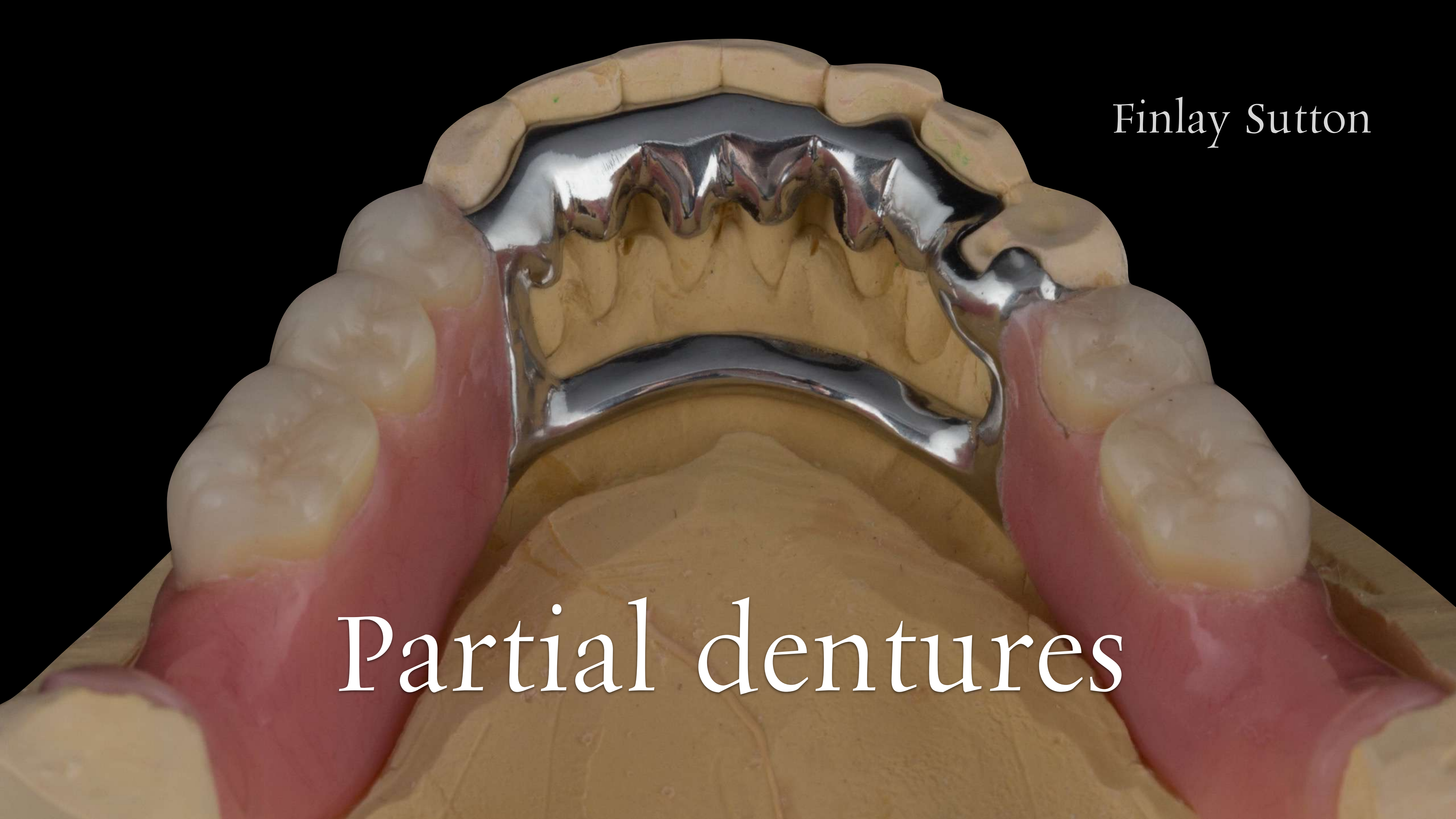


Finlay Sutton

Partial dentures





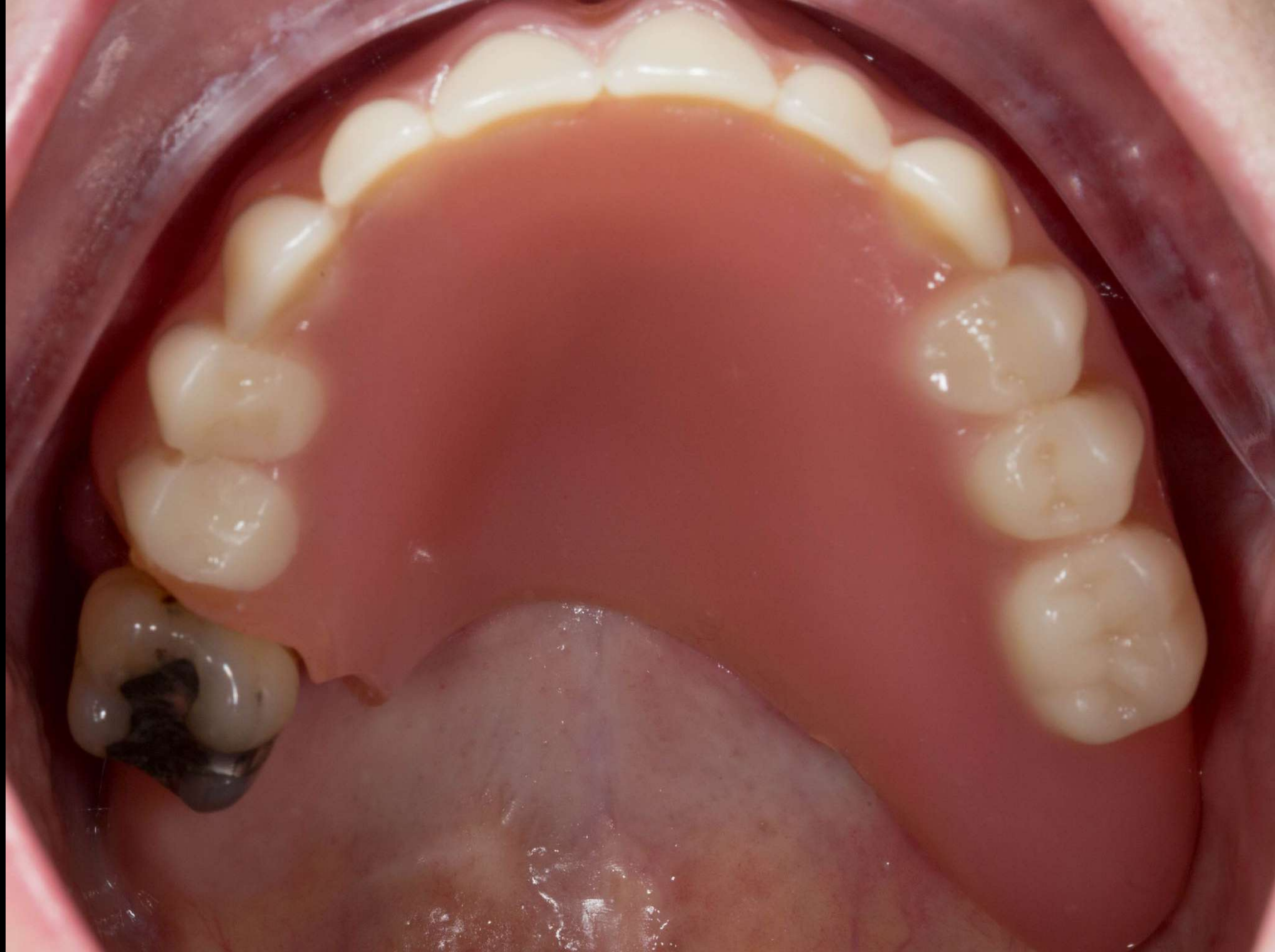


Olga













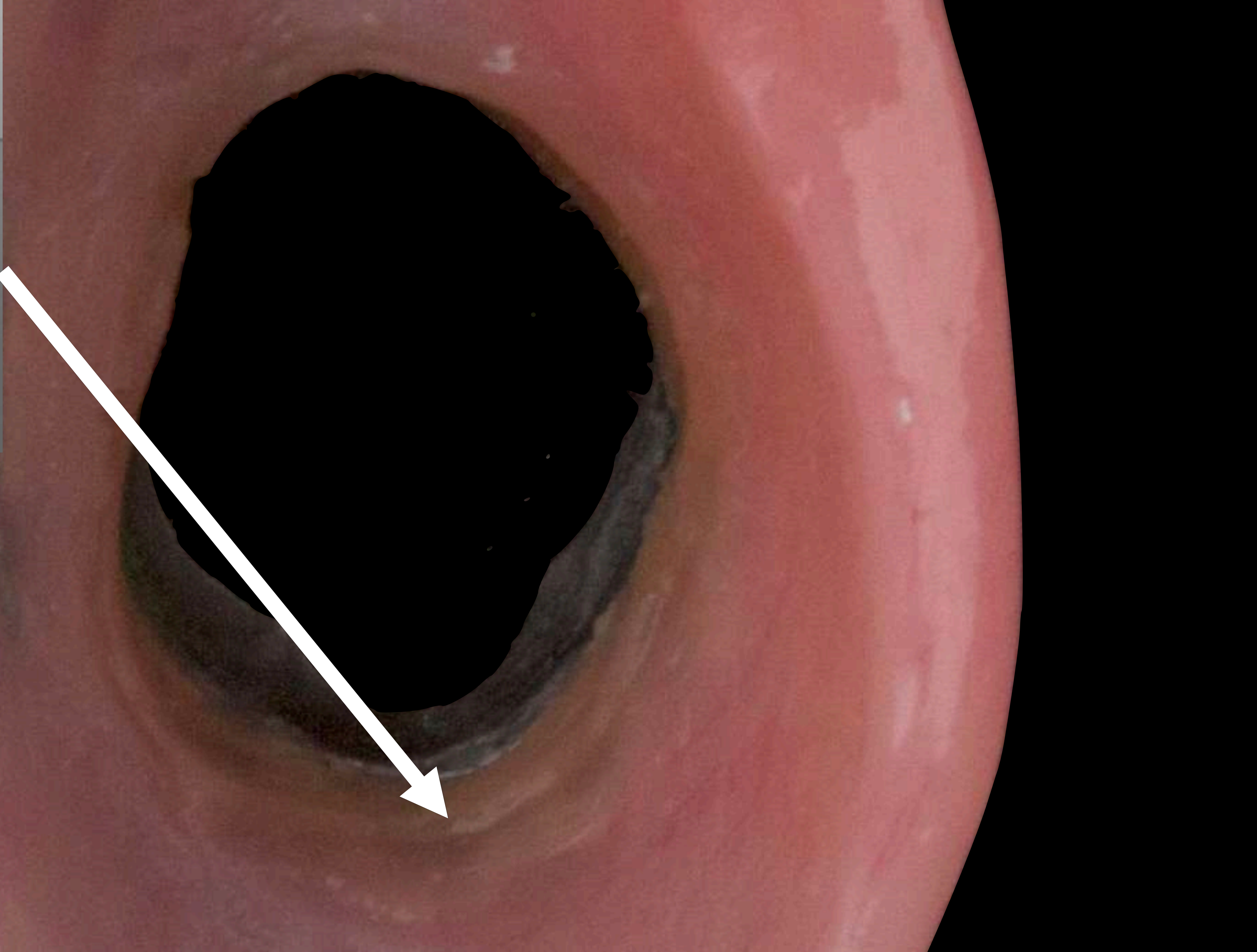




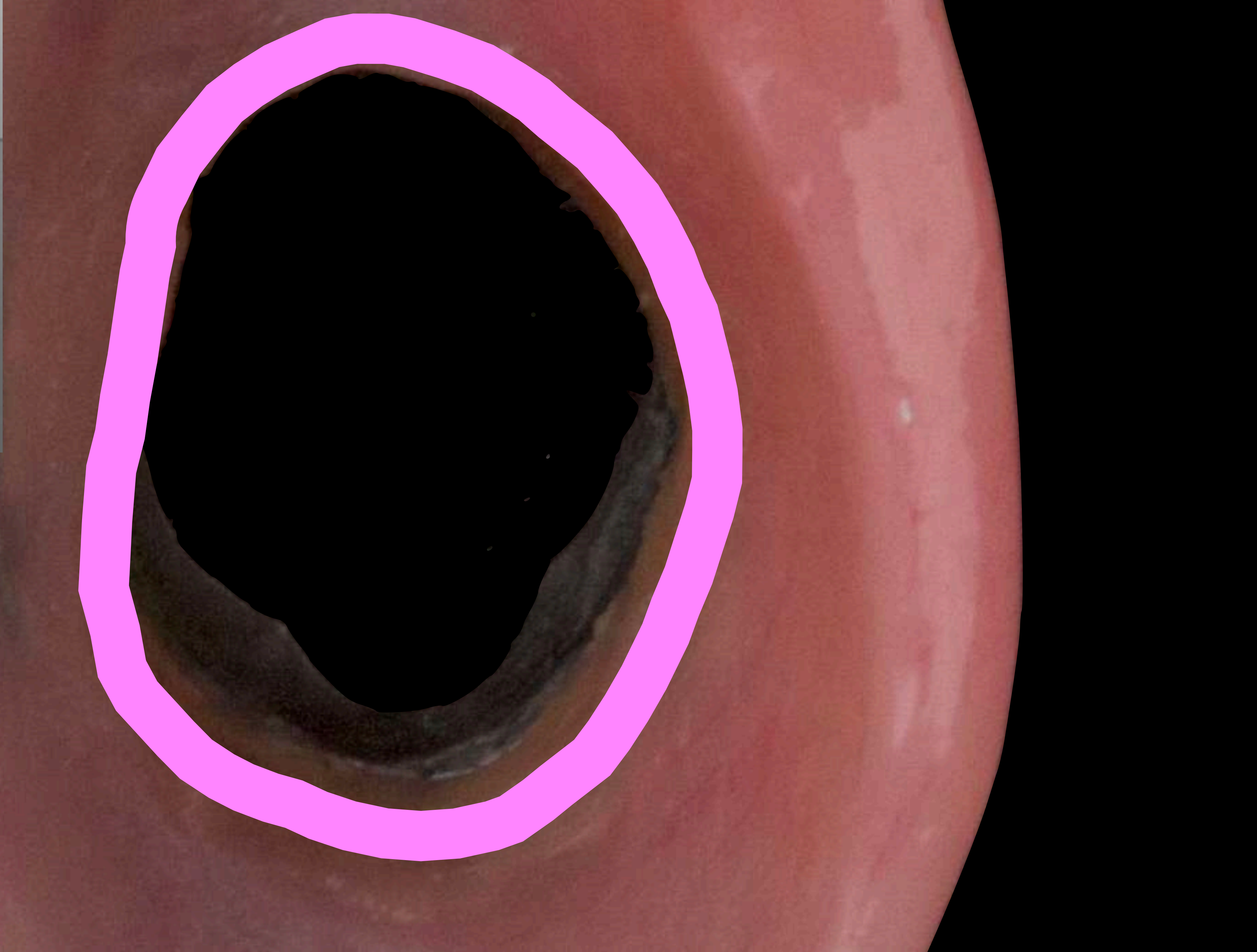




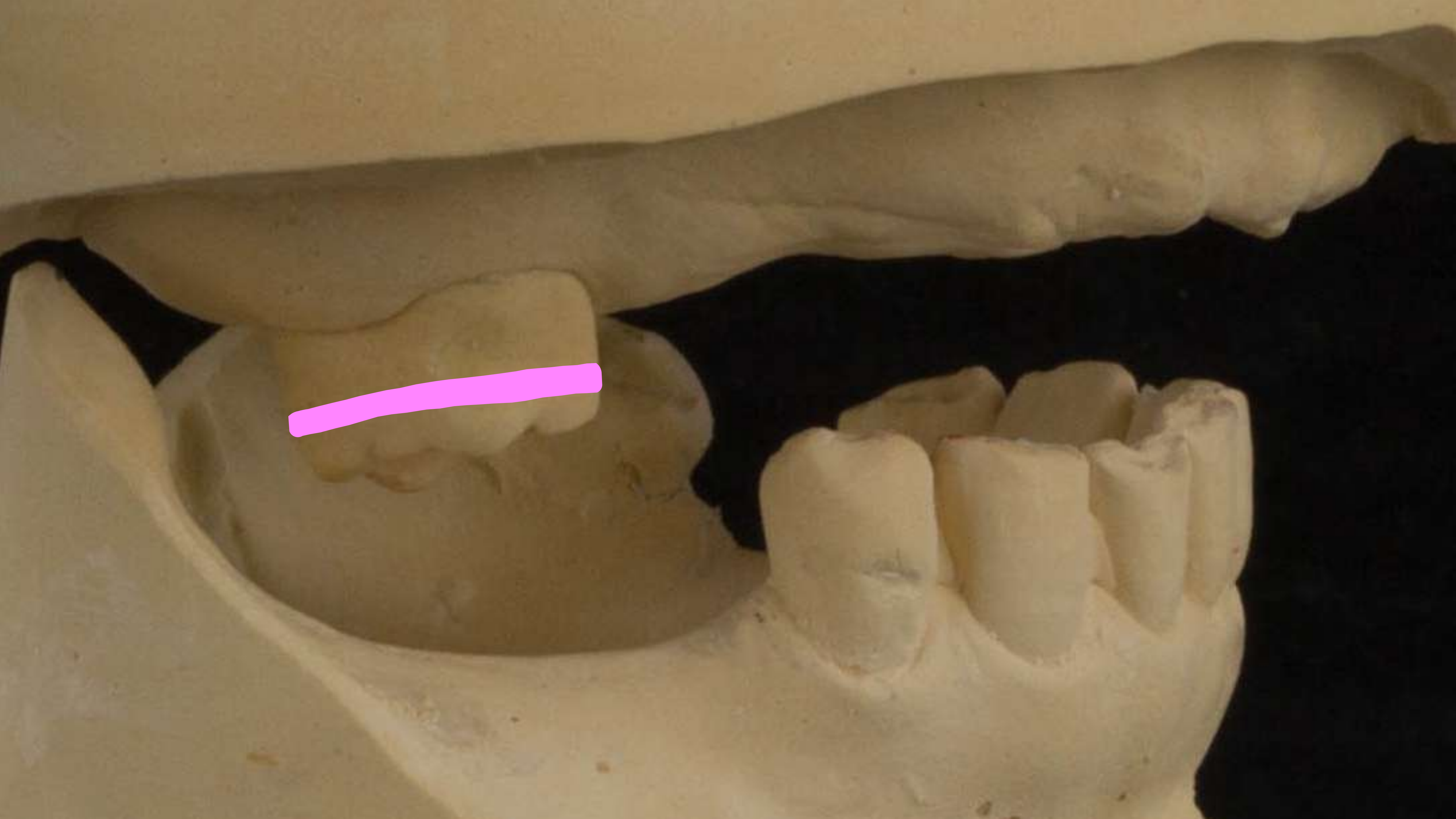




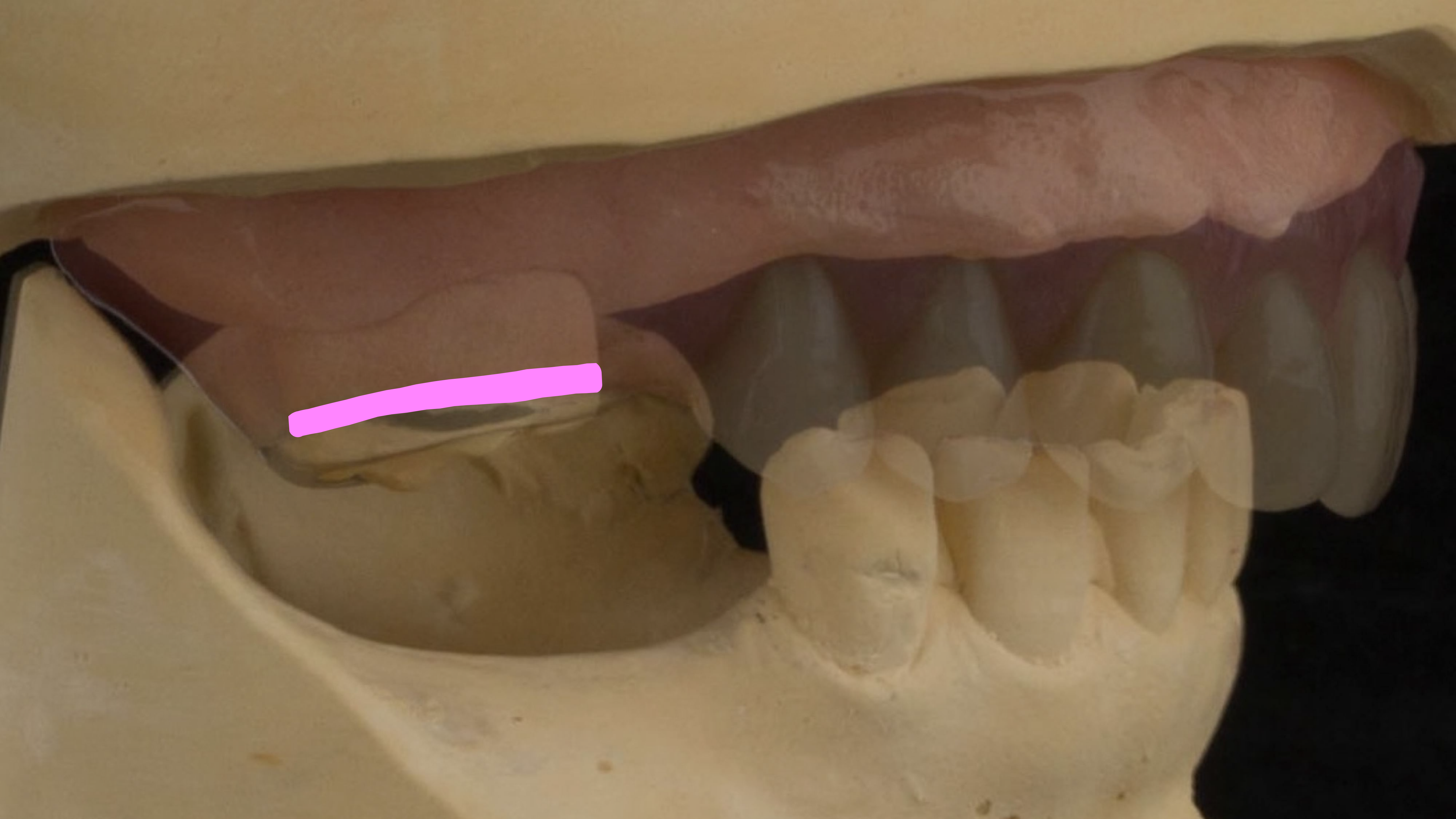


















w will accelerate the demise of th



If support tooth fails - addition to convert to complete denture









# Resources

[www.finlaysutton.co.uk](http://www.finlaysutton.co.uk)



# Handouts - [www.finlaysutton.co.uk/speaking](http://www.finlaysutton.co.uk/speaking)

## Complete denture construction manual by Finlay Sutton (Prosthodontist) with Rowan Garstang (Dental Technician)



This complete denture construction protocol is based on the guides published by the British Society of Prosthodontics in 1996. These are as relevant today as when they were first published. The guides can be obtained at: <http://www.bsppd.org/About/BSPPDpublications.aspx>. It is relevant to refer to these Guides to Standards in Prosthetic Dentistry as well as these instructions. We attempt to give the patient "prosthodontic privacy". A phrase created by Dr John Besford, whereby only the patient and treating prosthodontic team know that the patient has prosthetic teeth.

### Removable prosthodontics is not easy

Removable prosthodontics is not easy and takes effort and graft to get good at it. Like anything in life that's worth doing – it is hard, but it's definitely worth the effort.

### The most important factor in delivering successful dentures

Technical factors are extremely important but are not the most important factor in delivering successful dentures. The patient's education and understanding of their role is the single most important factor in the success of their dentures.

Finlay Sutton and Rowan Garstang 2018

BDJ Aesthetic Dentistry Series | VERIFIABLE CPD PAPER | PRACTICE

## Aesthetic possibilities in removable prosthodontics. Part 1: the aesthetic spectrum from perfect to personal

J. N. Besford<sup>1</sup> and A. F. Sutton<sup>2\*</sup>

In brief		
The production of the denture patient, emotional and practical.	The importance of good interpersonal relations between the patient and the dental team, with the patient as team leader.	Why should we make dentures look like natural teeth?

Patients requiring dentures are getting older and as a result can be difficult to treat owing to various co-morbidities. This series of papers presents an overview of the processes involved in making removable dentures which the patient considers to be functionally and aesthetically successful. We hope not only to provide technical suggestions but also to address the issue of the clinician's, technician's and dental nurse's relationships with the dentally depleted patient. It is increasingly clear from defence organisation reports that this has a decisive effect on the success of this fundamentally difficult enterprise (The only branch of dentistry in which you are trying to attach something to nothing) [Hubert Aiche]. It seems best to conduct the planning and the treatment itself as a co-production – the patient assuming responsibility for choosing between the treatment options offered and playing the leading role in making aesthetic decisions. Distinctions are drawn between the idealised whiter-than-white, 'nobody-in-particular', attention-seeking denture at one extreme, and the highly personalised, discreet and naturalistic denture at the other. Reproducing nature in this way is time consuming and therefore expensive, but many 'denture sufferers' see it as good value. Methods for creating the latter, which through its very normality switches off the social observer's attention, are explained in detail in papers two and three of this series. These papers are designed to help clinicians and technicians involved in providing removable prosthodontics improve the appearance of their dentures and increase their patients' aesthetic satisfaction. They are not scientific articles in the Popperian sense of advancing theories which are capable of being falsified. Instead, they are an amalgamation of 72 years of combined experience in providing removable dental prostheses. We have found this branch of dentistry immensely interesting and have on many occasions had the satisfaction of seeing our patients' lives changed for the better.

### Introduction

*'Of course, dentures are essentially social appliances.'* Per-Olof Glantz.<sup>1</sup>

**The predicament of the denture patient**  
When approaching the subject of dental prostheses for patients for whom fixed restorations are not a practical or even a best first option, the authors believe that it is important to consider the life circumstances of people who have lost many or all of their natural teeth. This is not only because of conventional constraints advocating holistic dentistry – 'treat the whole patient, not just the mouth' – but also because the day-to-day experiences of people who wear complete dentures (or nearly complete partial dentures) are radically different from those of our dentate patients. Although dentate patients may be concerned about the appearance of their natural teeth, some feeling that their teeth are too irregular, too dark, too worn down, have unwanted diastemas, etc, at least they still have their own teeth. In contrast, those obliged to wear dentures have often been subjected to more anxiety-producing, life-restricting and potentially humiliating experiences than dentate patients. People deprived of all or most of their natural teeth, because of dentistry or the lack of it, often feel guilty.<sup>2</sup> They feel that they have lost one of life's battles and it was 'their own fault' (which is often not the case). To add to this symbolic loss and feeling of failure, denture wearers may live in constant fear of a variety of practical scenarios: that their denture could be seen to move in their mouth while speaking or eating, or worse still get knocked out of it by a collision in a public place; that it may fracture; that it may get mislaid while they are in hospital (especially when asked to remove it for an operation requiring a general anaesthetic), or lost while on holiday, swimming, etc.

They often feel self-conscious if their speech is degraded by it, or they think it looks artificial. Many denture wearers also suffer chronic discomfort, loss of biting and chewing power, leading to restricted choices of food and the need to turn down invitations to restaurants and especially to meals at other people's homes, where they cannot choose 'safe food'. These denture wearers can be called 'denture sufferers' to distinguish them from the many who manage to cope. Many complete denture sufferers feel inhibited with their sexual partners, their mouth becoming effectively a 'too good area'. Such common privations may be additional to any aesthetic shortcomings which they feel their artificial teeth and gums display. The reason for our mentioning these other problems here is that dentists who do not regularly treat partly or totally edentulous people may be unaware of the subject depths to which denture sufferers can sink or, correspondingly, the jubilant heights to which they can be raised again by being provided with teeth which are comfortable, stable, permit satisfactory speech and mastication.

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Reviewed Paper, Accepted 10 April 2018  
DOI: 10.1039/c8j20182a

BRITISH DENTAL JOURNAL | VOLUME 124 NO. 1 | JANUARY 12 2018 | 15  
Official Journal of the British Dental Association

BDJ Aesthetic Dentistry Series | VERIFIABLE CPD PAPER | PRACTICE

## Aesthetic possibilities in removable prosthodontics. Part 2: start with the face not the teeth when rehearsing lip support and tooth positions

J. N. Besford<sup>1</sup> and A. F. Sutton<sup>2\*</sup>

In brief		
Describes impression making to maximise retention, stability and soft tissue support by managing flange thickness.	Describes shaping the wax occlusal record rims to prescribe appropriate lip support and natural tooth positions.	Demonstrates the shape and extension of dentures giving optimum aesthetics.

Even dentures exhibiting superb aesthetics are of no use if they visibly move during speech and social intercourse. In this, the second paper of three on removable denture aesthetics, we describe impression making and shaping the wax occlusal record rims. Not only are the impressions important for producing dentures with maximum retention, stability and support, but their extensions and the thickness of their borders have a decisive influence on lip support and profile. This article shows how the contours of the definitive impressions and the wax rims are developed so as to prescribe the overall form of the replacement gums and teeth. Properly trimmed rims are in essence an early three-dimensional rehearsal, an opportunity for developing the patient's preferred lip support and natural positioning of the denture teeth at subsequent stages. They can also give an early indication of what speech will be like with the new dentures. Without this 3D clinical information, laboratory technicians have to guess where to put the teeth and have little option but to fall back on the stereotypes of their textbook training.

### Denture production

*'Of course, dentures are essentially social appliances.'* Per-Olof Glantz.<sup>1</sup>

It is outside the scope of these articles to provide a step-by-step guide to state-of-the-art complete denture construction. However, producing complete dentures which look wonderful is pointless if they are unwearable owing to poor fit and function. To have a chance of working well in the physical sense, dentures must have sufficient stability for the patient not to be constantly reminded of their presence. And for that dentures must rely on their fitting surfaces, polished surfaces and occlusal surfaces being optimally shaped and positioned for each individual mouth.

### Impression making

It is worth highlighting here our conclusion, from experience, that the quality of the primary impression is crucial in determining the quality of all subsequent stages. Linda Blakely puts it well: 'Developing a good primary impression may be seen as an investment'.<sup>2</sup> Traditionally the edentulous impression process is thought of only as that which defines the 'denture bearing area', that which supports and retains 'the fit surface' of the denture. However, it is also possible to make simultaneous or consecutive impressions of the cheeks, lips and tongue as they move naturally when in contact with the superstructure of the denture (that is, the gums and the buccal and lingual surfaces of the teeth). We call the trayless version of this 'the French impression', because we learnt it from a gifted French prosthodontist, Hubert Aiche. It is also known as a piezographic impression.

### Denture retention and aesthetics

The first and most obvious connection between retention and aesthetics is that any movement of a denture which is visible to an onlooker amounts to an aesthetic disaster as well as a potentially humiliating social experience. This is what the wearers of dentures with unreliable retention usually fear most. Denture retention has a second relevance to appearance: when the dentures are well retained, the visible anterior teeth may be placed in any position which is attractive and appropriate (personal) for the individual. Deep overbites and large overjets present no problem. This opens up the aesthetic possibilities for the patient/clinician team and allows the denture patient to have virtually any dental appearance he or she desires. And this in turn frees the dental team, time and cost permitting, from the constraints of stereotype 'on-the-ridge' denture set-ups and the classic 'false teeth' appearance. Without access to the stabilising effects of overdenture abutments, natural or implanted, the retention of a conventional complete denture (in the presence of adequate saliva) will depend mainly upon the accuracy of its fit to the soft tissues. And this in turn will depend on the quality of the primary and secondary impressions.

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Reviewed Paper, Accepted 3 January 2018  
DOI: 10.1039/c8j20182a

BRITISH DENTAL JOURNAL | VOLUME 124 NO. 3 | FEBRUARY 9 2018 | 141  
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BDJ Aesthetics Series | VERIFIABLE CPD PAPER | PRACTICE

## Aesthetic possibilities in removable prosthodontics. Part 3: Photometric tooth selection, tooth setting, try-in, fitting, reviewing and trouble-shooting

J.N. Besford<sup>1</sup> and A.F. Sutton<sup>2\*</sup>

Key points			
Perfect appearance – making dentures look like natural teeth and gums.	Being brave with tooth positioning and coping nature – selecting the right size and shape of artificial teeth using photometric calculation and assessment.	Patient led decision-making of rehearsal – the complete denture "try-in".	Handling the delivery and review stages of complete denture processes.

This final article in a series of three on producing complete dentures which the patient considers attractive, describes selecting the denture teeth, setting the front teeth at the chairside, the try-in visits, processing, fitting and reviewing the dentures. The role of the patient as captain of the ship, the dental nurse as the patient's support and liaison officer, and the clinician as the first technical officer is outlined. The use of immediate replay video technology in allowing a patient to see what the trial denture really looks like is described. It is vital that the patient is completely happy with its appearance in every detail before denture is finished. Dealing with post-fitting aesthetic problems is considered.

### The materials of denture teeth

*'Of course, dentures are essentially social appliances.'* Per-Olof Glantz.<sup>1</sup>

**Porcelain teeth vs teeth of various resins**  
Though some practitioners prefer to use porcelain teeth, the majority of dentures are made with resin teeth. The principal reasons for this are: 1) that resin teeth are standard in most dental schools and colleges; and 2) that porcelain teeth have to be mechanically retained in denture base materials, and their retention features, pins in anteriors and holes in posteriors, must be maintained to allow retention. This latter requirement prevents access to such firing kilns, which makes the addition and removal of characterisations more difficult for the patient to control. Initially, the poly-methyl methacrylate (PMMA) resins used to make denture teeth were relatively soft and subject to rapid attrition and abrasion. However, improvements in chemistry and manufacturing have been continuous and today's resin teeth are harder and more stain-resistant than before. Composite resins are used in some makes to improve wear resistance especially of posterior teeth, though these materials are more prone to staining and being chipped. Also, because of their filler particles, composite resins are also less translucent, which has a negative influence when pronounced incisal edge translucency is required in the outer enamel layer. Composite is therefore more useful in posterior teeth.

### Choosing denture teeth for complete dentures

**Anterior teeth**  
When a dentist extracts someone's front teeth and throws them in the hazardous waste bin, a usual procedure, precious evidence is being thoughtlessly disposed of. Those teeth would have become a great help in the selection of denture teeth for any future dentures. They are not useful for shade selection because teeth undergo marked colour changes as they dry out, but in every other respect – size, shape and surface detail – they cannot be improved on as records of the natural dentition; they were the natural dentition. We therefore advocate that dental practitioners wash extracted teeth, pack them discreetly in some suitable small container and offer them to the patient to keep for reference as new dentures are made in the years to come. No doubt some patients will find the idea distasteful and decline the offer, but many patients will see the good sense of not simply throwing away these valuable personal

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Reviewed Paper, Accepted 3 January 2018  
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BRITISH DENTAL JOURNAL | VOLUME 124 NO. 7 | APRIL 13 2018 | 1

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- Aesthetic possibilities in removable prosthodontics. Part 1: the aesthetic spectrum from perfect to personal
- Aesthetic possibilities in removable prosthodontics. Part 2: Start with the face not the teeth when rehearsing lip support and tooth positions
- Aesthetic possibilities in removable prosthodontics. Part 3: Photometric tooth selection, tooth setting, try-in, fitting, reviewing and trouble-shooting
- Finlay and Rowan's complete denture construction manual PDF
- Design sequence for removable partial dentures RPDs
- Removable partial dentures RPDs design sheet
- Removable partial denture design a need to focus on hygienic principles - Bengt Owall et al 2002
- How to give your patients superb immediate dentures
- Finlay 7 pillars of denture wisdom PDF 1
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- Finlay 7 pillars of denture wisdom PDF 4
- Finlay 7 pillars of denture wisdom PDF 5
- Finlay 7 pillars of denture wisdom PDF 6





I

2

3

4

5

6

7

Design

Rest seats

Technician

Impressions

Future loss of teeth

Free end saddles

Patient communication





Prof Fraser McCord

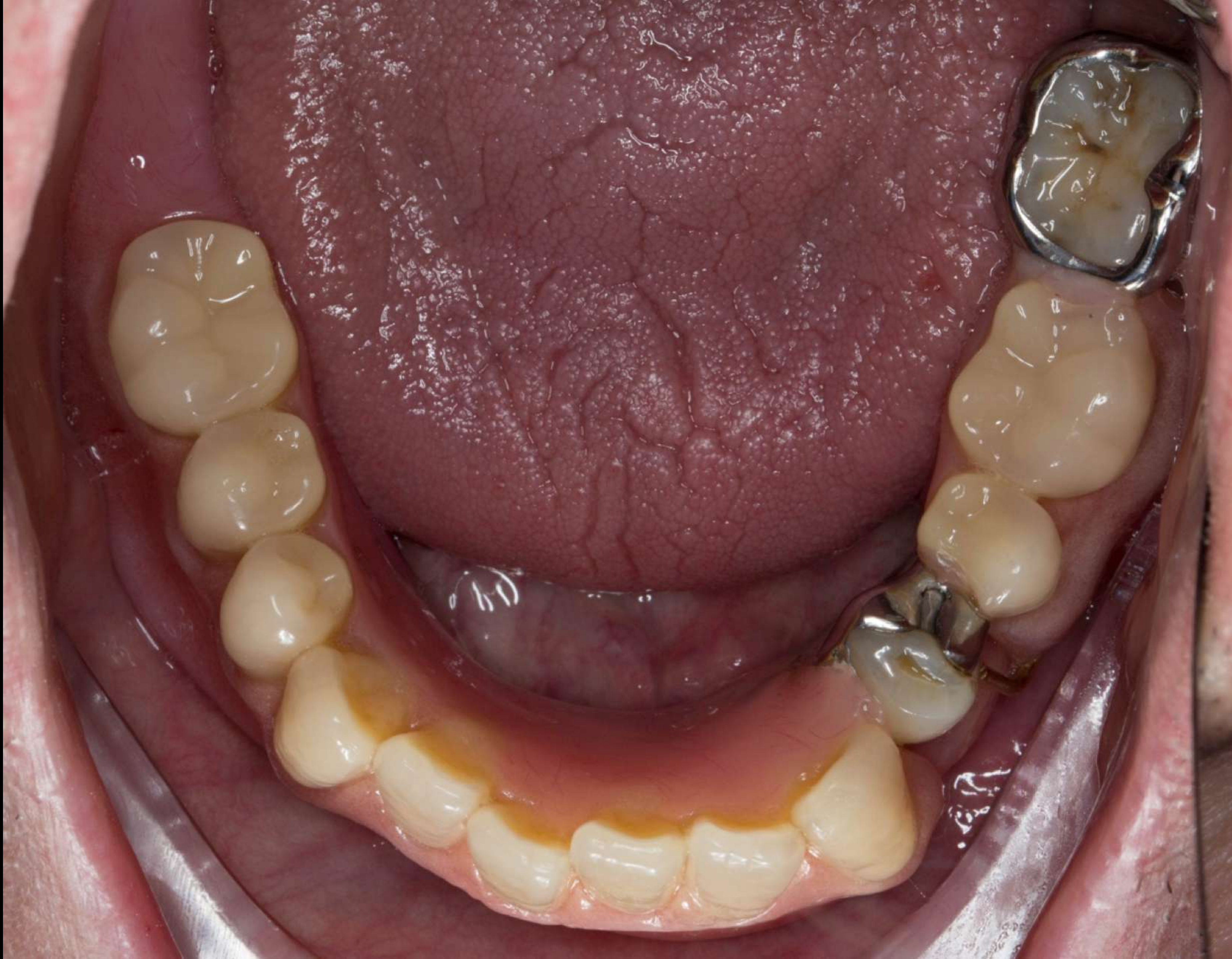
“Finlay - you are fxxxxxx shite  
at prosthodontics”

University Dental Hospital of Manchester



























*“...I am no longer  
aware of them....”*







Rowan Garstang



Chris Hesketh

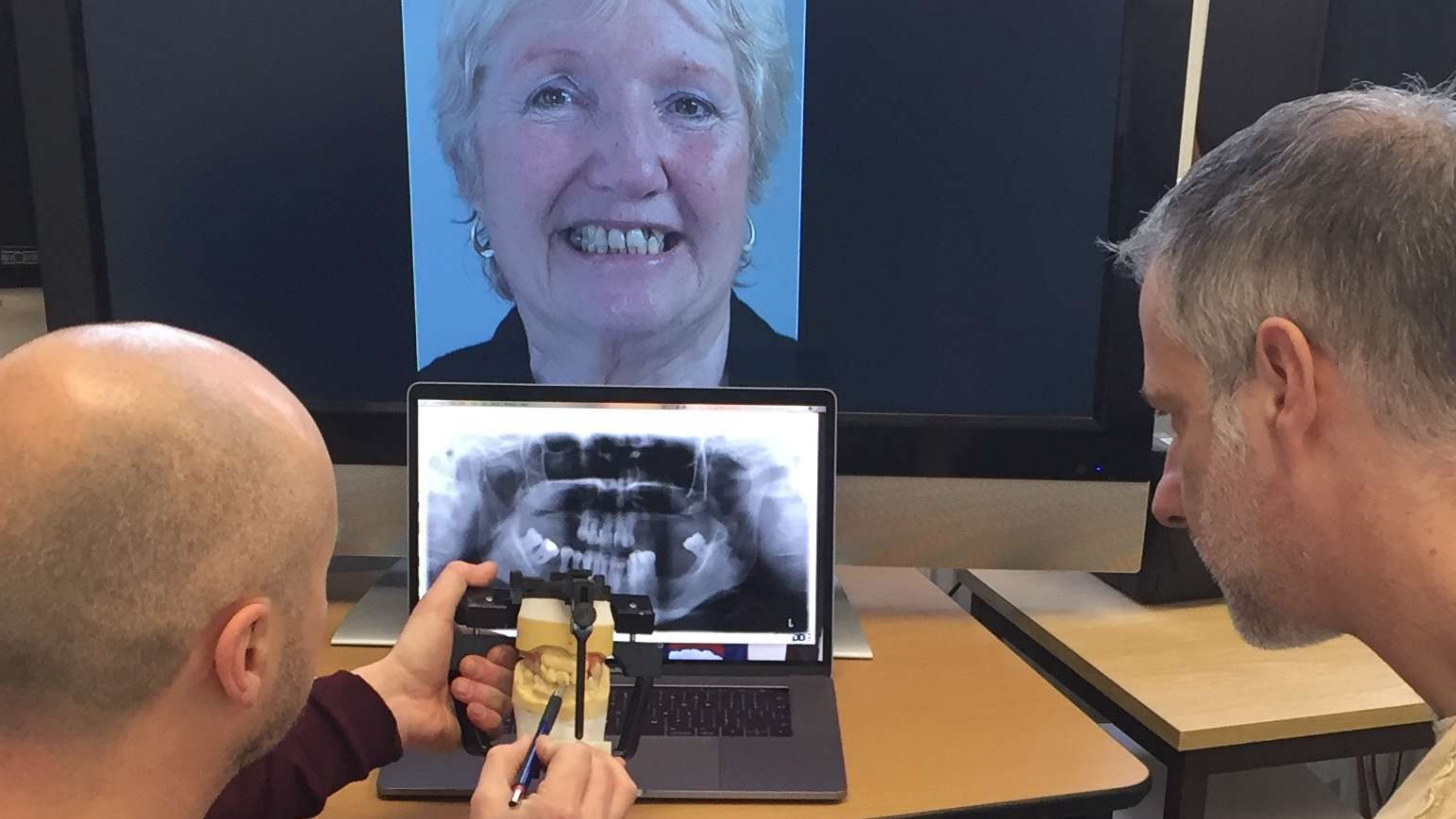














Removable cobalt chromium based Partial Denture design sequence by Finlay Sutton with Rowan Garstang  
(Analogous to "removable" resin bonded bridges)

1. Intra oral/extra oral photographs and mounted study casts are used to assess:

- a. Occlusal space for artificial teeth and denture components
- b. Need to increase occluding vertical dimension
- c. Visibility and hiding of metal components
- d. Anterior saddles and path of insertion
- e. Need for restorations indirect restorations onlays, crowns etc..



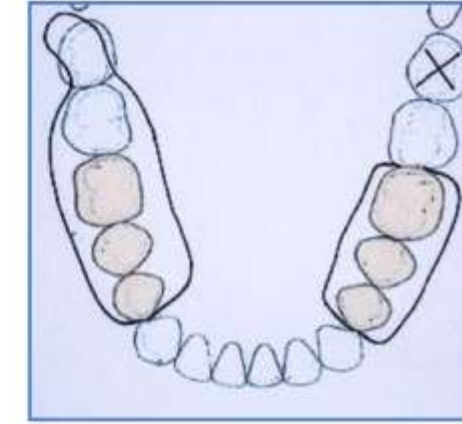
2. Teeth to be replaced

- a. Opposing occluding contacts
- b. Interocclusal space posteriorly - is there space for a prosthetic tooth or a need for metal occluding surfaces?



3. Flange outline - drawn

- a. Avoid gingival margins
- b. Optimum extension of free-end saddles to maximise support



4. Maximise rest tooth support  
Examine occlusal space

- a. Additive - in composite
- b. Subtractive - cut into teeth
- c. Need for splinting to mobile teeth

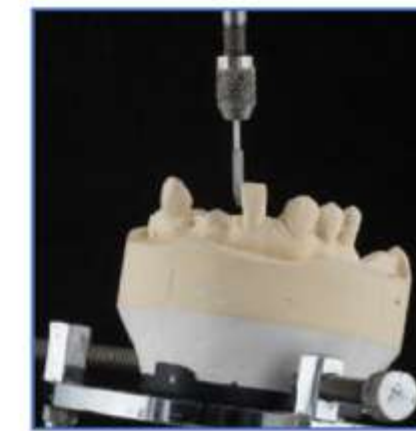


5. Planning for future extractions/  
additions/modification

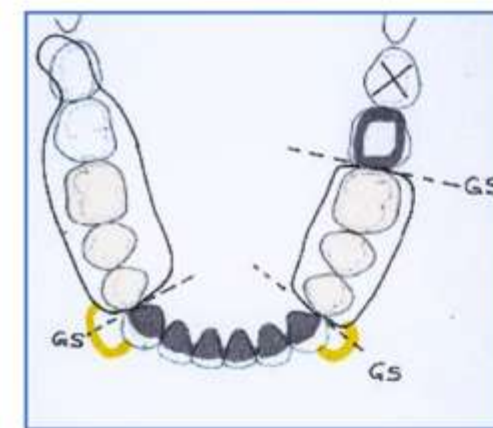


6. Guide surfaces (GS) - using surveyor

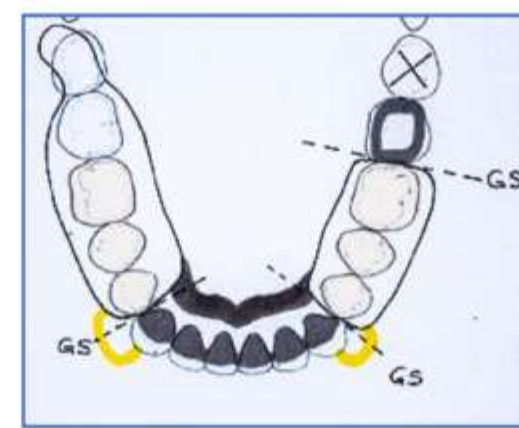
- a. Close gaps - reducing black triangles anteriorly
- b. Path of insertion/withdrawal different to path of displacement with sticky food  
Assist with retention



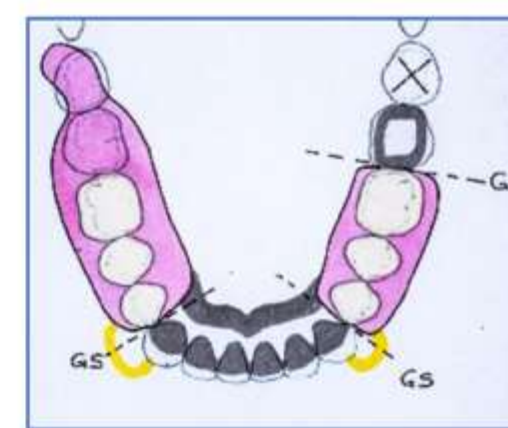
7. Retention, reciprocation and indirect -  
No more than 2 clasps per denture



8. Major connector -rigid - chassis as possible avoid palatal coverage of anterior rugae if possible

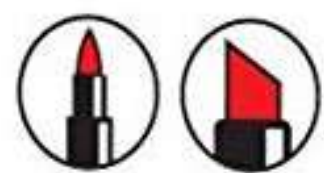


9. Finalise design, discuss with patient.  
Confirm the patient is aware of visible clasping and metal components





# LETRASET® PROMARKER



# 6

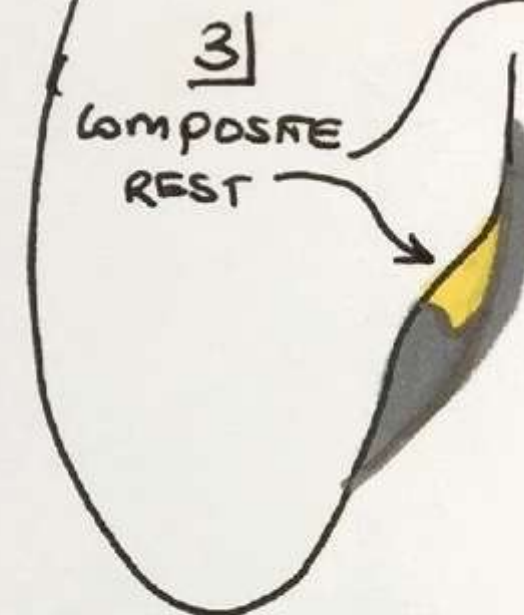
- Permanent twin-tip • Pointe double permanente
- Doble punta permanente

6 pc/pz

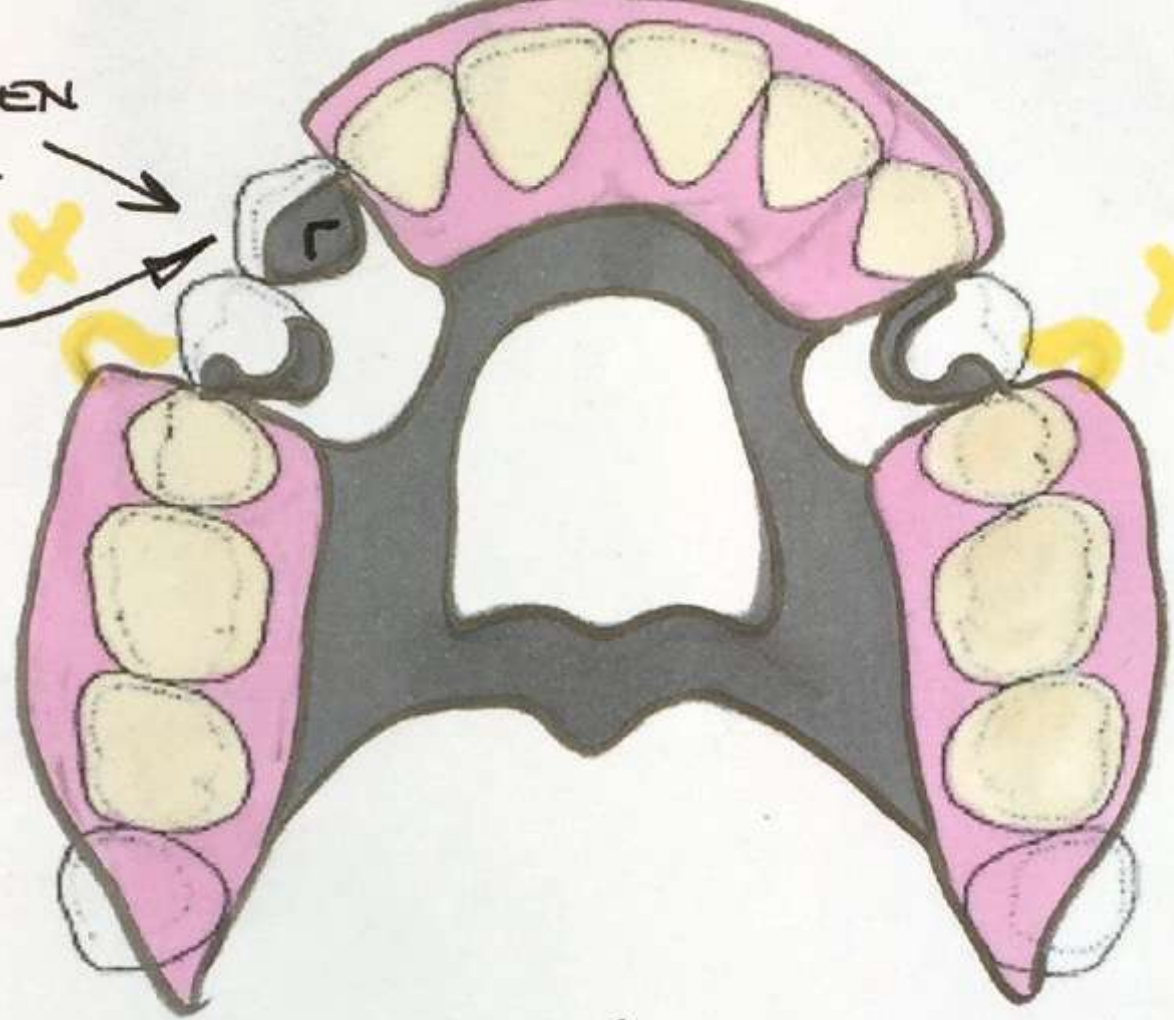
Mid Tones  
Tons Moyens  
Tonos Medios



SPACE BETWEEN  
FRONT NATURAL  
TEETH

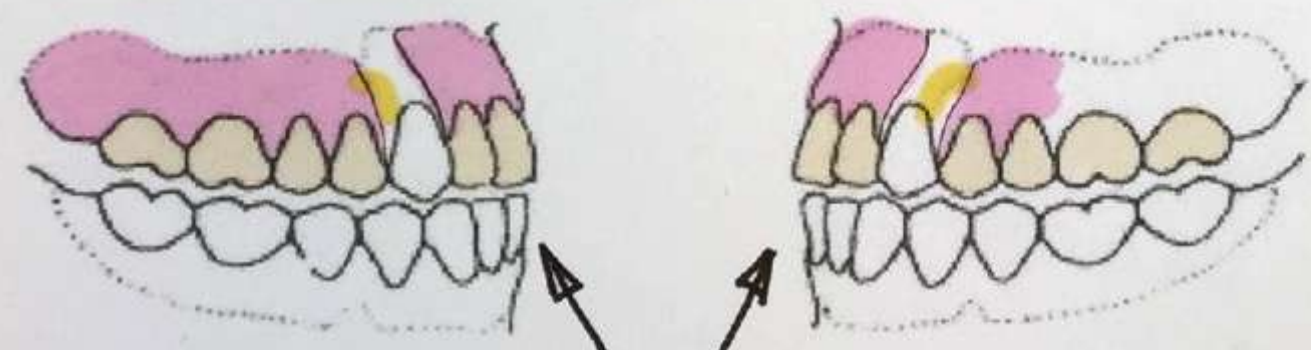


3  
COMPOSITE  
REST



GOLD 1" BARS  
GINGIVALLY  
APPROACHING 4/4

POSITIVE REST  
SEATS 43 | 4  
+ PARALLEL  
GUIDING SURFACES  
"HEEL DOWN"



PATH OF INSERTION / WITHDRAWAL



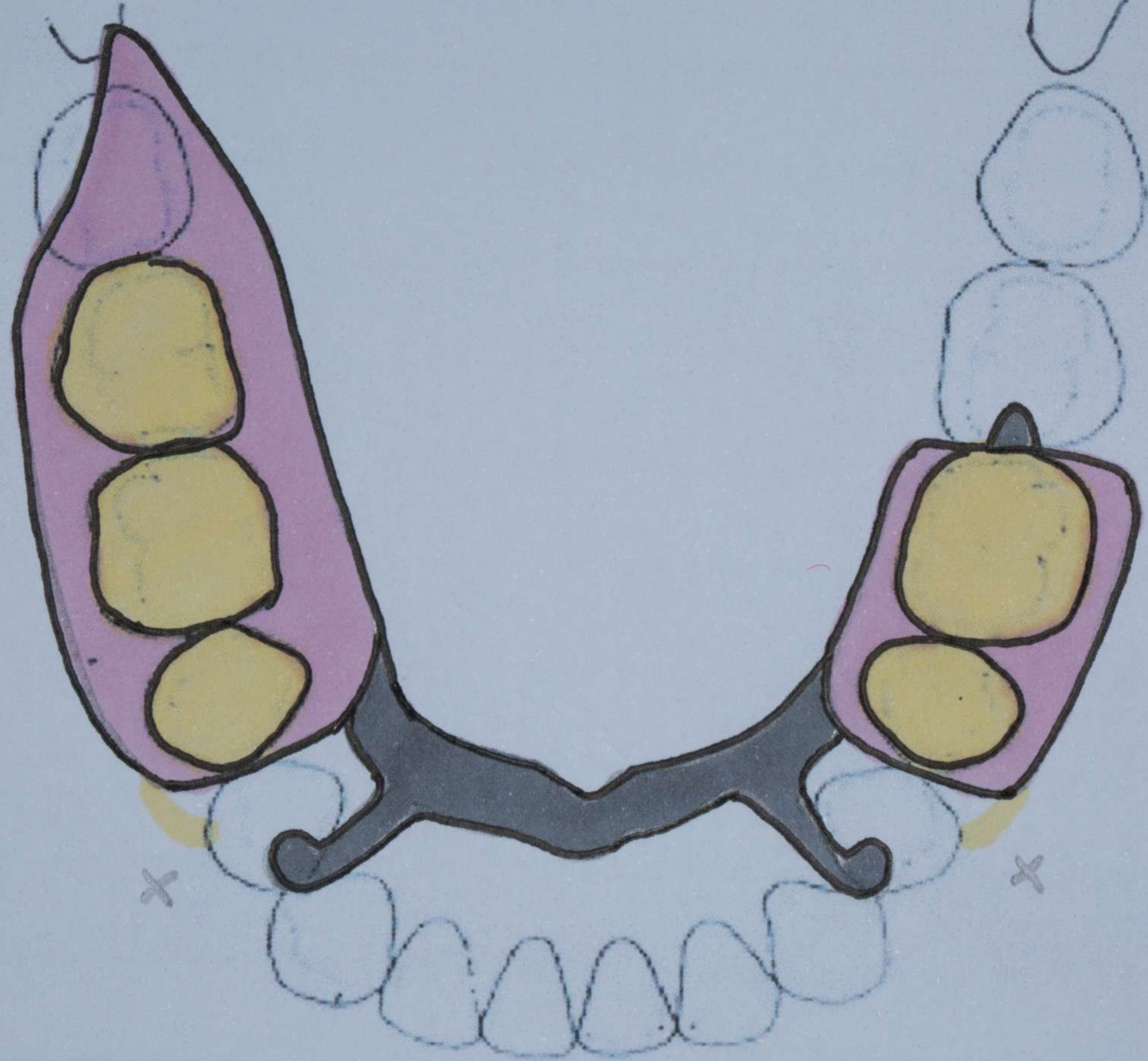


Pat

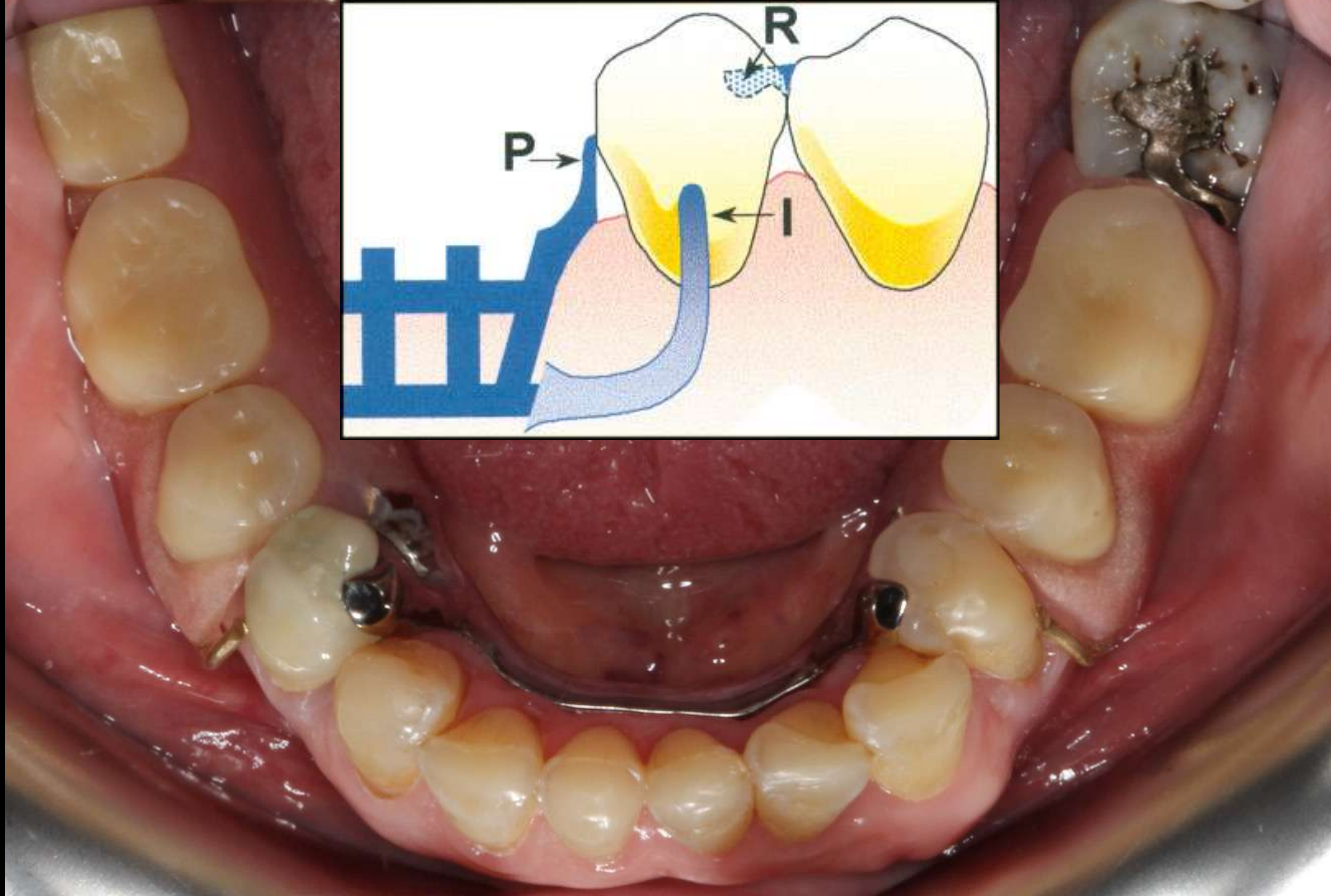
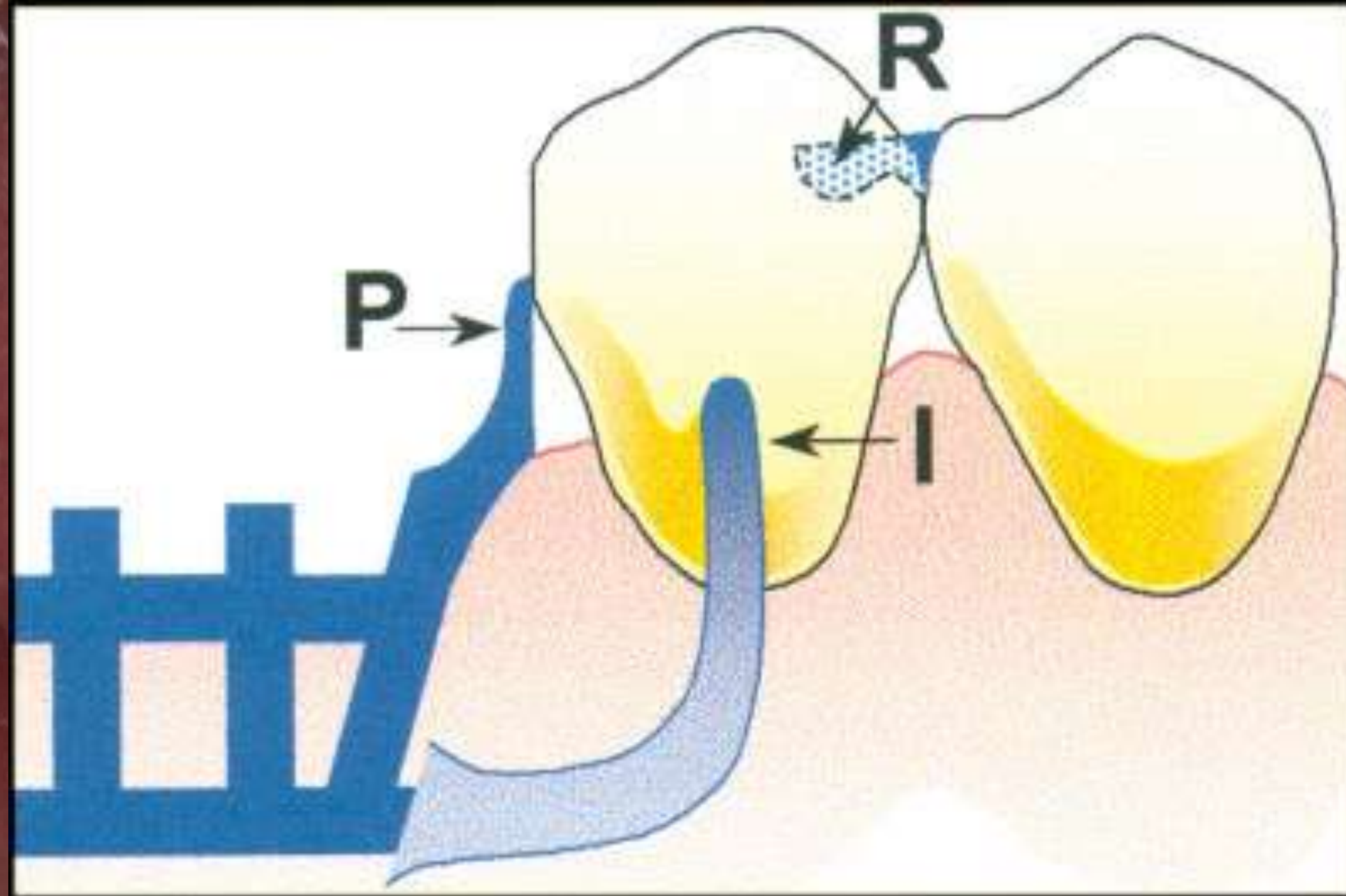




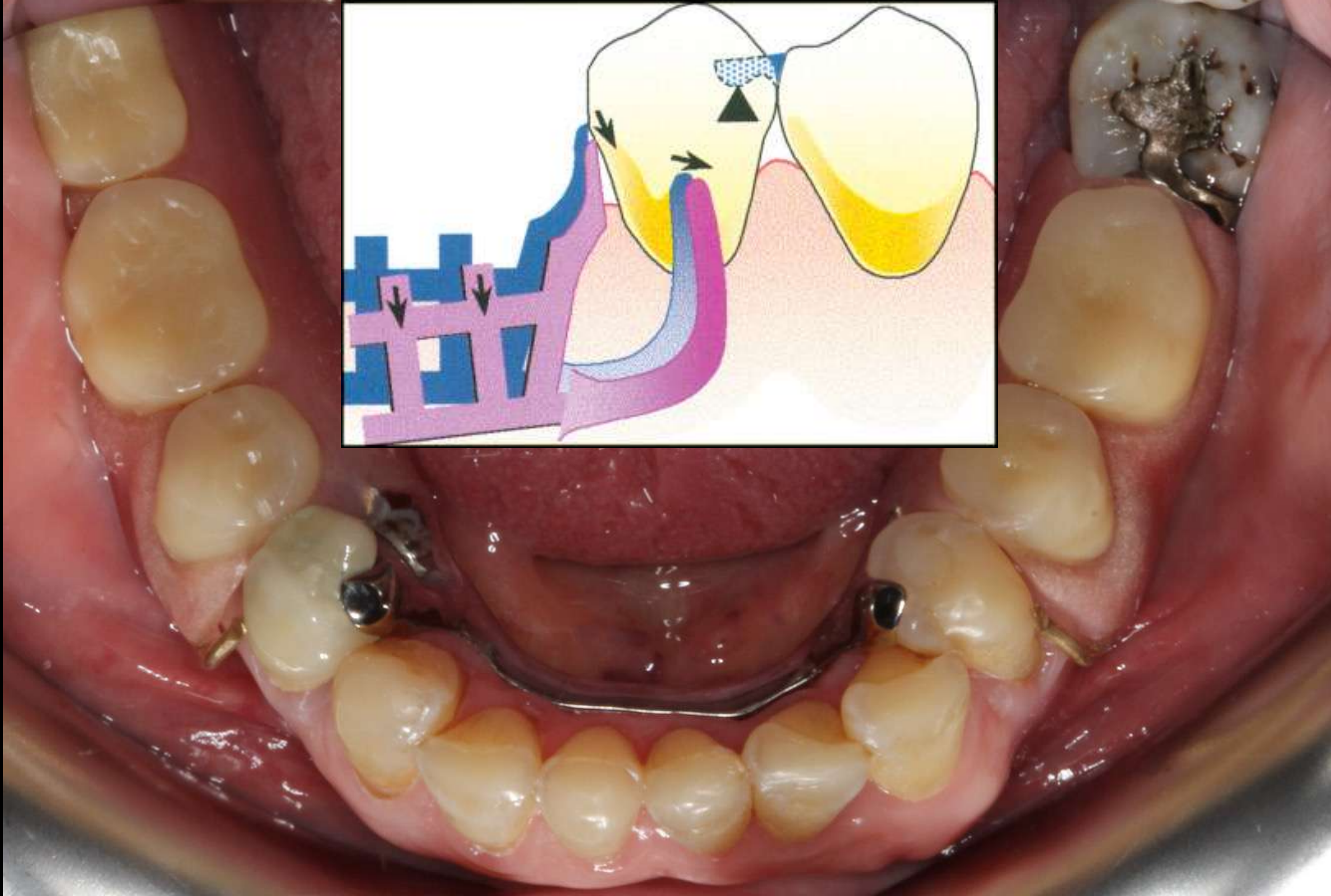
















Charlotte Stilwell

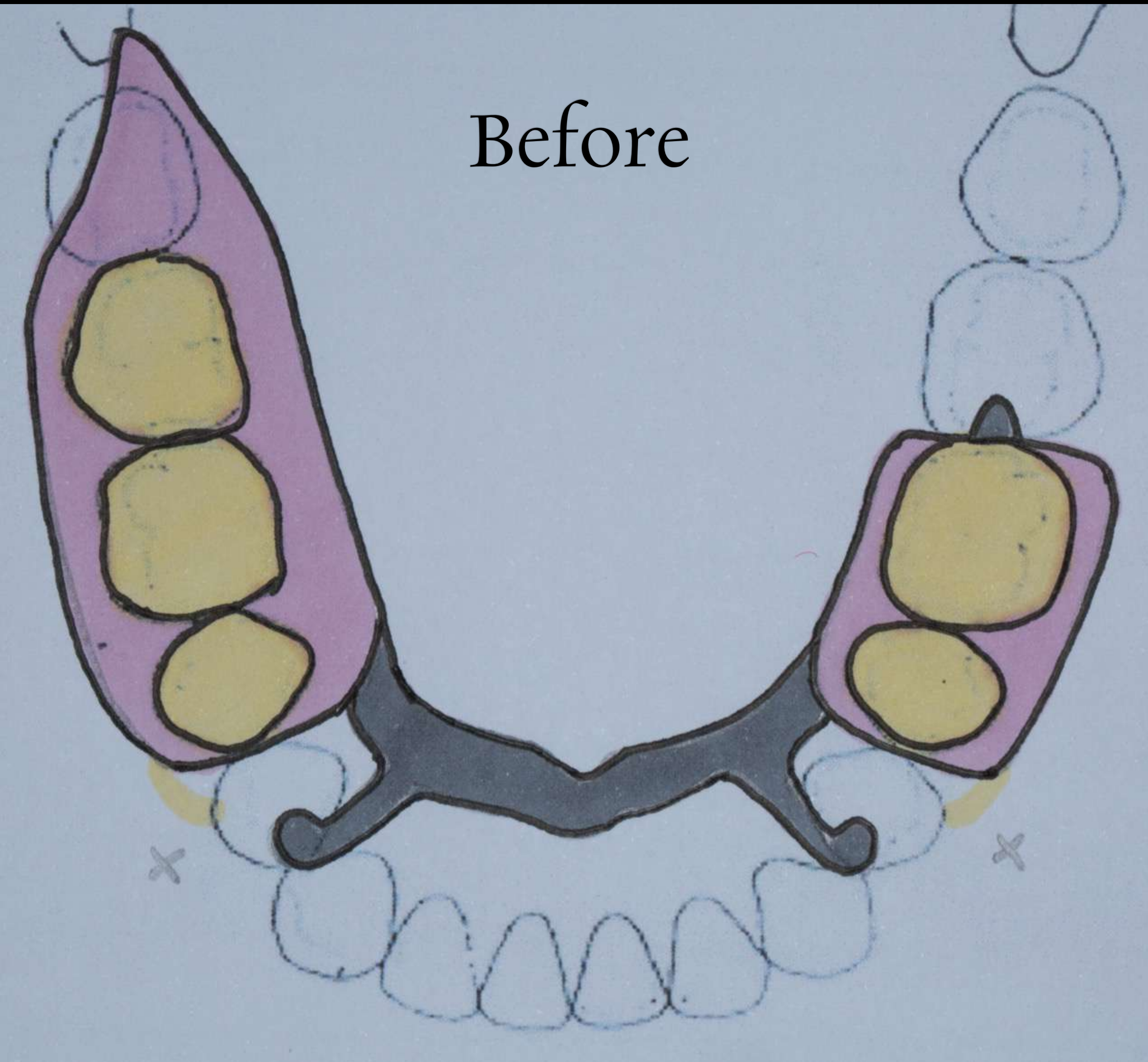




The Besford Study Club



Before



After









McCRACKEN'S

# Removable Partial Prosthodontics

TENTH EDITION



GLEN P. MCGIVNEY • ALAN B. CARR

MARGARETA MOLIN THORÉN  
JOHAN GUNNE (EDS.)

## Textbook of Removable Prosthodontics

The Scandinavian Approach

MUNKSGAARD DANMARK



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4



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The Scandinavian Approach

2

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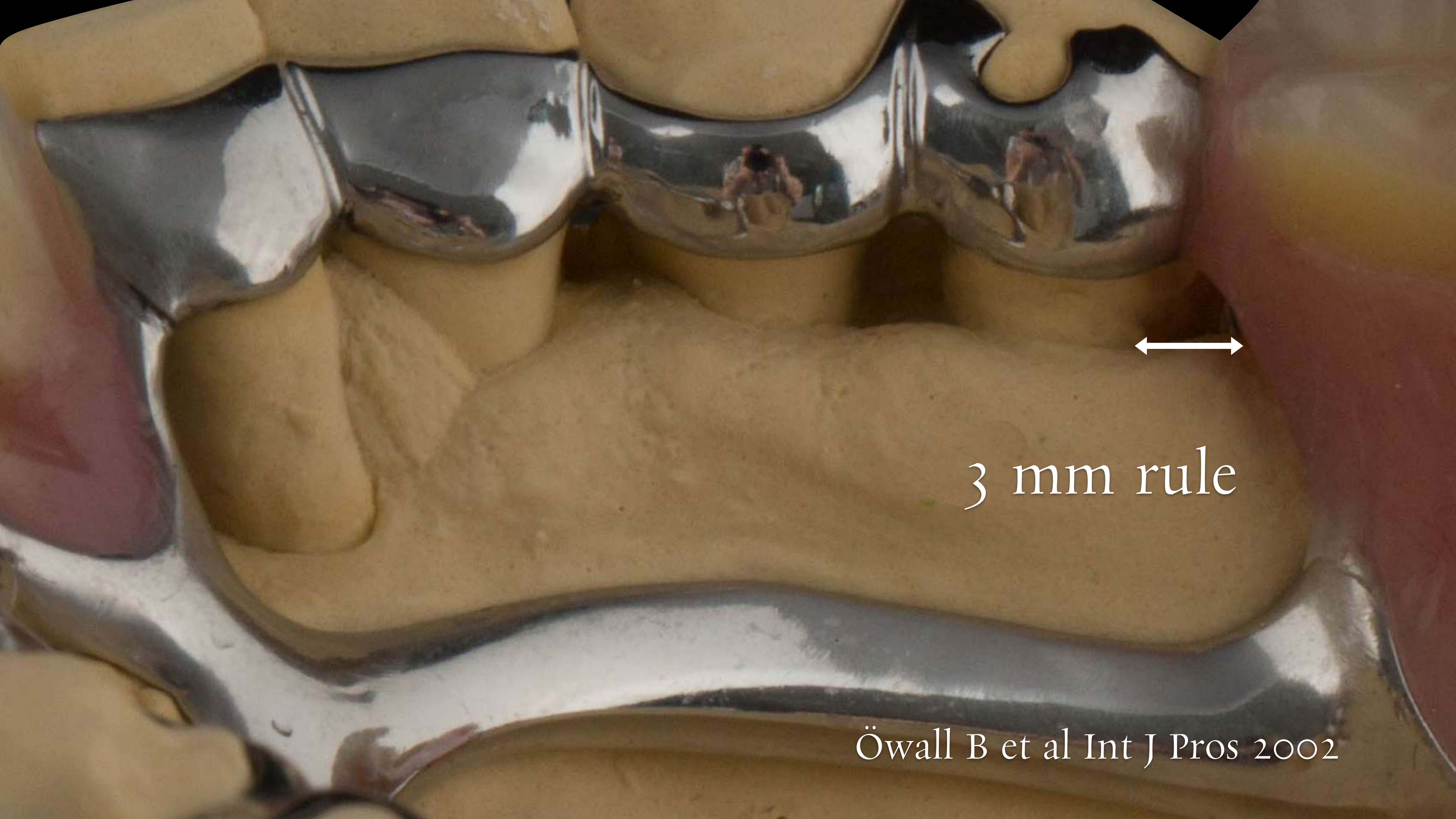




RPD design: a need to focus on Hygienic Principles.

Öwall B et al Int J Pros 2002





3 mm rule

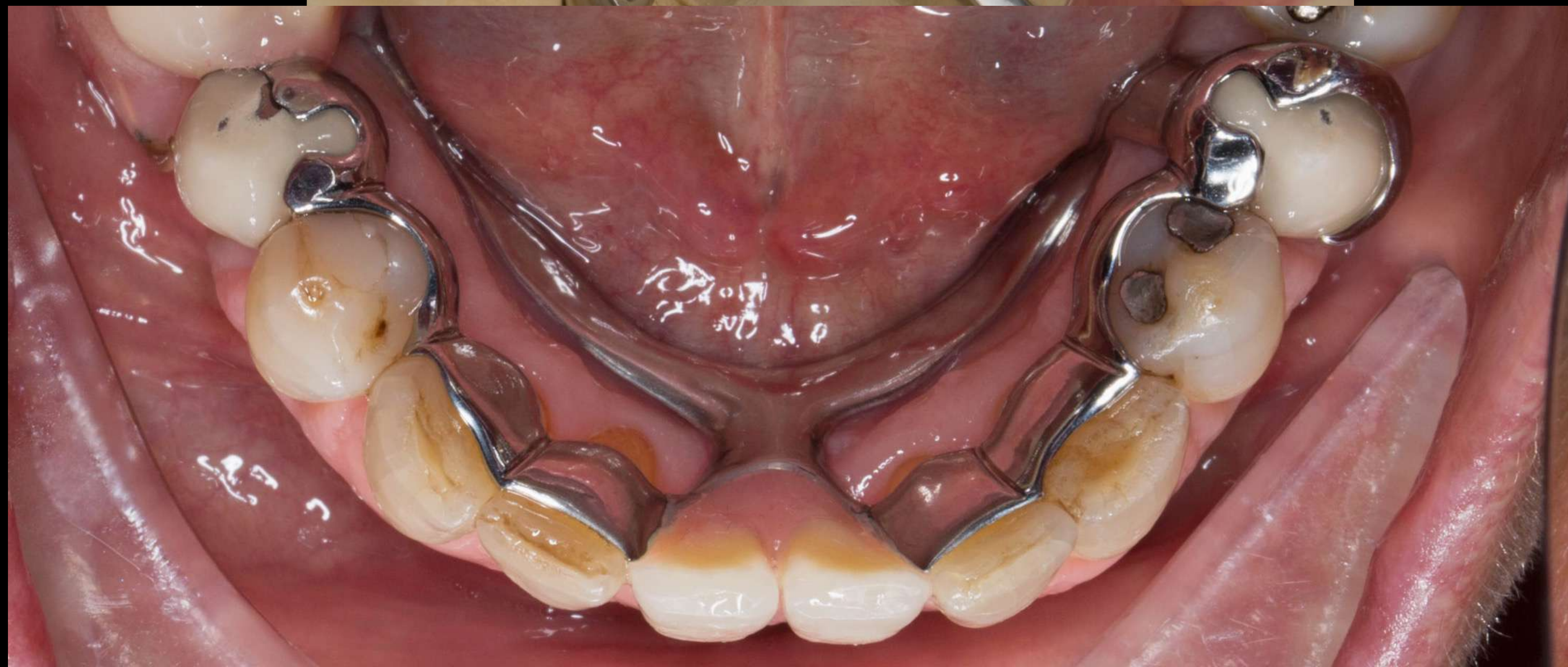
















Personal message

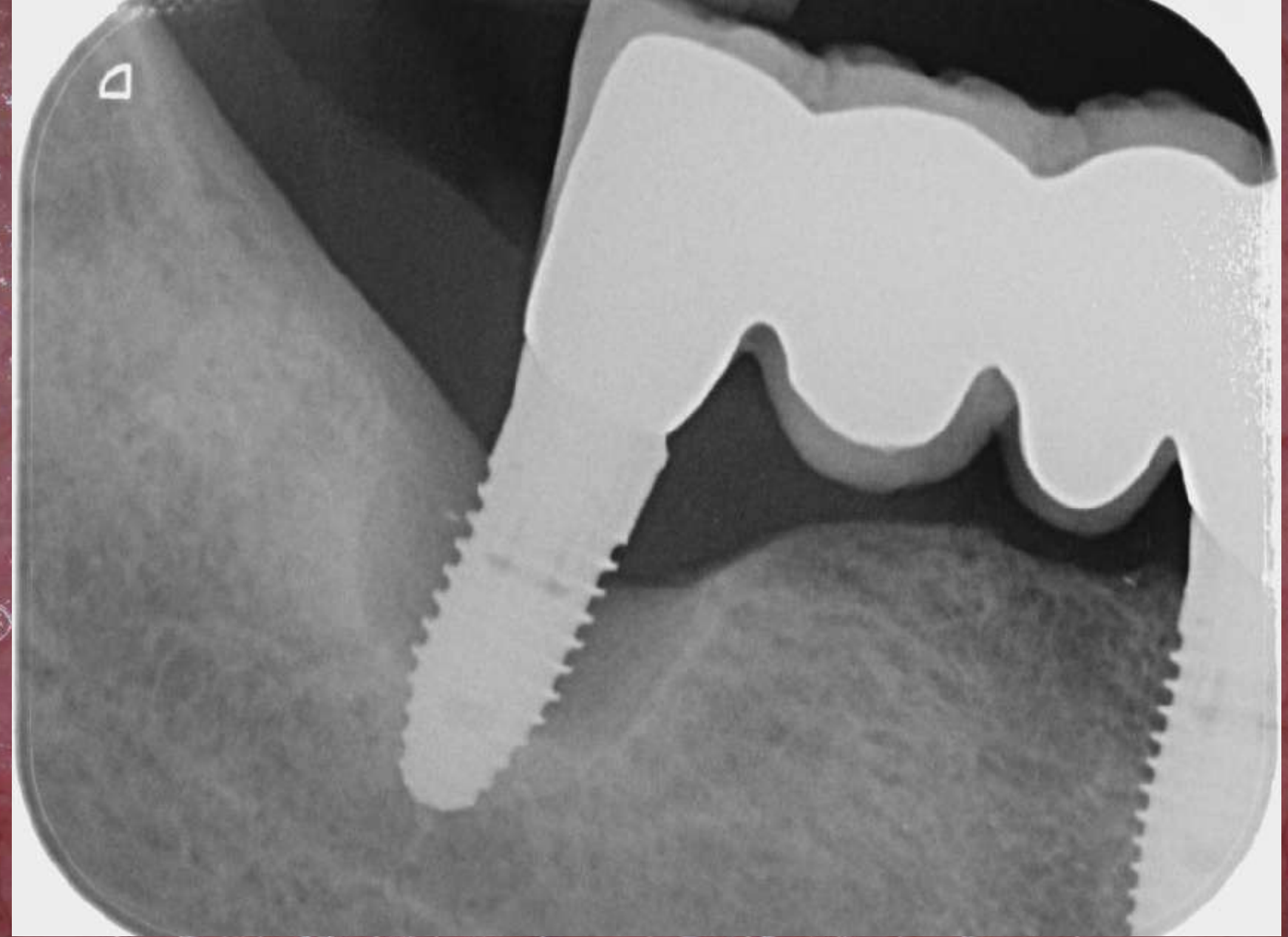
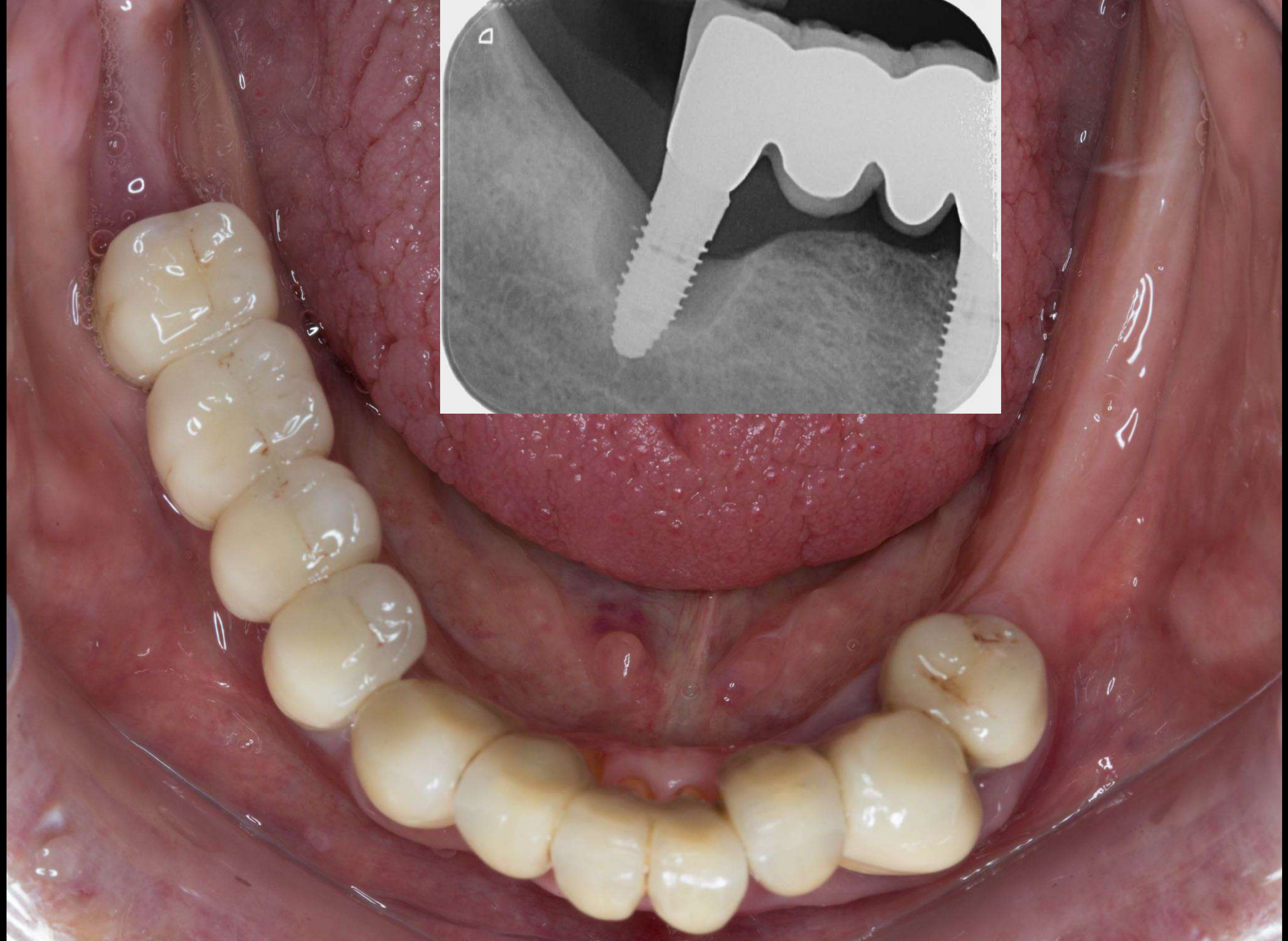
We should all adopt this approach



Ken

































8 years





9 years











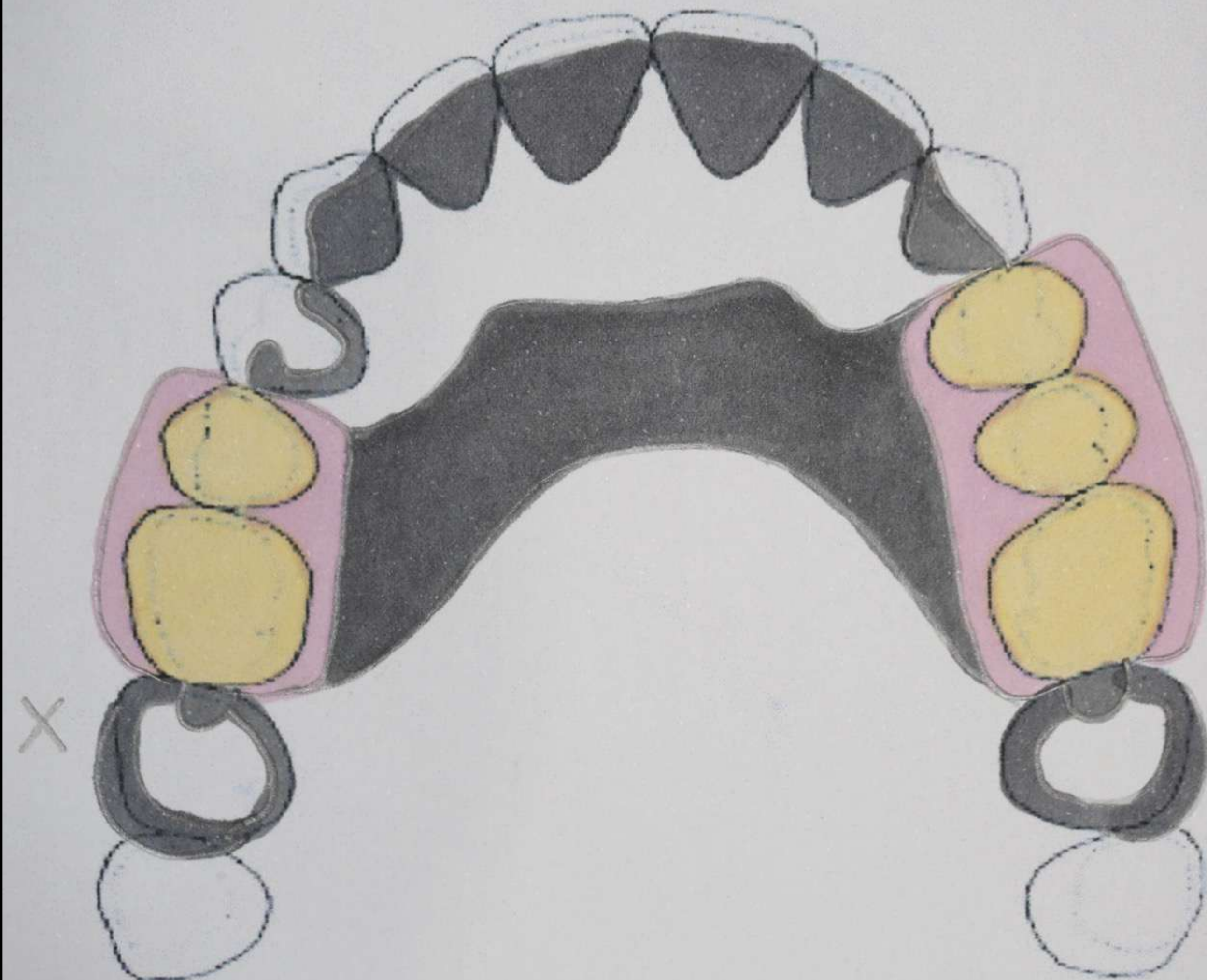














Composite rest seats

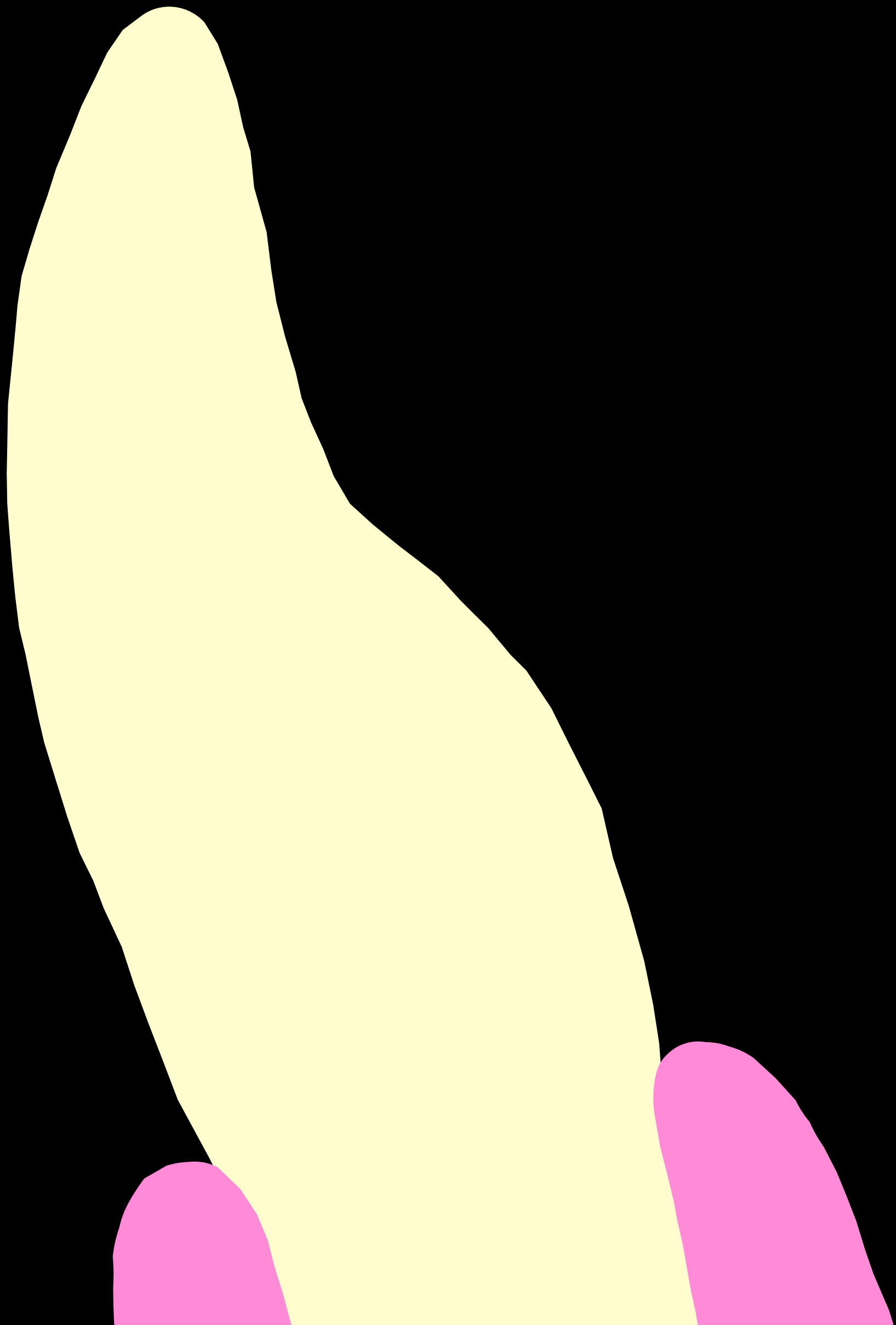


James S Brudvik

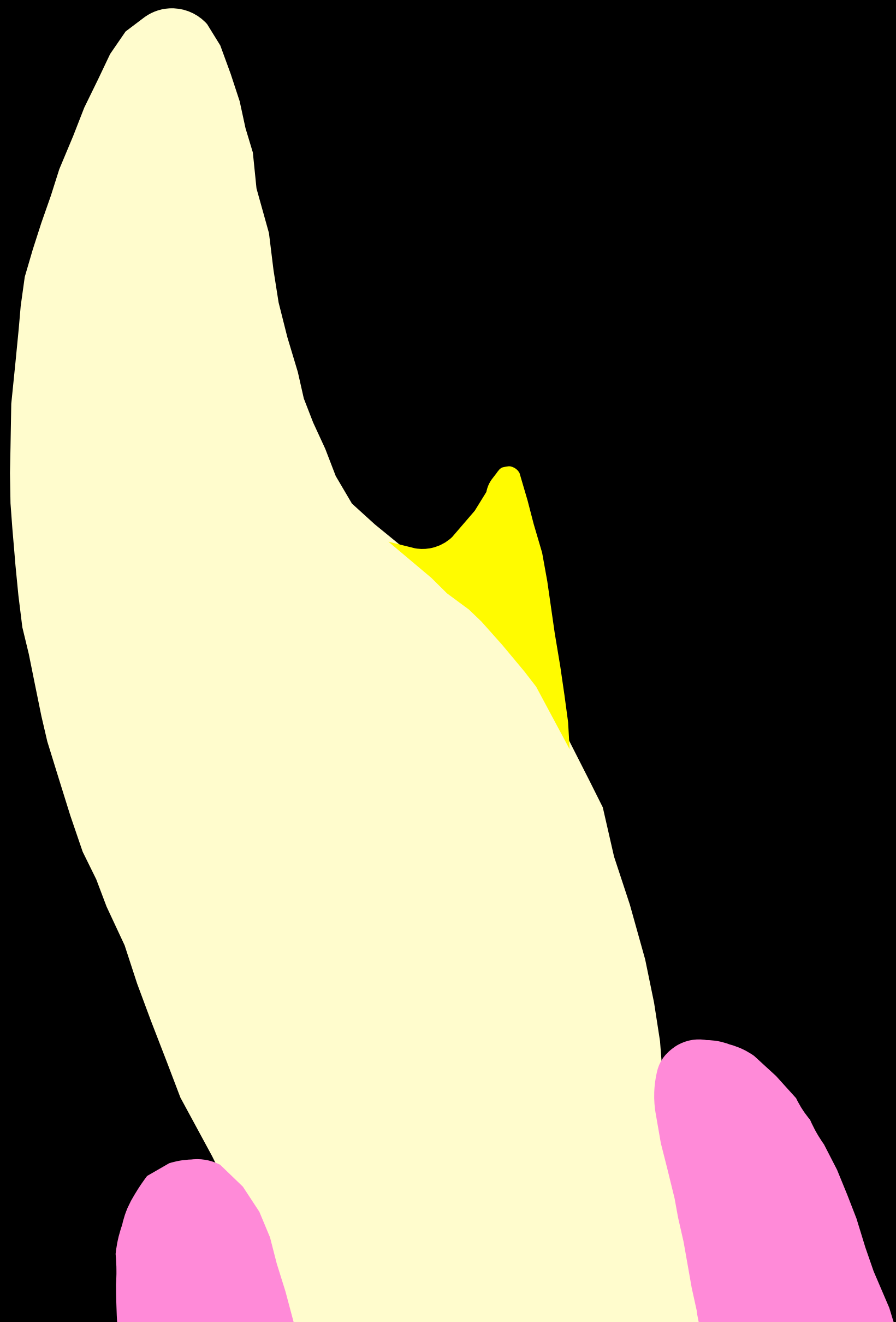




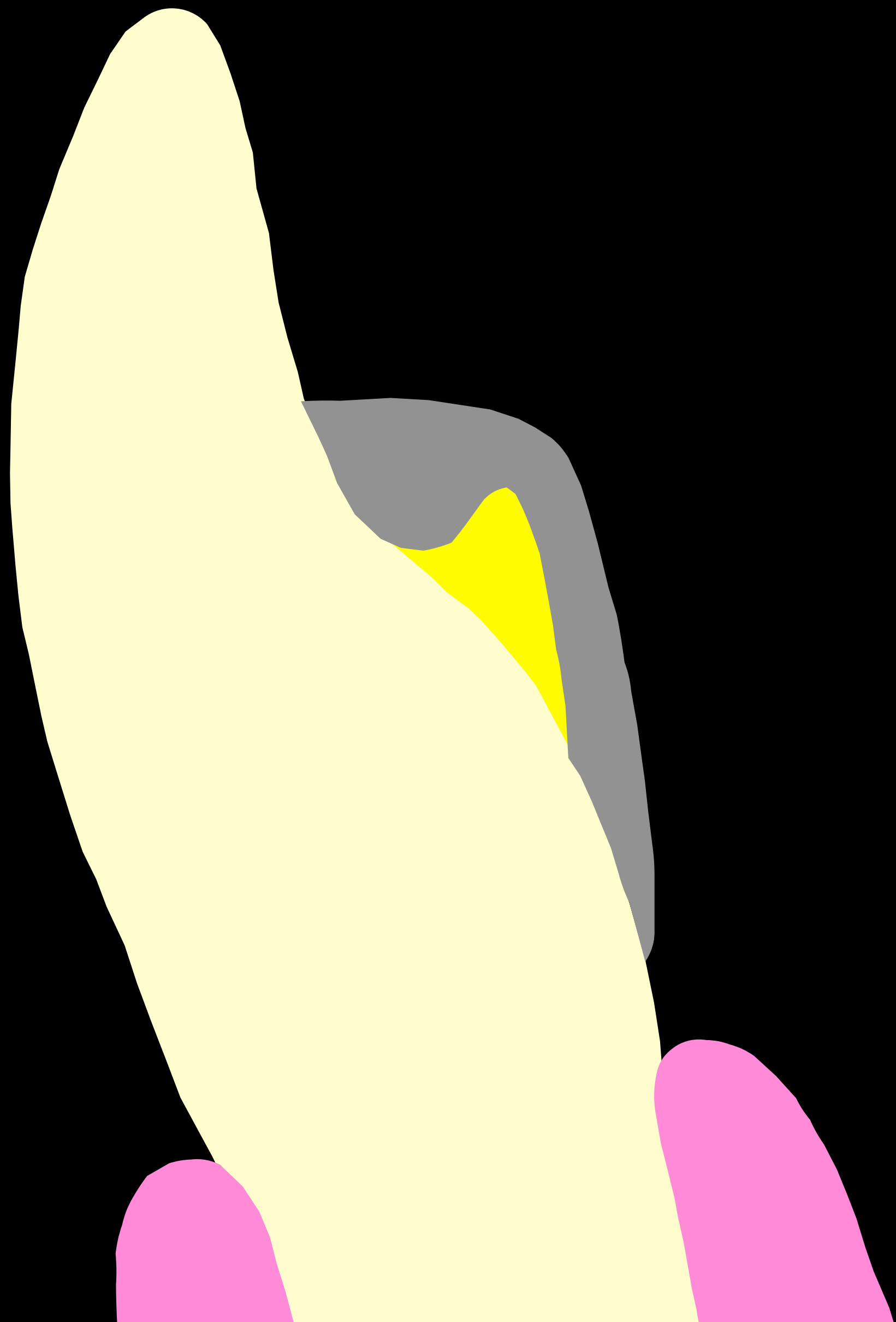




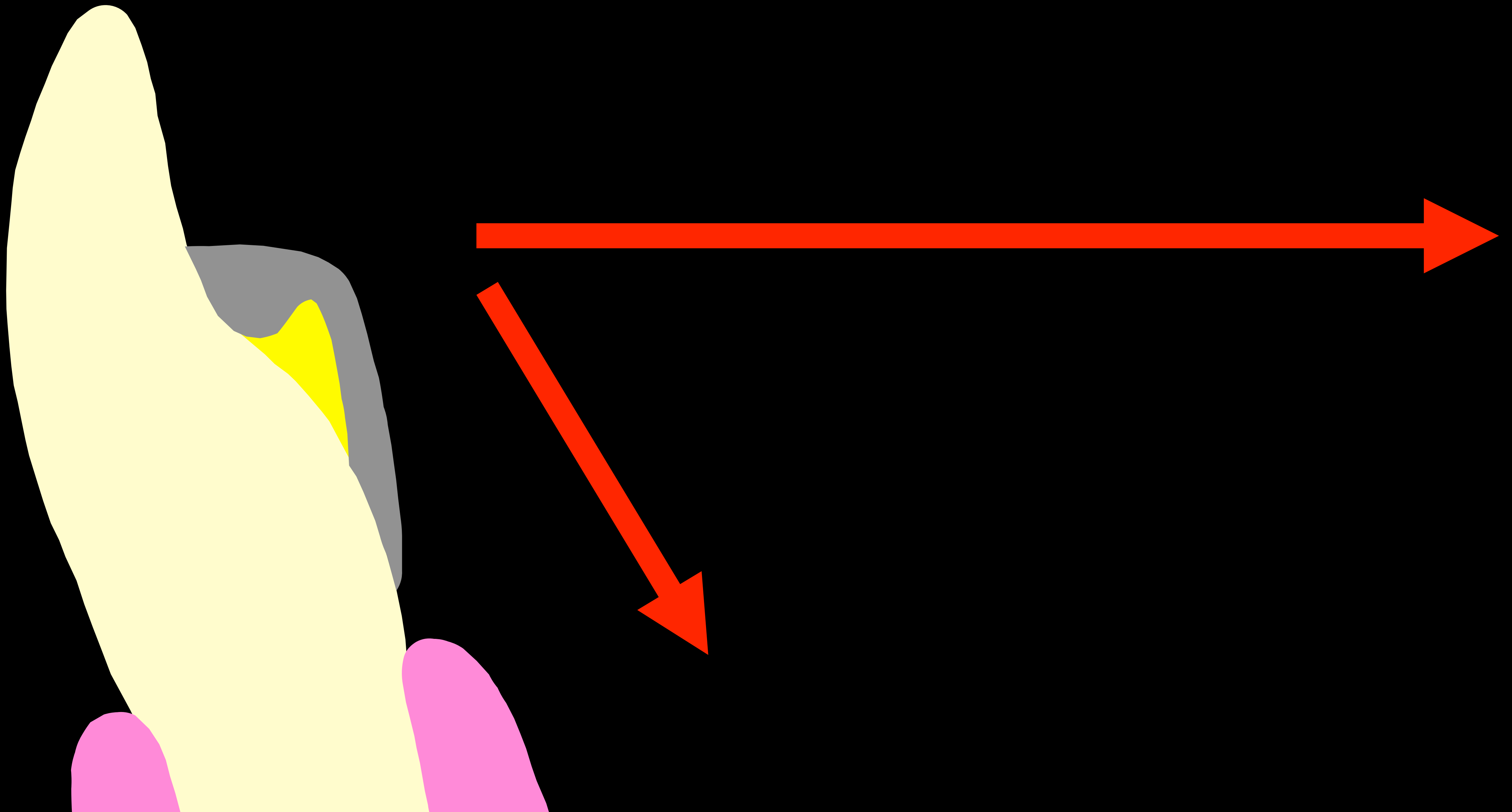




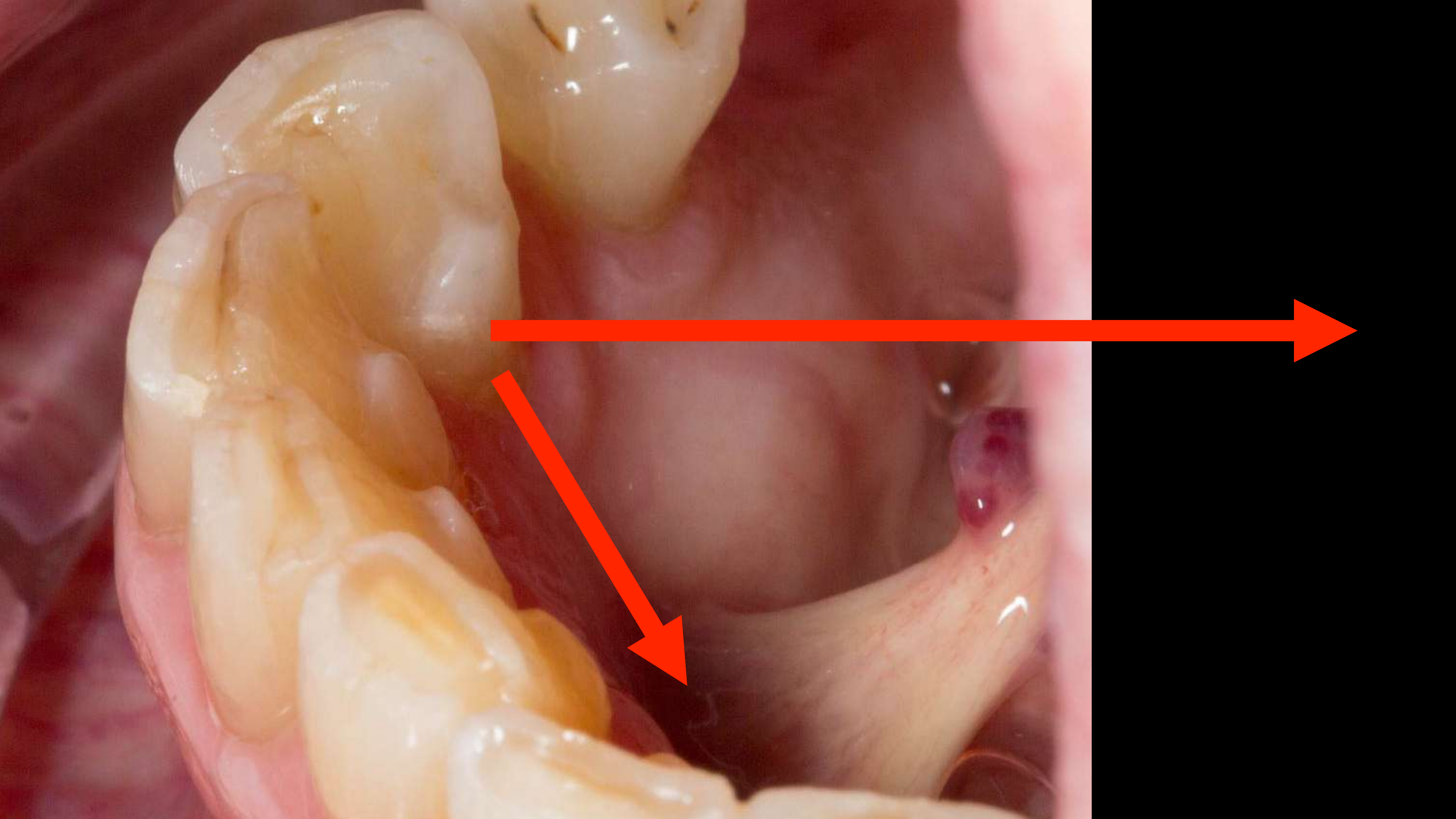
























































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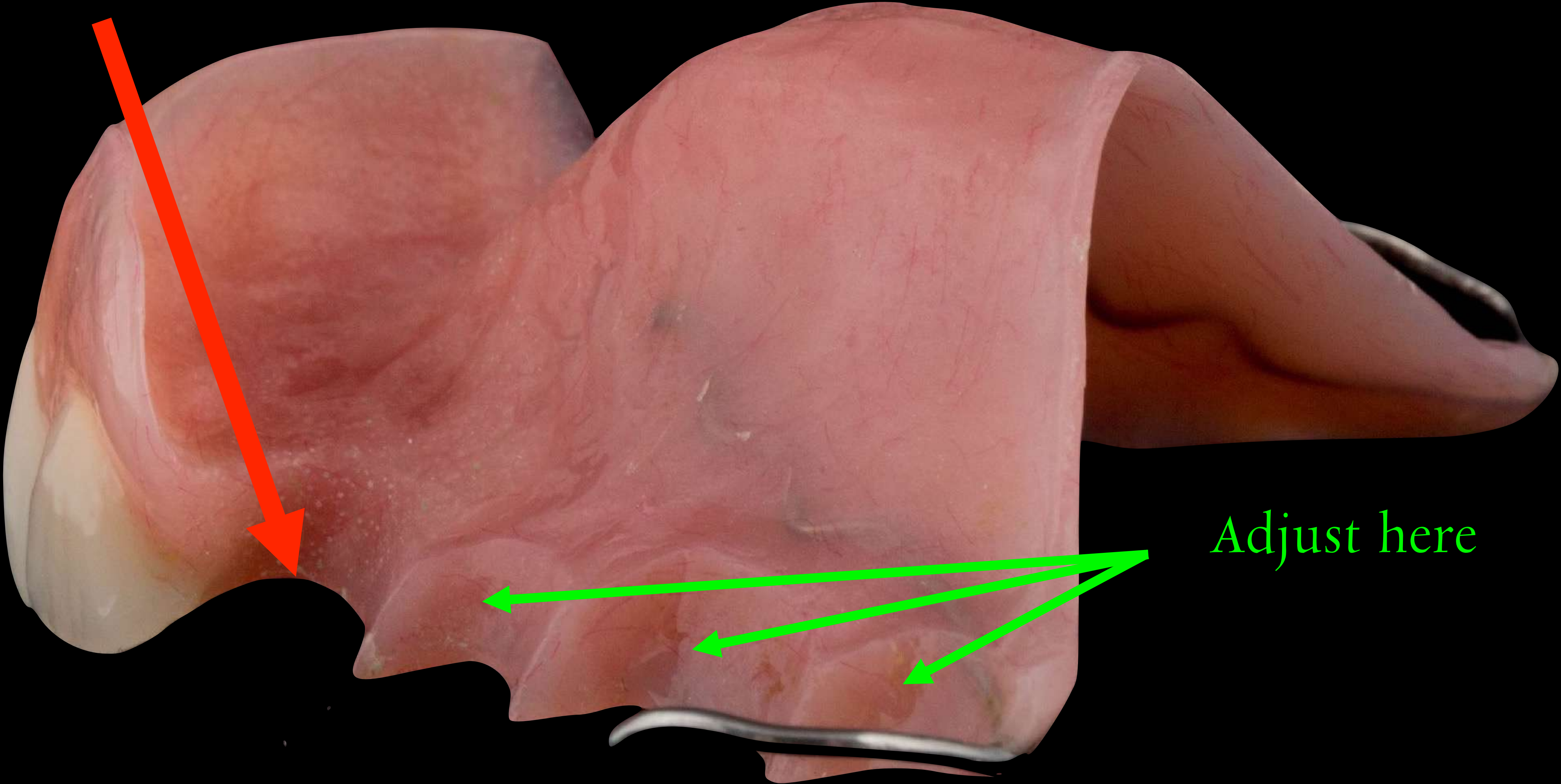








Almost never adjust here



Adjust here

























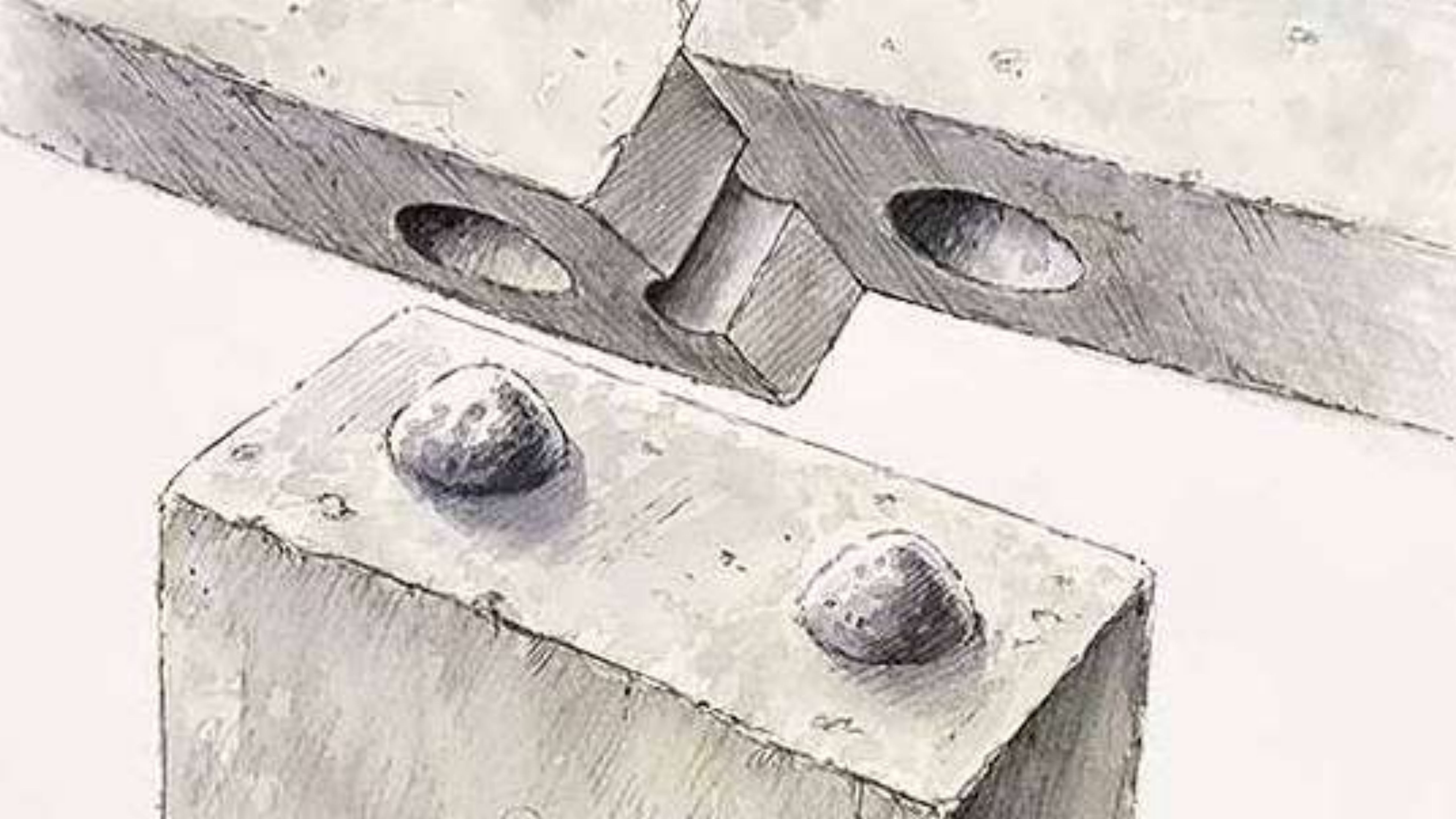
























Before

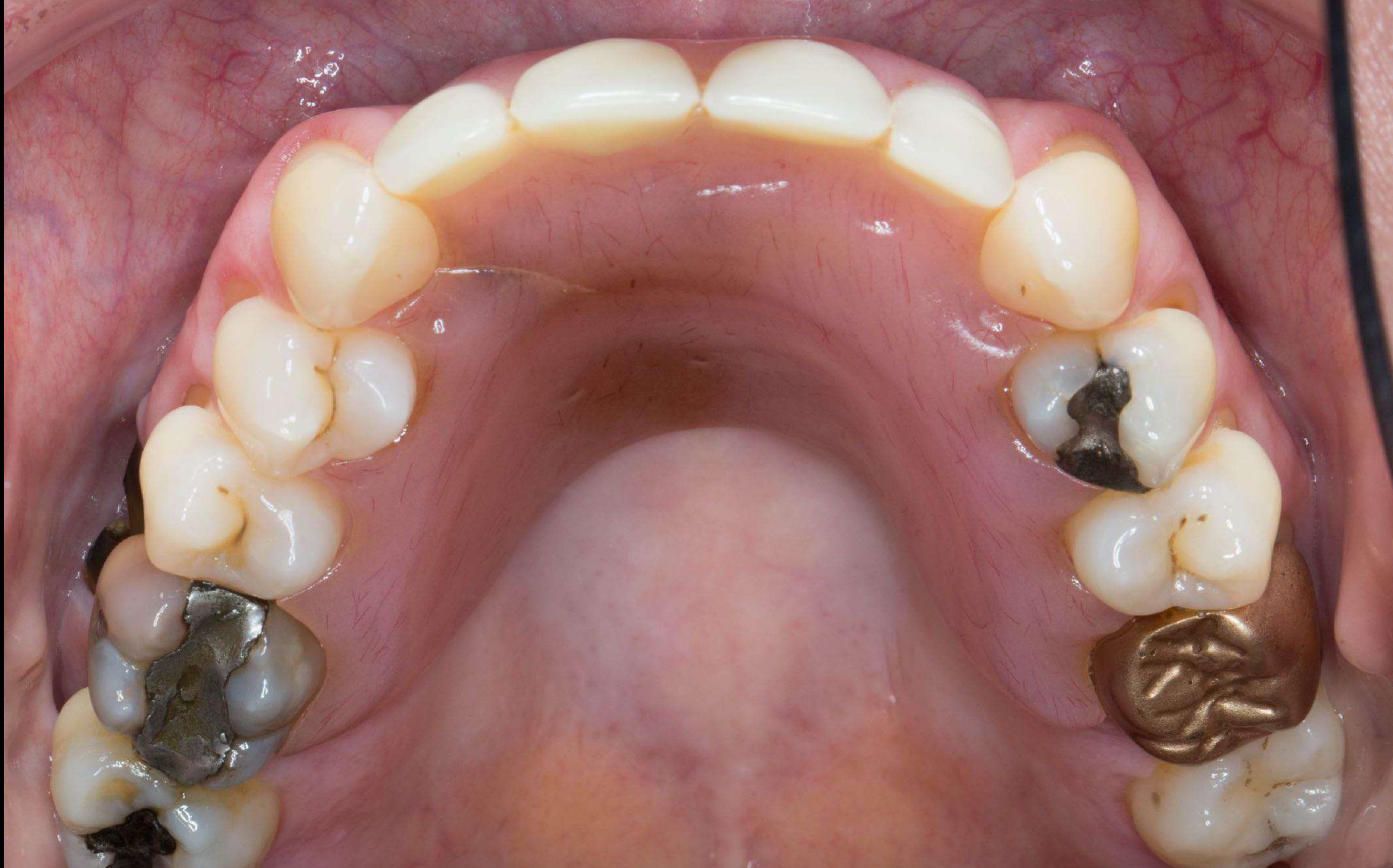


2 weeks post op





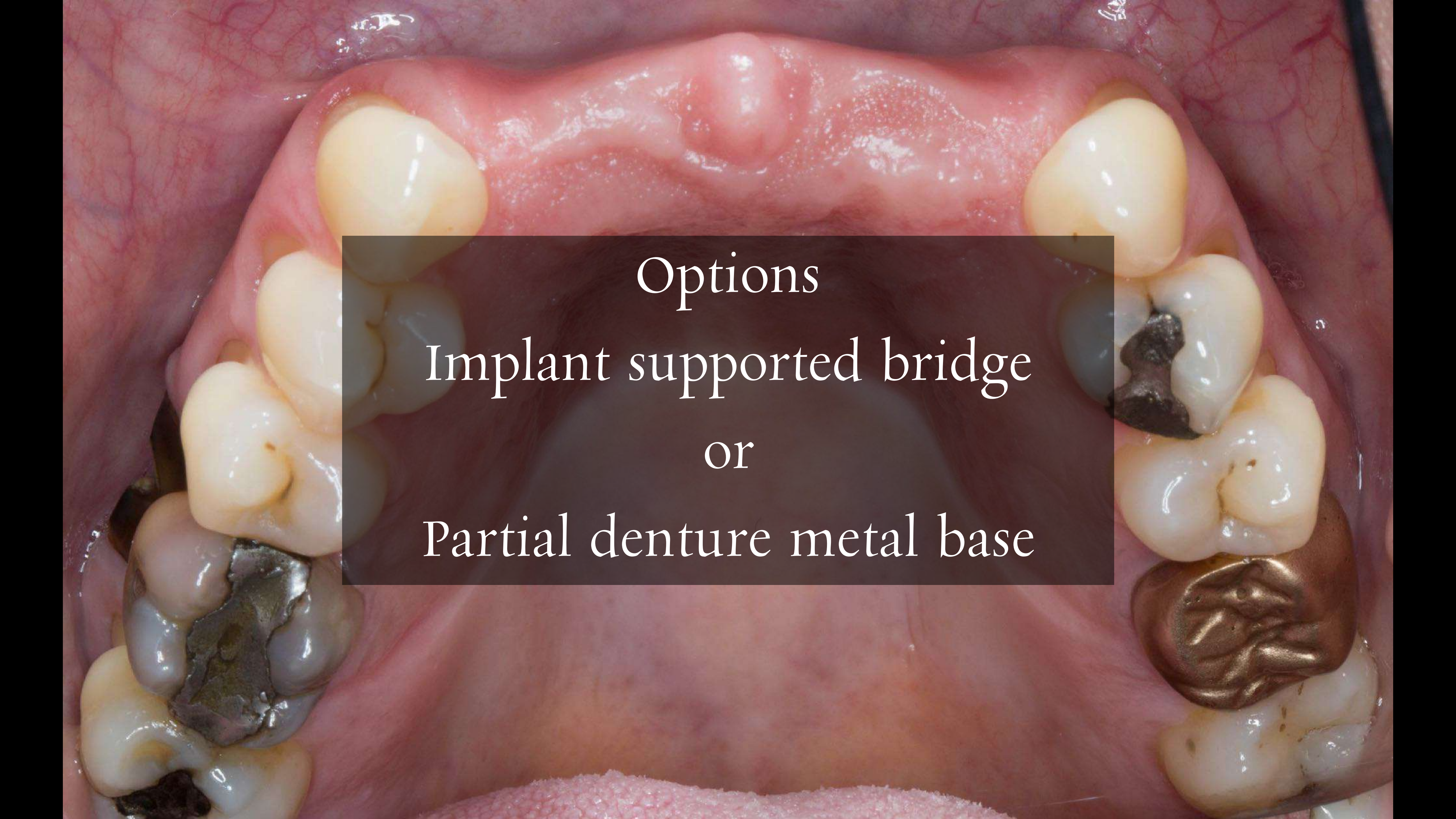












Options  
Implant supported bridge  
or  
Partial denture metal base



9.3 MM

enigmalife<sup>+</sup>

Inspired by nature  
designed for living

A3



IR8

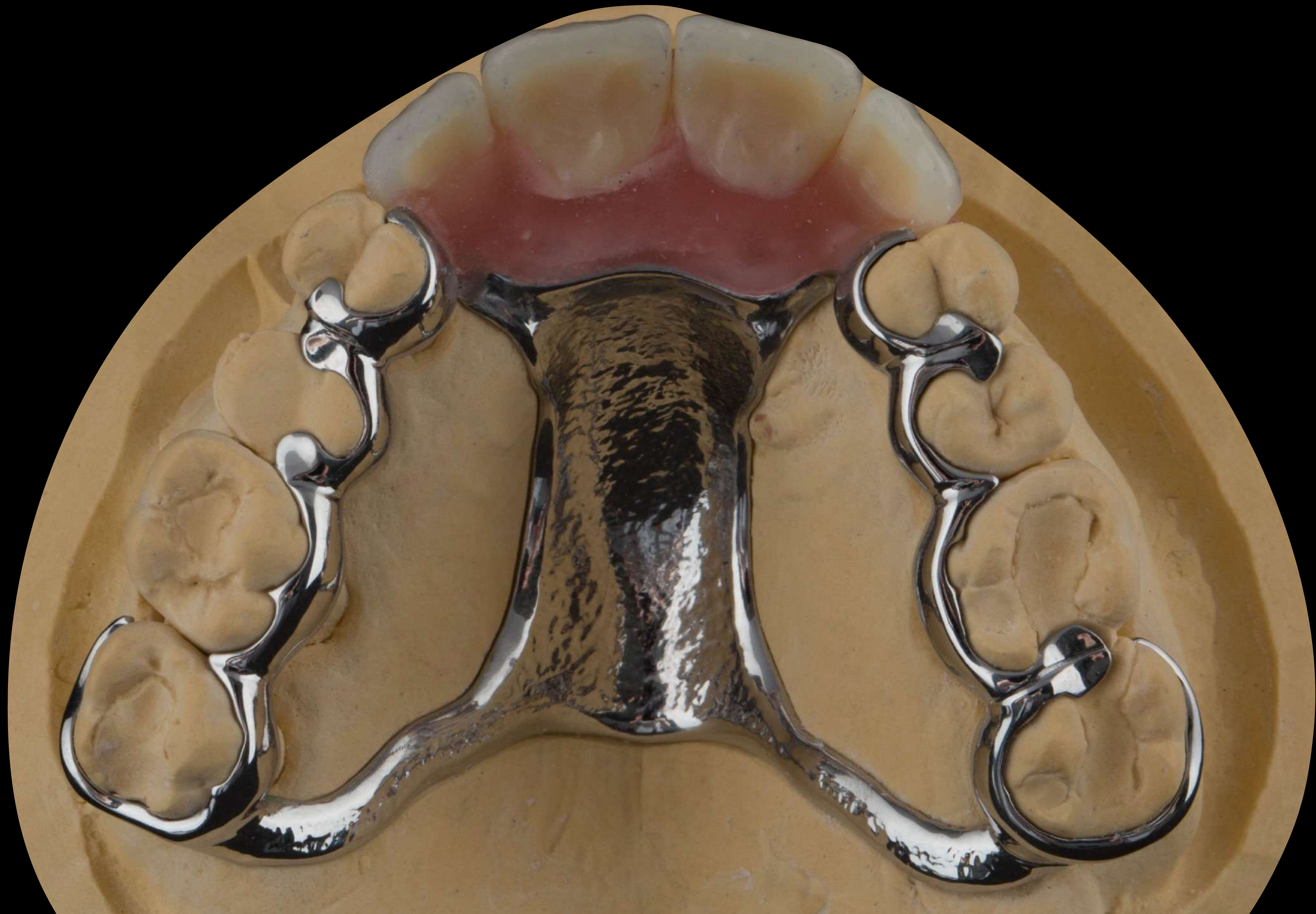




















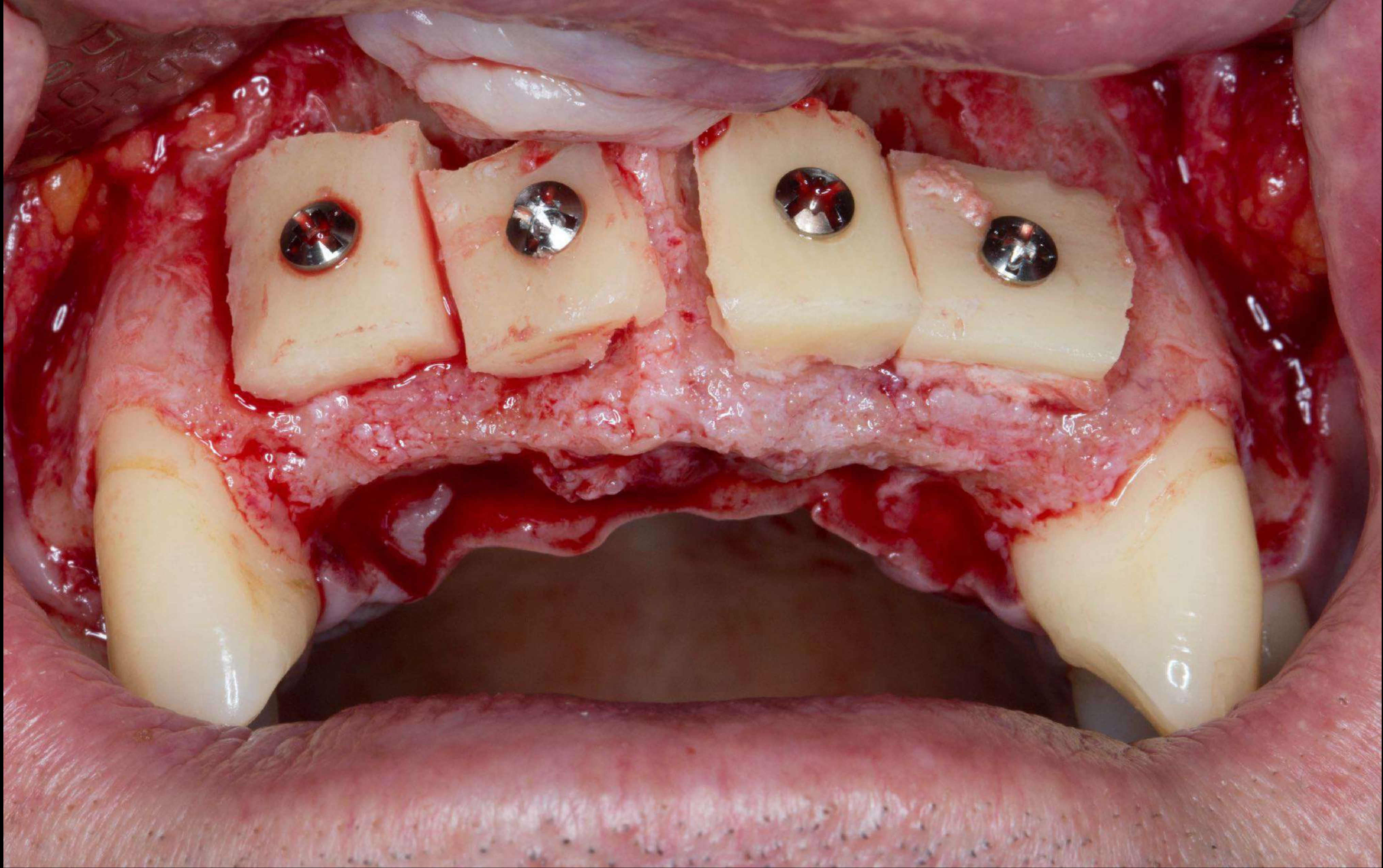




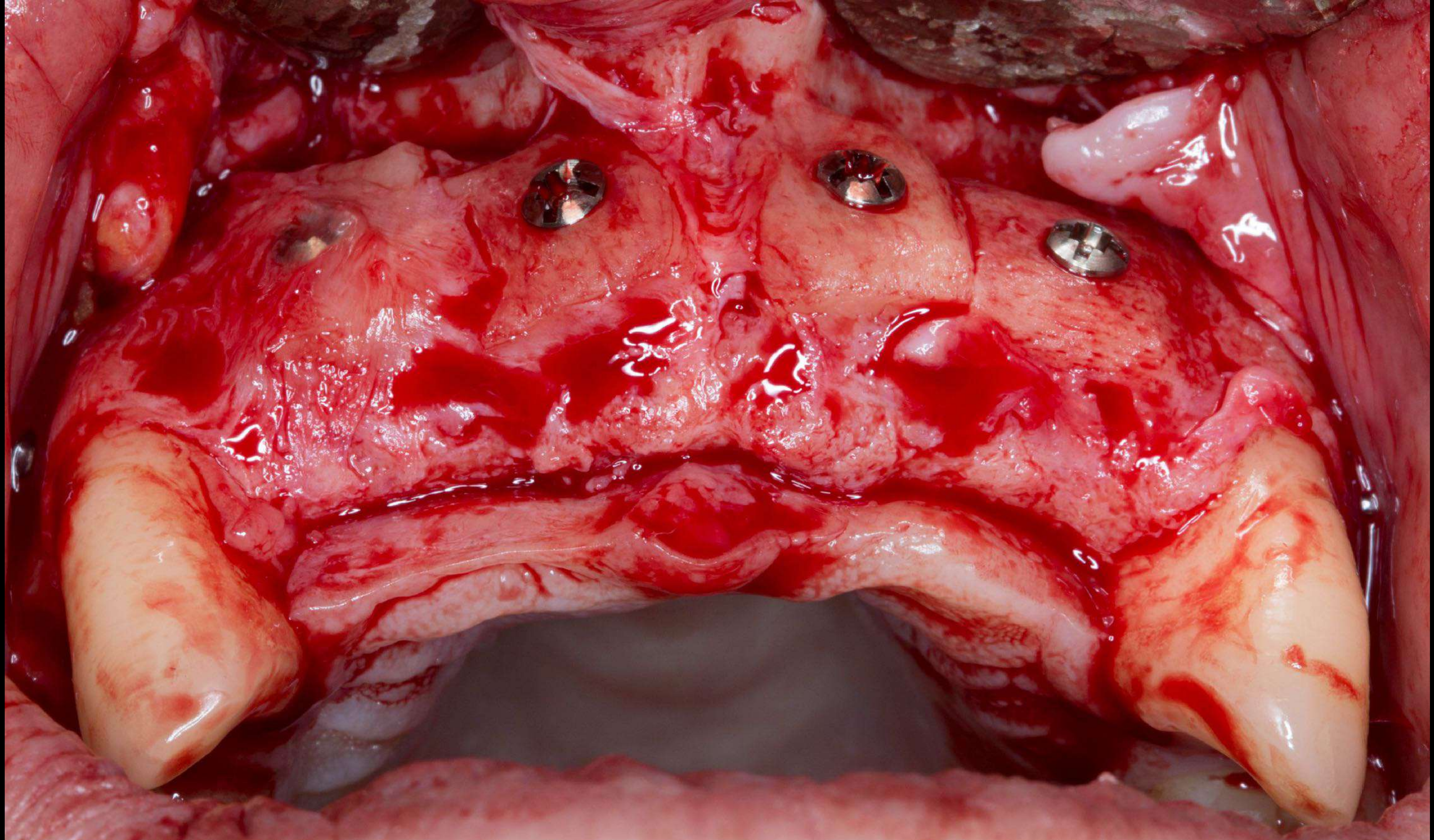




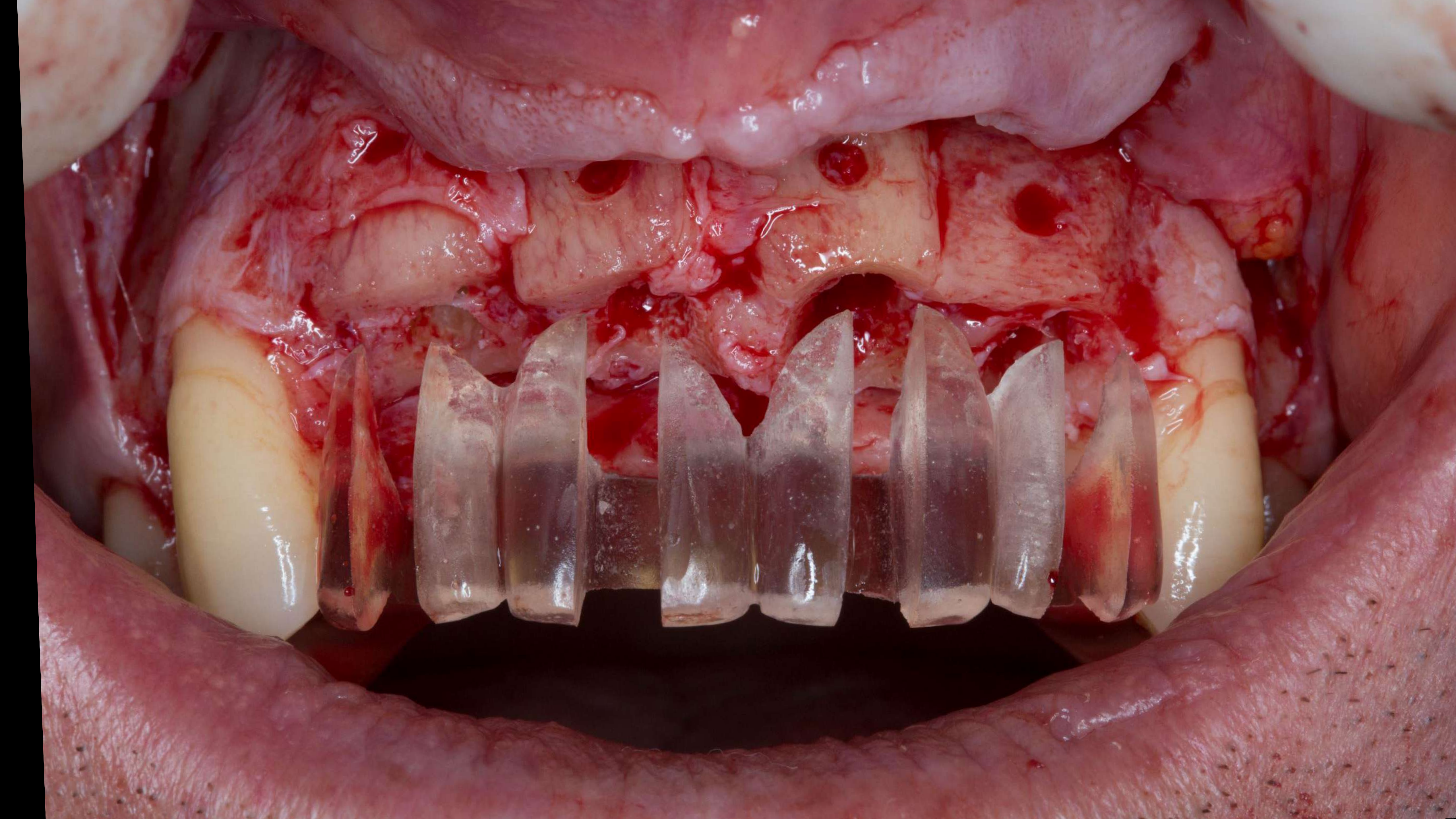




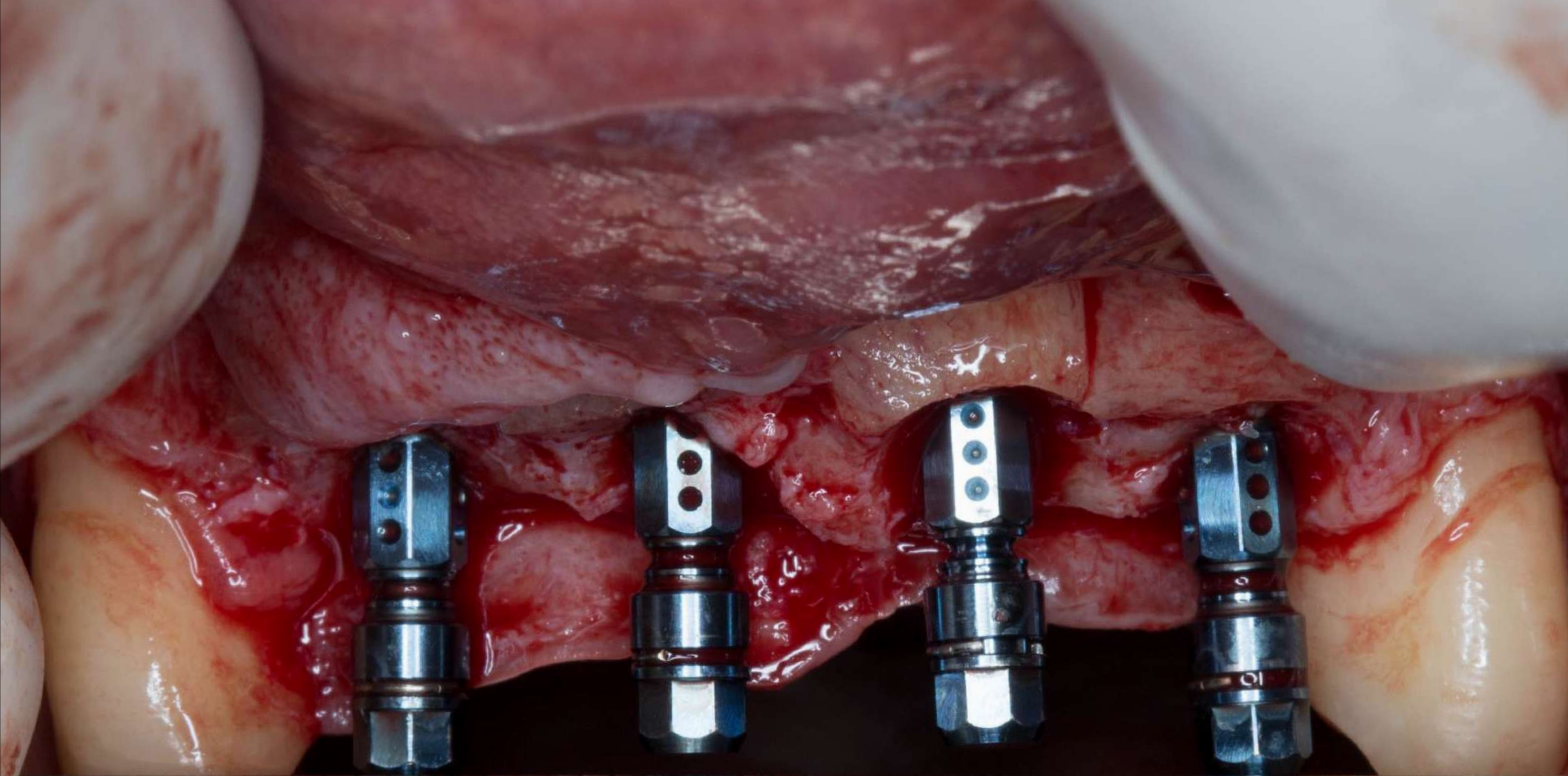






























Mr D







On arrival







A dental model of a maxillary arch with a metal retainer. The retainer consists of a metal bar with several circular attachments. A purple text box is overlaid on the model. In the foreground, there is a dental handpiece and a small metal component.

Fin, you idiot!





Ist attempt





2nd attempt





3rd attempt



John Riach  
Fin's Clinical Psychologist





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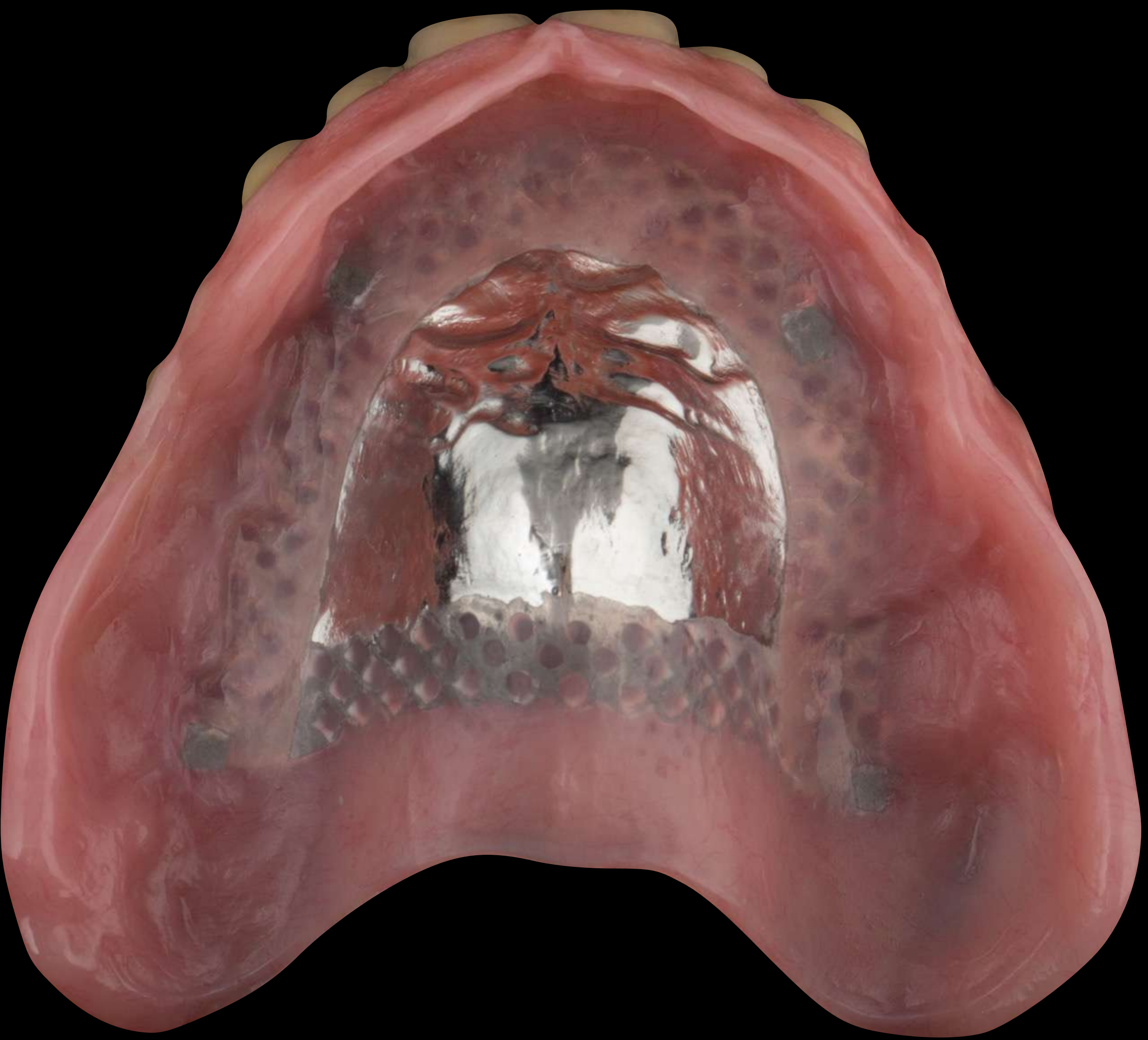




































Rowan Garstang



Chris Hesketh