

# Clinical Showcase

*Clinical Showcase is a series of pictorial essays that focus on the technical art of clinical dentistry. The section features step-by-step case demonstrations of clinical problems encountered in dental practice. This month's article is by Dr. Patrick H. Pettman. If you would like to propose a case or recommend a clinician who could contribute to Clinical Showcase, contact editor-in-chief Dr. John O'Keefe at [jokeefe@cda-adc.ca](mailto:jokeefe@cda-adc.ca).*

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## Immediate Tooth Replacement with Ovate Pontic on Fixed Bridge

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When a tooth must be extracted and replaced, the patient's insurance company may balk at having to pay for a transitional partial bridge as well as the fixed bridge. In addition, the patient is usually dissatisfied if an unesthetic pontic must be placed on a fixed bridge where the bone has atrophied, unless periodontal augmentation is done. An immediate tooth replacement technique not only saves patients time and money, but it also results in a much more esthetically pleasing replacement tooth that is both hygienic and natural in appearance.

### Technique

A 57-year-old man needs to have tooth 21 extracted (Figs. 1 and 2). In addition, radiographs show that the root canal on tooth 11 needs re-treatment (Fig. 3).

Once the tooth 11 root canal has been re-treated and the post rebonded (Fig. 4), teeth 11 and 22 are prepared for bridge abutments. Most of the clinical crown of the tooth to be extracted is removed (Fig. 5), but enough crown should remain to be secured with Mead forceps. An impression is taken and a temporary bridge fabricated. If the tooth to be removed has been filled endodontically, the root should be rebonded or the post recemented before extraction. It is critical that the cortical plates of bone are conserved to minimize postoperative tissue shrinkage. Root exolevers are used without application of pressure against the proximal bone of the abutment teeth. Removal of the root in one piece results in more conservative surgery and hence a more esthetic final result. If it is molars that are being removed, the roots are sectioned before individual removal.

Final shaping of the ovate pontic on the temporary bridge is done after the tooth has been extracted (Figs. 6 and 7). Temporary resin is added to the underside of the pontic, and the bridge is reseated so that resin flows into the socket. The bridge is then removed and the pontic shaped so that it is narrower and shorter than the permanent ovate

pontic. The pontic is shaped to fill the socket at the gingival level. It should be approximately the same length as clinical crown length of the adjacent abutments (Fig. 8). The temporary bridge is then cemented into place (Fig. 9).

At the next appointment 2 to 3 weeks later, the temporary bridge is removed (Figs. 10 and 11). Because the subgingival pontic was undercontoured, the final soft-tissue contour is slightly expanded by the permanent pontic when the final bridge is cemented (Figs. 12 to 14).

The laboratory technicians shape an ideal contour and extend the ovate pontic approximately 3 mm subgingivally. The interproximal pontic contact is placed within 5 mm of the crestal bone so that the tissue fills the proximal space completely.

Antibiotics may be indicated if excessive infection is present around the tooth to be extracted or if the surgery becomes complicated.

Patients are advised not to chew solid food with the temporary bridge. Flossing is recommended around the abutments but not under the pontic until the permanent bridge has been placed. Patients should be seen 3 weeks after the permanent bridge has been cemented to review bridge-cleaning procedures with floss threaders. If the tissue has not become completely contoured around the pontic, patients are advised not to floss under the pontic for another 3 weeks.

Biteguards are routinely recommended if substantial attrition of tooth structure is evident.

### Conclusions

In this busy world, most patients do not have time for long, drawn-out dental treatment. If possible, they often prefer an immediate, less complicated solution. Immediate tooth replacement with an ovate pontic on a fixed bridge is a good alternative when a tooth must be removed. A commitment from the patient to accept an immediate bridge with tooth extraction is a more cost-effective, efficient procedure with a much more esthetic, natural-looking result. ♦



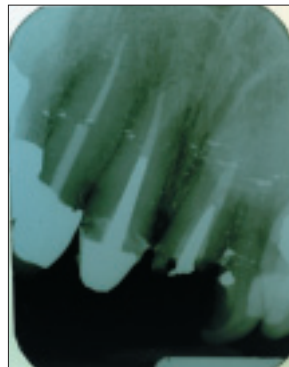
**Figure 1:** Preoperative photograph of a 57-year-old man. The clinical crown of tooth 21 has been fractured.



**Figure 2:** Mirror view. The cast post of tooth 21 is bent.



**Figure 3:** Preoperative radiograph. The cast post of tooth 11 is leaking, and the root canal of this tooth is deficient.



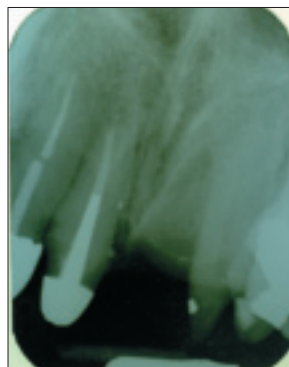
**Figure 4:** Radiograph shows that the tooth 11 root canal has been redone and its post rebonded.



**Figure 5:** Tooth 11 and tooth 22 are prepared for bridge abutments. Most of the clinical crown has been removed from tooth 21. The mesial porcelain of the porcelain-fused-to-metal crown on tooth 12 has been reduced. Tooth 23 has been prepared for a single crown.



**Figure 6:** Tooth 21 is extracted after an impression has been taken.



**Figure 7:** Postoperative radiograph shows that tooth 21 has been extracted.



**Figure 8:** Temporary resin is added to the socket area of the pontic at the gingival level of the adjacent abutment teeth.



**Figure 9:** The temporary bridge is cemented.



**Figure 10:** The temporary bridge. The tissue has adapted to the temporary ovate pontic.



**Figure 11:** The temporary bridge is removed.



**Figure 12:** The permanent crown and bridge are cemented with Ketac glass ionomer (3M Company, Minneapolis, Minn.).



**Figure 13:** Palatal view of the permanent crown and bridge.



**Figure 14:** A happy patient with a restored smile.

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