SPEED Hand and Wrist System

SPEED Continuous Compression Implant

Hand surgeons continuously strive for solutions that address:

- **Bone stability – Nonunion rates are still significant in these types of procedures:**
  - Up to 15% (scaphotrapeziotrapezoid fusion)[1]
  - Up to 17% (4-CF fusion and scaphoidectomy)[1]
- **Risk of implant misplacements that arise due to limited availability of bone surface area (2–4 mm) at surgical sites[2]**
- **Preservation of blood supply at surgical sites**
- **Soft-tissue irritation and impingement at surgical sites[4]**

DePuy Synthes

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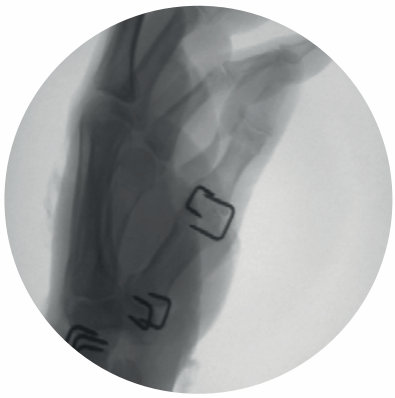
The SPEED Hand and Wrist System

The SPEED Hand and Wrist System, developed with a team of leading hand surgeons, is designed to redefine simplicity in the operating room and to make Nitinol hardware fixation as intuitive as possible.

- Continuous Compression Implants may result in a **lower risk of non-unions and hardware complications** compared to screws[3]
- The newly developed cannulated system is easy-to-use with more precise **implant placement** and may save time in the OR
- A minimally invasive procedure, which **preserves soft tissue** for greater blood supply at the operative site
- Continuous Compression Implants can be recessed through troughing to **avoid implant prominence** without negative impact on compression force, bending stiffness and ultimate bend strength of the implant[4]
- Nitinol construction provides continuous, active compression and **effective reduction** throughout the healing process

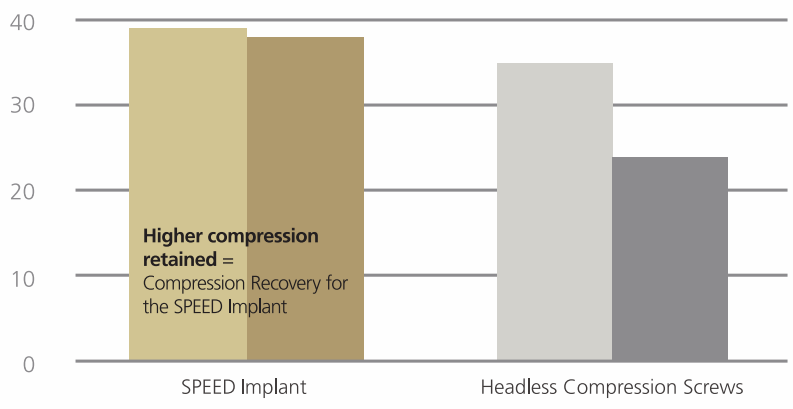


Featured Procedures:

- Limited intercarpal joint arthrodesis (including isolated capitolunate, two-column and four-corner fusions)
- Carpometacarpal (CMC) joint arthrodesis
- Radiolunate (RL) or radioscapholunate (RSL) joint arthrodesis

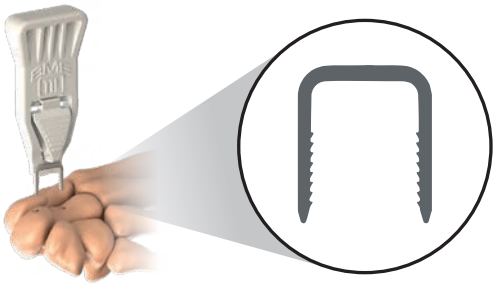
SPEED Implant vs Leading Headless Compression Screws (N)

Pre and Post 100 Cycles at 1 mm Displacement*

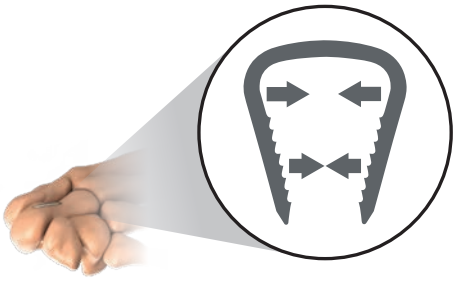


*VER-136-08

Nitinol Technology



The implant is pre-loaded and constrained in the open position on the insertion tool



Upon release into the bone, the implant provides continuous dynamic compression during healing

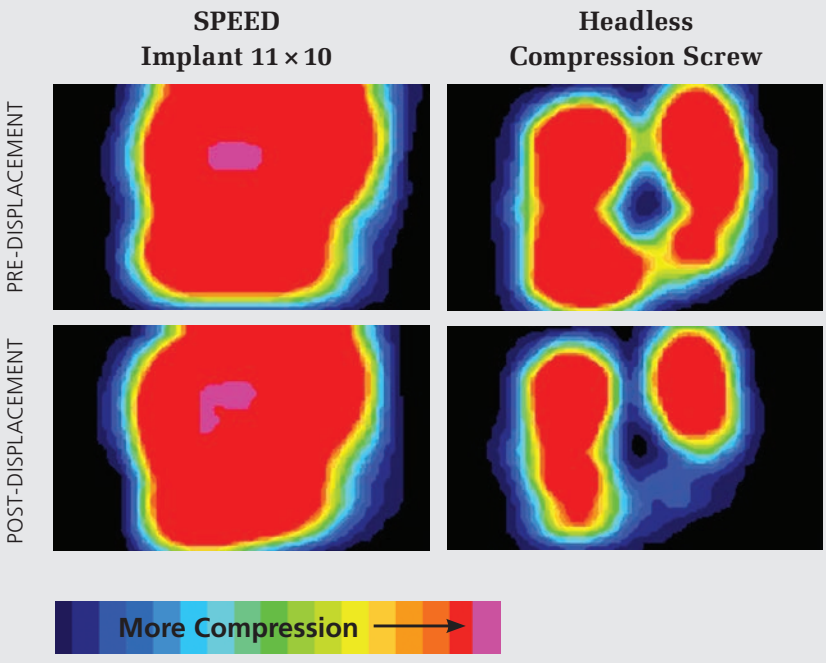
The Advantage of Nitinol over Traditional Bone Fixation

Nitinol based bone fixation systems	Traditional bone fixation system
• Nitinol can store energy and transfer it onto bone in order to achieve a spring-like effect • By behaving like a spring, an activated Nitinol implant can self-adjust over time to continuously, dynamically compress bones together • Nitinol helps minimize the effects of bone resorption and maintain a stable construct	• Provides only static fixation • Unable to self-adjust over time to compensate for the effects of bone resorption that can lead to decreased stability

Continuous Active Compression is based on the superelasticity of our implants that allow them to behave like powerful springs. SPEED Implants have been shown in Bench Trials** to recover from repetitive construct deformation.

SPEED Memory Implant vs Leading Headless Compression Screws:
Pressure Map Profile From Bench Study (Or Trial)**

Headless Compression Screws showed a significant loss of contact area post displacement.



**Bench Test results may not necessarily be indicative of clinical performance.

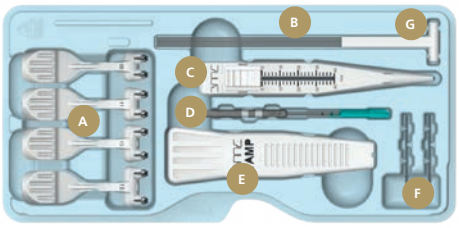
The SPEED Drill Kit

Pre-Sterilized | Fully Disposable System

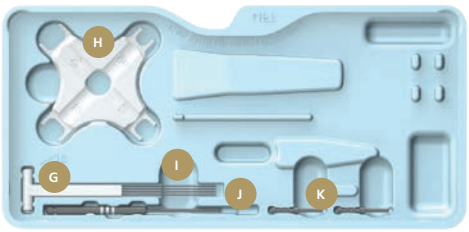
Part Number	Drill Bit Size	Drilling Templates*
DK-200HW	2.0 mm	09,11,13,15

- A Drilling Templates (4)
- B 6" K-Wires, 0.045" dia.† (4)
- C Depth Gauge
- D 2.0 mm Drill Bit
- E Tamp
- F Pull-Pins 2.0 mm (2)
- G K-Wire Retentions (2)
- H Sizing Guide
- I 4" K-Wires, 0.035" dia.‡ (4)
- J Cannulated Drill Bit
- K K-Wire Guides (2)

† Provisional fixation
‡ Compatible with cannulated instruments



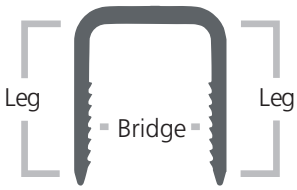
Top Tray



Bottom Tray

Corresponding SPEED Continuous Compression Implants

Implant Kit	Bridge*	Legs*	Wire Sie*
SE-0907	09	07	1.5 x 1.5
SE-0910	09	10	1.5 x 1.5
SE-1108	11	08	1.5 x 1.5
SE-1110	11	10	1.5 x 1.5
SE-111513	11	15/13	1.5 x 1.5
SE-1308	13	08	1.5 x 1.5
SE-1310	13	10	1.5 x 1.5
SE-1312	13	12	1.5 x 1.5
SE-131513	13	15/13	1.5 x 1.5
SE-1510	15	10	1.5 x 1.5
SE-1512	15	12	1.5 x 1.5



SPEED Implant Diagram

Additional sizes available. Ask your sales representative for more information.

*Sizes in millimeters

Clinical Indications: Fracture and osteotomy fixation and joint arthrodesis of the hand. Fixation of small fragments of bone (i.e. small fragments of bone which are not comminuted to the extent to preclude staple placement). These fragments may be located in long bones such as the femur, fibula and tibia in the lower extremities; the humerus, ulna or radius in the upper extremities; the clavicle; and in flat bone such as the pelvis and scapula.

References: **1.** Houvet P. EFORT Open Reviews. 2016;1(2): 45–51. **2.** Gaulke R. The Journal of Hand Surgery (European Volume, 2010) 35E: 4: 289–295 **3.** Tait M. American Association for Hand Surgery; January 10–14, 2017 **4.** Glaston G. Nitinol Implant Fixation: Effect of Cortical Bone Troughing on Construct Compression and Stability White Paper

BioMedical Enterprises, Inc.
14785 Omicron Dr., Ste. 205
San Antonio, Texas 78245 USA

EC REP
Emergo Europe
Prinsessegracht 20
2514 AP The Hague
The Netherlands

Synthes GmbH
Eimattstrasse 3
4436 Oberdorf
Switzerland
Tel: +41 61 965 61 11
Fax: +41 61 965 66 00
www.depuysynthes.com

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