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Fonds d'assurance-responsabilité professionnelle de l'Ordre des dentistes du Québec

Fixed Bridge

INFORMATION SHEET

Fixed bridge

When a tooth is extracted (Fig. 1), it is important to replace it as soon as possible to prevent the remaining teeth from shifting, and thereby prevent potential problems.


1

What happens when a single missing tooth needs to be replaced? This is a common treatment problem, with a number of solutions, from more traditional to more current. Currently, an implant seems to be the most conservative solution, but often the conditions are not right for an implant. That is when we sometimes need to look at the adjacent teeth and suggest a fixed bridge. Similar to an implant, the components of a bridge help to reproduce the lost tooth and provides optimal imitation and comfort.

What is a bridge?

A bridge, also called a "fixed bridge" or a "fixed partial prosthesis" is used to replace one or more teeth. When only one tooth needs to be replaced, there are two types of bridges:

- **Traditional bridge** (Fig. 2) which is made up of crowns soldered together and is held in the mouth by cementing to the bridge abutments.


2

- **Maryland bridge** (Fig. 3) is supported by metal or ceramic wings on adjacent teeth. This bridge is not as solid as a traditional bridge, but it does a better job of preserving the teeth used as abutments.


3

Both options have the following benefits:

- prevents teeth from shifting, loosening and potential loss of other teeth
- helps with chewing and digestion
- balances smile and appearance
- prevents temporomandibular joint problems

Treatment steps in making a bridge

Prior exams

Before anything else, the dentist needs to perform clinical and radiological examinations. In some clinical situations, reconfiguration of the gum and surgery may be necessary.

Preparing the teeth (Fig. 4)

The dentist needs to prepare the abutment teeth for the bridge.

Even though, naturally, the teeth used in the bridge do not require root canal treatment, when the dentist is filing down the abutment teeth, they may determine that a root canal is needed. This may be because of significant damage to an abutment tooth, inflammation, or damaged pulp. In such case, depending on the condition of the devitalized abutment tooth/teeth, it may be necessary to cement a post into that tooth so that the bridge abutment crown can be placed on it.


4

Temporary bridge

When a fixed bridge is made, treatment involves a series of important and inter-dependent steps:

- impression
- try-in
- temporary cementing (if considered useful)
- final cementing

The temporary bridge is part of this series and contributes to ensuring a successful treatment.

A temporary bridge:

- provides immediate protection for the tooth and gum from mechanical, chemical and biological threats in the mouth
- prevents the abutment teeth from shifting
- minimizes the patient's impairment so they can chew and enunciate normally
- helps in designing the permanent bridge
- tests function and appearance

Lastly, the temporary bridge needs to be adequately cemented so the patient doesn't experience any inconvenience, while allowing the dentist to remove it as often as necessary before the treatment is complete.

Risks

With fixed prosthetic dental devices, immediate success is achieving the desired outcome on the day of placement as well as satisfaction for both patient and dentist. This needs to last over time to be a genuine success.

It is difficult to specifically determine how long a bridge will last since its appearance and durability are often hard to predict. However, it is reasonable to expect that, regardless of the quality of the initial result, the issue will need to be revisited more than once over a lifetime. Patients should be advised of this.

Complications are primarily related to the following factors.

Loose bridge

In most of these cases, the patient has a loose, but unfractured restoration in their mouth. With fixed bridges, de-cementation may occur without the bridge breaking or the supporting teeth fracturing. Partial or total loosening may be involved. In most cases, the abutments can be preserved and the primary goal will be to limit the risks, particularly of fracturing the root when attempting removal when there is partial loosening. If there is total loosening, the bridge will be put back in place if the abutments are intact. However, before initiating any new procedure, the dentist needs to analyze the causes of failure and any damage caused by the loosening. If the dentist notices a cavity or if the bridge is no longer satisfactory, it will need to be re-done.

Cracked or fractured abutment teeth

Following a root canal treatment, if an attachment in the root had to be considered as the base for the bridge abutment tooth, this type of attachment still poses a mechanical risk for the root: first, during the root procedure, then during stress on the root when chewing. In most cases of a fractured root, the tooth needs to be extracted.

Fractured or broken ceramic

Due to progress in materials and techniques, some types of repair can be done effectively directly in the mouth. However, their impact on appearance is debatable.

Fractured metal components of the bridge

This failure is due to a rare defect, located at the junction of the different metal elements that have been soldered. Generally, this does not require the full bridge to be replaced.

Prolonged post-operative pain in a vital tooth

This situation may require root canal treatment. Generally, this can be performed by making a small perforation through one of the abutment crowns, without having to completely replace the bridge.

Other potential complications

- Short-term post-operative sensitivity.
- Temporary pain in the jaw, teeth and chewing muscles.
- Possibility of pulp necrosis (death of the tooth) resulting from teeth being filed down, requiring root canal treatment.

I gave this information sheet to patient (name): _____

Date: _____ Dentist's signature: _____

Please note that the scientific content in this sheet was reviewed and adapted in line with scientific knowledge and recognized best dental medicine practices at the time of publication (January 2024).