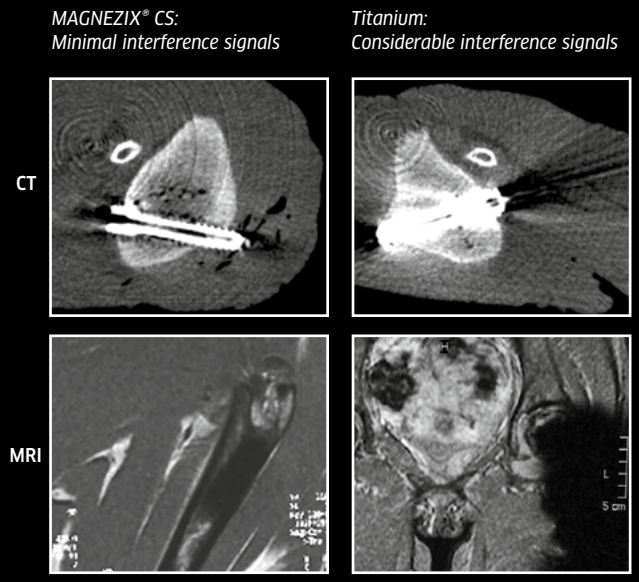
FEWER ARTIFACTS

MAGNEZIX® CS is a metallic implant. Nonetheless interference signals are greatly reduced both in computer tomography as well as MRI diagnostics – the implants generate very few artifacts. **This helps considerably improve the analysis of images by surgeons and radiologists.**

Unlike conventional screws made of steel and titanium, implants made of MAGNEZIX® do not generate any noticeable temperature increases during MRI.



Source of CT and MRI images: Hannover Medical School, Institute for Diagnostics and Interventional Radiology

PRODUCT OVERVIEW

According to its respective dimension, MAGNEZIX® CS can be used for adaption- and exercise-stable fixation of bones and bone fragments in children, adolescents and adult persons.

IMPLANT	DIMENSIONS		LENGTHS
MAGNEZIX® CS 2.0	**Diameter**	2.0 mm	8 to 24 mm (in 2-mm steps), non-cannulated
	Head diameter	2.5 mm	
MAGNEZIX® CS 2.7	**Diameter**	2.7 mm	10 to 34 mm (in 2-mm steps), cannulated
	Head diameter	3.5 mm	
	Guide wire	1.0 mm	
MAGNEZIX® CS 3.2	**Diameter**	3.2 mm	10 to 40 mm (in 2-mm steps), cannulated
	Head diameter	4.0 mm	
	Guide wire	1.2 mm	
MAGNEZIX® CS 4.8	**Diameter**	4.8 mm	14 to 50 mm (in 2-mm steps) 55 to 70 mm (in 5-mm steps), cannulated
	Head diameter	5.7 mm	
	Guide wire	1.8 mm	

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Implants are manufactured in Germany in cooperation with Königsee Implantate GmbH.

Misprints and errors are reserved.

7000.300.001 03/16

MAGNEZIX®

METALLIC AND BIOABSORBABLE

TAKE A NEW LOOK AT IMPLANTS

Intelligent innovations for a better life.
www.syntellix.com

SYNTELLIX

THE ADVANTAGES ARE OBVIOUS – AN OVERVIEW

Virtually no radiological artifacts.

Suitable for MRI and CT diagnostics.

Metallic and bioabsorbable.

Osteoconductive.

Reduced risk of infection.

Similar stability to titanium.

Avoids stress shielding.

No second operation necessary to remove hardware.

No known allergies or foreign body reactions.

Nickel- and aluminium-free.

TOP 100 Top-Innovator 2015

INNOVATIONSPREIS DER DEUTSCHEN WIRTSCHAFT Sieger 2012/13

REVOLUTIONARY AND PIONEERING

Metal that turns into bone. You think that's impossible? We can prove it – it really does work! Innovative material MAGNEZIX® is the start of a medical revolution.

We have developed a metallic implant for osteosynthesis which has similar stability to screws made of steel or titanium but which degrades in a controlled fashion in the body and is replaced by the body's own bone tissue.

CE

MAGNEZIX® is the first implant of its kind in the world to have CE and HSA approval, satisfying the highest safety standards. It offers doctors, patients and cost providers with unique advantages.

METALLIC AND BIOABSORBABLE

Stability alone is not enough – the ideal implant can do more.

MAGNEZIX® has mechanical stability values which are far above the values of those bioresorbable materials previously available. The good bone-like stress-strain ratio (modulus of elasticity) effectively counteracts stress shielding effects, which can result in loss of bone density (osteopenia).

MAGNEZIX® is based on a magnesium alloy with stable metallic properties. Over the course of time it is completely degraded in the body and is replaced by the body's own bone tissue.

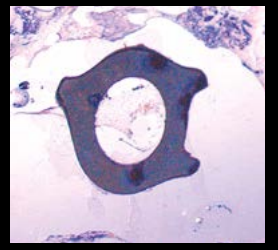
Right side, source: Waizy H, Diekmann J, Weizbauer A et al. (2014). In vivo study of a biodegradable orthopedic screw (MgYREZr-alloy) in a rabbit model for up to 12 months. J Biomater Appl 28 (5), 667-75.

OSTEOCONDUCTIVE AND REDUCED RISK OF INFECTION

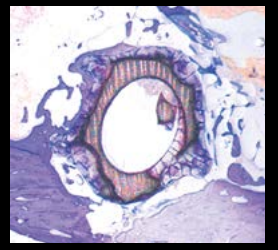
MAGNEZIX® has osteoconductive properties. Human osteoblasts have not only to great vitality in vitro but in addition they are stimulated in proliferation tests. The formation of new bone (osteoids) has been proven histologically at the surface of the degrading implant.

MAGNEZIX® implants help reduce the risk of infection because they are delivered as sterile devices. The degradation of the screw through corrosion further creates an alkaline bactericidal environment in the immediate vicinity of the implant such that MAGNEZIX® is anticipated to have anti-infectious properties.

Histological sections show the implant's conversion process. The images show a cross-section of the cannulated MAGNEZIX® CS at various times post-OP.



Histological preparation of an implanted MAGNEZIX® CS after a few days.



Conversion of MAGNEZIX® CS in progress after 3 months.

MAGNEZIX® CS conversion into calcium phosphate after 12 months with clear evidence of bone ingrowth.