

Louis Button

User Manual V.2



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I. Introduction

Roles of Attached Gingiva

1. Esthetics
2. Resistance to peri-implantitis
3. Resistance to gingival recession
4. Easier plaque control

When Keratinized Mucosa is Inadequate

- Partial Thickness Apically Positioned Flap(pAPF)
- Free Gingival Graft(FGG)



Problem

- Additional surgery
- Technique sensitive
- Pain

Role of the Louis Button

When keratinized mucosa is inadequate, the Louis Button can secure it instead of relying on additional surgeries.



Pre-op



After 5 weeks



After 5 weeks using Louis Button

Advantages

1. Simple and easy to use
2. Naturally increases the volume of attached gingiva
3. No need for sutures ➔ Shorter procedure time
4. No additional surgeries required to improve keratinized tissues

Directions

1. The Louis Button can be used after connecting the healing abutment to the fixture, regardless of when the connection placed.
2. Use a lingually placed crestal incision within the attached keratinized mucosa if possible.
3. Push the Louis Button onto the healing abutment.
 - The Louis Button is really effective when the healing abutment height is 4–5mm (Submerged type implant or external type implant) or 2–3mm (ITI tissue level type implant.)
4. With one finger, press the center of Louis Button to attach it to the healing abutment.
 - Apply only slight pressure to the flap. The swelling flap will apply pressure to itself as healing occurs.
 - Applying too much pressure onto the flap will cause patient discomfort.
 - In most cases, no suturing is necessary.
5. Warn patients to avoid purposefully touching the Louis Button with their tongue or fingers.
6. Remove the Louis Button 7–10 days after surgery, by pulling directly upward on the button.



Post-op with Louis Button

The More Powerful, Louis Button II



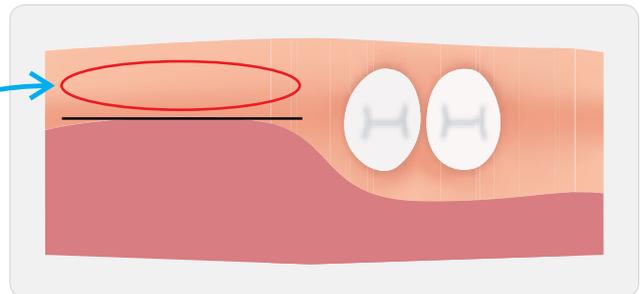
- ✓ Aggressive adjustment of tissues thanks to an 8° wing angle. Stopper
- ✓ function prevents sinking.
- ✓ Higher compatibility thanks to enhanced tension.

II. Concept of Louis Button

The Concept Behind the Louis Button

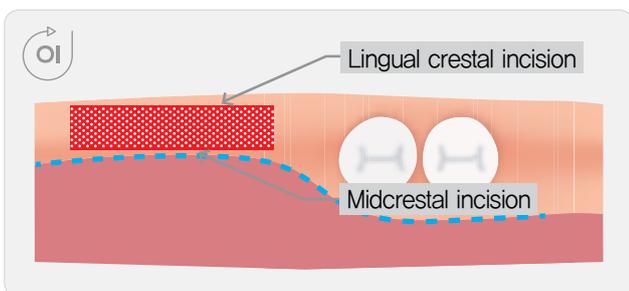
- During crestal incisions within the edentulous area, keratinized mucosa exists lingually behind the midcrestal incision point.

More keratinized mucosa

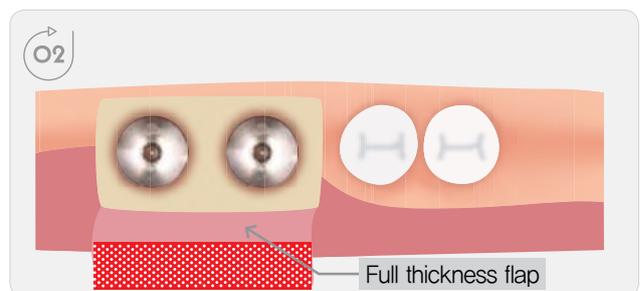


- A Full Thickness Apically Positioned Flap (fAPF) with lingual crestal incision is performed to make use of improved, lingually placed keratinized mucosa.

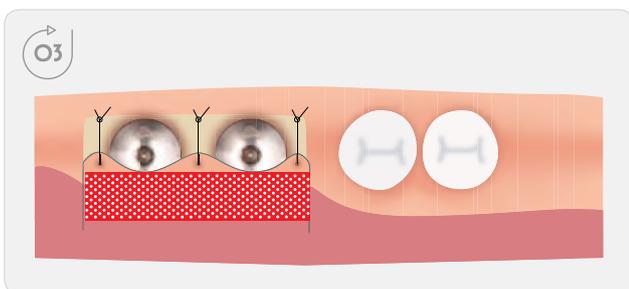
Full Thickness Apically Positioned Flap (fAPF) with Lingual Crestal Incision Surgery Procedure



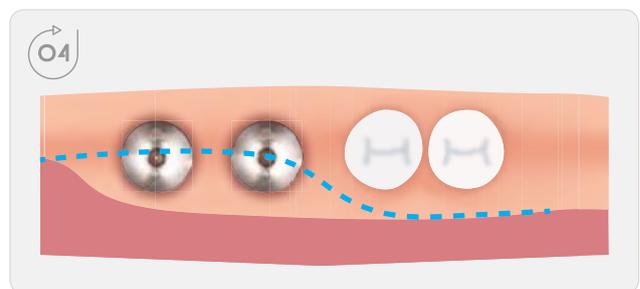
Make a lingual crestal incision (instead of a midcrestal incision) for better access to keratinized mucosa.



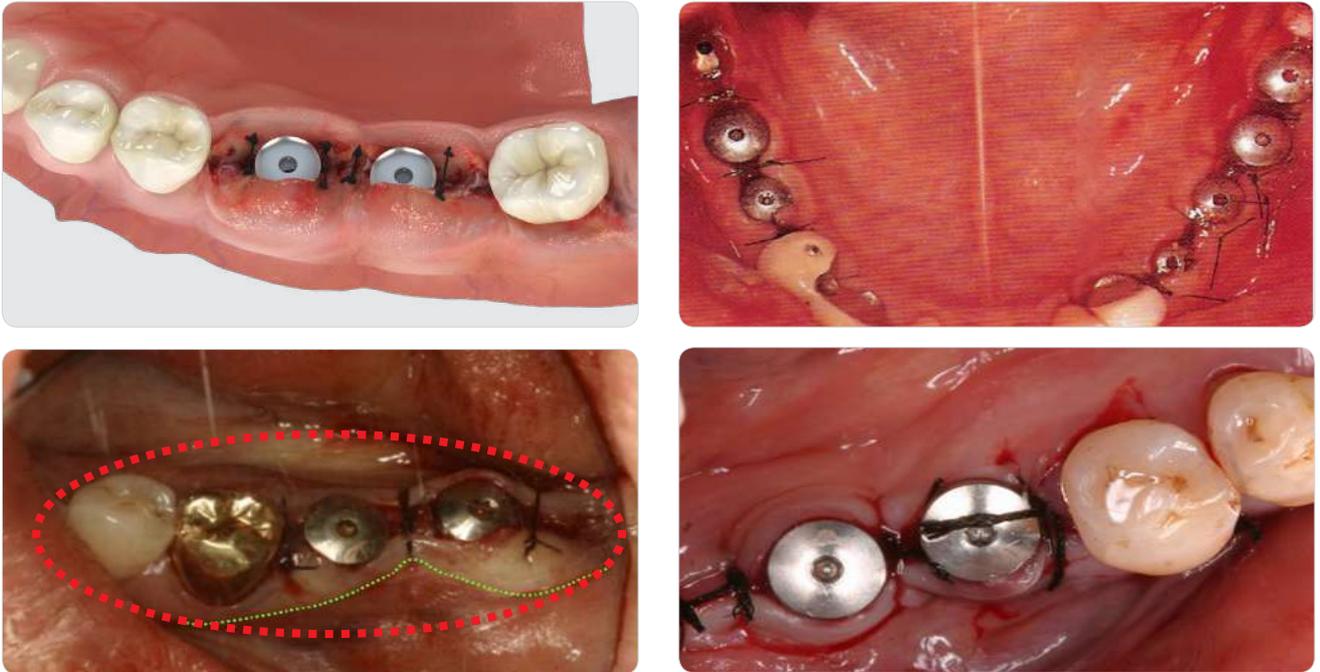
Create a full thickness or partial thickness flap (full thickness is preferred.)



Proximal site – secondary healing of loose sutures.



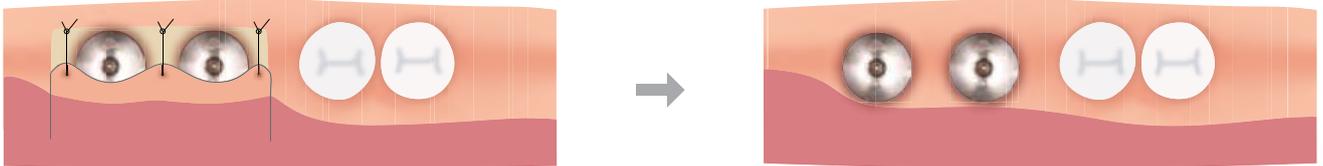
Suture Drawbacks



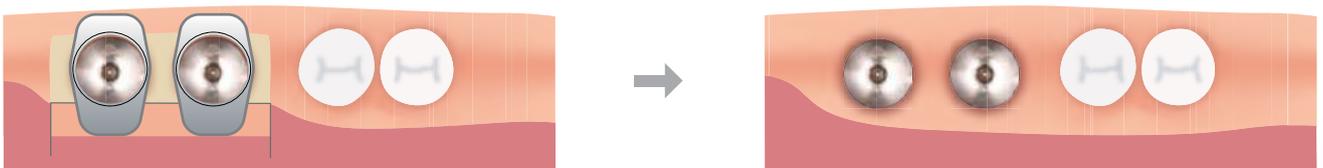
When using fAPF with a lingual crestal incision, some keratinized mucosa is lost during suturing. Due to the tension of sutures, some of the keratinized mucosa will move occlusally preventing attachment to the alveolar bone. The total amount of attached keratinized mucosa expected to be gained from this procedure is reduced.

Prevent Drawbacks Caused by Suturing

• Suture



• Louis Button

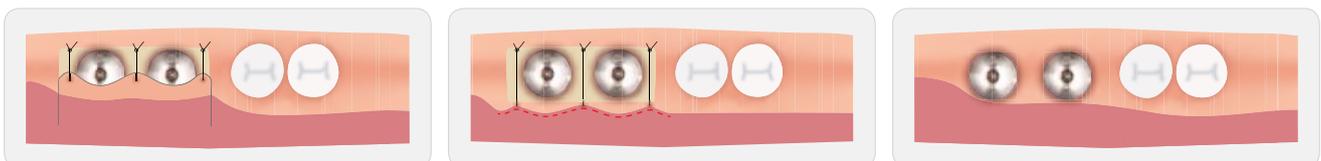
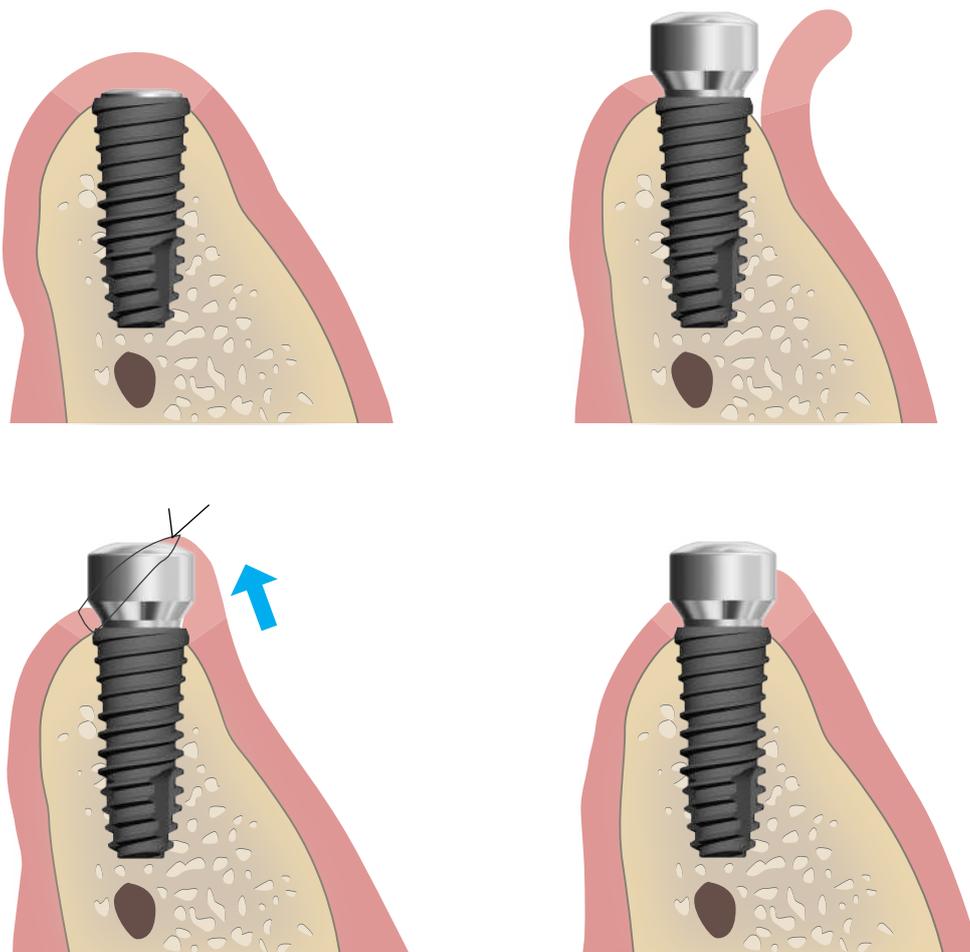


The Louis Button depresses any keratinized mucosa gained from the lingual crestal incision, encouraging attachment with the alveolar bone. This prevents the loss of keratinized mucosa as free gingiva.

III. Differentiation

Comparison of Suture and the Louis Button Methods

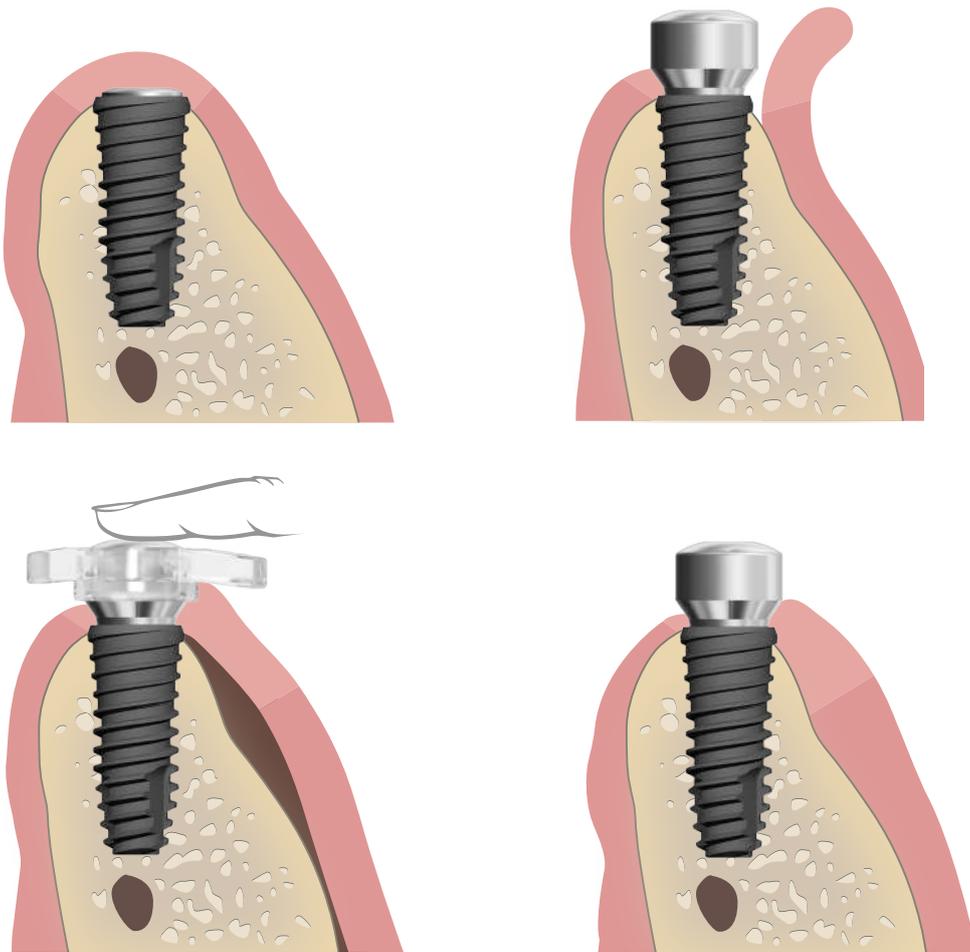
| Suture



When assessing cross-section of suture methods, it is possible to see the drawback of using sutures with a lingual crestal incision. Because the crestal incision is lingually located, the flap length is longer. Consequently, even the slightest tension of the suture can pull the long flap upwards towards the healing abutment. All keratinized mucosa moved onto the healing abutment instead of attaching to alveolar bone will be lost as free gingiva.

Louis Button

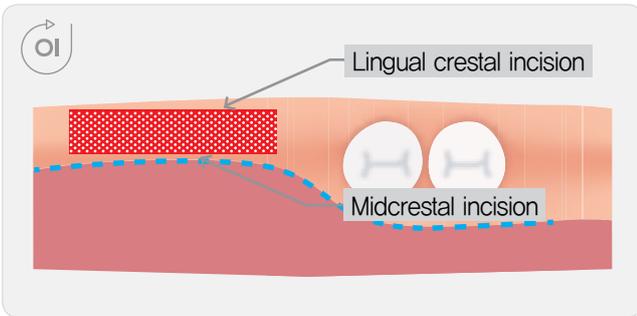
— Keratinized gingiva
— Alveolar mucosa



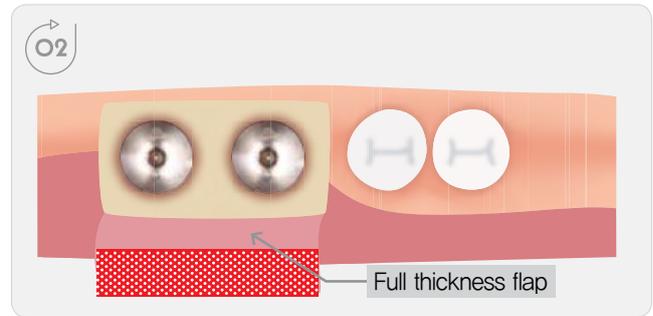
In contrast, the Louis Button pushes the flap downward, preventing keratinized mucosa from moving up onto the healing abutment. The majority of keratinized mucosa will attach to the alveolar bone and become attached keratinized mucosa.

IV. Procedure

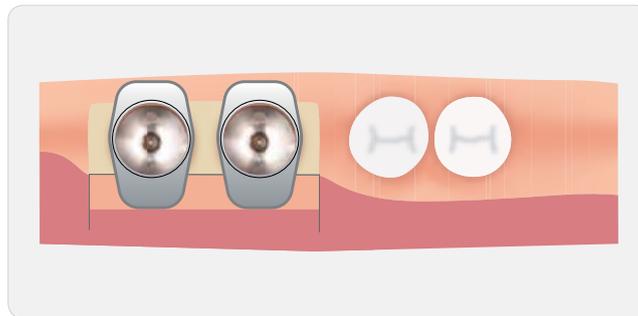
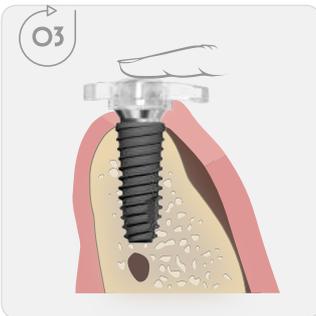
General Procedure Recommendations of the Louis Button II



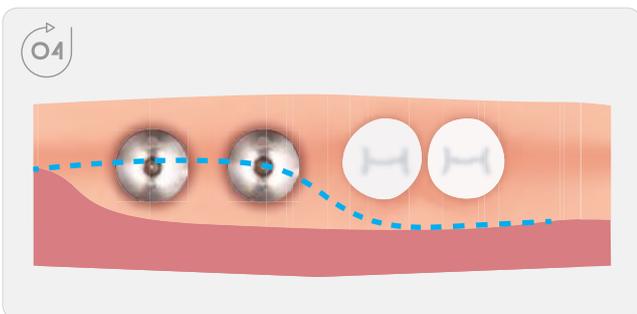
Make a lingual crestal incision to encourage greater mucosa keratinization.



Make a full thickness flap and connect the healing abutment to the fixture.



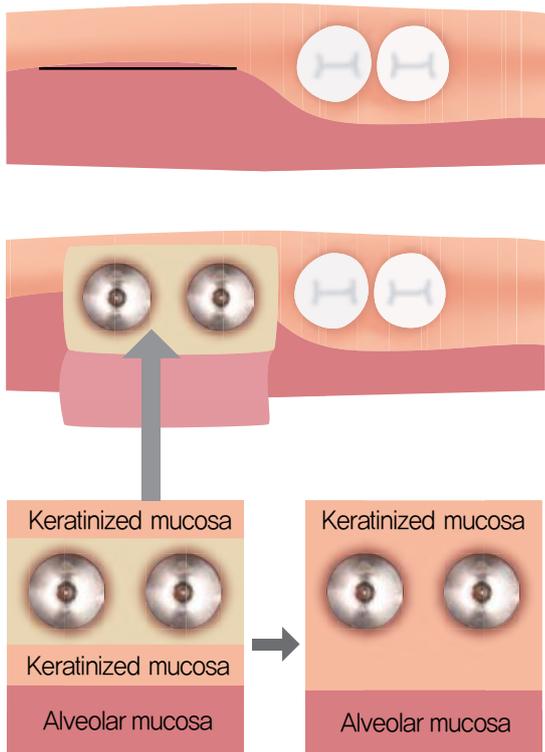
Place the Louis Button it onto the healing abutment and using one finger, press firmly in the center until it snaps into place.



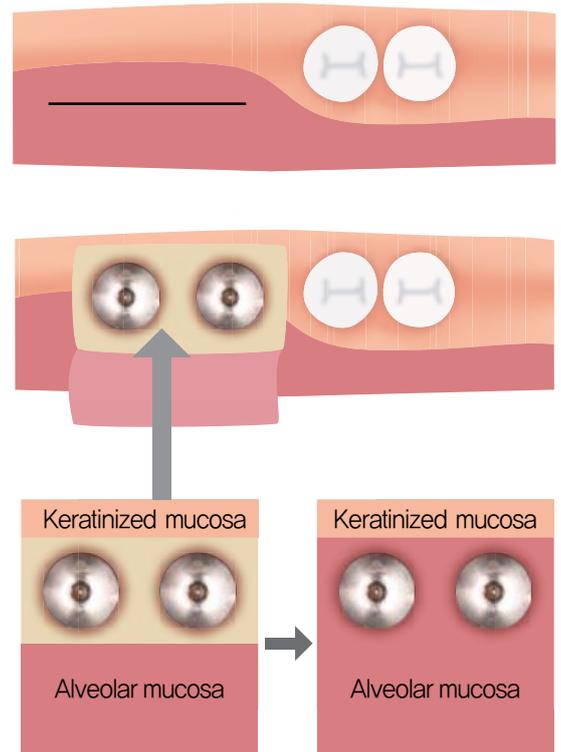
Remove the Louis Button 7–10 days after surgery by pulling directly upward.

The Difference in Flap Design

A Crestal Incision Made Within Keratinized Mucosa

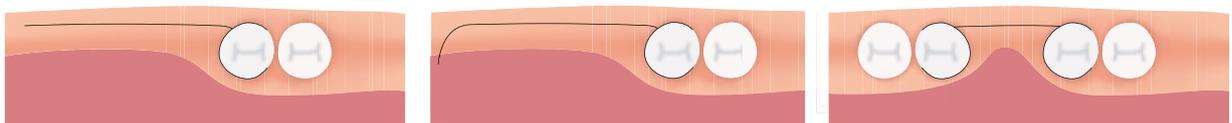


A Crestal Incision Made Outside of Keratinized Mucosa



For exposed proximal bone to fill with keratinized mucosa, both margins of the lingual and buccal flap needs to be keratinized. For this to occur, the crestal incision must be placed inside of keratinized mucosa.

Recommended Flap Design



임상적으로 수직절개를하지 않는 것이 보다 좋은 결과를 보여주기 때문에 꼭 필요한 경우를 제외하고는 수직절개를 추천하지 않는다.

Q & A

Q. How to do when patients complain with those get canker sores in their lingual after connecting Louis Button?

A. The reason of implants were placed toward the lingual path. When connected Louis Button's lingual wing stick out more than appearance of lingual gingiva, you can trim that part with burs such as green stone point.

V. Pre-Clinical Study

Effect of the Use of a Ready – Made Plastic Stent on the Peri-implant Soft Tissue

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Objective	This study compared the effect of the use of a ready-made plastic stent on the width of peri-implant keratinized mucosa with that of conventional methods and examined the effects of a plastic stent on peri-implant soft tissue.
Materials and Methods	Five young-adult beagle dogs were used. Forty titanium implants were placed in the mandibular alveolar ridge. Stage 2 surgery was performed 8 weeks after implant installation. Each dog received a full-thickness, apically positioned flap (APF) with a lingual crestal incision using a suture material in the control group (n = 20) and a ready-made plastic stent in the test group (n = 20). The keratinized mucosa width after stage 2 surgery was measured in each group. The pocket depth, length of connective-tissue contact and biological width were measured in the tissue samples. A student's t-test was used to test the differences between the groups (95% confidence level).
Results	The width of the keratinized mucosa was significantly higher and the distance from the top of the implant platform to the mucogingival junction was significantly longer in the test group than the control group. Histometric observations revealed the pocket depth and biological width to be significantly lower in the test group than the control group.
Conclusion	The use of a APF with a lingual crestal incision using a ready-made plastic stent can effectively preserve or enhance the width of the keratinized mucosa and might restore a more optimal biological environment at the early soft-tissue healing stage.

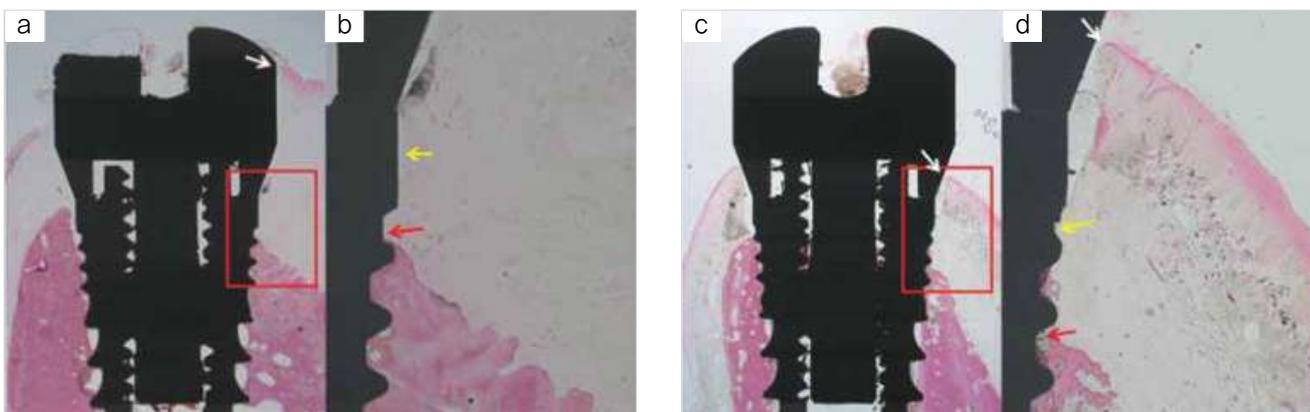


Figure 1. Buccal aspect of the histology section (hematoxylin and eosin stain). (a) Histology section in the buccolingual direction in the control group (12.5); (b) High-power view of the apical extension of the peri-implant epithelium in the control group (40). (c) Histology section of a sample obtained from the test group (12.5). (d) Histology section of a sample obtained from the test group (40). Pocket depth and biological width were lower in the test group than in the control group. (White arrow: marginal portion of mucosa, yellow arrow: apical portion of the junctional epithelium, red arrow: first bone-implant contact.)

VI. Clinical Cases

Case I

Hwan-suk Choi
 D.D.S., Yedameun Dental Clinic, KOREA

Before & After



Before



After

Procedure



Fig.1a-b Pre-op clinical views, Occlusal view (a), Buccal view (b)



Fig.2 Implant placement and attached Louis Button II



Fig.3 1 day after surgery



Fig.4 2 days after surgery



Fig.5 4 days after surgery



Fig.6 9 days after surgery



Fig.7 9 days after surgery
 Louis button II removal



Fig.8 16 days after surgery



Fig.9 7 weeks after surgery



Fig.10 3 months after surgery



Fig.11 Abutment connection



Fig.12 Delivery final prosthesis
 Buccal view

Case II

Hwan-suk Choi
D.D.S., Yedameun Dental Clinic, KOREA

Before & After



Before



After

Procedure



Fig.1 Incision



Fig.2 Implant placement and attached Louis Button II & Orascar



Fig.3 1 day after 2nd surgery



Fig.4 3 days after 2nd surgery



Fig.5 9 days after 2nd surgery



Fig.6 9 days after 2nd surgery
Louis Button II removal



Fig.7 1 month after surgery



Fig.8 Abutment connection



Fig.9 Temporary splint crown setting

Case III

Hwan-suk Choi
D.D.S., Yedameun Dental Clinic, KOREA

Before & After



Before



After

Procedure



Fig.1 Incision



Fig.2 Implant placement and attached Louis Button II & Orascar



Fig.3 1 day after surgery



Fig.4 8 days after surgery



Fig.5 8 days after surgery
Louis Button II removal



Fig.6 1 month after surgery

Case IV

Hwan-suk Choi
D.D.S., Yedameun Dental Clinic, KOREA

Before & After



Before



After

Procedure



Fig.1 Incision



Fig.2 Implant placement and attached Louis Button II & Orascar



Fig.3 Orascar removal 1 day after surgery



Fig.4 1 week after surgery



Fig.5 1 week after surgery
Louis Button II removal



Fig.6 5 weeks after surgery



Fig.7 Delivery final prosthesis



Fig.8 Radiography after prosthesis delivery

Case V

Hwan-suk Choi
D.D.S., Yedameun Dental Clinic, KOREA

Before & After



Before



After

Procedure



Fig.1 Incision



Fig.2 Post-op P.A.



Fig.3 Implant placement and attached Louis Button II & Orascar



Fig.4 1 day after surgery



Fig.5 2 days after surgery



Fig.6 5 days after surgery



Fig.7 9 days after surgery
Louis Button II removal



Fig.8 2 weeks after surgery



Fig.9 4 weeks after surgery



Fig.10a-b 1 month after surgery. Occlusal view (a), buccal view (b)



Fig.11 Final prosthesis were delivered.

Case VI

Yang Ki-Bin
D.D.S., Ph.D., Songdo Eplant Dental Clinic, KOREA

Before & After



Before



After



Fig.1 1 day after implant installation



Fig.2 1 week after surgery Louis Button removal



Fig.3 5minutes after Louis Button removal



Fig.4 5 Weeks after Louis Button removal

Case VII

Yang Ki-Bin
D.D.S., Ph.D., Songdo Eplant Dental Clinic, KOREA

Before & After



Before



After

Procedure



Fig.1 Pre-op intraoral photo



Fig.2 Implant installation



Fig.3 Attached Louis Button



Fig.4 1 week after implant surgery



Fig.5 1 week after surgery Louis Button removal



Fig.6 4 weeks after implant surgery

Case VIII

Yang Ki-Bin
D.D.S., Ph.D., Songdo Eplant Dental Clinic, KOREA

Before & After



Before



After

Procedure



Fig.1 Pre-op intraoral photo



Fig.2 Attached Louis Button



Fig.3 3 days after implant installation



Fig.4 1 week after implant surgery



Fig.5 1 week after surgery
Louis Button removal



Fig.6 4 weeks after implant surgery



Fig.7 8 weeks after implant surgery

Case IX

Yang Ki-Bin
D.D.S., Ph.D., Songdo Eplant Dental Clinic, KOREA

Before & After



Before



After

Procedure



Fig.1 Pre-op radiography



Fig.2 Pre-op intraoral photo



Fig.3 Post-op radiography



Fig.4 Attached Louis Button



Fig.5 After surgery



Fig.6 1 week after implant surgery



Fig.7a-b 1 week after surgery Louis Button removal. Occlusal view (a), buccal view (b)



Fig.8a-b 2 weeks after implant surgery. Occlusal view (a), buccal view (b)



Fig.9a-b 3 months after implant surgery. Occlusal view (a), buccal view (b)



VII. Specifications

Louis Button II

Specification of Louis Button II

Code. No	Diameter
Ø4.0	DLB2T40
Ø4.5	DLB2T45
Ø5.0	DLB2T50
Ø5.5	DLB2T55
Ø6.0	DLB2T60
Ø6.5	DLB2T65
Ø7.5	DLB2T75

* Choose the same diameter Louis Button with healing abutment

1Box = 10EA



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