

CPG Implant supported overdentures in the edentulous upper jaw

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SUMMARY

The clinical practical guideline for Implant supported overdentures in the edentulous upper jaw is subdivided into the following chapters:

1. Introduction
2. Who is eligible for implants in the upper jaw?
3. What number of implants is most effective?
4. Challenging circumstances: with versus without prior bone remodelling
5. Challenging circumstances: with versus without teeth (partially versus totally edentulous).

This guideline is not applicable to edentulous patients with a previous oncological history in the head and/or neck area and to patients with other specific physical disorders that lead to severely complicated problems.

1. Introduction

Part of the more than two million group of Dutch people with dentures experience functional issues with their upper dentures due to a lack of retention and stability. A possible solution to this is an implant supported overdenture. This guideline examines under which circumstances this could be an option, how many implants will then be placed, whether there is sufficient bone present in the upper jaw and what challenges are presented by the situation in the lower jaw. On the basis of this, eight recommendations have been formulated.

2. Who is eligible for implants in the upper jaw?

Patients with edentulous upper jaws may benefit from an implant supported overdenture since this may yield an improvement in the oral function. The issue however, is the extent of the effectiveness and efficiency and which patients are eligible for such provisions.

On the basis of scientific literature and practical insights from the professional group, the following recommendations have been formulated for the treatment. The outcome measure for this is patient satisfaction.

Recommendation I. In patients with functional complaints regarding their upper dentures, a solution in the form of a new conventional set of dentures is preferable to overdentures on implants.

Recommendation II. An implant supported overdenture can be considered for patients with functional complaints resulting from extreme bone resorption for whom technical optimisation of the dentures is not expected to yield satisfactory effects.

Recommendation III. An implant supported overdenture can also be considered for patients with functional complaints resulting from complicating factors such as a dry mouth, thin fragile mucous membranes or pain due to pressure or friction caused by the dentures.

Recommendation IV. In patients suffering from functional complaints resulting from a lack of occlusion and articulation, these complaints should first be treated. For patients with neglected residual dentition in the lower jaw, making a full set of dentures for the lower jaw can be considered.



Recommendation V. For patients who have only recently lost their teeth, the decision to place an implant supported overdenture should be preceded by an assessment of whether the case in question concerns genuine complaints and realistic expectations regarding the end result.

3. How many implants are most effective?

In spite of the fact that the literature on this topic is not unequivocal, the tendency for an implant supported overdenture in the edentulous upper jaw is to opt for four or six implants distributed over the maxilla. These should be distributed in such a way that rotational movement of the implant overdenture is avoided as much as possible.

On the basis of scientific literature and practical insights from the professional group, the following recommendation has been formulated for the treatment. The outcome measure for this is implant success.

Recommendation VI. In patients with no teeth whatsoever with an indication for an implant supported overdentures in the upper jaw, the placement of four implants can be considered as an alternative to six implants.

4. Challenging circumstances: with versus without prior bone remodelling

Success percentages of implants in the edentulous upper jaw are lower than for those in the lower jaw. Implants in the upper jaw often come with specific problems. The upper jaw often has too little bone and/or bone quality to simply place implants in them. In order to proceed with this, the bone volume first needs to be supplemented with the patient's own bone material and/or a bone substitute.

This method leads to a complex course of treatment which entails a considerable burden for the patient. In addition to this, the financial consequences are significant. Implants in remodelled bone also exhibit a greater risk of failure than implants that are anchored in the patient's own jawbone material, particularly if the implants are ones with a 'machined surface'.

On the basis of scientific literature and practical insights from the professional group, the following recommendation has been formulated for the treatment. The outcome measure for this is implant success.

Recommendation VII. In the augmented (remodelled) upper jaw, the option of six implants is recommended for supporting an overdenture, provided sufficient space for the prosthetic construction can be guaranteed.

5. Challenging circumstances: partially edentulous versus totally edentulous.

For patients who still have teeth in their lower jaw (partially edentulous), it is often difficult to achieve stable occlusion and articulation. The dentures are more likely to pivot, which may lead to bruxism (grinding and clenching). In that case, one could opt for removing all the patient's remaining teeth (creating a totally edentulous lower jaw) subsequent to which dentures can also be made and fitted to this lower jaw. Generally speaking, this does enhance patient satisfaction. It is however not imperative for certain patients and is often experienced as a significant step to take.

On the basis of scientific literature and practical insights from the professional group, the following recommendation has been formulated for the treatment. The outcome measure for this is implant success.

Recommendation VIII. In patients with natural dentition in the lower jaw, it is recommended that possible complicating factors such as lack of acceptance, insufficient intermaxillary space and bruxism first be assessed prior to proceeding with implant supported overdentures for the upper jaw.



The comprehensive clinical practice guideline for Implant supported overdentures in the edentulous upper jaw can be found [here](#). Please note that the comprehensive version of this guideline is in Dutch.

