Drawing Design on study models

RPD Lab 2

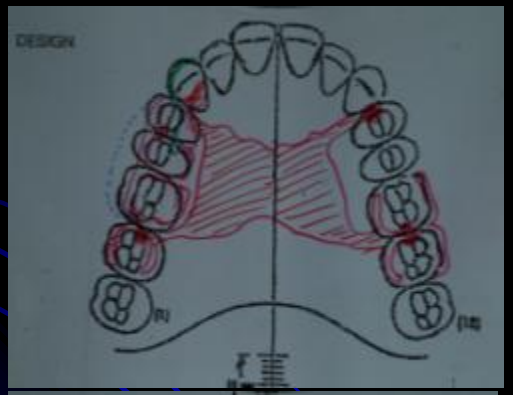
วิเชฏฐ์ จินดาวณิค Vichet Chindavanig

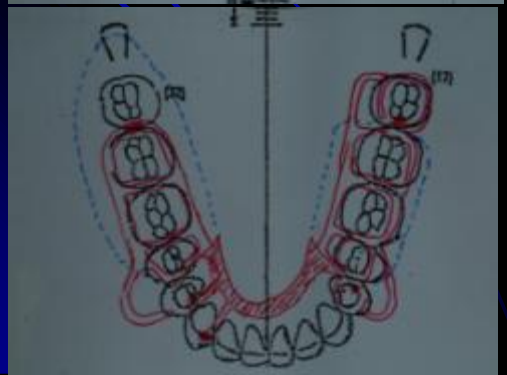
วัตถุประสงค์

- Understand relationship among components
- Recognize each specific component
- Able to draw specific design on dental casts

วัตถุประสงค์ *Drawing design*

- Plan for ***tooth alteration***
- Communicate with patient
- Communicate with dental technician





วัตถุประสงค์ *Drawing design*

- Plan for tooth alteration
- Communicate with ***patient***
- Communicate with dental technician

วัตถุประสงค์ *Drawing design*

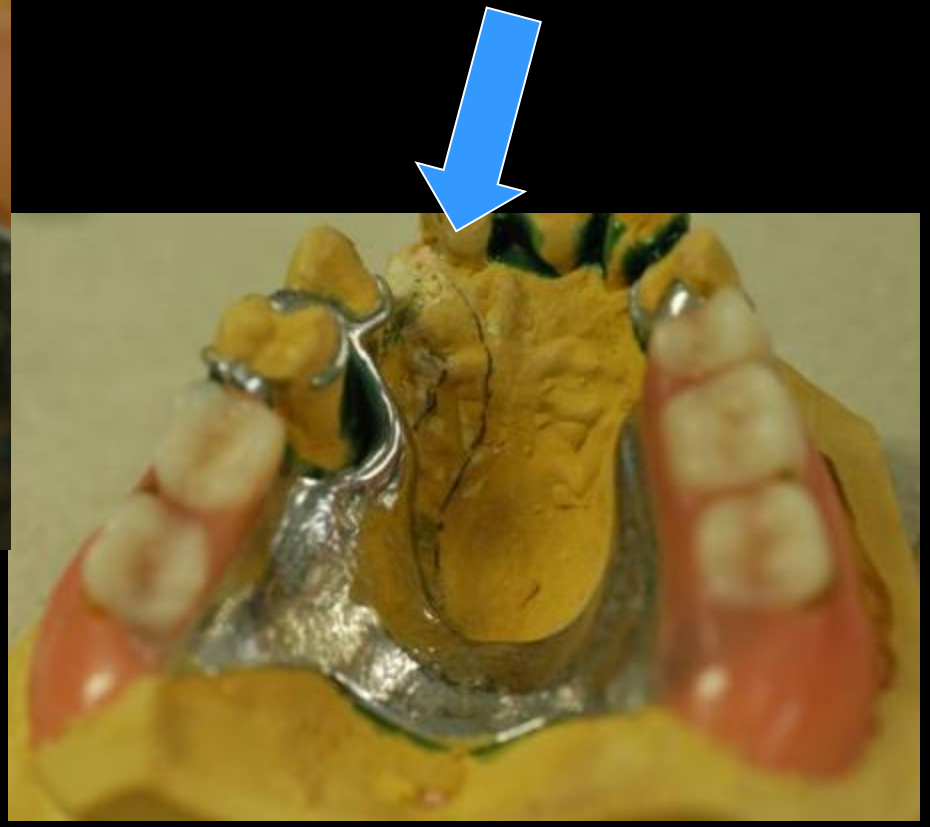
- Plan for tooth alteration
- Communicate with patient
- Communicate with ***dental technician***

เครื่องมือ อุปกรณ์ วัสดุ

- Study casts with survey lines and tripod marks
- Sharp graphite pencil
- Color pencils

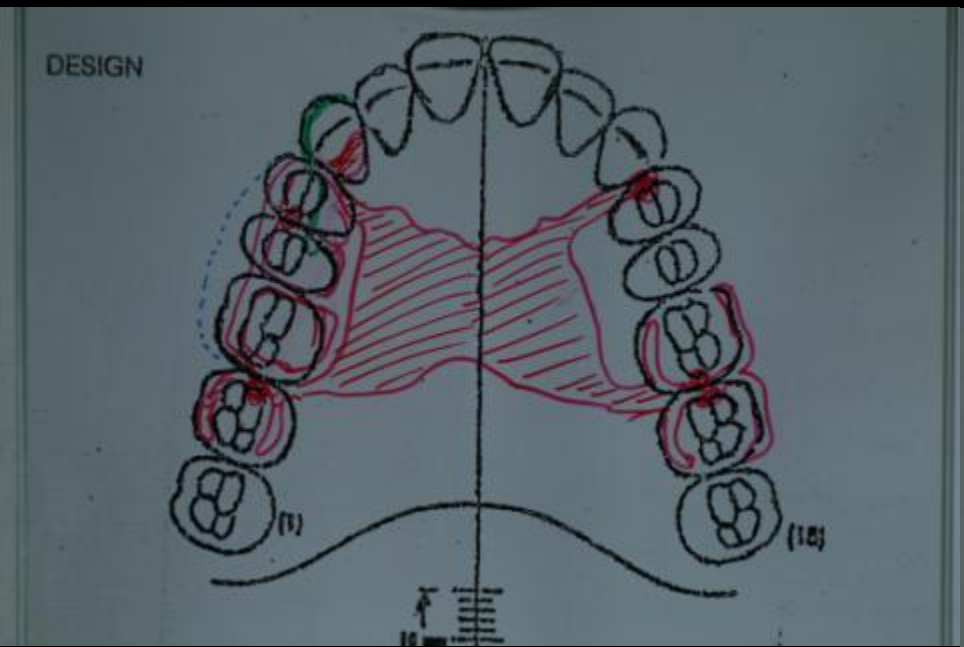
ตัวอย่างคุณค่าของการสื่อสาร Drawing frame addition

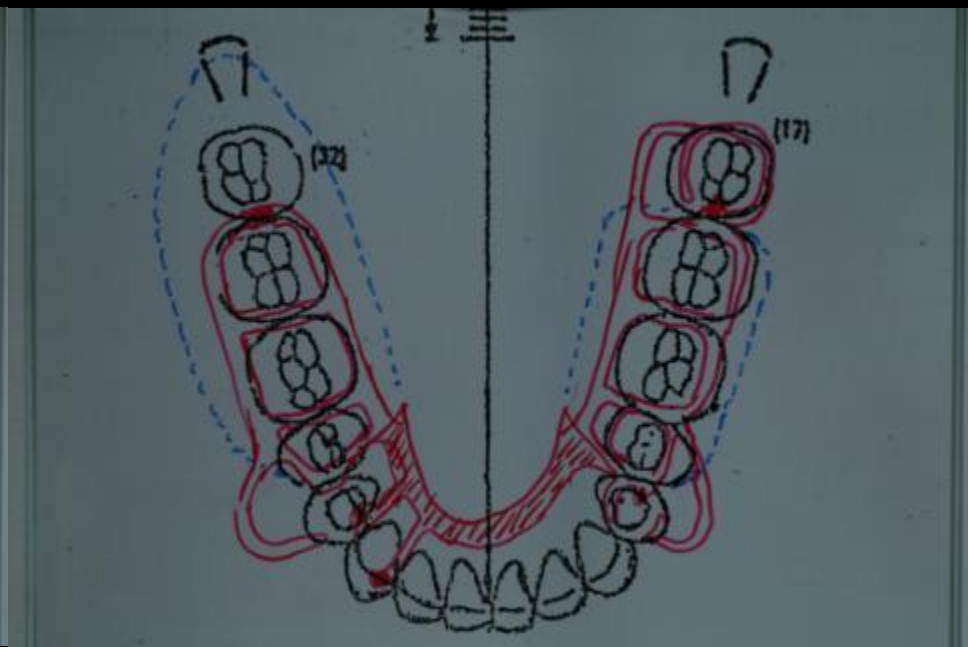
- Laser solder spots



How to... *Drawing design*

- Draw design ***on a note pad***



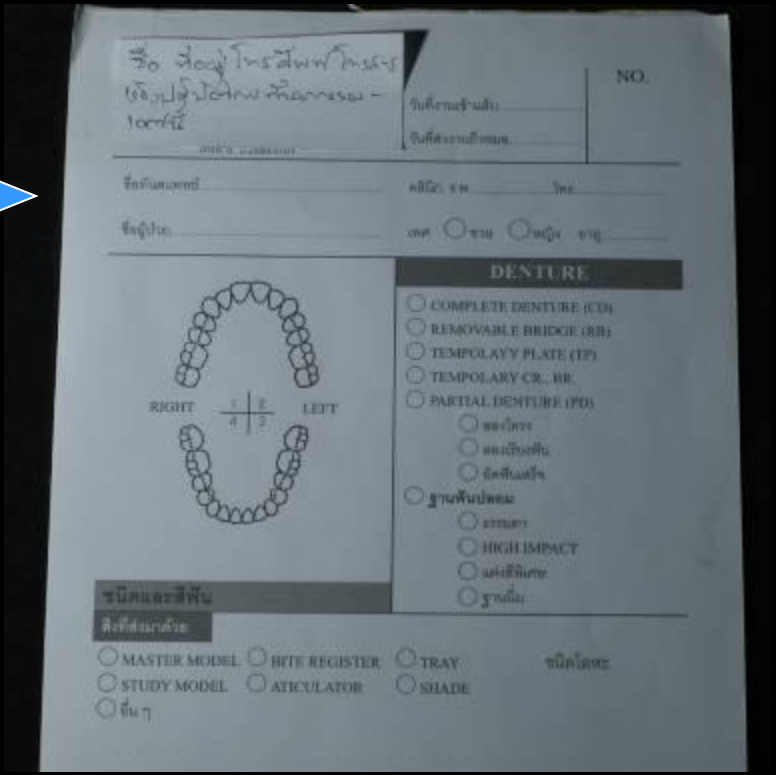


How to... *Drawing design*

- Draw design ***on a note pad***

ใบคำสั่งงานแลป

Work order form

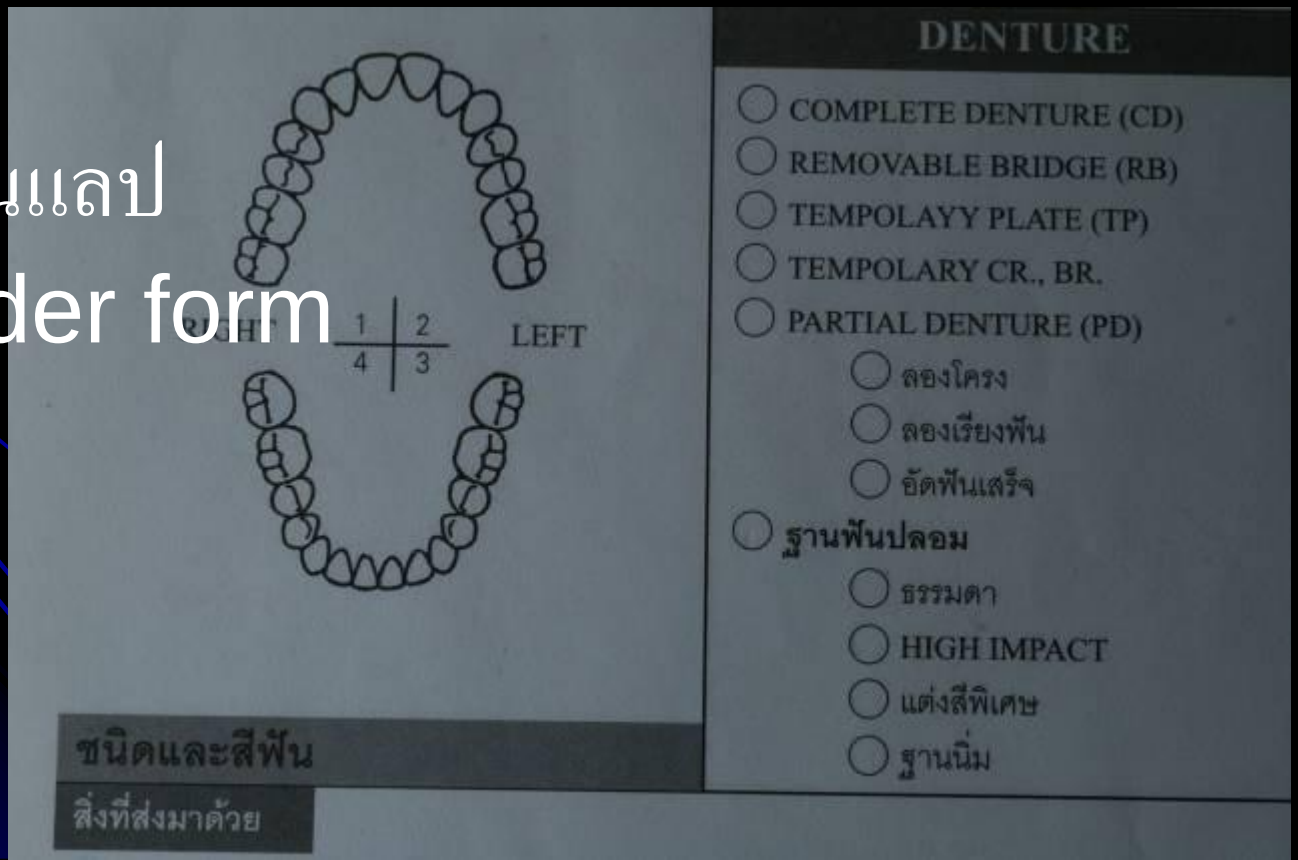


How to... *Drawing design*

- Draw design ***on a note pad***

ใบคำสั่งงานแลป

Work order form



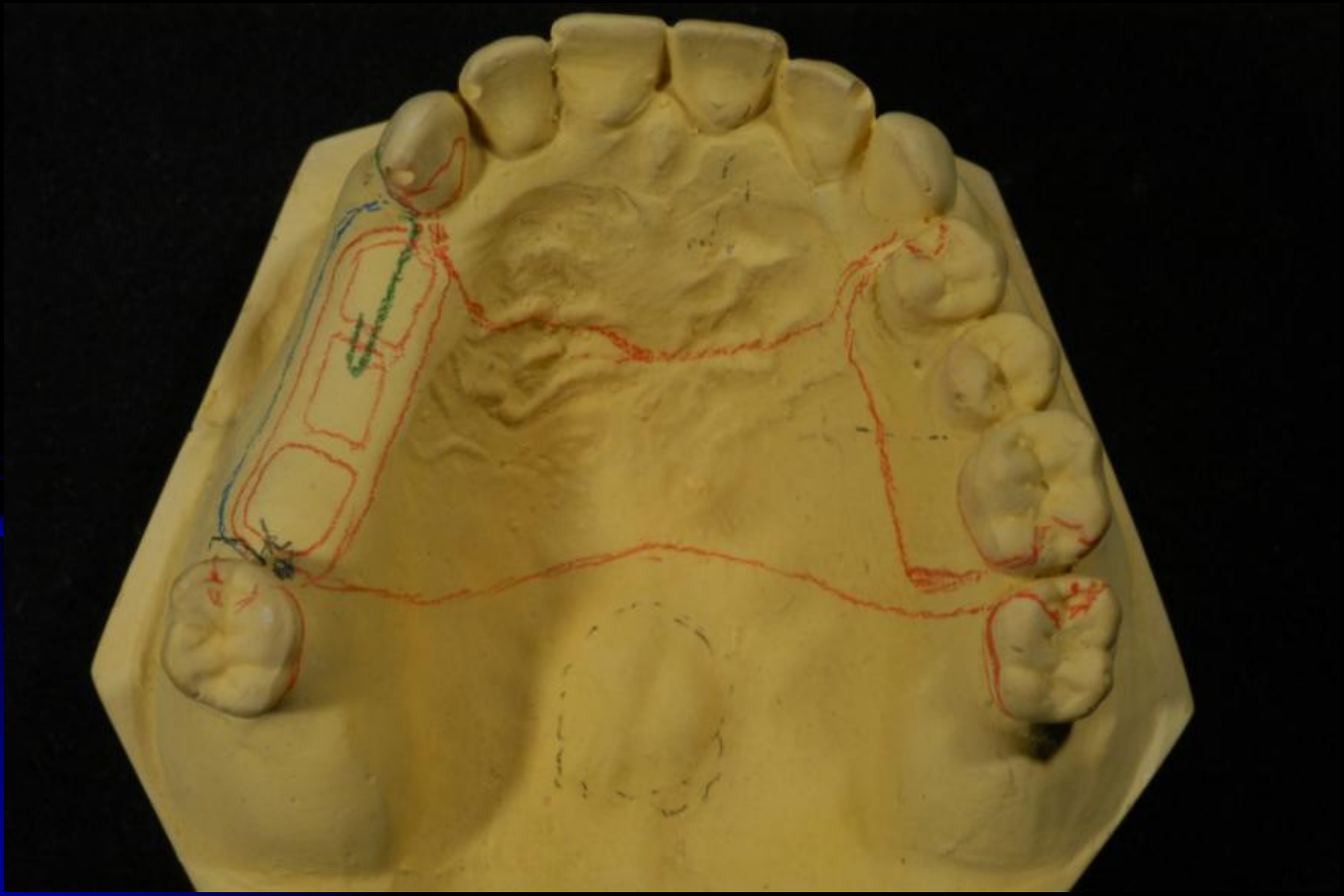
How to... *Drawing design*

- Draw design on a note pad
- Draw design on ***models*** *(upper/lower jaws)*

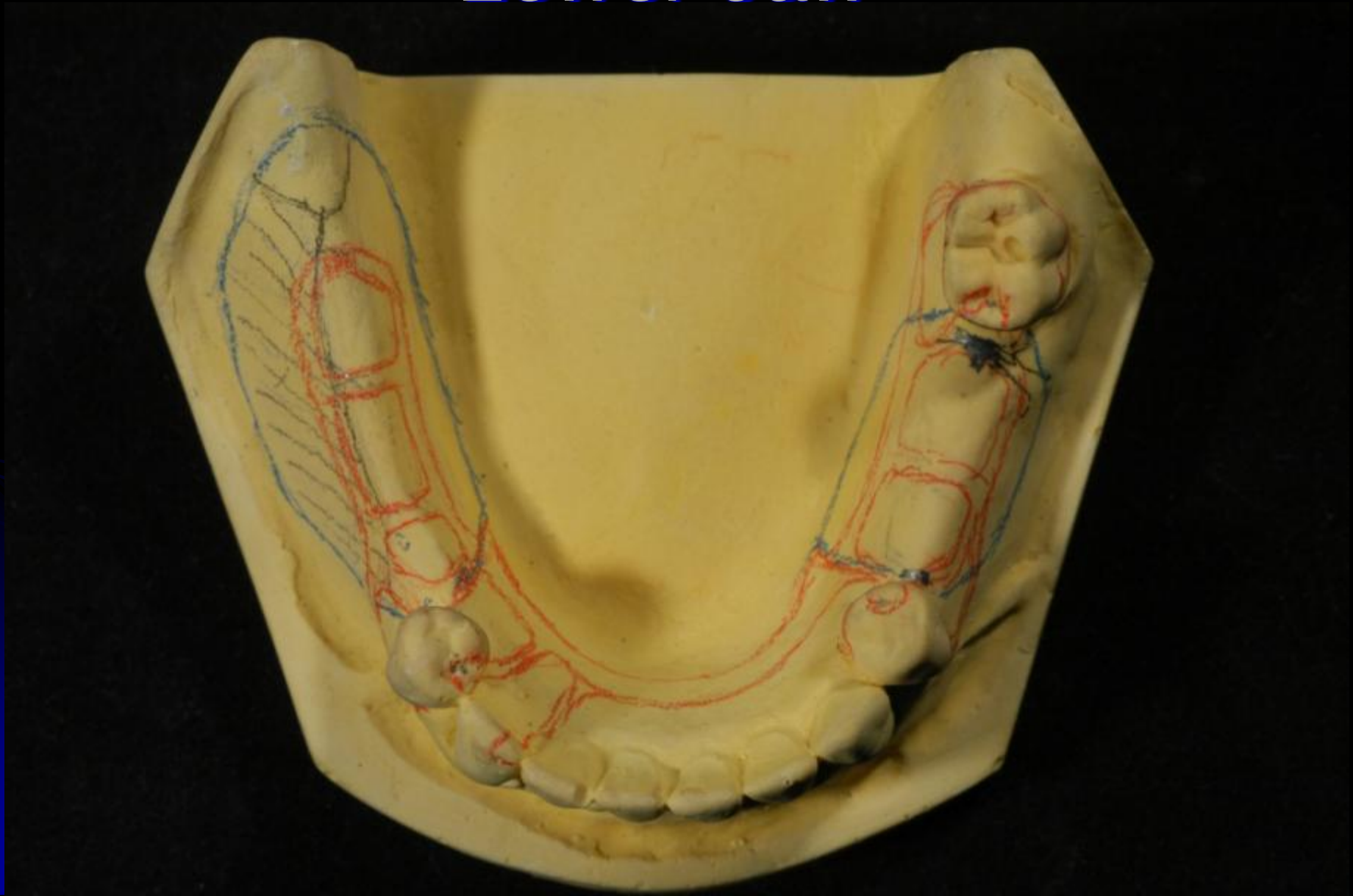
แสดงลักษณะชิ้นหล่อศึกษาที่ดี

- มิติ และรายละเอียดกายวิภาคช่องปากที่ครบถ้วน
- ขนาด ความหนา และขอบระนาบ ส่วนฐานเหมาะสม

Upper Jaw



Lower Jaw



Results

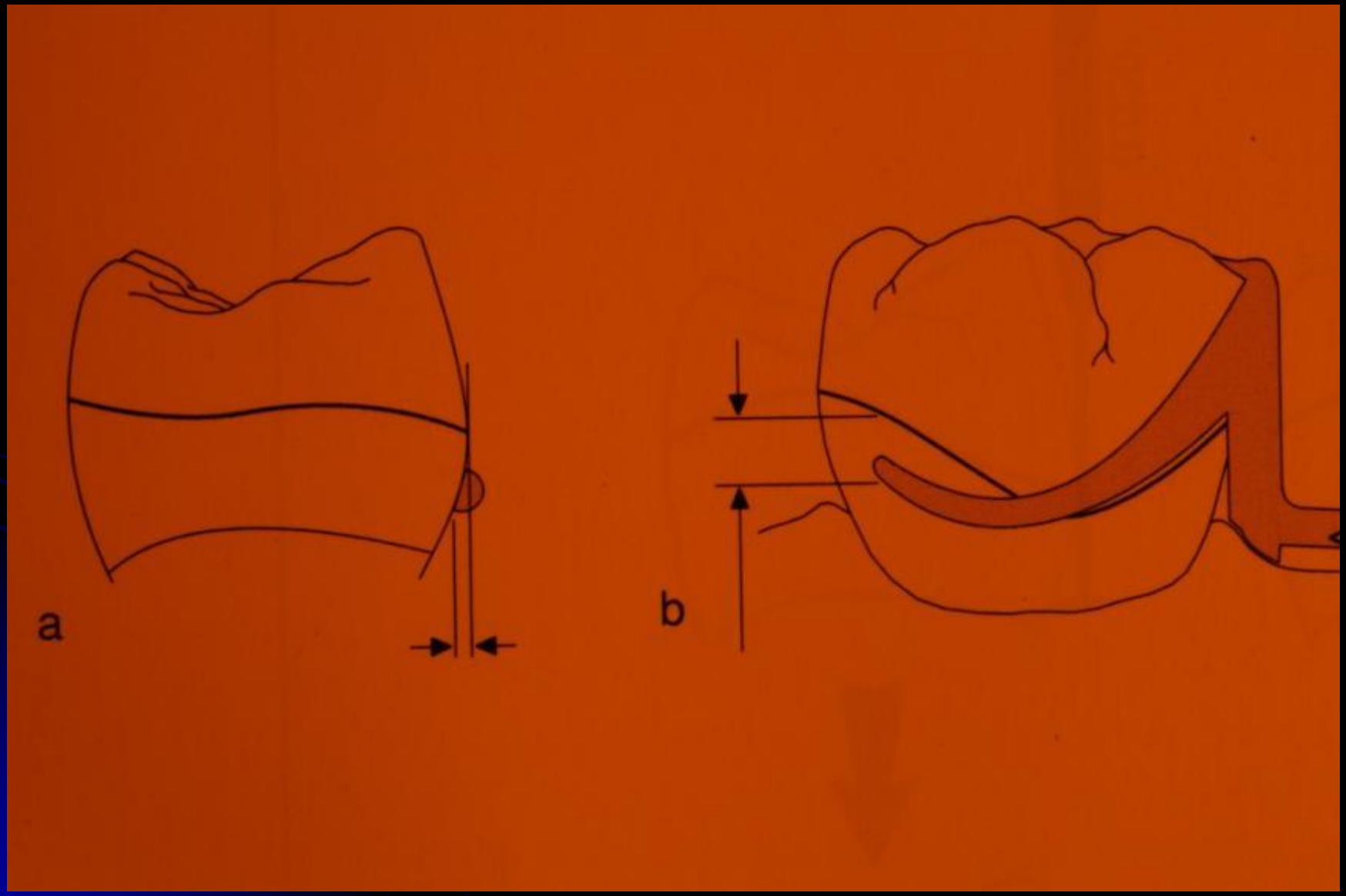
- ***Ideal position of all components***
- Rests
- Proximal plates
- Retentive clasp arms
- Reciprocal clasp arms

Results

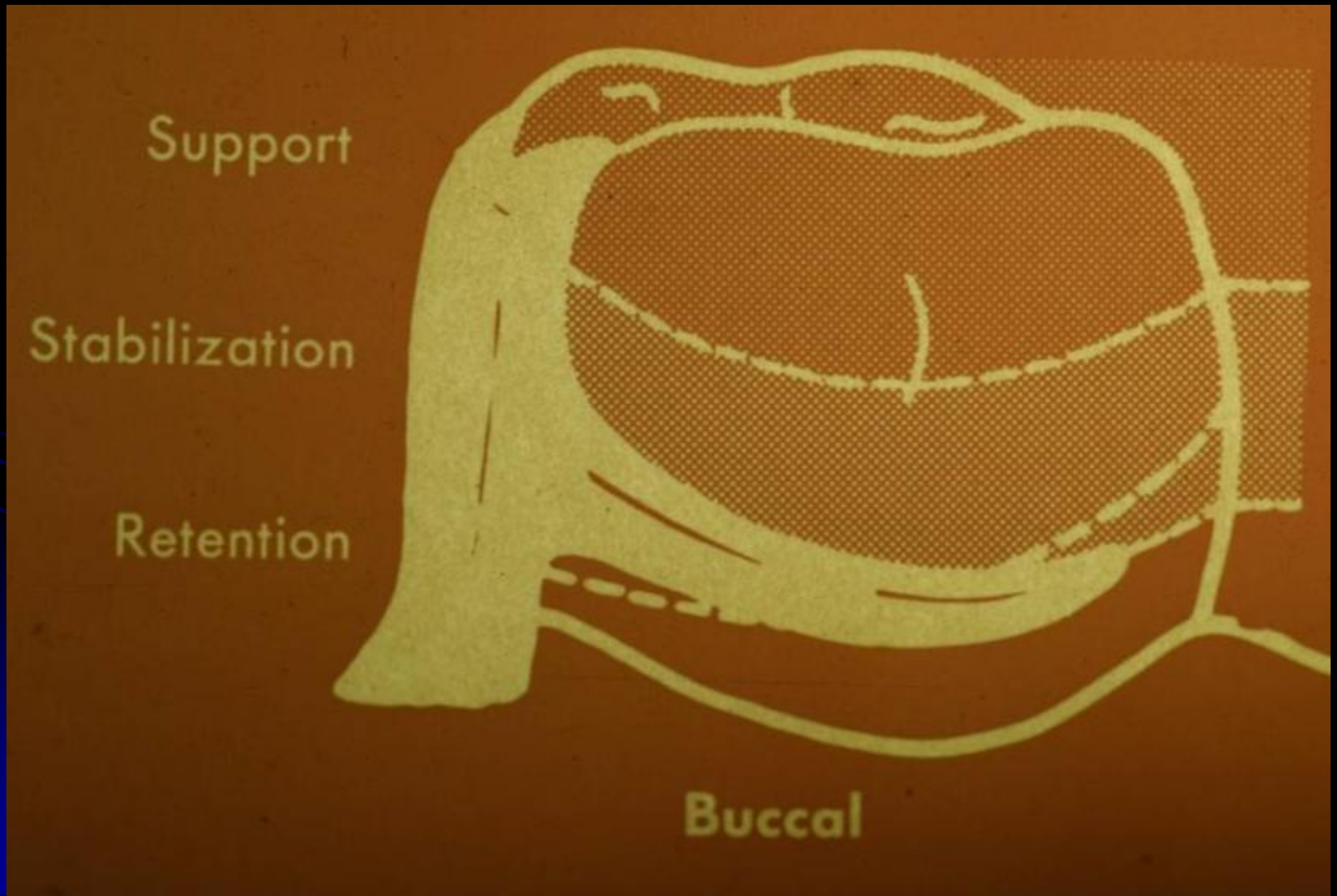
- ***Ideal position of all components***
- Rests
- Proximal plates
- Retentive clasp arms
- Reciprocal clasp arms

Clasp unit

Results



หน้าที่ของส่วนต่างๆ



Proper and improper clasp design

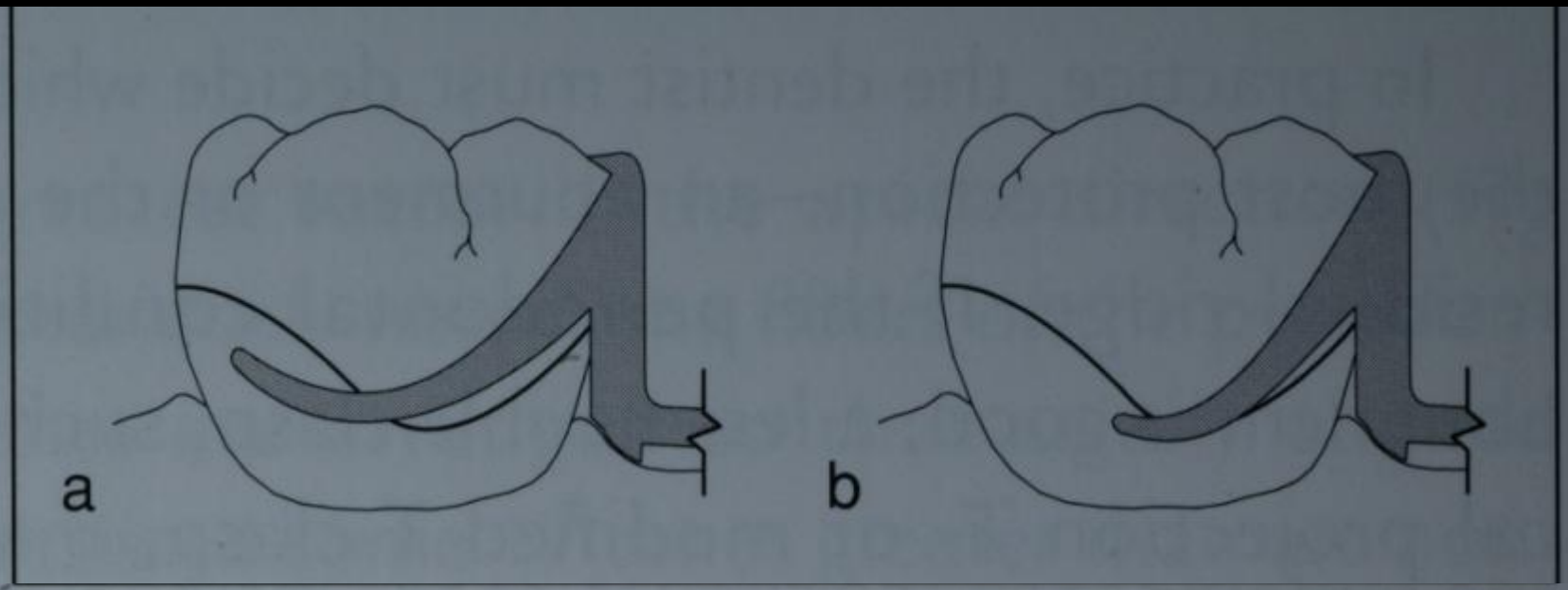


Fig 4-20 With all other factors equal, the greater the length of a clasp arm, the greater its flexibility. A long, gently curving clasp arm *(a)* has greater flexibility than a short, relatively straight clasp *(b)*.

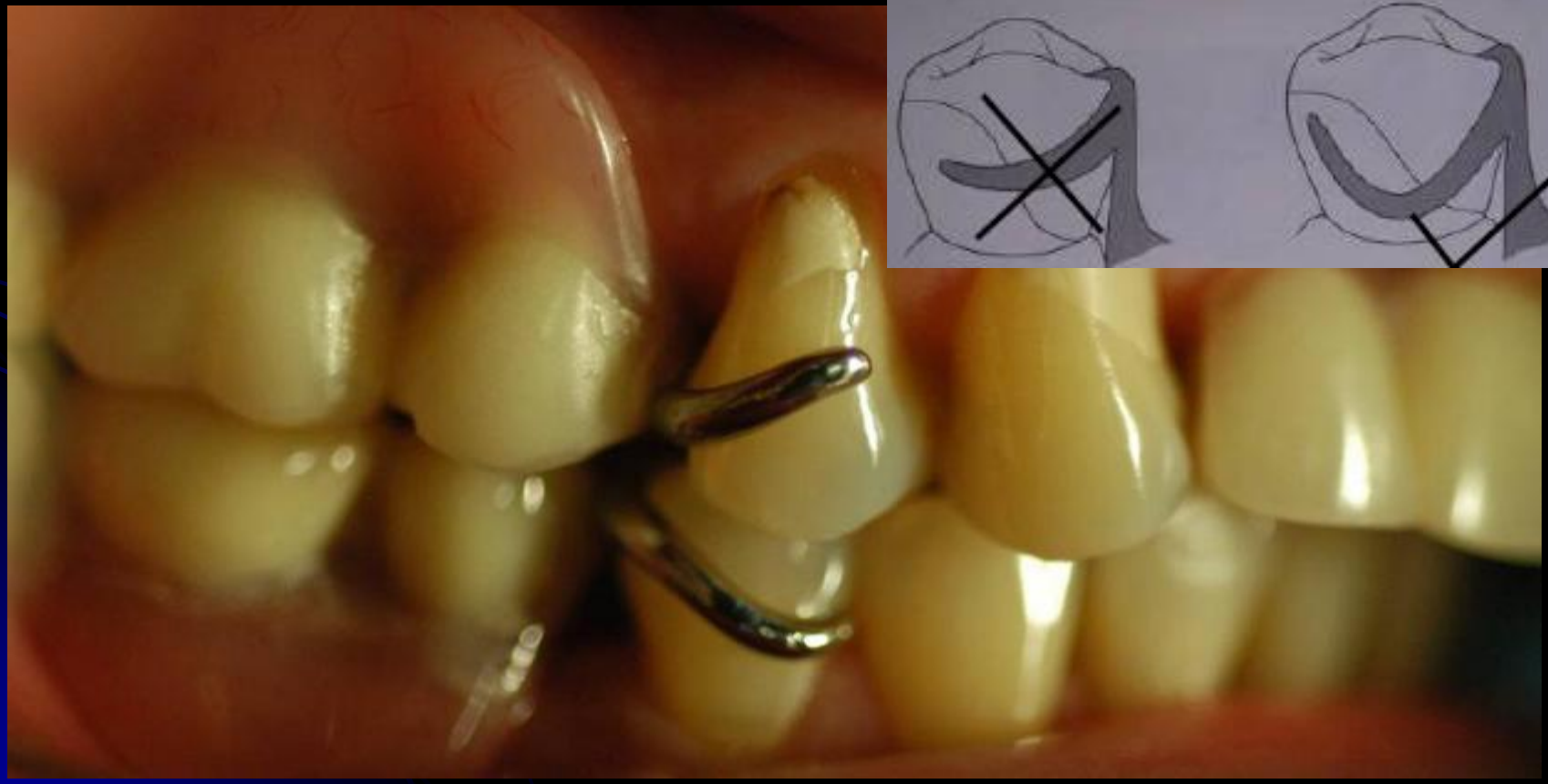
- ***Ideal position of all components***
- **Retentive framework**
- Palatal strap
- Other minor connectors

- ***Ideal position of all components***
- Retentive framework
- Palatal strap
- Other minor connectors

- ***Ideal position of all components***
- Retentive framework
- Palatal strap
- Other minor connectors

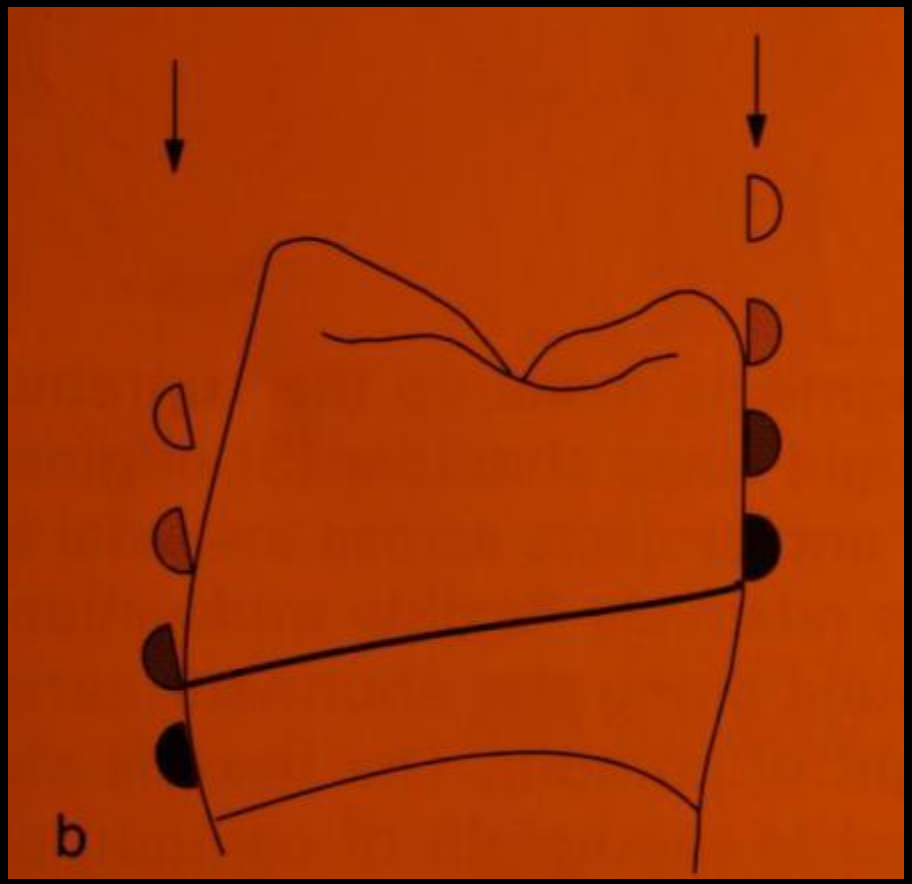
Improper clasp design

- Short, straight – wrong design



Ideal position of clasps unit

- Retentive clasp arm and reciprocal element
- ตะขอสัมผัสฟันพร้อมกัน



Relation of clasp unit, metal frame and denture base

- External finish line

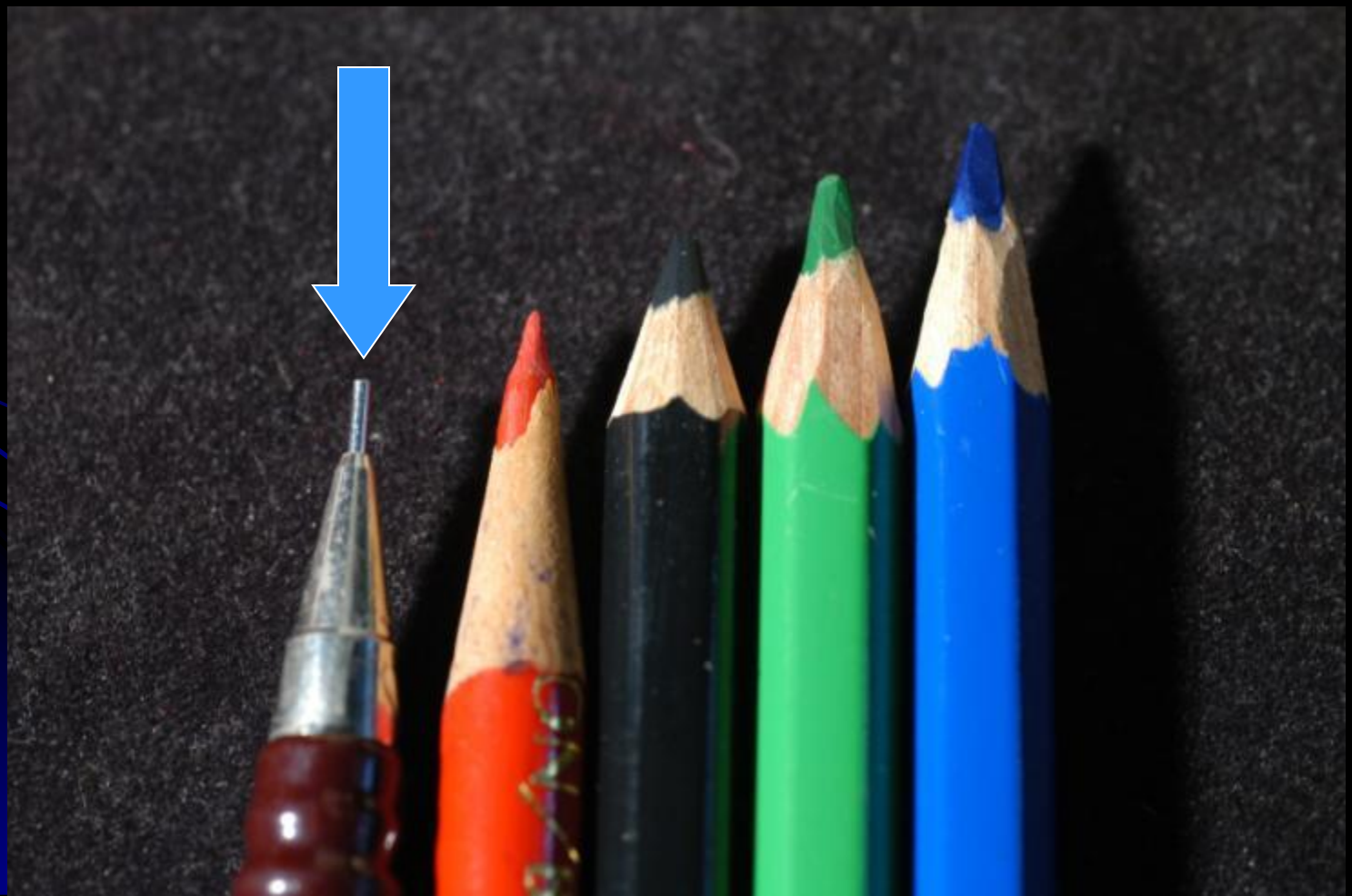
- Internal finish line

Relation of clasp unit, metal frame and denture base

- Denture base color characterization

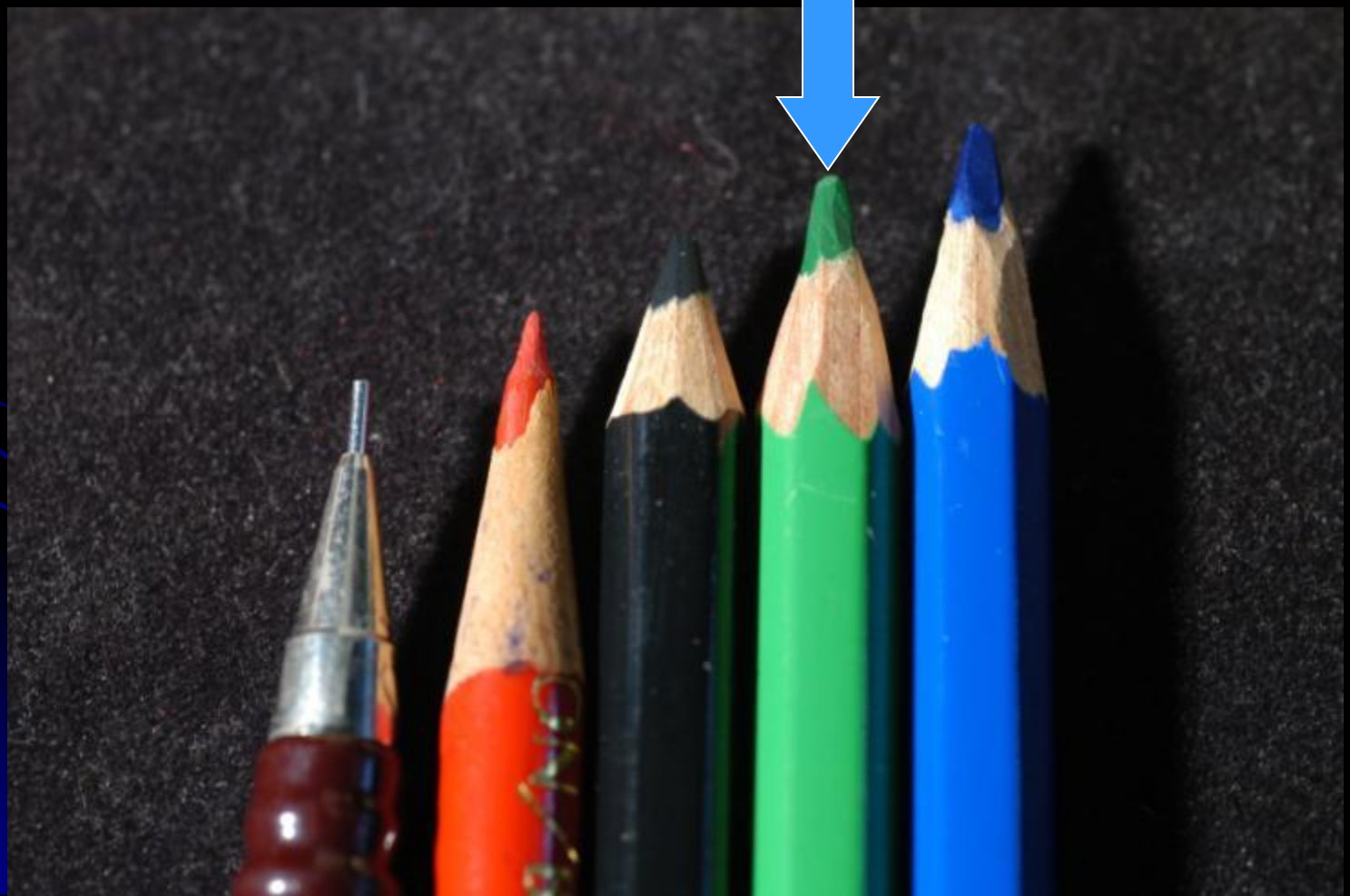
Drawing design

- Graphite pencil



Drawing design

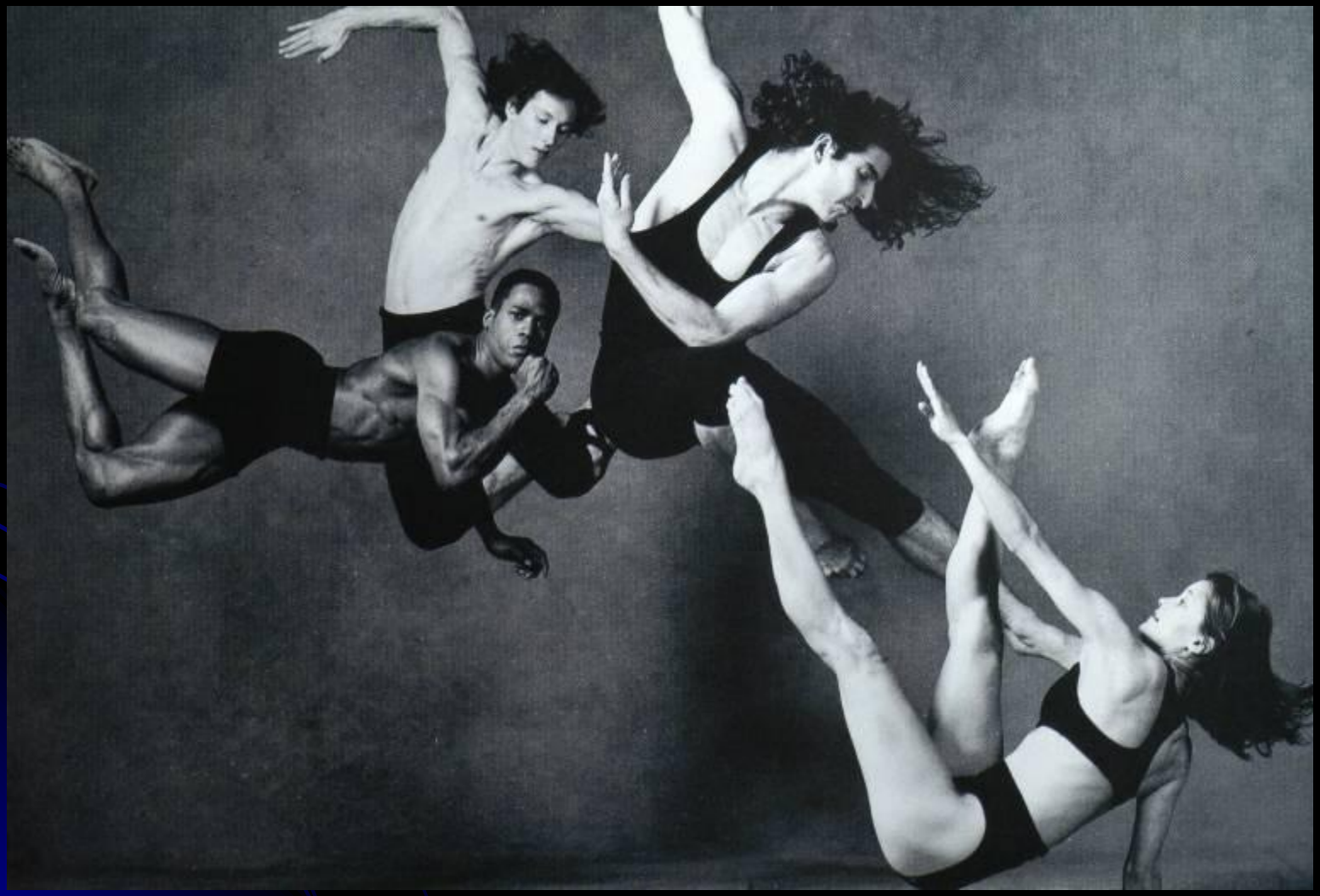
- Sharp Color pencils



Drawing design

- Red — Metal framework
- Blue — Denture base
- Green — Wrought wire
- *Black* — *Survey line*

Student’s Exercise



ข้อคำนึง

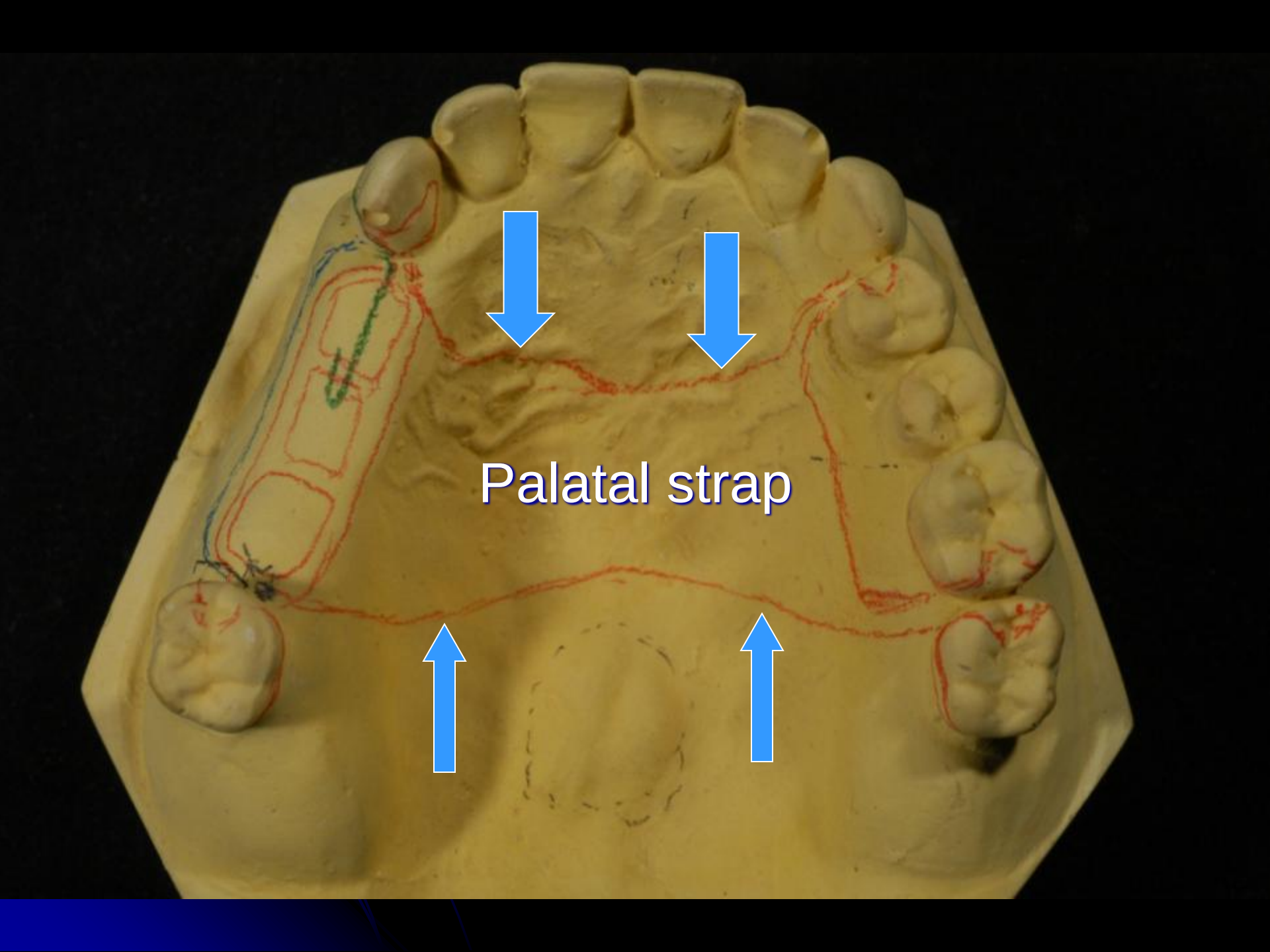
- What else should you have before starting this exercise?

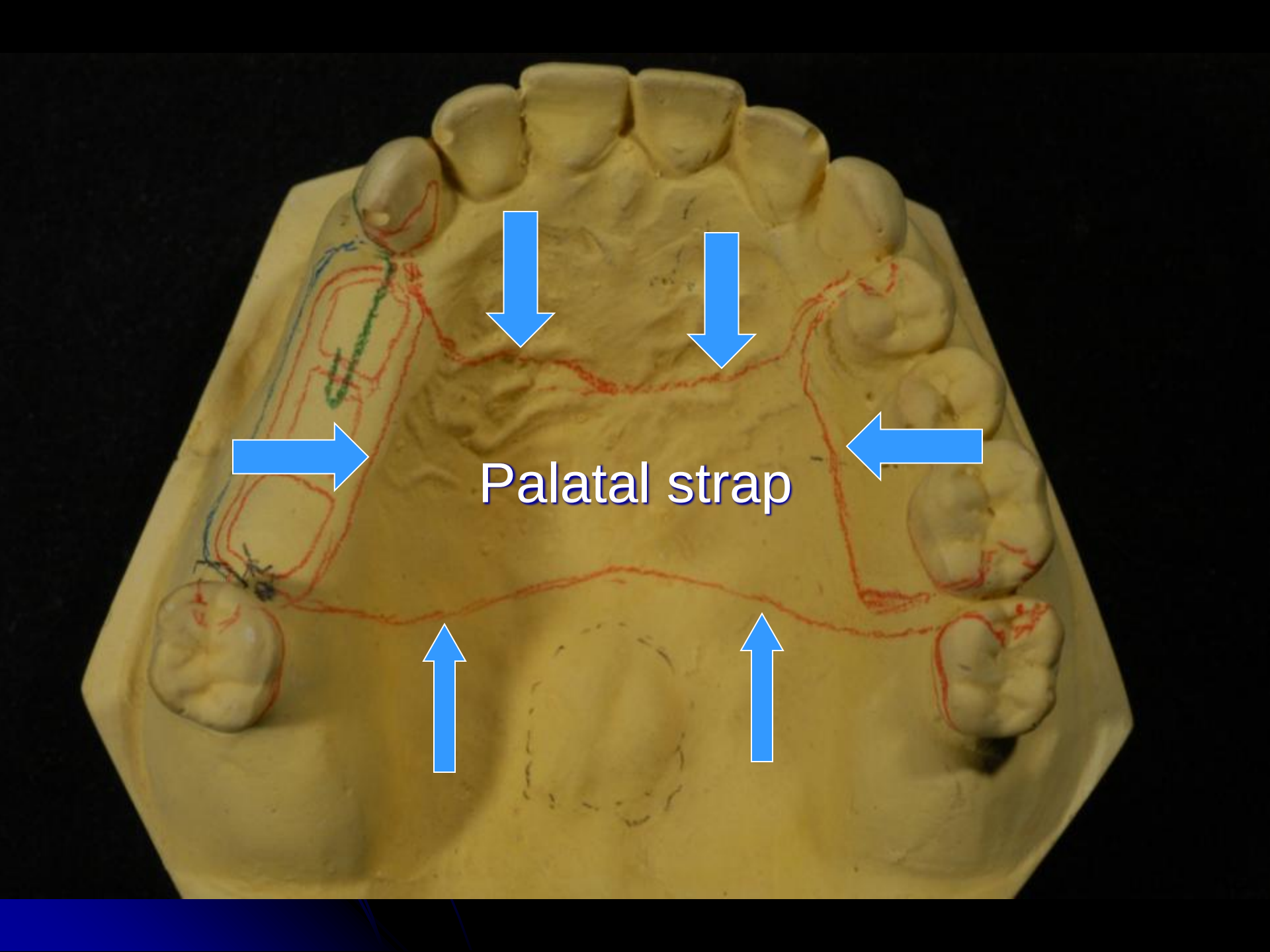
Clear understanding

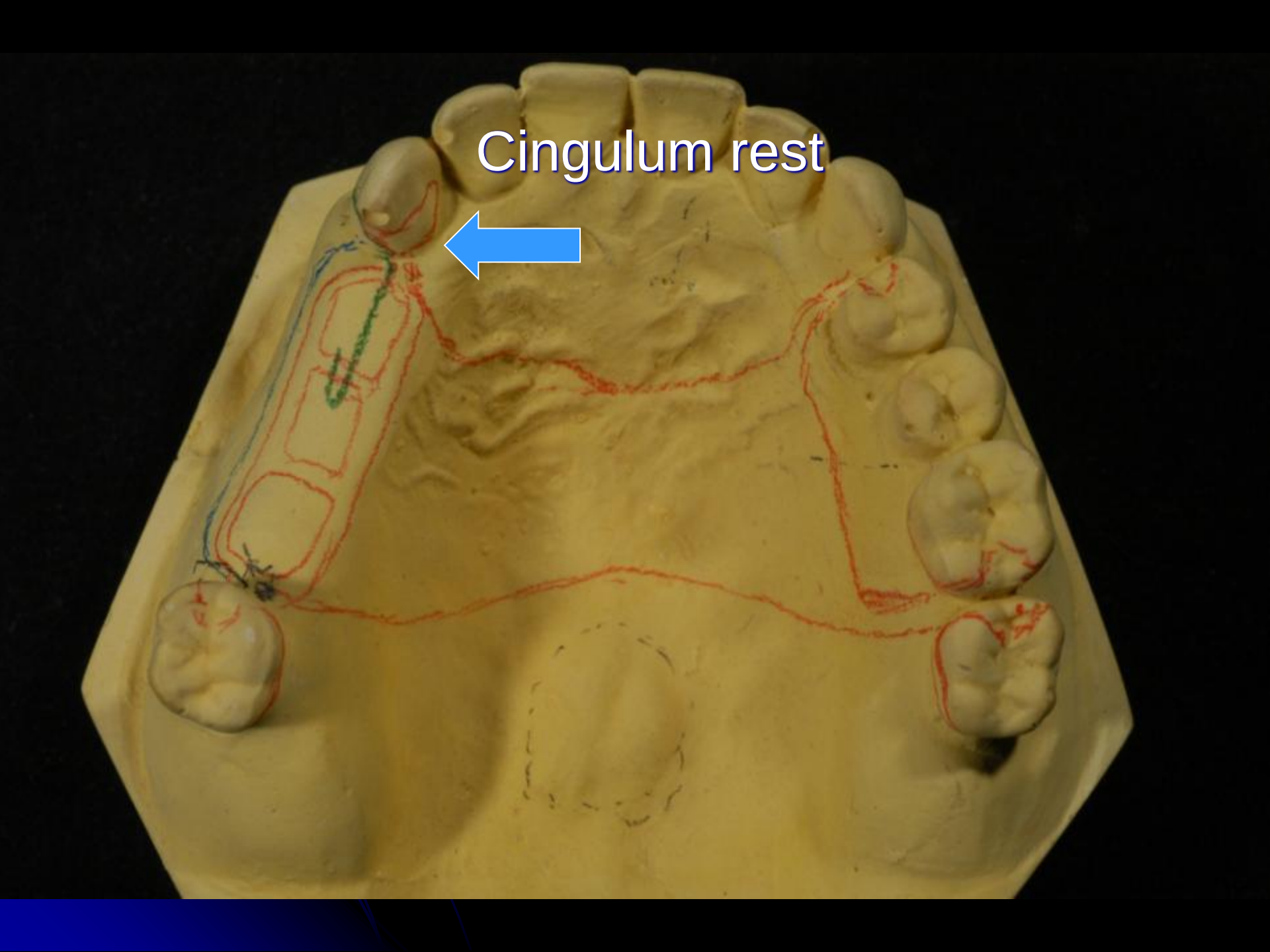
3-D Imagination

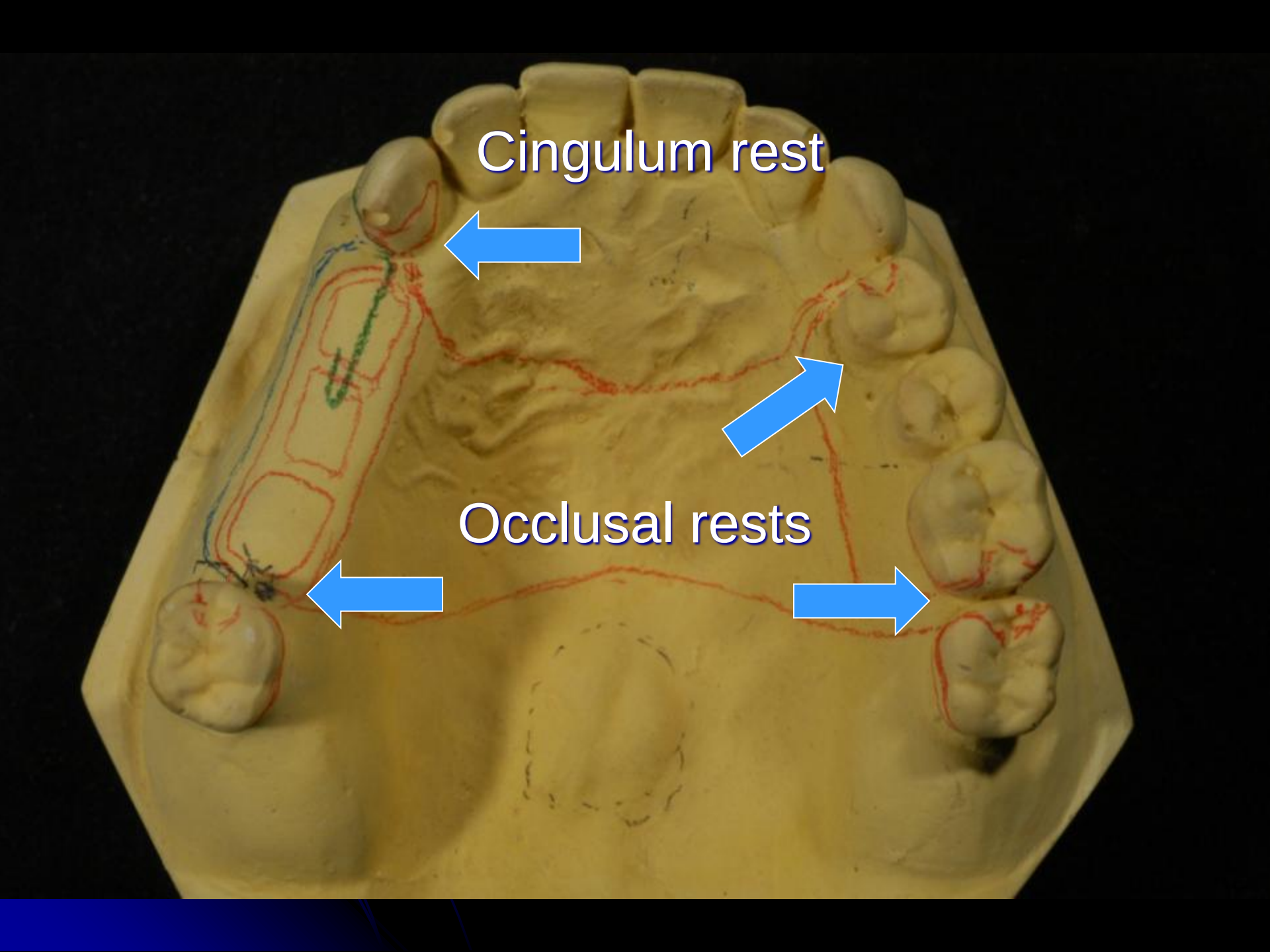
Palatal strap

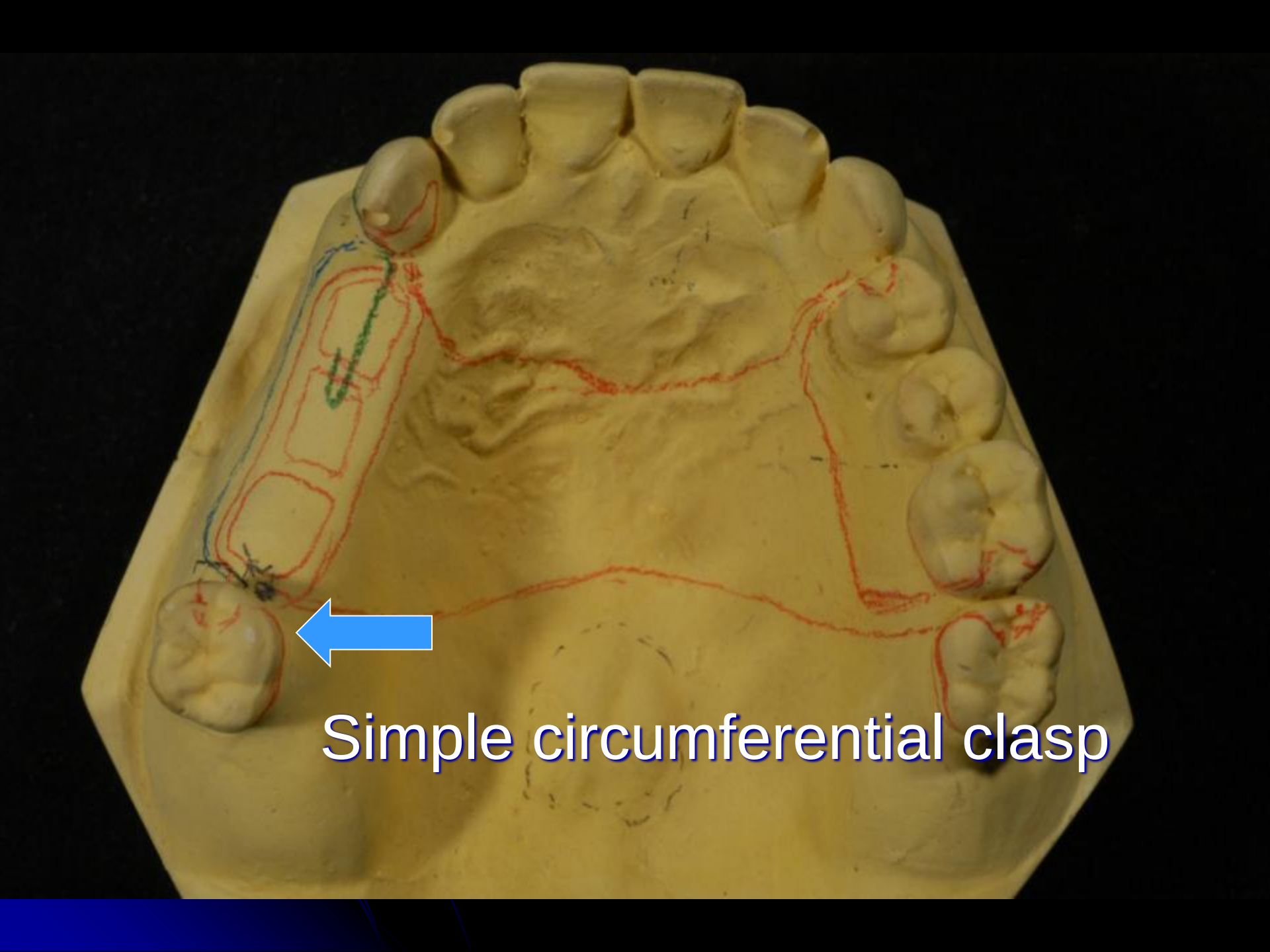
ควรมีขอบเขต และขนาดเท่าใด

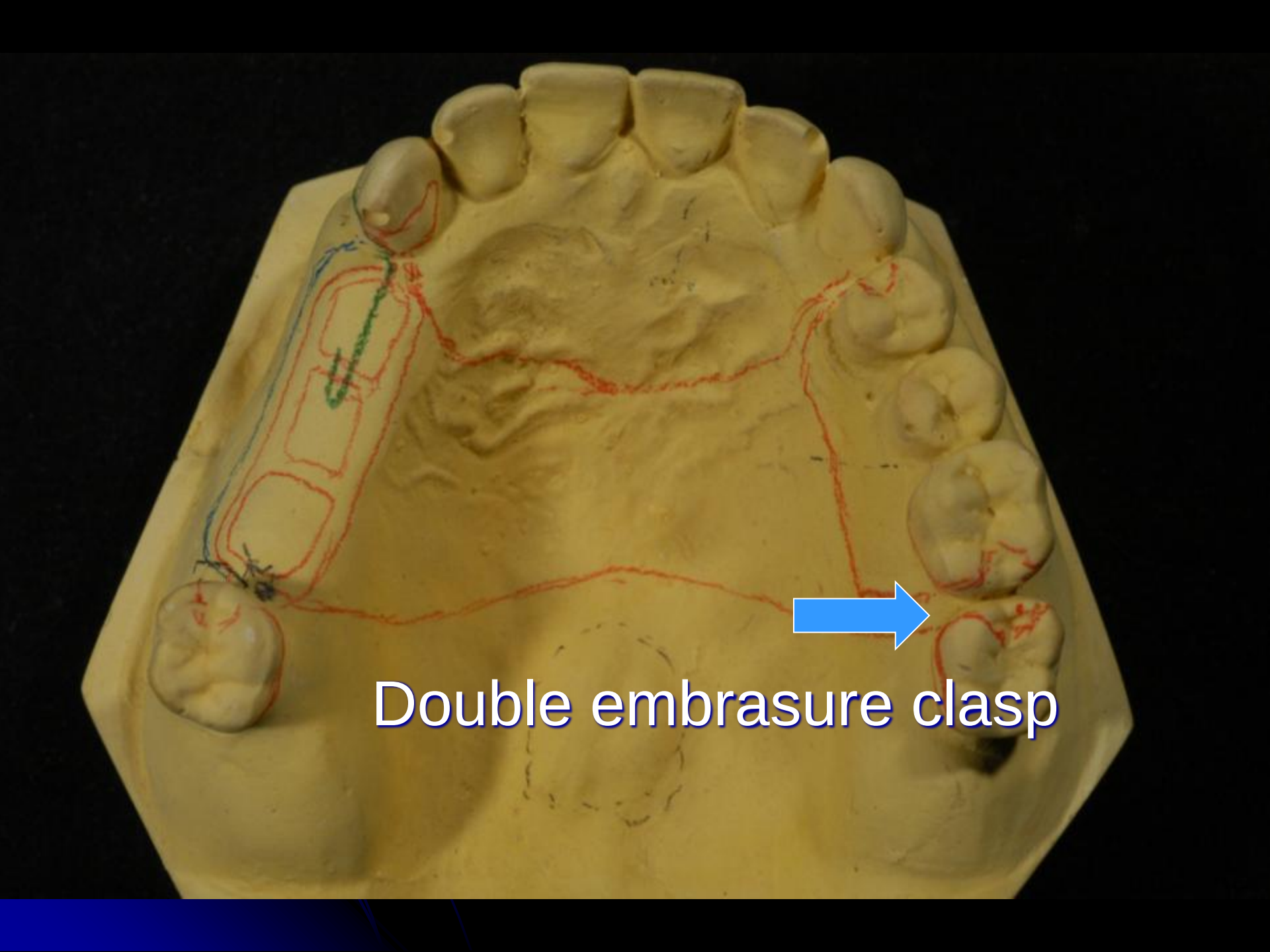

Palatal strap

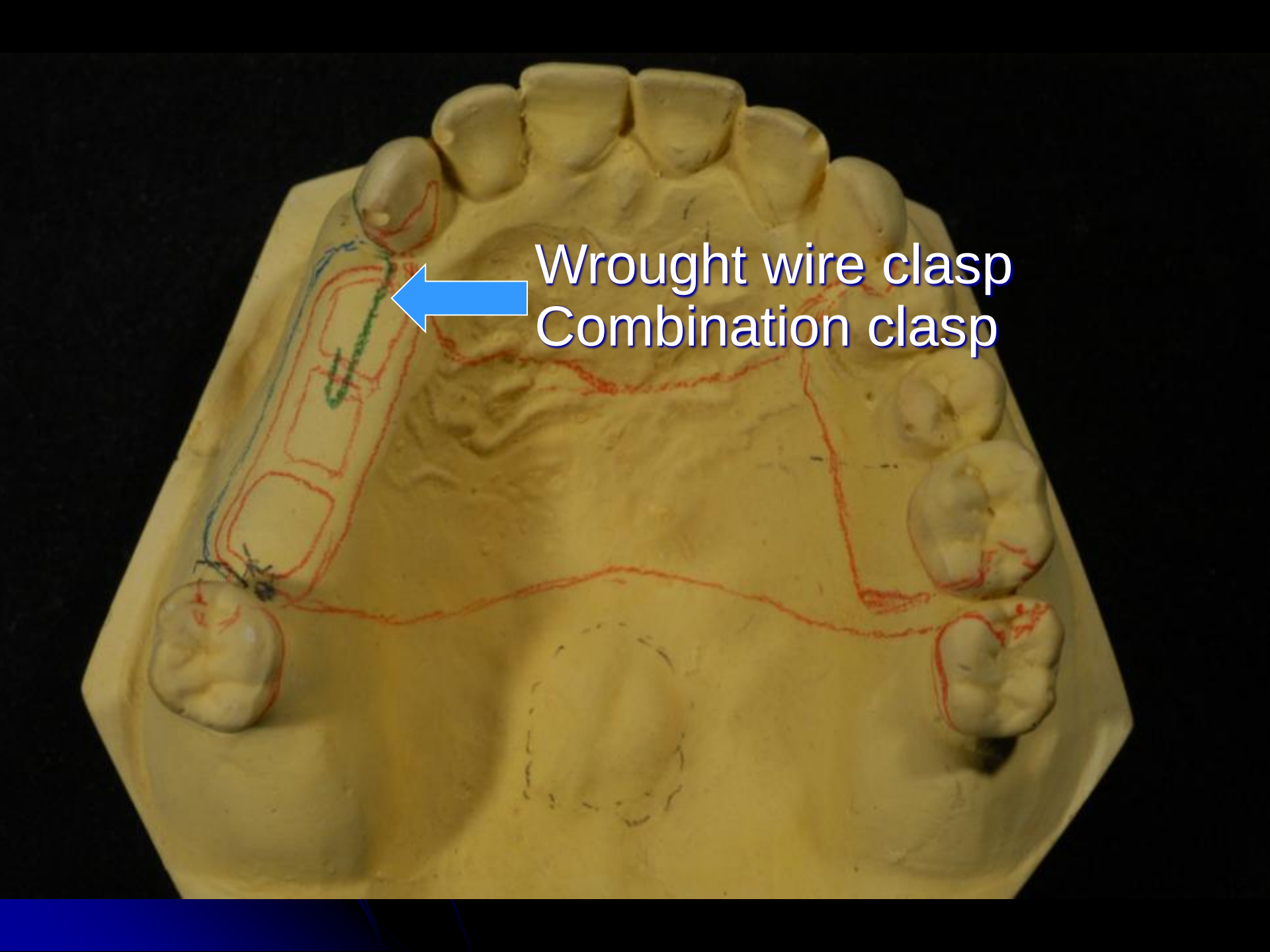

Palatal strap

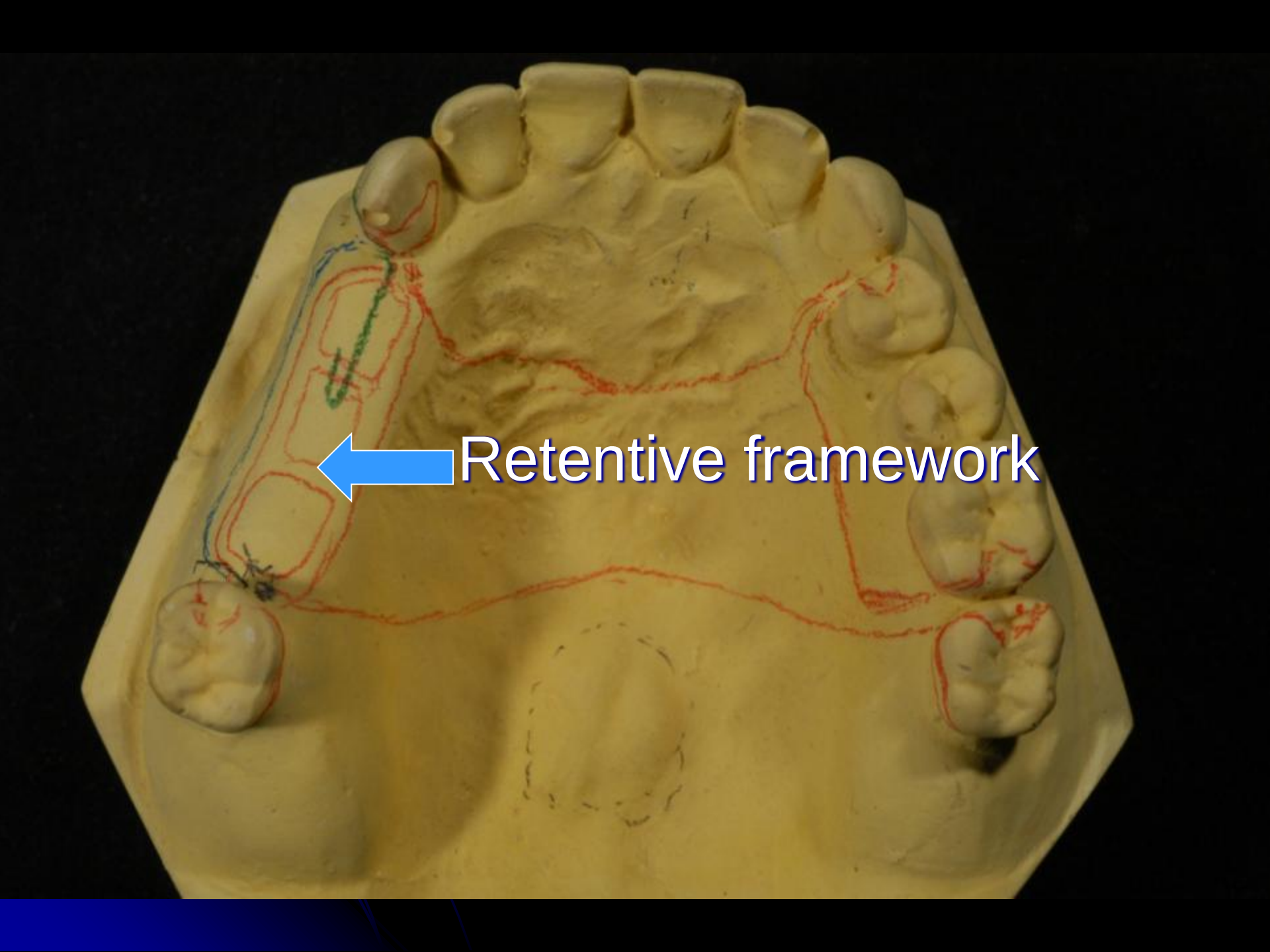

Cingulum rest

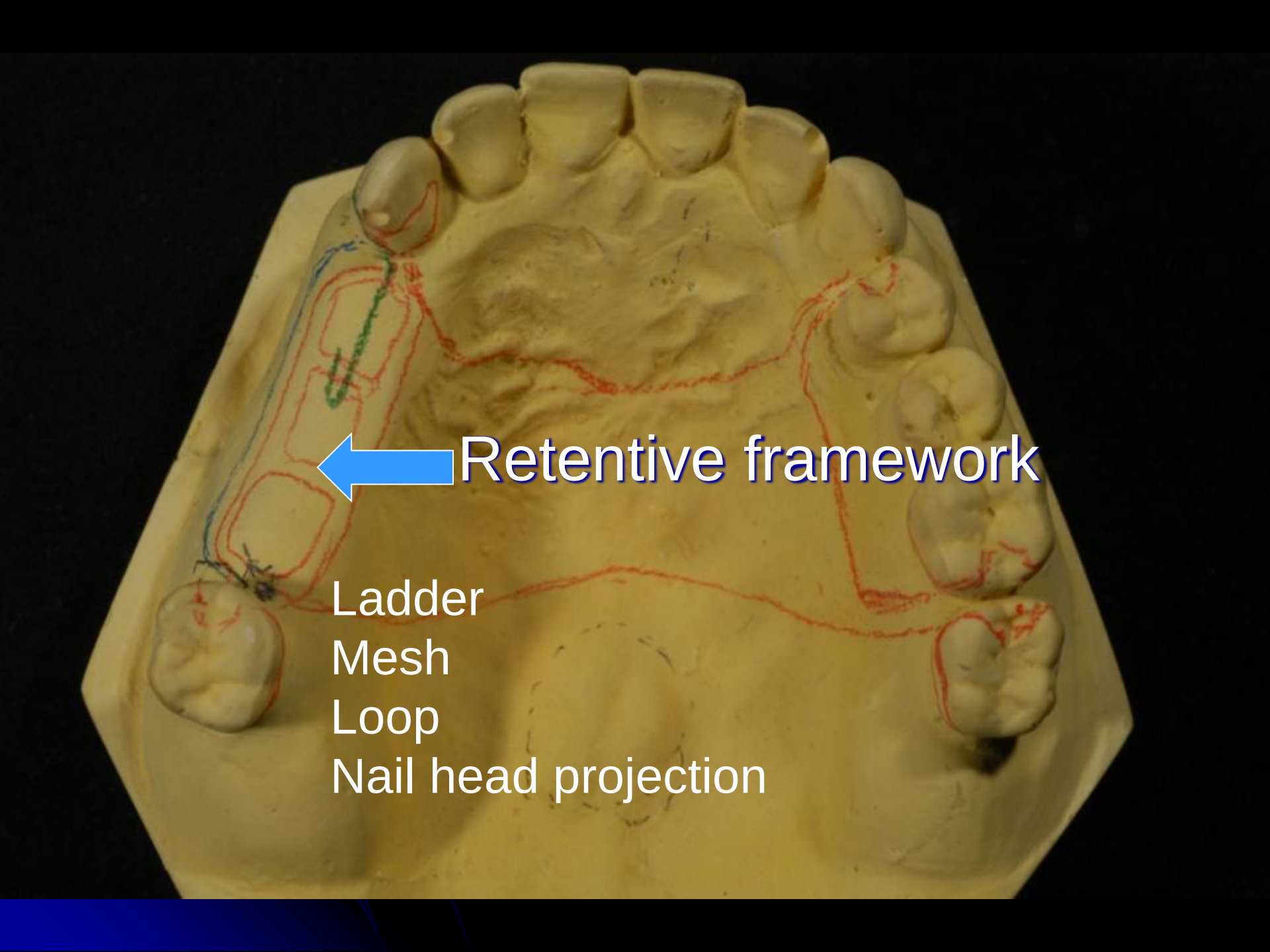

Cingulum rest
Occlusal rests

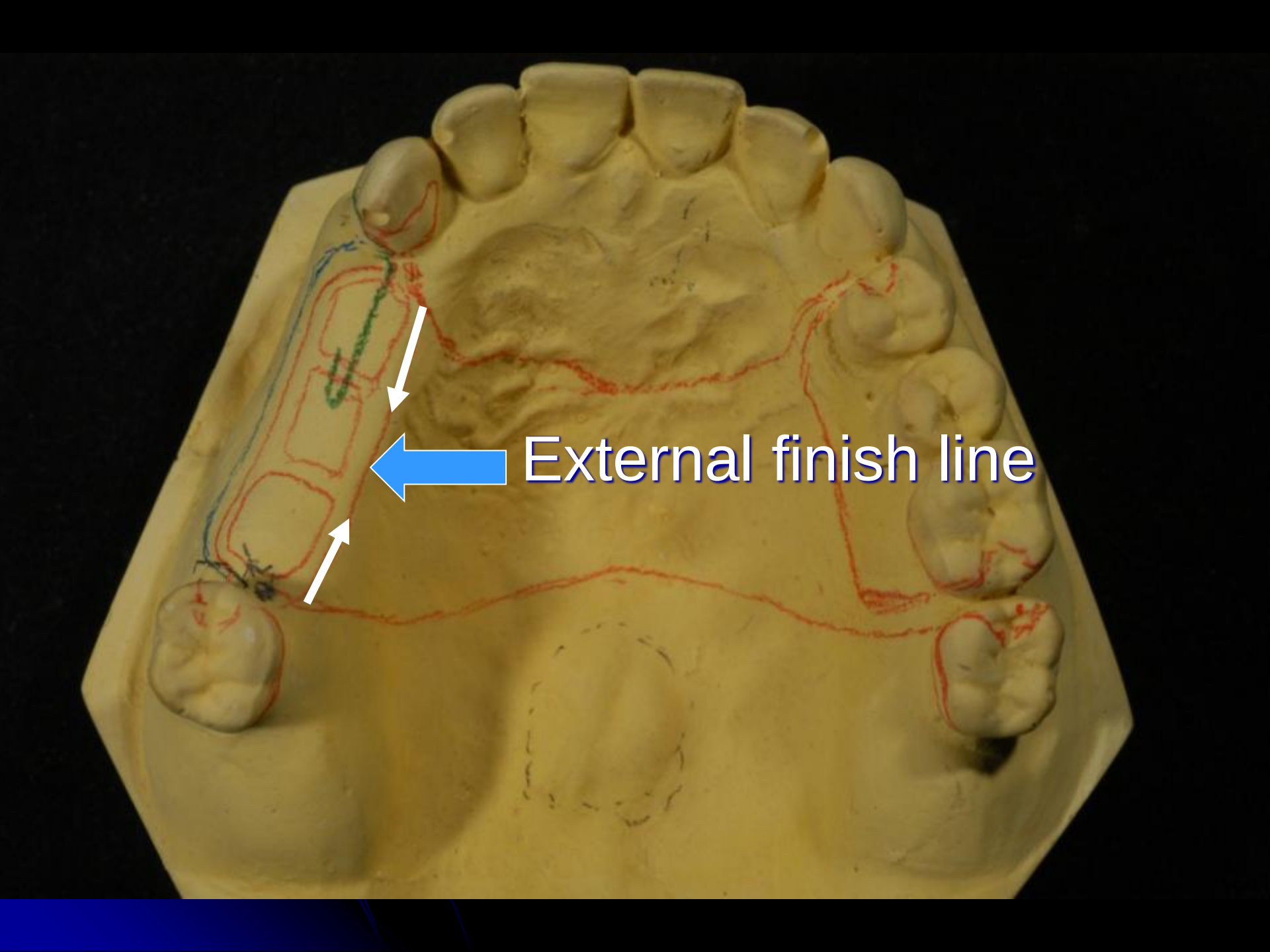

Simple circumferential clasp

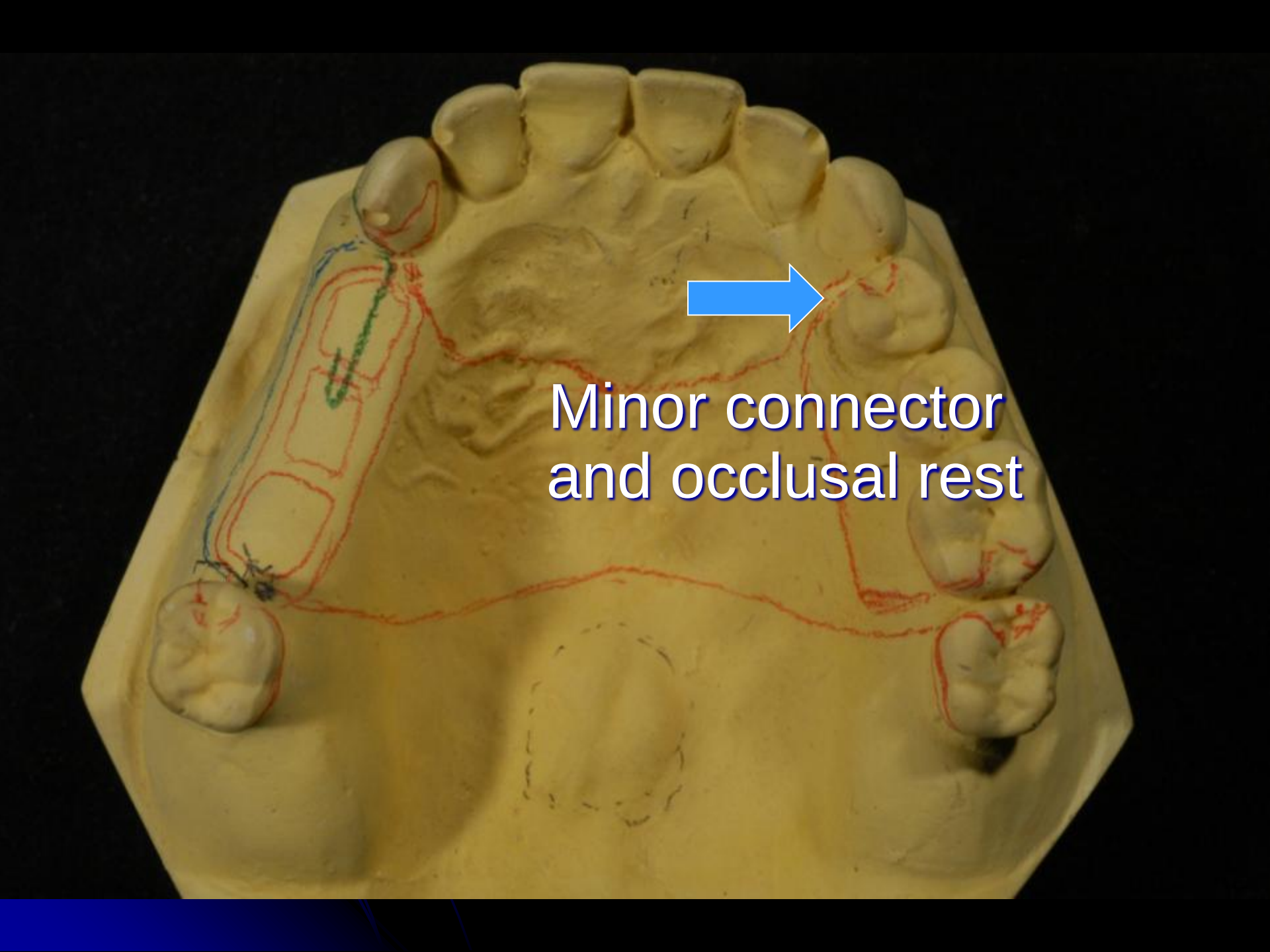

Double embrasure clasp


Wrought wire clasp
Combination clasp


Retentive framework

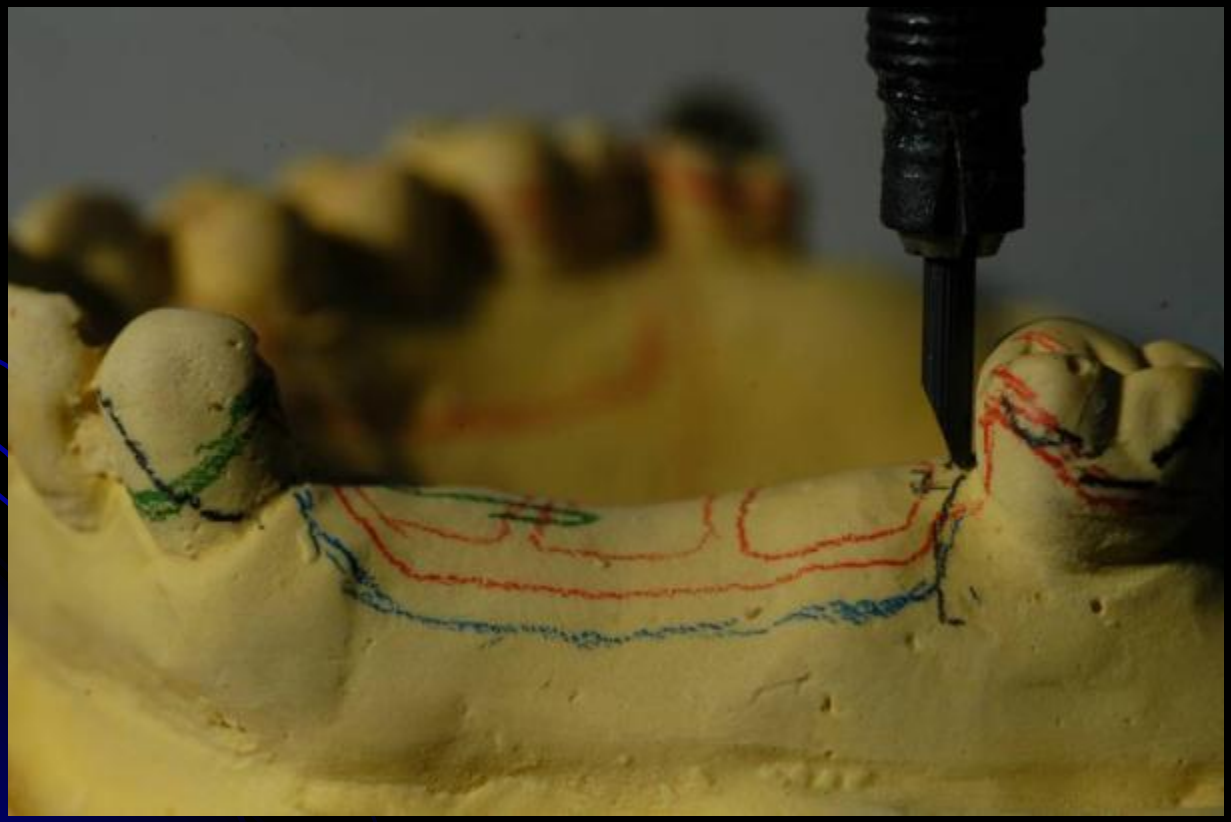

Retentive framework
Ladder
Mesh
Loop
Nail head projection

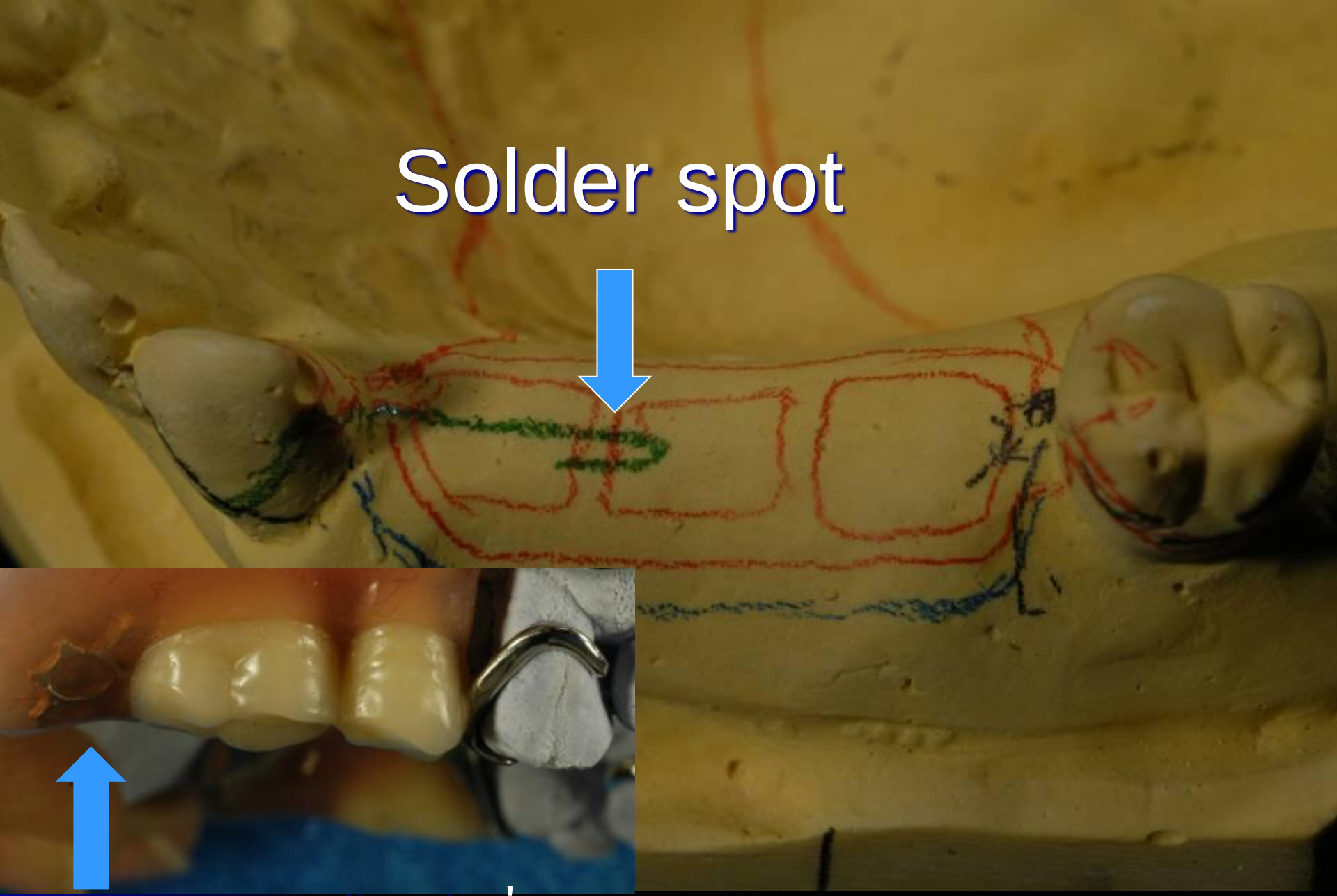

External finish line


Minor connector
and occlusal rest

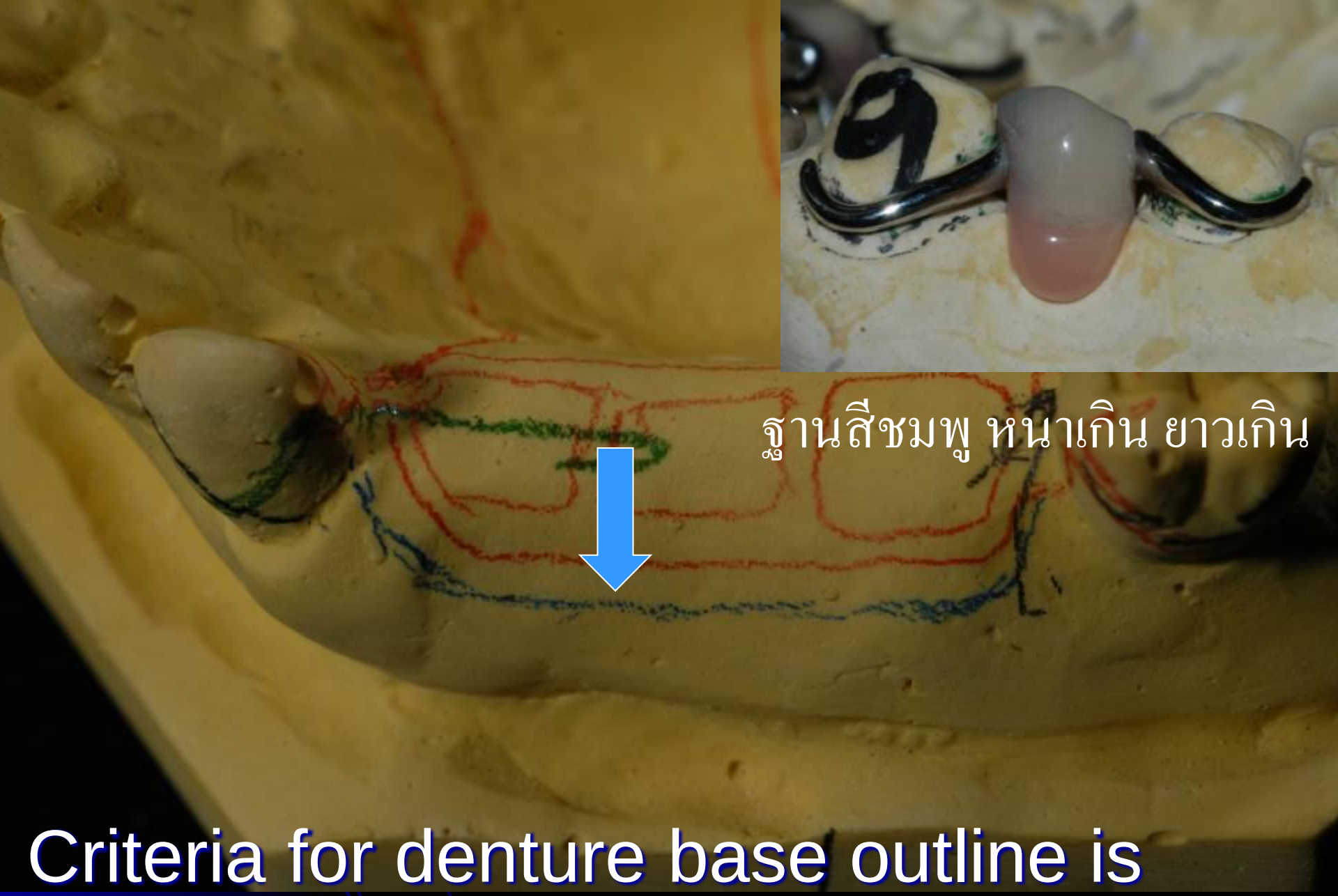
Wrought wire

- Check opposing tooth contact interference at the beginning of the clasp



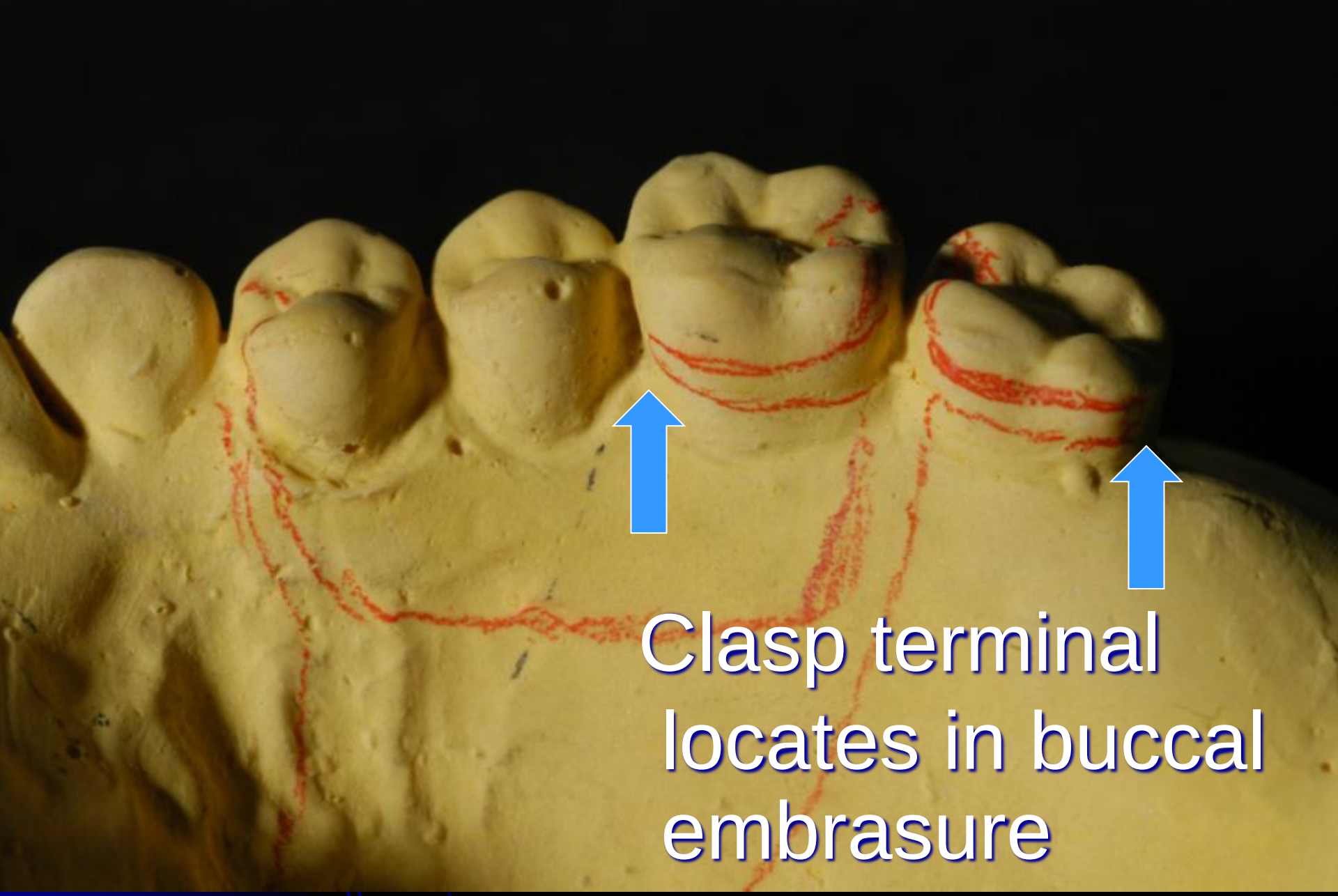


ตัวอย่างอีกแบบหนึ่งของ retentive framework

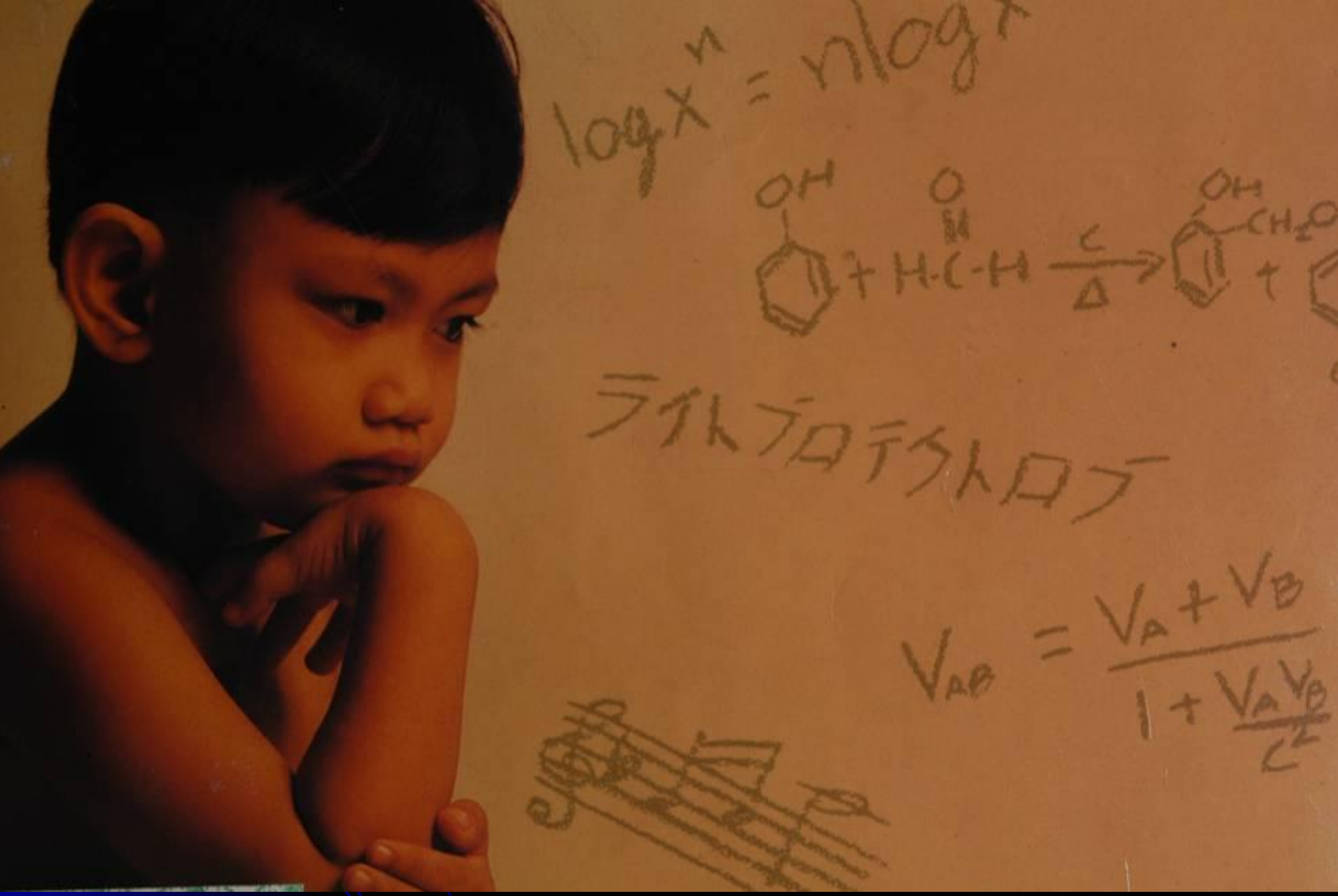


Criteria for denture base outline is only to substitute missing tissue mass.


Clasp terminal
locates in buccal
embrasure

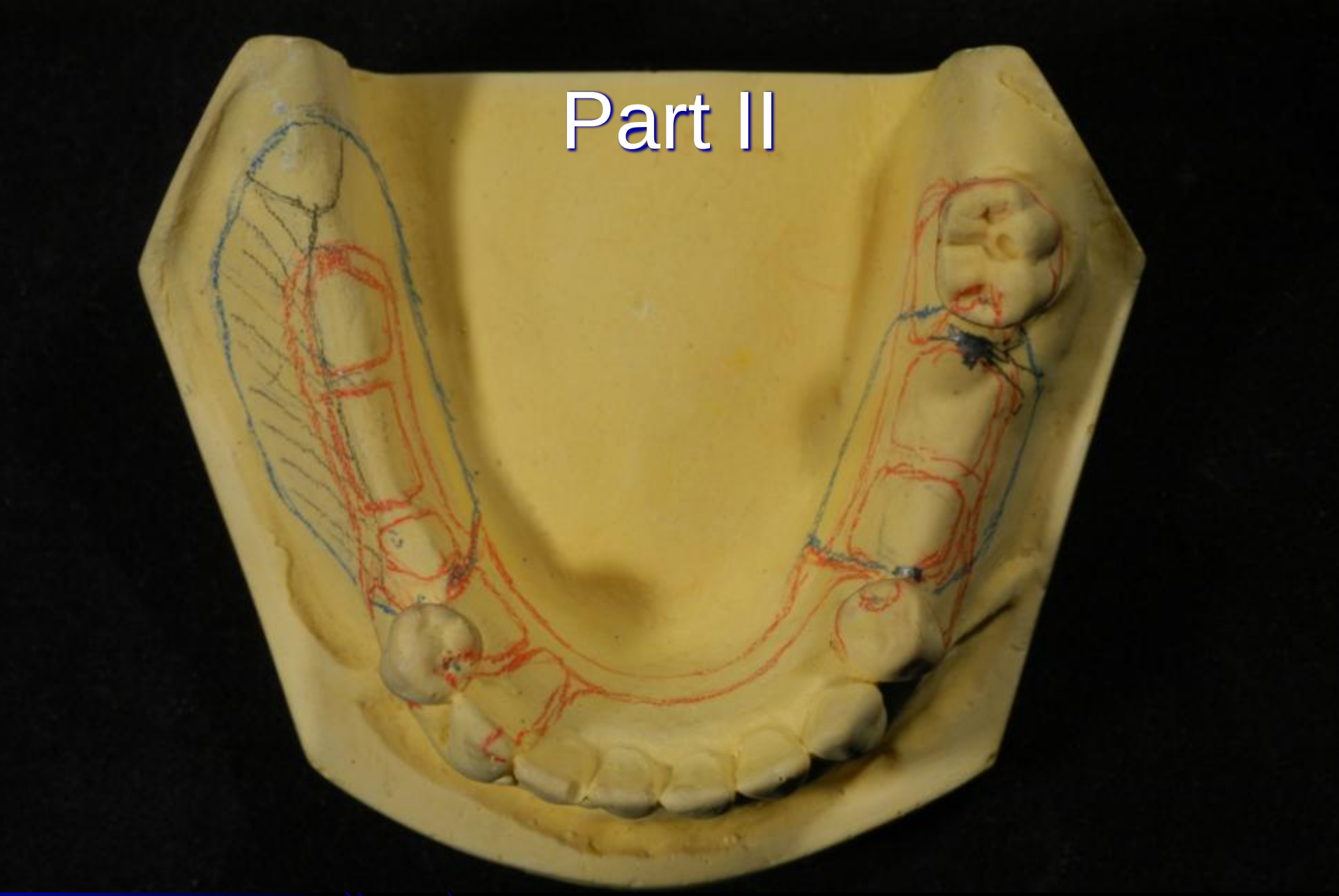

Clasp terminal
locates in buccal
embrasure


Minor connector
touches on tooth
Possible to place
guiding plane



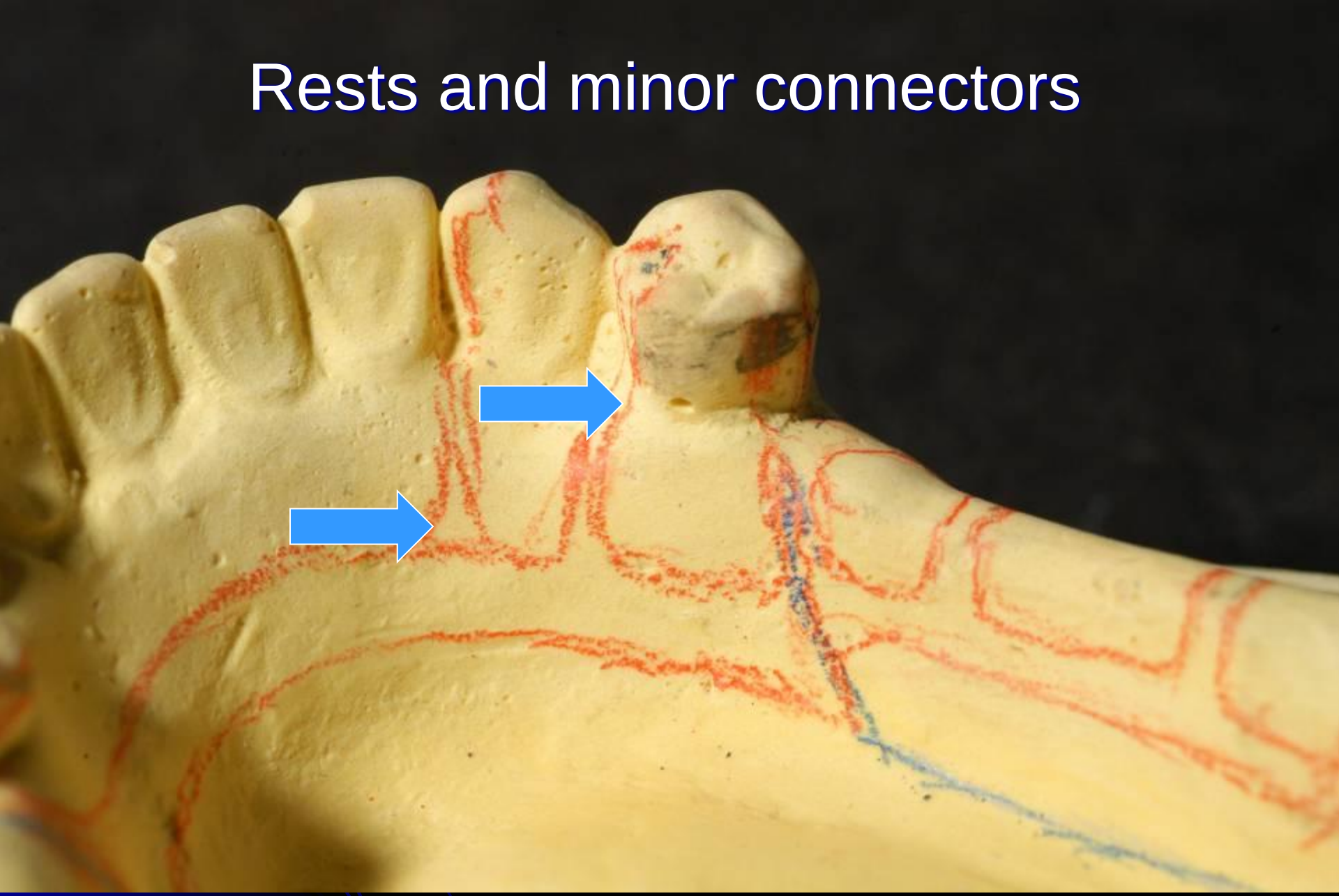
End part I

Part II

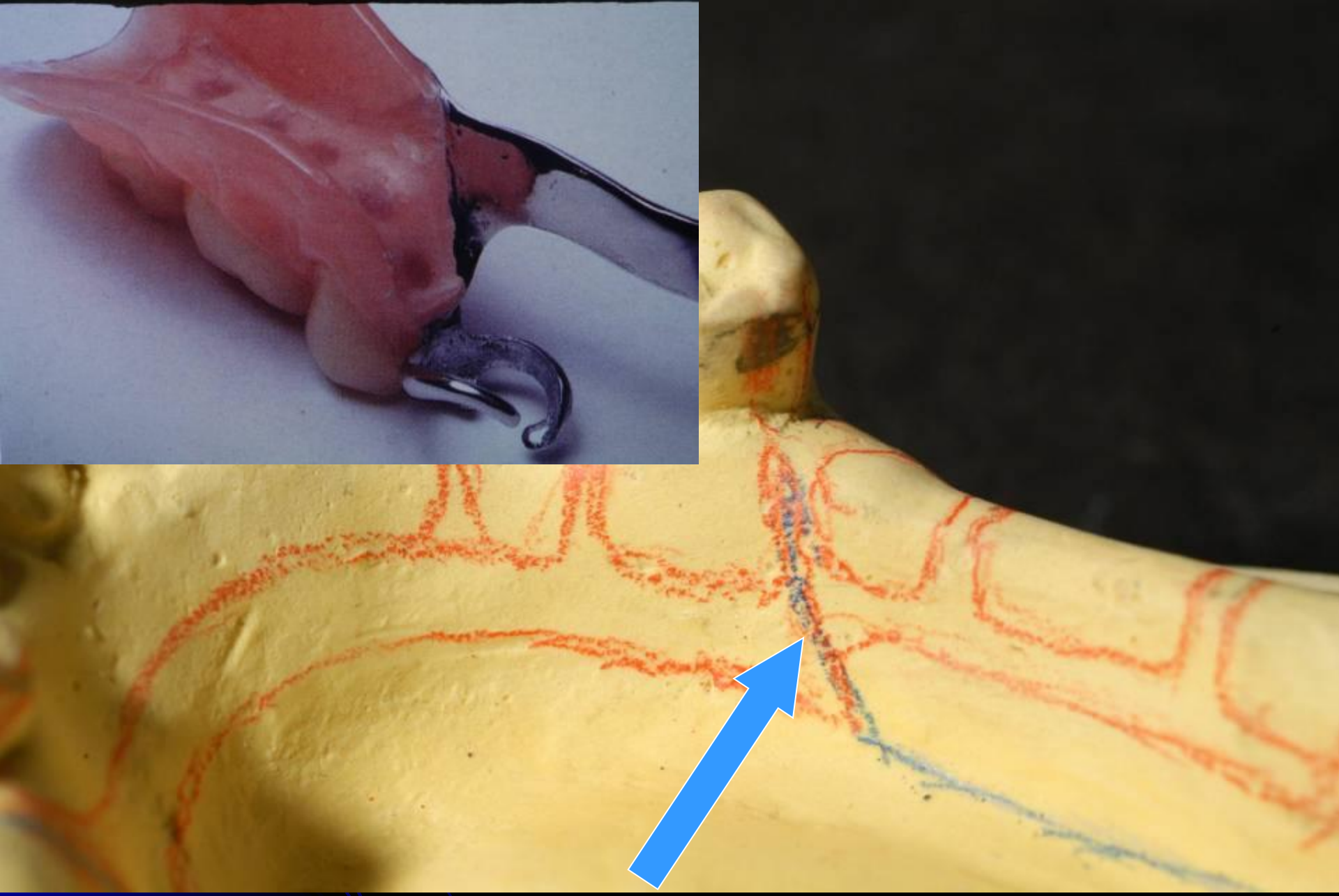


Lower jaw

Rests and minor connectors

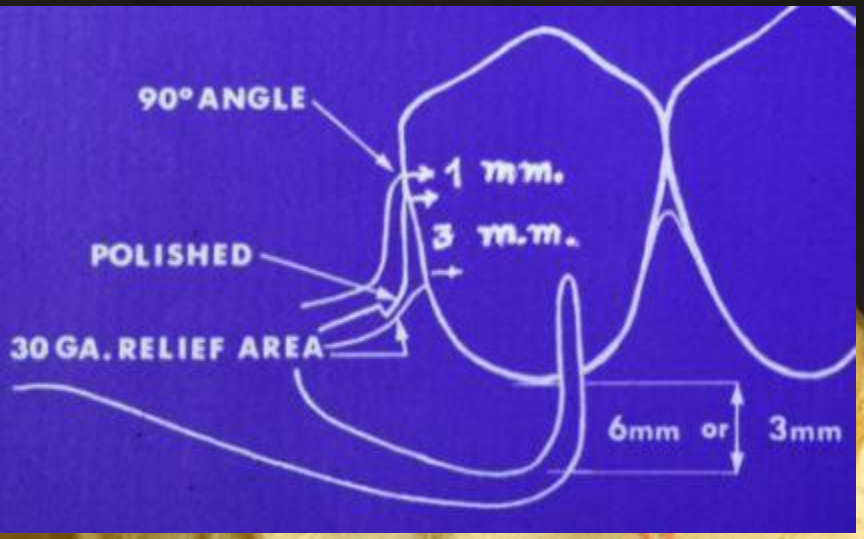


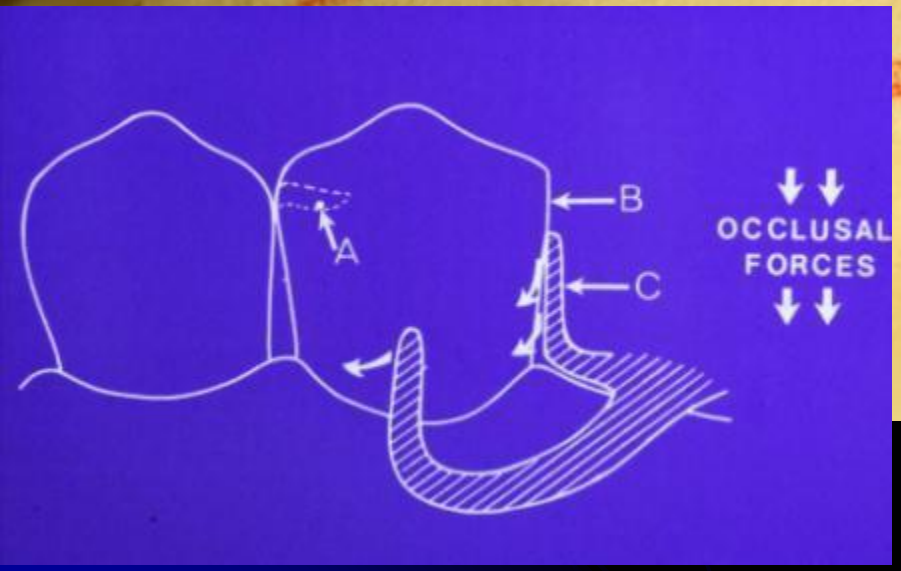

Major connectors
Lingual bar



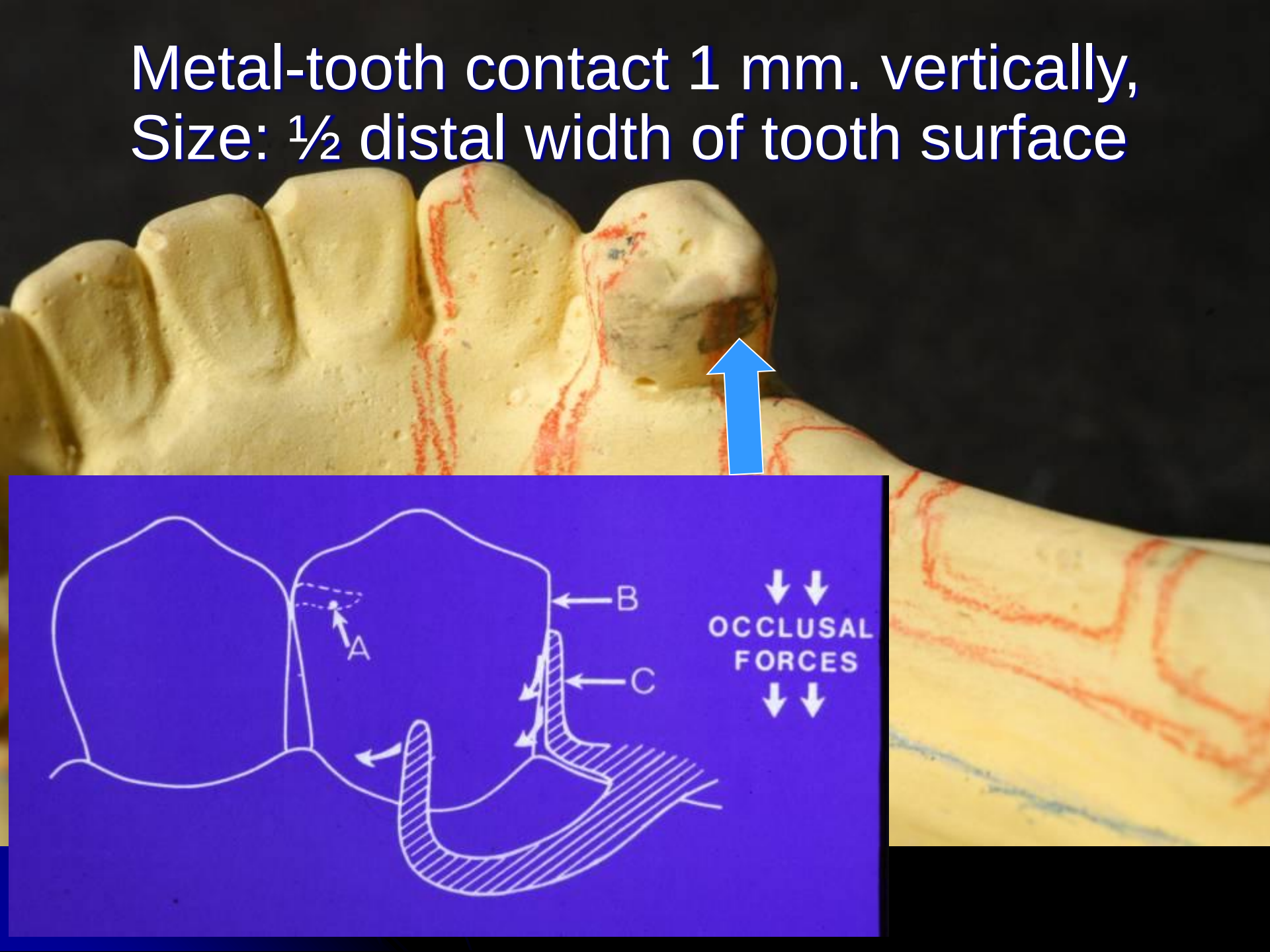
External finish line อยู่ตรงข้ามกับ internal finish line

Proximal plate

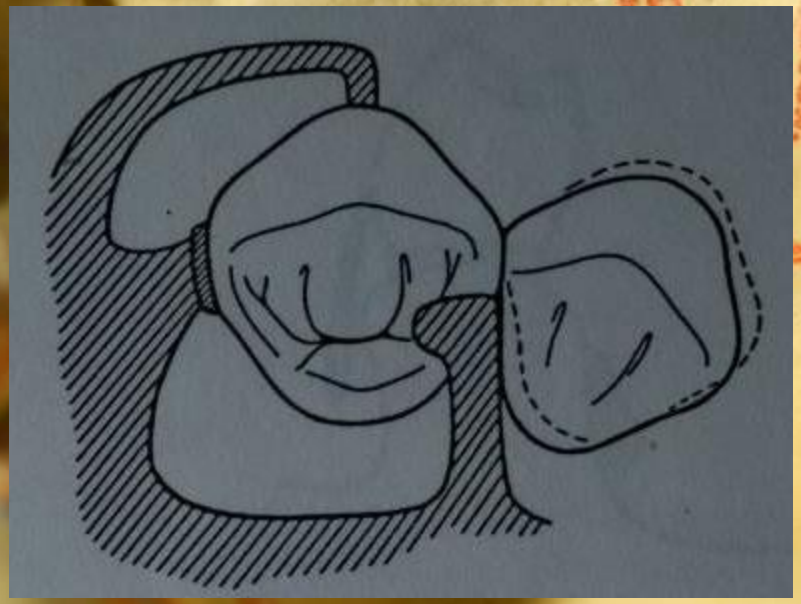


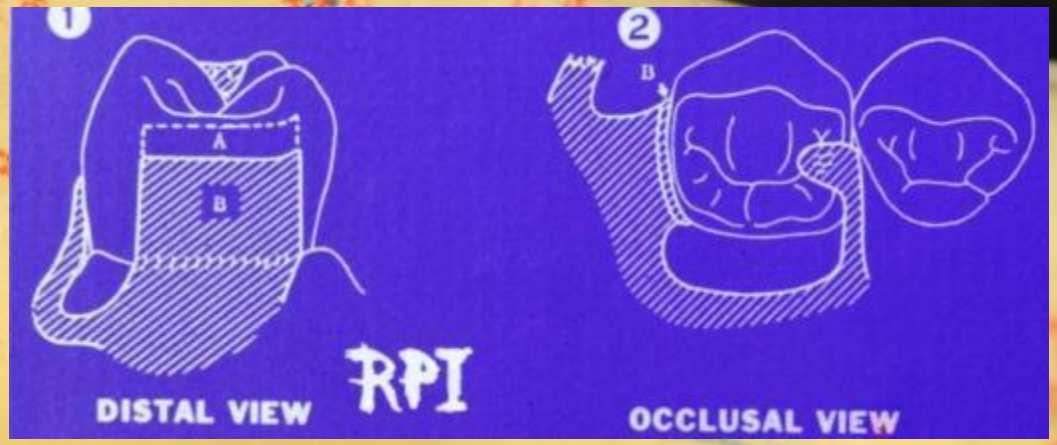


Metal-tooth contact 1 mm. vertically, Size: ½ distal width of tooth surface



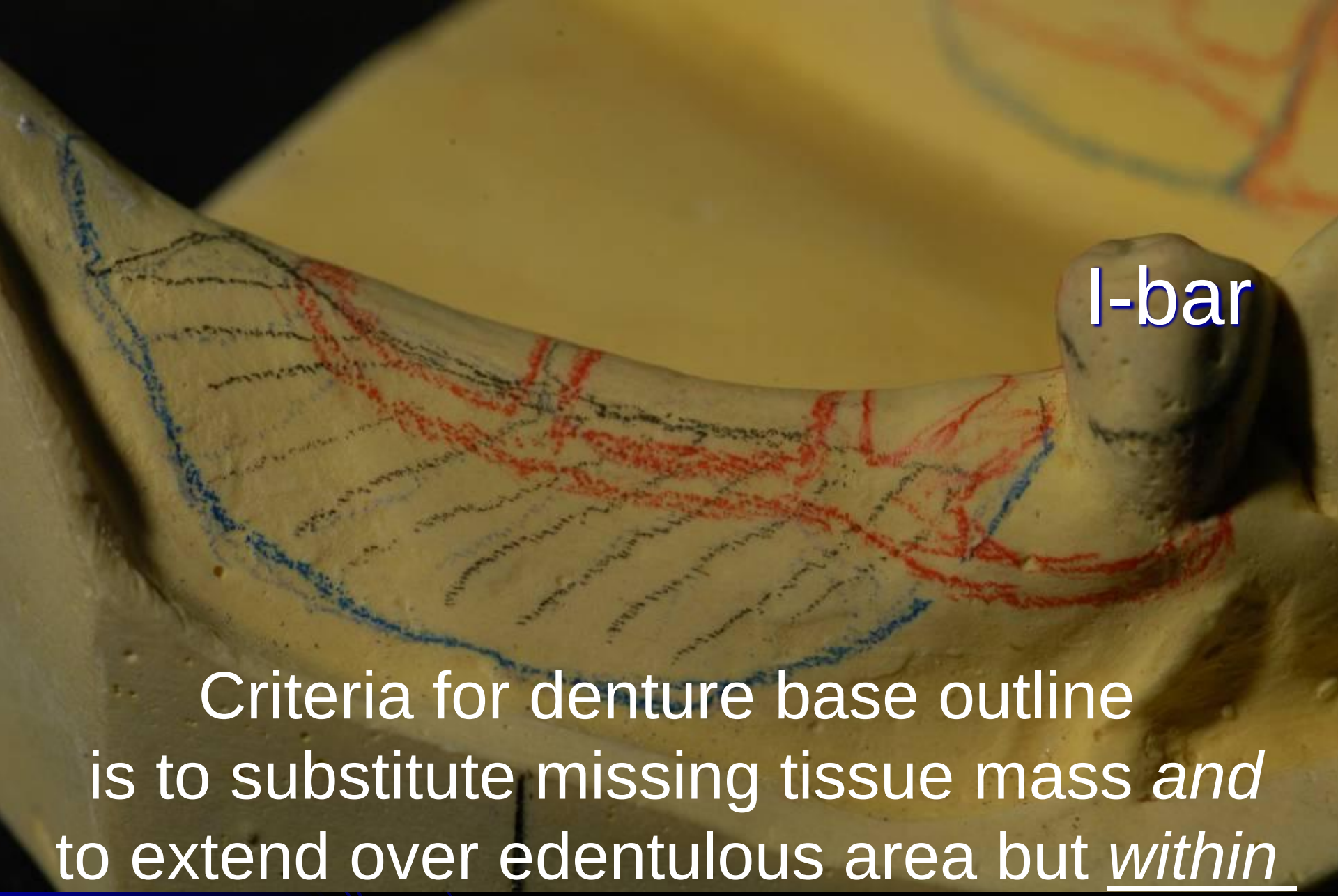
Metal-tooth contact 1-2 mm. vertical ½ distal width of tooth surface



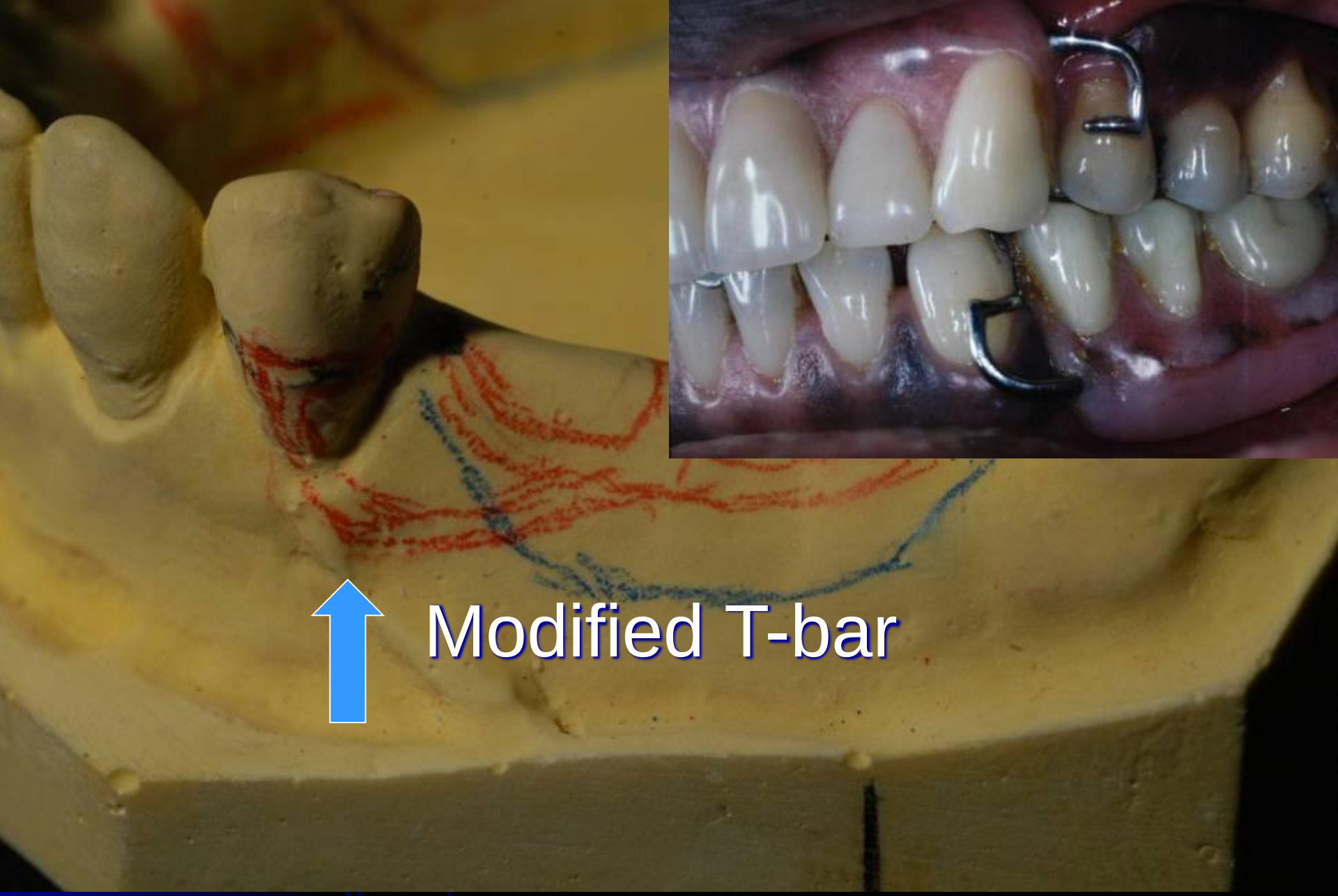


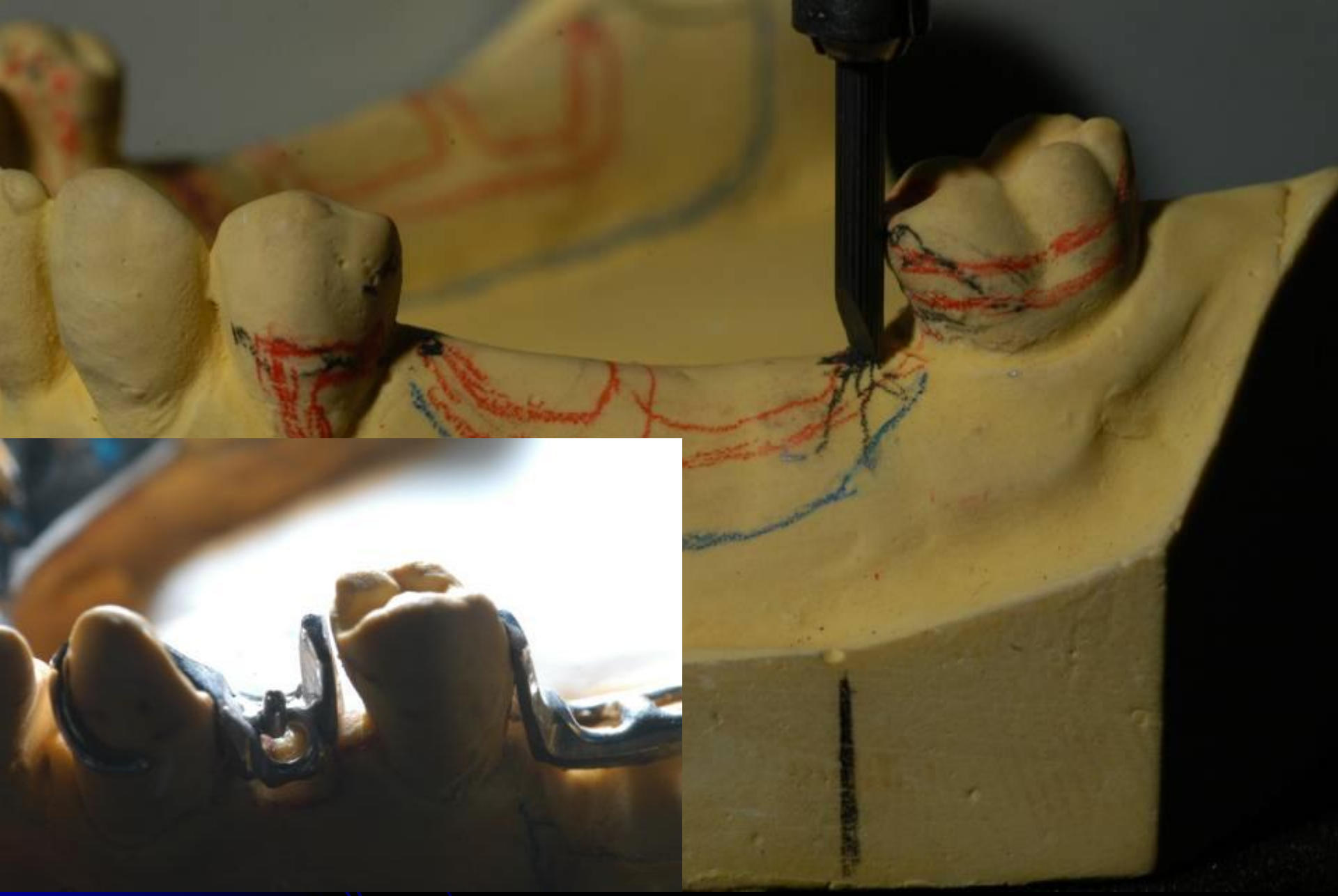
ความกว้าง proximal plate กรามน้อยซี่แรกและซี่ที่สอง ต่างกัน

ตะขอวงแหวน (ring clasp) หักเพราะมีขนาดเล็กเกิน
และขาดส่วนแขนค้ำ (strut)



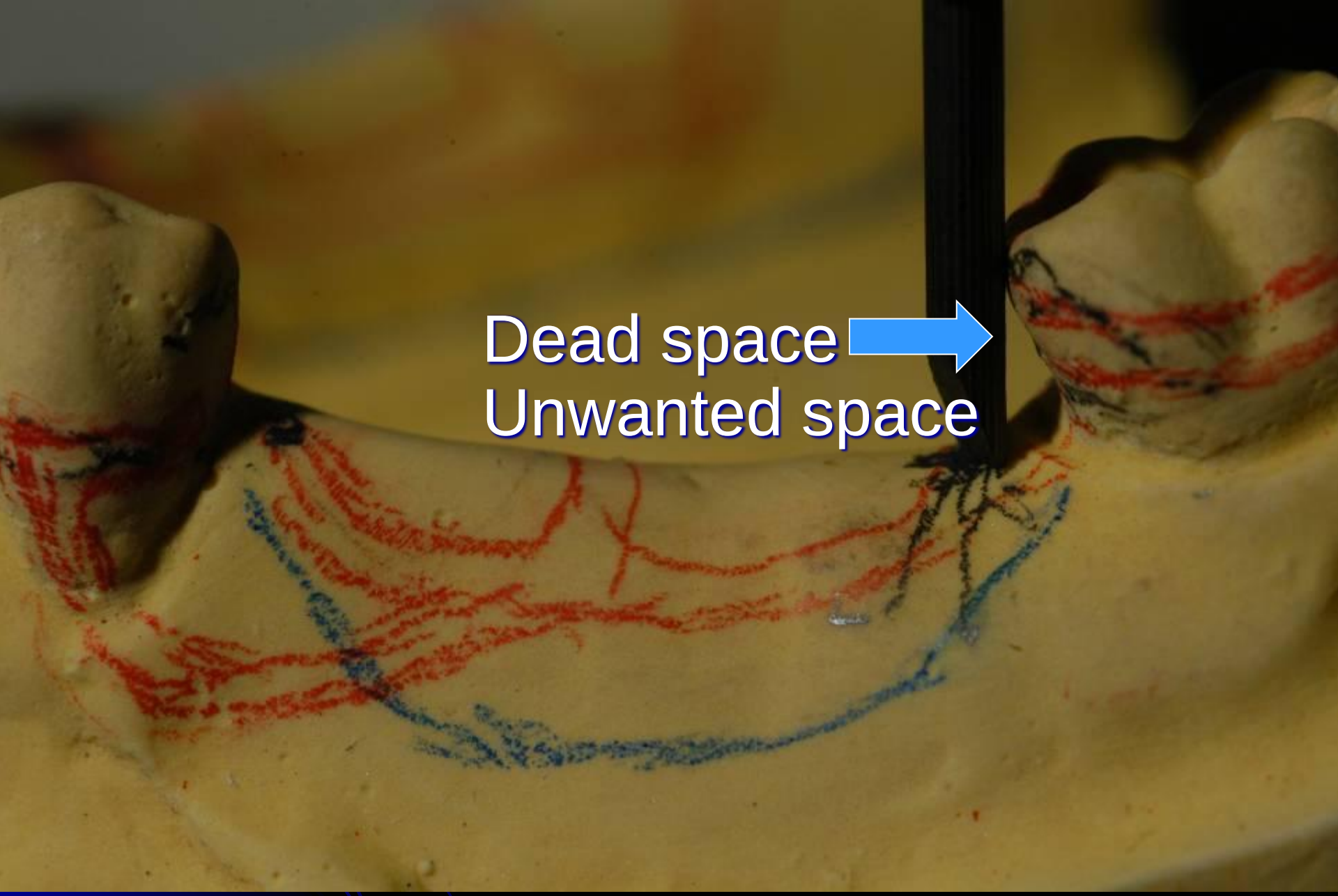
Criteria for denture base outline is to substitute missing tissue mass *and* to extend over edentulous area but *within anatomical limit.*


Modified T-bar



Improper design: Proximal plate ไม่แนบ ห่างฟันหลัก

1.ผิวข้างไส้ดินสอสัมผัสผิวชิ้นหล่อ 2.เส้นสำรวจจาก ส่วนปลายปาดเฉียง บอกขอบเขตพื้นที่คอดด้านประชิด


Dead space
Unwanted space

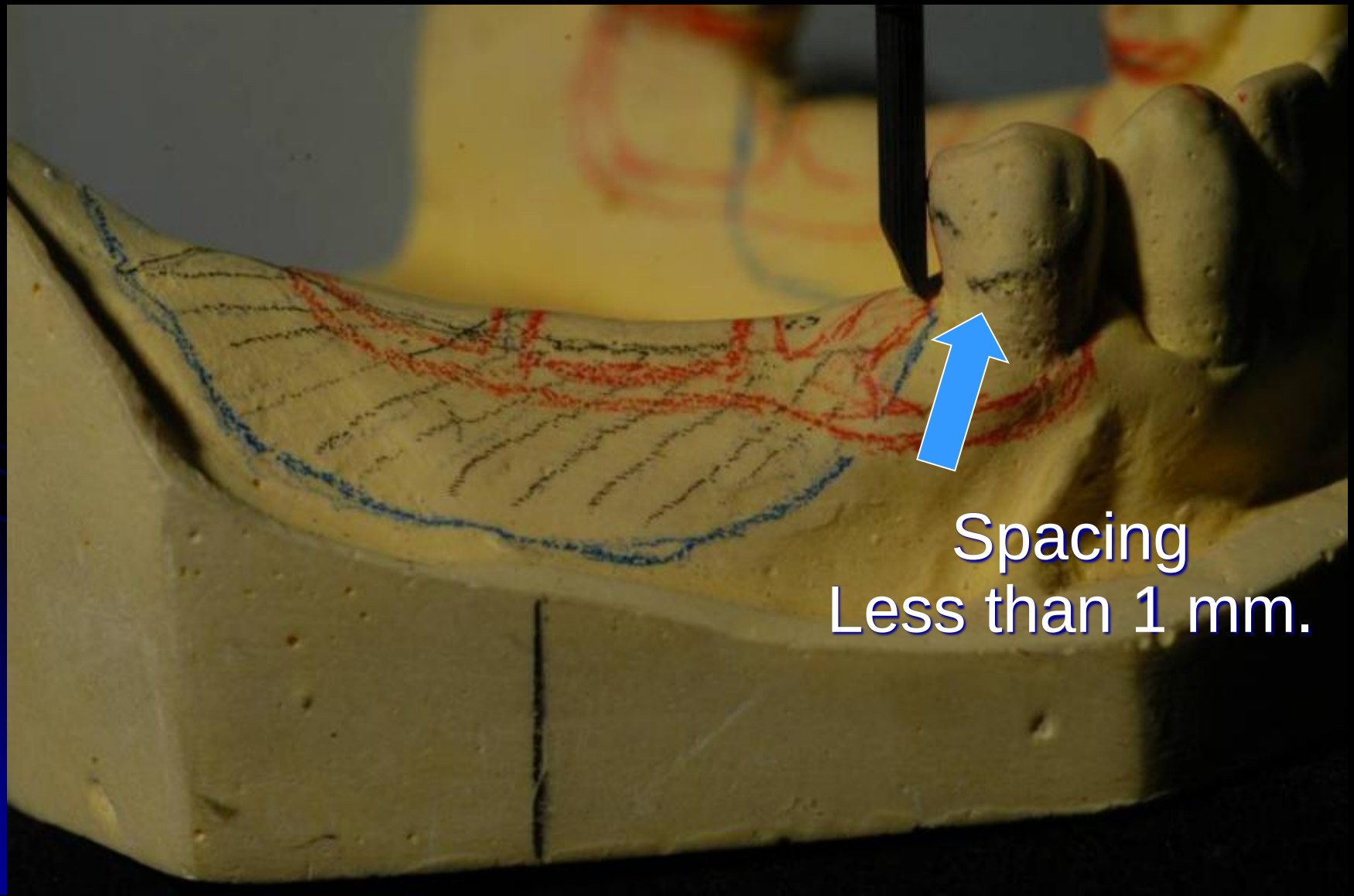
Unwanted tooth contour

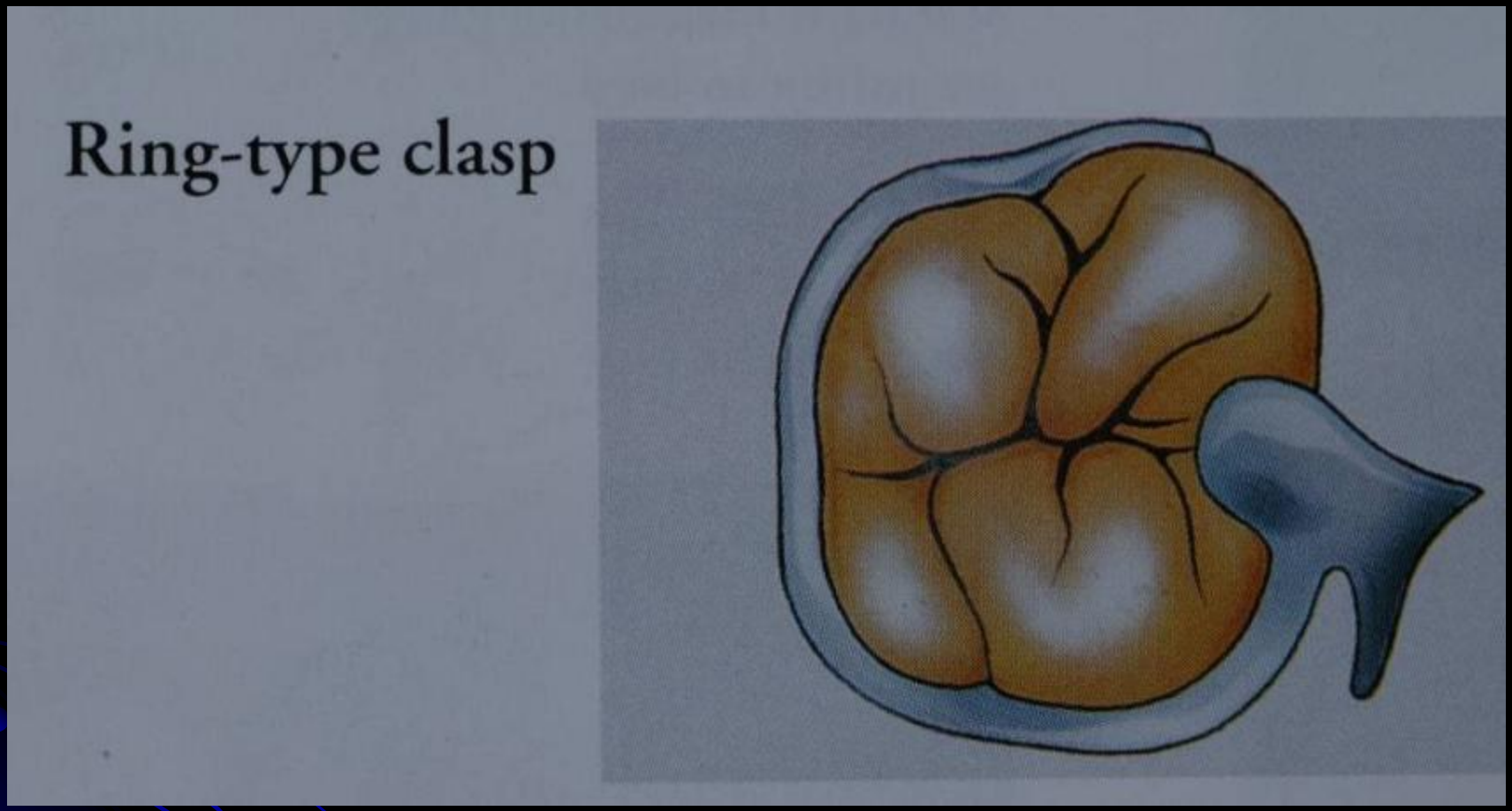
Tooth interference

Require enameloplasty

by tooth alteration

Acceptable space





- กรามบน ลักษณะ ตะขอ จะหนาและกว้างด้านเพดาน มากพอ ต้านการบิดตัวและหักเสียหาย

- แนวตะขอที่สูงเกินไป สร้างปัญหาสบกระแทก กรอแก้ไขภายหลังอาจทำให้ความแข็งแรงลด ตะขอหัก

Proficiency

- Understand relationship among components
- Recognize each specific component
- Able to draw specific design on dental casts

ข้อคิด

- แบบร่างโครงสร้างฟันปลอมบางส่วนถอดได้บนชิ้นหล่อศึกษา มีคุณค่าอย่างไร
- การเขียนแบบโครงสร้างฟันปลอมบางส่วนถอดได้บนกระดาษ หรือเอกสารคำสั่งงาน มีประโยชน์อย่างไร
- มีวิธีอื่นใดทางอิเล็กทรอนิกส์ ที่ใช้สร้าง และสื่อสารแบบฟันปลอมได้บ้าง