chronOS Beta-tricalcium phosphate (β-TCP). Synthetic bone grafting material.

- Fully synthetic
- Osteoconductive
- Optimal structure
- Resorbable
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Synthetic bone grafting material.

chronOS bone grafting material has been used successfully in dental applications for more than 20 years.¹ chronOS is a synthetic, porous, osteoconductive bone graft substitute manufactured from β-tricalcium phosphate (β-TCP). This material contains two of the main constituents of bone, calcium and phosphorus, and is resorbed and replaced by host bone.

chronOS is:
– Fully synthetic—eliminates risk of disease transmission
– Ready to use off-the-shelf—reduces operating time
– Excellent substrate—can be mixed with patient's own blood
– Optimal structure—maximizes porosity while maintaining structure and mechanical strength
– Resorbable—replaced by host bone as early as 6 months³

chronOS is intended for⁴
– Ridge augmentation
– Sinus lifts
– Filling of extraction sites (socket preservation)
– Filling of lesions of periodontal origin

Simultaneous resorption and new bone formation

| osteoid (blue) | osteoblasts (dark blue) | bone (purple) | chronOS (gray) |

Continued resorption of chronOS at 12 weeks in a rabbit critical-sized defect model. The remaining material is interwoven with osteoblast, osteoid and mineralized bone.²

1. chronOS has been used clinically in Europe for more than 20 years, under the name CEROS 82.
4. Please refer to package insert for the full list of indications, contraindications, warnings and/or precautions.
Engineered for Osteoconductivity

Provides scaffold
To facilitate the bone healing process, bone void fillers should at least be osteoconductive. This is mainly influenced by three factors: overall porosity, interconnection of macropores and presence of micropores. chronOS has been designed to optimize these features so that it can closely mimic cancellous bone and provide an ideal scaffold for bony infiltration. The compressive strength of chronOS is approximately 5 MPa which is similar to cancellous bone.

Overall porosity
chronOS has a total porosity of 60% for the granules and 70% for the preforms. A high porosity enhances the osteoconductivity, although a porosity that is too high weakens the material’s compressive strength. chronOS benefits from the highest possible degree of porosity without compromising the mechanical strength.

Macropores
The macropores of chronOS are mainly distributed within a range of 100 μm–500 μm (Figure 1). This offers the optimal environment for vascularization and bony infiltration (Gazdag, et al. 1995). In addition, the macropores are interconnected to allow bone formation throughout the entire implant (Figure 2).

Micropores
chronOS contains micropores, which are spaces within the material smaller than 10 μm. The microporosity increases the surface area where new bone forms and allows circulation of body fluids (Figure 3).
Why chronOS?

A full array of products to meet your wide range of clinical needs, with the support you have come to trust from Synthes.

chronOS β-Tricalcium Phosphate Granules, sterile

<table>
<thead>
<tr>
<th>Granule Size</th>
<th>Volume</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>710.000.98S 0.5 mm–0.7 mm</td>
<td>0.5 cc</td>
<td>Extra small</td>
</tr>
<tr>
<td>710.001.98S 0.7 mm–1.4 mm</td>
<td>0.5 cc</td>
<td>Small</td>
</tr>
<tr>
<td>710.002.98S 0.7 mm–1.4 mm</td>
<td>1.0 cc</td>
<td>Small</td>
</tr>
<tr>
<td>710.003.98S 0.7 mm–1.4 mm</td>
<td>2.5 cc</td>
<td>Small</td>
</tr>
<tr>
<td>710.011.98S 1.4 mm–2.8 mm</td>
<td>2.5 cc</td>
<td>Medium</td>
</tr>
<tr>
<td>710.014.98S 1.4 mm–2.8 mm</td>
<td>5.0 cc</td>
<td>Medium</td>
</tr>
</tbody>
</table>

A range of preforms is also available. Contact Synthes for more information.

For more products, contact your local Sales Consultant, or our Dentoalveolar Surgery Products reference line at (800) 824-2020, or e-mail dento@synthes.com.