

CPG implant supported overdentures in the edentulous lower jaw

Version 1.0 –14.06.2019

SUMMARY

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

1. Introduction
2. Who is eligible for implants in the lower jaw?
3. How many implants?
4. What mesostructure?

1. Introduction

Part of the Dutch population with dentures experiences functional issues with their lower dentures due to a lack of retention and stability. A possible solution to this is an overdenture on implants. The objective of this guideline is to improve the quality and effectiveness of the care provided to patients with a total lower prosthesis (dentures). To this end, 12 recommendations have been formulated.

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

Patients with edentulous lower jaws may benefit from an implant supported overdenture. A more fixed prosthesis may offer more comfort and improve daily functionality.

On the basis of scientific literature and practical insights from the professional group, the following recommendations have been formulated for the treatment:

Recommendation 1. An implant supported overdenture is recommended for patients who have been edentulous (without teeth) for a longer period of time and who have to cope with functional problems due to retention and stability problems in circumstances where technical optimisation of the current prosthesis is not expected to yield sufficient effects.

Recommendation 2. An implant supported overdenture can be considered for patients who have only recently become edentulous and who are finding themselves having to deal with functional complaints such as those described in recommendation 1.

Recommendation 3. An implant supported overdenture can similarly be considered for patients with healthy dentition in the upper jaw and functional complaints in the lower prosthetic as described in recommendation 1.

Recommendation 4. An implant supported overdenture can similarly be considered for patients with functional complaints related to the lower prosthetic with an extreme class II or III jaw relation, thin vulnerable mucous membrane and friction caused by the dentures.

Recommendation 5. New conventional dentures is preferable for edentulous patients without functional complaints but with an indication for new dentures.

3. How many implants?

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For an implant supported overdenture in the edentulous lower jaw the option of either two or four implants is typically chosen. Each choice has specific benefits. The placement of two implants is less invasive. The four implant option means that the stress and strain can be distributed over more implants. Both options also come with disadvantages. On the basis of scientific literature and practical insights, the following recommendations apply:

Recommendation 6. The placement of two implants is recommended for fully edentulous patients with an indication for an overdenture.

Recommendation 7. More than two implants can be recommended for patients with deviating circumstances such as extreme resorption (< 10 mm), a (partially) dentate upper jaw and /or an extreme class II or III jaw relation.

Recommendation 8. More than two implants can similarly be recommended for patients with complaints other than retention problems, such as a thin vulnerable mucous membrane or pain resulting from pressure and friction from the dentures. The dentures can be fitted as implant supported dentures. If possible, in combination with a shortened lower dental arch and selective relieving of pressure on, or reduction of, the prosthetic base.

4. What mesostructure?

Implants provide stability to overdentures in the edentulous lower jaw in various ways. The most commonly used methods are anchoring by means of a bar construction or ball anchoring**. Given the large difference in technical execution between both types of mesostructures, the presumption that there will be a difference in the functionality of the two would appear justified. On the basis of scientific literature and practical insights, the following recommendations apply:

Recommendation 9. There is no clear preference for the type of mesostructure (ball or bar) in fully edentulous patients with an indication for an implant supported overdenture.

Recommendation 10. Similarly, there is no clear a priori preference in patients who have recently become edentulous.

Recommendation 11. A bar mesostructure possibly offers greater stability under deviating circumstances such as extreme resorption (< 10 mm), a (partially) dentate upper jaw and /or an extreme class II or III jaw relation. This solution is then preferable with a view to the expected patient satisfaction.

Recommendation 12. A bar mesostructure can be considered with complaints other than retention problems, such as a thin vulnerable mucous membrane or pain caused by pressure and friction of the dentures. The aim of this is to relieve the strain on the mucosa. The recommendation is to take this into consideration in the bar design. If possible, in combination with a shortened lower dental arch and selective relieving of pressure on, or reduction of, the prosthetic base.

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

