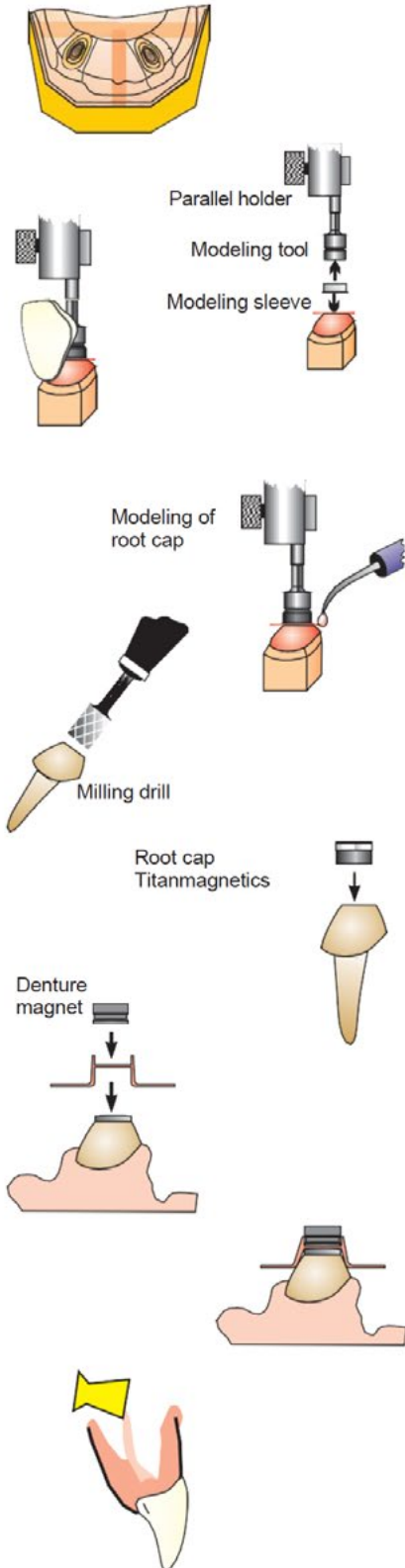




Titanmagnetics for Root Caps Case Presentation

Instruction for installation of root post caps



Manufacturing of model:

Make a normal single die stone model. Model a flat root cap as usual.

Modeling tool:

Place the modeling tool in a parallel guide device.

Put the burn out plastic modeling sleeve on.

The modeling tool is available with 2.35 mm shank (ISO 103) or 3.00 mm shank (ISO 123).

Set up:

Set up teeth according esthetic and functional requirements. Fix the set up with a silicone or stone key. Adapt the teeth from the basal side to the root post cap. Plan enough space for root post cap magnet and denture magnet. Place the model sleeve close to the root cap with the help of the modeling tool.

Modeling of root cap:

Adjust the modeling sleeve to the root cap with wax or modeling acrylic. Make sure to put some wax around the sleeve and to give the root cap a conical shape. Cast the root cap as normal. There are no limitations regarding the casting alloy.

Finishing:

Remove cast pearls inside the cavity with a cylindrical drill to make the magnet fit easily. Avoid unnecessary loss of material sand blast the retention surface with aluminum-oxide (110/125) and polish the root cap.

Gluing of root post cap:

The convex shaped root post cap is glued into the root cap with a mouth compatible dental adhesive. Make sure that all parts are clean, dry and free of grease. The magnet is attached with the polished side (functional surface) upwards. The sandblasted side of the magnet is glued into the root post cap. The polished edge of the magnet is not covered by the root post cap.

Positioning cuff:

After the root post cap has been cemented to the root, the positioning cuff is pulled over the root post cap magnet (only when denture magnet is placed into an existing denture).

Application of denture magnet:

The denture magnet is placed with it polished concave surface on the positioning cuff. It self-aligns. Make sure that it sits on the positioning cuff evenly.

Finishing in dental office:

The denture has to be spared out from the basal side to take in the root post cap and the denture magnet. Fast curing acrylic is applied to the retention notch on the outer surface of the denture magnet and to the space under the denture. Put the denture in place and wait for the acrylic to cure. Make sure that the patient holds the correct bite position. Remove recesses with a non-magnetics instrument (wood or plastic). Finish and smoothen the lower surface of the denture. The basal part of the denture surrounding the magnet should be funnel shaped to make sure that the denture can be placed without problems.

Finishing in dental laboratory:

The denture magnet can be integrated into a new denture directly on the master model. The position cuff is pulled over the root post cap. The edges of the position cuff have to be cut to fit perfectly. Fix the position cuff and block undercuts with wax. The clean, dry and degreased denture magnet is put on the position cuff. Make sure that it sits on the position cuff without clamping it.

The denture magnet can be integrated into a new denture if the root post cap is cemented in the mouth already. Therefore, an impression and a stone model of the oral situation with the root post cap is needed. The denture cast procedure is comparable to the above mentioned. Due to the missing magnetic force on the stone model the position cuff and the denture magnet have to be secured with sticky wax. The denture is casted as usual.

The denture magnet can be integrated in an existing denture if the basal side is ground out to provide enough space for the root cap and the denture magnet. A suitable impression of the cemented root cap is required.

Cleaning advice

There could not be determined increased plaque accretion on the high glossy polished surfaces of StecoTitanmagnetics® (Tiller 1993, 1995). In case of accretion of plaque or calculus these should be removed immediately. Use only plastic instruments! Do not use metal instruments to avoid scratches on the StecoTitanmagnetics® surface! Accretions on the functional surfaces can lead to increasing distance between the two magnet parts and due to this to a loss of retention force. Patients are recommended to let the denture be checked in a time interval of three months to check out the function of the StecoTitanmagnetics®. The dentures have to fit correctly on the jaw. Reline a denture base regularly.

Storage advice

Store clean, dry and protected from sunlight!
Do not use if packaging is damaged!



Sterilization and disinfection advice

Root post caps are packed not sterile. They can be sterilized in their packaging, if it is not damaged. Sterilization can be performed with moist heat in an autoclave (gravity method or fractionized vacuum 132/134 °C, 3 bar, 5 min). Please refer to advise of sterilization equipment manufacturers instructions as well. Use validated processes only!



Reusability

SteCoTitanmagnetics® are single use products only. Reuse is not allowed due to the risk of surface damages caused by mechanical extraction or reprocessing treatment.



Warning

In use of magnets special precautions have to be made. Keep distance to magnetic data storages and electronic devices! Cardiac pacemakers are not affected by StecoTitanmagnetics® in regular use, because there is no direct contact (Völkel 1999). The strong magnetic field in MRI diagnoses (Magnetic Resonance Imaging) can destroy the root post cap magnet and the denture magnet. It is recommended to remove the denture and as far as possible the root post magnet before MRI inspection. Patients should avoid to stay next to electric substations. Make sure to provide this information to the patient!



Never grind the 0.2 mm thin titanium housing!



SteCoTitanmagnetics® must not be soldered or welded! The heat would irreversibly damage the magnet. Laser can perforate the housing. In case of a damaged titanium housing the parts have to be exchanged as soon as possible. Damaged titanium housing leads to corrosion of the magnetics alloy (Sm2Co17) and with this to progressive damaging of the housing.



For risk assessment process send damaged parts back to the manufacturer together with product REF, LOT, date of insertion and intraoral position. Please note relevant product data (REF, LOT) in the patients file and patient passport!



Magnetics fields

There are no clinical references for the small static magnetic fields of StecoTitanmagnetics® to be harmful to humans. StecoTitanmagnetics® have a magnetic field which is static as the Earth's magnetic field. It is not comparable to the electromagnetic field of a mobile phone or high voltage power lines. The average magnetic field on the surface of StecoTitanmagnetics® is up to 186 mT (X-Line) or 300 mT (Z-Line). It is lower than 40 mT (WHO exposure limit) in a distance of 5 mm from the surface. There is no evidence in the current literature that static occurring near the surface magnetic fields with a magnetic flux density of up to 300 milli Tesla in humans can be locally damaging.

Special advice to patients

Note relevant product data (REF, LOT, etc.) in the patient file. Instruct the patient about risks of loosening, surface damages or strong magnetics fields (MRI, substations).

Explanation of symbols



Keep dry



Sterilization in steam at 134 °C



Upper limit of temperature



Caution, Consult accompanying documents



Do not use if package is damaged



Do not reuse



Order number



Manufacturer



Unsterile



Caution, Magnetic field



Batch code



Medical products acc. MDD 93/42/EWG