



By activating the ultrasound, the resorbable SonicPin Rx® can penetrate into the cavities of the bone structure (left) and fuse with the resorbable plate to become a single unit (right).

The SonicWeld Rx® system has been on the market since 2005. The technique has been established and proven over the years. Its success in practice has been proven in several studies.

What can be achieved with SonicWeld Rx®?

The device can use ultrasound to cause resorbable SonicPins Rx® to vibrate so that they can change their aggregate state and thus migrate into the bone structure. In addition, the resorbable pins and the plate fuse into a single unit. This is faster and more stable than conventional methods with resorbable screws. The system saves time in the operating theater and makes it easier for the surgeon to keep the bones securely in position.

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The KLS Martin SonicWeld Rx® solution is based on the BoneWelding®-technologie¹⁾ protected by the industrial property rights of WoodWelding AG, Switzerland, and has been licensed by this company.

1) "BoneWelding®" is a registered Swiss trademark.

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SonicWeld Rx®

The perfect choice –
 for you and your child.

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When comparing a child with (left) and without craniosynostosis (right), the difference in skull shapes becomes apparent.

If there is an early closure of the cranial sutures in newborns, this can lead to cranial deformities. The diagnosis craniosynostosis is not uncommon (about 1:2000 of newborns are affected). However, nowadays it can be detected and treated early.

If a decision is made in favor of craniomaxillofacial reconstruction, this generally requires altering the position and shape of the bone structures through surgery. The bones must be kept in position while they heal in the weeks following surgery. To this end, there are various fixation methods, be it metal plates, metal wire, polymer screws or resorbable sutures. In addition, your physician can choose our advanced SonicWeld Rx® fixation technique.

In this patient brochure, you will find all the necessary information and instructions on SonicWeld Rx® and the resorbable implants of the KLS Martin Group.



Before being implanted, the implant consists of polymers (long molecule chains).

What is a resorbable implant?

The KLS Martin resorbable plates and pins are polymers that degrade completely in the body by a natural process.

Materials:

- Resorb x®: 100% poly-D,L-lactic acid (PDLLA)
- Resorb xG: 85% poly-L-lactic acid (PLLA) and 15% poly glycolic acid (PGA).

What happens to the resorbable implant after implantation?

Both resorbable materials retain most of their strength for 8-10 weeks. This gives the bones time to heal.

Right from the very beginning, the resorbable implant absorbs the water content (H₂O molecules) of surrounding body fluids (hydrolysis). The stored water initiates the degradation process of the polymer. By continuously breaking the polymer chains, water molecules degrade the long polymer chains into ever shorter structures until only carbon dioxide (CO₂) and water molecules (H₂O) remain. These substances leave the human body in a natural manner.

What is the advantage of resorbable implants?

A second surgical procedure to remove metal from implants can always involve risks - especially young patients should be spared



The degradation process begins after implantation. The polymers become shorter and shorter until only single molecules remain.

this surgery. If resorbable KLS Martin implants are chosen, such a second surgical procedure is superfluous.

What needs to be considered if your child has been treated with a resorbable implant?

During the degradation process, the resorbable implant absorbs water molecules - comparable to a sponge soaking up water. This can cause swelling 9 - 12 months after surgery, particularly in regions with little soft tissue. This swelling is normal and should disappear after about eight weeks. However, if the color or structure of the swelling changes, you should consult your physician.

Although the degradation process varies from patient to patient, the implant should be completely degraded after two years at the latest.

For further information please visit our website www.klsmartin.com or scan the QR Code opposite.

