

# The management of a prosthetic screw failure

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## Abstract

**Dental history:** The patient presented at the periodontal department of the University of the Western Cape with pain on tooth 21. A root fracture was diagnosed and the tooth was removed. A bone level Straumann implant (4.1mmx10mm) was placed after one month (Fig 1-2). Osseointegration period of three months was provided for. A temporary screw retained temporary crown was made utilising a titanium temporary post (Fig 3-6).

**Complications:** During the process of removing the temporary implant crown the prosthetic screw could not be retrieved.

**Methods:** Currently no rescue tools exists for the bone level Straumann implant.

The following methods were utilised to try and retrieve the prosthetic screw.

1. A carbide bur was used in reverse to loosen the screw.
2. A scaler was used with water in an anti-clockwise direction.
3. The head of the screw was removed with a diamond bur.
4. The mesial and distal contact points were removed and an artery forceps was used to try and turn the temporary implant crown in an anti-clockwise direction.

All the above procedures was unsuccessful. The decision was made to do a second surgery to try and access the temporary implant abutment. The abutment was accessed after implant exposure and a mosquito forceps was used to dislodge the abutment followed by retrieval of the screw (Fig 7-9). The surgery site was closed utilising sutures and a healing abutment was placed (Fig 10). Six weeks later an impression was taken for a second temporary crown. The temporary crown was adapted to support the soft tissue and the final impression was taken utilising the Chee (2001) technique (Fig 11-12). A zirconia (straumann) abutment was used and the final crown was cemented (Fig 13-15).

**Conclusion:** A second surgery was successfully used in this case to retrieve a prosthetic abutment and screw that could not be retrieved using conventional methods.

## Reference:

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Figure 1



Figure 2



Figure 3



Figure 4



Figure 5



Figure 6



Figure 7



Figure 8



Figure 9



Figure 10



Figure 11



Figure 12



Figure 13



Figure 14



Figure 15