

AETIOLOGY

Buccal mucosa is the inner lining of the cheeks, lips and the entire oral cavity from the line of contact between the opposing lips to the line of attachment of the mucosa to the alveolar ridges and pterygomandibular raphe. It occupies an area of 50-60 cm².

When surgery needs to be performed in the oral cavity, this mucosa is damaged due to the need to make an incision in order to reach the inner parts of the buccal structure to be treated.

After surgery, the mucosa must repair itself (heal) until it returns to its initial state.

POSSIBLE CAUSES

The oral tissues can be affected by traumatic events. Some traumas are caused by harmful agents that accidentally disturb and injure the tissues; in other cases, wounds are caused when a patient undergoes surgery.

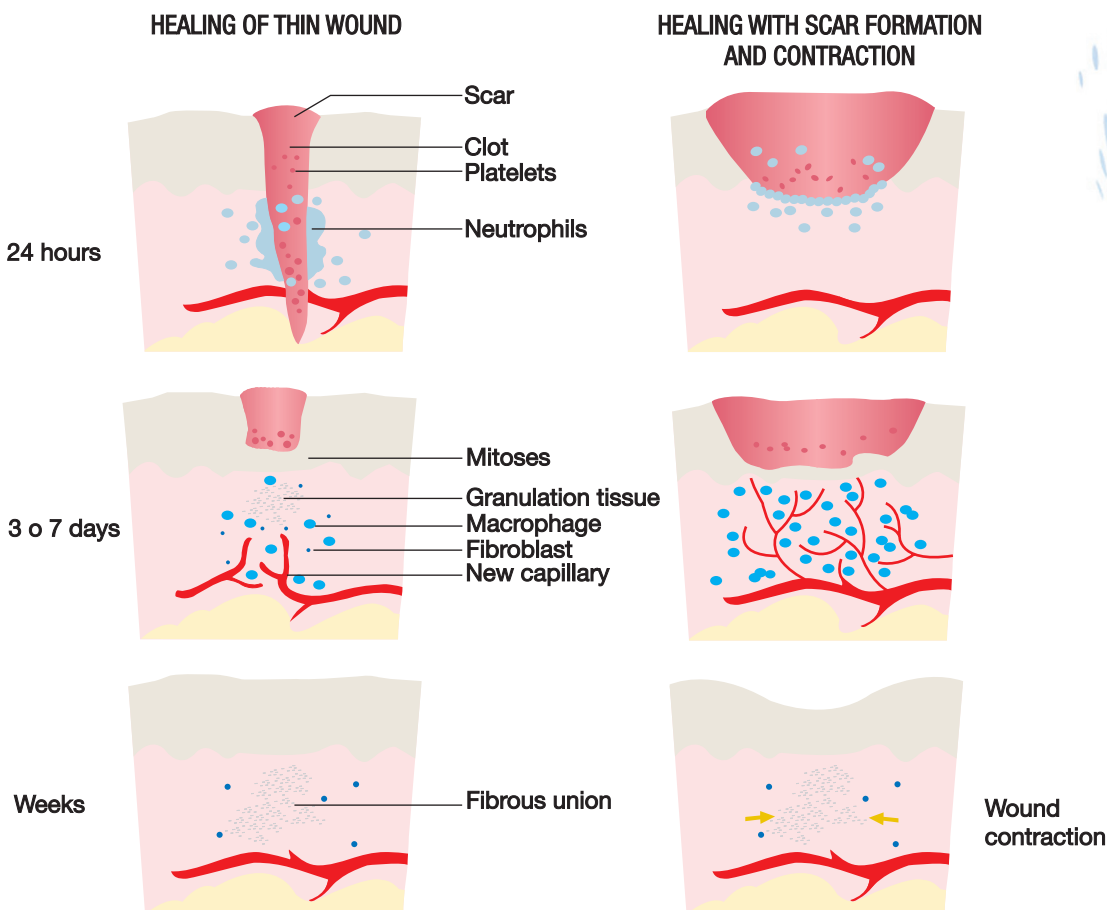
This applies to:

- Implant placement to replace lost teeth.
- Autografts performed due to lack of tissue.
- Tooth extractions.
- Tumour removal.

These are just some examples of procedures in the oral cavity.

CLINICAL FEATURES

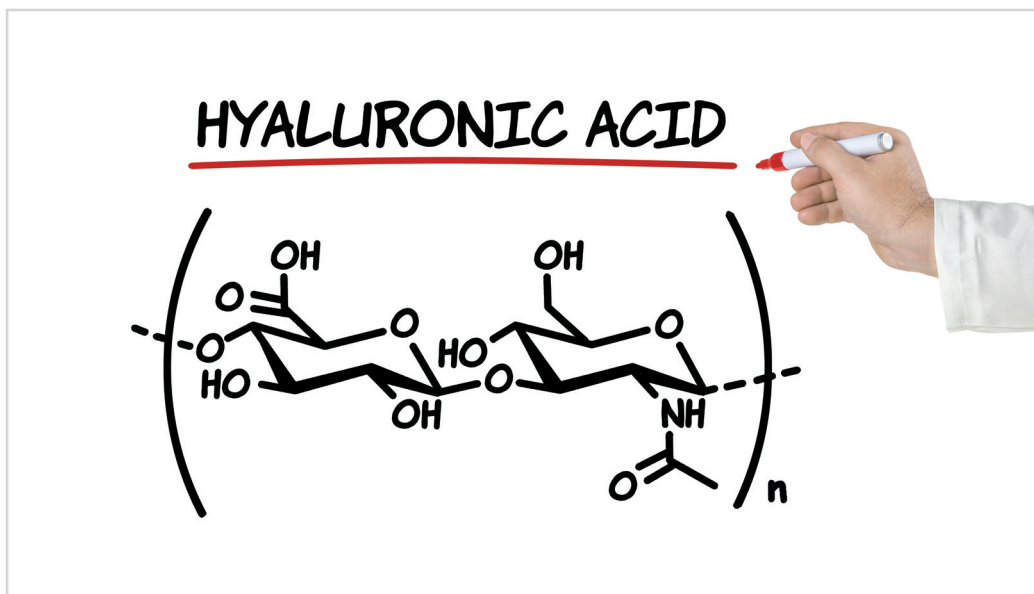
Wound healing is the result of tissue regeneration and wound closure. It is not an isolated phenomenon, and its development depends on a series of biochemical factors in the lesion, changes in tissue structures, and a series of processes that lead to scar formation.



ROLE OF HIGH MOLECULAR WEIGHT IN AFTER SURGERY

HA is a high-molecular-weight glycosaminoglycan (GAG) the most abundant high-molecular-weight GAG in soft periodontal tissues.

Repeating disaccharide unit



After being synthesised in the cell membrane, it is released into the extracellular matrix without being bound to proteins or lipids, which makes it free of allergenic compounds.

A molecule of HA has a high hydrodynamic volume, and HA solutions exhibit high viscosity and elasticity, characteristics that explain its properties:

- Space filling
- Lubrication
- Shock absorption
- Protein exclusion
- Decreased penetration of viruses and bacteria

Due to the above-mentioned characteristics, HA has the following effects:

- Modulating effects on inflammation
- Bacteriostatic effects and effective action against *Candida albicans*
- Improves the tissue regeneration processes due to its bacteriostatic effect, its hygroscopic properties and its role as a component of the HA-fibrin matrix
- Stimulates the formation of blood vessels (angiogenesis)
- Accelerates bone regeneration, stimulating osteoinduction, as has been demonstrated in animal models
- Acts as a sustainable biomaterial in bone remodelling techniques

THE USE OF GENGIGEL®

A number of factors contribute to the success of the treatment and effective tissue repair, such as:

Ensuring that surgery is as little traumatic as possible

In this context, the design of the flap must take account of the need to maintain tissue vascularity, making primary-intention incisions and avoiding ancillary incisions which may interfere with healing later.

Asepsis

To ensure effective healing, good asepsis in the surgical field is essential.

Providing postoperative conditions suitable for each case (e.g. rest and immobility of the area)

Moreover, in practice, it has been reported that the use of hyaluronic acid not only externally, on the wound, but also inside the wound, provides good wound-healing results. The use of external HA improves tissue regeneration processes, due to its bacteriostatic effect, its hygroscopic properties and its role as a component of the HA-fibrin matrix.

Moreover, if the bone is damaged during surgery, the use of external HA will accelerate bone regeneration, stimulating osteoinduction, and may help during surgical procedures, as it can act as a sustainable biomaterial in bone remodelling techniques.

As successful healing requires a favourable local and general environment that allows the body to regain its condition prior to the tissue injury¹, and HA has all the effects described in the previous section, it seems clear that HA can facilitate better, more rapid wound healing.

BIBLIOGRAPHY

- 1 Felzani Odontólogo Ricardo. Cicatrización de los tejidos con interés en cirugía bucal: revisión de la literatura. Acta odontol. venez [Internet]. 2005 [citado 2018 Ene 16]; 43(3): 310-318.
- 2 Robbins & Cotran. Pathologic Basis of Disease, 8th edition.
- 3 Bansal J, Kedige SD, Anand S. Hyaluronic acid: A promising mediator for periodontal regeneration. Indian J Dent Res 2010;21:575-578.
- 4 Sakasi T, Watanabe C. Stimulation of osteoinduction in bone wound healing by high-molecular hyaluronic acid: Bone 1995;16:9-15.
- 5 Silvera Arenas LA, Barrios de Zurbarán C. La matriz extracelular: el ecosistema de la célula. Salud Uninorte. Barranquilla 2002;16:9-18.
- 6 Salazar Monsalve L, Rodríguez Lara V, González Villalva AE. En Fortoul T, Castell A. Histología y biología celular. McGrawHill México, 1^a ed. 2010. Capítulo 5: Tejidos.
- 7 Choukroun J, Diss A, Simonpieri A et al. Platelet-rich fibrin (PRF): A second-generation platelet concentrate. Part IV: Clinical effects on tissue healing. Med Oral Pathol Oral Radiol Endod 2006; 101:E56-E60.
- 8 Peterson L.J., Hupp J., Ellis E., Tucker R. Contemporary oral and maxillofacial surgery. St. Louis: Mosby; 1988.
- 9 GENGIGEL® approved leaflet.