



Classification of facial fibrosis: a guideline

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DOI: <https://doi.org/10.54448/mdnt22308>

Received: 05-14-2022; Revised: 07-27-2022; Accepted: 08-04-2022; Published: 08-22-2022; MedNEXT-id: e22308

Letter to the editor

In the scenario of cervicofacial liposculpture and other aesthetic procedures, there may be consequences such as the formation of fibrosis [1,2], being a natural physiological process under any incision that involves penetration into the reticular dermis [2,3]. Thus, residual fibrosis must be reviewed, and for the best treatment, it is imperative to know in detail the stages or classifications of fibrosis formation.

In this context, to understand the effects of the lesion and the potential for fibrosis formation, the professional in facial aesthetic procedures must first understand the histology and physiology of the skin [3-5]. The skin is separated into an epidermis, dermis, and hypodermis [1,6]. After the epidermis, the dermis is separated into superficial (papillary) and deeper (reticular). The dynamic process of fibrosis formation is complex, involving many different cell types, including epithelial stem cells, located in the stratum basale, and pilosebaceous units located in the dermis [7].

As a general rule, any wound that extends into the reticular layer will invariably cause fibrosis or scarring. The process of fibrosis formation involves three primary overlaps which are inflammation, proliferation, and remodeling [2,7,8]. Thus, in the first year, there is reepithelialization of stem cell migration, deposition of extracellular matrix, and type III collagen. Furthermore, remodeling with type I collagen replacement will determine the composition of the final fibrosis [3,7]. At around 4 to 6 weeks, fibrosis formation reaches about 60% of its original strength [4].

In this regard, to ensure the best aesthetic result, the appropriate surgical technique must include delicate tissue manipulation, aseptic technique, the precision of anatomical dissection, careful hemostasis, adequate

design, debridement of devitalized tissue, closure of deep layers to obliterate space, wide detachment, edge eversion, avoidance of tension and aesthetically favorable alignment [7-10].

In this sense, fibrosis can be classified as hypertrophic (HP), keloid (K), or nonhypertrophic (NHP) [2,11]. HP presents with raised, pigmented, excessive marks, confined to the original wound edges, and normally regresses slowly, whereas K is erythematous and elevated fibrous that invade the surrounding normal dermis to extend beyond the limits of the original wound and do not regress. [12]. The NHP may be depressed (atrophic), enlarged, or with unfavorable features. However, ideal fibrosis is narrow, flat, flush with surrounding tissue, and difficult for the untrained eye to see [8-10].

Therefore, this article aimed to present a guideline on the classification of facial fibrosis, as well as to present the best moment of interventions for the treatment of fibrosis after aesthetic procedures.

Guideline - fibrosis classification

It was defined through meticulous analyzes and clinical observations that the classification of fibrosis follows a scale (index) from 0 to 3, determining Facial Fibrosis (FF) from FF0 to FF3 index. It was evaluated in the proliferative phase between the seventh (7th) and the twenty-fifth (25th) day, as shown in **Table 1**.

Best Intervention Moment

The timing of the intervention depends on the type of procedure that is planned and the presence of functional deficiencies. Review after 8 to 12 weeks in adults and 6 months in younger children may be

Table 1. Classification of fibrosis index FF0 to FF3.

<i>Facial Fibrosis Index</i>	<i>Visual and Anatomical Features</i>
<i>Index 0 - FF0</i>	❖ No level of fibrosis was detected, either visually, or through palpation with the patient in an upright position.
<i>Index 1 - FF1</i>	❖ Fibrosis is only detected on palpation with the patient in an upright position, but nothing can be seen visually.
<i>Index 2 - FF2</i>	❖ Fibrosis was detected on palpation and visually with the patient in an upright position.
<i>Index 3 - FF3</i>	❖ Fibrosis generates undulations or raised cords on the face.

appropriate [10]. If fibrosis has formed uneventfully and presents only an aesthetic concern, then the time will depend on the planned intervention and the maturation of the fibrosis [11].

In this context, non-surgical options can be performed earlier, while surgical revisions are best performed when scars have matured. Some lasers can be performed immediately after suture removal [12,13]. Dermabrasion is often performed 4 to 12 weeks after the injury [14]. Surgical revisions can be competently performed after a period of 3 to 6 months, although many advocates postponing surgical revisions until 6 to 12 months to allow complete maturation of the fibrosis [5,9,11].

Finally, if the surgeon is to perform a surgical revision before 6 months, it is prudent to perform massages on the fibrosis, avoid the sun, intense hydration, silicone covering, and steroid injections, to accelerate the maturation of the fibrosis and minimize the erythema adjacent tissue or edema [3,4].

Acknowledgement

Not applicable.

Funding

Not applicable.

Ethics approval

Not applicable.

Informed consent

Not applicable.

Data sharing statement

No additional data are available.

Conflict of interest

The authors declare no conflict of interest.

Similarity check

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