

curasan

Implantology

controll

Surgery

monitored **Implantology**

Internal Sinus Lift

minimally invasive

Implantology

controlled



JEDER[®]

Sinus Lift Technology

The controlled, minimally invasive sinus lift
with the **JEDER[®]** System

What is the JEDER[®] System?

- ⊕ The **JEDER[®]** System enables safe, controlled first entry into the maxillary sinus by means of hydraulic pressure, and uses a pulsating (hydrodynamic) technique to safely lift the Schneiderian membrane¹.

What are the advantages of the JEDER[®] System?

- ⊕ CE certified for performing internal sinus lifts.
- ⊕ Designed to provide safe, controlled, minimally invasive first entry into the maxillary sinus, and to lift the Schneiderian membrane using a volume-controlled technique².
- ⊕ A drop in pressure shown on the display indicates when safe first entry into the sinus has been achieved. "The **JEDER[®]** System provides optimum visual control"³.
- ⊕ The sinus lift can potentially achieve a bone height gain of over 9.2 mm in the maxilla (from 4.6 ± 1.4 mm to 13.8 ± 2.3 mm)⁴.
- ⊕ Less postoperative pain experienced by patients after the procedure⁵.
- ⊕ Average patient satisfaction of 9.82 on a VAS scale (visual analogue scale) from 1 to 10 (1 = not satisfied, 10 = very satisfied)⁶.
- ⊕ Faster recovery times (with an internal sinus lift the patient needs to take 1.5–3 hours off work, as opposed to 4–5 days of sick leave with an external sinus lift)⁷.

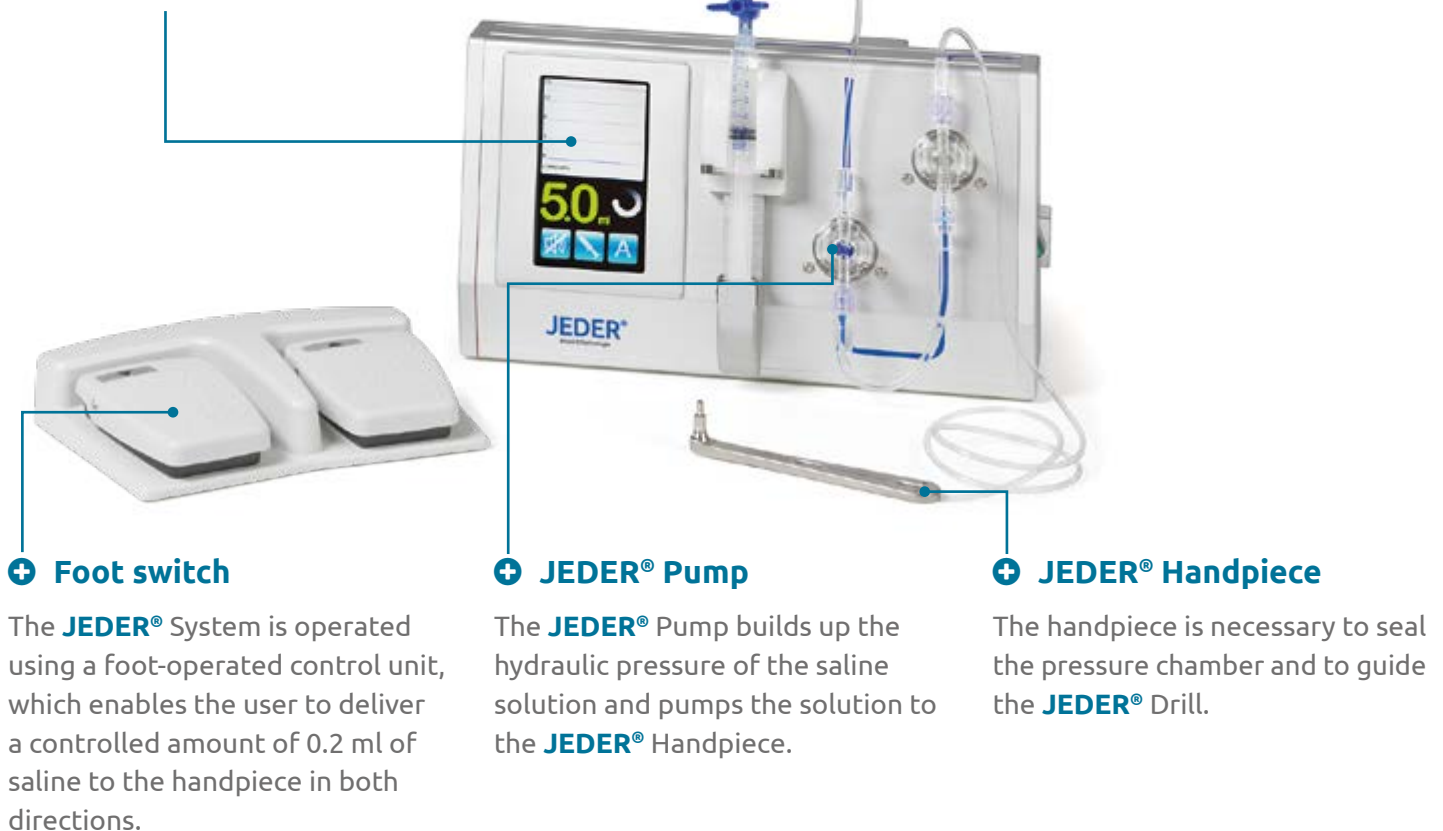
What are the components of the JEDER® System?

⊕ Control display

Enables controlled monitoring during saline solution application. The pressure and volume of the saline solution is continuously measured and shown on the display.

⊕ Sterile tube set

The tube set delivers the measured amount of saline solution from the **JEDER®** Pump to the **JEDER®** Handpiece.



⊕ Foot switch

The **JEDER®** System is operated using a foot-operated control unit, which enables the user to deliver a controlled amount of 0.2 ml of saline to the handpiece in both directions.

⊕ JEDER® Pump

The **JEDER®** Pump builds up the hydraulic pressure of the saline solution and pumps the solution to the **JEDER®** Handpiece.

⊕ JEDER® Handpiece

The handpiece is necessary to seal the pressure chamber and to guide the **JEDER®** Drill.

A clinical case using the JEDER® System

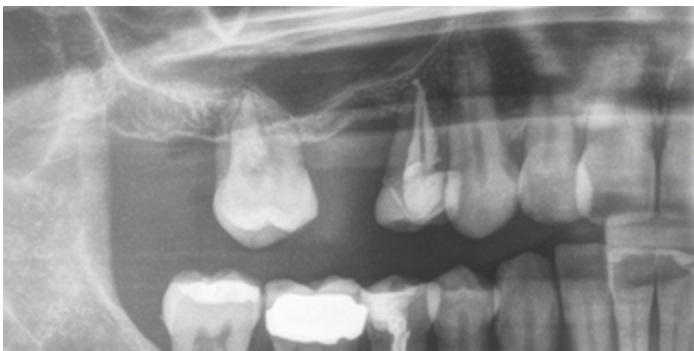


Fig. 1: Preoperative view

Bone height is ~ 3 mm in area 14 and 6.1 mm in area 15⁹.

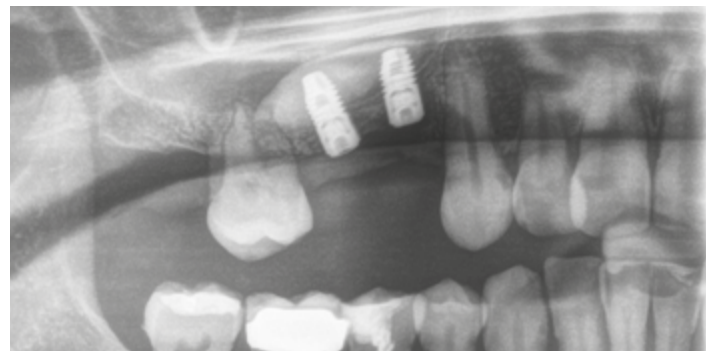
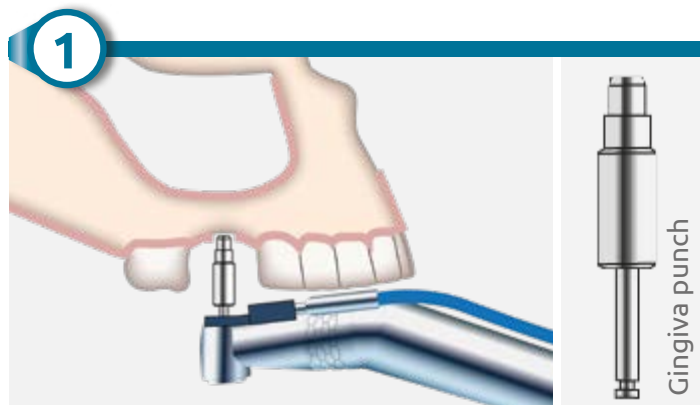


Fig. 2: Postoperative view

Bone height gain achieved with the **JEDER®** System and CERASORB® paste: bone height is 9.1 mm in area 14 and 6.8 mm in area 15.

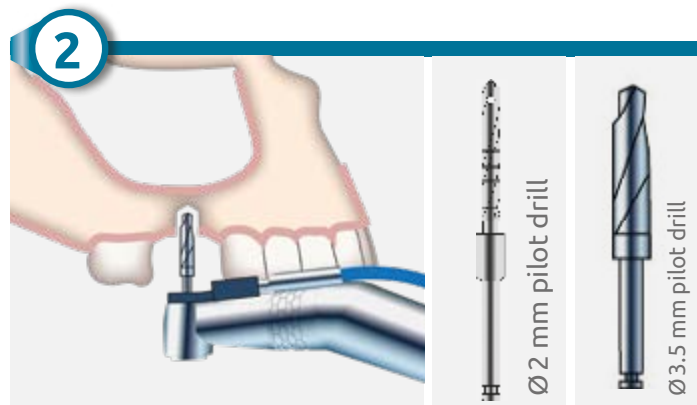
Surgical protocol JEDER® System

(after set-up of JEDER® System following instructions on display)



+ Punching oral mucosa

- Localization of position based on CT/DVT-scan
- Punching with gingiva punch
- Automatically marks position for pilot hole
- 500 – 700 rpm
- With cooling



+ Pilot hole

- Up to 1 – 2 mm below sinus floor based on CT/DVT-scan
- Initially, pre-drilling with 2 mm pilot drill
- Enlargement drilling with 3.5 mm pilot drill
- 500 – 700 rpm
- With cooling



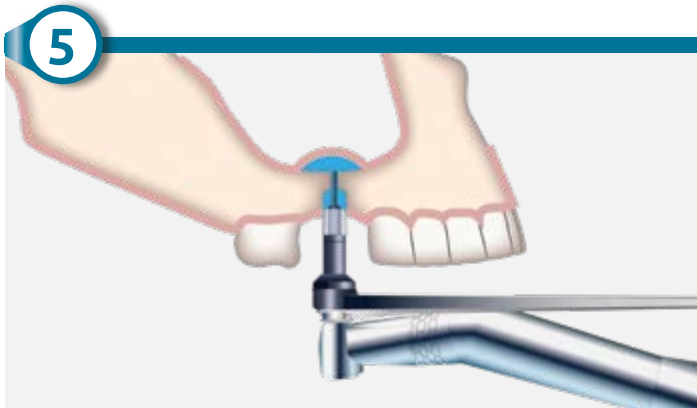
+ Set-up of JEDER® System

- Put on the sterile **sealing**
- Insert **JEDER®** milling cutter into drill guide head



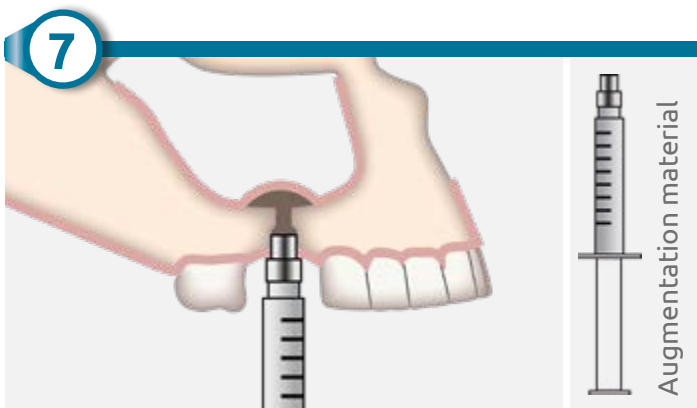
+ First entry into the sinus

- Build-up pressure with right foot switch (every step 0.2 ml)
- Only drill if there is pressure
- Pressure-drop = criterion for first entry
- 500 – 700 rpm
- Without cooling



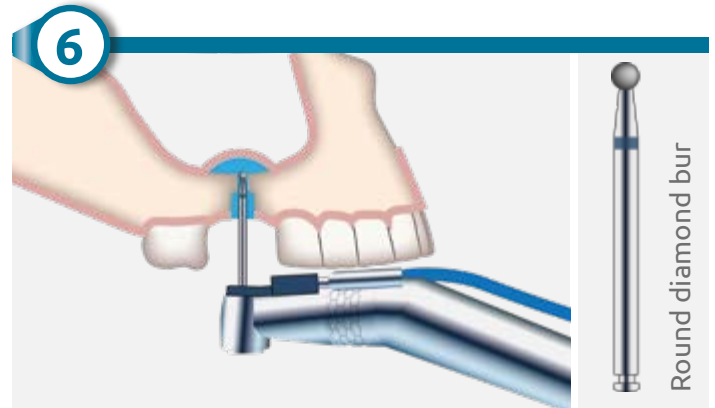
+ Further elevation of the membrane

- Pump in ca. 1.5 ml of saline solution (press the right foot switch 7 times)
- Pump the saline back out (left foot switch: press once to stop the vibrations, then press again to pump out the saline, 0.2 ml is removed each time)
- Remove Handpiece with **JEDER®** Drill
- Perform Valsalva-maneuver, to make sure that the membrane is still intact



+ Augmentation material

- Insert ca. 0.5 ml to 1.0 ml CERASORB® Paste augmentation material
- Control x-ray is carried out, to verify if the position of the "bubble" is accurate



+ Enlargement drilling

- Set Handpiece with **JEDER®** Drill back into place
- Pump in ca. 0.6 ml of saline (press the right foot switch 3 times); don't aspirate the fluid
- Remove Handpiece with **JEDER®** Drill
- Drill using a round diamond bur into the sinus until penetration is achieved
- Enlarge with round diamond bur
- Set Handpiece with **JEDER®** Drill back into place
- Extract fluid with pump (left foot switch)
- 500 – 700 rpm
- With cooling

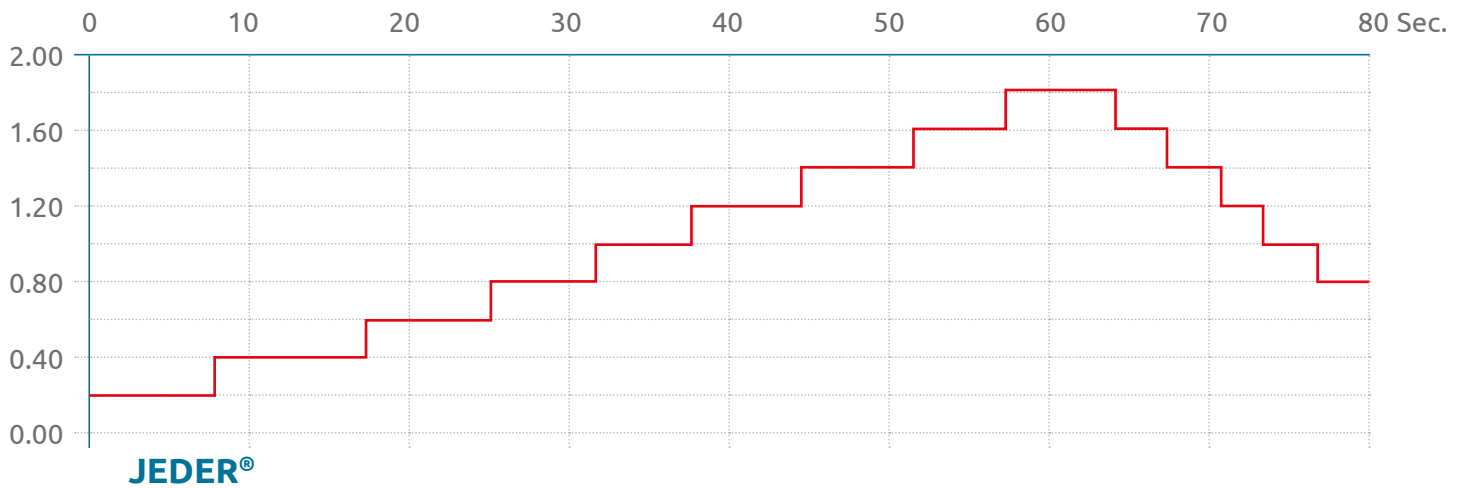


+ Placement of implant

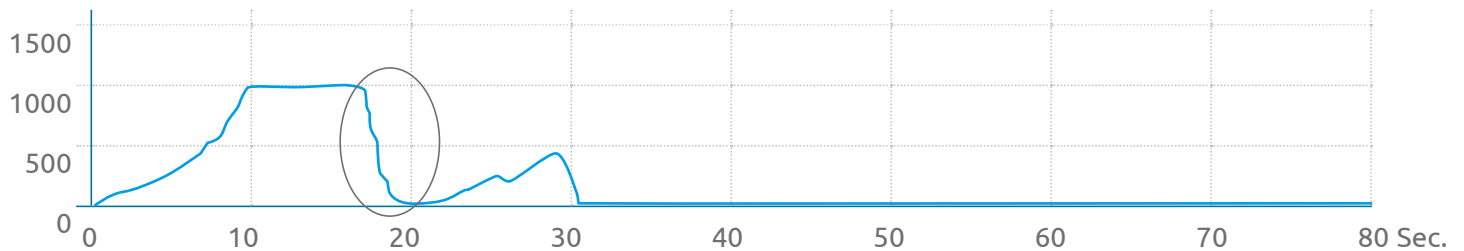
- Placement of implant depending on system

Continuous recording of pressure and volume with the JEDER® System

Volume of the introduced NaCl solution (ml)



Pressure inside the JEDER® Drill (mmHg)



- The curve indicates the volume of NaCl solution introduced (**red**) and the pressure inside the **JEDER®** Drill (**light blue**) over time (in seconds).
- Initially, 0.2 ml of saline are introduced. After 5 seconds, a further 0.2 ml are introduced.
- This results in the build-up of pressure up to a maximum value of ~ 1,000 mm Hg.
- After 15 seconds, a clear **drop in pressure** can be seen (**successful first entry**)
- After this, the continued introduction of NaCl solution results in a minimal increase in pressure.

The advantages of using CERASORB® Paste in conjunction with the JEDER® System

- + Resorbable β -tricalcium phosphate granulate, suspended in a hyaluronic acid matrix which promotes healing
- + Suitable for internal sinus lift procedures⁸
- + Regenerates healthy bone
- + Can be applied immediately from the pre-filled syringe



Literatur

^{1, 2, 3} Dr Andreas van Orten, Minimalinvasive Sinuslifttechniken; der minimalinvasive Sinuslift mit dem Jeder-System, DENTALE IMPLANTOLOGIE 2018, May; Volume 22; Issue 03

^{4, 5, 6, 7} Jesch P. et al. A pilot-study of a minimally invasive technique to elevate the sinus floor membrane and place graft for augmentation using high hydraulic pressure: 18 months follow-up of 20 cases. Oral Surg Oral Med Oral Pathol Oral Radiol 2013;116:293-300

⁸ Dr. Henriette Lerner, et al. Augmentation and defect filling in oral surgery: A multicentre non-interventional study. DENT IMPLANTOL 2017;21,2, 84-89

⁹ Please refer to the **JEDER®** System instructions for use.

Disclaimer

This document is intended exclusively for experts in the field, i.e. oral and maxillofacial surgeons and implantologists in particular, and is expressly not for the information of laypersons.

The information on the products and/or procedures contained in this document is of a general nature and does not represent medical advice or recommendations. Since this information does not constitute any diagnostic or therapeutic statement with regard to any individual medical case, individual examination and advising of the respective patient are absolutely necessary and are not replaced by this document in whole or in part.

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