

The fixed bridge

Background

What must be done when just one missing tooth needs to be replaced? This is one of the most common therapeutic problems, and the solutions are many and varied, ranging from the classic to the latest innovation. Today, an implant seems to be the most conservative solution, but conditions are frequently unfavorable for the placement of an implant. And this is why it is sometimes necessary to relinquish this solution and turn to the adjoining teeth, opting for a fixed bridge. Like an implant, the bridge components will enable the reproduction of the lost tooth with maximum mimesis and comfort.

What is a bridge?

When a tooth is extracted (**Fig. 1**), it is important that it be replaced as soon as possible — otherwise, the remaining teeth might shift and other problems can arise later on.

A bridge, also known as a “fixed bridge” or “fixed partial denture,” is therefore used to replace one or more teeth. When only one tooth needs to be replaced, there are two types of bridges:

- The **Traditional bridge (Fig. 2)** - This consists of crowns that are soldered together and kept in the mouth by cementing them to the abutments.
- The **Maryland bridge (Fig. 3)** - This is supported by metal wings on the adjacent teeth. This bridge is less solid than the traditional bridge but is more conducive to the preservation of the abutment teeth.

Both types of bridges will do the following:

- Prevent the shifting, loosening and eventual loss of other teeth
- Facilitate mastication and promote digestion
- Harmonize the smile and cosmetic appearance
- Prevent TMJ problems

Treatment stages when making a bridge

Pre-examination

Before doing anything else, the dentist should take the patient’s medical history. A number of factors come into play for the dentist to make the best decision. The decision is based on a rational clinical process and relies on clinical and radiological examinations. It is also important to mention that a proper evaluation of the soft tissue, both in the edentulous area and around the abutment teeth, must also be considered. The purpose of the soft-tissue evaluation is to see the position, appearance and volume of the available soft-tissue. In some clinical situations, the gum will have to be reconfigured through surgery.

Tooth preparation (Fig. 4)

Despite the fact that when the abutment teeth are being trimmed, there may not naturally be a need for a root canal procedure under the abutments of a bridge, it may happen that this type of treatment is necessary, especially if an abutment tooth is quite damaged.

In this case, the dentist will cement a post in the root of the abutment tooth to sit the bridge’s abutment crown on it.

Temporization phase

When a fixed bridge is made, treatment takes place in successive phases, all of which are indispensable and interdependent. The temporary bridge is one of these phases and will contribute to the success of the treatment.

The first role played by the temporary bridge is to provide immediate protection for the tooth and the gum from the mechanical, chemical and biological threats of the oral environment. The abutment teeth have a tendency to shift, and the temporary bridge will keep them in place. Its next role is to minimize the patient’s handicap by restoring mastication and phonation abilities. The temporary bridge will also be useful in designing the final bridge. It also enables the testing of function and the cosmetic result. Finally, the temporary bridge must be efficiently cemented to avoid any inconvenience to the patient, while allowing the dentist the option to remove it as often as necessary until the treatment is completed.



Fig. 1



Fig. 2a



Fig. 2b



Fig. 3a



Fig. 3b



Fig. 4a

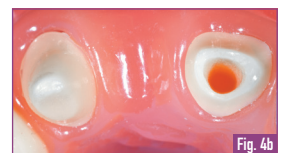


Fig. 4b

Risks

With a fixed dental prosthesis, the treatment's success is immediate. In other words, the achievement of the desired outcome on the day the prosthesis is installed or placed in the mouth is an assurance of patient and dentist satisfaction. This success must endure the test of time to be a true success. It is hard to precisely predict how long a bridge will last.

However, it is reasonable to expect that, regardless of the quality of the initial result, the prosthetic issue will have to be redone more than once in the course of a lifetime. This should be made clear to the patient.

Sometimes complications, even failures, can occur.

Essentially, these involve:

Loosening of the bridge

Loosening is usually resolved for the patient through a mobile restoration in the mouth (or the hand) but without any fracture. In the case of fixed bridges, decementation can be done without breaking the bridge or fracturing the abutment teeth. The decementation can be partial or total. In most of these cases, the abutments can be preserved and the main goal will be to limit the risks, particularly a fracture of the root when attempting to remove the prosthesis, if it has become partially detached. If the bridge has become totally detached, it will be put back in place if the abutments are intact. However, before redoing a procedure, the dentist must analyze the reasons for the failure and the damage done by the detachment. If the dentist finds tooth decay or if the bridge is no longer satisfactory, it will have to be remade.

Cracking or fracture of abutment teeth

If, following root canal treatment, an anchor in the root has to be considered as a seat for the abutment tooth, this type of anchor always presents a mechanical risk to the root: First, when the root is worked on and then due to pressure put on the root during mastication. Most cases of root fracture result in the extraction of the tooth.

Fracture or breakage of ceramic components

Due to advancements in materials and techniques, it is now possible to efficiently proceed with certain types of repairs directly in the mouth. However, the aesthetic result is debatable.

Fracture of the bridge's metal components

This failure is due to a fault in the joint of the various metal components that were soldered together.

Prolonged postoperative pain in a vital tooth

This situation may call for a root canal procedure.

Other possible complications

- Short-term postoperative sensitivity
- Temporary pain in the jaw, teeth and mastication muscles
- Possibility of necrosis of the pulp further to the trimming of the teeth.

Informed consent

Your prognosis is: Good Average Unfavorable

Informed consent is the result of a discussion between the patient and the dentist. This document is provided for information purposes and may be completed or modified during discussions with your dentist. Some dentists may provide adequate information without giving this document to the patient.

Explanations

Informed consent to the making of a fixed bridge

I understand and agree as follows: The nature of the planned treatment has been explained to me by my dentist. I understand that even though the initial prognosis is good, complications can still occur and they may require modification of the treatment plan. For instance, there may be the need to perform a root canal procedure, surgery on the tissue surrounding the abutment teeth or even the extraction of the tooth. All these modifications can lead to additional costs.

Finally, I understand that it is essential that I collaborate in the treatment (keeping my appointments and arriving on time, practising good oral hygiene and attending periodic follow-ups) and that if my dentist is dissatisfied with my collaboration, my treatment will be suspended.

I have discussed the foregoing with my dentist and he/she has answered all of my questions. I hereby consent to the treatment.

Patient's signature

Date

Dentist's signature

Date