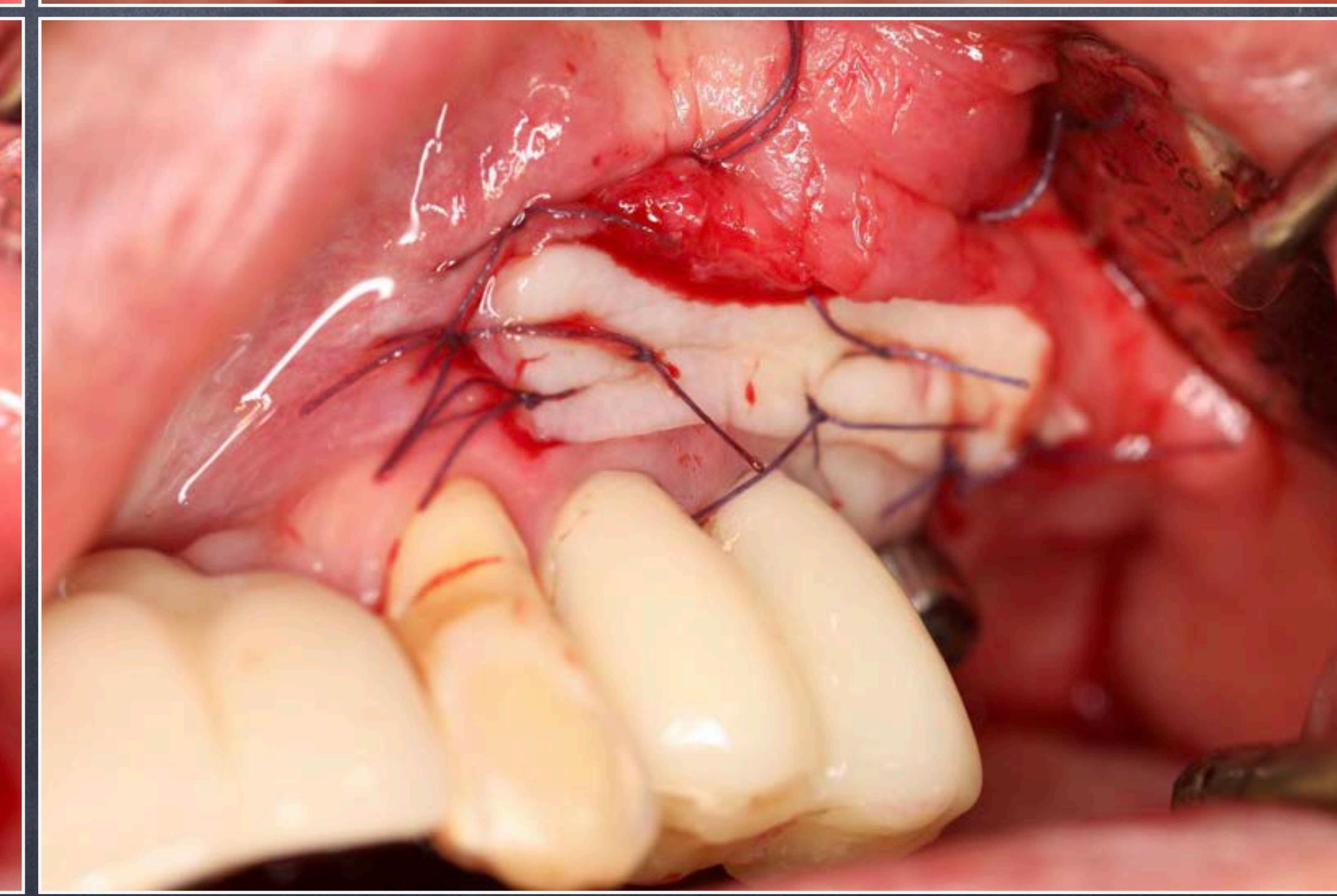
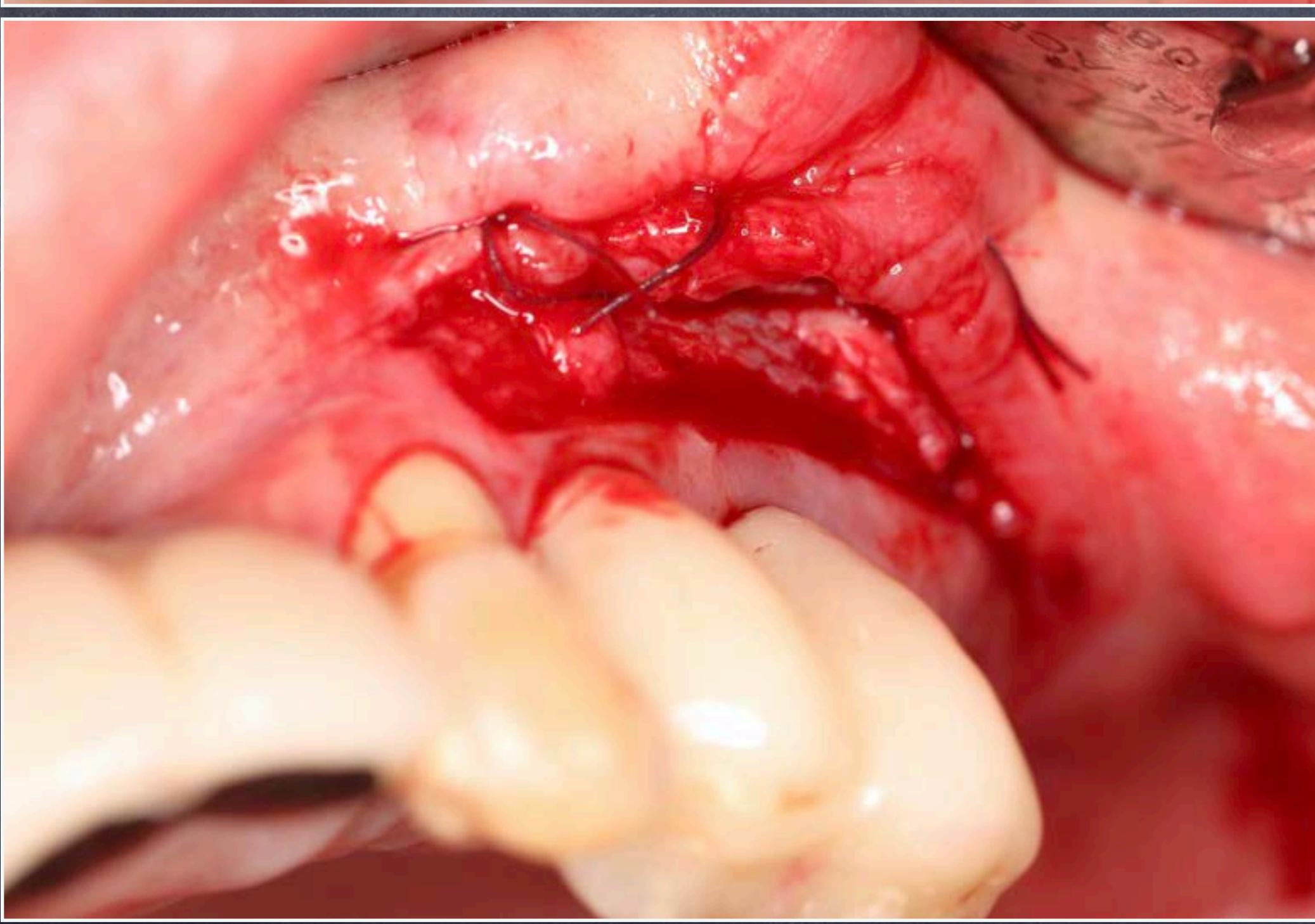
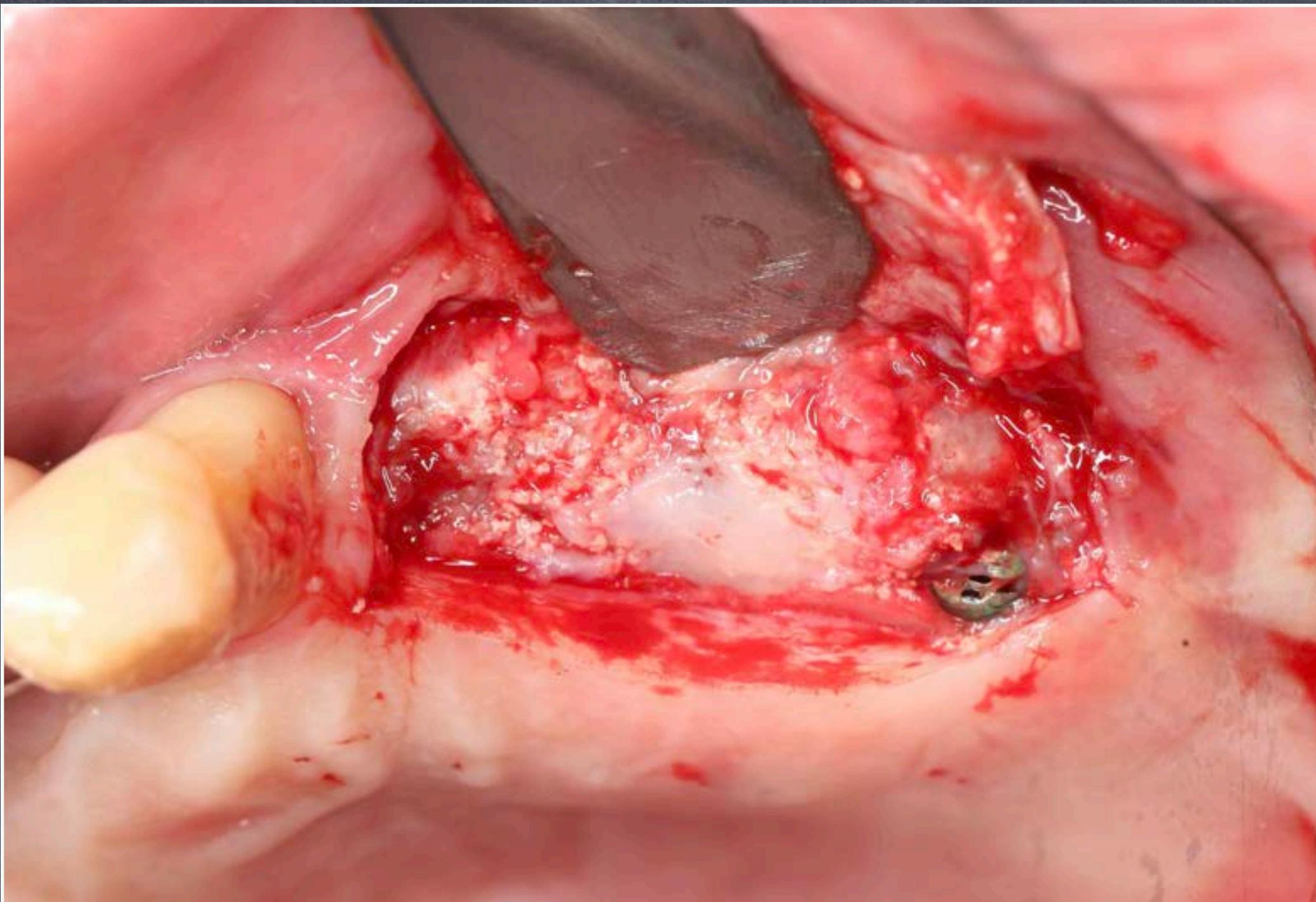


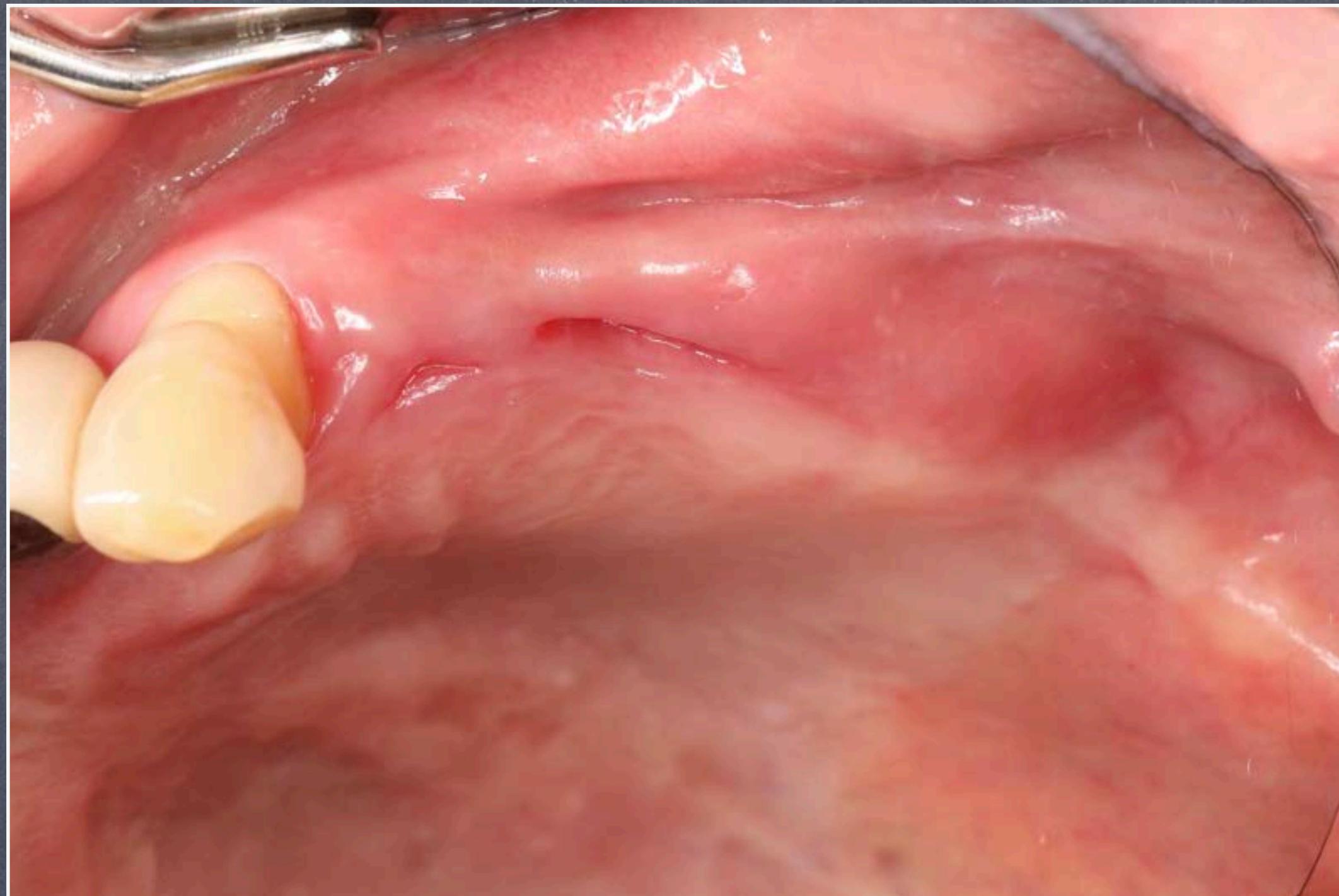


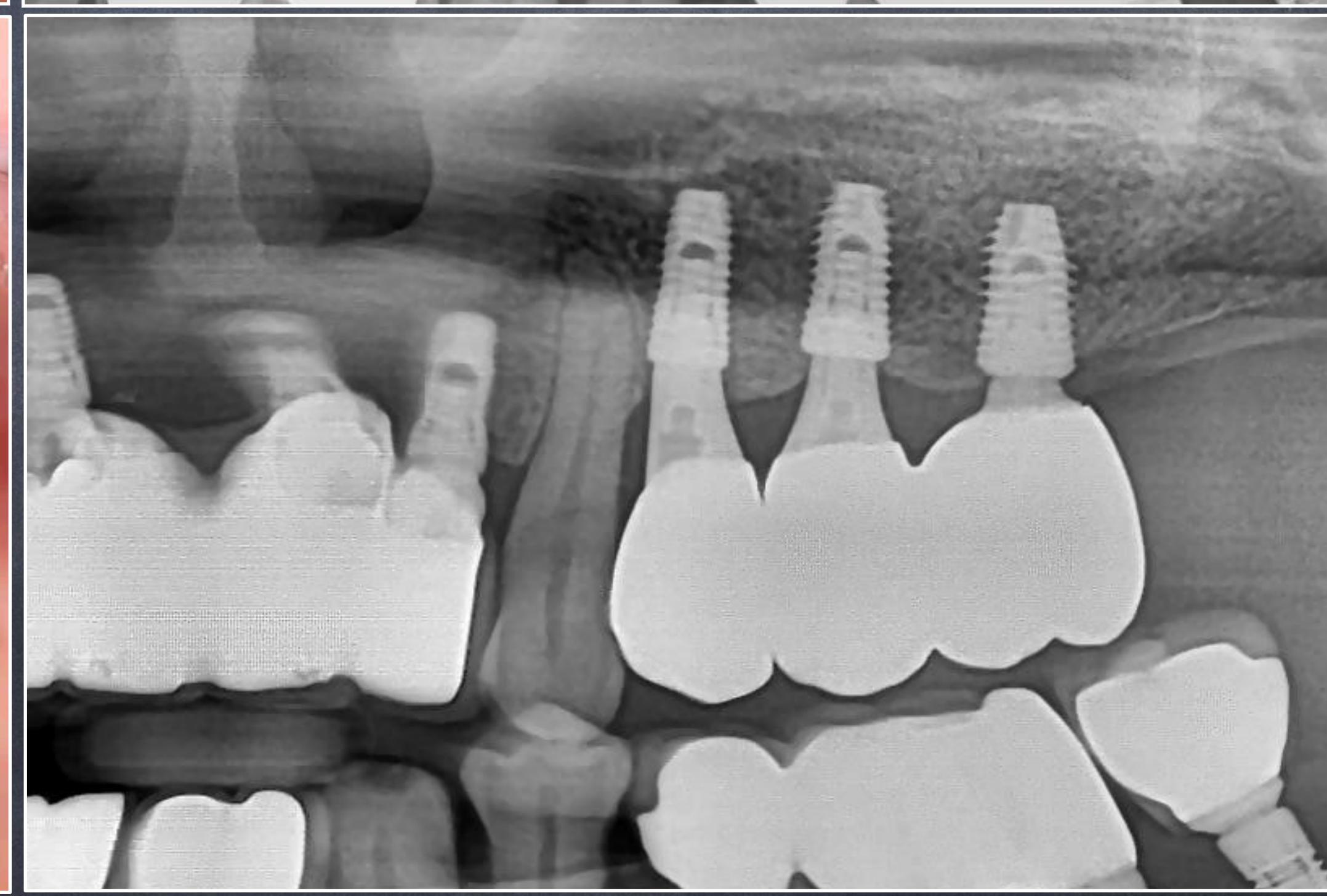
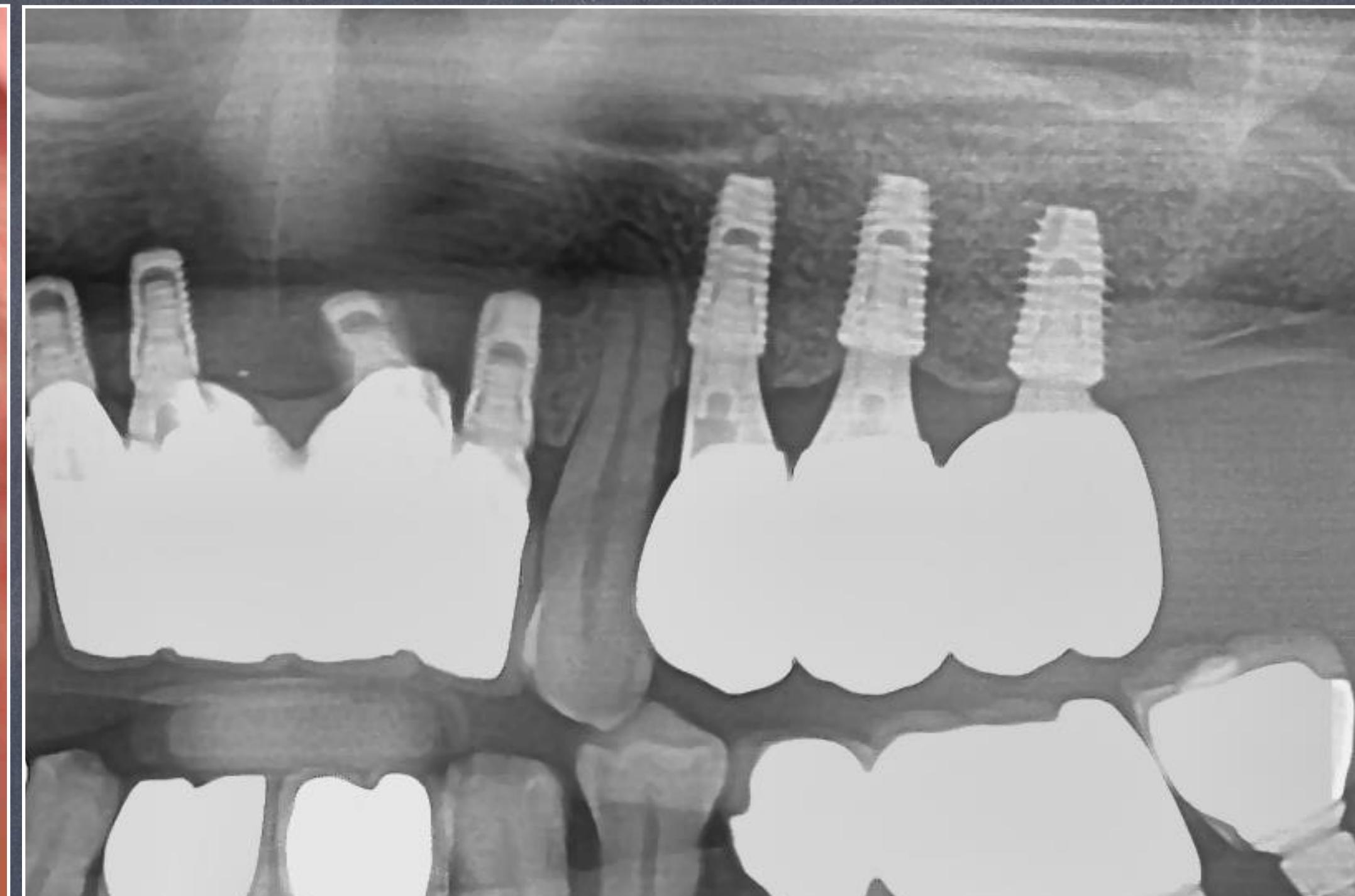




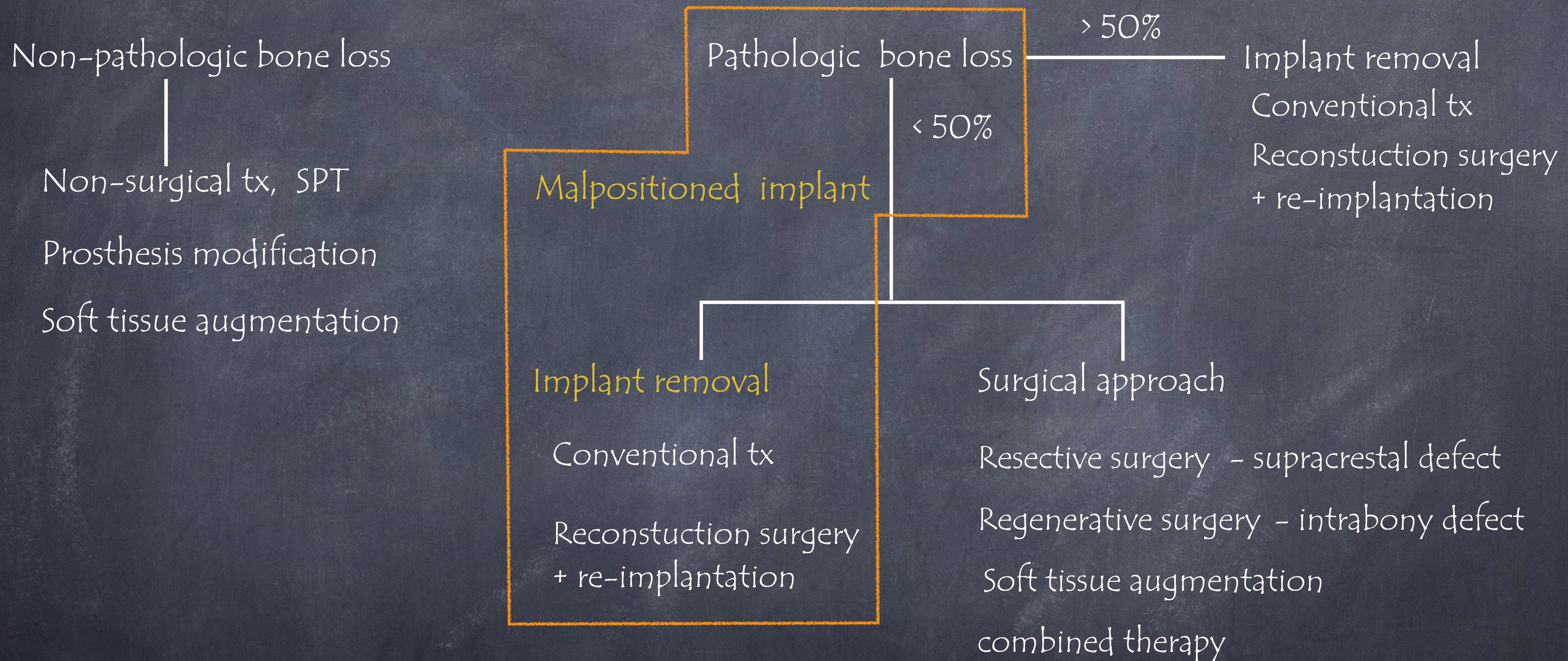


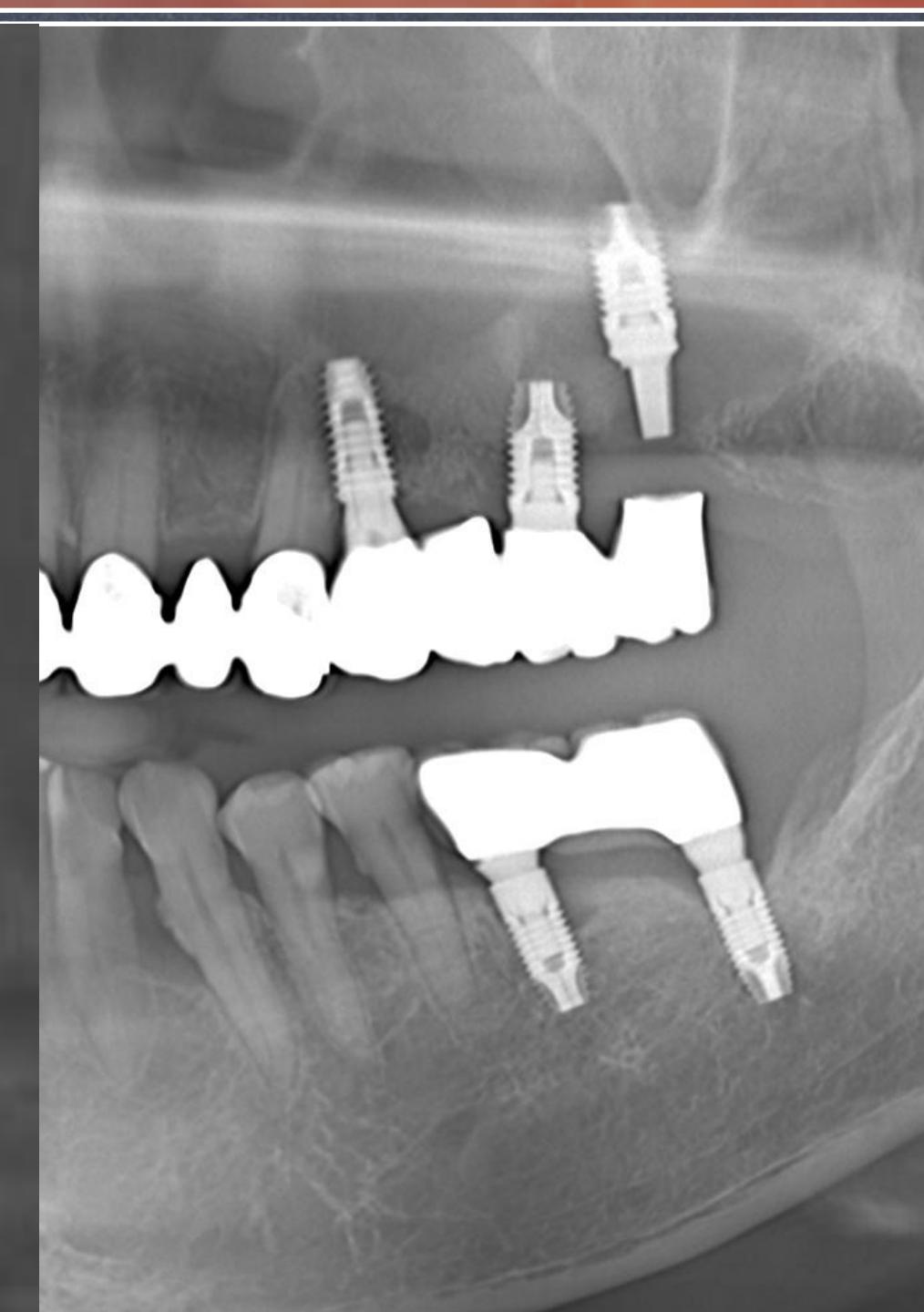


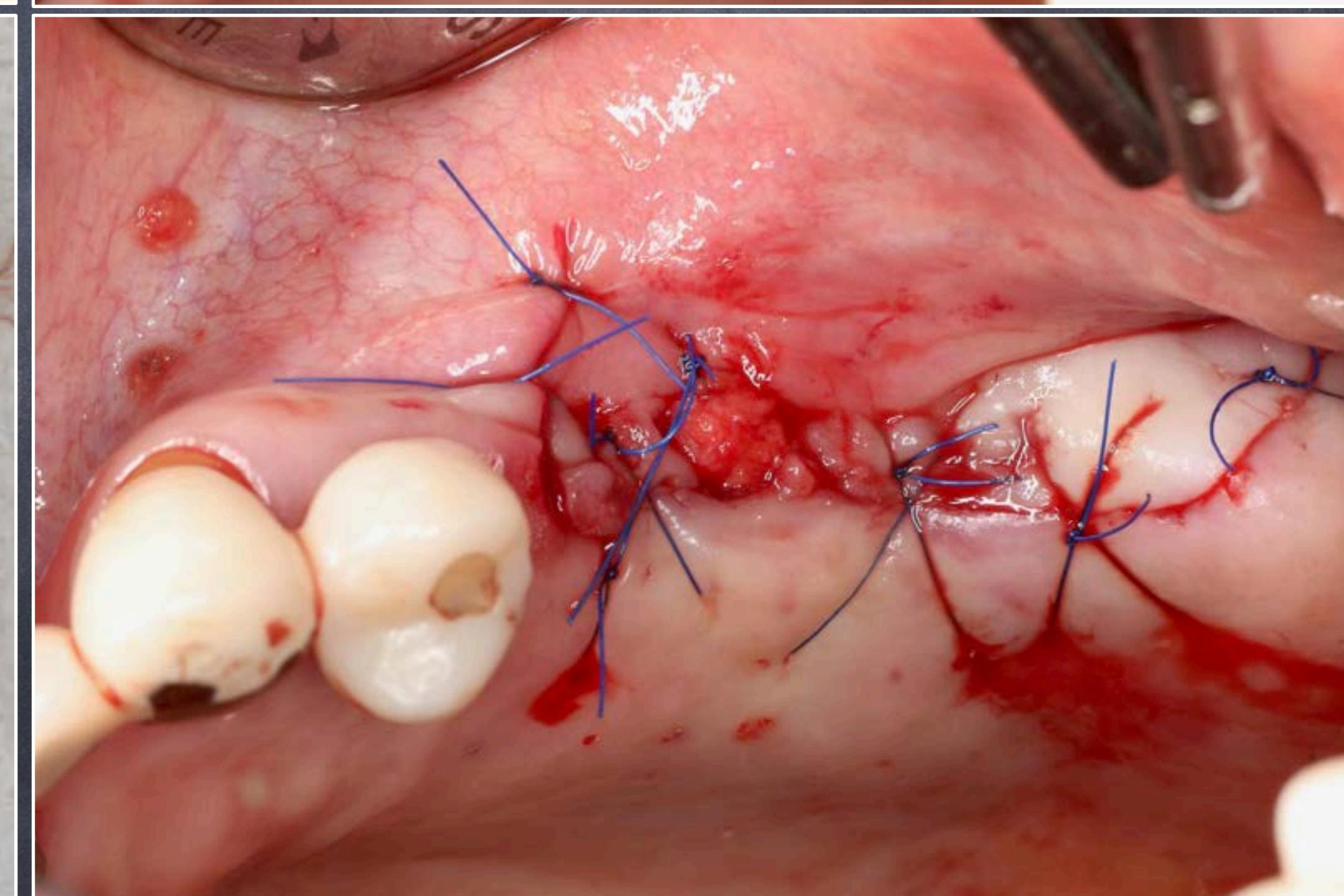
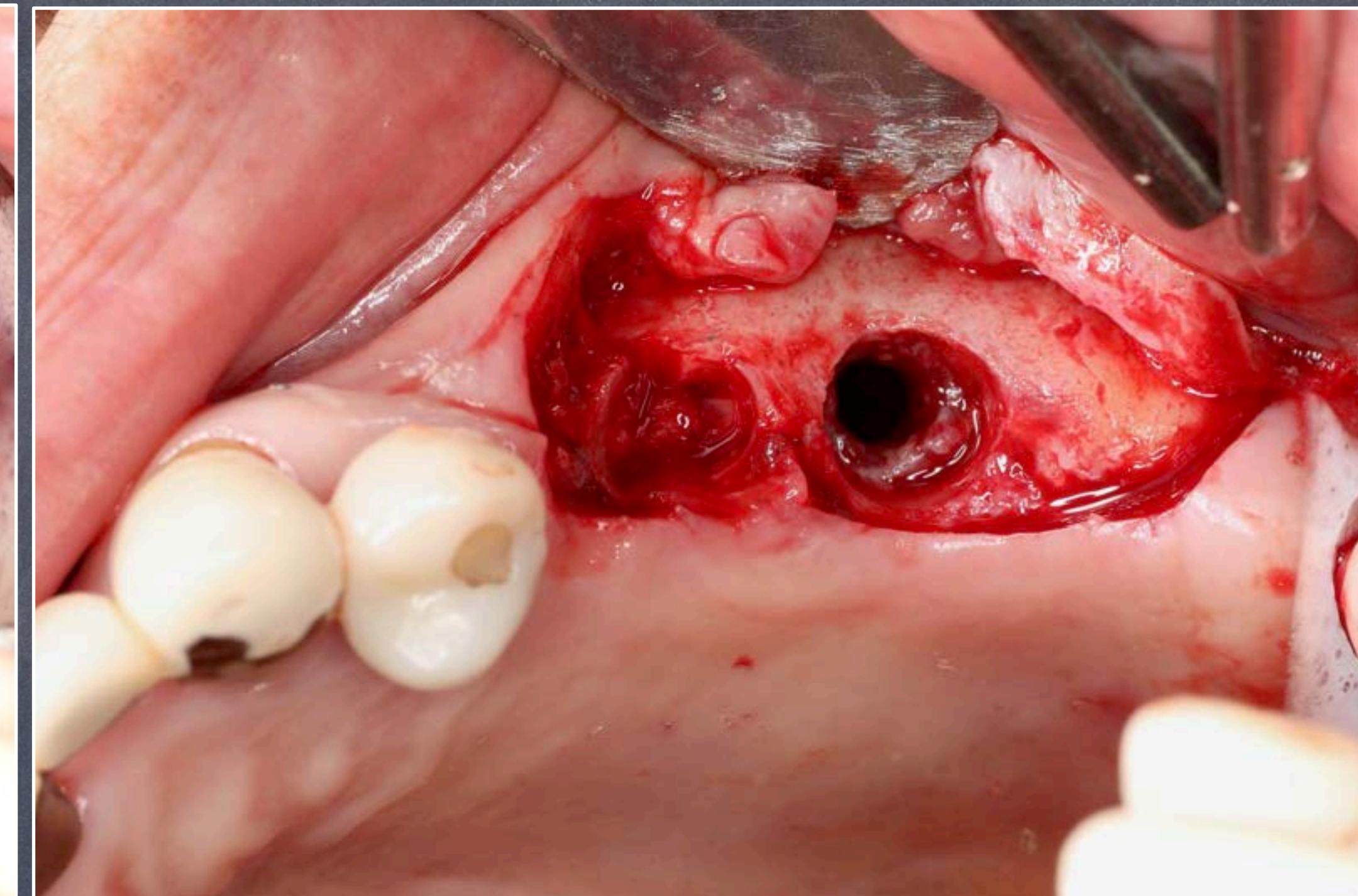
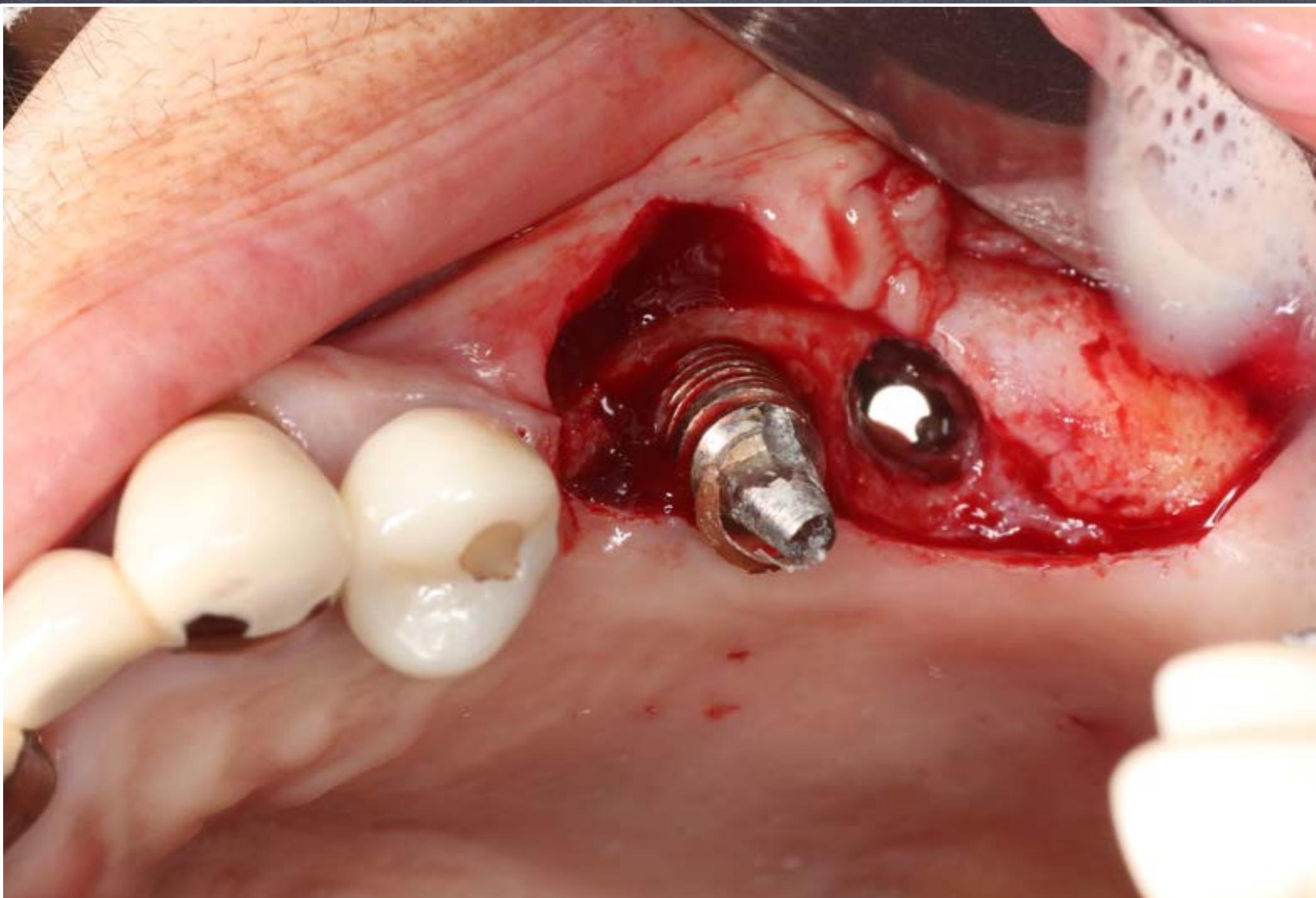


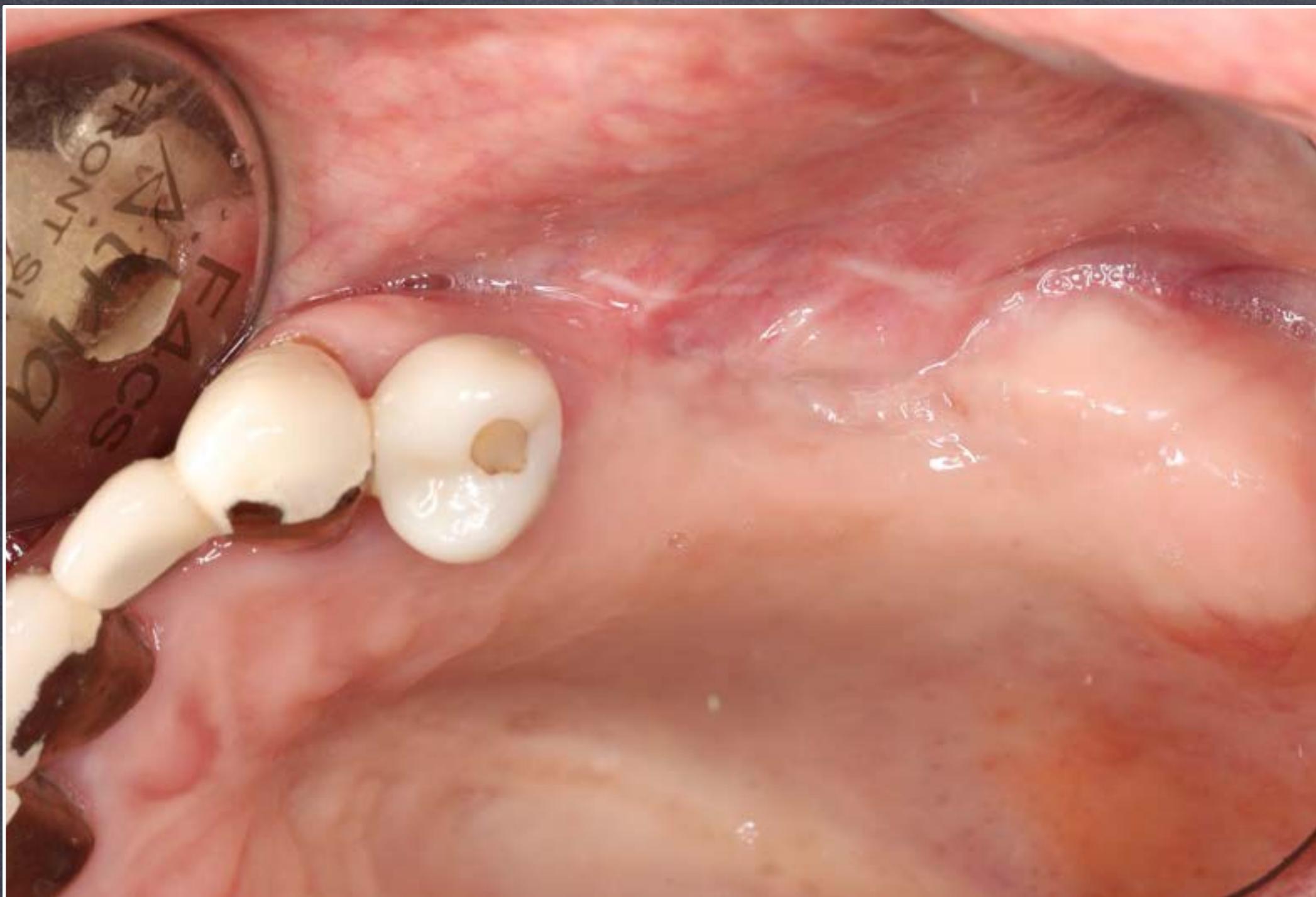


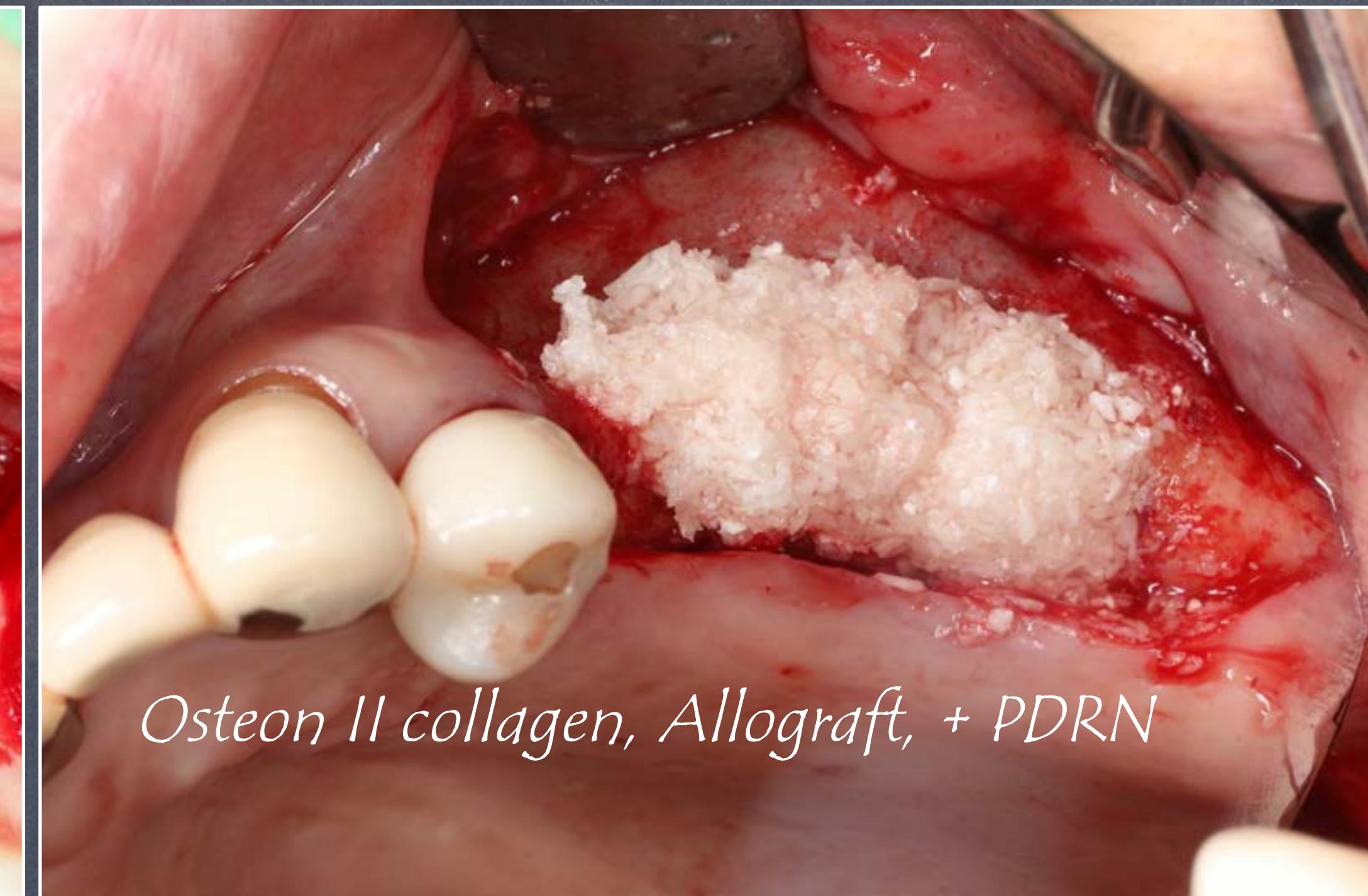
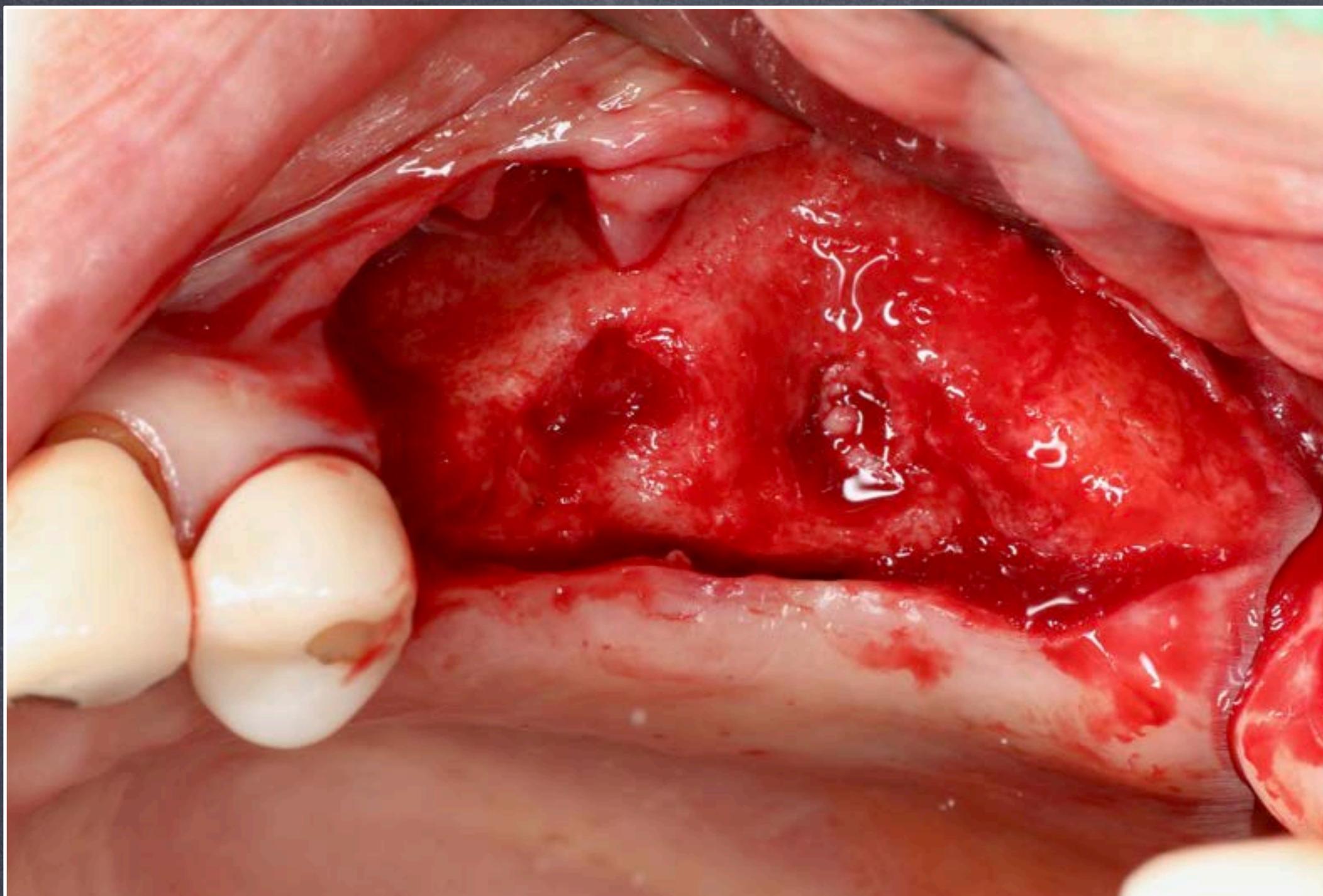
Decision making for the treatment of failing implants



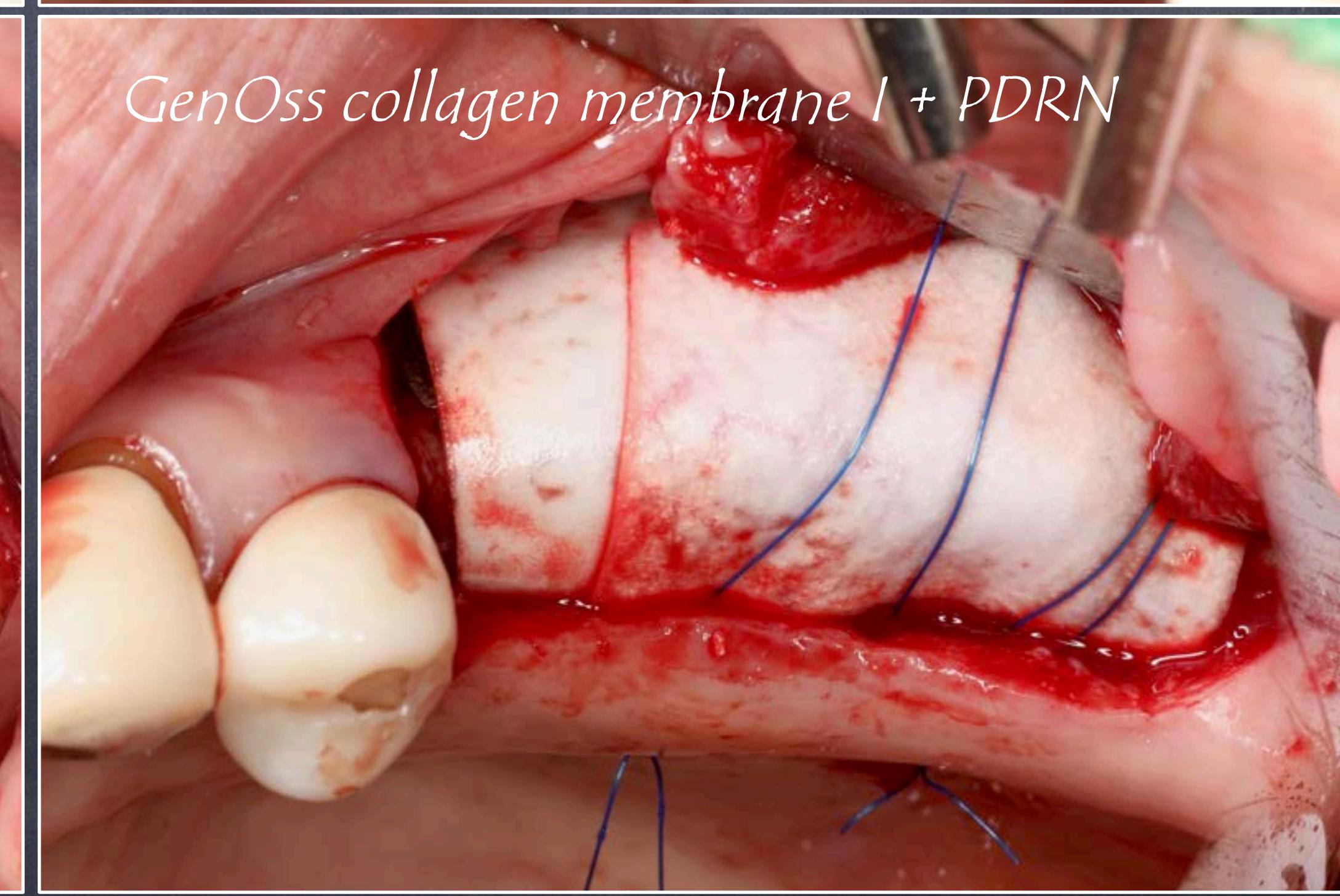
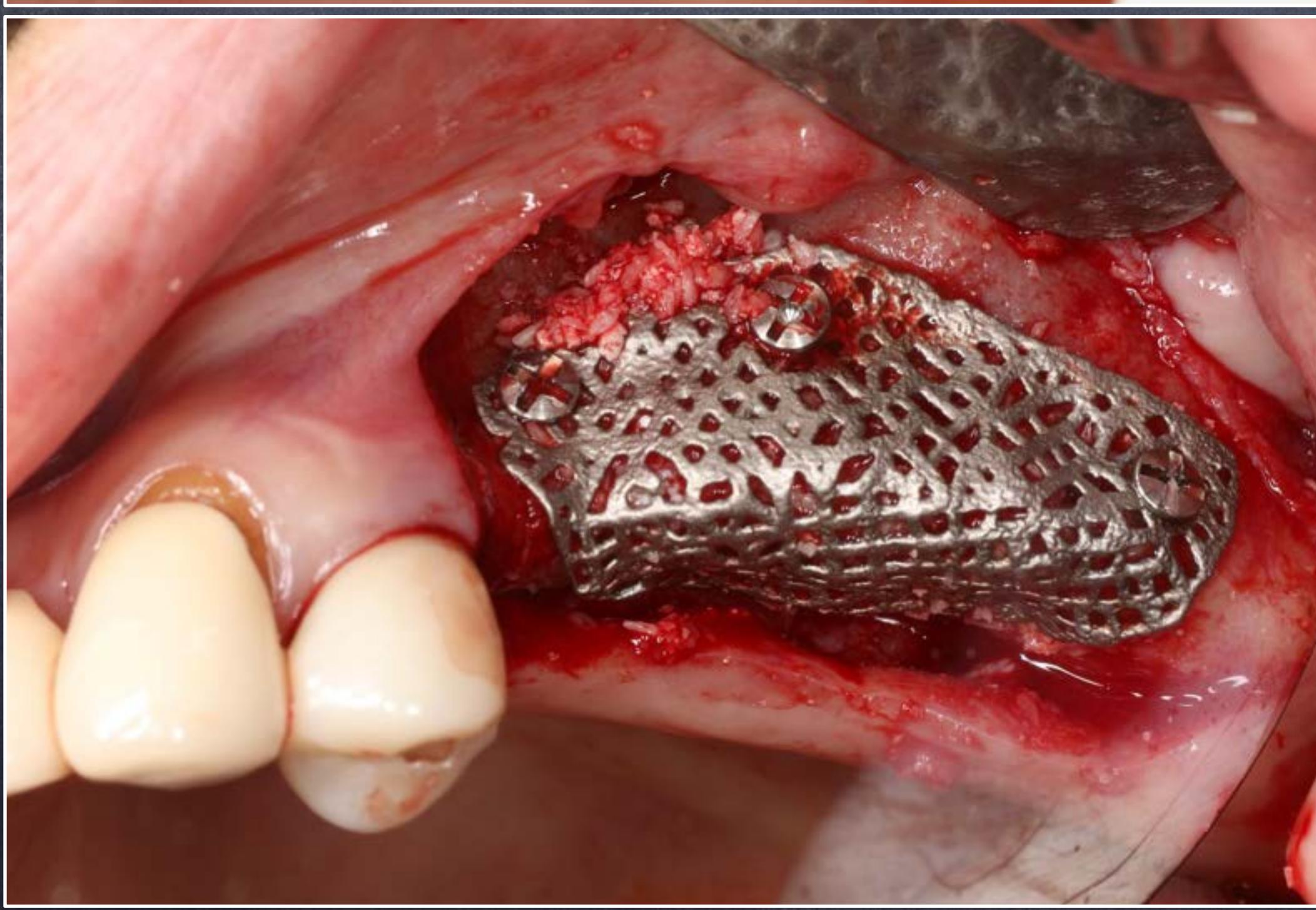




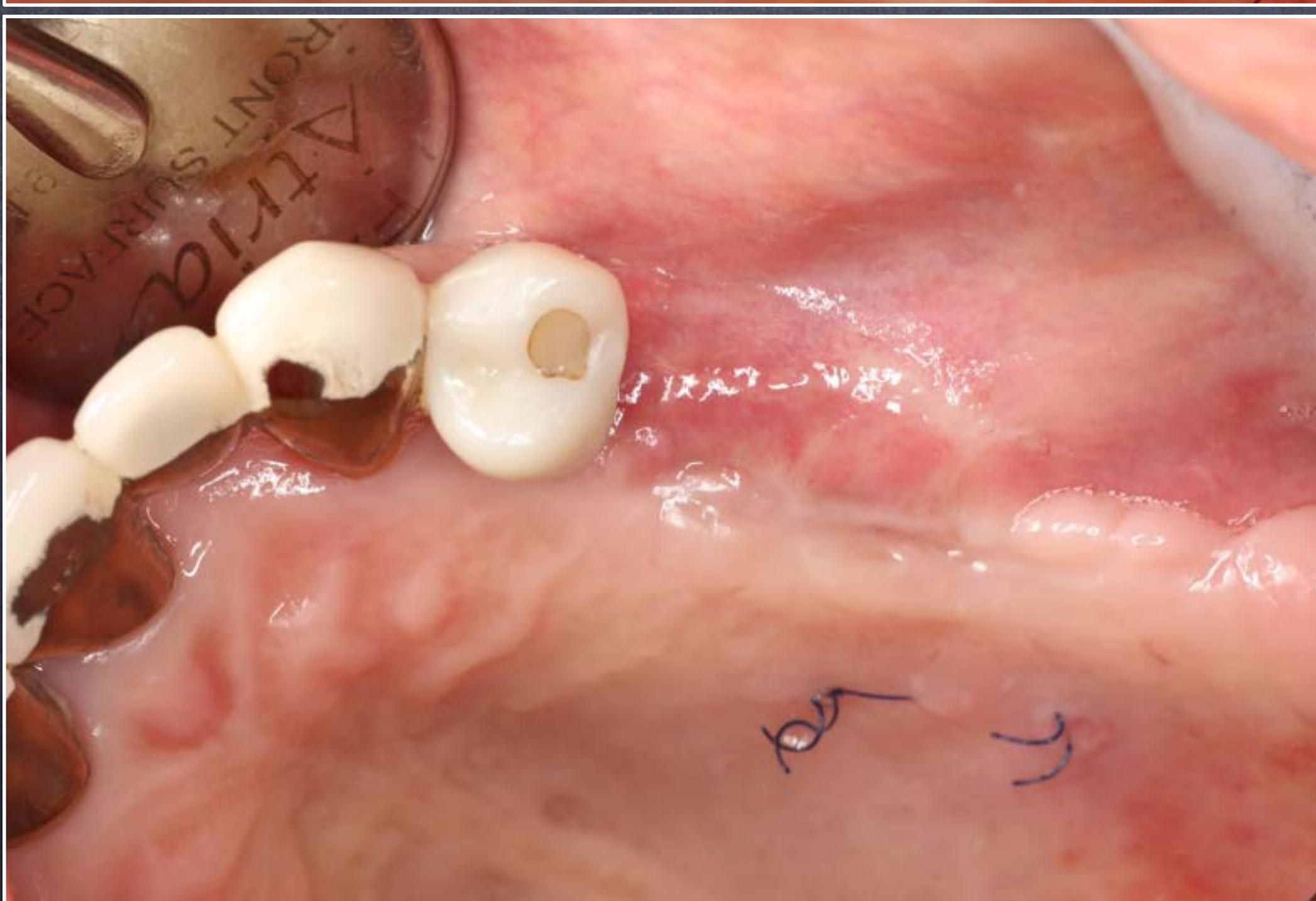
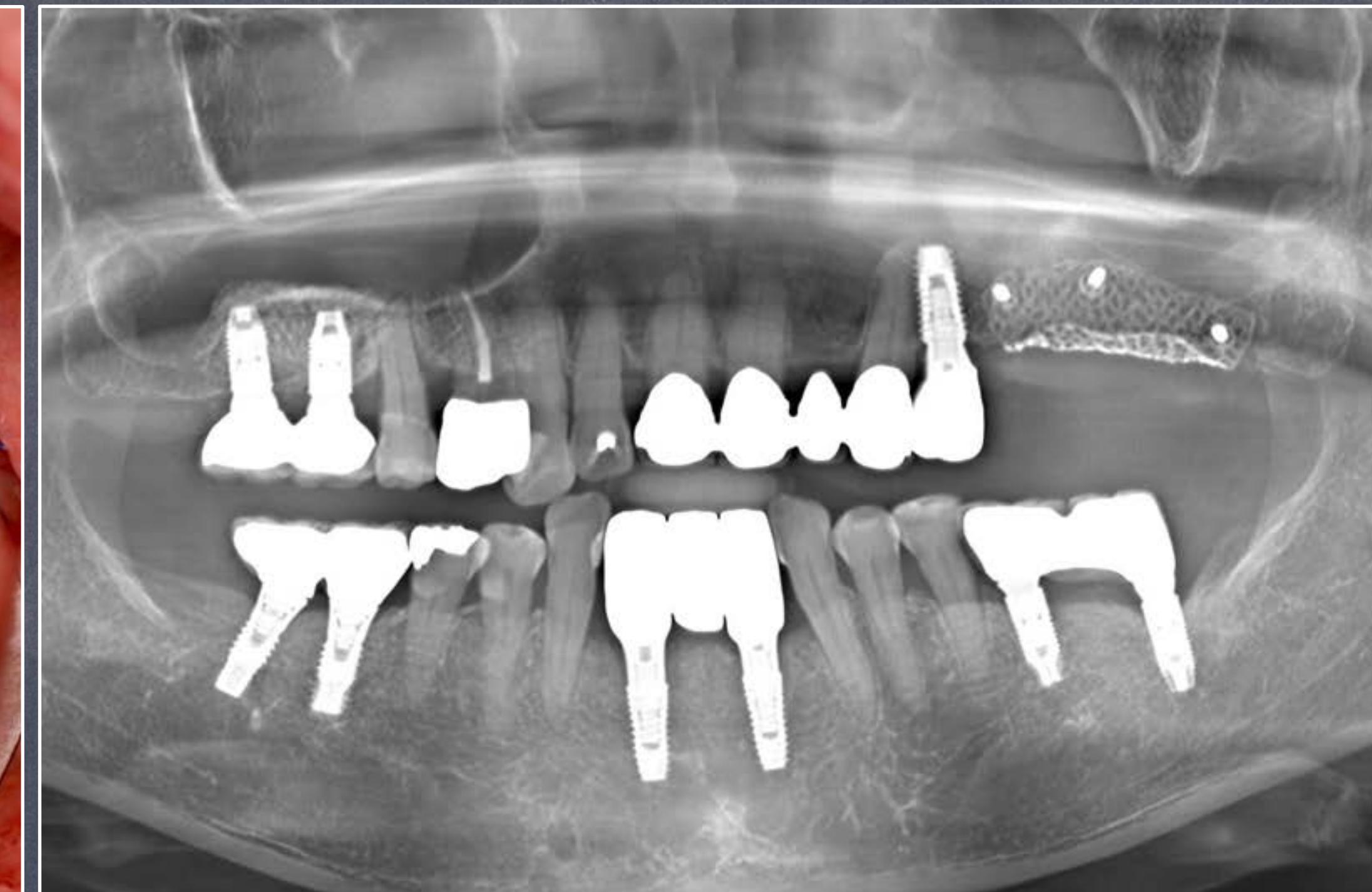
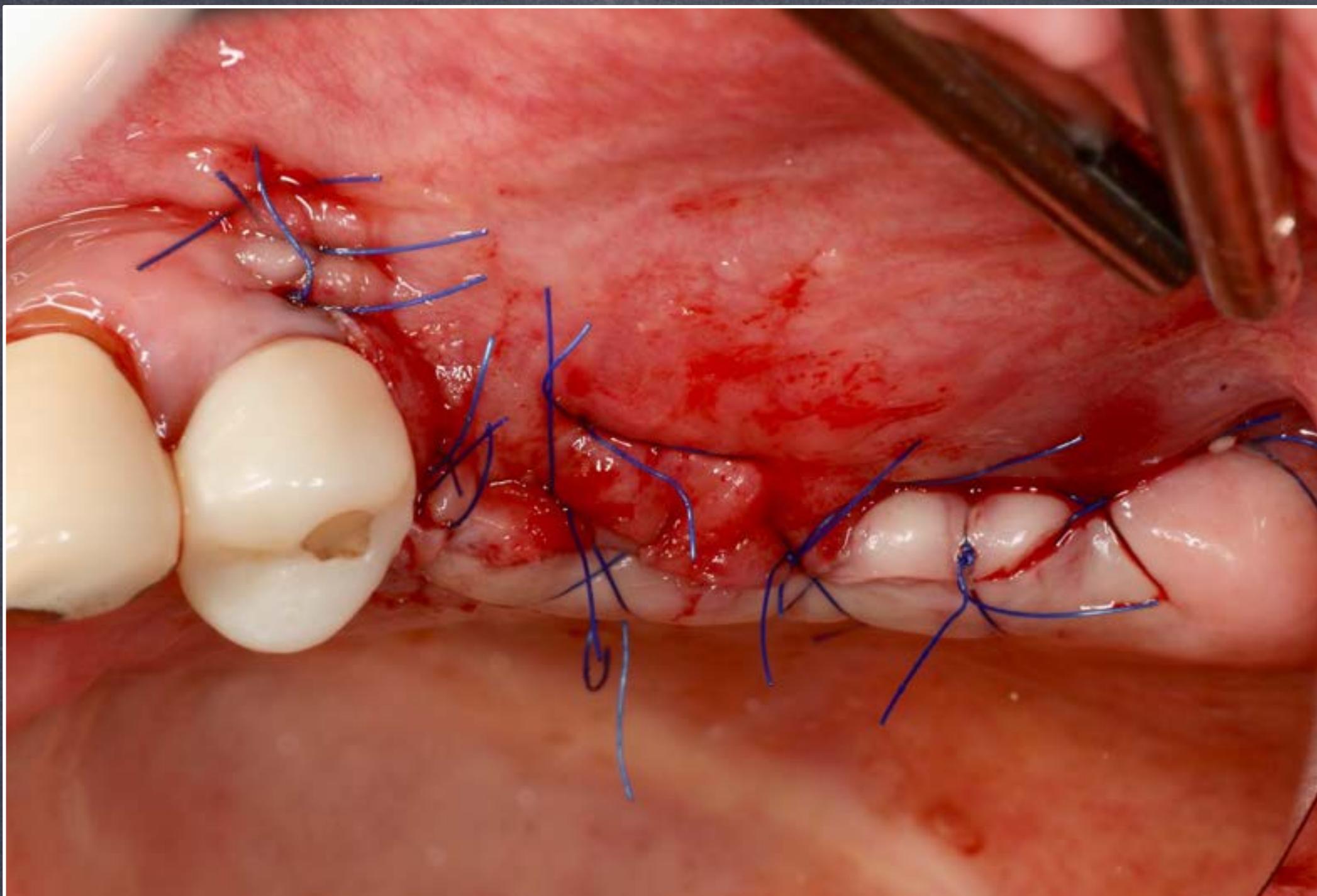


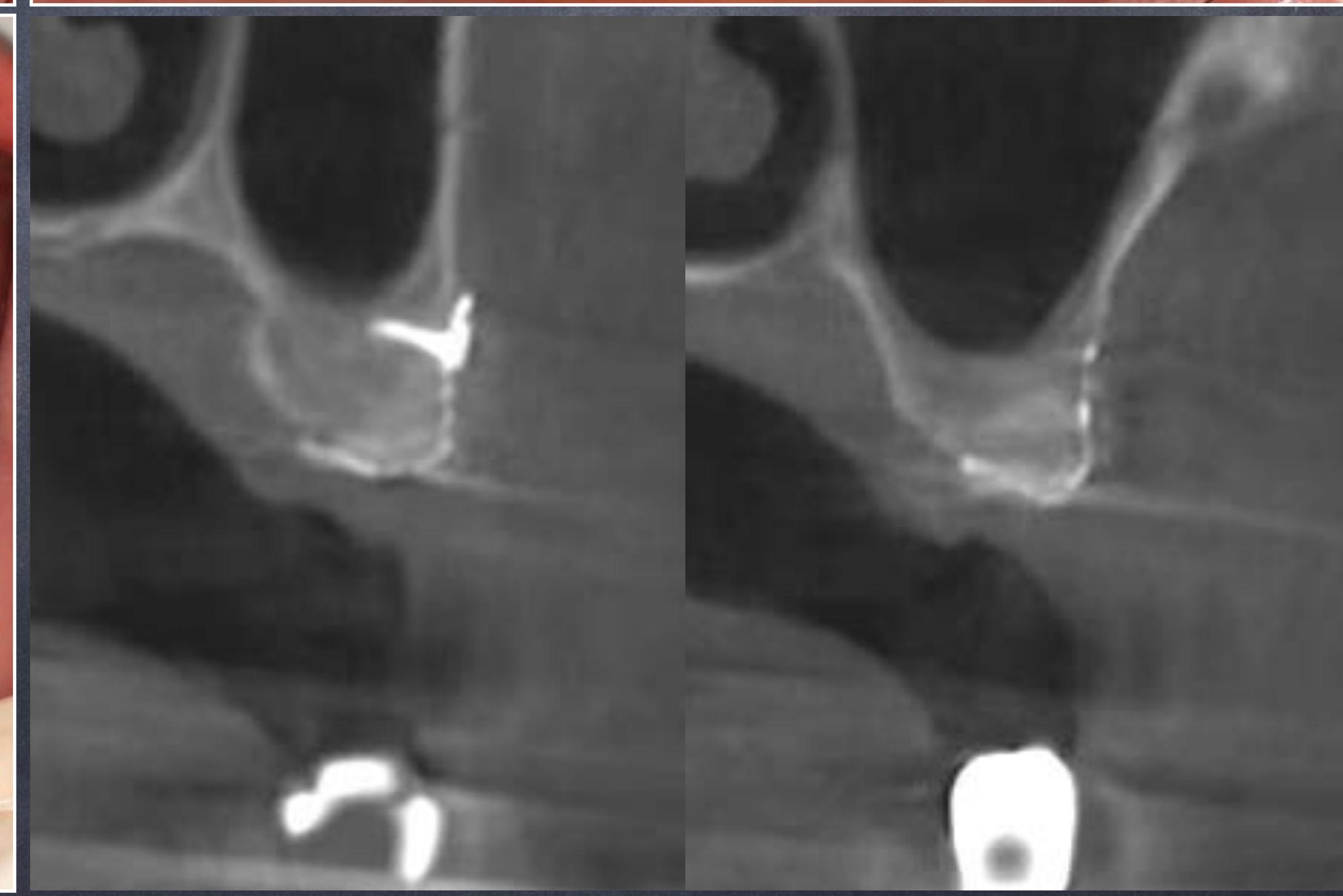
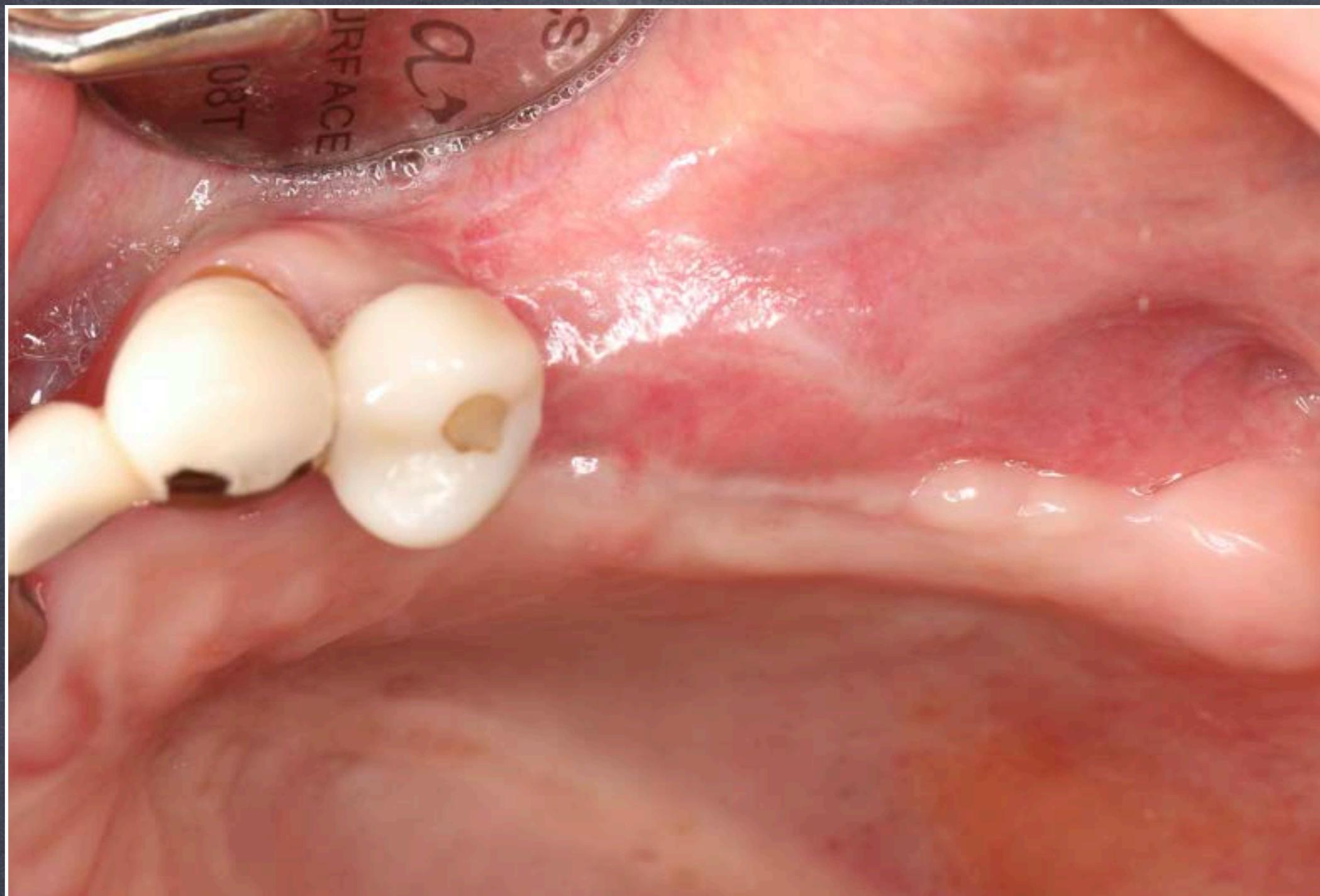


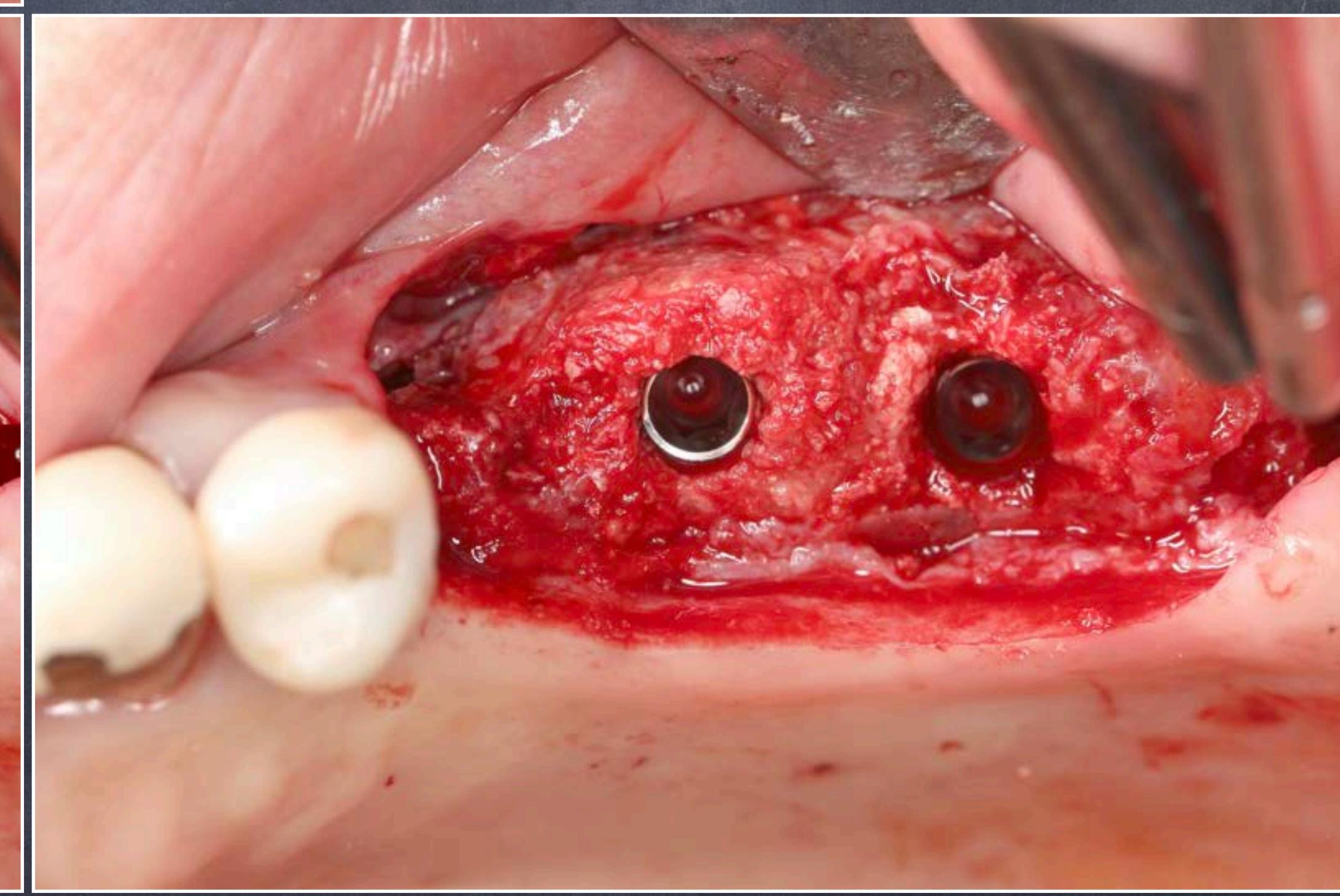
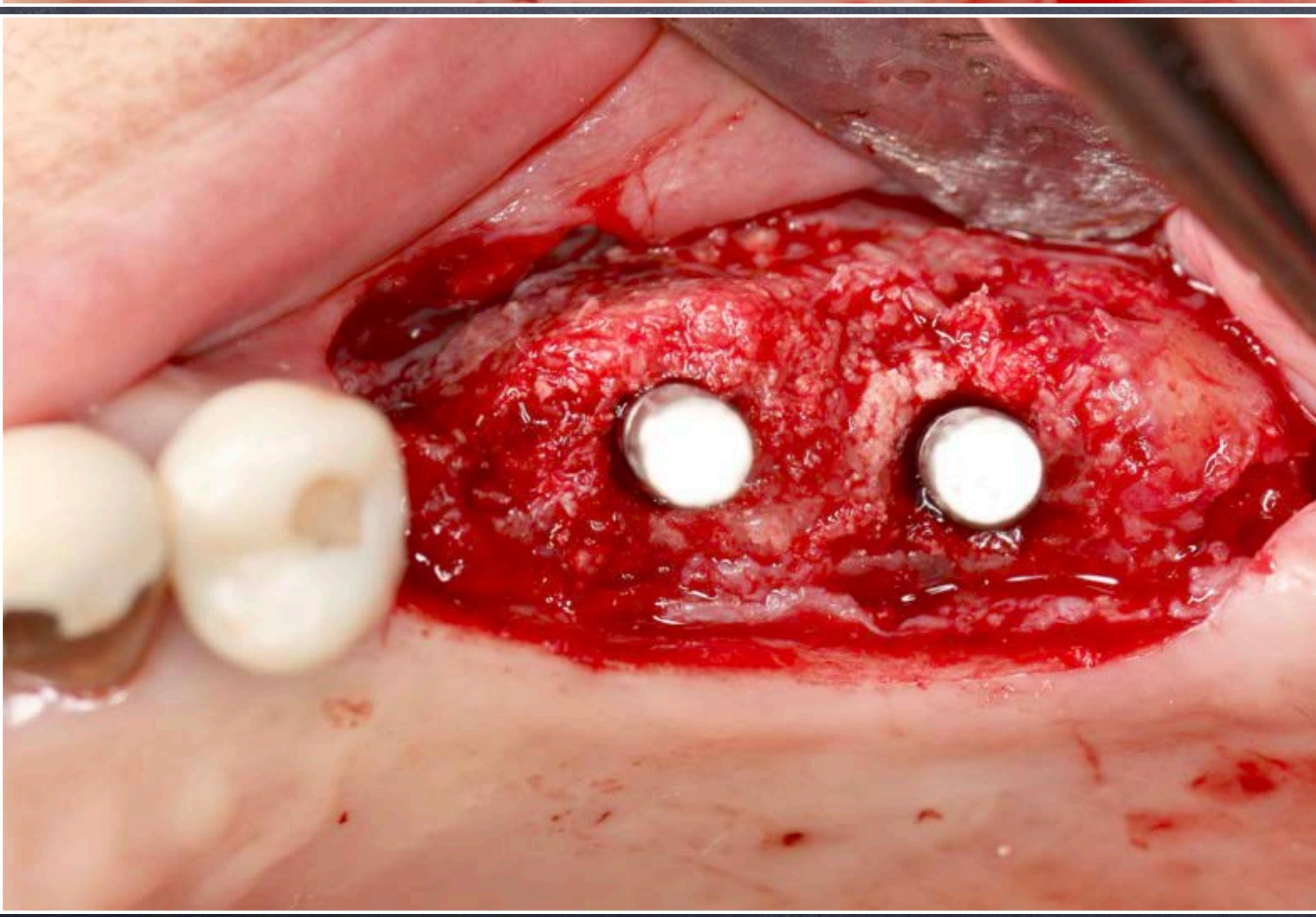
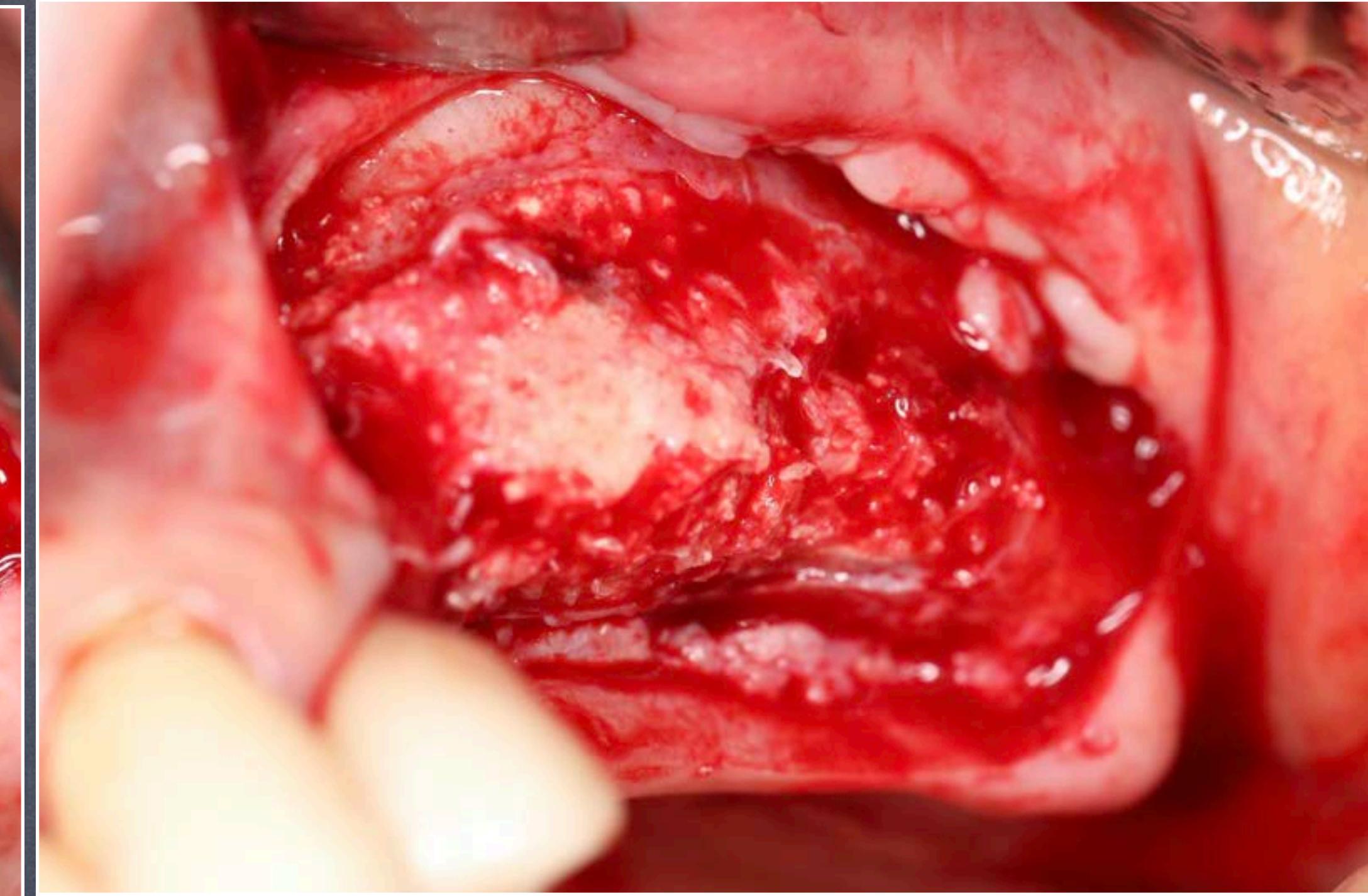
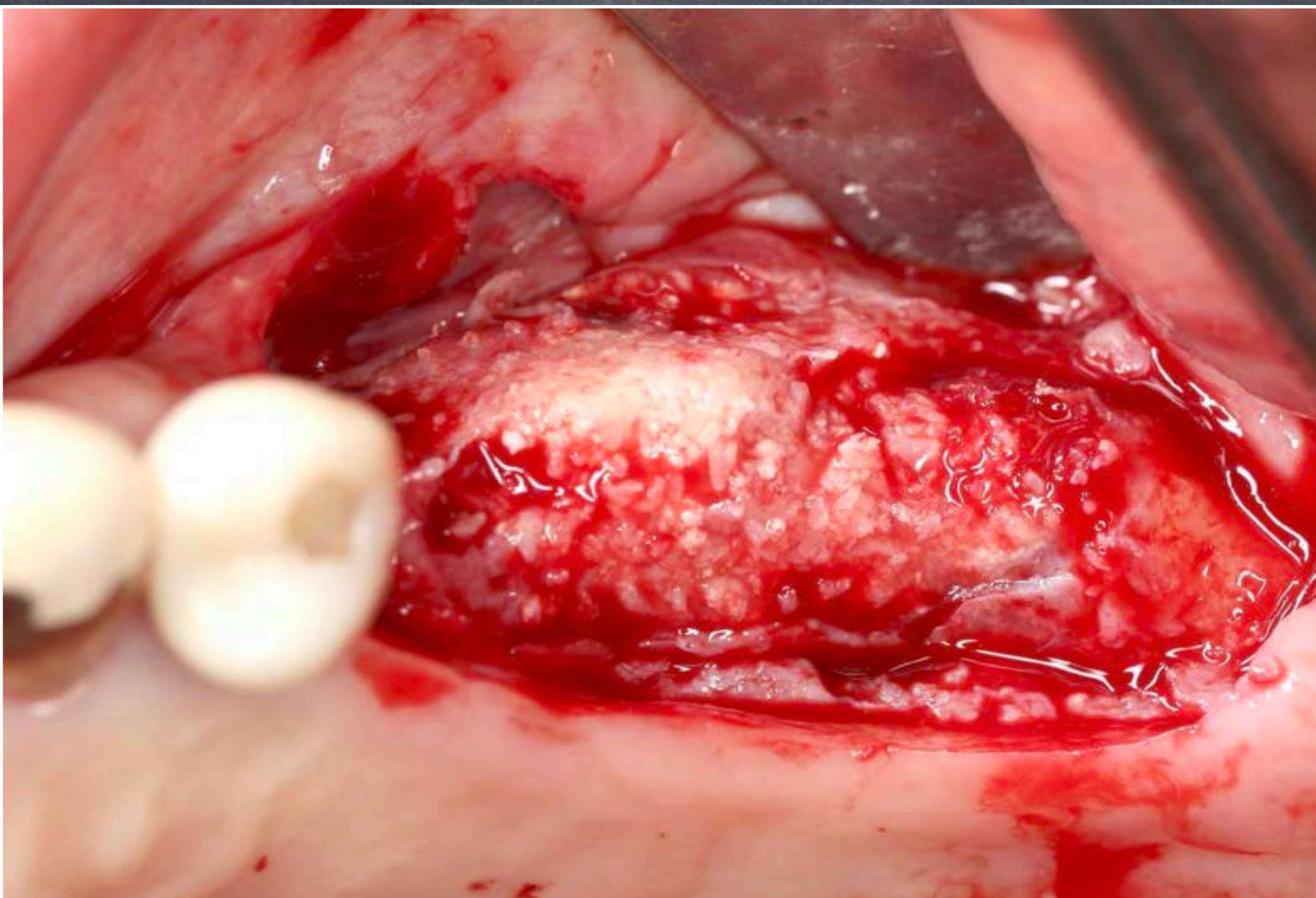
Osteon II collagen, Allograft, + PDRN

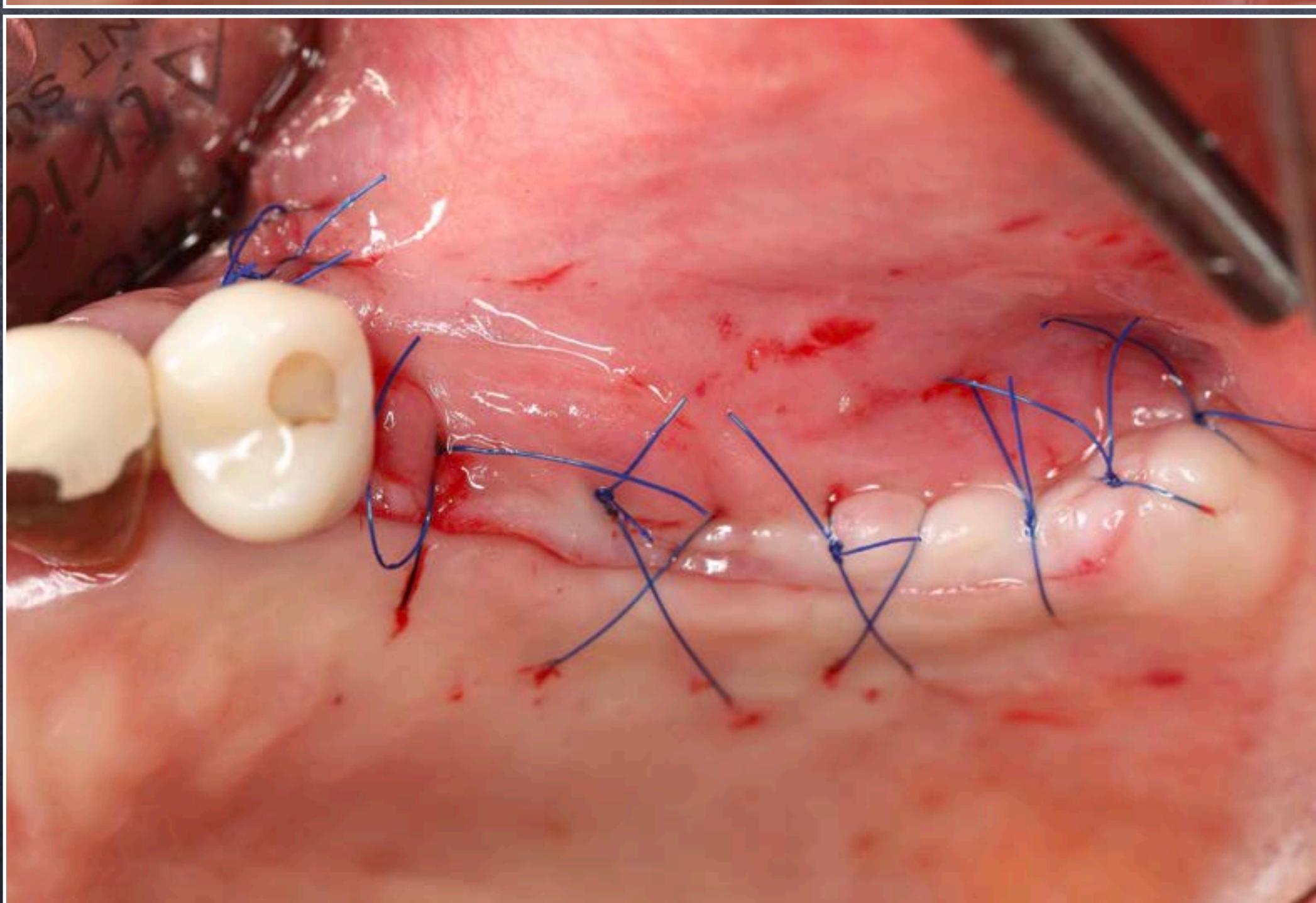
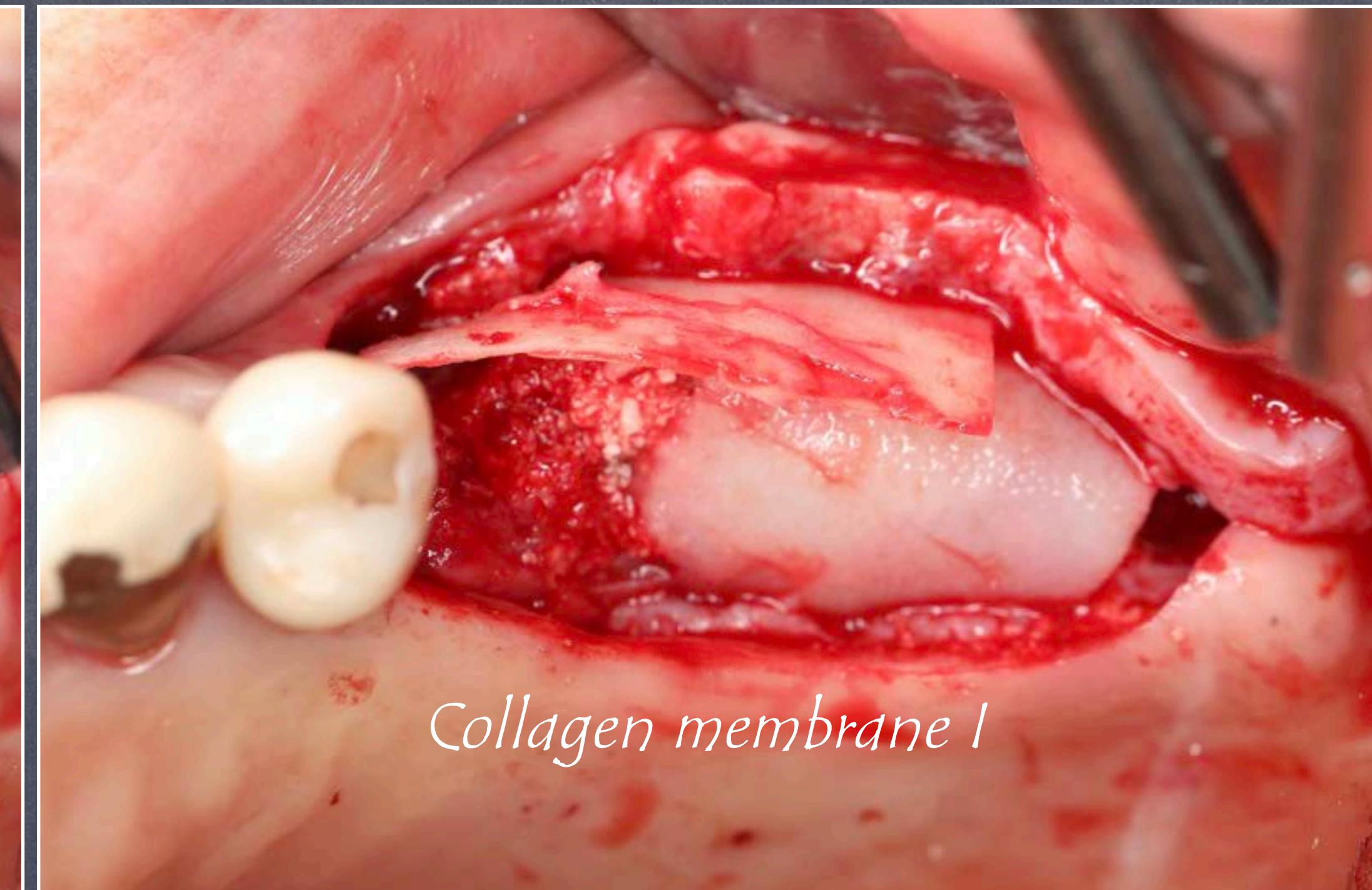


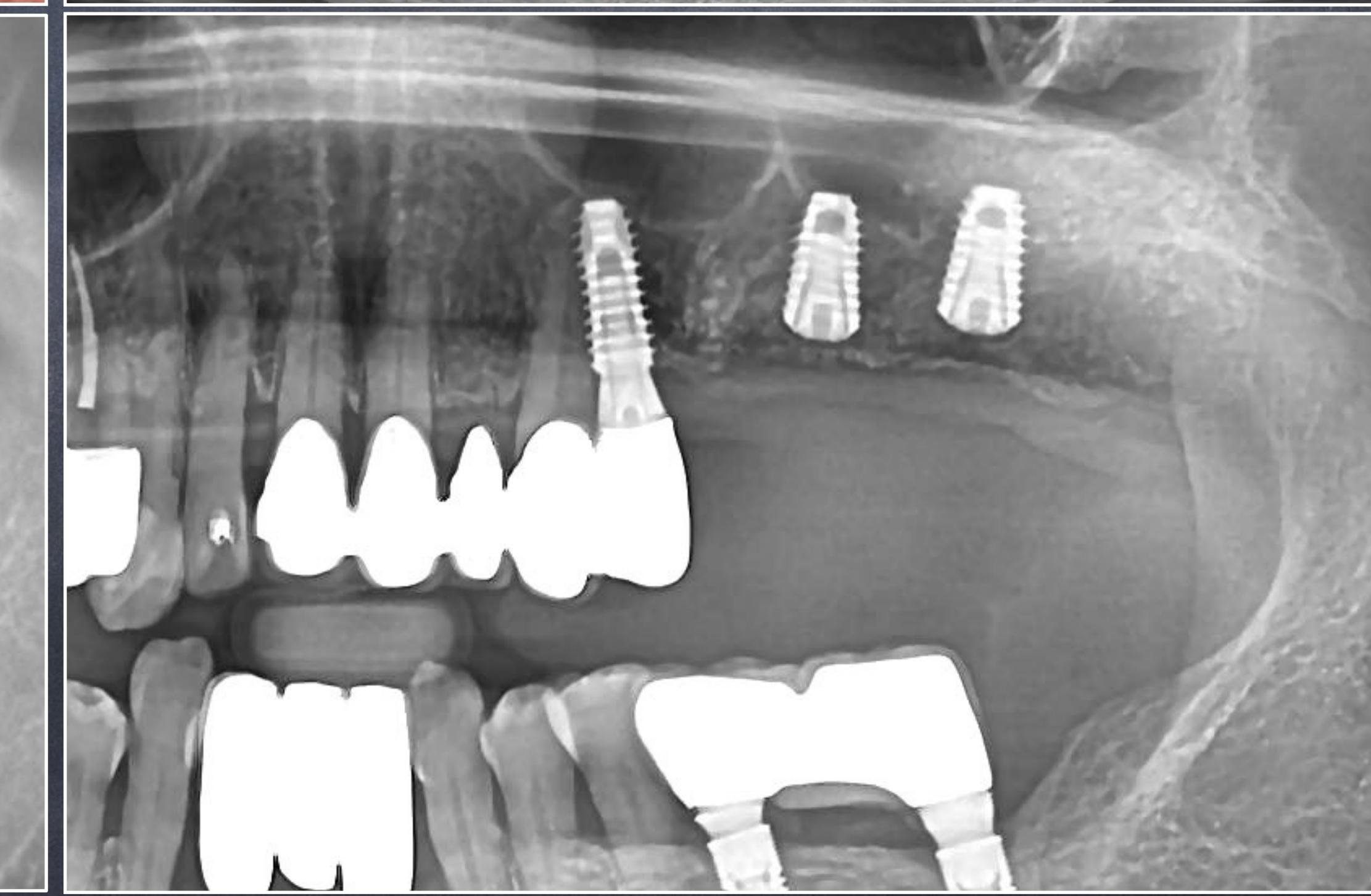
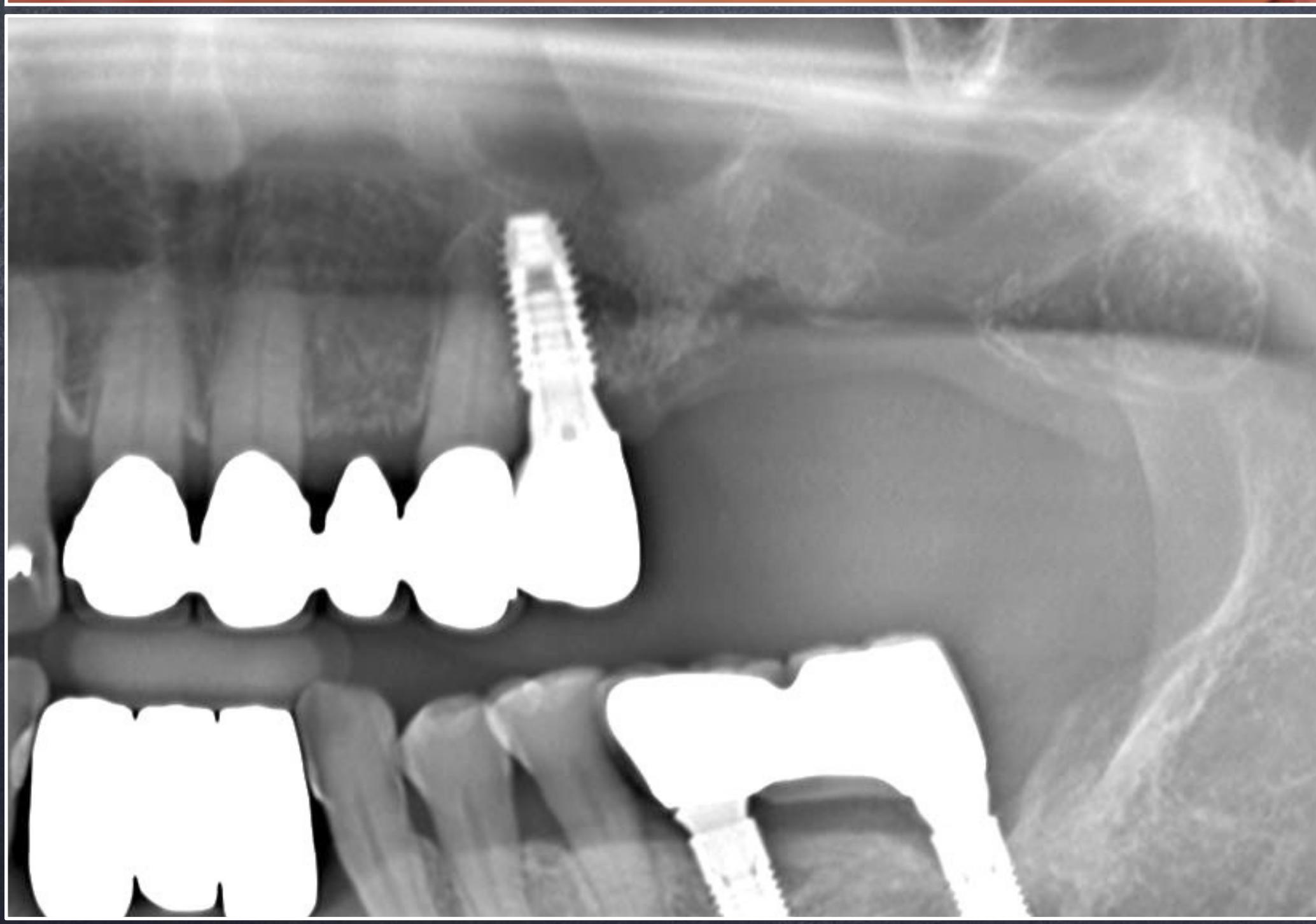
GenOss collagen membrane I + PDRN

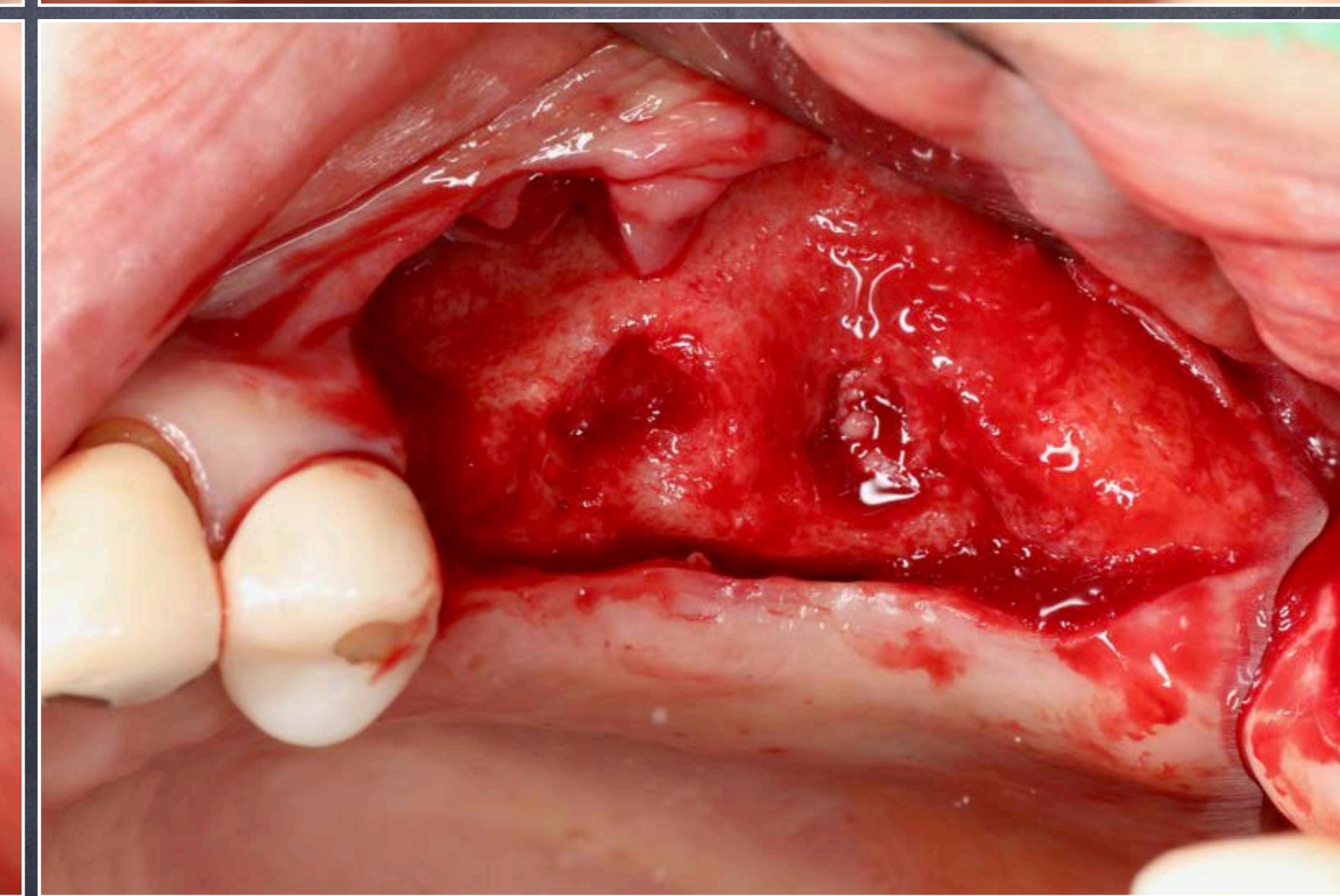
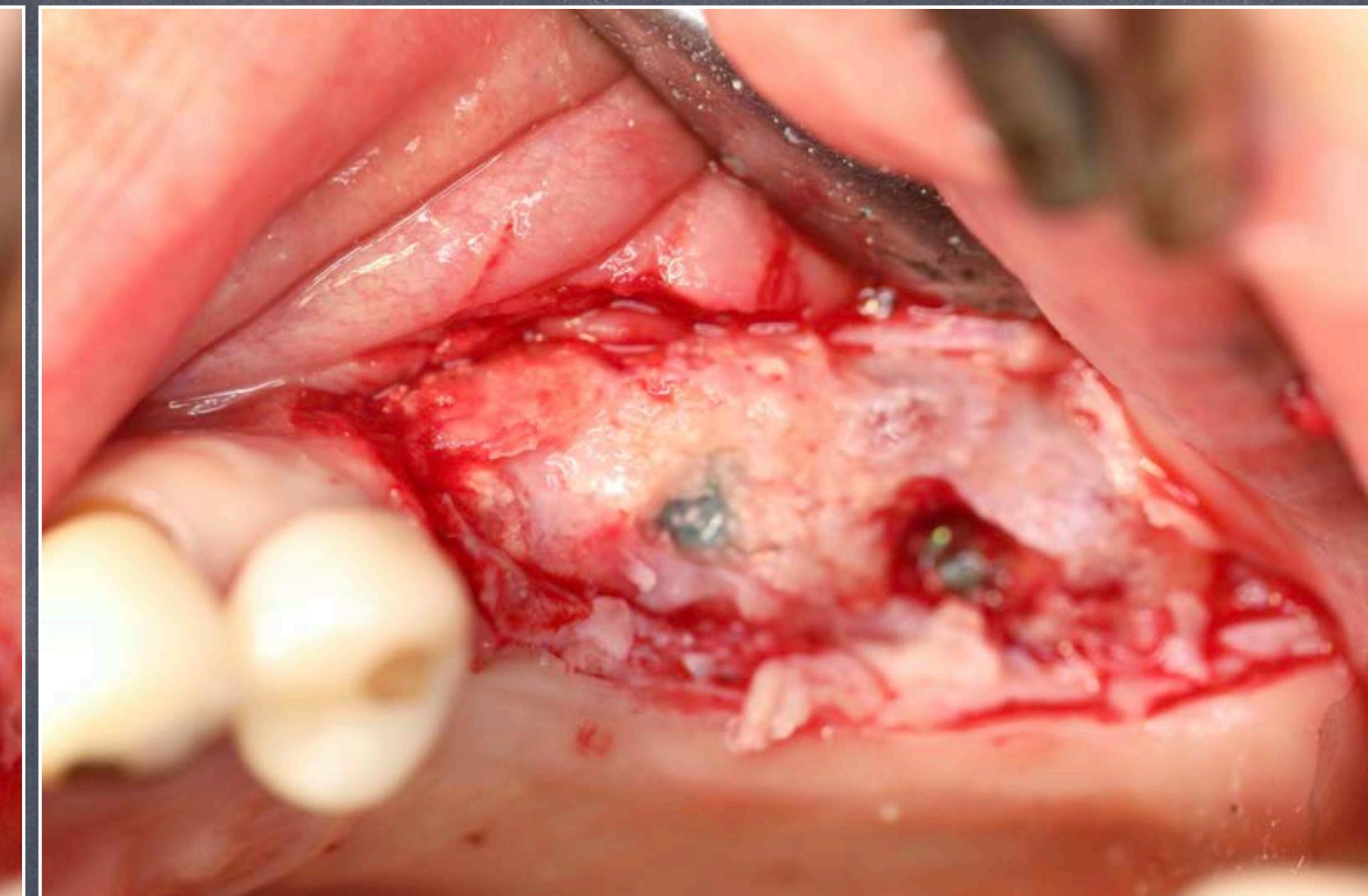
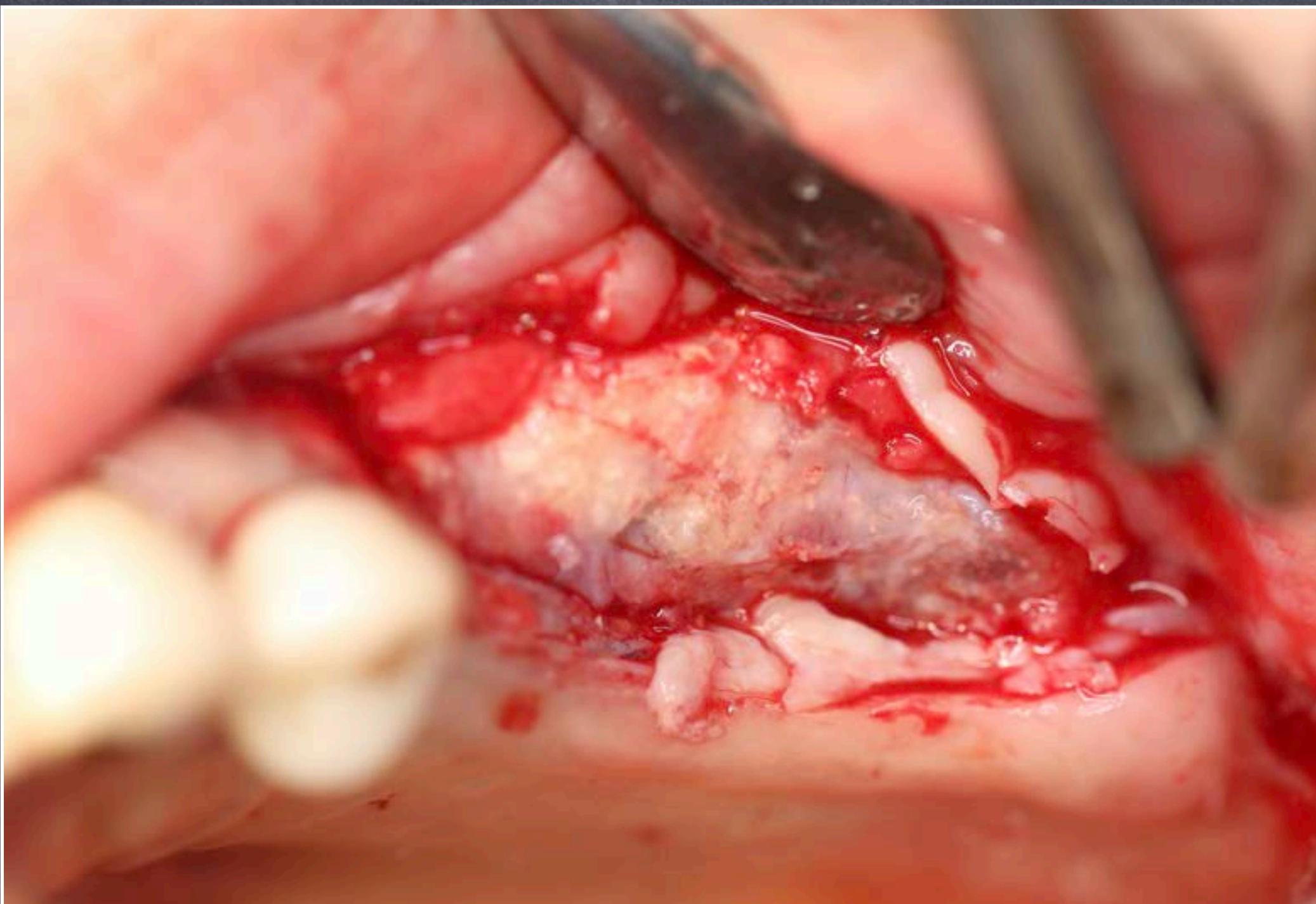


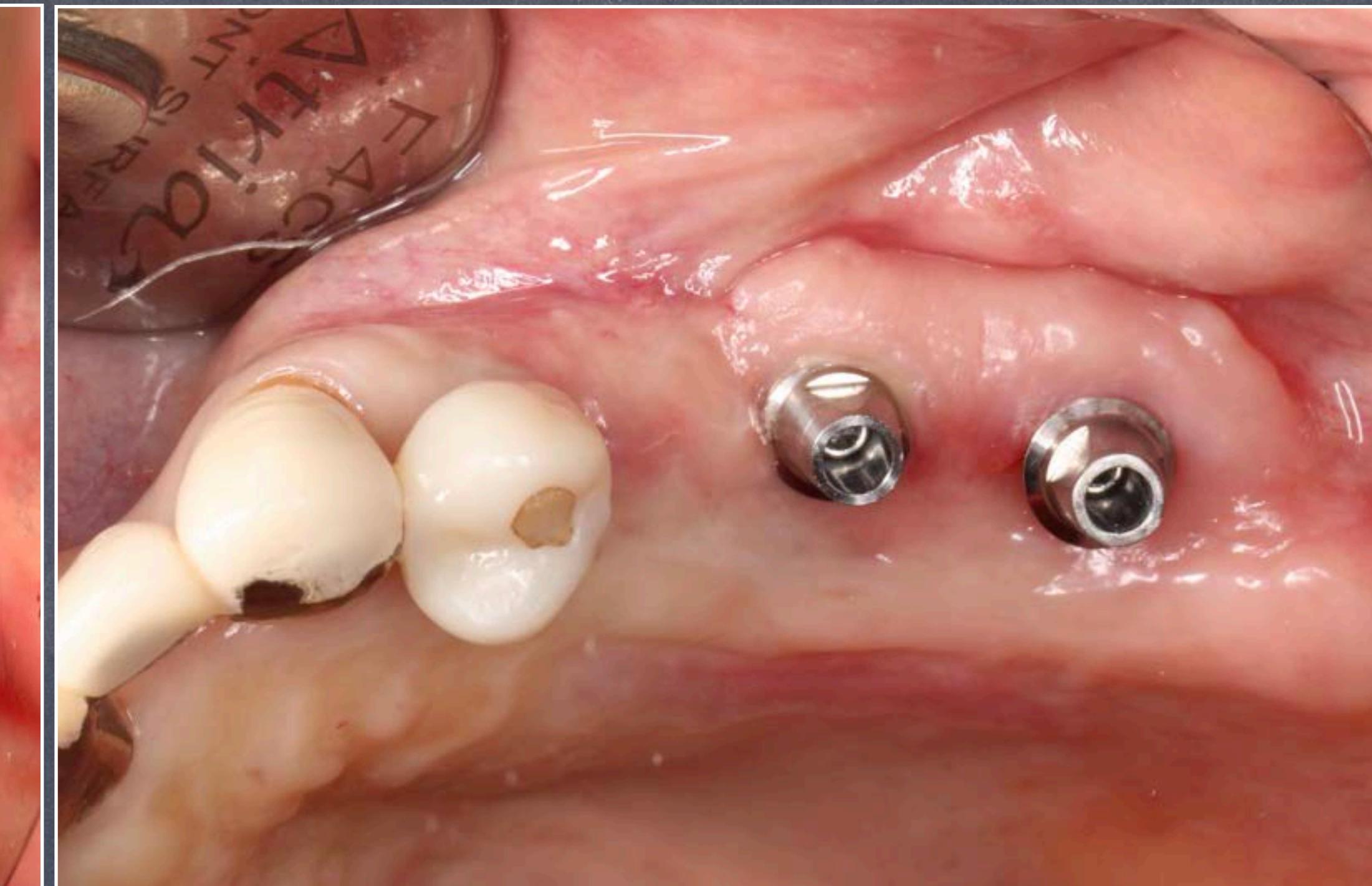
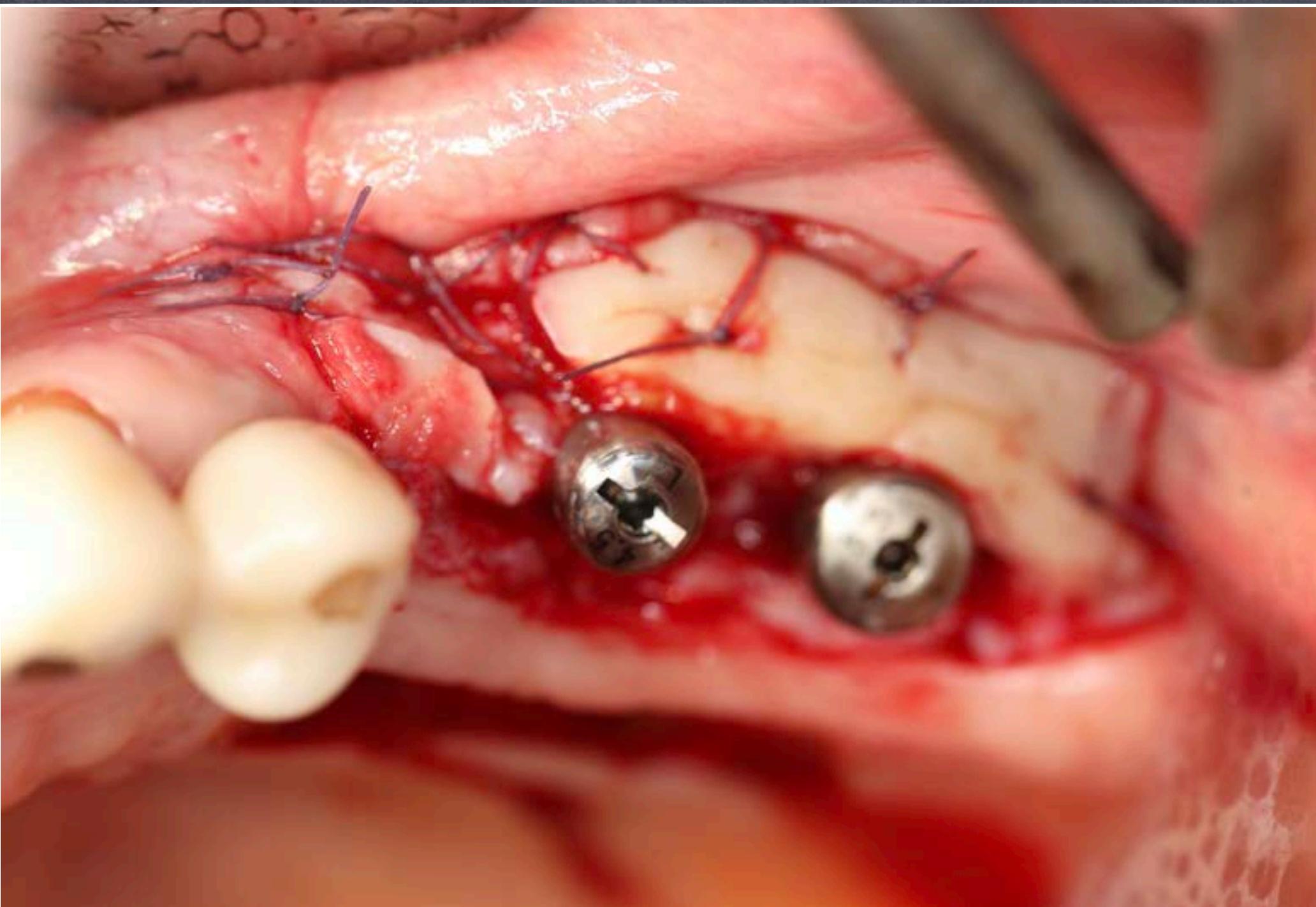


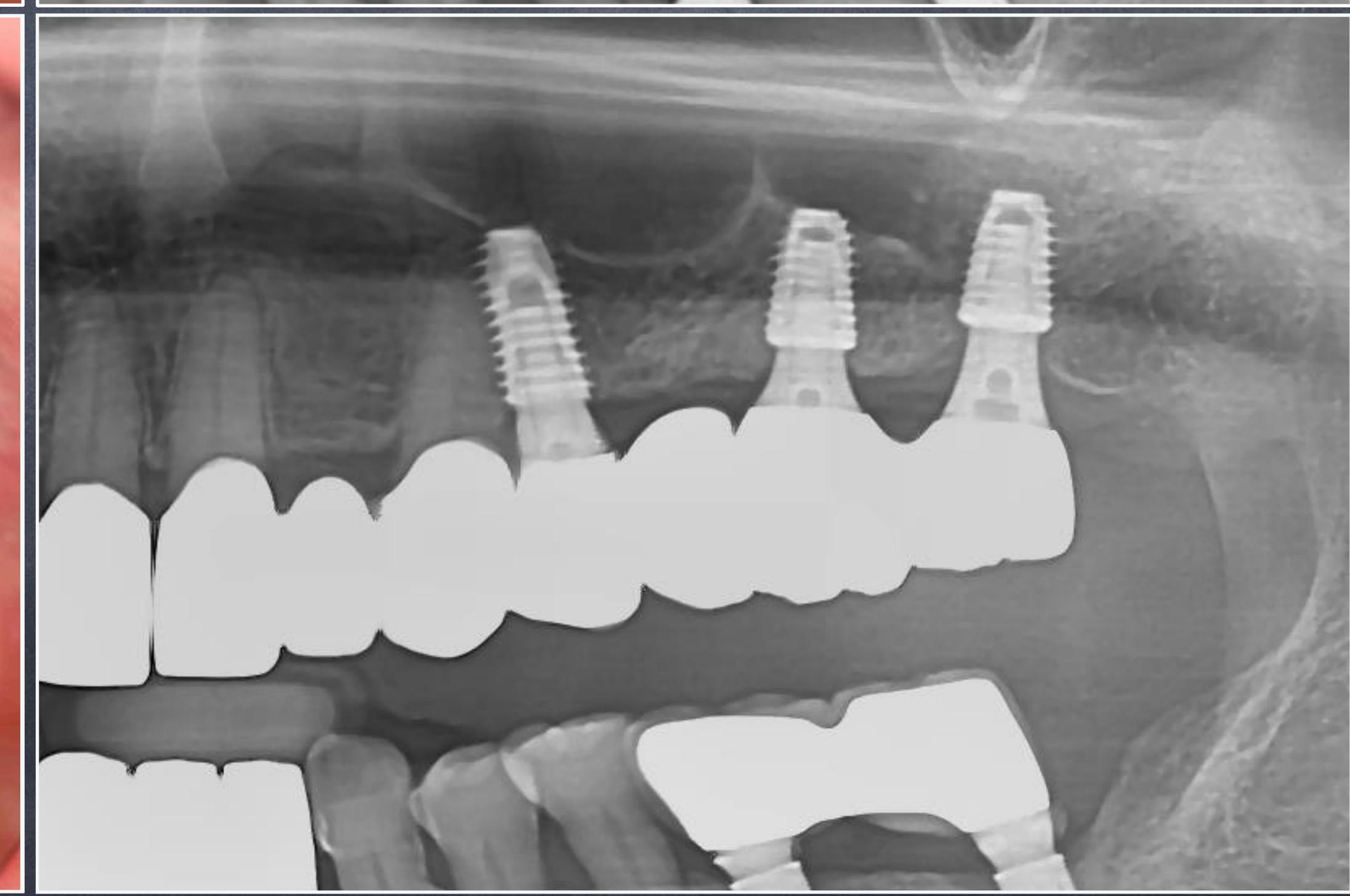
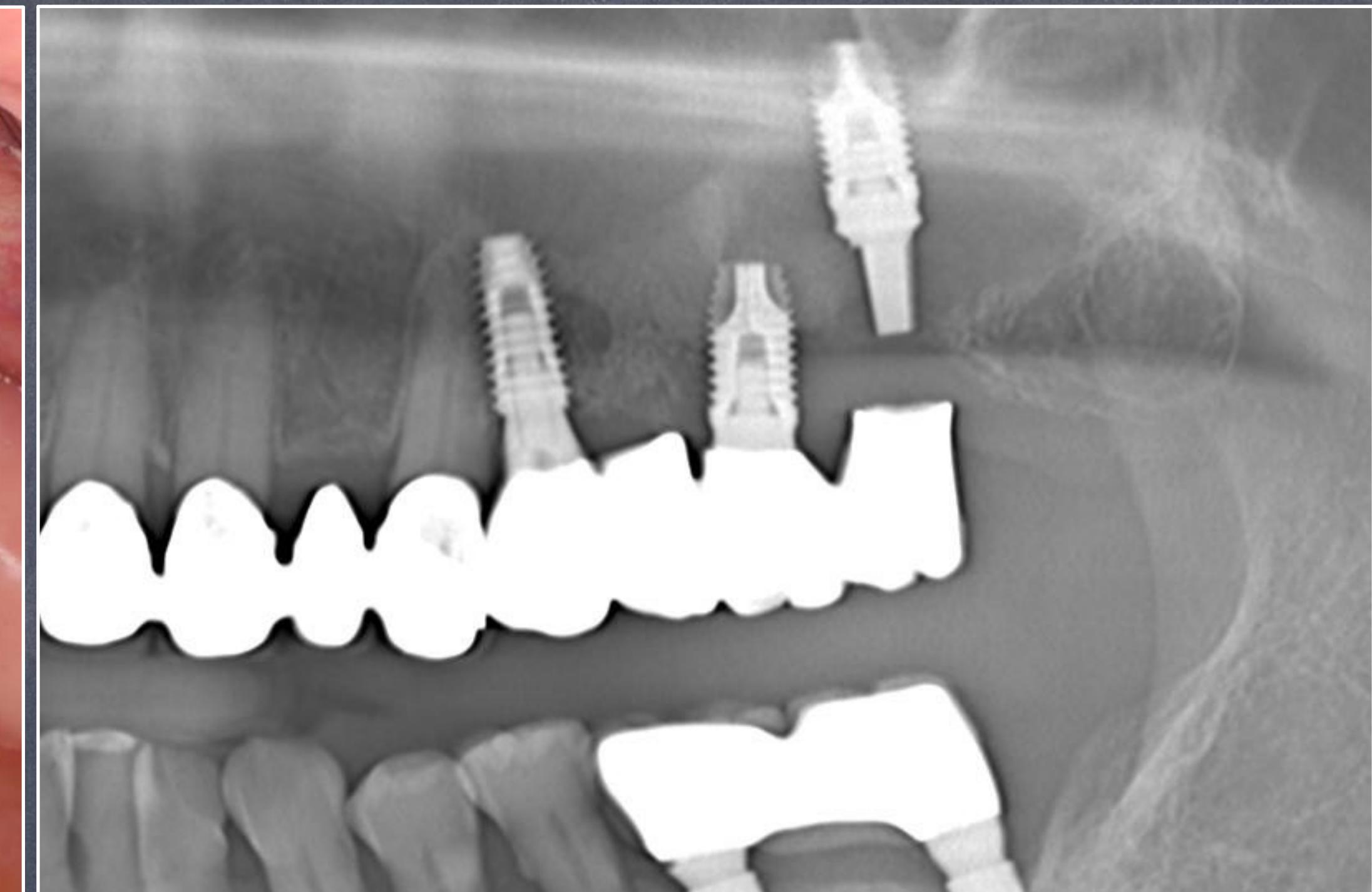


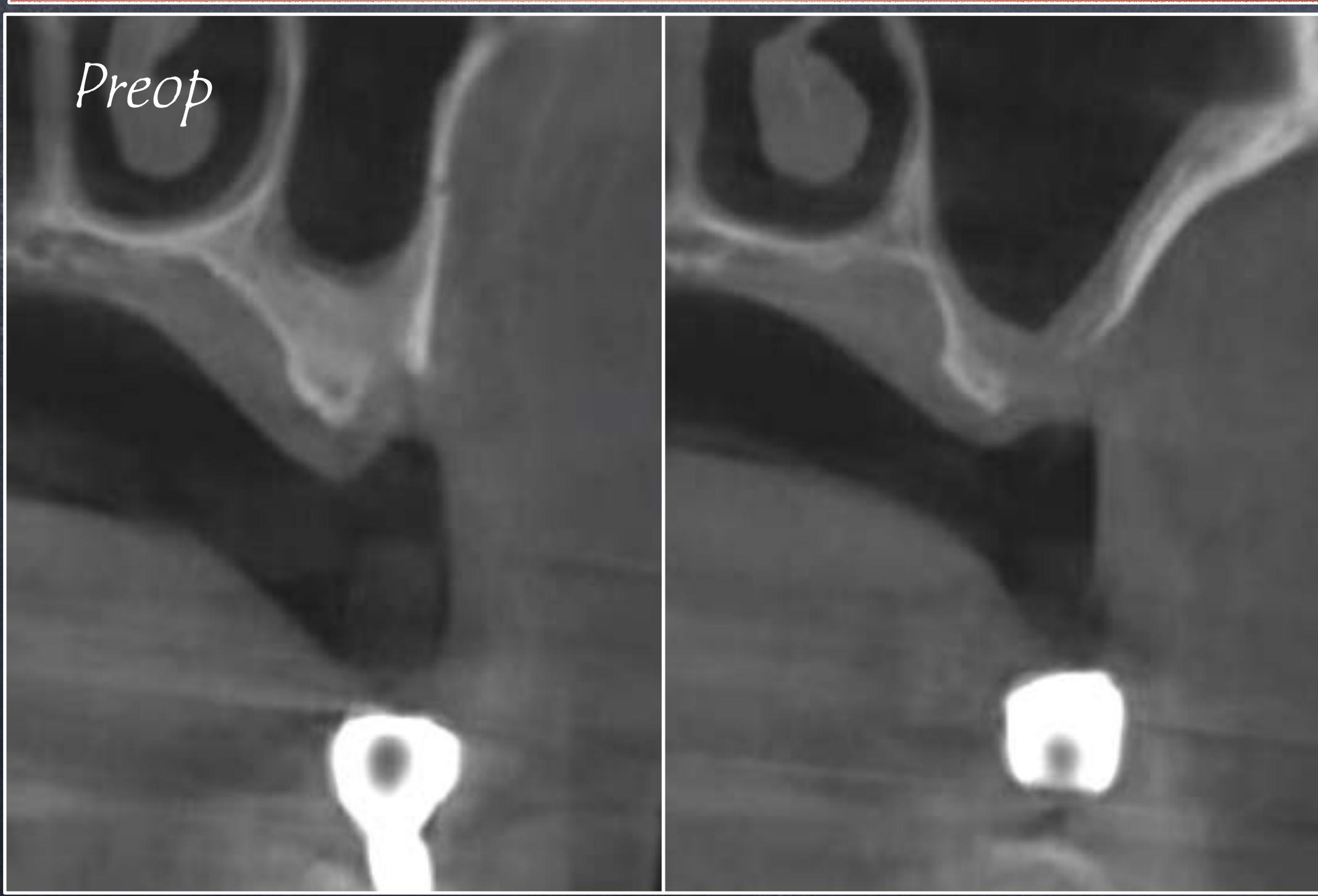




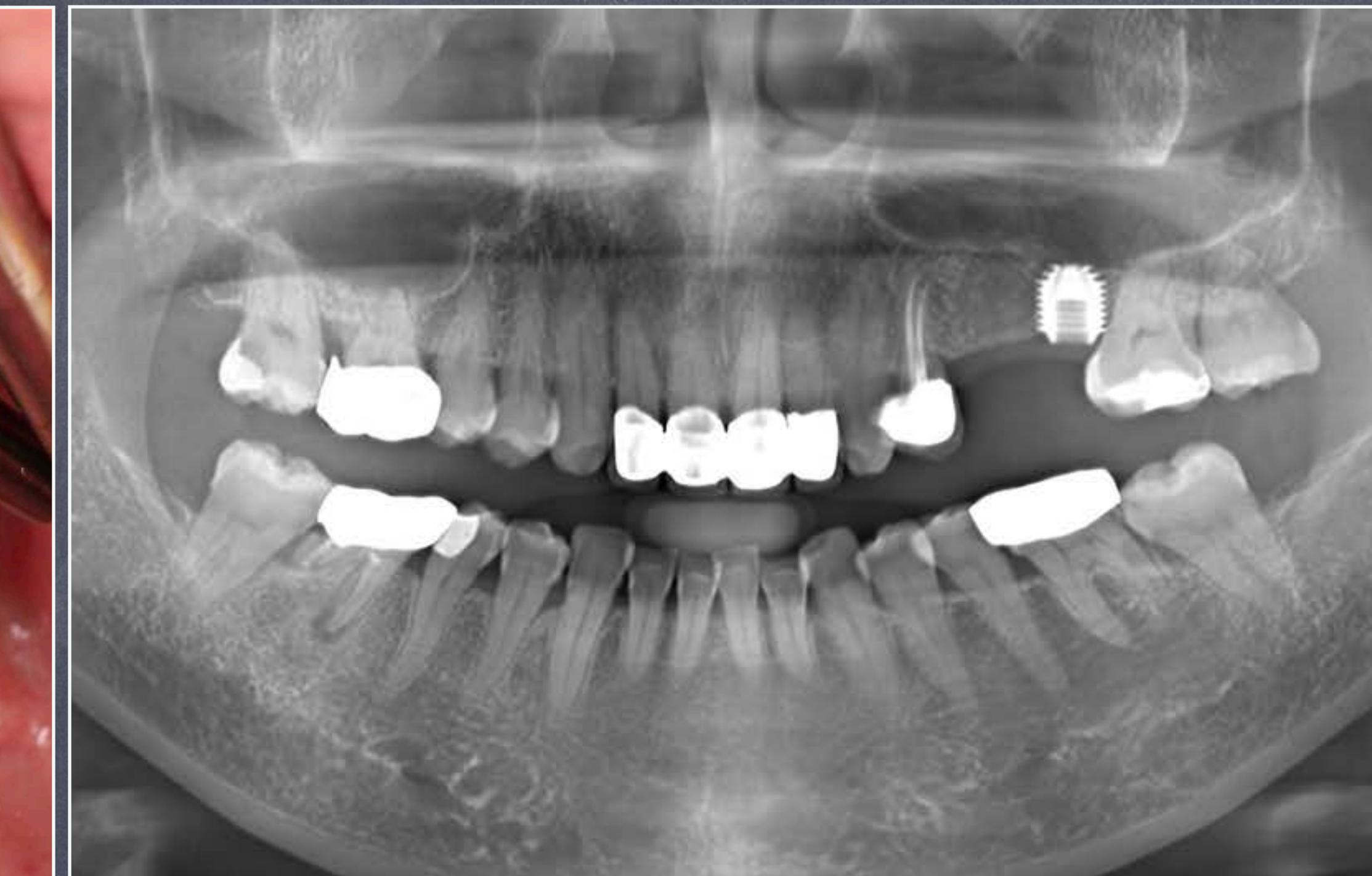


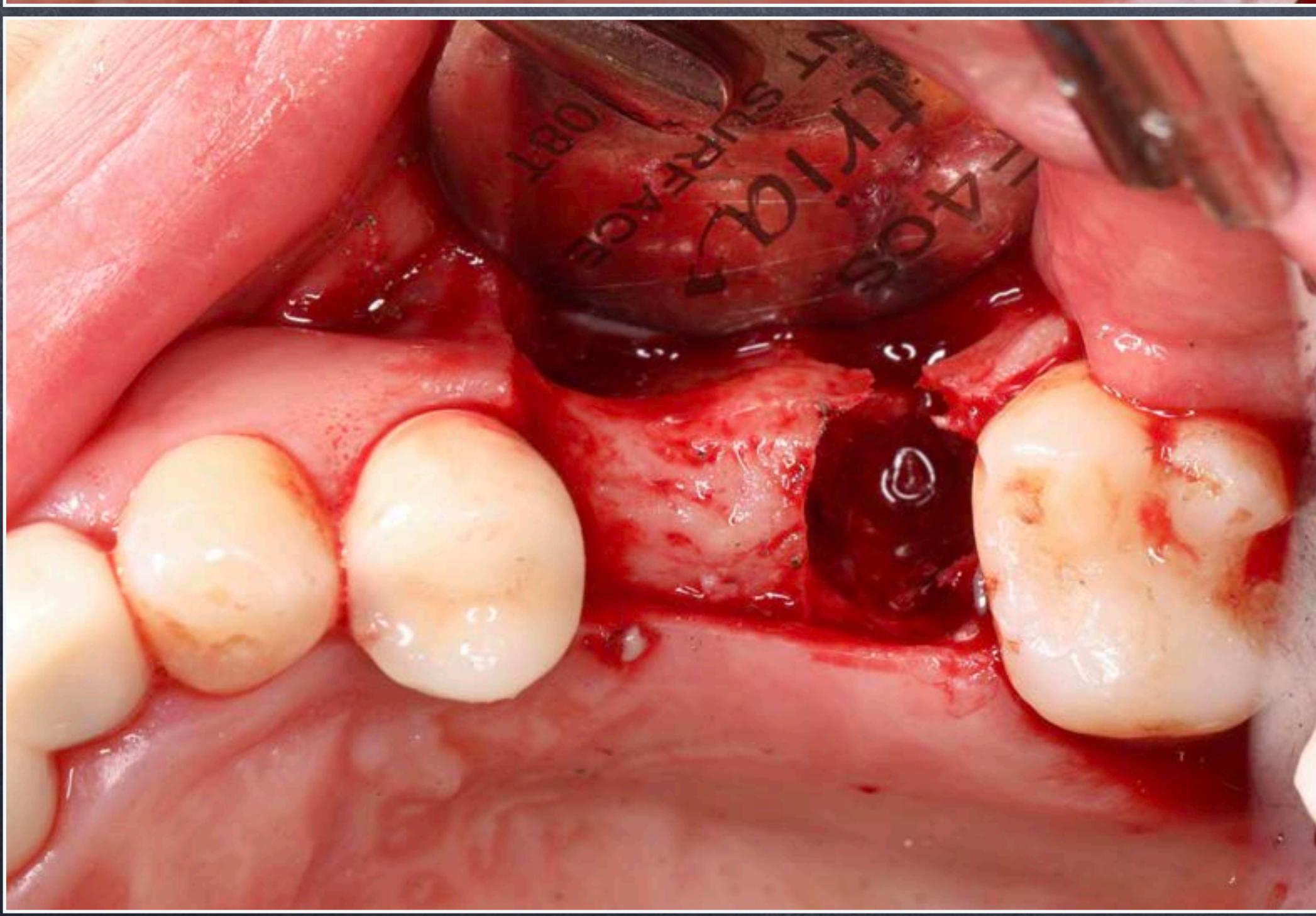
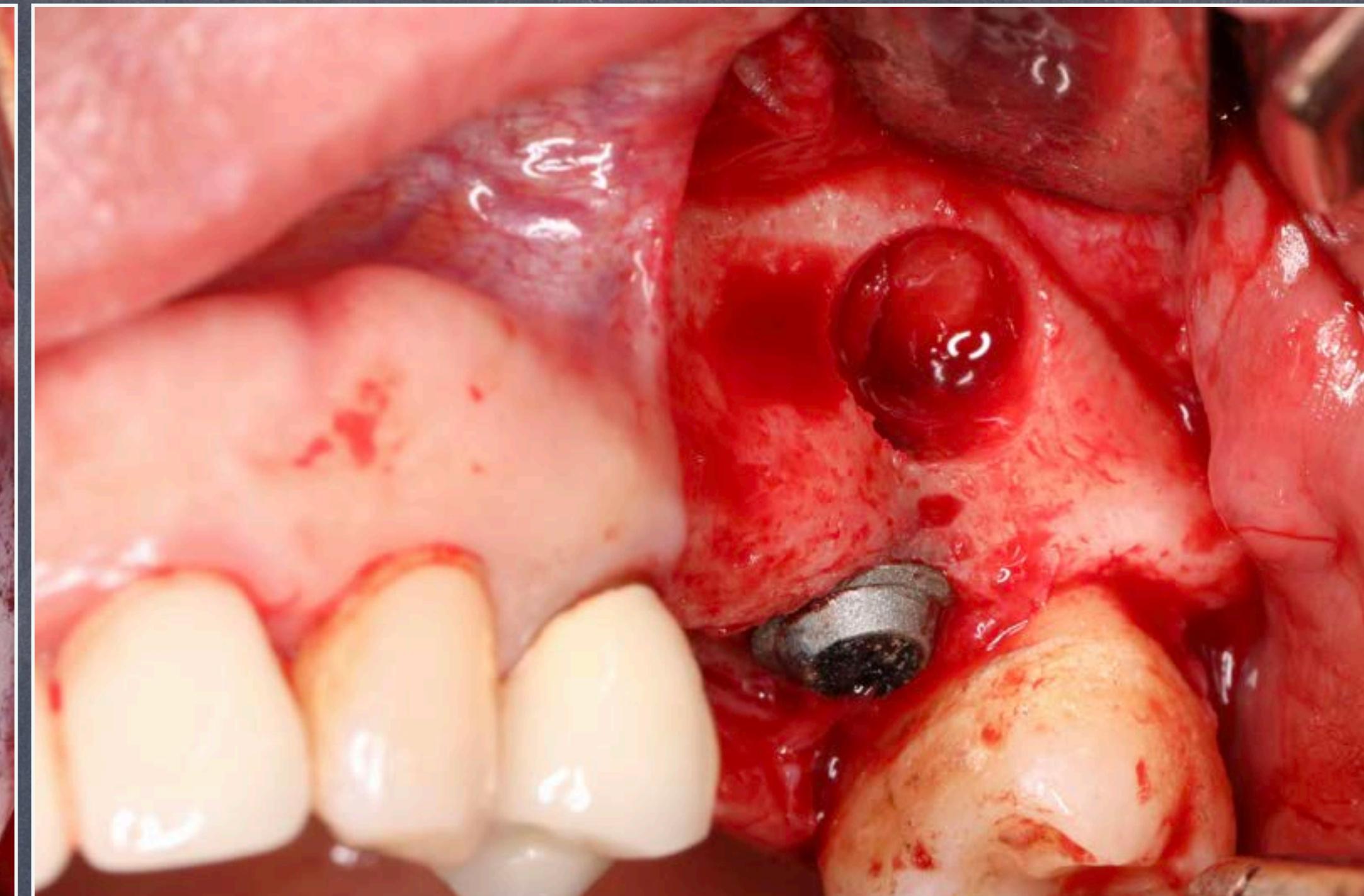
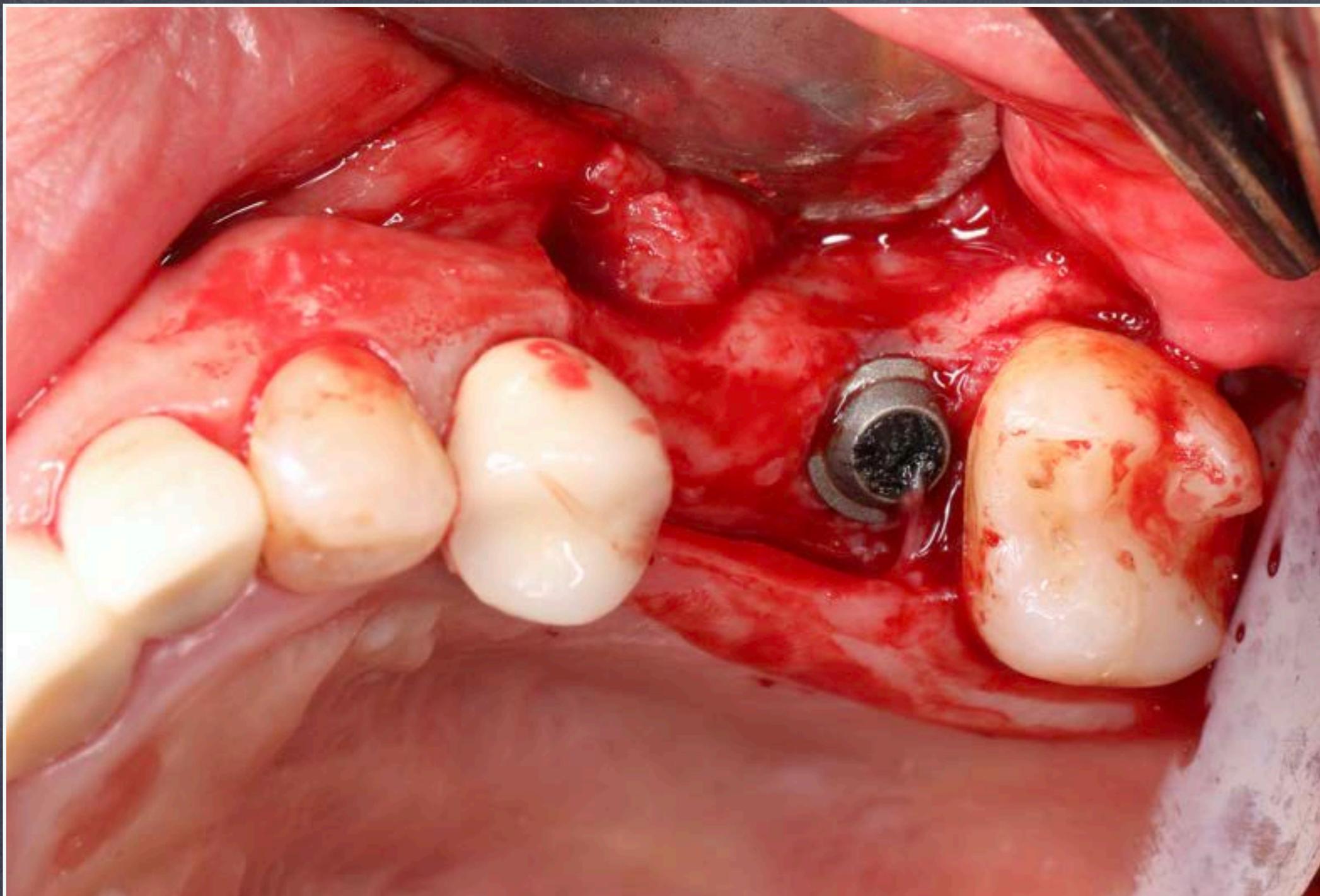


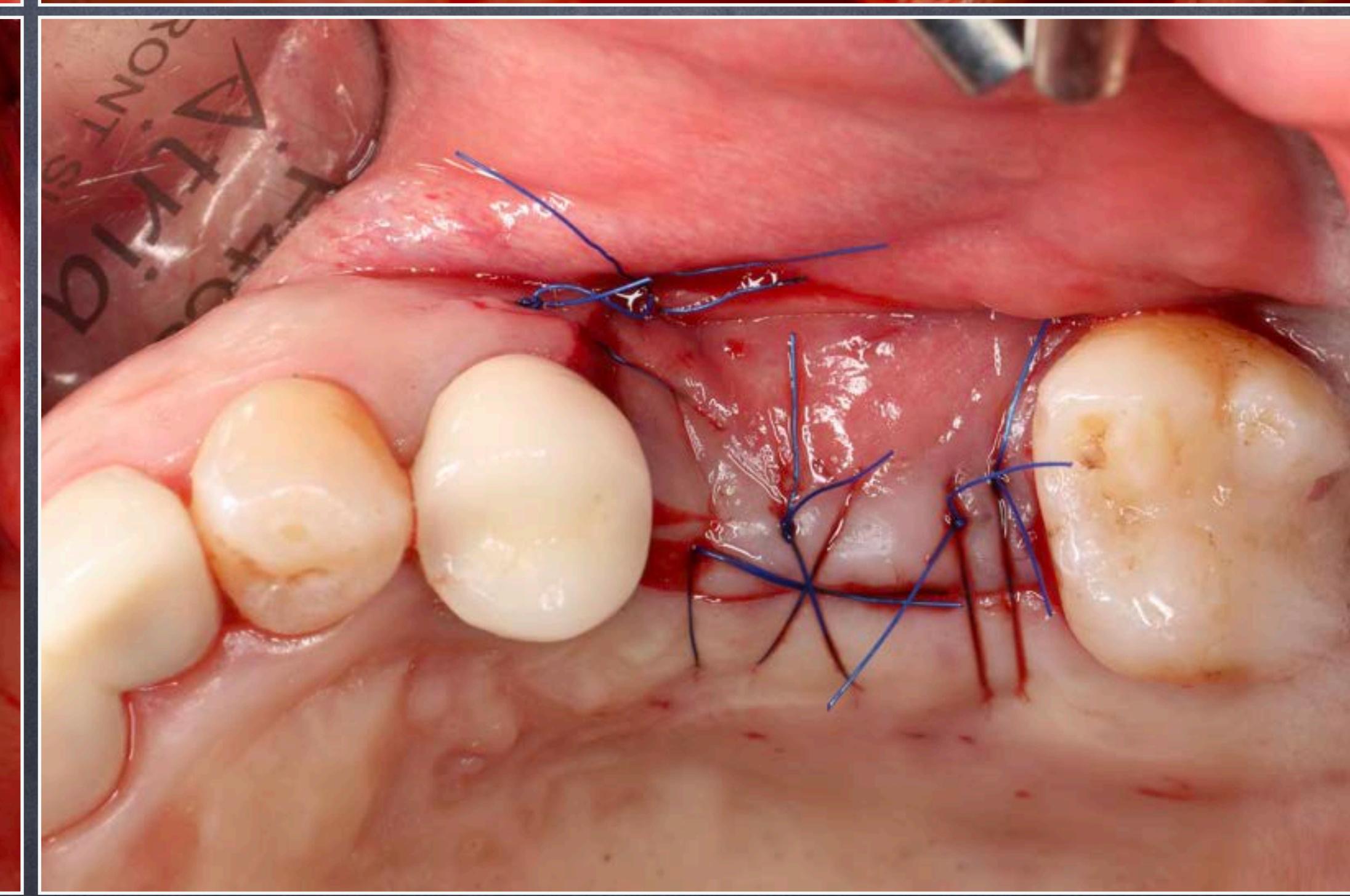
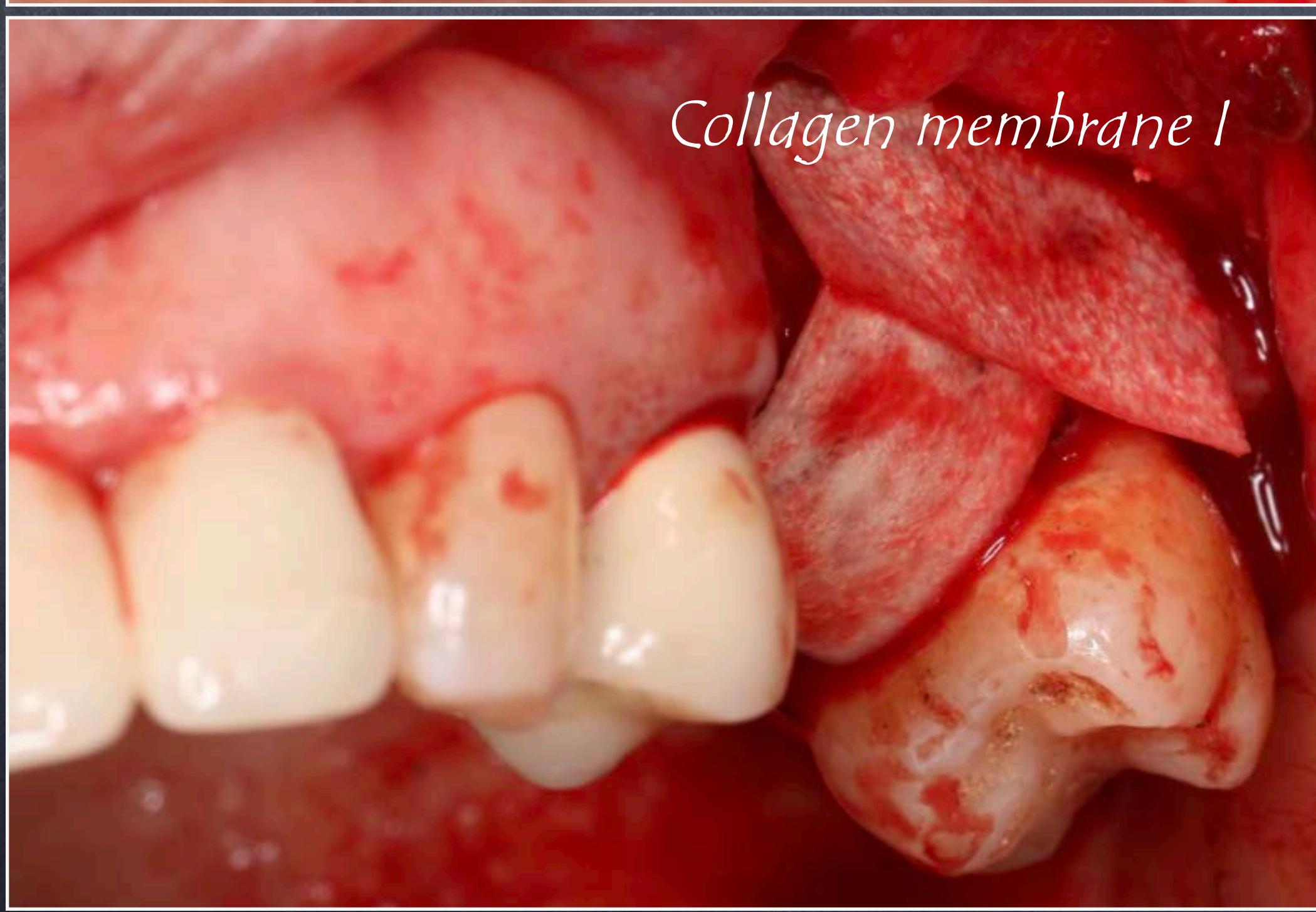
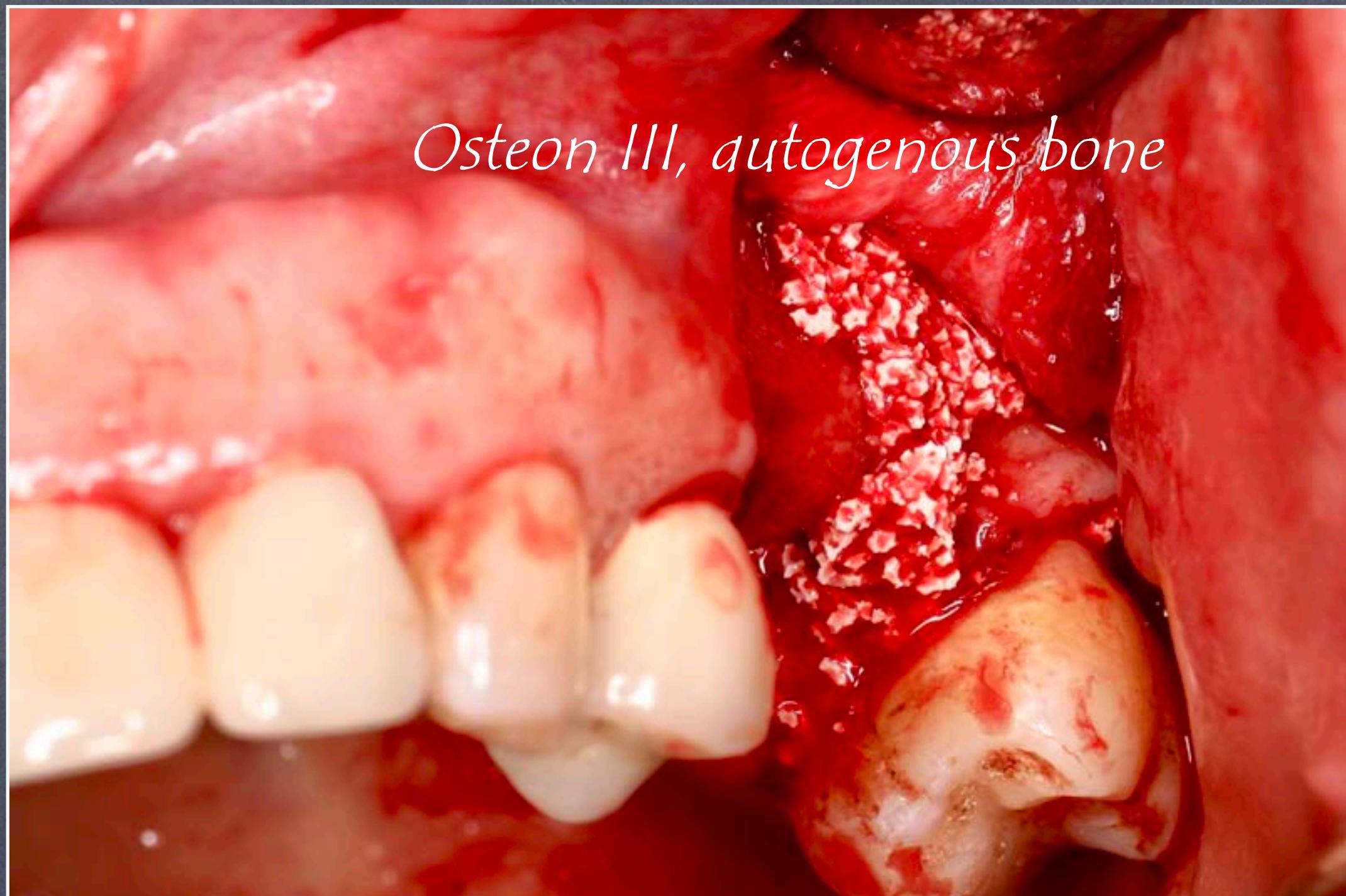
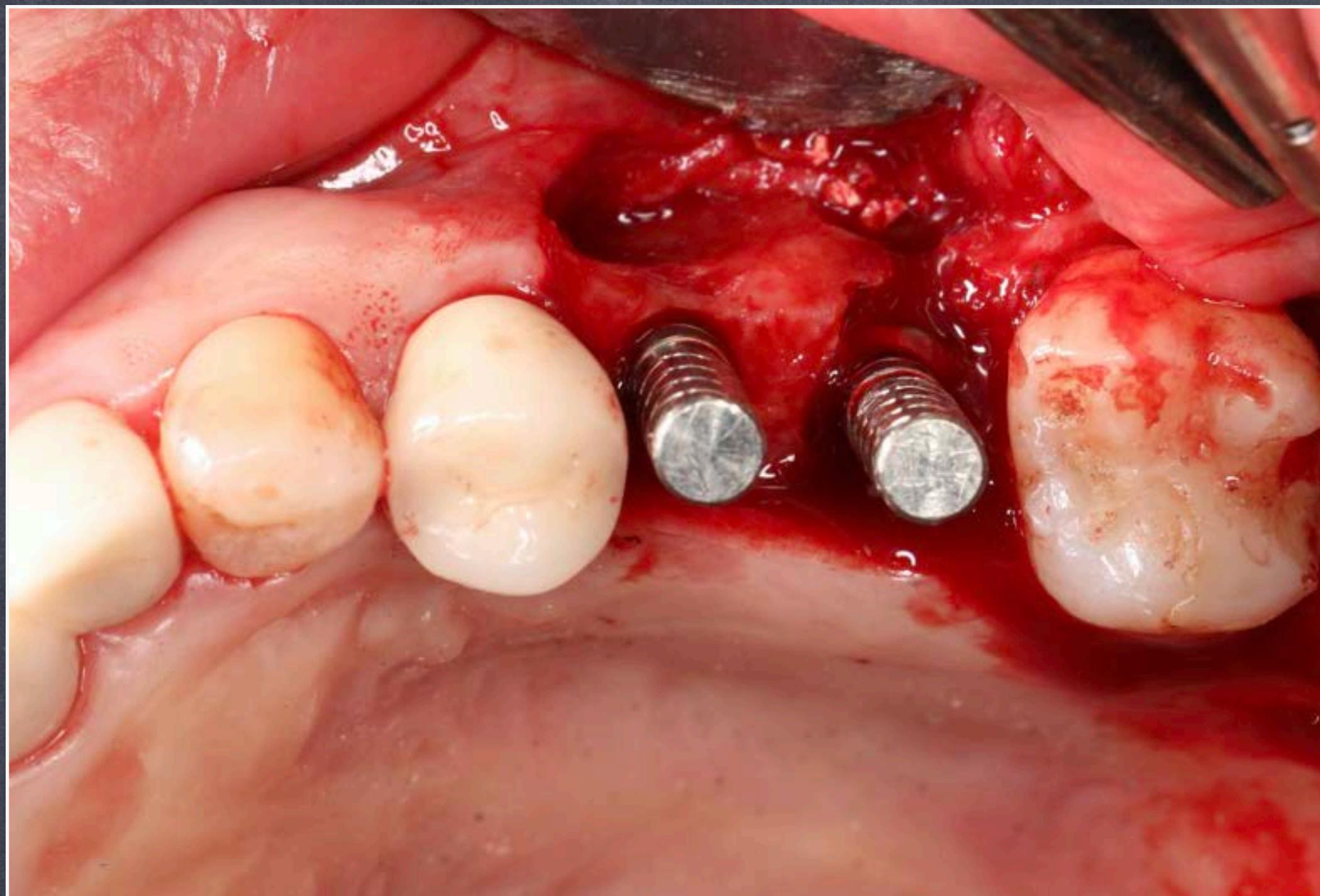


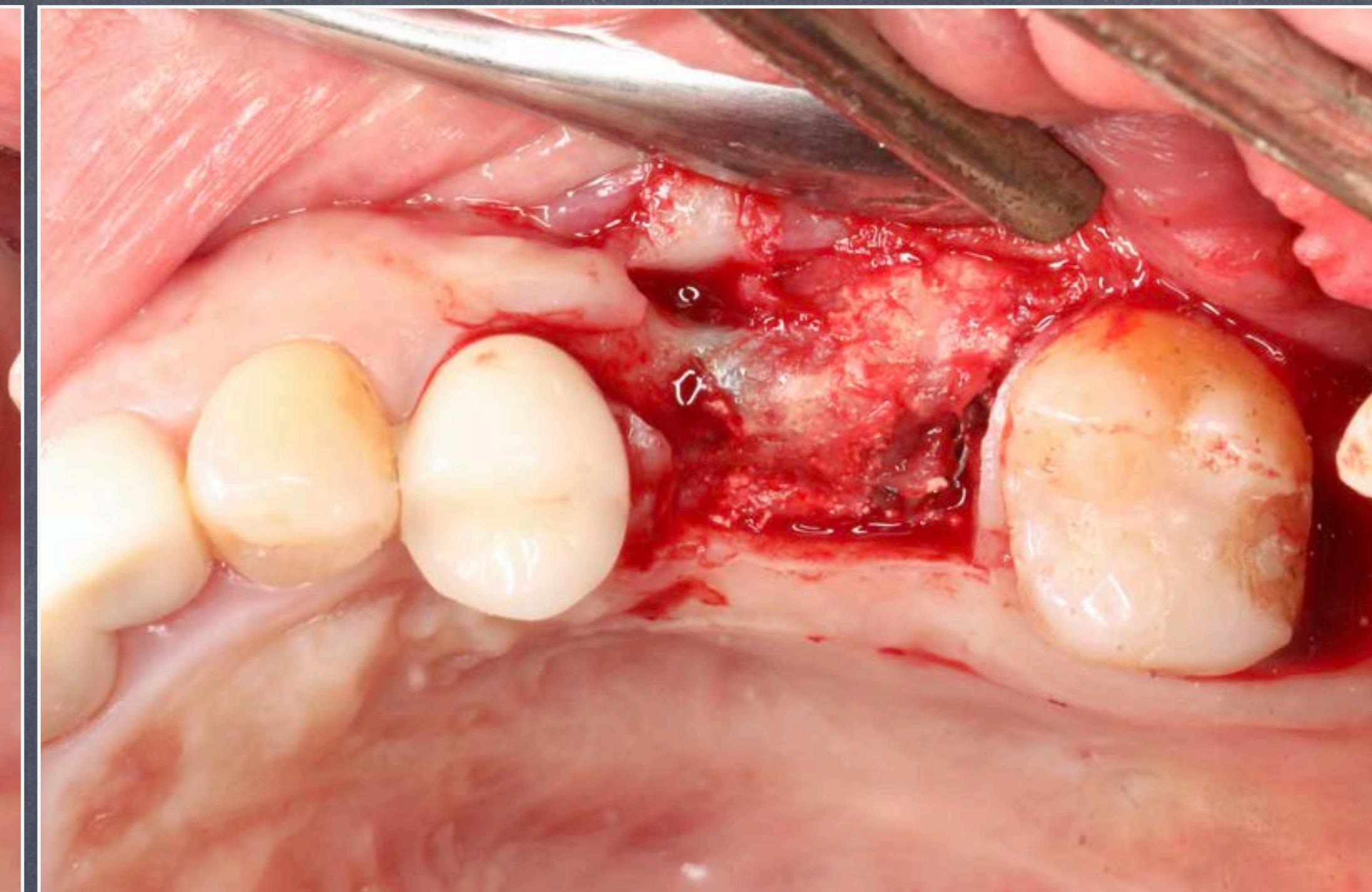






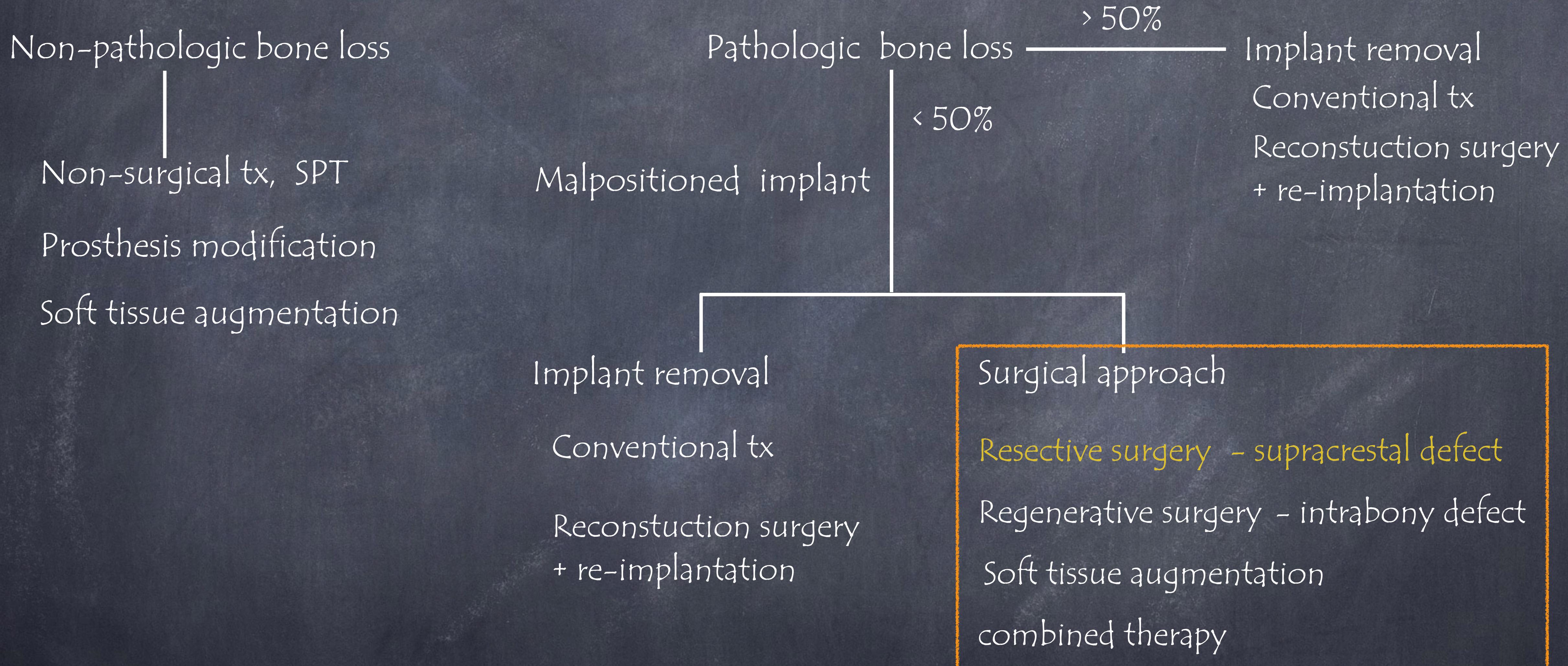


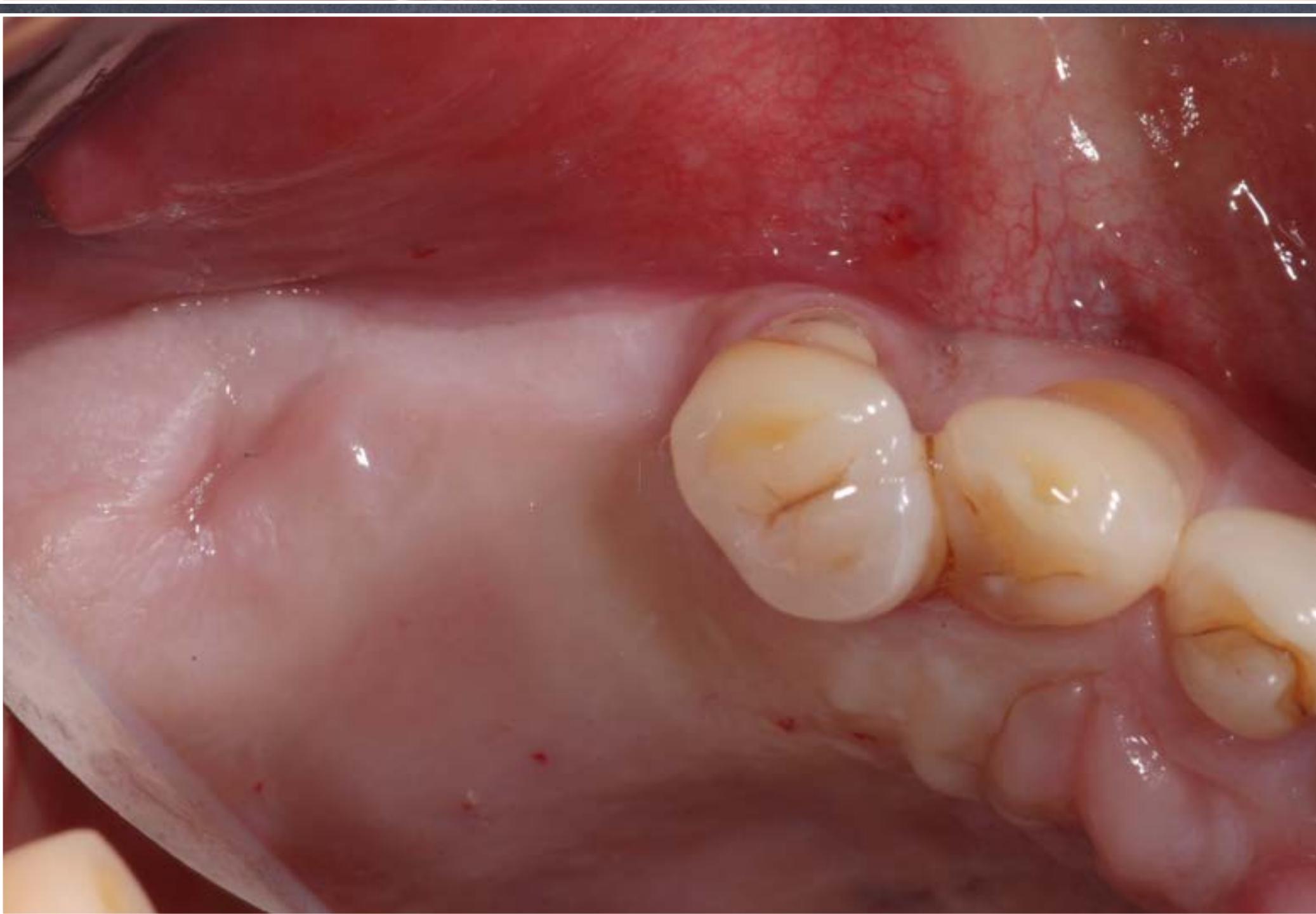


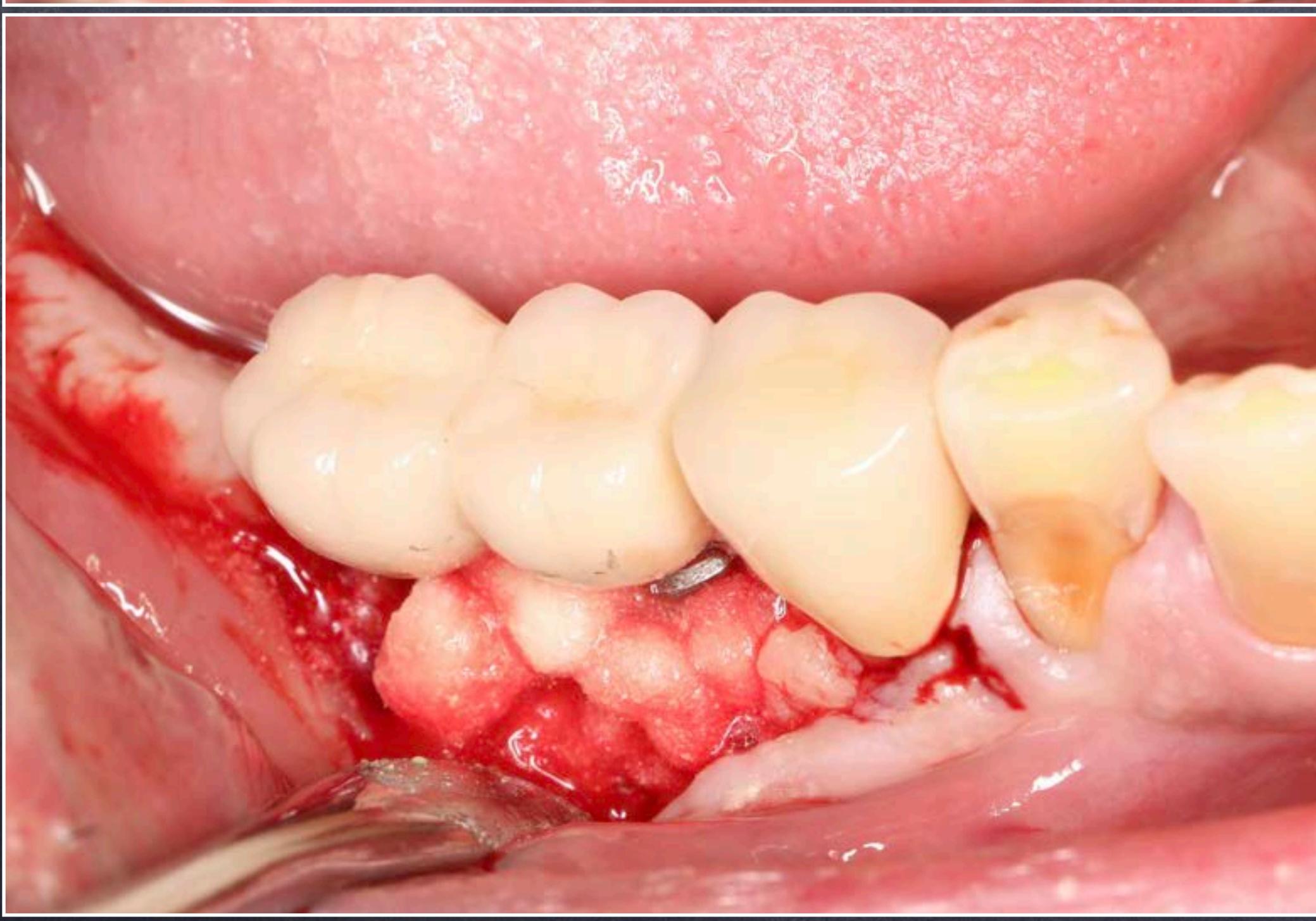


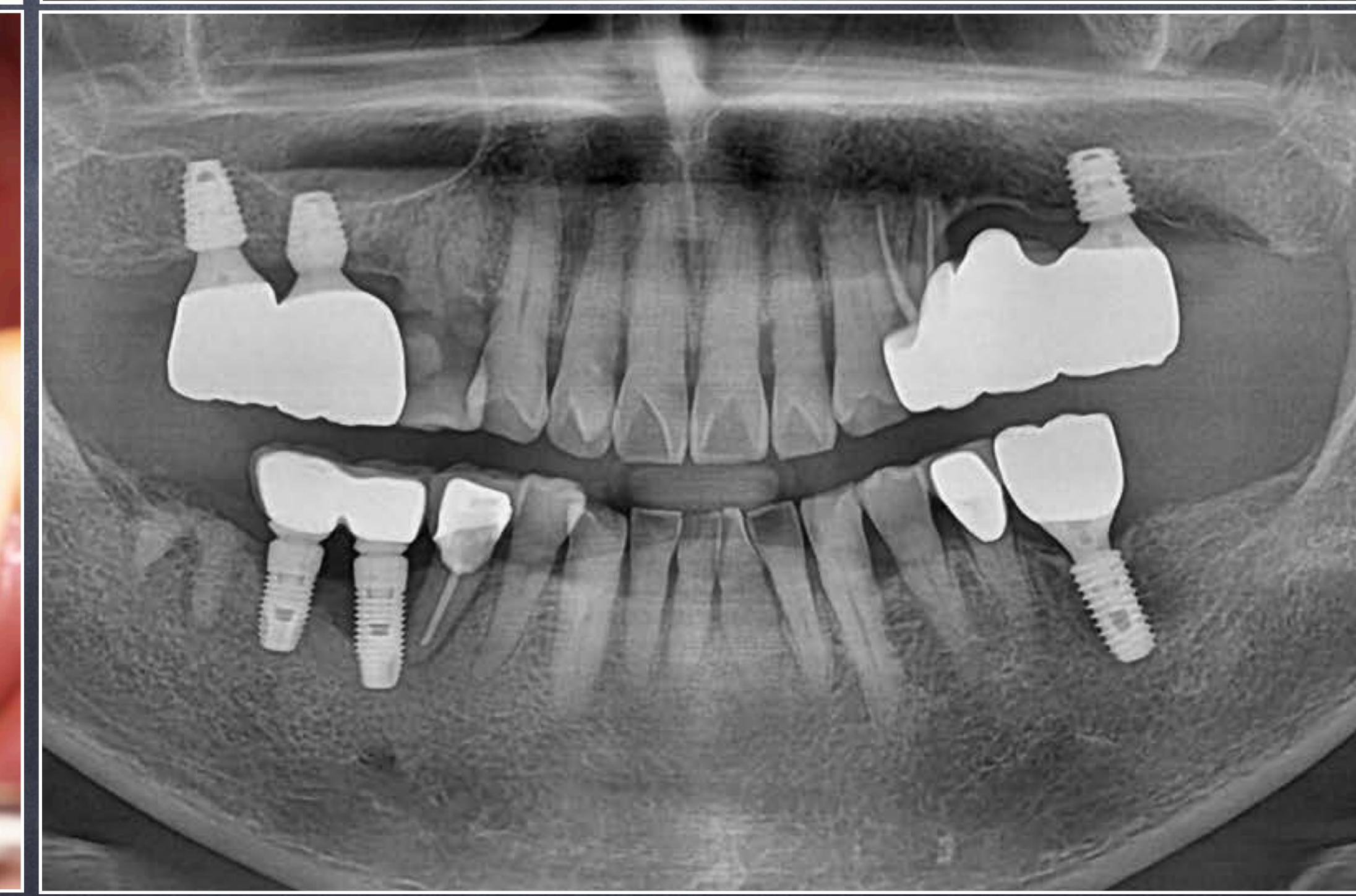
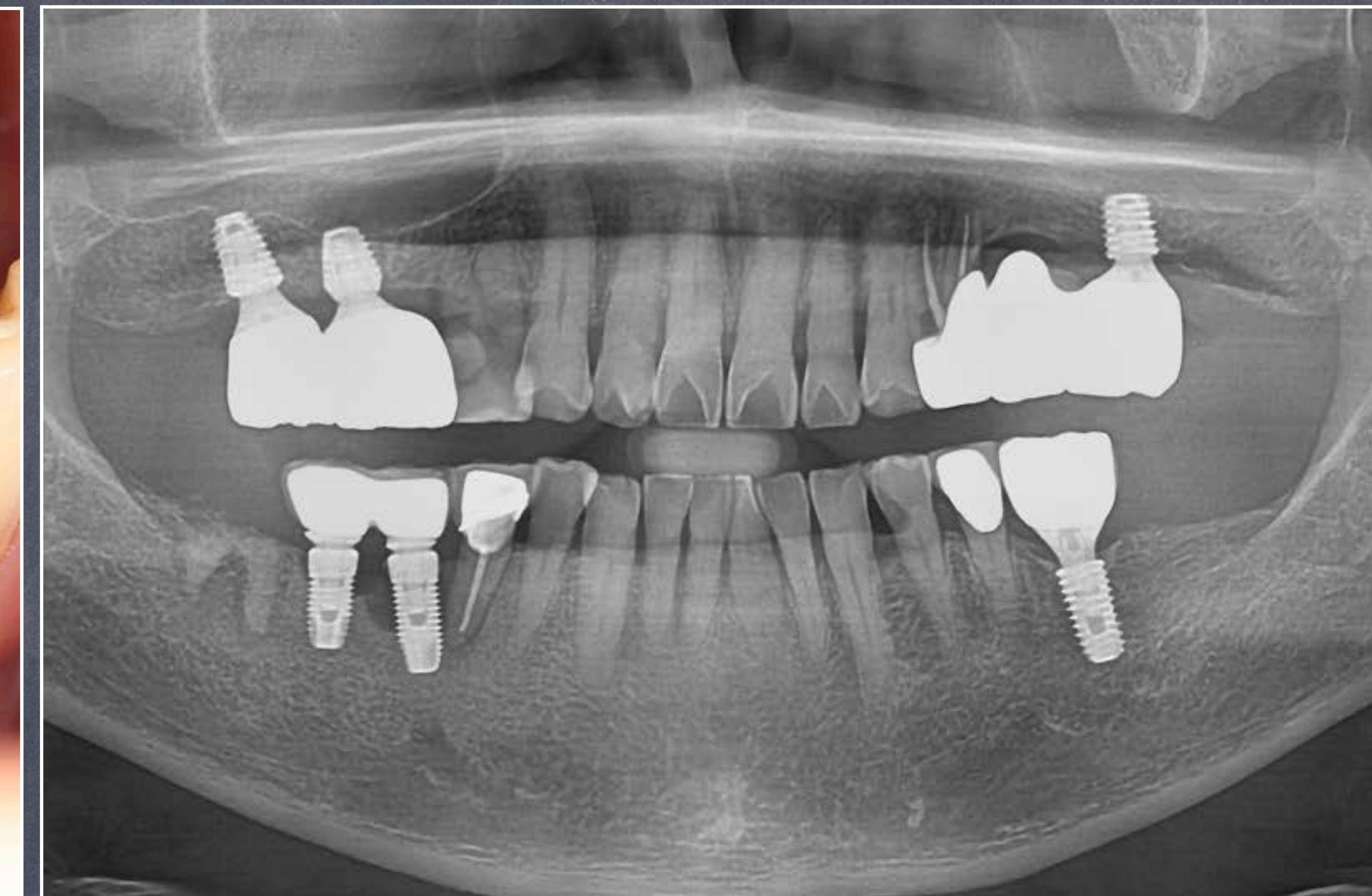


Decision making for the treatment of failing implants









15 clinical trials. mean 12 months follow up

mean PPD reduction

flap gr.: 1.27 mm (0.67–1.87) / osseous resective gr.: 1.88 mm (1.39–2.37) - no significant difference

Regarding BoP, there were no significant differences between the two techniques at 3, 6, or 12 months.

For MBL, at 12 months, the flap group showed less bone loss than the osseous resective group.

flap gr. 0.66mm vs osseous resective gr. -0.07mm (mean difference = 0.73 mm)

Both non-reconstructive surgical interventions were effective in managing peri-implantitis.

Efficacy of nonreconstructive surgical treatment of peri-implantitis: AAP/AO systematic review and meta-analysis of access flap versus osseous surgery procedures

Saleh JOMI 2025

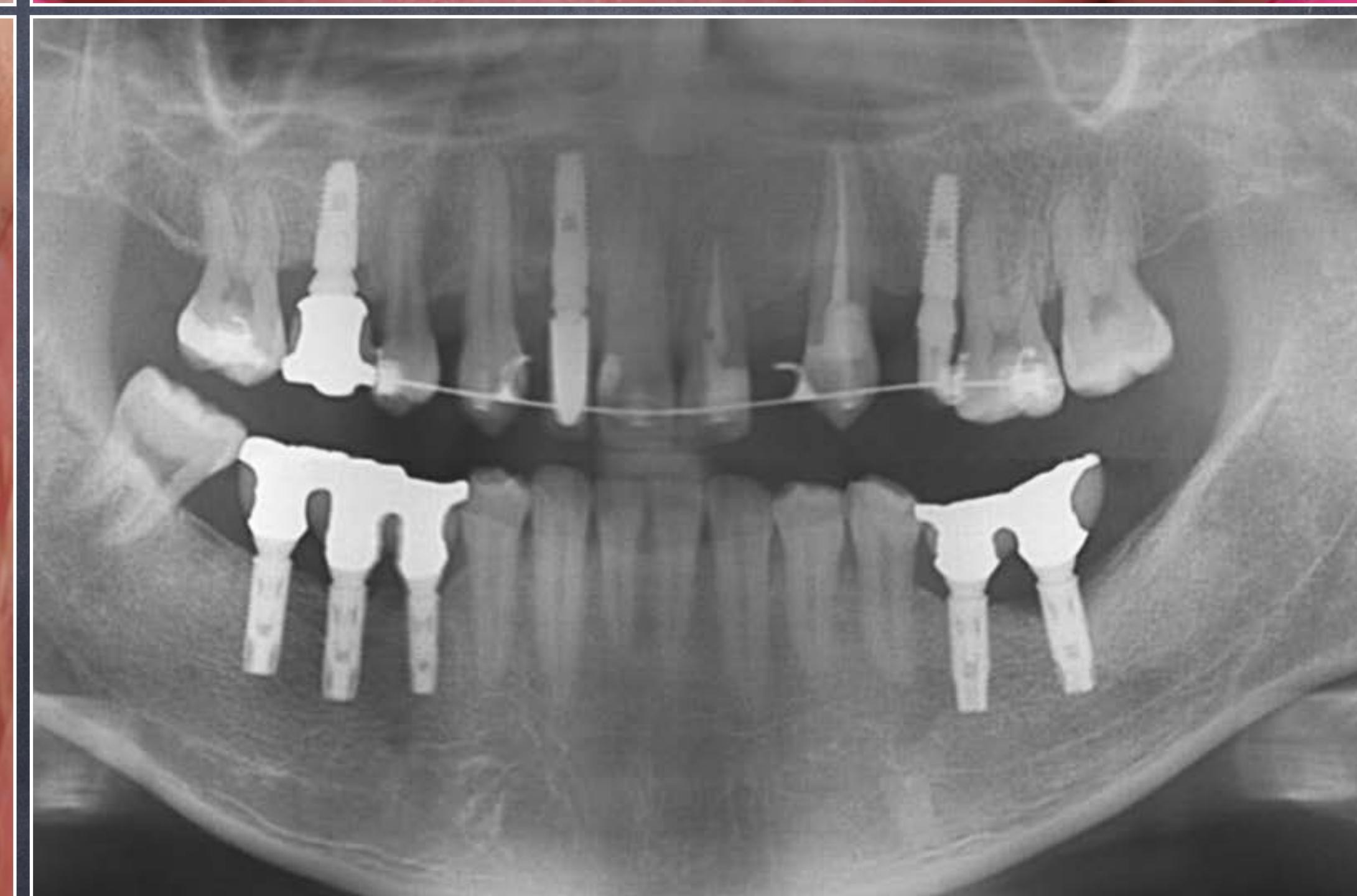
Nonaugmentative therapy (ie, access flap surgery and resective treatment)

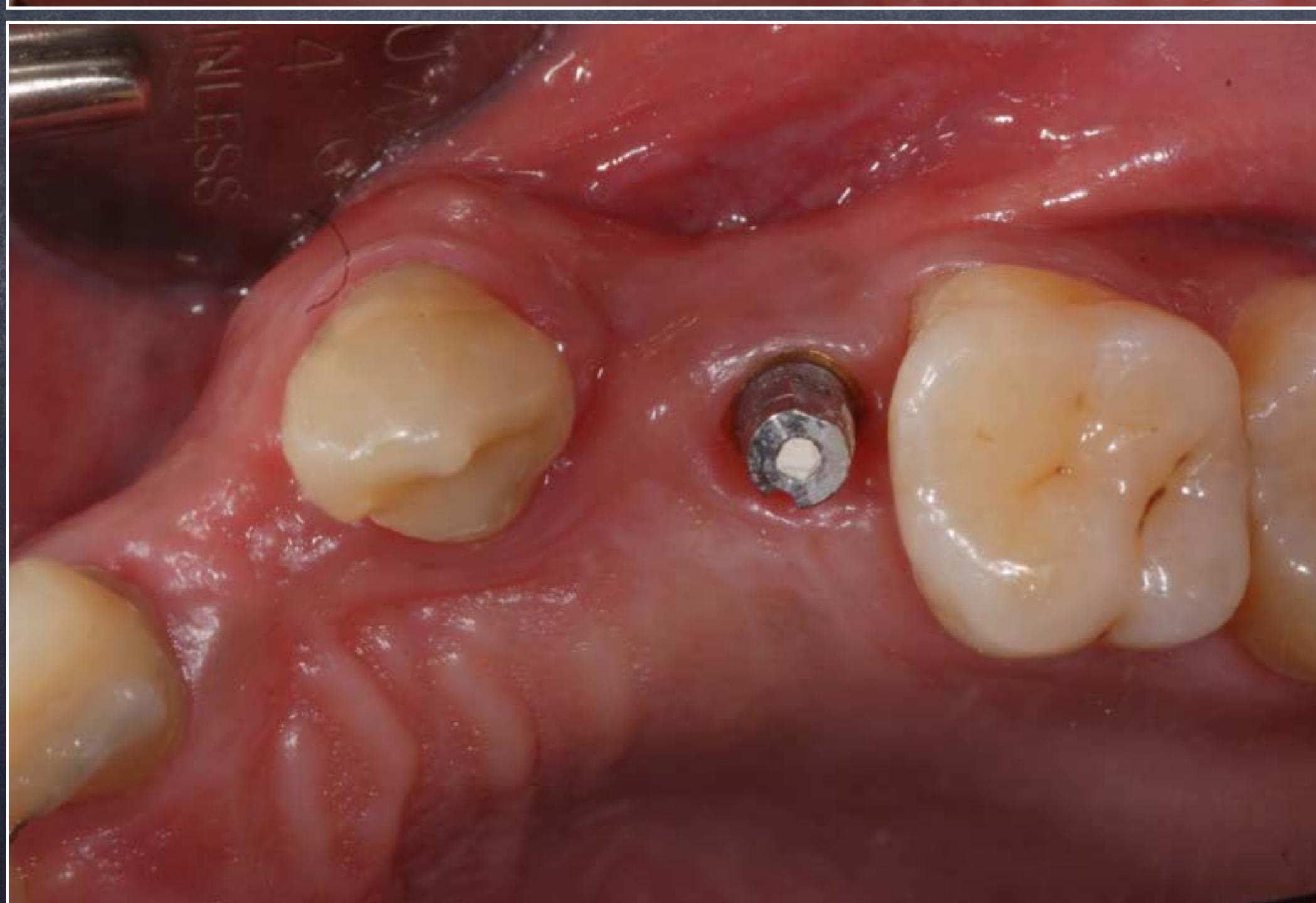
1. Access flap surgery and resective therapy are indicated in the presence of horizontal bone loss (ie, supracrestal peri-implant soft-tissue pockets/defects).
2. In the majority of cases, nonaugmentative treatment modalities resulted in improved peri-implant tissue health and stable marginal bone levels but were followed by significant soft-tissue recession.
3. The available clinical data do not favor any particular implant surface decontamination approach to improve treatment outcomes.
4. Implantoplasty positively influenced resolution of infection and stability of marginal bone; however, it also resulted in increased soft-tissue recession.
5. There is insufficient evidence from comparative studies to support or refute the use of adjunctive systemic antibiotics.

Nonaugmentative therapy (ie, access flap surgery and resective treatment)

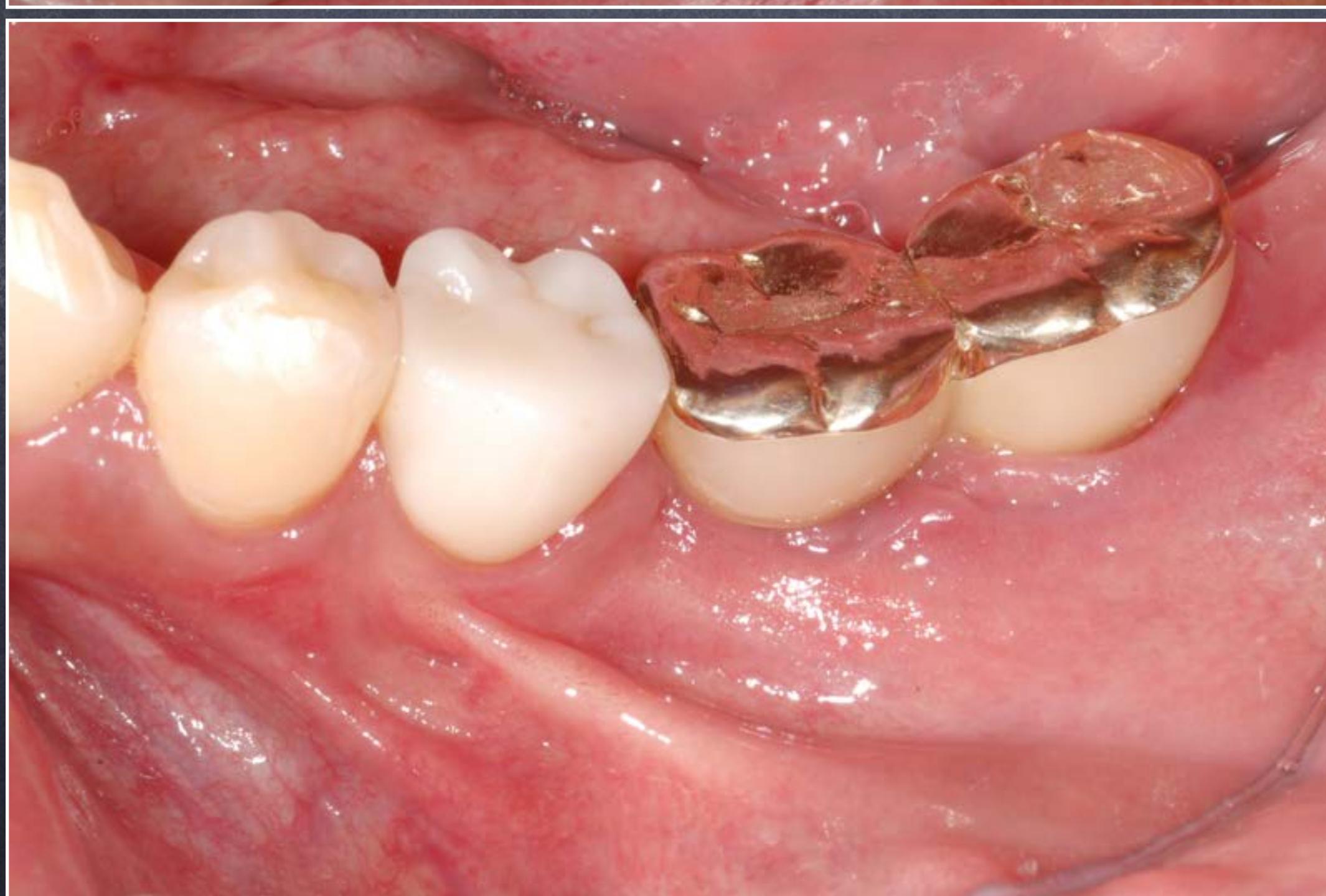
6. For the patients enrolled in regular post treatment supportive care, **successful treatment** (based on similar definitions of success) was reported in **53% of implants following access flap surgery** and **33%-75% of implants after resective treatment** over a 2 to 5-year period.
7. The following factors were shown to negatively influence treatment outcomes: initial bone loss greater than 7 mm, probing depths greater than 8 mm, suppuration, postoperative presence of biofilm, smoking, and modified implant surface.
8. In spite of treatment, **3%-14% of the implants were lost within 1-5 years.**

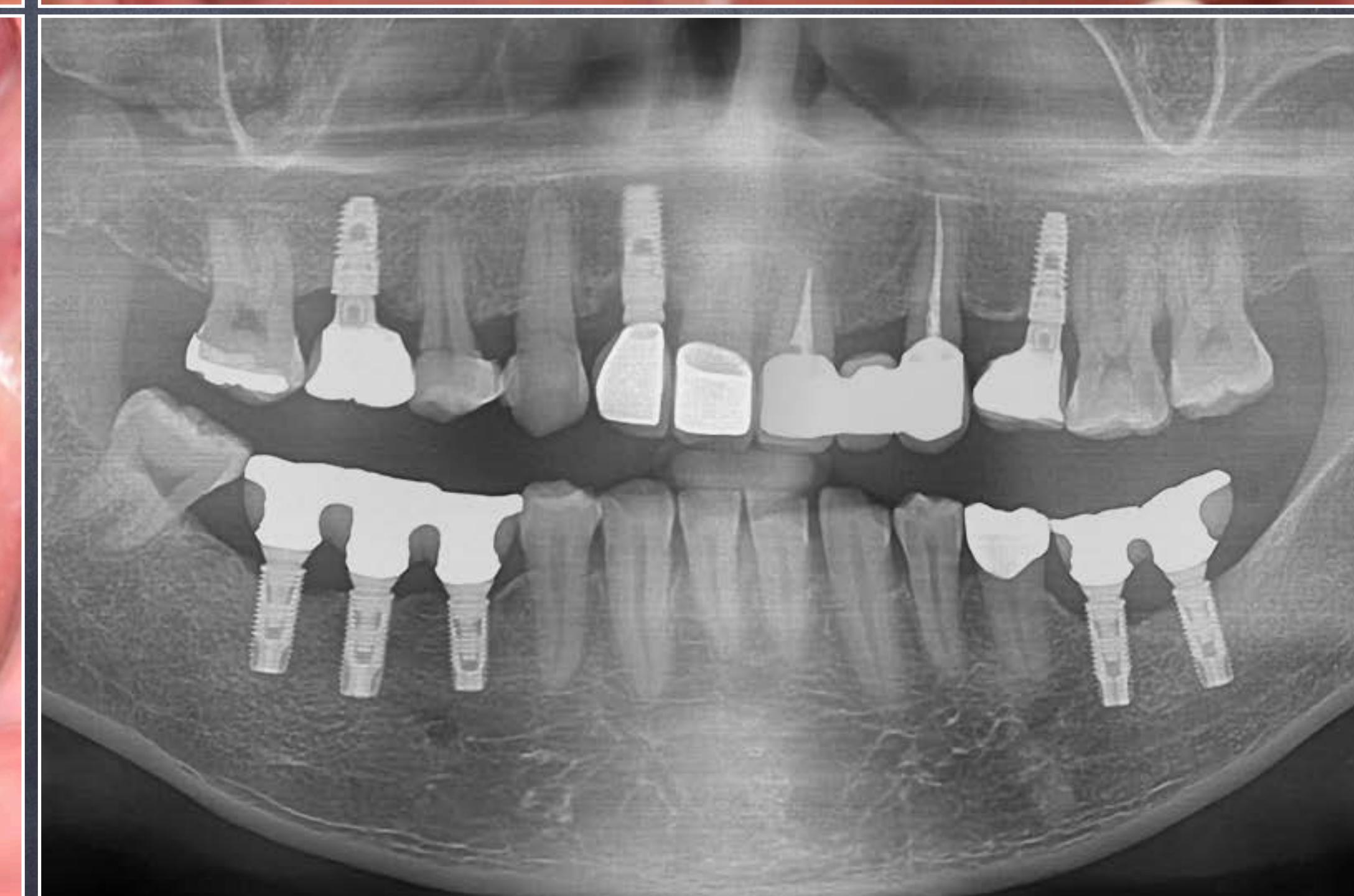
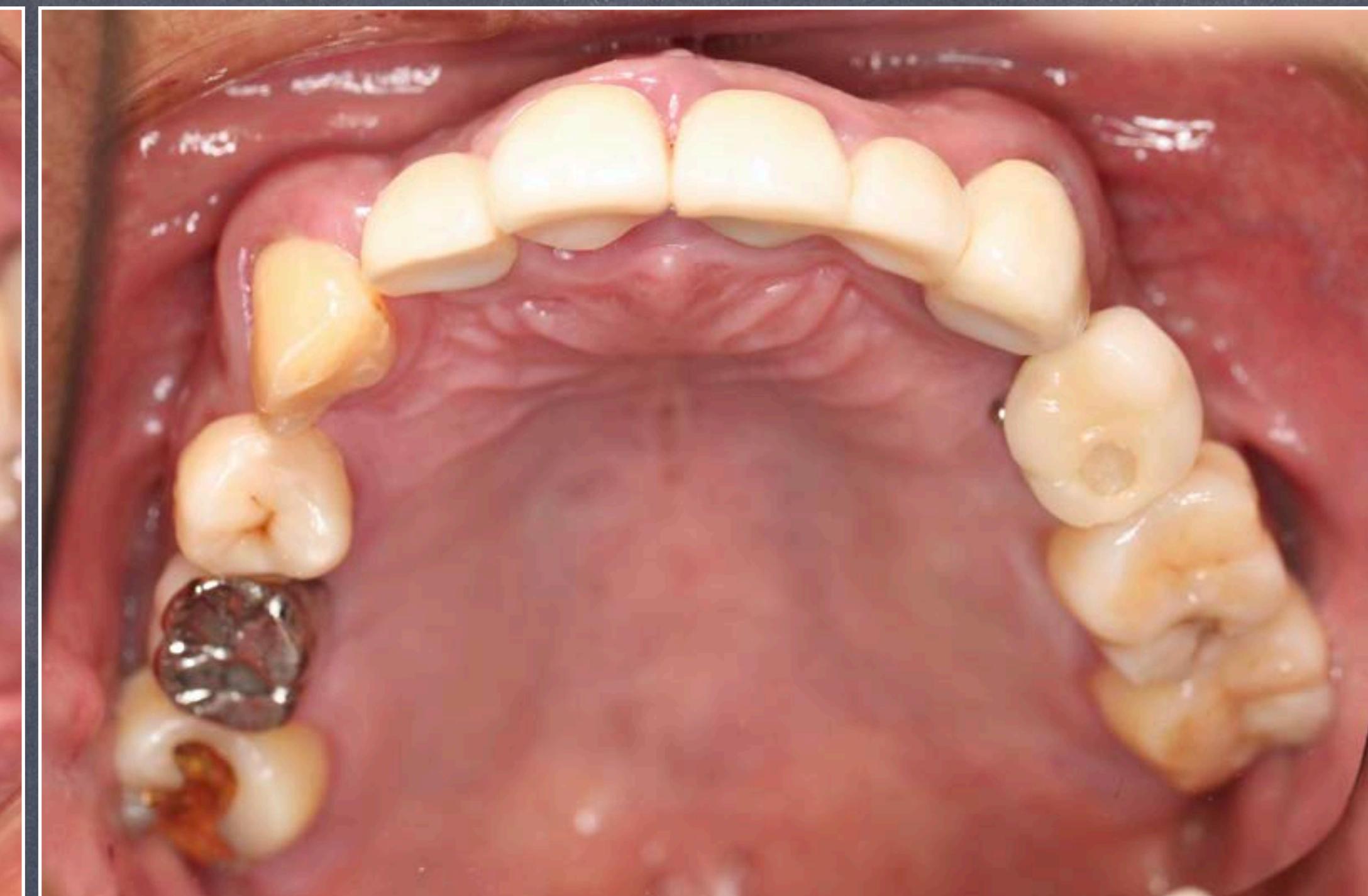




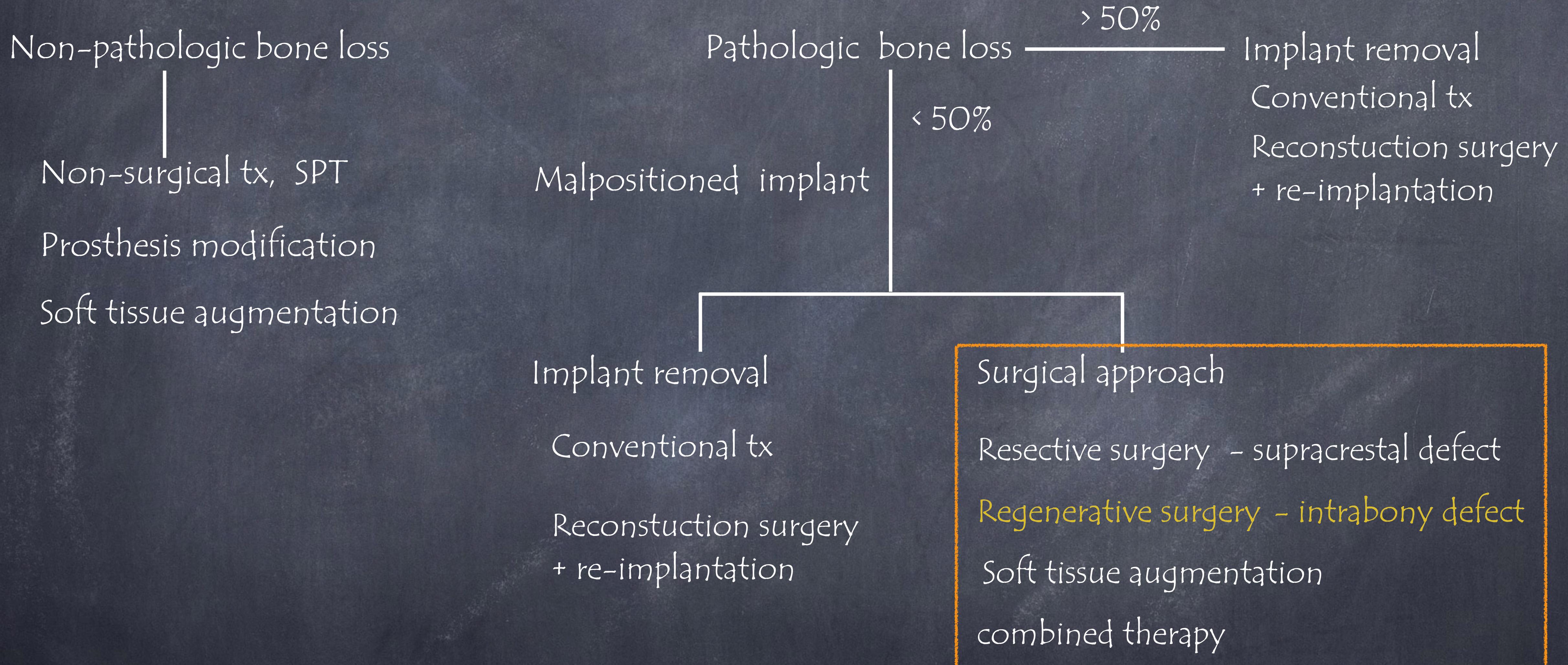


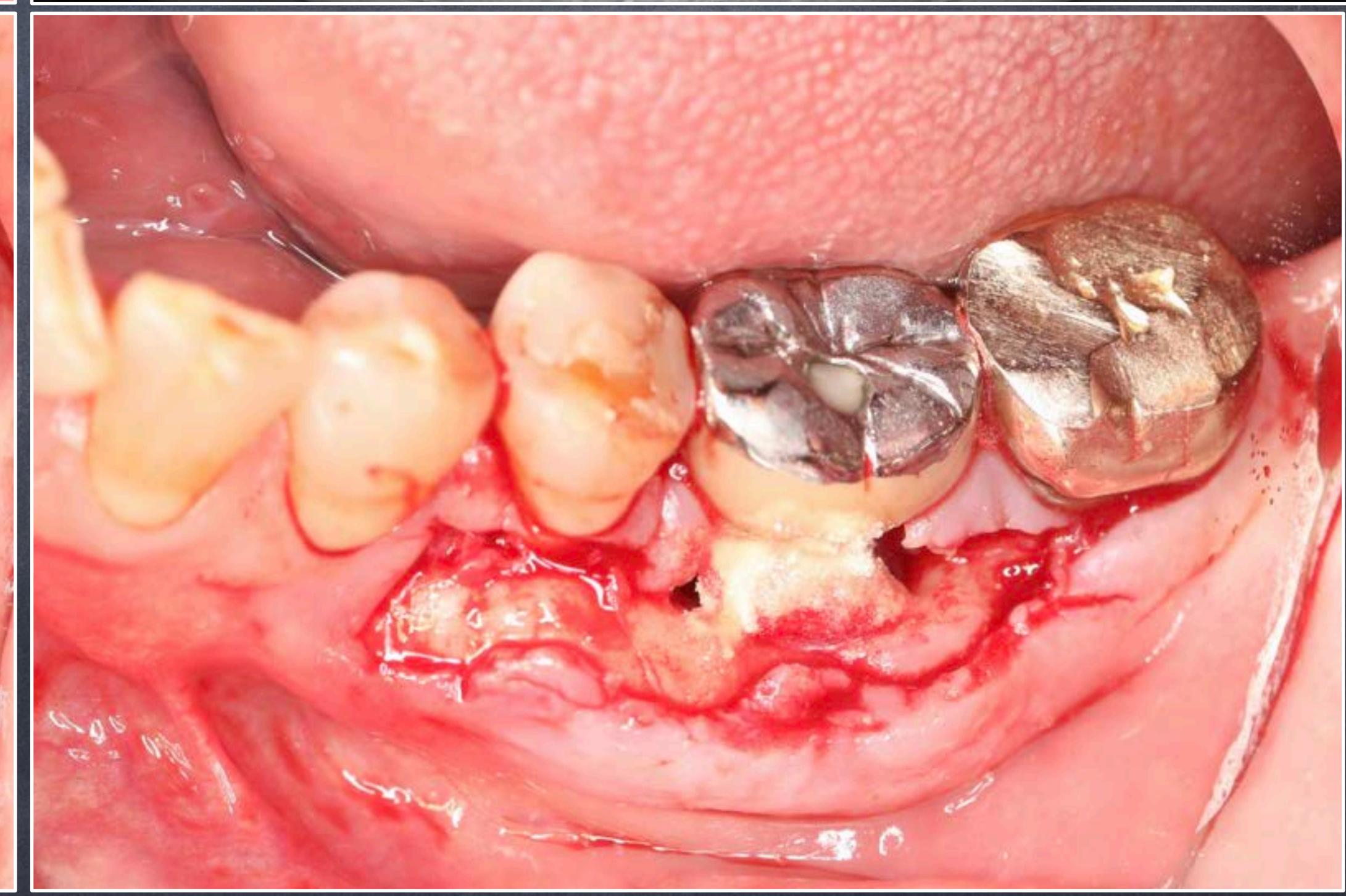
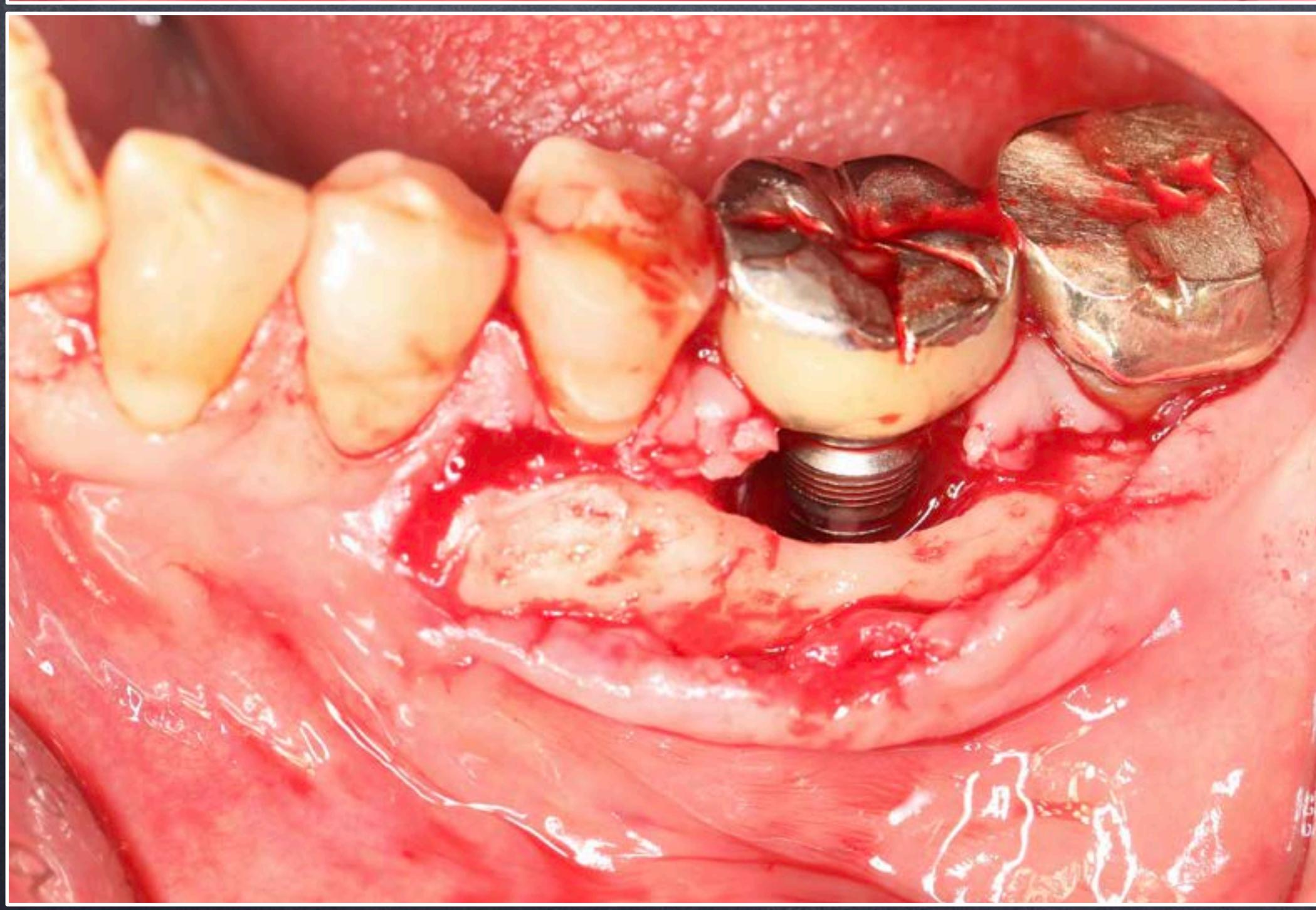
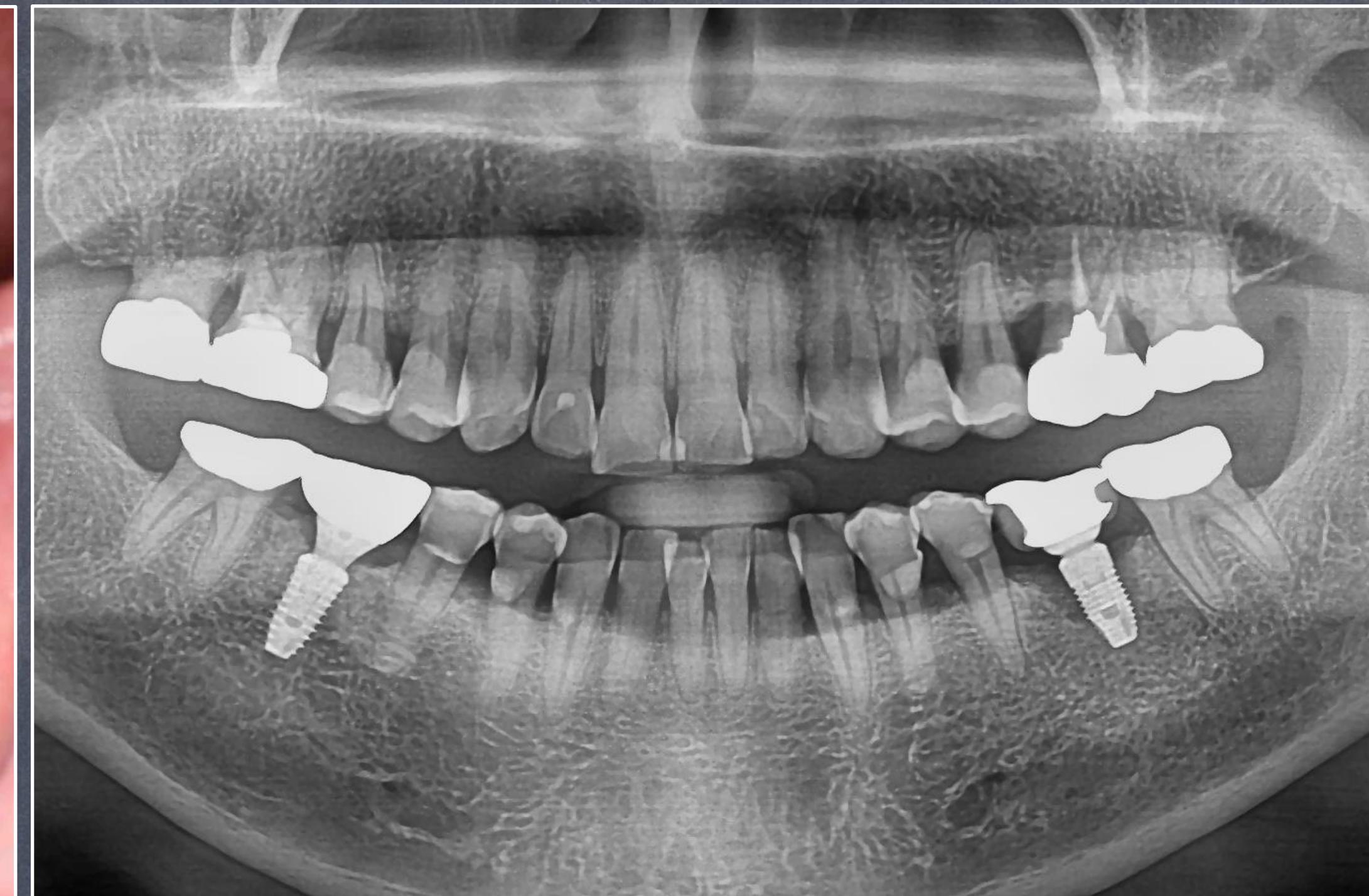


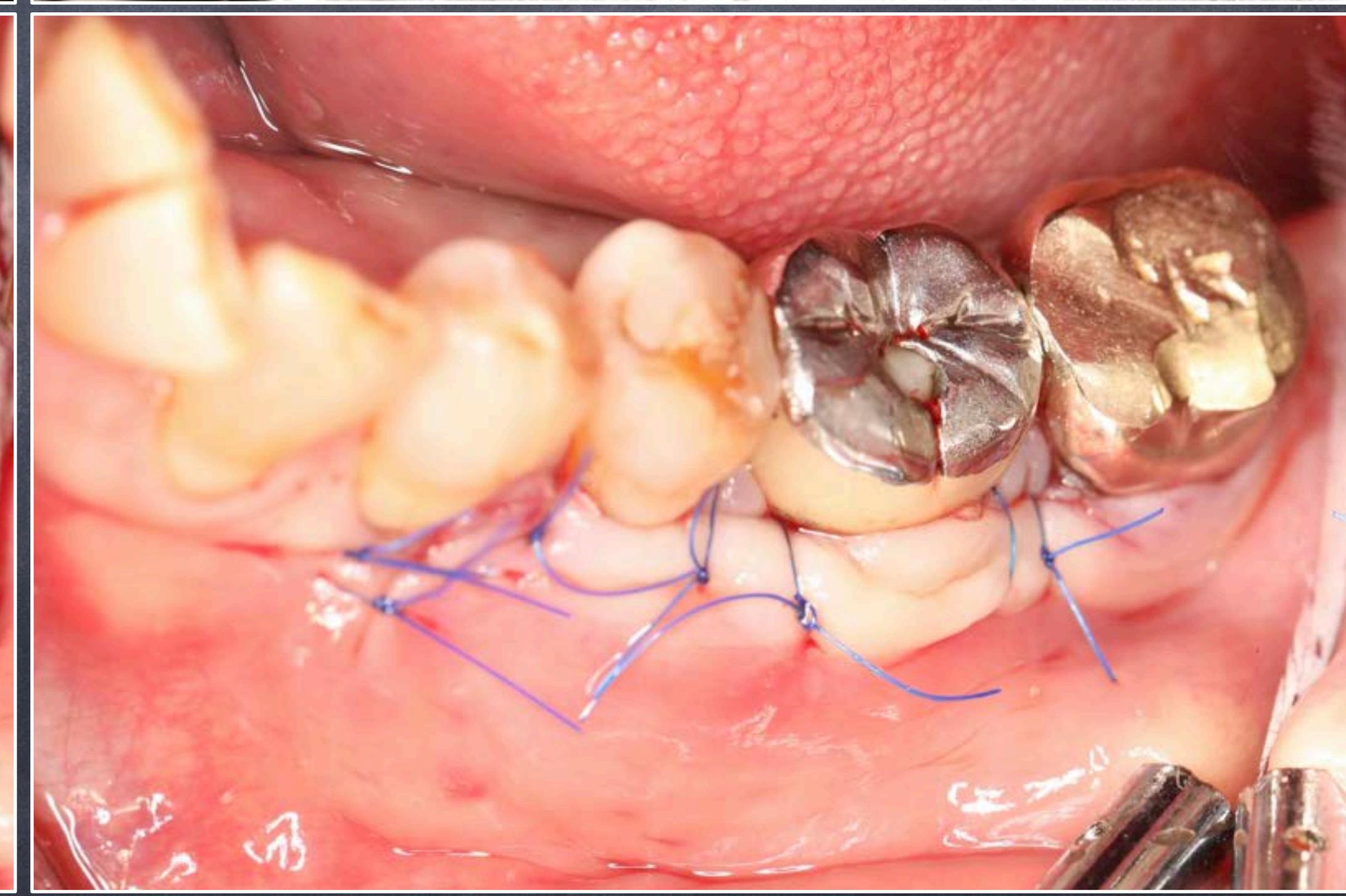
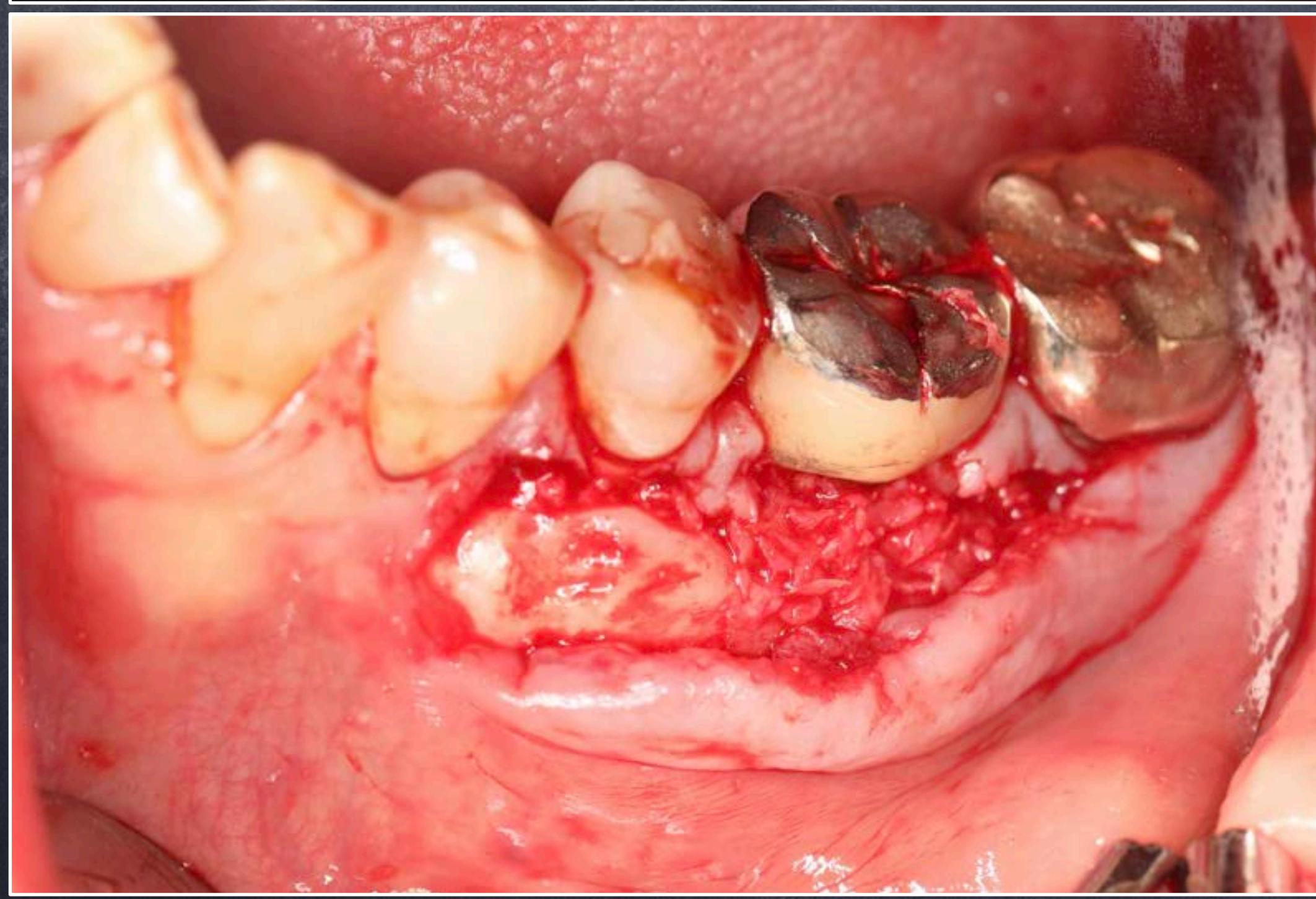


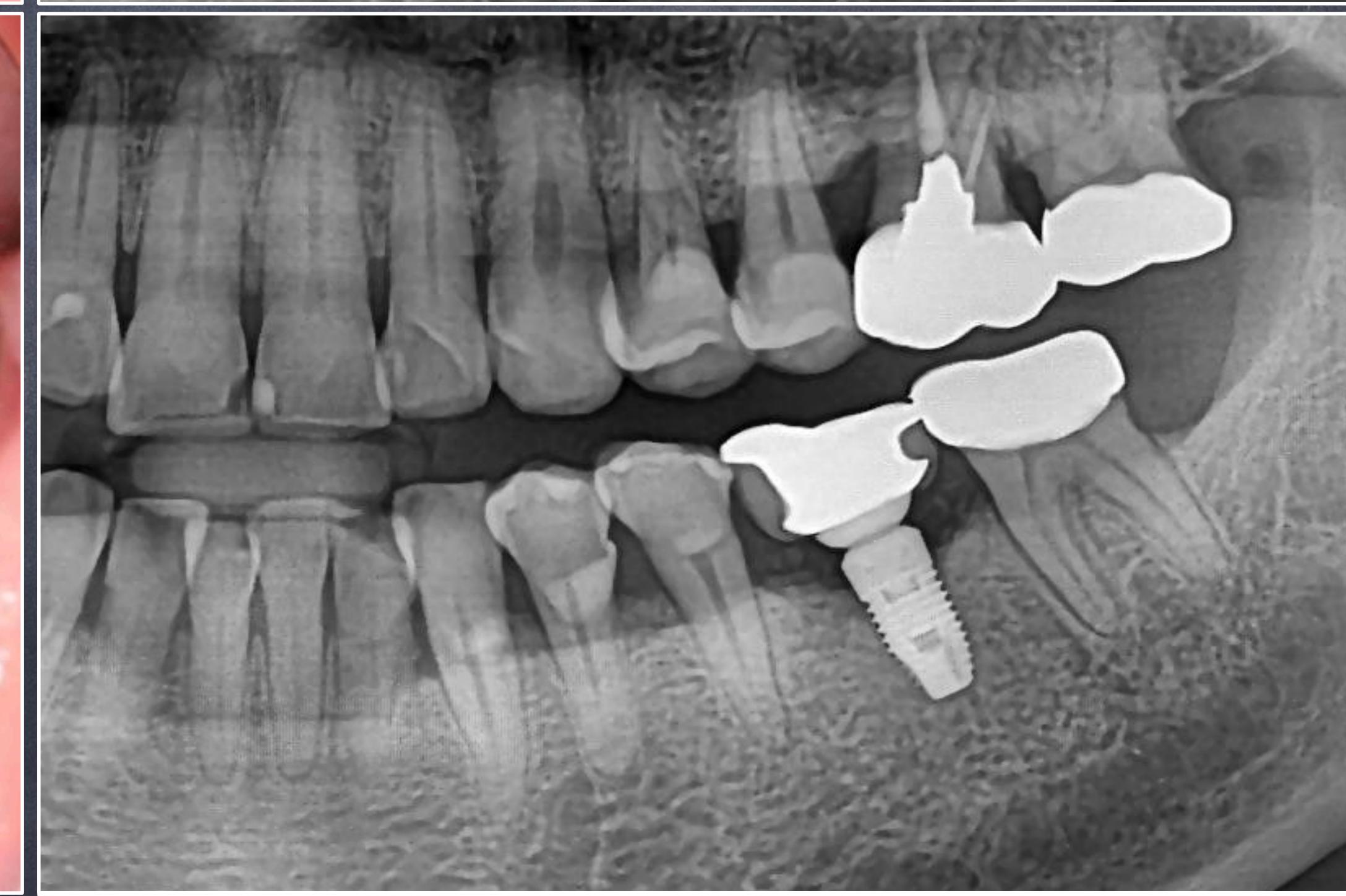
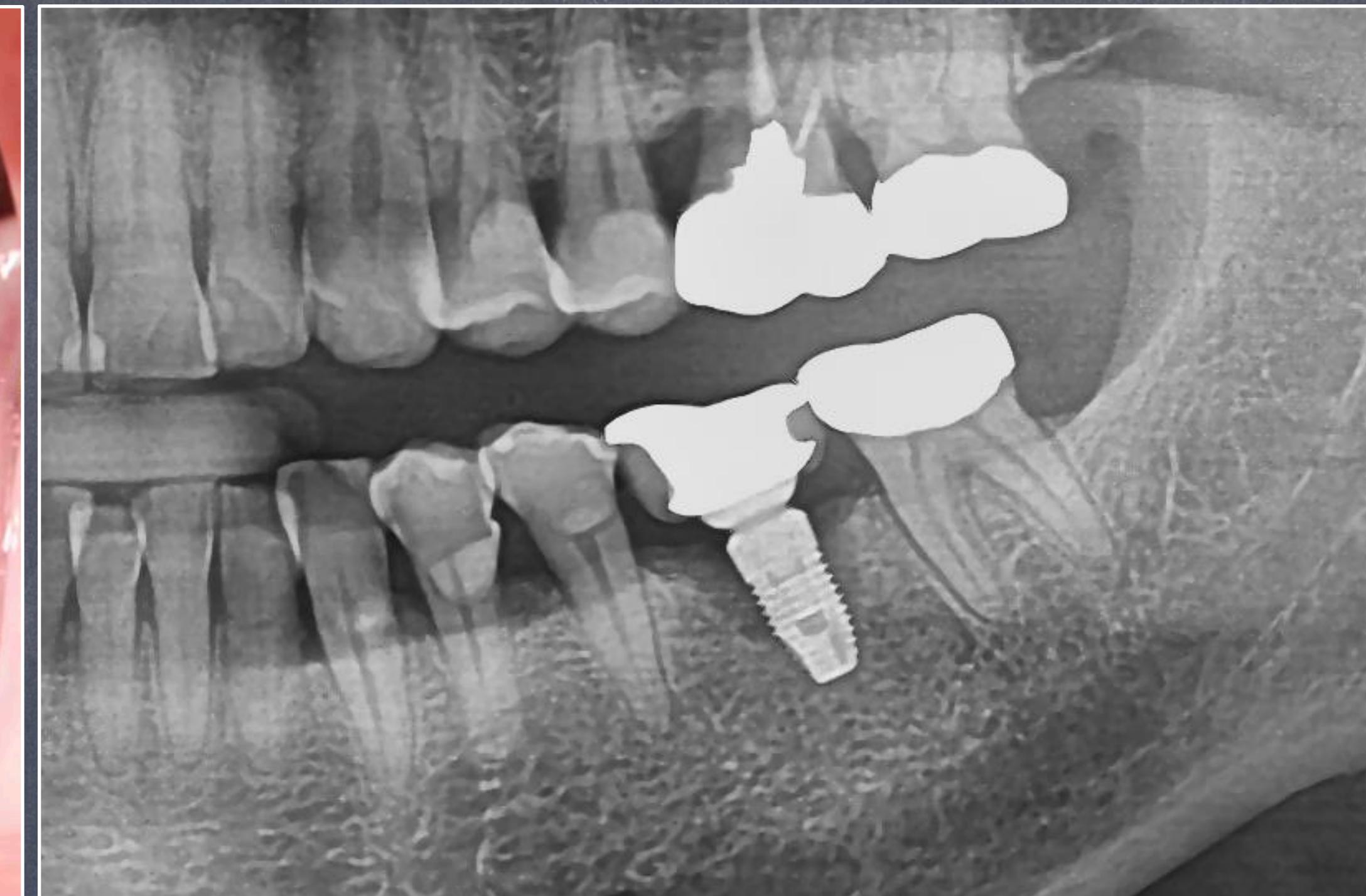


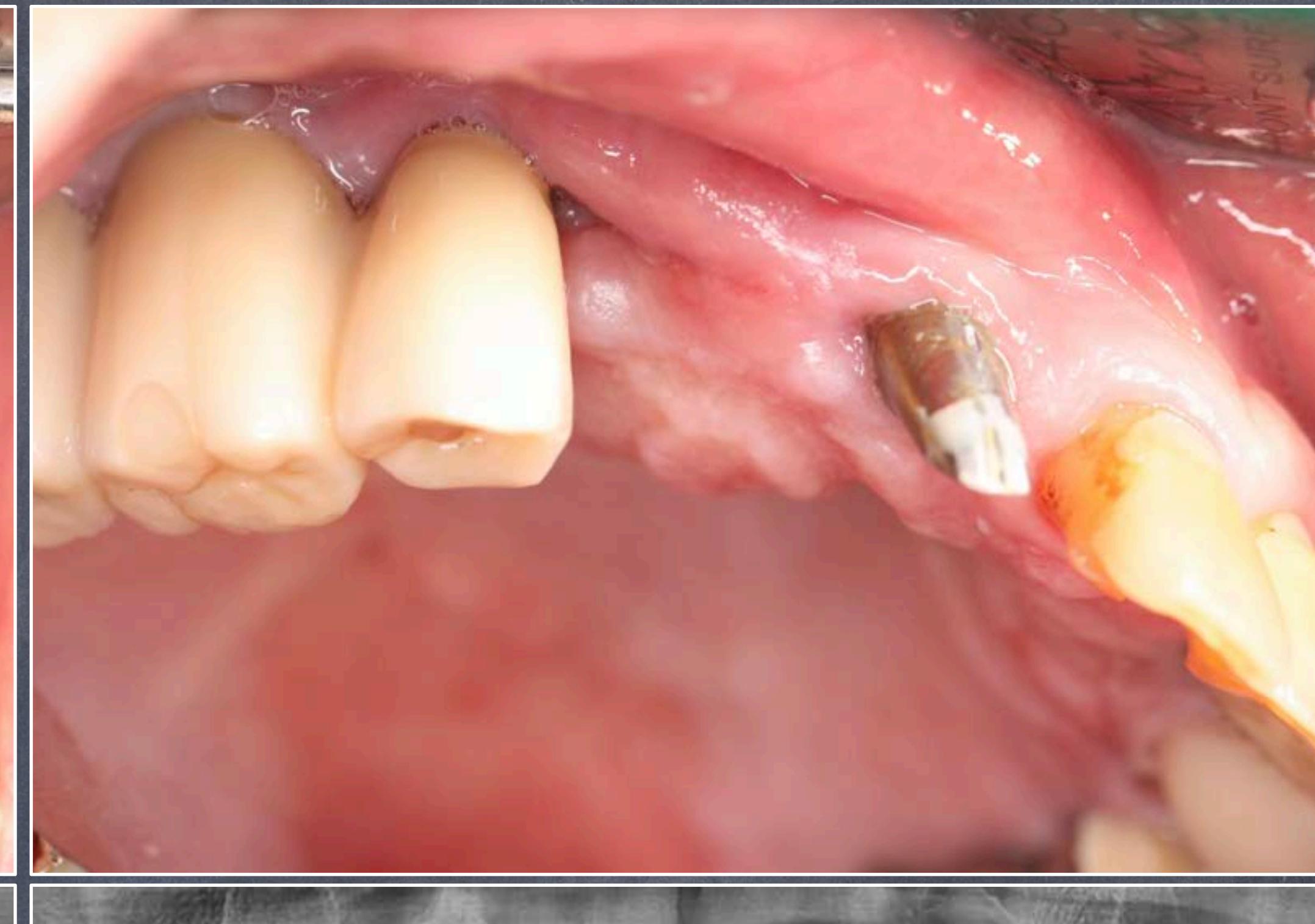
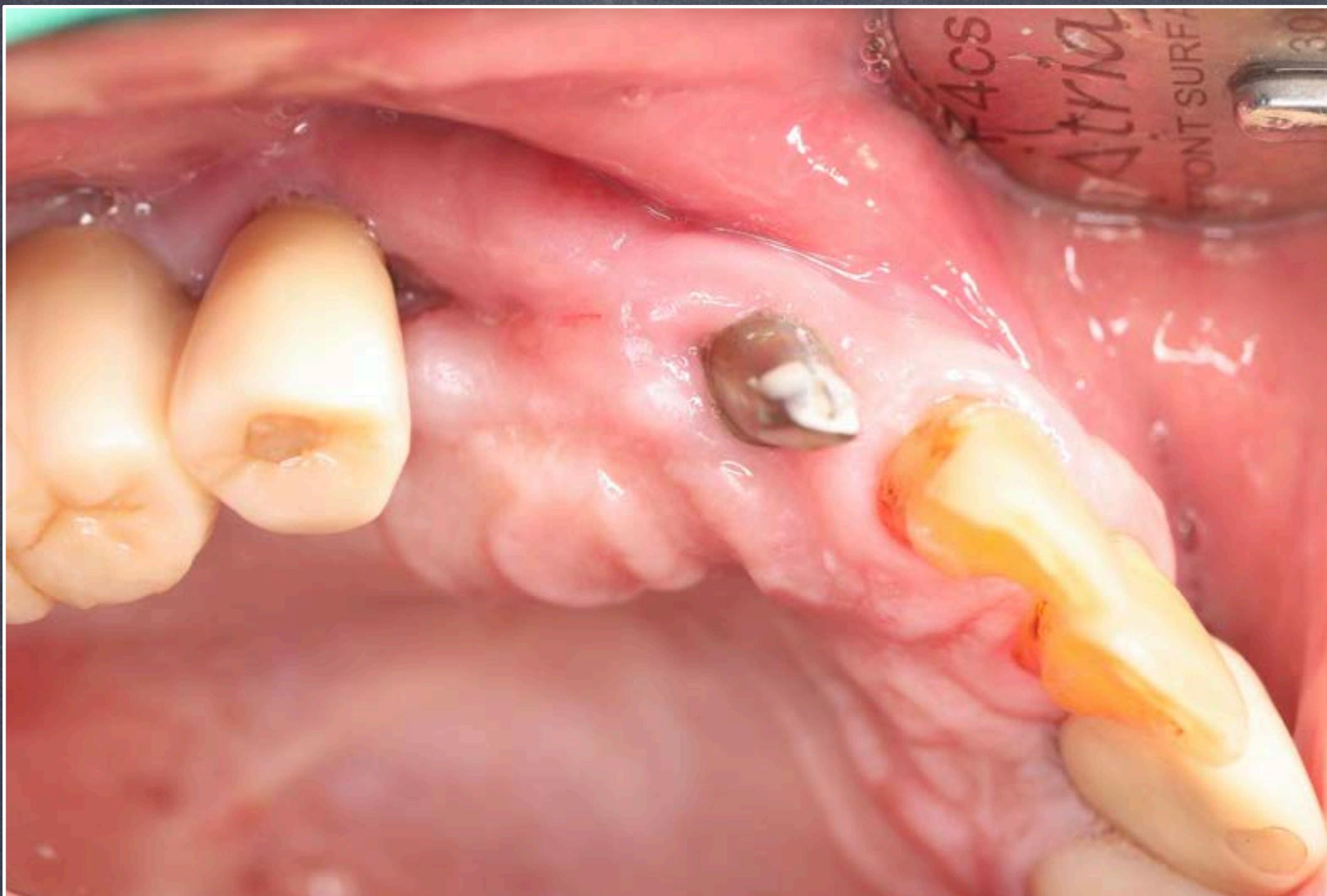
Decision making for the treatment of failing implants

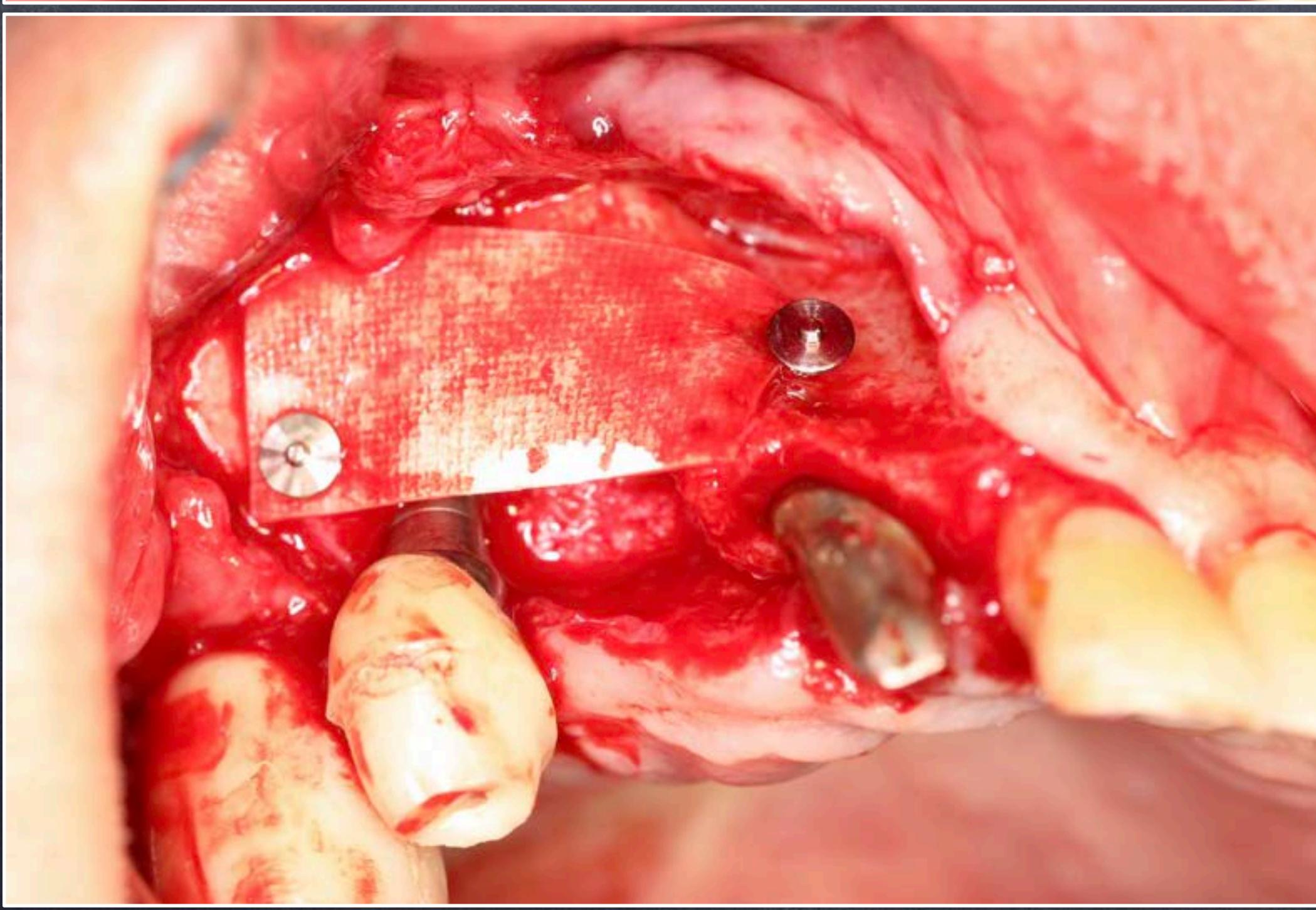
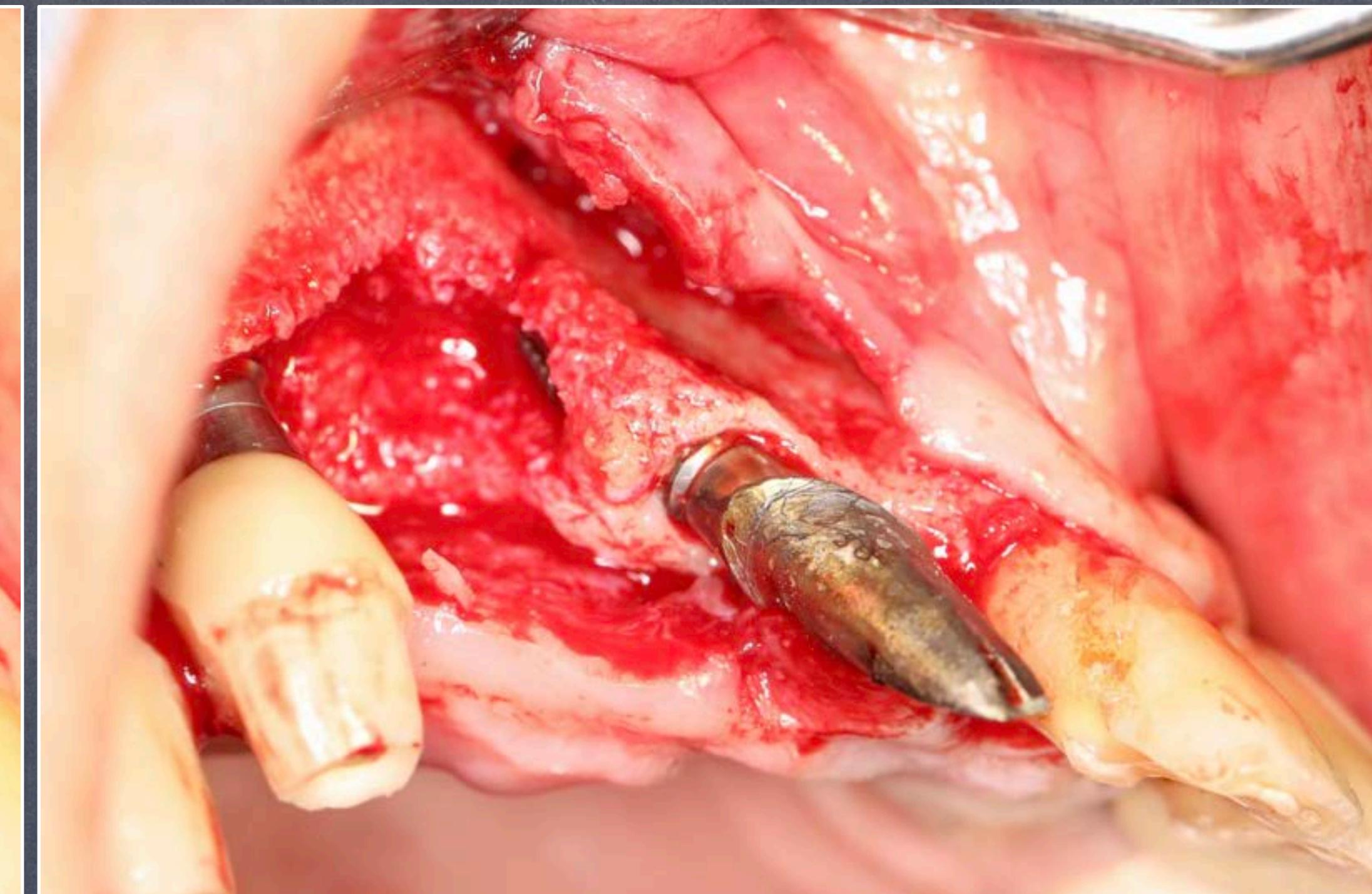
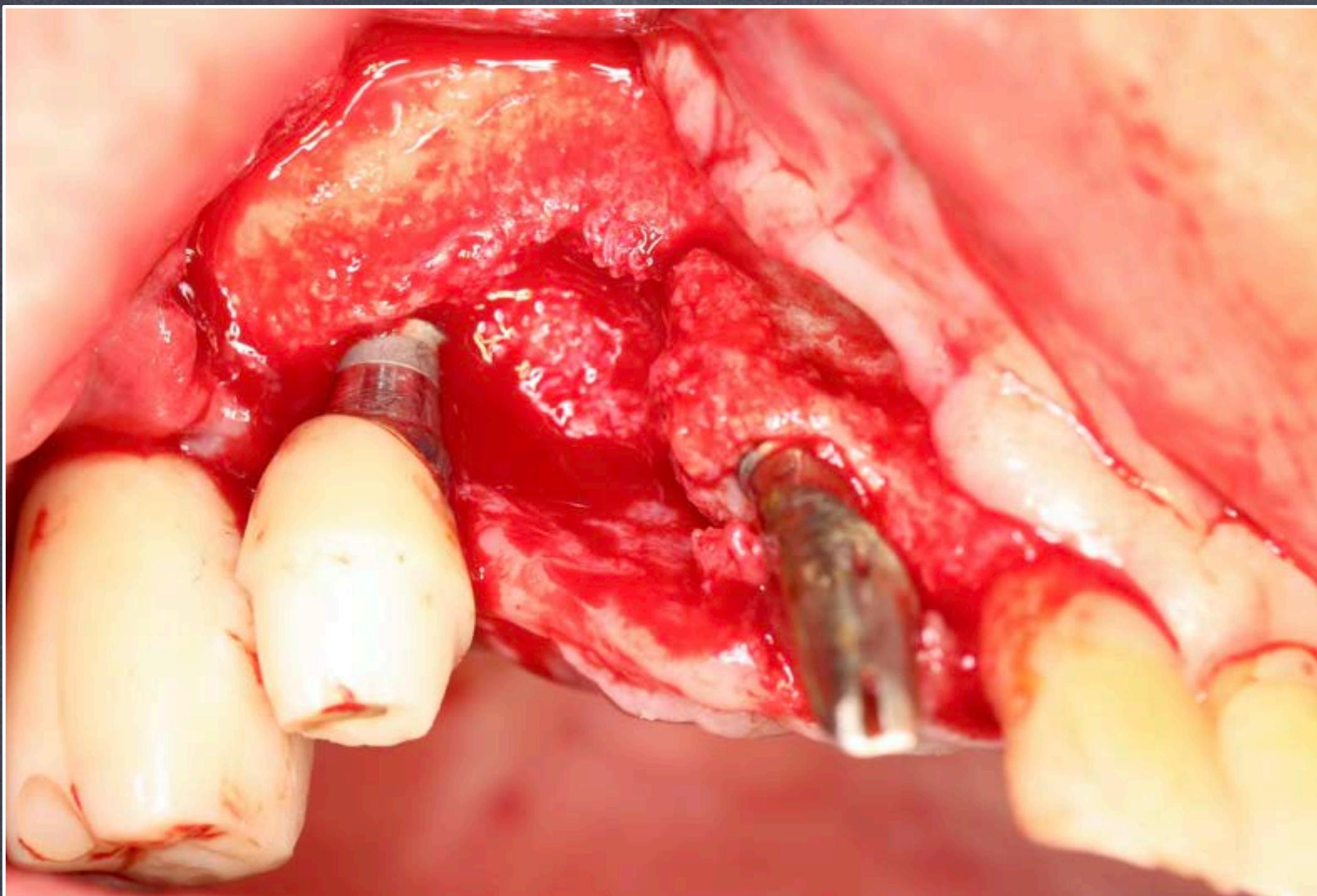


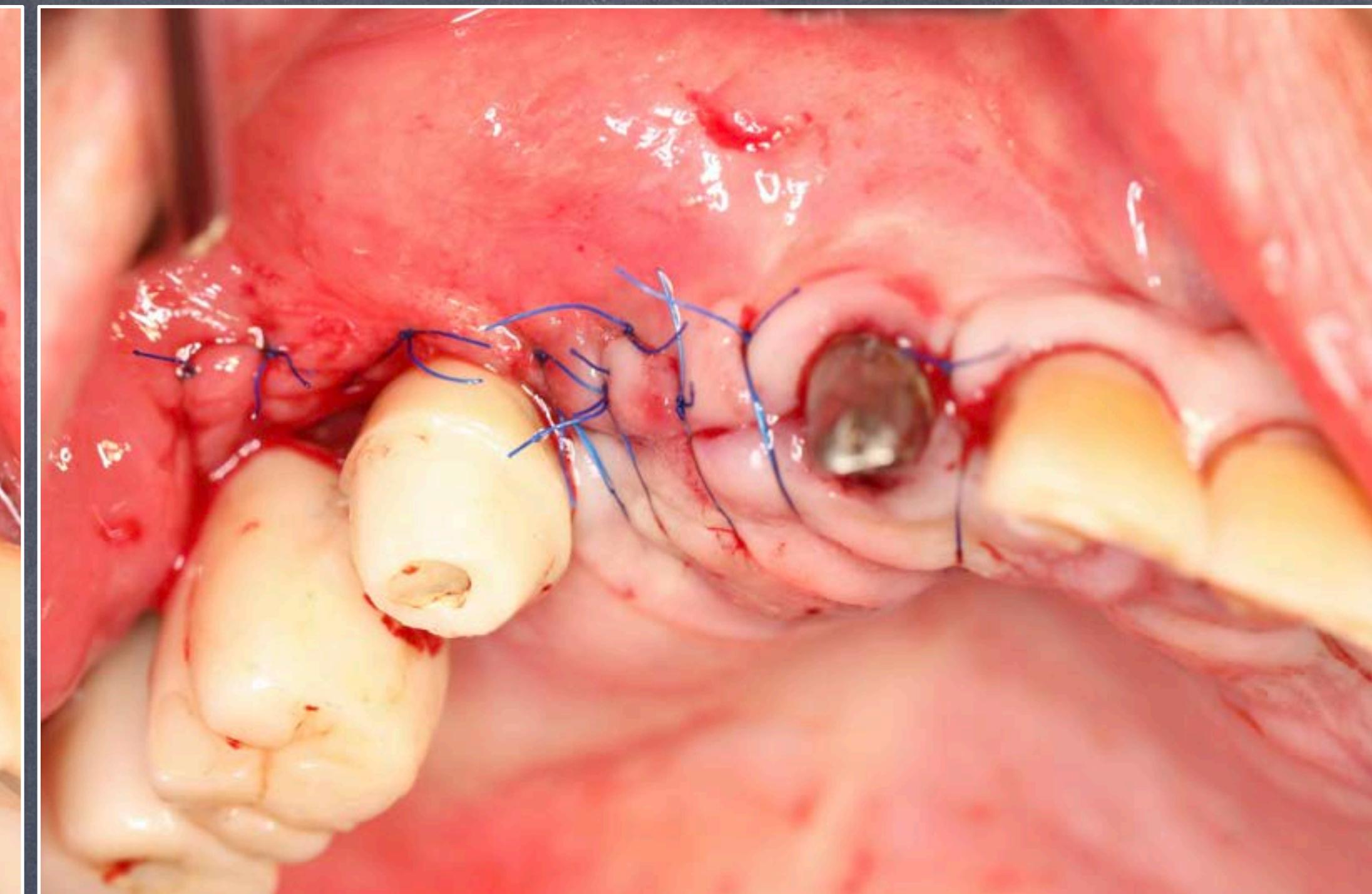
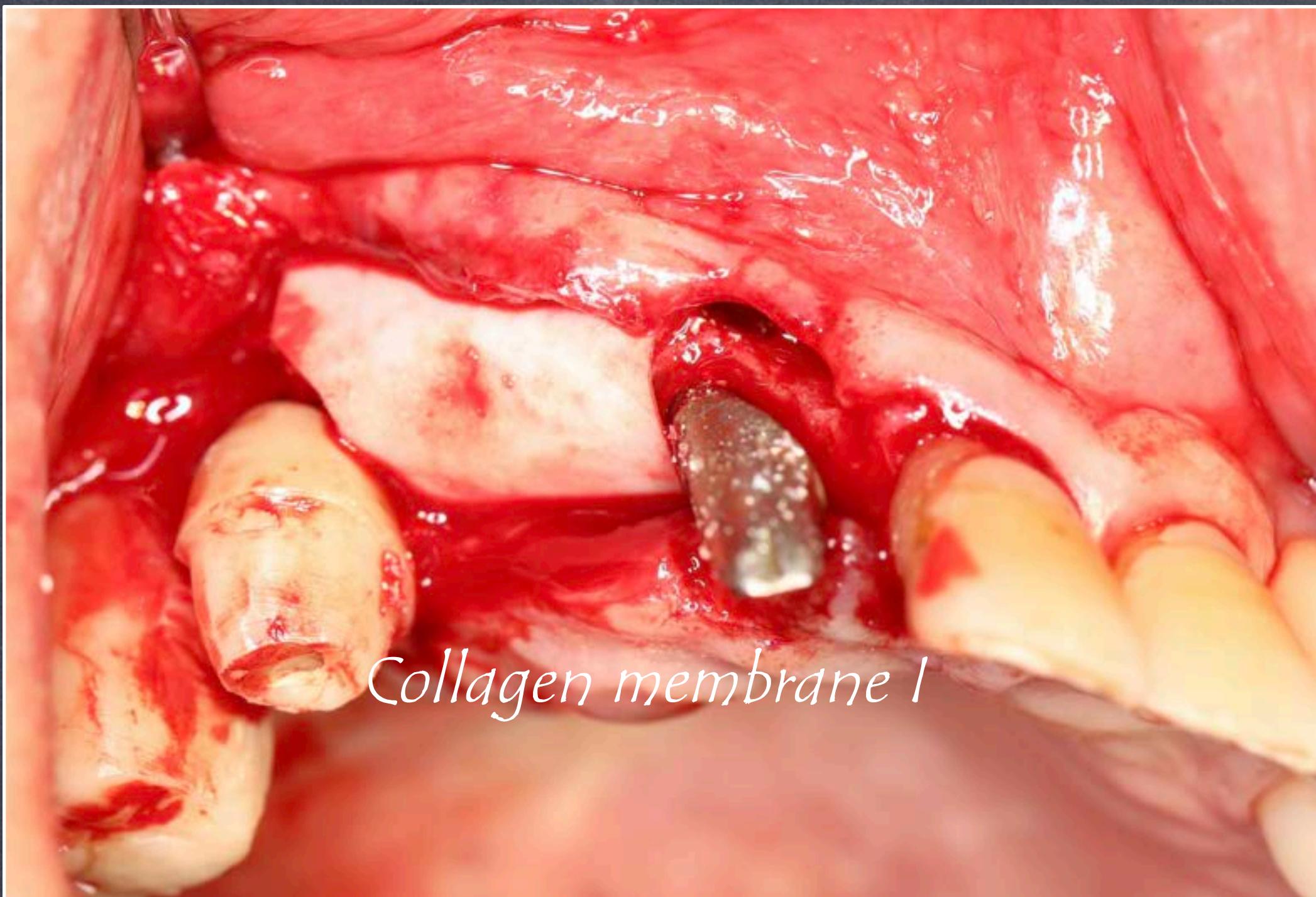


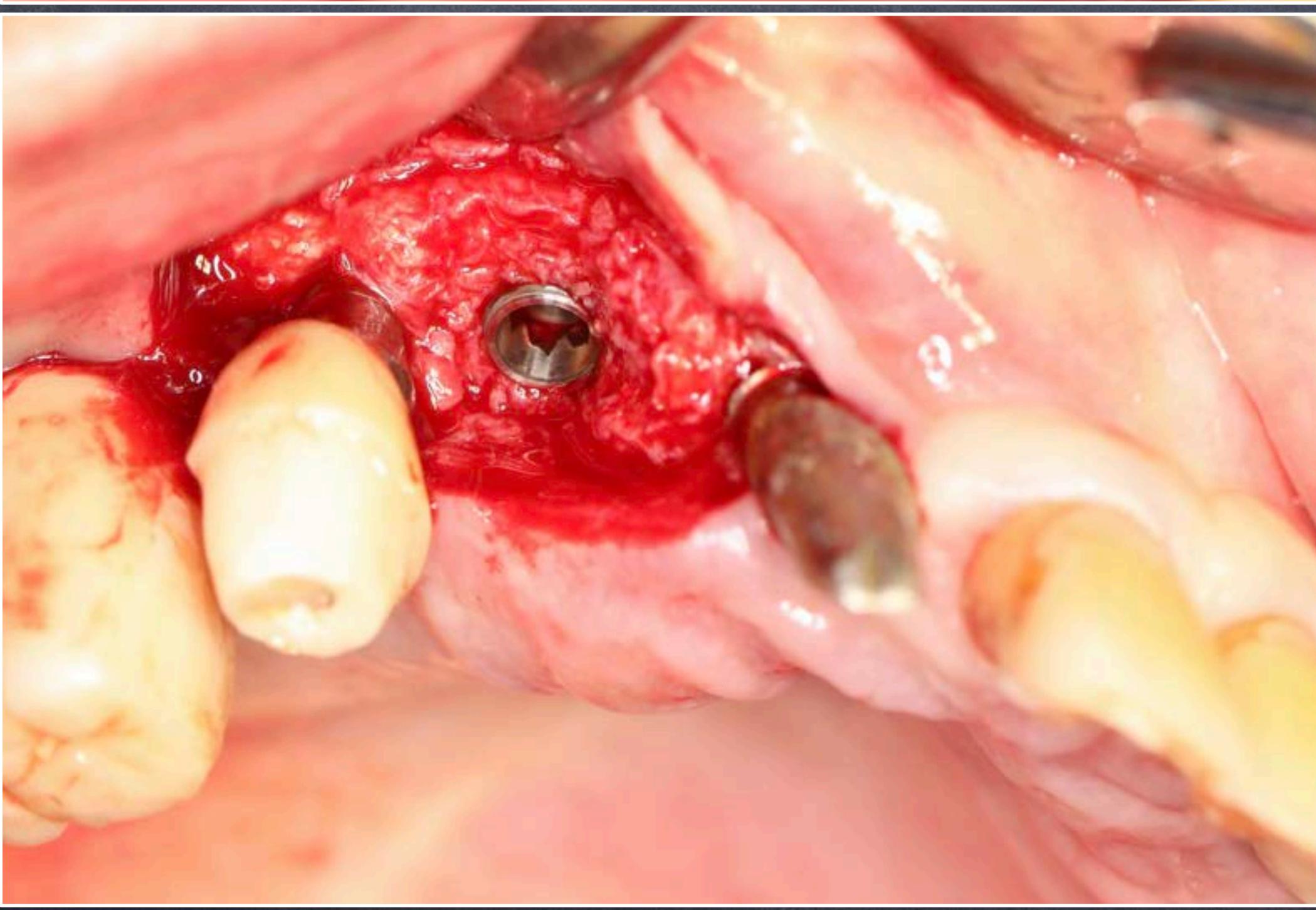
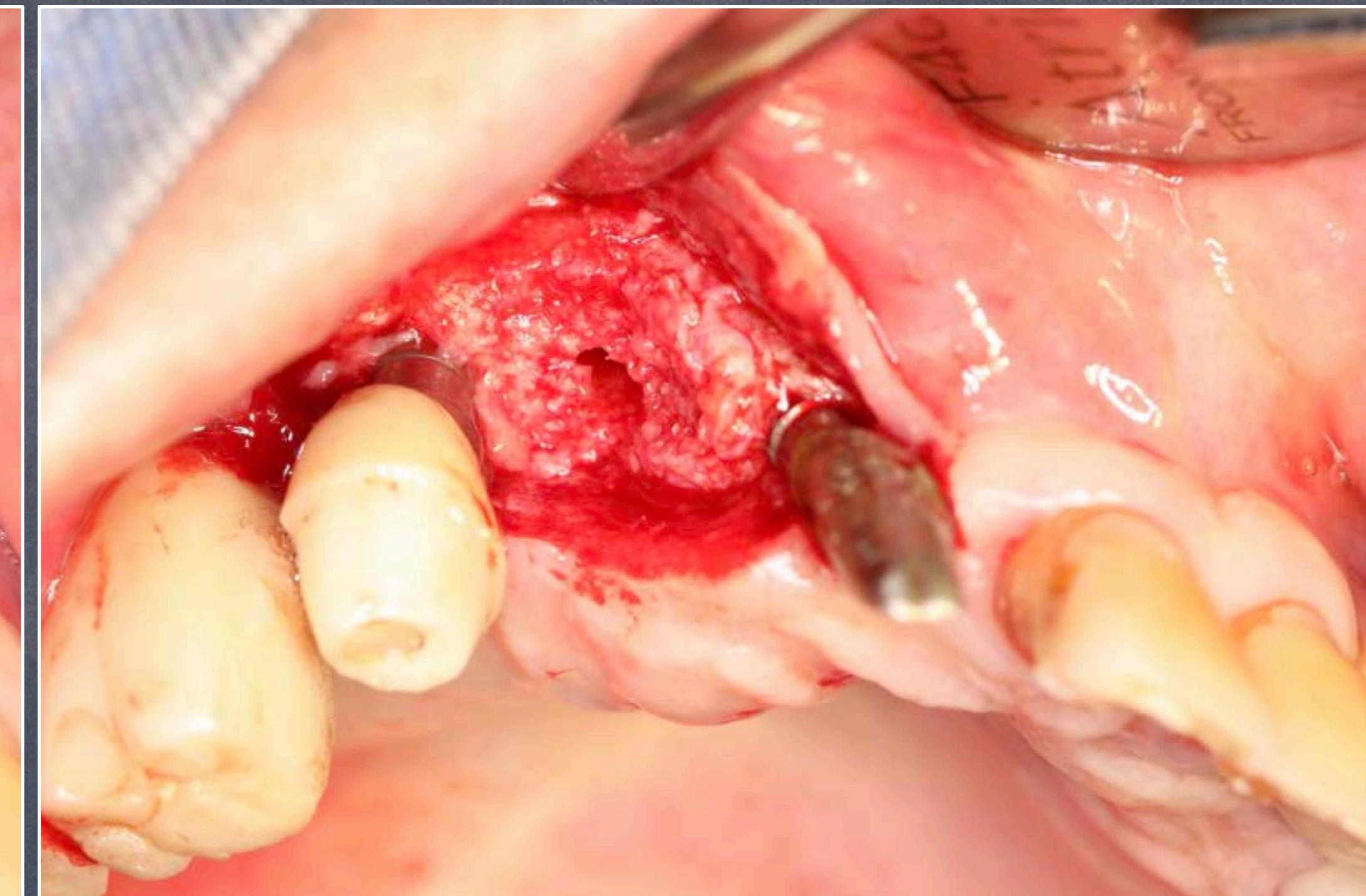
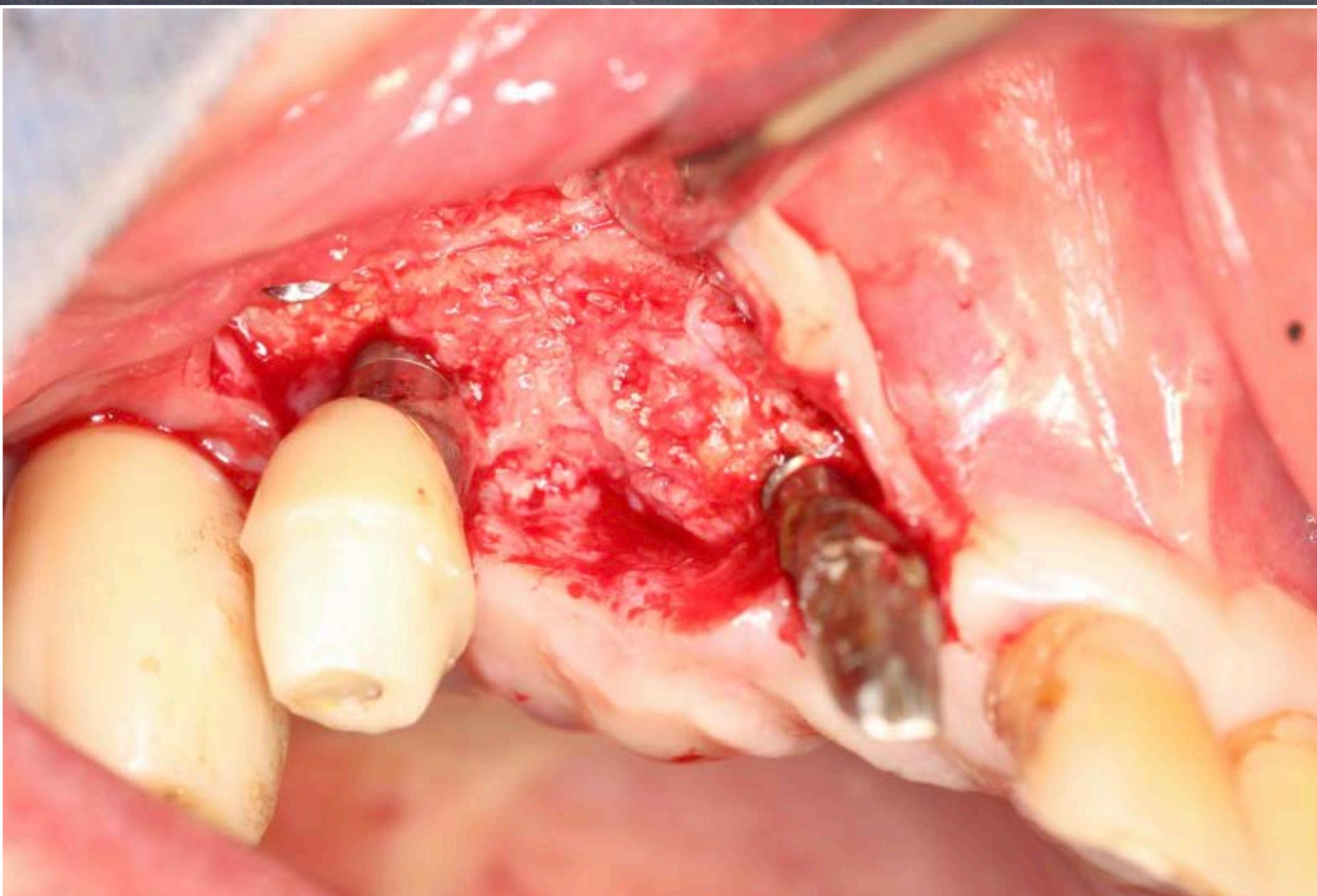


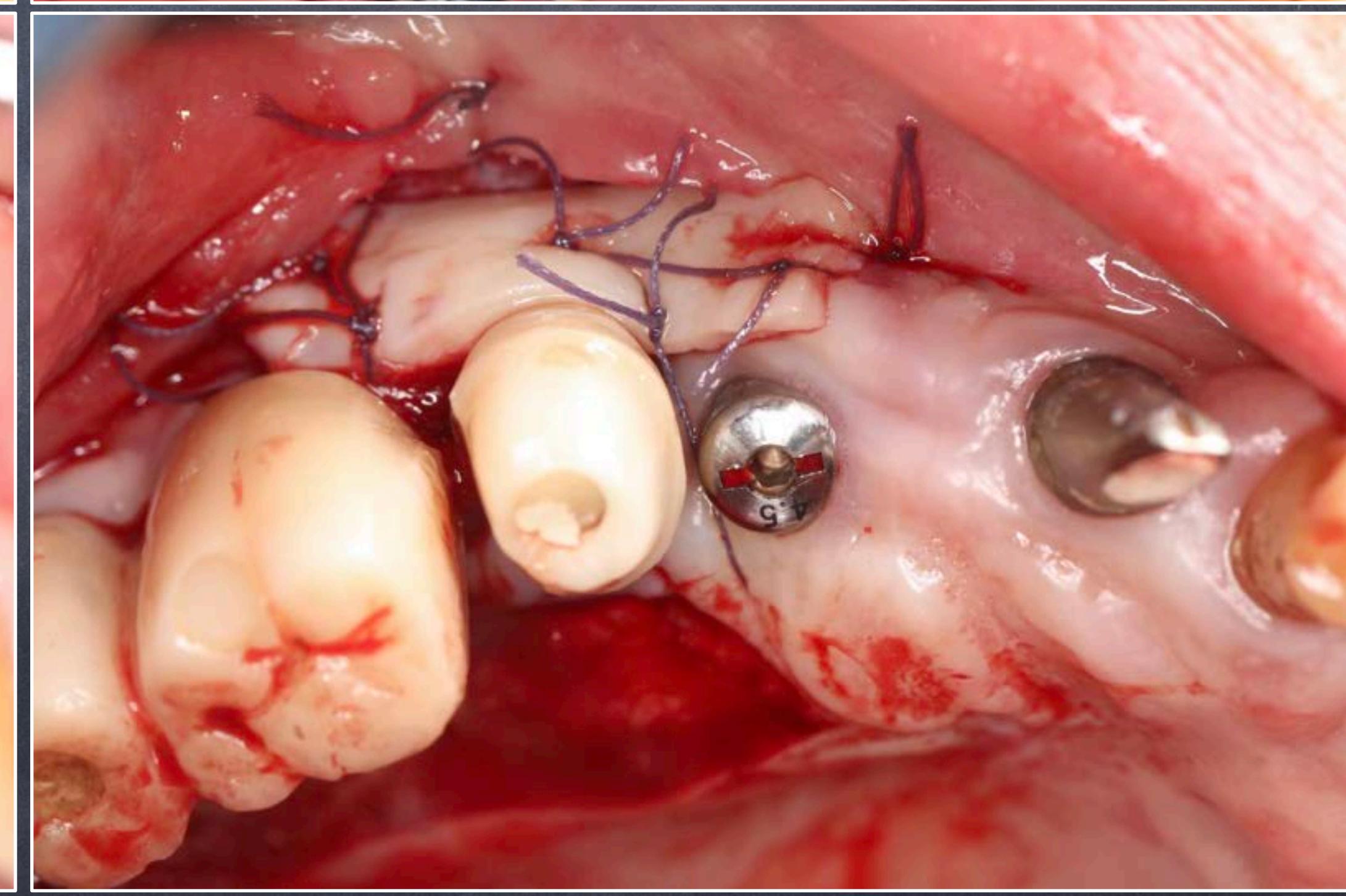
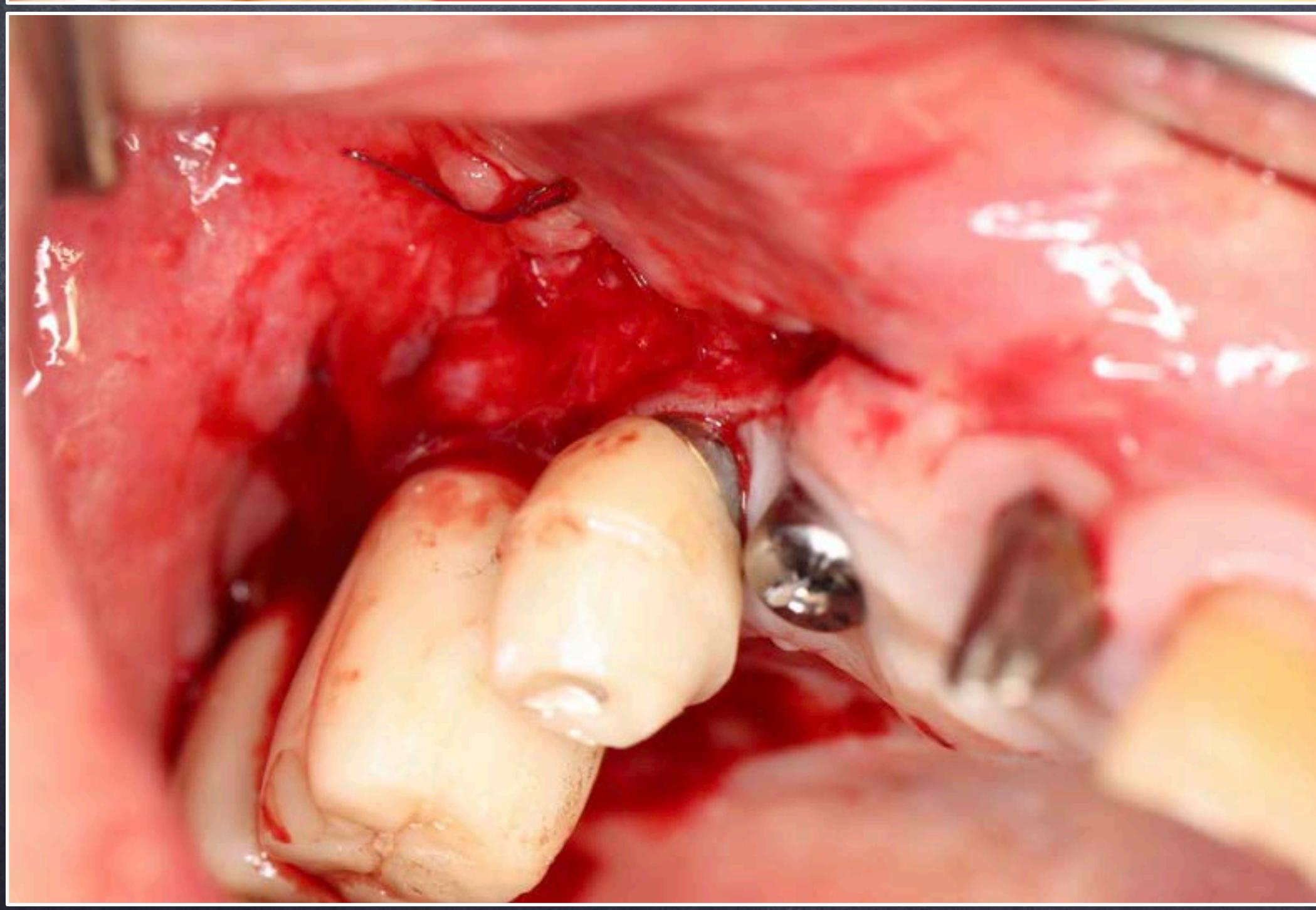
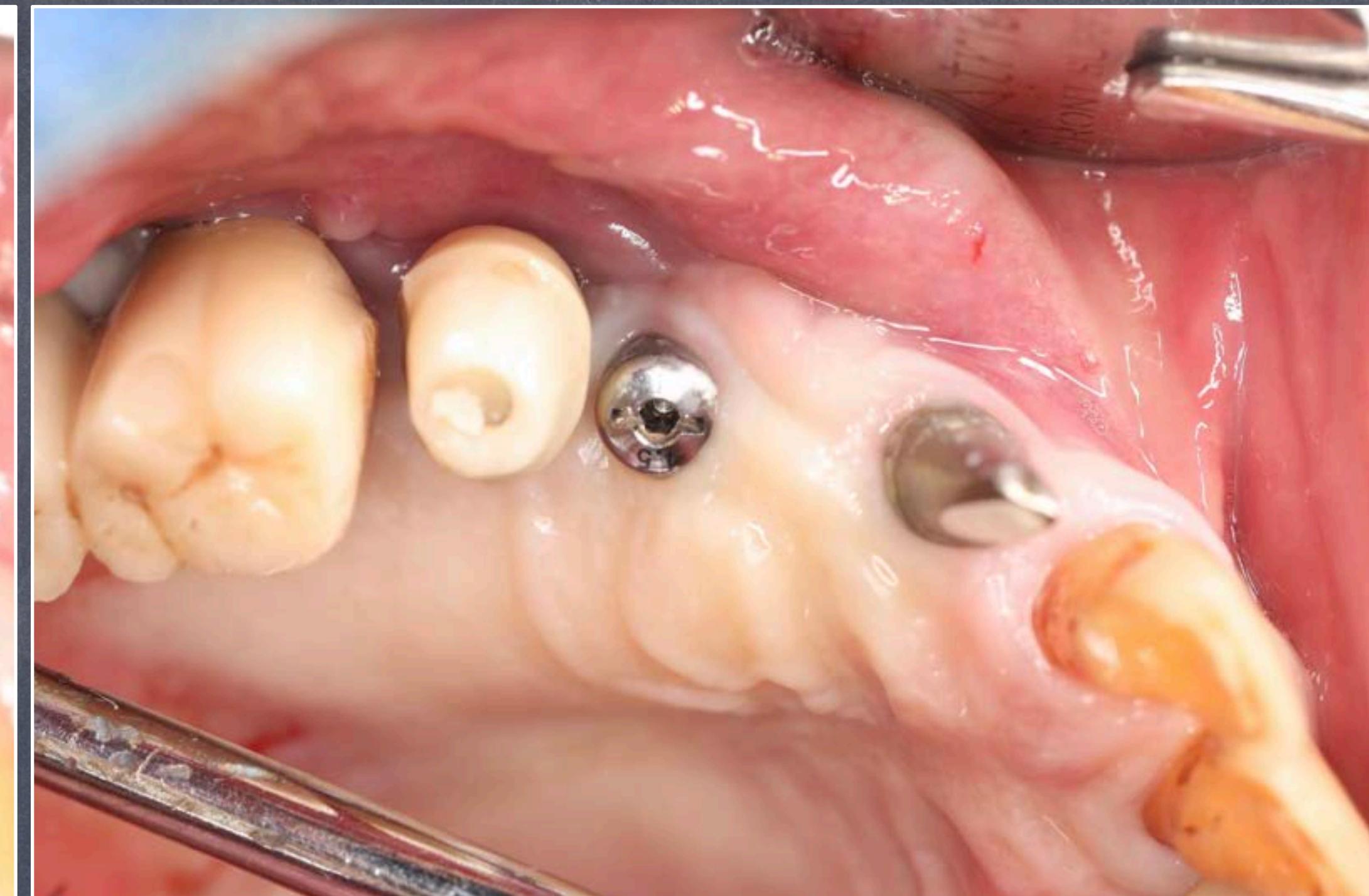


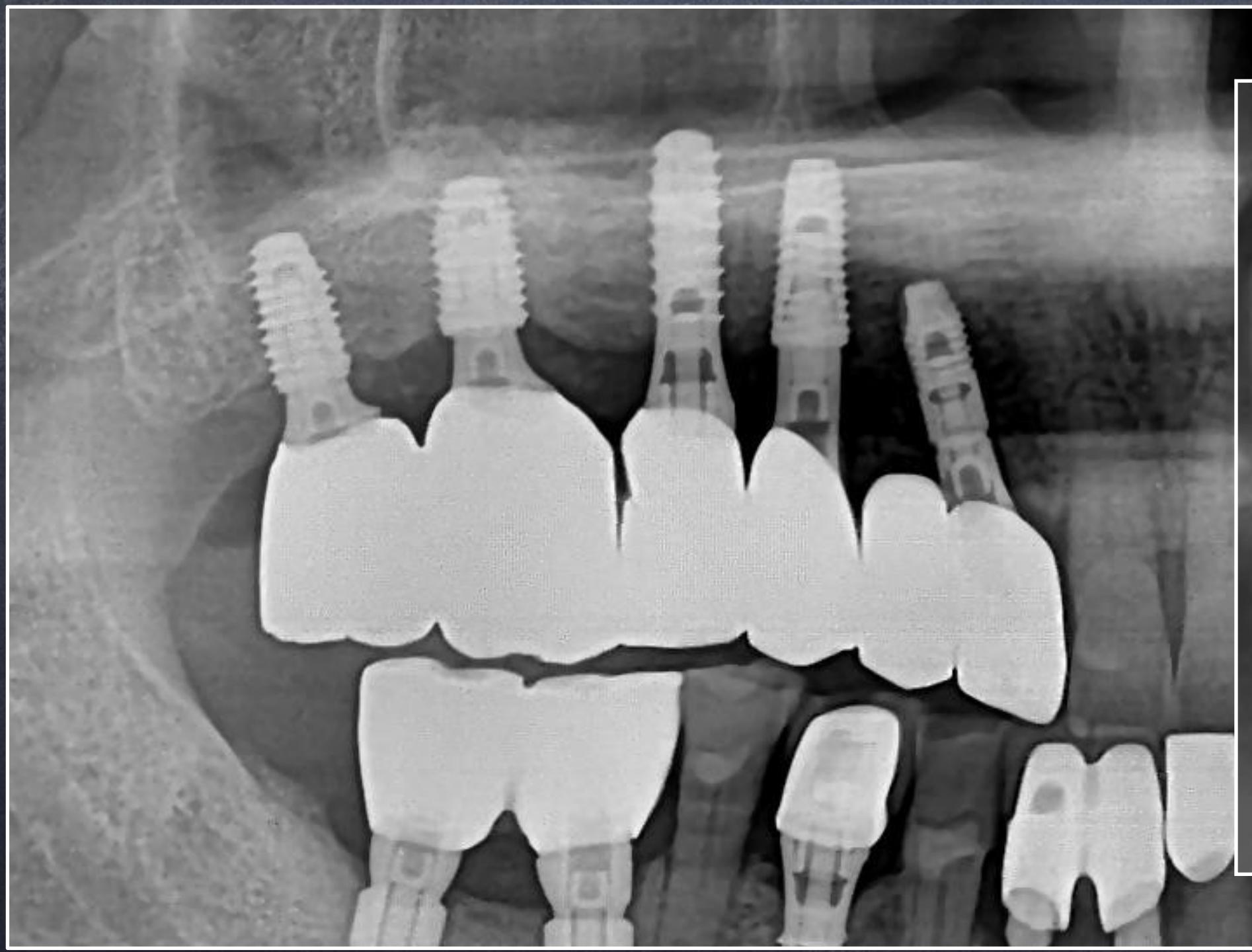












18 reports on RCTs (635 patients, 687 implants)

Surgical reconstructive approaches for peri-implantitis related intrabony defects, when compared to a nonreconstructive treatment modality was effective in reducing PPD, minimizing MREC, as well as increasing Rx MBL gain.

Surgical reconstructive approaches - no additional benefit regarding the outcomes of BoP and SUP reduction

titanium brush, allograft or xenograft
chemical decontamination? barrier membrane?
removal of prosthesis, submerged healing, primary closure
baseline severity, defect morphology
KT presence

Surgical reconstructive therapy for the management of peri-implantitis: AAP/AO systematic review and network meta-analysis
Barootchi JOMI 2025

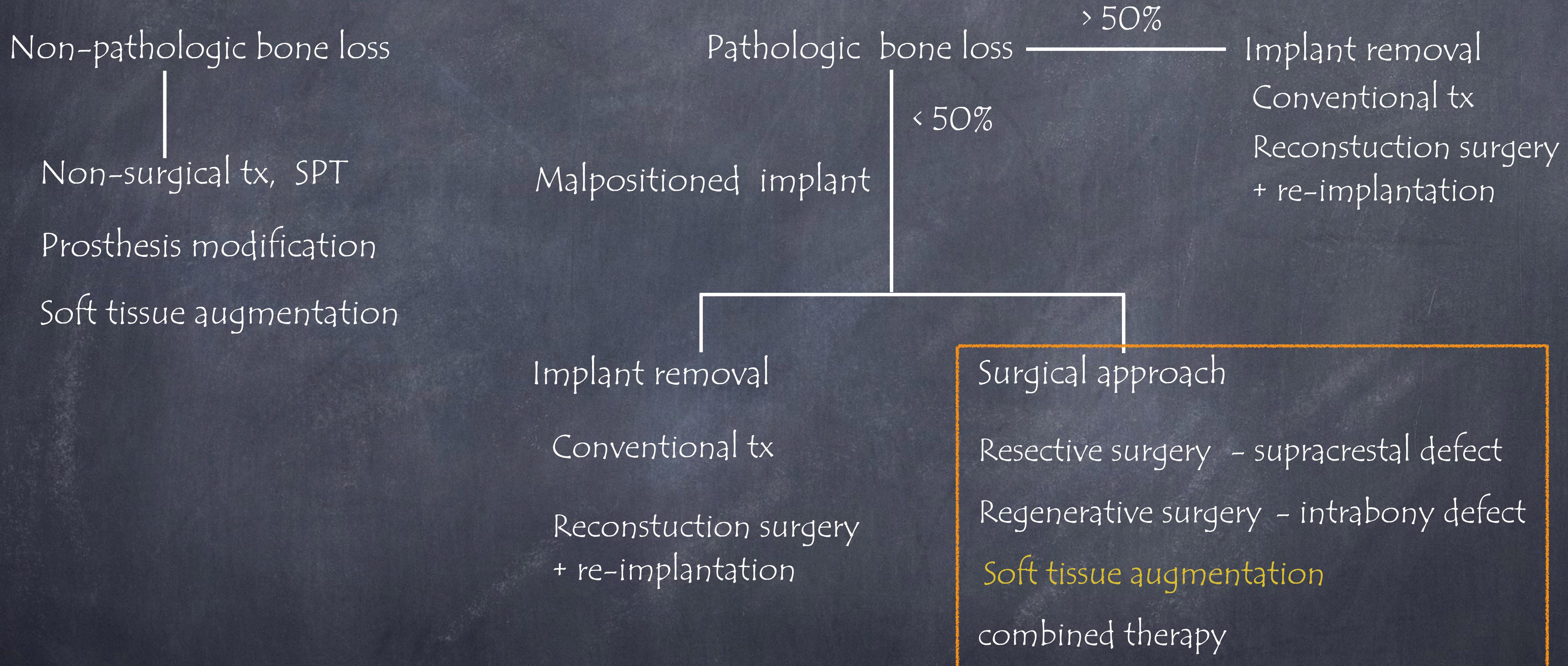
Augmentation and combined therapy

1. Augmentative therapy is indicated in peri-implantitis cases presenting intrabony defects.
2. In more advanced peri-implantitis cases with combined defect configuration, a combination of augmentative and resective measures may be feasible.
3. There is **limited clinical evidence to support the superiority of augmentative therapy over nonaugmentative treatments** (eg, access flap surgery and resective approaches) because of the low number of comparative randomized controlled clinical trials available.
4. No implant surface decontamination method or augmentative protocol can be considered superior.
5. Owing to the lack of comparative studies, no clinical recommendations can be provided for the mode of healing (ie non-submerged vs submerged) or for the adjunctive use of systemic antibiotics.

Augmentation and combined therapy

6. For patients enrolled in a regular post treatment maintenance program, successful treatment in terms of clinical and radiographic outcomes was achieved in 51%-58% of implants within 5-7 years.
7. Augmentative treatment outcomes were shown to be influenced by implant location, morphology of the peri-implant bone defects, and implant surface characteristics.
8. Implant loss was reported in 3%-25% of the cases 1-5 years after surgery.

Decision making for the treatment of failing implants



Soft tissue conditioning for the surgical therapy of peri implantitis

Solonko COIR 2022, 2025

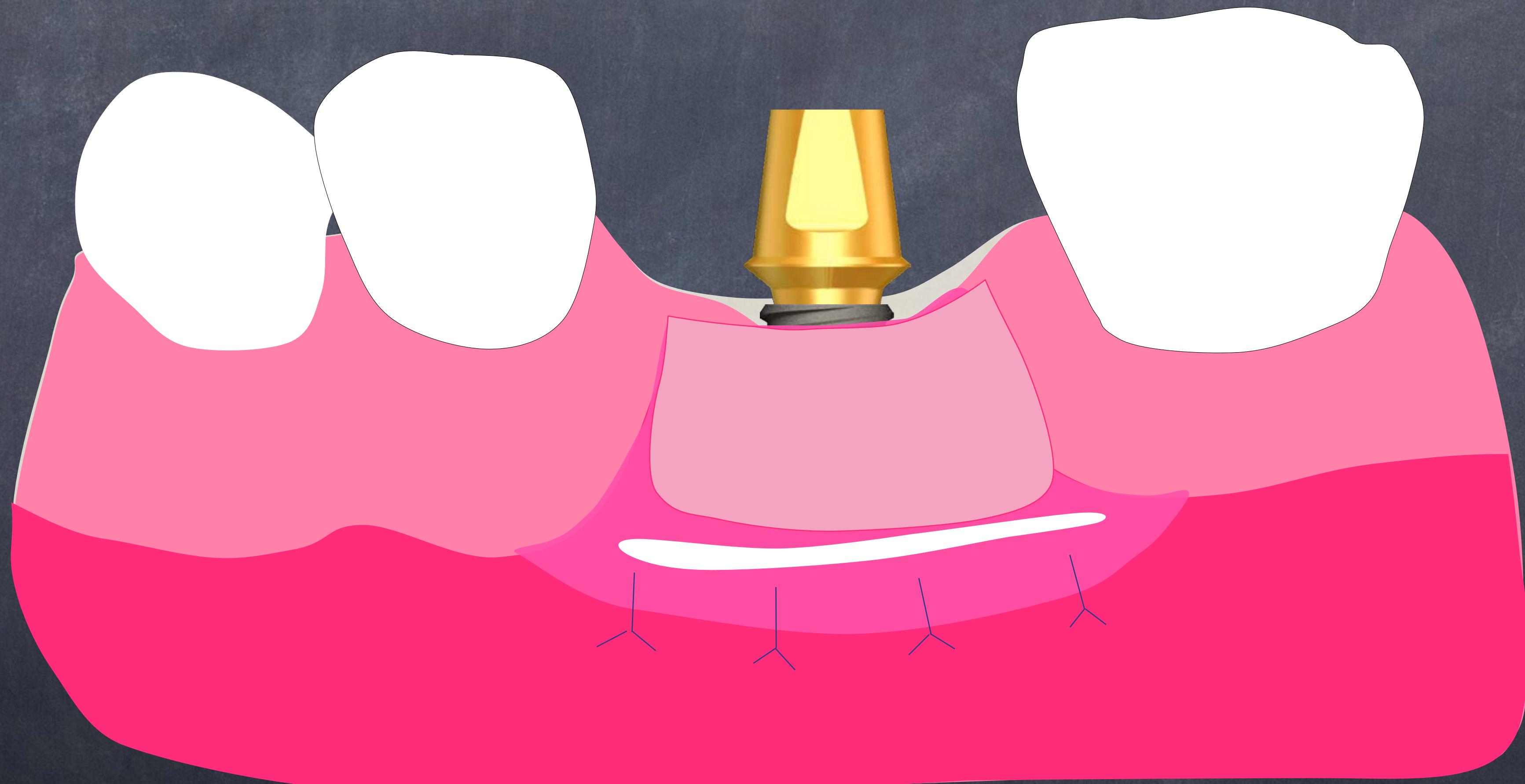
Monje JOP 2022, IJPRD 2020

Parma Benfennati IJPRD 2021

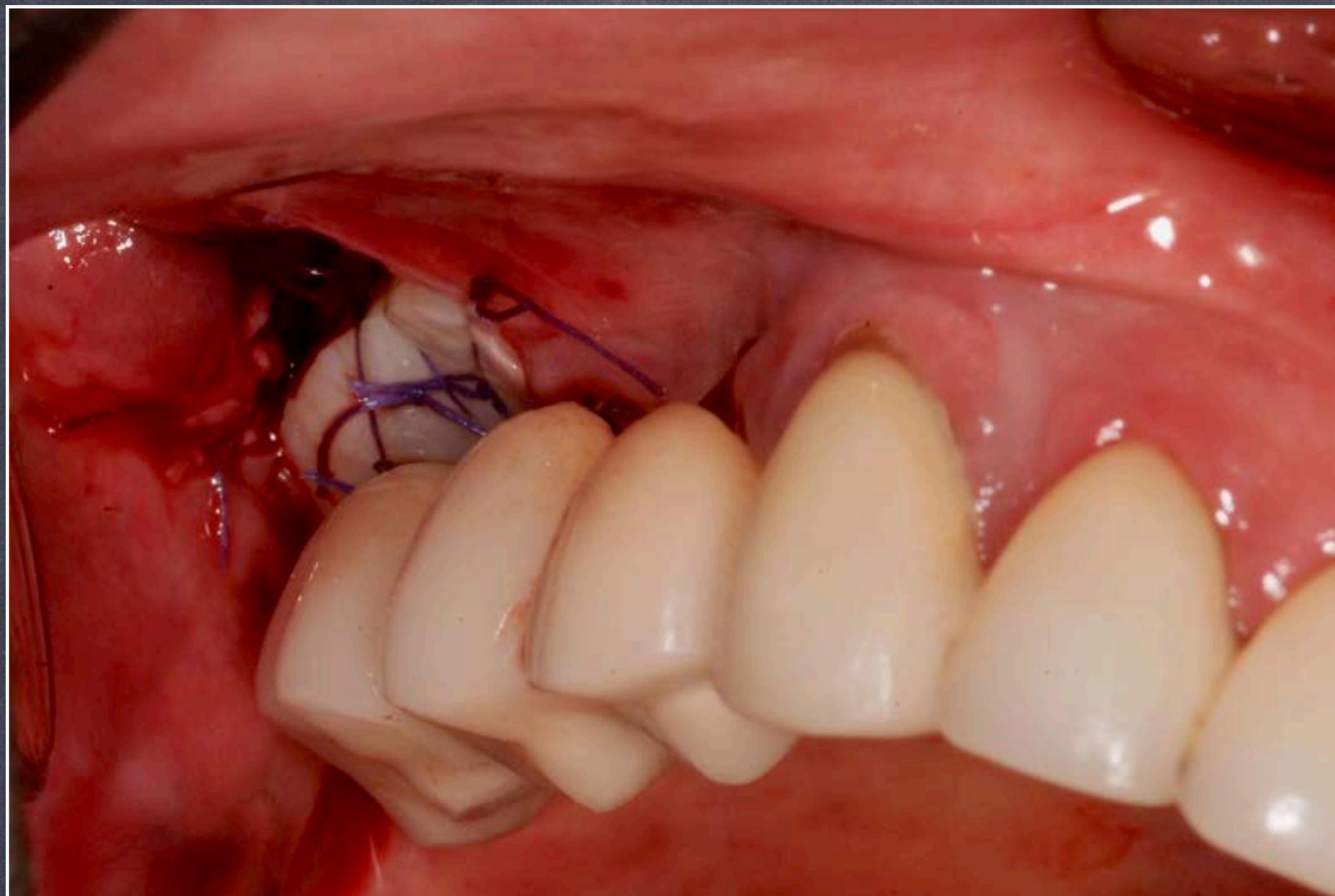
Strenzke J of oral implantology 2023

Park JS JPIS 2022

Frisch JOP 2020



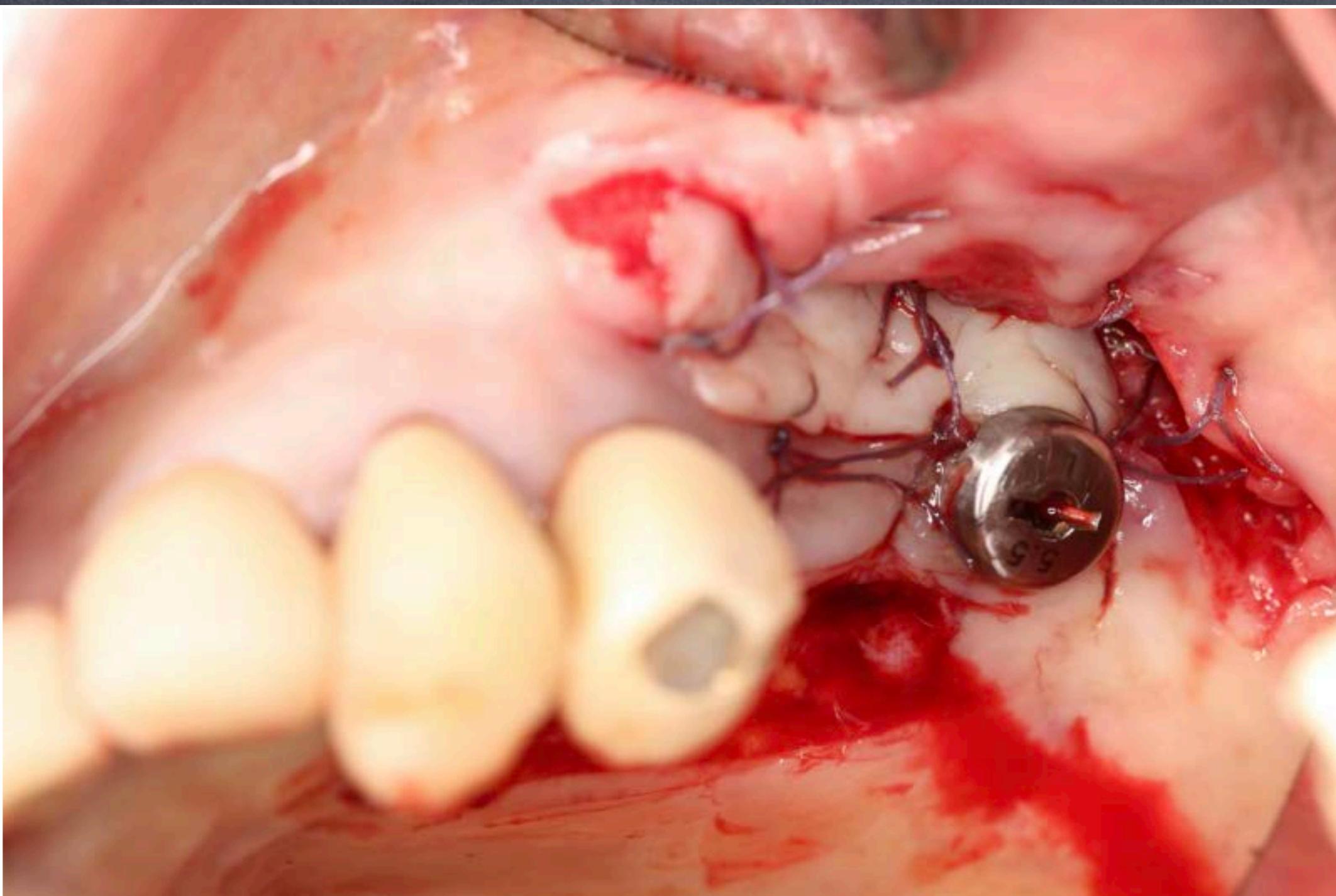




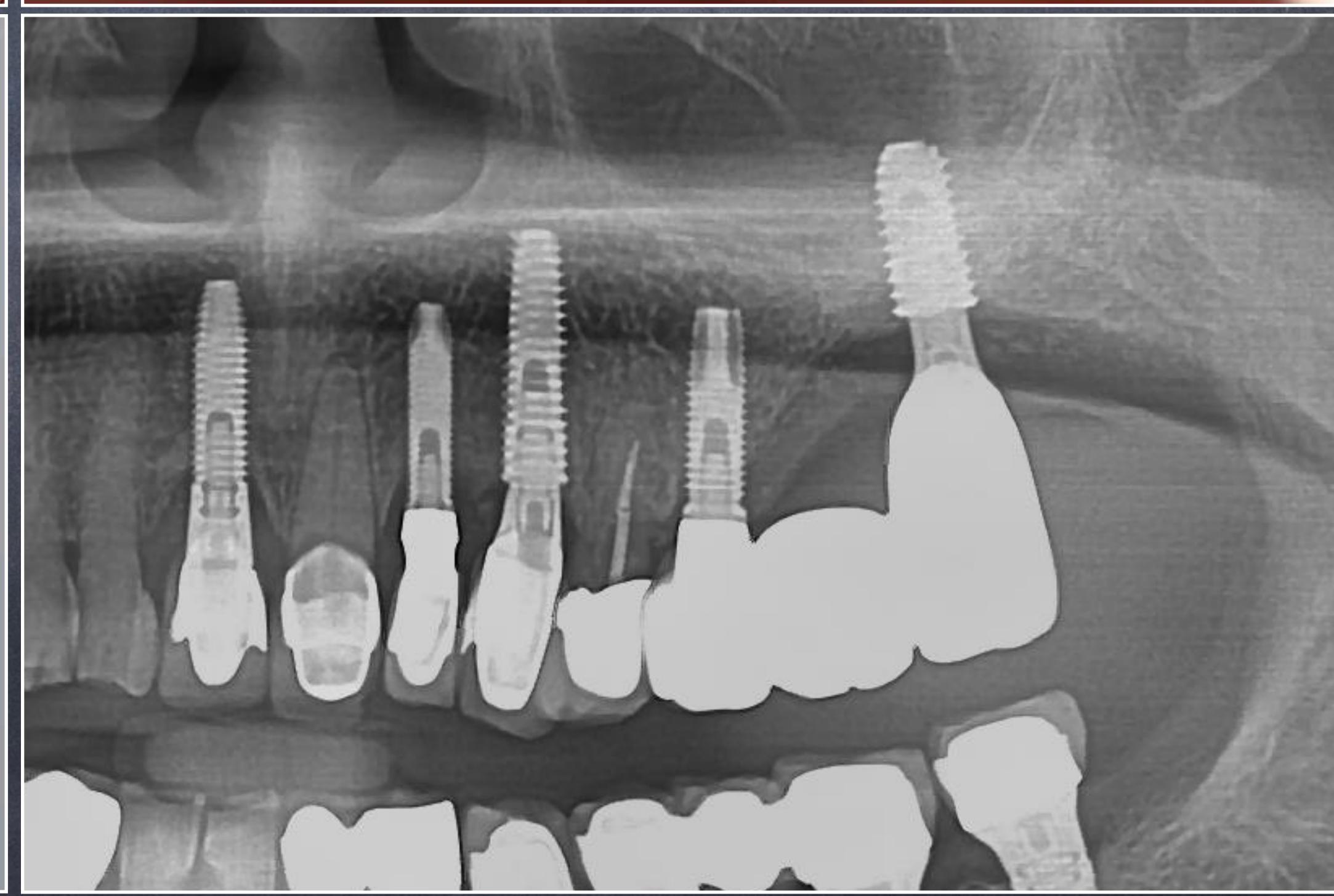


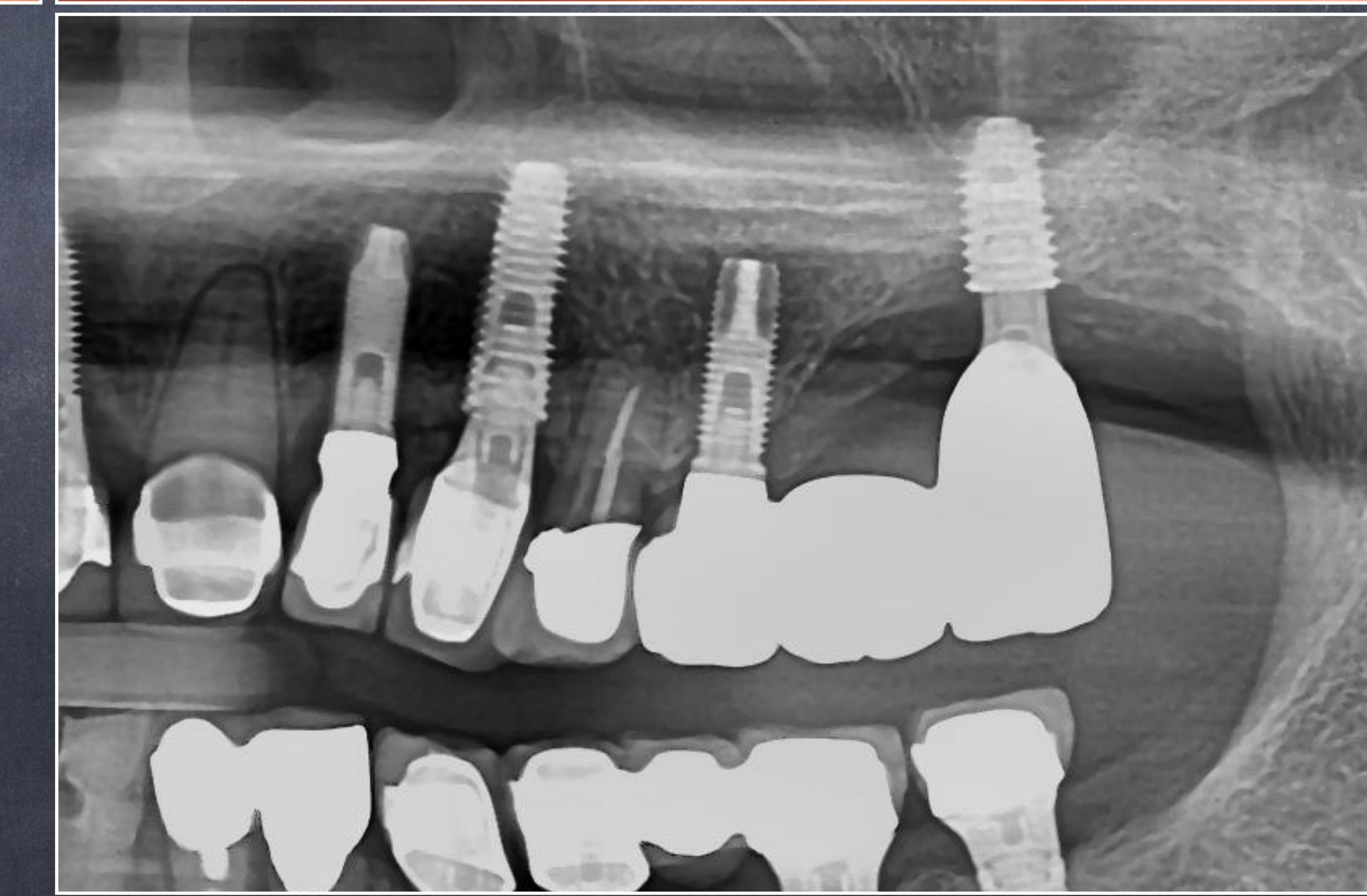












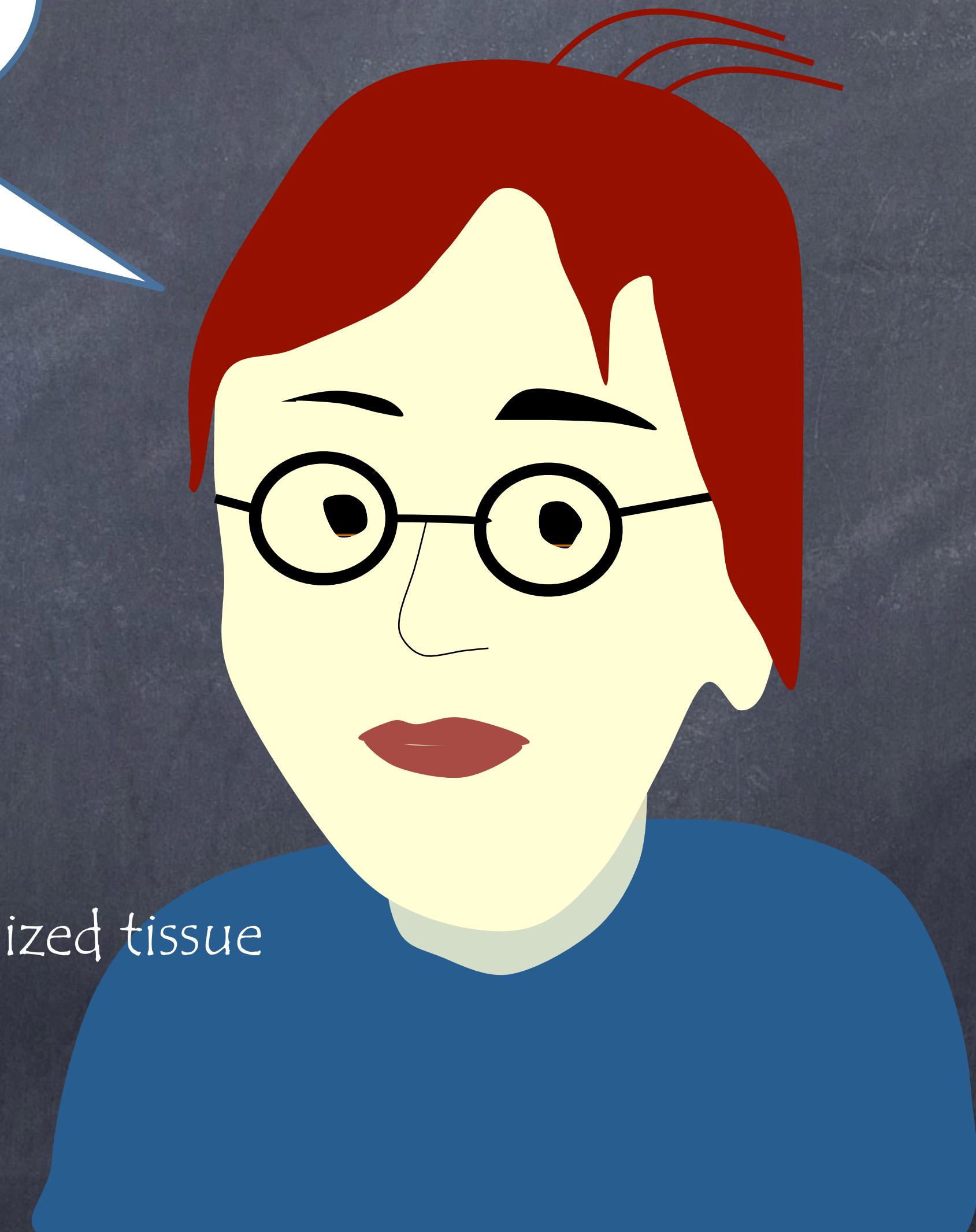
Summary

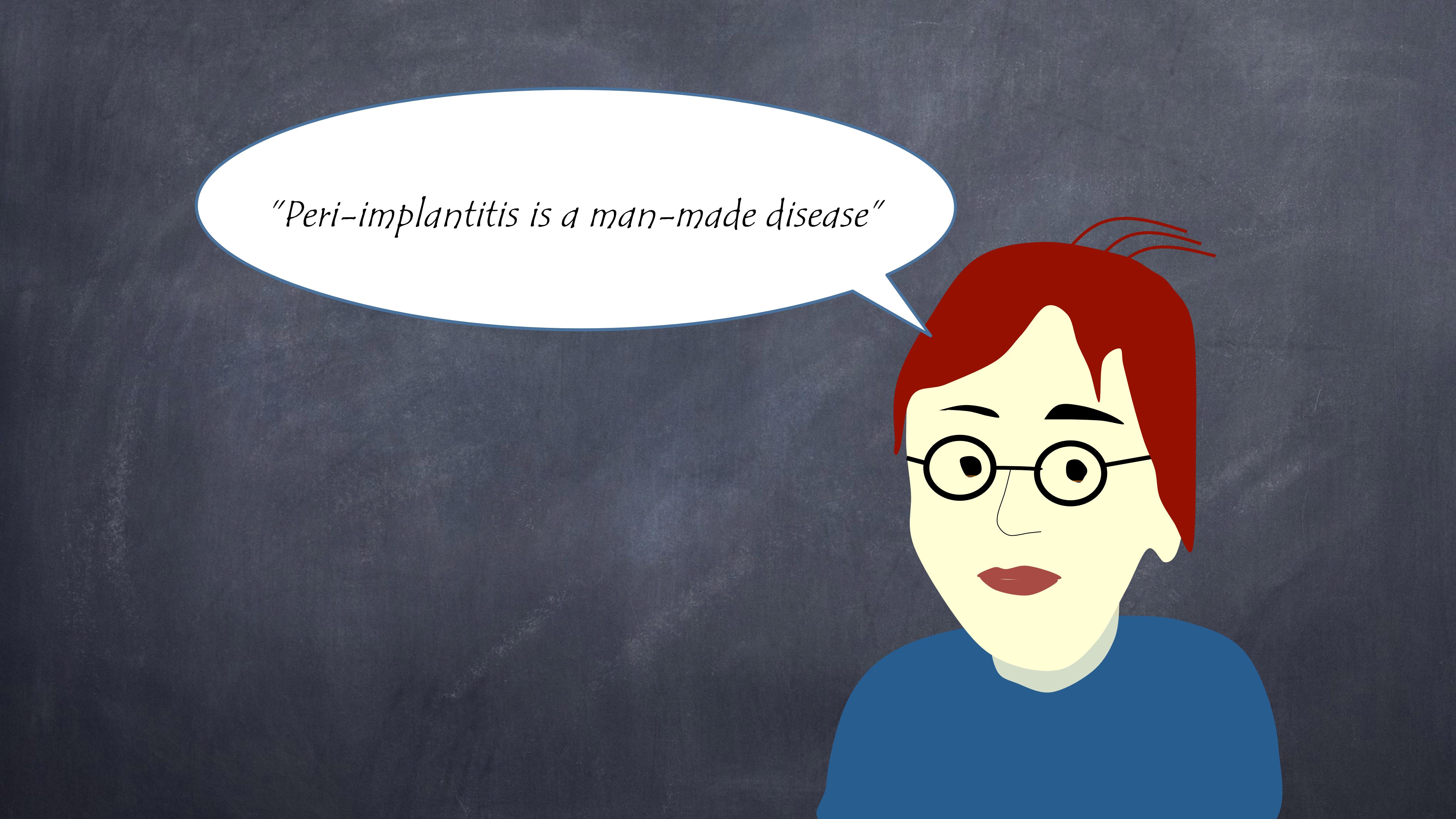
Decision making of failing implant

Importance of maintenance care (SPT)

Proper positioning, Bone support

Importance of non-moblie, attached, keratinized tissue





A cartoon illustration of a woman with short, wavy red hair and black-rimmed glasses. She is wearing a blue turtleneck sweater. A white speech bubble with a blue outline is positioned above her head, containing the text "Peri-implantitis is a man-made disease".

"Peri-implantitis is a man-made disease"