Guidelines for effective and permanent activation of XCN® Leone abutments

Morse taper

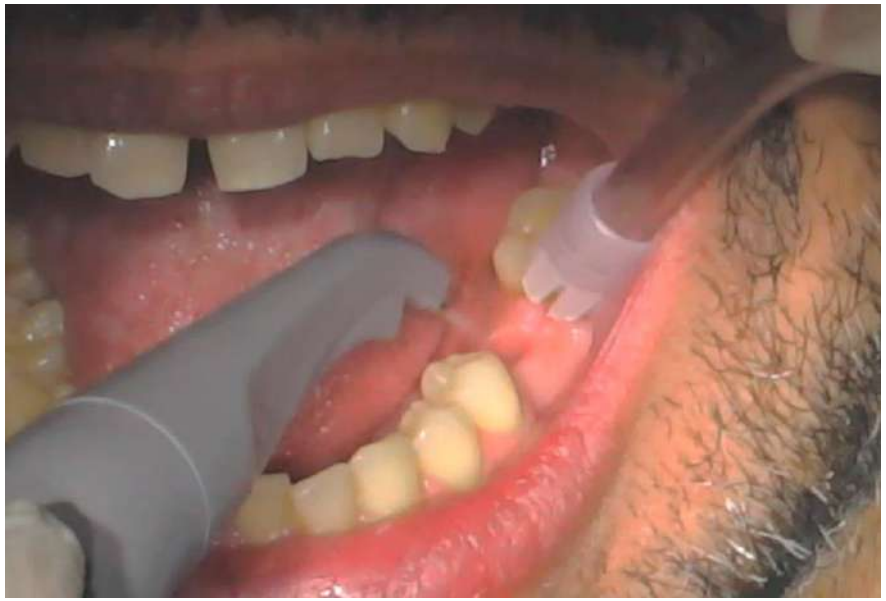
Leave the Morse taper of the abutment intact
i.e.
free of dents, milling, sandblasting, anodizing etc.

Examples of abutments with damaged or altered Morse taper.

Morse taper

Protect the Morse taper of the abutment during all work steps in the laboratory by inserting it into the analog or the abutment handle, avoiding grasping it with the pliers.

Implant well

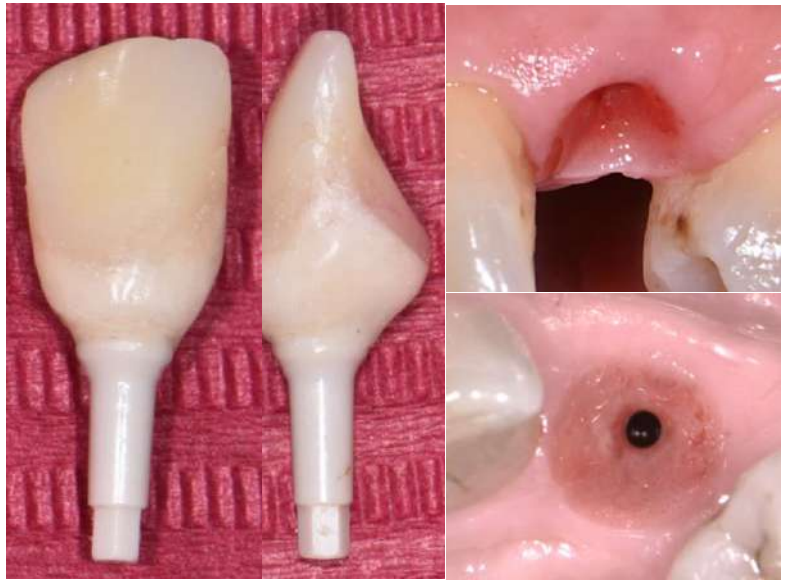


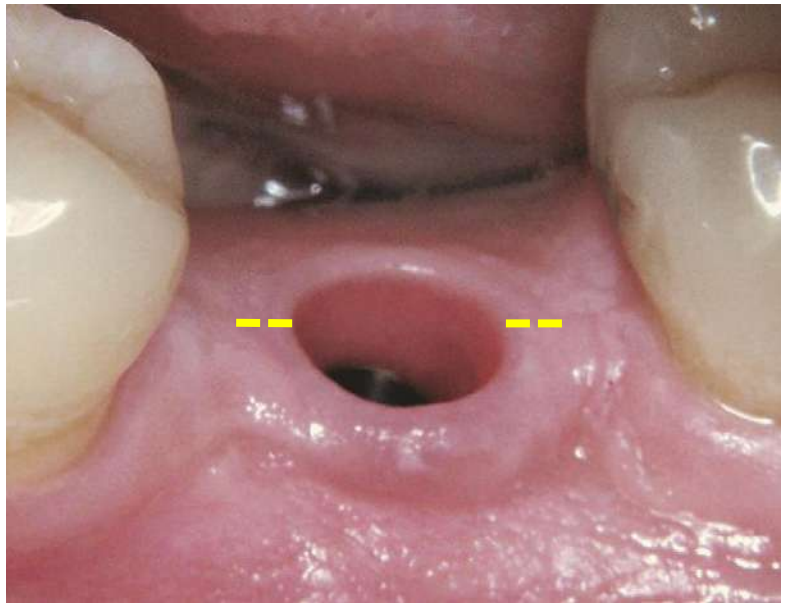
The inner part of the implant must be intact and clean.

Rinse and dry the inner part of the implant before inserting the abutment.

NEVER use glue or cement to fix the abutment in the implant as this will irrevocably compromise the functioning of the Morse taper connection!

Soft tissues





Remove all soft tissue interferences which may prevent the abutment from properly engaging into the implant well.

If there's any doubt

- recondition the soft tissue with a provisional prosthesis

or

- make two small release cuts at the sides of the implant, insert the abutment with its crown, activate the abutment and recondition the soft tissue with the final restoration in place.

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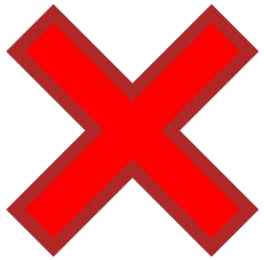
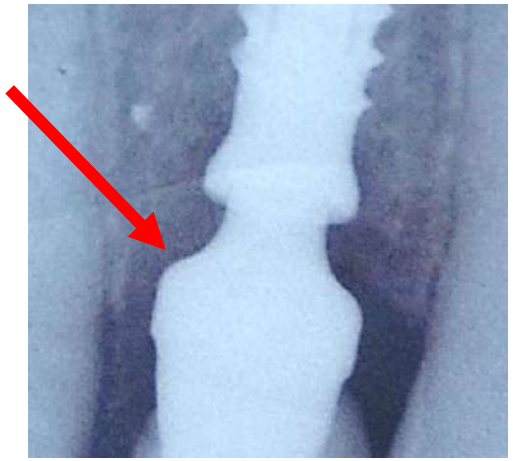
Hard tissues

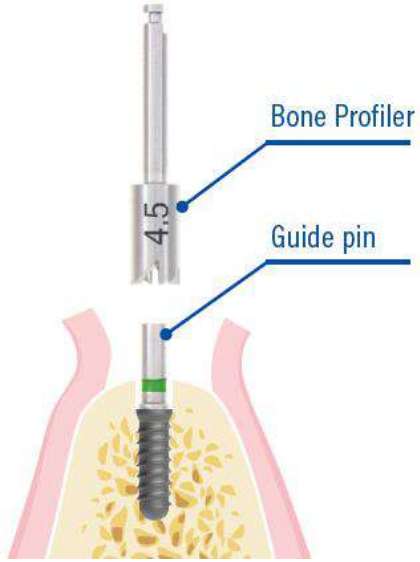
Example of a Large abutment positioned in an implant placed subcrestally: peri-implant bone prevents from proper insertion in the implant well.





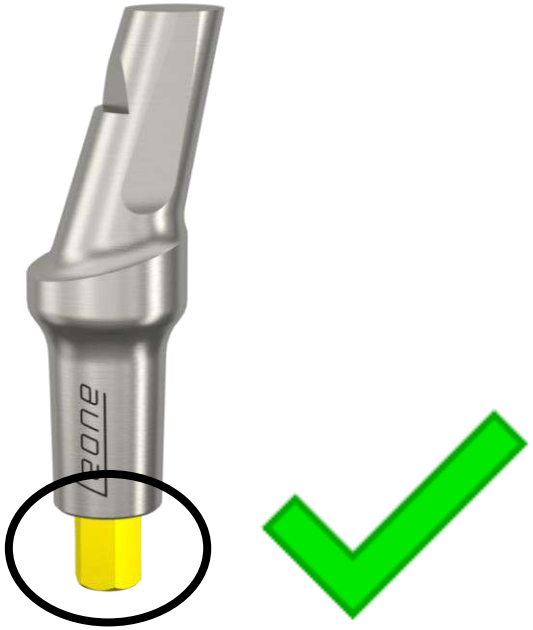
Remove all hard tissue interferences which may prevent the abutment from properly engaging into the implant well.

This issue occurs for example, if abutments with a wider platform than the implant collar are used, particularly when placed subcrestally.



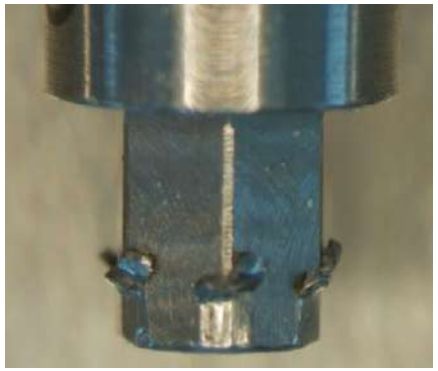
Solution: if necessary, use the Bone Profiler.

Hexagon



Take care to find the position of the apical hexagon, when inserting the abutment into the implant.

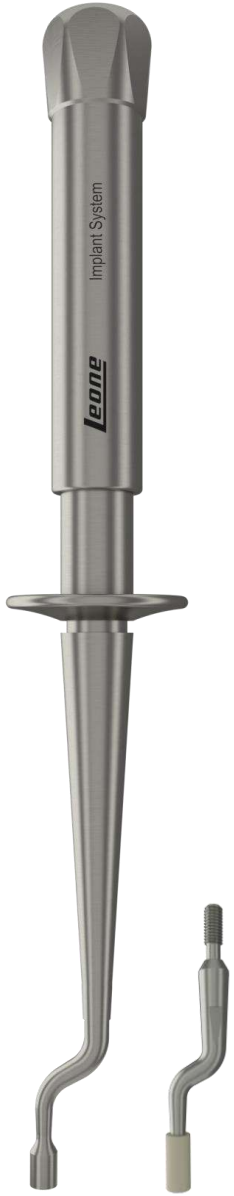
If there is any doubt, the hexagon can be removed without negatively affecting the functioning of the Morse taper connection.



Example of apical hexagons damaged during the (failed) attempt to activate the abutments.

Abutment seaters

REF 156-1008-03



REF 156-1008-04

Double Force
REF 156-1008-10

To ensure proper calibration of the impulsive activation force, the use of the special abutment seaters is recommended.

The activation force of the abutment seaters does not damage either the abutment or the implant.

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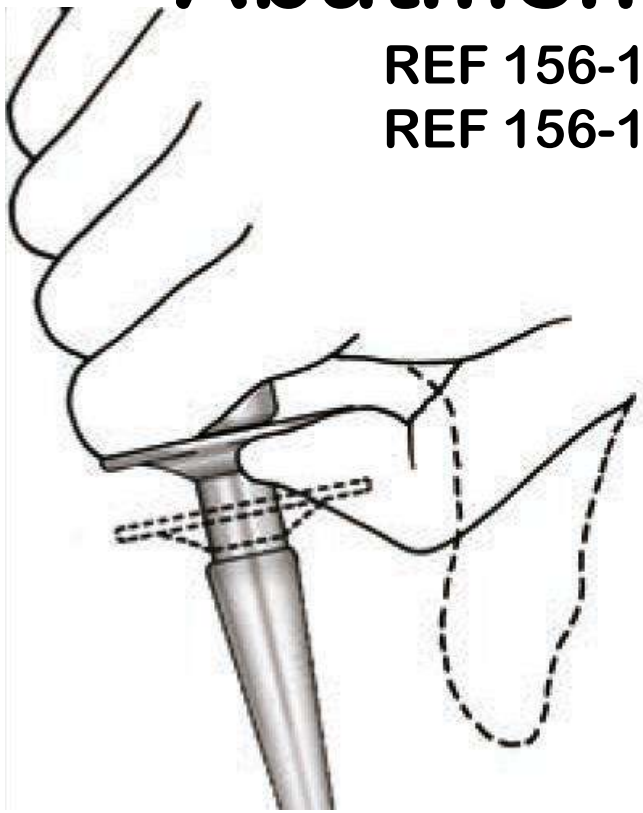
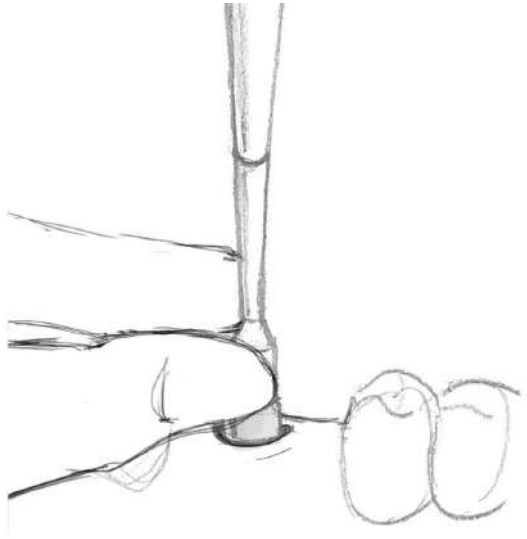
Abutment seater

REF 156-1008-03
REF 156-1008-04





Pay attention to the correct use of the abutment seater:

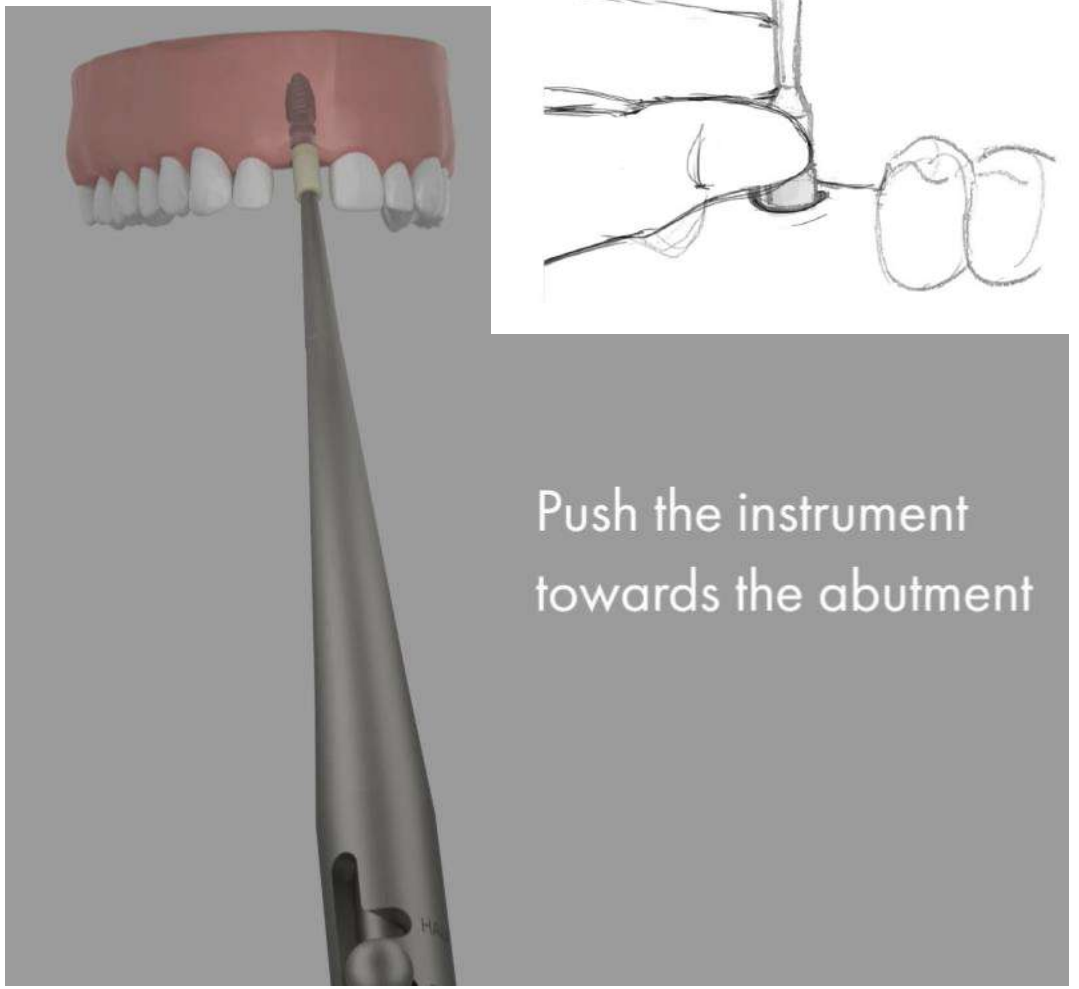
hold the instrument in place with two fingers
and load the spring all the way down.

Abutment seater Double Force

REF 156-1008-10

Pay attention to the correct use of the abutment seater:

load the spring, push the instrument towards the abutment while holding the tip with two fingers in place.

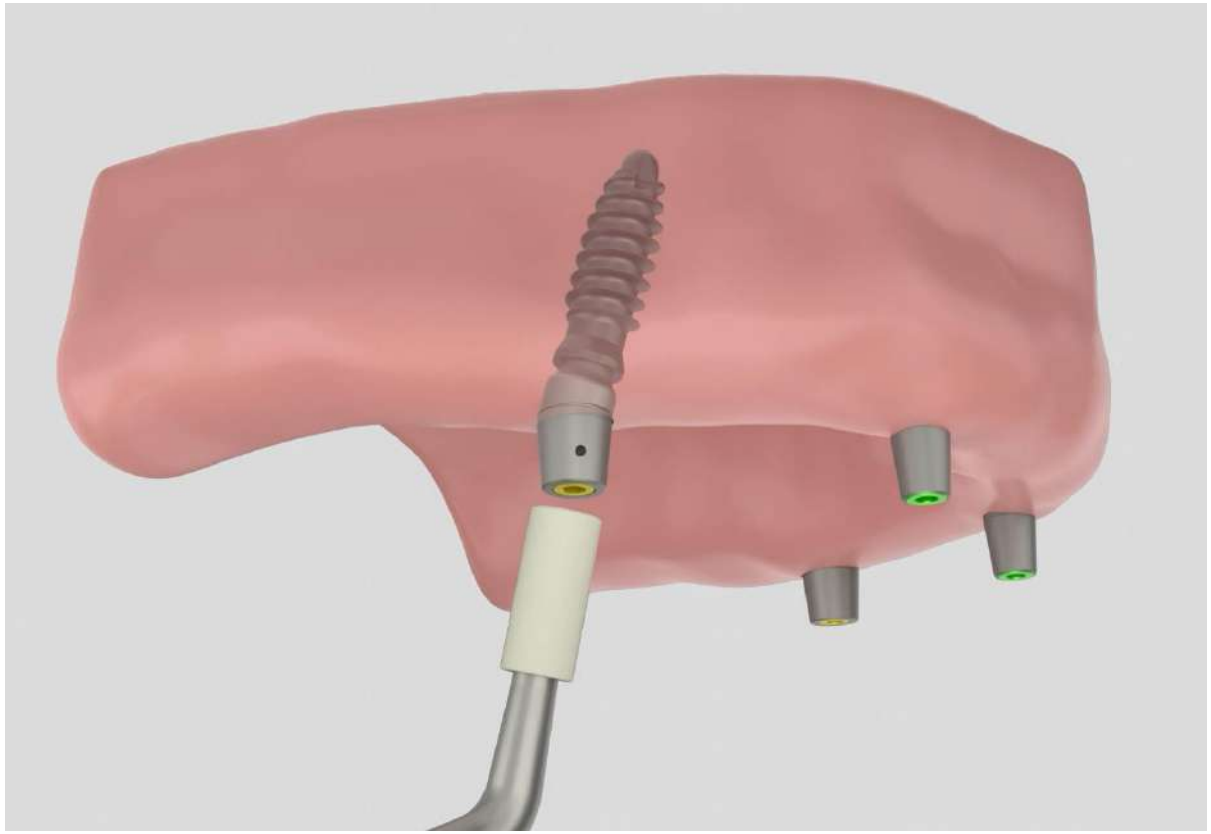


Number of percussions

Increase the number of percussions in situations that reduce the activation force:

- PEEK tips
- offset tips
- extra-oral cementation
- inclined use of the abutment seater.

Angled
MUA, ExaConnect, MUA-Conic, Ball Head abutments



In case of angled abutments, apply the activation force with the **PEEK tip** (REF 156-1008-08 or 156-1008-09) **by tilting the abutment seater along the axis of the implant.**

Angled abutments for cement-retained prosthesis

In case of angled abutments, if not present, prepare a step along the implant axis for the application of the activation force with the flat tip placed on the step (REF 156-1008-06).

Extra-oral cementation

Example of an angled crown not indicated for extra-oral cementation

In case of angled crowns avoid extra-oral cementation procedures to apply the activation force directly on the abutment along the axis of the implant.

Solutions:

1) Fabricate a customized abutment to bring the cement margin at the gingival level and prepare a step along the implant axis for proper activation.

2) Use 360° anatomical abutments with different gingival heights (GH) to bring the cement margin at the gingival level and use the step for coaxial activation.

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Extra-oral cementation

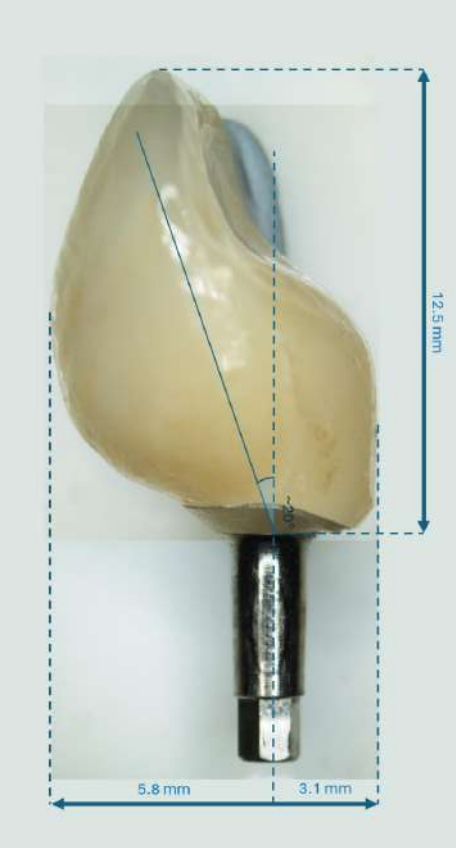
In case of extra-oral cementation make sure that the crown does not invade the area of Platform Switching and the Morse taper.

Example of crowns that impact on the implant collar and prevent the abutment from properly engaging into the implant well, thus making its activation impossible.

Extra-oral cementation

In case of extra-oral cementation make sure that the crown has no interproximal contacts that prevent activation.

Abutment «popping out»



In the case of single implants in the upper anterior area - where the masticatory load has a high nonaxial component - when the lever arms of the crown cause overload, the implant-abutment connection 2.2 (green color code) may deactivate resulting in the abutment falling out from the fixture.

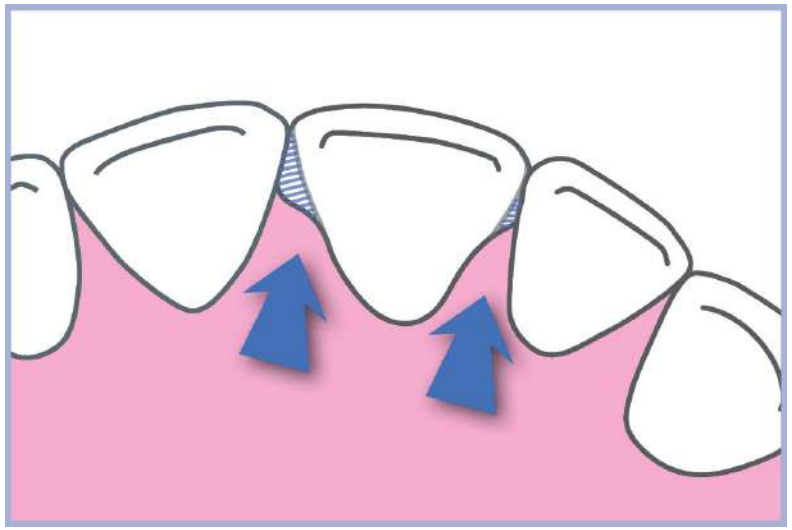
Incidence of mechanical complications with screw-retained implants: 12,7%*

Incidence of mechanical complications with XCN® Leone implant: 0,5%**

* Kihara H, Hatakeyama W, Kondo H, Yamamori T, Baba K. Current complications and issues of implant superstructure. J Oral Sci 2022;64(4):257-262

** Mangano F, Lucchina AG, Brucoli M, Migliario M, Mortellaro C, Mangano C. Prosthetic complications affecting single-tooth Morse-taper connection implants. J Craniofac Surg 2018;29(8):2255-2262

Abutment «popping out»



Occlusal view: wider contacts on adjacent teeth (see area highlighted in blue) help to hold the crown in place in case of lateral forces.

Solutions :

- use for single crowns in the upper anterior area, where possible, implants with 3.0 connection (yellow color code);
- carefully control static and dynamic occlusion to avoid precontact with the antagonist and achieve balanced function;
- create wider contact points on adjacent teeth.

Abutment «popping out»

How to handle an abutment falling out:

1. Check that the Morse taper and the hexagon of the abutment are intact;
2. Remove the crown from the abutment;
3. Remove all soft and hard tissue interferences which may prevent the abutment from properly engaging into the implant well;
4. Rinse and dry the inner part of the implant;
5. Use the abutment seater for activation by increasing the number of percussions;
6. Apply the activation force directly on the abutment; if angled, with the flat tip positioned on the step along the implant axis;
7. Cement the crown with temporary cement;
8. Carefully evaluate static and dynamic occlusion;
9. If necessary, fabricate a new crown creating wider contact points on adjacent teeth as well.

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Abutment «popping out»

What to do if the problem cannot be solved?

Contact the Leone technical department

implant@leone.it

0039 055 304451