

## Review Form 1.7

Journal Name:	<b>International Journal of Research and Reports in Dentistry</b>
Manuscript Number:	<b>Ms_IJRRD_117444</b>
Title of the Manuscript:	<b>Immediate implant placement with and without soft tissue graft: A Scoping Review</b>
Type of the Article	<b>Research</b>

### **General guideline for Peer Review process:**

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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**PART 1: Review Comments**

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p><b>Compulsory</b> REVISION comments</p> <ol style="list-style-type: none"> <li><b>Is the manuscript important for scientific community?</b> (Please write few sentences on this manuscript)</li> <li><b>Is the title of the article suitable?</b> (If not please suggest an alternative title)</li> <li><b>Is the abstract of the article comprehensive?</b></li> <li><b>Are subsections and structure of the manuscript appropriate?</b></li> <li><b>Do you think the manuscript is scientifically correct?</b></li> <li><b>Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</b></li> </ol> <p><b>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</b></p>	<ol style="list-style-type: none"> <li><b>Yes, the manuscript important for scientific community.</b></li> <li><b>Yes, the title of the article is suitable.</b></li> <li><b>Yes, it is comprehensive.</b></li> <li><b>Yes, subsections and structure of the manuscript appropriate.</b></li> <li><b>Yes, the manuscript is scientifically correct.</b></li> <li><b>Yes, references sufficient and recent.</b></li> </ol>	
<p><b>Minor</b> REVISION comments</p> <ol style="list-style-type: none"> <li><b>Is language/English quality of the article suitable for scholarly communications?</b></li> </ol>	<p>Background: Over the past two decades immediate implant placement (IIP) has gained attention for reducing edentulism periods and treatment time. However, IIP cannot correct changes in soft and hard tissues changes after tooth extraction, and restorative esthetics can be compromised. Soft tissue grafts are often recommended to convert thin gingival biotypes to thick before or at the surgery of placing implants in deficient areas.</p> <p>Purpose: The purpose of this paper is to compare direct implant placement with and without soft tissue grafting.</p> <p>Materials and Methods: This paper was designed as a scoping review. The search strategy included online search of biomedical databases using MeSH terms and keywords until December 2023.</p> <p>Results: Several studies and systematic reviews relevant to our topic were identified. But the results of these conflicted. More specifically, some report that there is no significant difference in the marginal change in bone level between the two treatment modalities, while others report that midfacial bone levels may be more stable after IIP and connective tissue graft (CTG), as CTG enhances soft tissue stability in the midfacial region after IIP.</p> <p>Conclusions: Even though available data show that simultaneous soft tissue augmentation around delayed or immediately placed implants results in an enhancement of both the quality and quantity of the tissues surrounding an implant, the level of evidence is low, these data should be interpreted with caution and more, well-designed clinical studies should be carried out for robust data and conclusions to be derived from them</p> <p>Keywords: Immediate implant placement, dental implant, soft tissue, connective tissue graft</p> <p>Introduction</p> <p>Over the past two decades, immediate implant placement (IIP) has received much attention from researchers. Clinicians and patients could benefit from reducing the edentulous periods and the number of treatments to be performed (Hartlev et al., 2014; Khzam et al., 2015). However, IIP cannot override the inevitable changes in the soft and hard tissues after tooth extraction (Botticelli et al., 2004; Araujo et al., 2005; Covani et al., 2007; Vignoletti et al., 2009).</p> <p>Esthetics can be compromised when extracting a single tooth, as it can be difficult to achieve a natural-looking restoration and healthy tissues of appropriate contour and color surrounding the implant. Midfacial loss is the predominant consequence of IIP, as documented by Cosyn et al. (2012a), Chen and Buser (2014) and Lin et al. (2014). Furthermore, a comprehensive study</p>	

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	<p>conducted in 2014 by Chen and Buser revealed that a significant recession of the midfacial mucosa, measuring at least 1 mm, occurred in 26% of implants placed early. Furthermore, it is imperative to keep in mind that the clinical situation may deteriorate gradually over time, despite initial favorable results observed within the year following the procedure (Kan et al., 2011; Cosyn et al., 2016).</p> <p>In a new prospective 10-year study by Seyssens et al. (2020), 33% of participants reported severe midface recession. It appears that the gingival biotype influences not only the dimensions of the facial bony wall, but also the extent of soft tissue collapse and the likelihood of midfacial recession in the immediate vicinity of implants (Bittner et al. 2019, Kinaia et al. 2017, Kan et al. 2017, Evans and Chen 2008).</p> <p>As thin mucosa is prevalent in the anterior maxilla, soft tissue grafts are frequently suggested to convert a thin gingival biotype to a thicker one prior to implant placement in an area that appears deficient. Several reviews have been published with respect to IIP with additional soft tissue augmentation using connective tissue graft (CTG): Lin et al. (2014), Lee et al. (2016), and Rojo et al. (2016). Nevertheless, during that period, there was a lack of satisfactory controlled clinical studies to directly assess the impact of implants placed immediately, whether with or without soft tissue support.</p> <p>The purpose of this paper is to compare direct implant placement with and without soft tissue grafting in terms of bone and mucosa parameters.</p> <p><b>Materials and methods</b></p> <p>This study was designed as a scoping review of the existing publications. The search strategy included an electronic literature search of the MEDLINE (Pubmed), Web of Science, Embase, and Cochrane databases in order to find clinical studies that met the specified criteria until December 2023. A combination of appropriate medical subject headings (MeSH) terms and key words was used either simple or multiple conjunctions using boolean operators. A manual search by a second, independent reviewer was also carried out.</p> <p><b>Results</b></p> <p>Among the retrieved studies, a randomized controlled trial (RCT) conducted to determine whether or not a connective tissue graft affected volume with immediate placement and provisionalization of implants in the esthetic zone (van Nimwegen et al 2018) offered important conclusions. Theoretically, the utilization of a connective tissue graft should result in increased stability of the soft tissues surrounding the implant. Regarding volume measurements at 12 months, no substantial disparities were observed between the two groups. The test group exhibited a greater degree of stability in midfacial mucosa levels from baseline to 12 months compared to the control group. It is clear from these results that the application of a CTG has no effect on mucosal volume loss. However, it appears that the utilization of a CTG yields more stable tissue levels in mid-facial tissue following a year of observation.</p> <p>Chappuis et al. (2013) attribute a substantial proportion of the volume reduction observed in both groups to the immediate implantation of implants and subsequent natural bone resorption in the facial bone. The people in the study group might have had a more noticeable drop in mucosal volume. Using the endoscopic envelope method to place the CTG below the mucosa could explain this. By stopping blood flow from the facial tissue to the bone walls, this treatment may speed up bone resorption. Also, it's still not clear how the change in CTG size in this study led to the drop in mucosal volume. An ultrasound a year later showed that the thickness of the mucosa had grown three months after the connective tissue graft (CTG) had been placed (De Bruyckere, Eghbali, Younes, De Bruyn, and Cosyn, 2015). This means that connective tissue grafts (CTGs) probably won't be able to fix the changes that were made to the facial bone wall by placing and immediately provisionalizing implants. Additional research employing cone beam computed tomography (CBCT) data is required to ascertain the alterations that take place in the facial bone subsequent to the application of a connective tissue graft (CTG) in the presence of mucosal volume loss.</p> <p><b>Discussion</b></p> <p>This review aimed to assemble all available data regarding the effect of soft tissue graft in immediate implant placement. In spite of the presence of several studies regarding this topic the level of available evidence for analysis is low (Aldhorah 2022). However, the available data show that simultaneous soft tissue augmentation around delayed or immediately placed implants results in an enhancement of both the quality and quantity of the tissues surrounding implants.</p> <p>According to available literature soft tissue augmentation seems to be advantageous in terms of buccal tissue thickness increase, marginal bone loss reduction and midfacial recession prevention.</p>	
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	<p>Contemporary data show that this technique should be an option if need for graft material cover or absence of attached gingiva is present. Regarding buccal tissue thickness, there is a gain in both immediate and delayed placement cases, but it is bigger in the latter. (Aldhorah 2022)</p> <p>This study has certain limitations. It constitutes a scoping review meaning that available evidence has not been systematically reviewed in a methodology that ensures sensitivity and specificity. However, recent studies have highlighted that available data are of low quality leading to cautious interpretation (Aldhorah 2022). Consequently, more, well-designed clinical studies are needed for robust data and conclusions to be derived from them.</p> <p>Conclusions</p> <p>The available data show that simultaneous soft tissue augmentation around delayed or immediately placed implants results in an enhancement of both the quality and quantity of the tissues surrounding implants. However, the level of evidence is low, these data should be interpreted with caution and more, well-designed clinical studies should be carried out for robust data and conclusions to be derived from them.</p> <ul style="list-style-type: none"> <li>- CHANGE THE WORDING</li> <li>- CHANGE THE VERB FORM</li> <li>- FIX THE AGREEMENT MISTAKE</li> <li>- CORRECT THE SPELLING</li> <li>- ADD AN ARTICLE</li> <li>- REMOVE THE COMMA</li> <li>- REPLACE THE PLACE</li> <li>- USE APPROPRIATE WORDS</li> <li>- CHECK THE SPACING AND INDENTION</li> </ul>	
<p><b>Optional/General</b> comments</p>	<p>None</p>	

**PART 2:**

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p><b>Are there ethical issues in this manuscript?</b></p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	

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