Benex® II Extraction System
acc. to Dr. med., med. dent. Benno Syfrig. Patented

All medical devices indicated here bear the CE mark according to the Medical Device Directive 93/42/EEC.
In modern dental treatment, implantology following extraction is increasingly favoured. Consistent with the principle of minimal invasion, conserving soft and hard tissue structures is a must. Starting with extraction, the modified Benex II guarantees a gentle and simple extraction of roots in the whole mouth. It is nearly impossible to harm the soft tissue and the surrounding bone. Due to the longitudinal extraction, Benex II is an optimal basis for direct implantation. It is also a valuable help for retarded implantation after the extraction with the Benex II system. Studies made after the use of Benex II prove that the reossification of the extraction alveole is advancing optimally. This is a great advantage for the retarded implantation.

The new Benex II is now available in a washtray complying with the RKI guidelines. That way, the requirements of optimal cleanability and sterilization were taken into account. You will find further information, application examples and the Benex II user forum at: www.benex-dent.com
Alveolar Ridge Preservation with **Benex**™ II

**What does it mean?**

Alveolar Ridge Preservation means the treatment of the dental alveole after extraction. 3 months after the Benex™ extraction you find a considerably better ridge relation than with conventional gentle extractions. The Benex™ finds its successful application in both, private practices and universities. The Benex™ has achieved an excellent status worldwide as basis for a subsequently successful implantation. The new support for the dismounted Benex™ System in a washtray guarantees an optimal cleanability of Benex™ in a washing machine or in an ultrasonic bath. All components can be fixed safely in the support.

Upon cleaning, the system can be sterilized in assembled condition.

In addition to the Benex™ components, an optional periotome, an Xtool and an optional Benex™ Pole Extractor can be placed in the support.

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**Optional Instrumentary**

- **12.300.11** Benex™ Pole Extractor
- **12.300.45** Benex™ Blade
- **47.525.50** Driver Guide FD
- **47.525.55** Ratchet with demountable handle
<table>
<thead>
<tr>
<th>Illustration</th>
<th>Article Description</th>
<th>Order Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td><strong>12.302.00</strong> Benex® II Extraction System consisting of: Extractor, Pullrope 48 mm, Driver Guide, Screw short 1.6 mm + 2.1 mm, Screw long 1.6 mm + 2.1 mm, 1 Drill ea. for 1.6 mm, 2.1 mm Screws, Quadrant Support, 85.195.00 Washtray with Lid, 12.302.01 Tray / Rack for Benex® II</td>
<td>1 piece</td>
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<tr>
<td><img src="image2.png" alt="Image" /></td>
<td><strong>12.302.01</strong> Benex® II Tray / Rack</td>
<td>1 piece</td>
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<tr>
<td><img src="image3.png" alt="Image" /></td>
<td><strong>85.195.00</strong> Washtray 1/1 with Lid and Press Button Lock</td>
<td>1 piece</td>
</tr>
<tr>
<td><img src="image4.png" alt="Image" /></td>
<td><strong>12.303.00</strong> Benex® II Basic Kit consisting of: Extractor, Pullrope 48 mm, Driver Guide, Screw short 1.6 mm + 2.1 mm, Screw long 1.6 mm + 2.1 mm, 1 Drill ea. for 1.6 mm + 2.1 mm Screws, Quadrant Support, 85.194.00 Washtray with Lid</td>
<td>1 piece</td>
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<tr>
<td><img src="image5.png" alt="Image" /></td>
<td><strong>85.194.10</strong> Washtray 1/2 with Lid and Press Button Lock</td>
<td>1 piece</td>
</tr>
<tr>
<td><img src="image6.png" alt="Image" /></td>
<td><strong>12.300.08</strong> Benex® II Extractor</td>
<td>1 piece</td>
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<tr>
<td><img src="image7.png" alt="Image" /></td>
<td><strong>12.300.15</strong> Replacement Support Disc, 8 mm (PTFE), optional</td>
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<td><img src="image8.png" alt="Image" /></td>
<td><strong>12.300.17</strong> Support Disc, diagonally left, optional</td>
<td>1 piece</td>
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<td><img src="image9.png" alt="Image" /></td>
<td><strong>12.300.16</strong> Support Disc, diagonally right, optional</td>
<td>1 piece</td>
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<tr>
<td><img src="image10.png" alt="Image" /></td>
<td><strong>12.300.20</strong> Pullrope, 48 mm</td>
<td>2 pieces</td>
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<tr>
<td><img src="image1.png" alt="Image" /></td>
<td>12.300.30 Diamond coated Drill for Screws Ø 1.6 mm 12.300.60 and 12.300.70</td>
<td>2 pieces</td>
</tr>
<tr>
<td><img src="image2.png" alt="Image" /></td>
<td>12.300.35 Diamond coated Drill for Screws Ø 2.1 mm 12.300.65 and 12.300.75</td>
<td>2 pieces</td>
</tr>
<tr>
<td><img src="image3.png" alt="Image" /></td>
<td>12.300.47 Driver Guide, short</td>
<td>1 piece</td>
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<tr>
<td><img src="image4.png" alt="Image" /></td>
<td>12.300.60 Screw, Ø 1.6 mm, 10 mm, S = Short</td>
<td>2 pieces</td>
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<tr>
<td><img src="image5.png" alt="Image" /></td>
<td>12.300.65 Screw, Ø 2.1 mm, 10 mm, SF = Short &amp; Fat</td>
<td>2 pieces</td>
</tr>
<tr>
<td><img src="image6.png" alt="Image" /></td>
<td>12.300.70 Screw, Ø 1.6 mm, 16 mm, L = Long</td>
<td>2 pieces</td>
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<tr>
<td><img src="image7.png" alt="Image" /></td>
<td>12.300.75 Screw, Ø 2.1 mm, 16 mm, LF = Long &amp; Fat</td>
<td>2 pieces</td>
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<td><img src="image8.png" alt="Image" /></td>
<td>12.300.80 Quadrant Support for Benex® to bridge over bigger gaps and for the universal molding</td>
<td>1 piece</td>
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<tr>
<td><img src="image9.png" alt="Image" /></td>
<td>12.300.11 Benex® Pole Extractor, optional</td>
<td>1 piece</td>
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<tr>
<td><img src="image10.png" alt="Image" /></td>
<td>47.525.55 Ratchet with demountable handle, optional</td>
<td>1 piece</td>
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<tr>
<td><img src="image11.png" alt="Image" /></td>
<td>47.525.50 Driver Guide FD, optional</td>
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<tr>
<td><img src="image12.png" alt="Image" /></td>
<td>12.300.45 Benex® Blade for Driver Guide FD, optional</td>
<td>1 piece</td>
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Application of the Extraction System

1. Anaesthesia. Cutting periodontal fibres (Sharpey fibres) in the sulcus by using the Periotome or the HELMUT ZEPF®.

2. Strong, large roots must be loosened / luxated by axial movements within 30 sec., using a slim elevator / twister (from HELMUT ZEPF®). Without using transversal movements. In case of multi-rooted teeth, the roots are divided and extracted separately.

3. Drilling with the diamond coated twist drill should be in the axis and center of the root fragment. It should be approx. 7 mm in the hard tissue, deeper drilling will not be necessary. Drilling is performed with water-cooling. In order to remove drilling chips more easily, an inward and outward movement is recommended for deep drilling.

   Recommended rpm:
   - 500 - 700 rpm
   - 12,300.30 max. 3000 rpm
   - 12,300.35 max. 2200 rpm

4. According to circumstances, the short or long extraction screw with screwing support 12.300.47 is inserted.

5. The extractor is positioned on the adjacent crowns: The opening of the round, revolvable segment plate is adjusted in vestibular direction ensuring a good view of the extraction screw. After the pullrope has been hooked into the extraction screw, it is guided over the reverse roller and fixed to the hook of the extraction slide. Under slight traction – so that the rope does not hang out – the instrument is placed on the adjacent teeth by turning the hand screw.

   During positioning it is important to see that both the screw and the rope do have the same axial direction.

6. Once the extractor is positioned properly, the extraction is carried out by turning the hand screw. In case of strong, long roots the periodontal fibres have to be pre-stretched during 30 seconds by applying a sub-maximum traction.
Extrusion as a logical consequence of extraction
A very easy method for crown lengthening with the Benex®-Extractor

Teeth with a subcrestal root defect (caused by caries or by traumatic injuries) present a lack of biological width and are often not judged to be worth saving, i.e. they are classified as “hopeless” and are extracted.

Periodontal surgical and orthodontic procedures are applied for the pre-prosthetic restoration of the biological width. This is an absolute precondition for a dental restoration in case of a profound root defect. In the front tooth area, periodontal surgical methods are usually inapplicable and orthodontic procedures are time-consuming and cause high labor costs.

The oral surgeon and implantologist Dr. Benno Syfrig from Lucerne shows how a crown lengthening can be performed easily and economically with the Benex® System. Thus, he was able so far to create a pre-prosthetically convenient biological width in more than 50 teeth classified as “hopeless”.

He has standardized the procedure of Benex® extrusion as follows:
1. Root treatment, unless already existing
2. Root canal preparation with the RelyX fiber post (up to size Red)
3. Benex® drilling, Benex® screw fixation,
   Benex® extrusion (picture 1)
4. Fixation of extruded root with wedges (picture 2)
5. Definite preparation of root post (picture 3)
6. Provisional plastic crown, splinting on neighboring teeth (picture 4)
7. Removal of splint three weeks after extrusion
8. Definite crown restoration three months after extrusion (picture 5)

Curriculum Vitae: Benno Syfrig
- Since 1992 Oral-Surgical Referral Practice with Dr. Bernd Bloch
- Development and scientific evaluation of a new, minimally invasive surgical method for implantation in the maxillary sinus area: Publication in 2010, Deutscher Ärzte-Verlag | zzi | Z Zahnärztl Impl | 2010; 26 (1)
- Development and patenting of an instrument for a tissue-conserving tooth root extraction (Benex Extractor)
- Adviser activity as specialist dental practitioner since 15 years
- Since 1998 Management of the ITI (International Team for Implantology)
- User Meeting of Central Switzerland
- Regular Live Demo Surgeries of Implantation for Dentists and specialists from dental industry
- 1989 - 1992 Dental Assistant in a Private Practice
- 1982 - 1989 Regular substitution of the SUVA District Medical Officer, approx. 1 working year in total
- 1986 - 1989 Studies of Dental Medicine, University of Basel, State examination in 1989
- 1979 - 1986 Assistant Doctor in different hospitals, with focus on surgery
- 1973 - 1979 Studies of Medicine, University of Zürich, State examination in 1979
The Pole Extractor
The patented supplement to the Benex® II Extraction System

For roots with a strong decline to the occlusion level and/or inappropriate access for the positioning of the Benex® II Extractor.

For poorly anchored root/tooth fragments:
- in apical root fractures after conventional extraction
- in deep loss of attachment
- in small periodontal root surface
- in deflected tooth germs

Examples of use:
- palatal roots of the molars in the upper jaw (buccomesial decline)
- distal roots of the molars in the lower jaw (mesial decline)
- horizontally deflected canines in the upper jaw
- apical root fragments after conventional extraction
- loosened roots in the case of deep loss of attachment
- roots with small periodontal surface
- deflected root germs (mesiodens et al.)

For detailed information, examples of use and the Benex® User Forum, please refer to: www.benex-dent.com

12.300.11
Benex® Pole Extractor
scale 1:1