

# Updates on Peri-implant Soft Tissue Stability Over Time, Guaranteeing Successful Rehabilitation

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*World Journal of Dentistry* (2023): 10.5005/jp-journals-10015-2298

During the last years, dental implant therapy has become very common due to the higher quality results and the great predictability of the treatment.<sup>1</sup> Although the implant represents the solution to edentulism, immediate postextraction implantology often allows excellent esthetic outcomes to be obtained with reduced treatment times and is often an indicated solution when orthograde, retrograde endodontic retreatment, or periodontal problems are not easily overcome.<sup>2-4</sup>

From this point of view, high levels of success can only be obtained if the soft tissues around the tooth are already preserved at this level or if they are regenerated if they have already been lost.<sup>5-7</sup>

Moreover, results of recent studies suggest that soft tissues around implants may be characterized by a higher pro-inflammatory state compared with soft tissues around teeth despite adequate implant-prosthetic planning, correct implant emergence, correct prosthetic profiles, and adequate esthetics.<sup>6,8-10</sup> Once the necessary levels of thickness and volume of the peri-implant soft tissues have been obtained or maintained, it is possible to manage them over time by keeping them stable thanks to inflammation control, with makers that allow us to anticipate clinical and radiographic signs of pathology.<sup>8,11</sup> In order to obtain this level of tissue stability over time, it is also necessary to analyze the implant rehabilitation from a prosthetic point of view.<sup>12</sup>

From a prosthetic point of view, various solutions currently allow respecting the peri-implant soft tissues. More and more evidence allows us to confirm the risk of rehabilitating with cement-retained prosthetic solutions.<sup>13</sup> Several types of cement have been shown to have an inflammatory action at the implant level, leading to a rapid deterioration of the connective-mucous seal obtained around the implant rehabilitation.<sup>13,14</sup> The use of this kind of solution should always be accompanied by cements that are water-soluble, radiopaque, and therefore easily eliminated as excesses, antibacterial, and anti-inflammatory.<sup>13</sup> Achieving soft tissue stabilization as coronal as possible is one of the main objectives in obtaining esthetic results and may help diminish early peri-implant bone resorption.<sup>9</sup> In order to obtain this result, the materials of which the prosthesis is supported on implants are made, and not only that, also the loading or provisionalization time must be controlled.<sup>15,16</sup> Currently, at least to the knowledge of the authors, there is no important indication in the literature of the levels of inflammation or long-term stability produced by prostheses made of different materials.<sup>16-18</sup> We can only indicate some of these materials as the most recommended from the point of view of their mechanical behavior in the distribution of stresses at the implant level.<sup>18</sup>

Considering that the peri-implant tissues (connective tissue and epithelium) have two functions regarding the protective role: the first one is similar to periodontal sealing and adhesion on the tooth,

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**How to cite this article:** Pagnoni F, Bhandi S, Bramucci C, et al. Updates on Peri-implant Soft Tissue Stability Over Time, Guaranteeing Successful Rehabilitation. *World J Dent* 2023;14(9):737-738.

**Source of support:** Nil

**Conflict of interest:** None

which mitigates bacterial contamination, the second role is related to mechanical tissue stability around the implant.<sup>2,6,8</sup>

The role of the prosthetic material that is inserted at the level of the peri-implant sulcus is absolutely fundamental, not only in terms of type but also in terms of the different surface treatments received by the material, which can turn into a different reaction on the part of the soft tissues.<sup>17,18</sup>

In particular, at the level of the supracrestal area, this part of the restoration is a key factor for maintaining the connective tissue at the supracrestal level and, in turn, for bone preservation.<sup>12,18</sup>

Probably, the research on how to preserve and then keep the levels of inflammation of the soft tissues stable in this area represents a fundamental trend for the achievement in the future of levels of stability of the esthetic result obtained with implant rehabilitations even longer over time.

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