



## NATURE FINISHES IT.

Introducing R.T.R.® (Resorbable Tissue R eplacement), the purest  $\beta$ -tricalcium phosphate bone grafting material that helps to safely create new bone formation following an extraction or any bone loss (intra-bony defect, sinus-lift...).

- **Resorbs progressively:** R.T.R.® releases calcium and phosphate ions helping to promote new bone formation.
- **Regenerates natural bone growth.** Osteoconductive micro and macroporous structures foster dense new bone growth.
- **Restores volume:** R.T.R.® renews the bone integrity within 3-6 months.

**Improve your patients' extraction therapy and bone loss repair to promote future implant success with new R.T.R.®**

R.T.R.® is available in a cone, in a syringe and in a 2 cm<sup>3</sup> vol. presentation.

### Product Information:

#### R.T.R.® Cone

Box of 2 cones each containing 0.3 cm<sup>3</sup> (Ø 6 mm, H 10 mm) of  $\beta$  tricalcium phosphate + collagen granules in sterile individual packaging.

#### R.T.R.® Curved Syringe

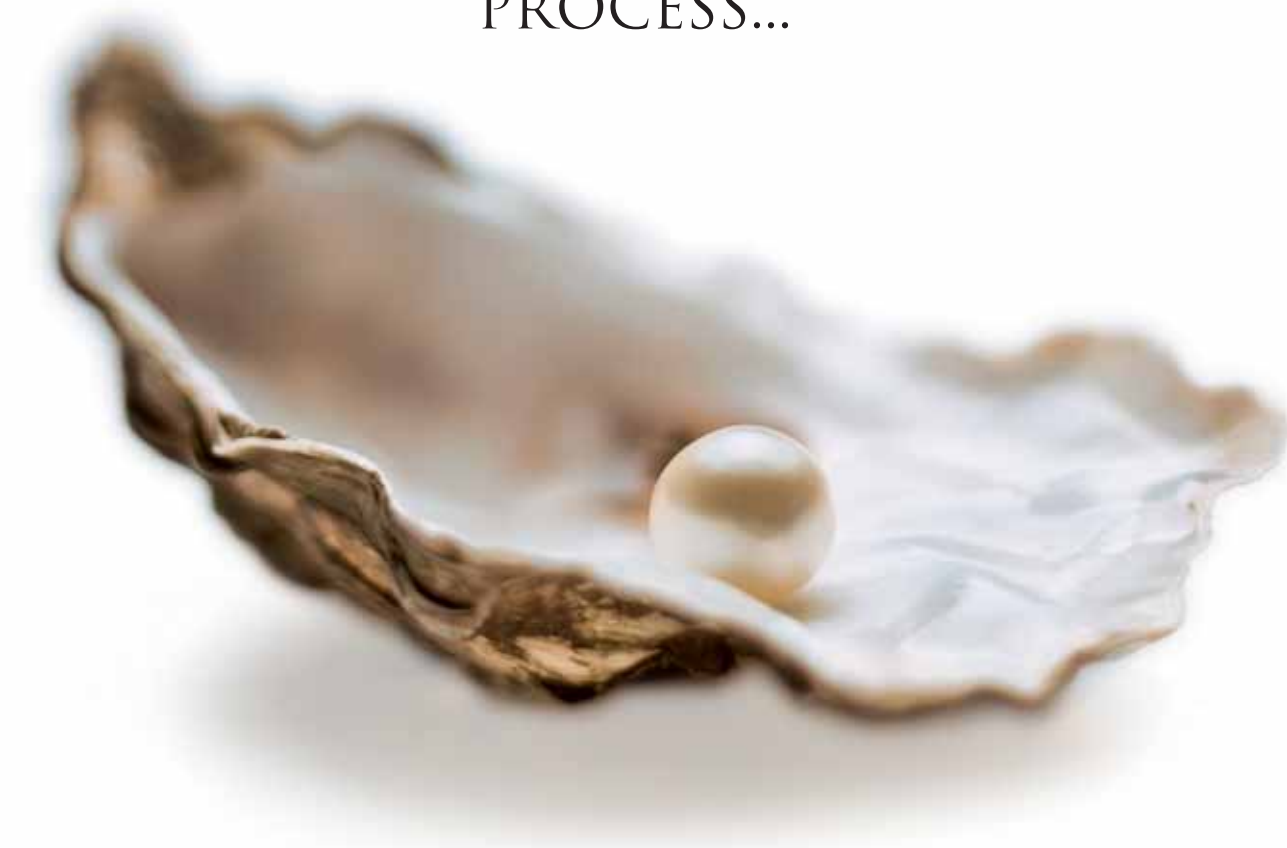
0.8 cm<sup>3</sup> of  $\beta$  tricalcium phosphate granules (diameter 0.5 to 1 mm) in sterile syringe, individually packaged.

#### R.T.R.® Granules

Box of 1 bottle containing 2 cm<sup>3</sup> of  $\beta$  tricalcium phosphate granules in sterile single unit package.



DISCOVER HOW  
SEPTODONT R.T.R.® STARTS  
THE BONE GROWTH  
PROCESS...



## R.T.R.® – Beauty That’s Bone Deep

### R.T.R.® – Fills A Void In Bone Grafting

R.T.R.® gives you a safe and easy-to-use solution for both simple and complex bone augmentation therapies and helps to maintain long-term function, health and esthetics of dentition and the supportive bone structure. R.T.R.® is a synthetic bone alloplast which is extremely hydrophilic, so it is drawn into the surgical site and can be easily contoured to fill any bony void. This makes R.T.R.® ideal for the treatment of periodontal defects, ridge augmentations, and extraction socket therapy (post-extraction ridge preservation).

### R.T.R.® – Pure And Purely Ingenious

R.T.R.® is a biocompatible synthetic material of the highest purity. R.T.R.® granules have a  $\beta$  tricalcium phosphate crystalline ( $\beta$ TCP) structure and are tested many times during the manufacturing process (X-rays, infra-red spectroscopy) to ensure the highest level of purity ( $\beta$ TCP > 99%).  $\beta$ TCP is well documented for its biocompatibility in dental and orthopedic treatment and causes no local or systemic toxicity.

### R.T.R.® – Rebuilding A Solid Foundation

R.T.R.® porous granules provide an optimal osteo-conductive environment that promotes the growth of new dense bone.

R.T.R.® granules are both micro and macroporous. These microcavities, when impregnated with the patient's blood, promote an in-depth colonization of the alloplast by osteogenic cells with new bone formation becoming biologically fixed.

**R.T.R.® resorbs progressively.** Unlike hydroxyapatite, R.T.R.® gradually releases calcium and phosphate ions to promote new bone formation. Within 3 to 6 months, depending on the patient physiology, R.T.R.® is replaced by newly formed dense bone capable of supporting future implants.

▶ Extraction site filled with R.T.R.®



▶ Bone regeneration with R.T.R.®



▶ Successful new bone growth through full R.T.R.® resorption.



## R.T.R.® – Technical Specifications

### Properties:

R.T.R.® features specific structural properties that foster osteogenic cell colonization.

**COMPOSITION:** Synthetic  $\beta$  tricalcium phosphate granules ( $\beta$ TCP)  
**PARTICLE SIZE:** 500 $\mu$ m and 1mm  
**MACROPORES:** From 100 $\mu$ m to 400 $\mu$ m  
**MICROPORES:** < 10 $\mu$ m  
**RESORPTION:** 3 to 6 months (depending on the patient's physiology)



▶ R.T.R.® granule magnification of macroporous structure (x135)



▶ R.T.R.® granule magnification of macroporous and microporous structure (x1000)

### Indications:

R.T.R.® is indicated in most clinical cases requiring oral bone replacement:

- Post extraction socket grafting (post-extraction ridge preservation)
- Ridge augmentations
- Periodontal defects
- Defects following apical endodontic surgery
- Sinus lift

### R.T.R.® Characteristics:

Features	Benefits
Synthetic $\beta$ TCP granules	Resorbable with new bone formation
Micro and macroporous	Maximises alloplast colonization by osteogenic cells for bone augmentation
Hydrophilic material	Drawn into the surgical site and provides easy contouring when filling bony voids
High level of purity + sterilization	Biocompatibility and safety
Curved syringe delivery	Easily aspirates marrow blood from socket and delivers material mixture without external mixing
R.T.R.® Cone: addition of highly purified collagen*	Haemostatic healing and stays in place
R.T.R.® Curved Syringe 0.8 cm <sup>3</sup> $\beta$ TCP granules	Easy direct placement
R.T.R.® Granules 2 cm <sup>3</sup> $\beta$ TCP granules	High volume adapted for large defects
Double sterile packaging	Meets the asepsis standards required in implantology

\* bovine origin

## R.T.R.® – Clinical Applications

R.T.R.® achieves optimal results in clinical practice.

case 1

### Filling of post extraction socket

Tooth extraction leads to alveolar bone loss during the first months of healing, with an average loss of 2 to 3 mm in the maxilla and 4 to 6 mm in the mandible. The formation of alveolar clot is essential to fill this cavity.

The cone is carefully placed at the entry to the socket, without trying to enter the socket, to soak up the blood.

The initially dry and rigid consistency of R.T.R.® changes into a cohesive and malleable gel in contact with blood.

This consistency associated with the haemostatic action of R.T.R.® ensures a perfect fit regardless of the shape of the socket. The cone must be thoroughly impregnated with blood to avoid dissociation of  $\beta$ -TCP particles during packing.

Follow-up x-rays at 1 and 3 months confirm maintenance of the alveolar margins. An implant is inserted after 4 and a half months.



Avulsion of 21.



Application of the R.T.R.® cone.



The cone is impregnated with blood.



R.T.R.® in place.



R.T.R.® in place.



2 months postoperatively

case 2

### Intrabony defect

Treatment of an intrabony defect must be part of a global therapy. Initial nonsurgical treatment including scaling, root planing, and oral hygiene is essential to identify cases in which surgical treatment of the defect (larger than 6 mm with bleeding on probing) is indicated. After careful removal of granulation tissue and root planing, a two or three wall defect is filled with R.T.R.® without the use of a membrane. Within a few months, bone repair with a long junctional epithelium is complete. The long-term success of the intrabony defect repair involves maintenance treatment.



A full thickness flap is detached.



The intrabony defect is thoroughly degranulated.



The blood/R.T.R.® mixture is placed in the defect.



Vestibular view of surgical site with placed sutures.



Postoperative x-ray.



Postoperative x-ray.

case 3

### Peri-implant defect

This classic development of a vestibular space following implant insertion is easily treatable. R.T.R.® prevents soft tissue invagination and ensures good osteo-integration.



Presence of vestibular space



Application of R.T.R.®



Surgical site with sutures placed



Perfect Integration of implant

Case courtesy of **Dr. Charles Micheau**, Assistant Professor Department of Periodontology and Implantology, University of Paris Faculty of Dentistry.

case 4

### Sinus elevation

Alone or in combination with autologous bone,  $\beta$  TCP provides an advantageous and recognized alternative to surgical protocols requiring the harvesting of a bone graft. R.T.R.® ensures reproducible clinical results. The curved syringe delivery system is particularly useful for this technique.



Application of R.T.R.®



R.T.R.® in place



Postoperative x-ray.



Histology 7 months post surgery

Case courtesy of **Dr. Thomas Lux** Private Practice, Manheim, Germany.