

# An Update of the Different Effects on Peri-implant Tissues by Screw- or Cement-retained Implant Restorations

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During the last decades, dental implants therapy became very common, due to the higher quality results and the great predictability of the treatment, often associated with greater simplicity in prosthesis management compared to complex teeth retreatments.<sup>1,2</sup>

Results of the recent studies suggest that soft tissues around implants may be characterized by a higher proinflammatory state compared with soft tissues around teeth, despite adequate implant–prosthesis planning, correct implant positioning and emergence, correct prosthetic rehabilitation profiles, and adequate esthetics.<sup>1,3–6</sup>

Controlling and, if possible, reducing the peri-implant inflammation levels can guarantee long-term implant success, and slow down if not completely cancel peri-implant bone loss.<sup>4,6,7</sup>

Achieving soft tissue stabilization as coronal as possible on the prosthetic restoration is one of the main objectives in obtaining esthetic results, and may help to diminish early peri-implant bone resorption.<sup>8,9</sup>

Moreover, the fact that peri-implant bone volume and height can be increased has been amply demonstrated by various authors, guaranteeing the stability of the clot by eliminating the micro-movements of the prosthetic components.<sup>10</sup>

Surely, these gaps and micro-movements are reduced by the use of cemented prostheses, which, however, forces the use of cements often considered definitive to avoid continuous decementations, especially in the posterior areas.<sup>11</sup>

In this regard, however, the use of definitive cements is not recommended due to technical aspects related to the management of the prosthesis over time, and to the possibility that uncleaned cement remnants can cause the phenomenon defined as “peri-ementitis,” especially in regard to resinous cements.<sup>11,12</sup>

Regarding the use of cement-retained prostheses, still necessary in cases of important implant inclination or dissimilarity between implants, it must be kept in mind that a small amount of cement remnants will always remain in the gingival sulcus, the use of eugenol-free oxide cement made it possible to find no residues in the soft tissues but only in adhesion to the implant and prosthetic components, the incidence of implant pathology due to subgingival cements remnants is limited if no resin cements are used.<sup>11</sup>

If it becomes necessary to use cemented prosthesis, then the provisional zinc–oxide cements, which are also eugenol-free, seem to represent the ideal choice to be brought into solution in oral fluids, as they are easily recognizable in intraoral radiography, are easily removed, and allow easier removal of prosthetic restorations, unlike definitive cements.<sup>11</sup>

In fact, the different grades of retentive forces provided by these cements do not seem to have a clinical effect on the decementation of the implant restorations.<sup>11</sup>

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The possibility of planning the implant positioning according to the most suitable dental crown with digital diagnostic wax-ups and with suitable planning software, improves the results of the rehabilitation, from both an esthetic point of view and functional point of view as well as a reduction in long-term complications.<sup>11,13–19</sup> In order to obtain excellent results with the screw-retained prosthesis, and to avoid the continuous unscrewing due to overload, the implant position must certainly be more suitable than the cemented solution, which allows an important ability to adapt to several implant inclinations, always without the use of intermediate components.<sup>12,13</sup>

In screwed prostheses and especially in immediate loading, the use of material with the ability of “shocks-absorption” is proving to be extremely interesting and must be investigated in the next few years to improve the already excellent implant success rate in immediate loads.<sup>20</sup>

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