

SIMPLADENT®

FIXED TEETH for Everybody

INSTRUCTIONS FOR FOLLOW-UP TREATMENT

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This publication was reviewed on May 27, 2021 and released for further publication without any changes.

In view of the ongoing development of methods and knowledge, please do not use this information after May 28, 2024.

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1. TREATMENT PRINCIPLES FOR THE STRATEGIC IMPLANT®

To ensure secure anchorage in the 2nd cortical, it is necessary to completely penetrate this cortical with the drill. This makes it possible to securely anchor the threads of the implant within the 2nd cortical and to direct intrusive and extrusive forces into this bone. Therefore, a part of the thread or the implant tip will usually protrude beyond the 2nd cortical.

During drilling or during implant placement, drilling debris or other unwanted particles – or bacteria – may be introduced in the region behind the 2nd cortical through the drill hole. This is irrelevant where drainage is provided or the possibility to remove these particles exist, such as in the (normally ventilated) maxillary sinus (methods 8a, 8b, 15, 16a, 16) or in the nasal floor (methods 7a, 7b, 9, 11c).

However, in the distal mandible (when using method 5a) and in the tuberopterygoid region (when using methods 10a or 10b), no drainage is available for this debris. In addition, the submandibular gland may be inadvertently irritated or injured in isolated cases if method 5a is used.



Fig.1 Bicortical anchorage of a compression screw implant in the distal mandible. Visible formation of new bone around the implant tip. The implant tip often comes to rest below the insertion of the mylohyoid muscle.

The use, prosthetic restoration, and follow-up care for the Strategic Implant® is restricted to trained clinicians authorized by the manufacturer. The information on this website has been compiled for the use of clinicians called in if complications occur (usually with regard to surgical therapy/emergency therapy).

See also:

<http://implantfoundation.org/en/consensus-on-basal-implants-2018>

<http://implantfoundation.org/en/consensus-treatment-05-2018-en>

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2. DIAGNOSIS OF INFLAMMATORY SYMPTOMS

2.1 Symptoms near in the region of the floor of the mouth

It can be assumed that almost every patient who undergoes implantation in the distal mandible using method 5a will have some particles or bacteria introduced into the region of the floor of the mouth. Nevertheless, complications are rare.

Any complications that do occur will do so within two or three days following implant placement. Patients will complain of slight swelling inside the mandibular angle. Slight difficulties or pain when swallowing may also occur. The symptoms can persist for up to two weeks.

The symptoms can be caused by drilling debris or by bacteria. But even if bacteria are the cause, no exacerbation will occur in the presence of immediate and consistent antibiotic coverage for five to seven days.

However, it is not possible to immediately determine clinically (especially for a treatment provider not familiar with the method) whether the condition is caused by

- trauma to or irritation of the submandibular gland
or
- bone debris introduced in the region of the floor of the mouth, causing a non-bacterial inflammation
or
- bacteria that were introduced, causing a bacterial inflammation

It is not prima facie certain that an abscess will actually form. However, immediate administration of an antibiotic is indicated in any case in order to prevent infection.

2.2 Symptoms in the tuberopterygoid region

Infections and retromaxillary abscesses after primary implant placement in this region have not been described anywhere and are likely to be very rare. However, problems of this kind can occur during re-implantation, especially when mobile implants are replaced.

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3. ANTIBIOTISCHE BEHANDLUNG

Oral administration of 400 mg of moxifloxacin every 24 hours (five to seven tablets in total) is preferred by most clinicians today because there is little or no resistance to this antibiotic and a good result is achieved in the affected soft tissue. This antibiotic seems to work well where glands (such as the submandibular gland) or internal organs (kidneys or distal urinary tract) produce aqueous secretions. In the event of possible injury to the submandibular glands, the antibiotic can thus immediately enter the interstitial area of the floor of the mouth. A drawback of orally administered moxifloxacin is the slow build-up of an effective level in the blood stream or target organ (compared to other antibiotics). If a rapid onset of action is desired, then the initial dose of the drug should be administered by infusion of 400 mg moxifloxacin, whereupon the effective level in the blood can be sufficiently maintained by oral therapy.

Since the effect of orally administered moxifloxacin sets on somewhat later than is usual with other antibiotics, the treating clinician can be tempted to discontinue the moxifloxacin and use another antibiotic. This often proves to be a serious clinical mistake, since none of the antibiotics will then produce a sufficient level of the active substance in the blood within a given period. In addition, there are no antibiotics capable of achieving such high effective levels in glands and the fluid-forming organs.

Due to the resistance situation throughout the population of western countries, augmentin/augmentan should no longer be used for this treatment – especially not to replace moxifloxacin.

If moxifloxacin is administered immediately and taken consistently, in most cases there will be a significant improvement on the second to fourth day after the start of the drug treatment. Analgesics may be administered additionally as needed.

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4. SURGICAL TREATMENT

4.1 Surgical treatment in the region of the floor of the mouth.

If an abscess is diagnosed, an extraoral incision is indicated. A typical sign of abscess formation is fluctuation.

An intraoral incision will not usually provide relief, as the area where debris or bacteria are located is below the mylohyoid muscle, so the area is not properly accessible for intraoral incision and drainage. Furthermore, a swelling of the submandibular gland is characteristic of its involvement. Any incision in the region of the floor of the mouth (typically aimed at removing a major portion of the swelling) carries the risk of an incision into the submandibular gland. If this gland is opened broadly (for the purpose of “abscess access”), the saliva that is formed can no longer be evacuated through the passage provided, and diffuse salivation will occur in the region of the bottom of the mouth and the neck; in addition, the incision site will close extremely slowly (over several weeks).

If an intraoral incision is nevertheless attempted, it will usually lead to a massive exacerbation, making a speedy extraoral incision necessary (even if such an incision would not have been an a priori necessity because the inflammation was non-bacterial in nature). The well-intentioned attempt at a “minimally invasive” intraoral incision will have exactly the opposite effect: an extraoral incision almost always becomes necessary as a result.

4.2. Surgical treatment in the tuberopterygoid region

In this region, too, it is not easy to make a reliable diagnosis of an abscess and then initiate surgical treatment. If a lock jaw is present, making it completely impossible to open the mouth beyond certain point (i.e., no wider mouth opening can be achieved even by using manual pressure under local anesthesia), a genuine retromaxillary abscess must be suspected and surgical therapy should be considered.

Non-surgical therapy consists of manual mouth opening exercises that are performed at frequent intervals throughout the day, if necessary under local anesthesia during the first few days.

4.3 Surgical treatment of a blocked ostium in the maxillary sinus region

Complications May occur if there is an undetected obstruction of the drainage of the maxillary sinus, possibly combined with a chronic bacterial infection. The treatment modalities and alternatives are explained and discussed here:

<http://implantfoundation.org/en/consensus-treatment-05-2018-en>

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5. NECESSITY OF IMPLANT REMOVAL ON DETECTING SIGNS OF INFLAMMATION

The Strategic Implant® is made of titanium alloy (Ti6Al4V); the surface of the implant is fully polished at the factory. The "BOI Consensus", first published in 1999, and all its subsequent revisions describe indications for removing these implants, with innovations and new developments always taken into account.

There is nothing to add to this in the context discussed here. Even in the very rare case of a submandibular or retromaxillary abscess, implant removal will not contribute to any improvement, and healing will occur whether or not the implant is removed.

The opening in the 2nd cortical that results from the implant removal will have a diameter of only 2 mm and therefore cannot contribute significantly to drainage. The polished surfaces of the implant do not tend to offer retention to inflamed tissue.

There is therefore no specific indication for removing a Strategic Implant® in the region of soft-tissue abscesses in the jaw.

Simpladent GmbH cannot accept any responsibility for the individual case treated. The treatment provider has to decide for each individual case, considering the individual diagnosis and the medical history among other modalities, if the case allows treatment as explained here.