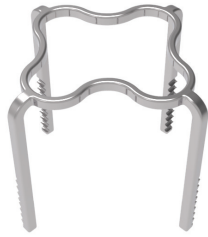


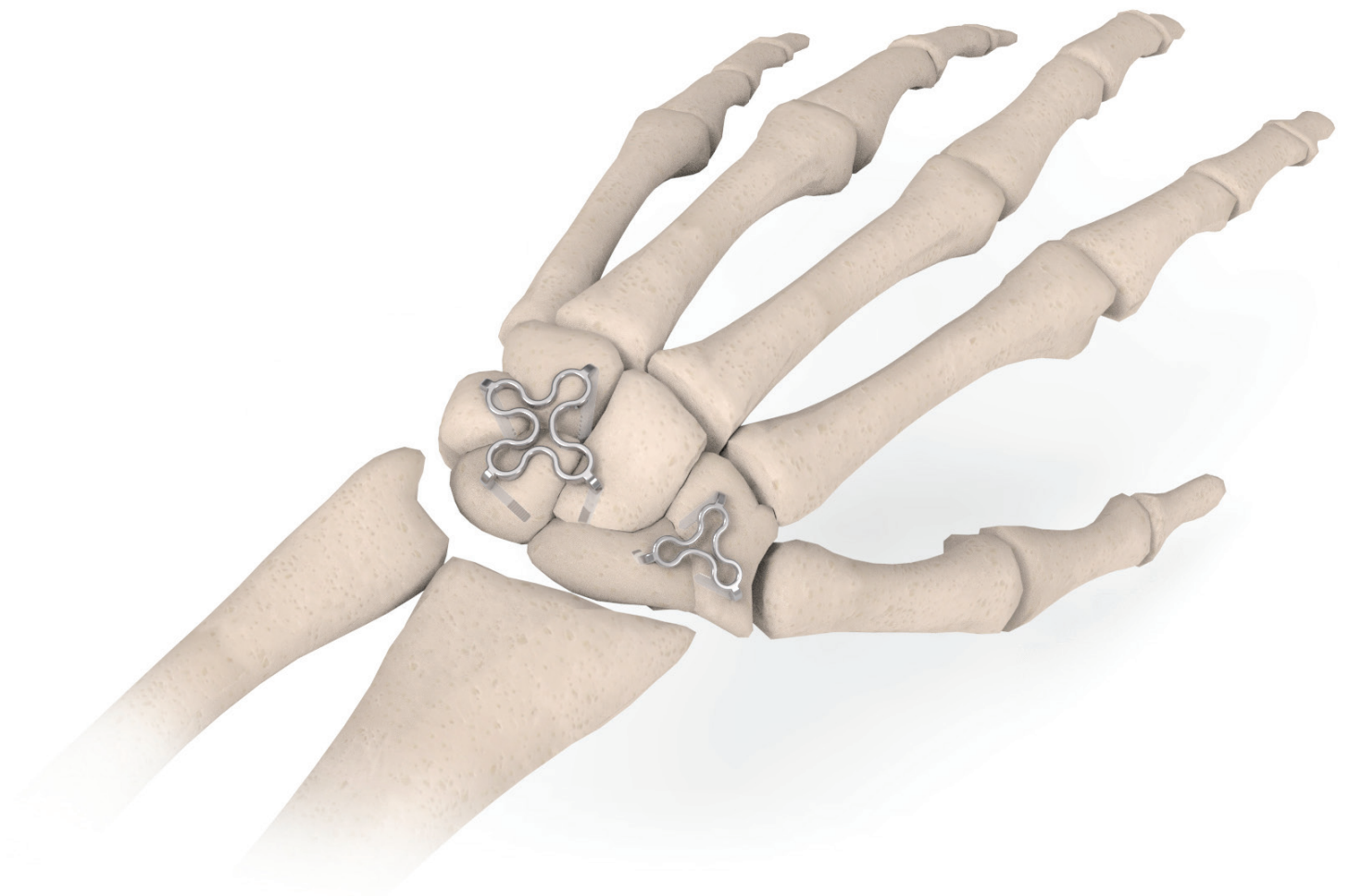
Clover Staple™



3-Leg



4-Leg



Dynamic **compression** reduces the chance of non-unions.¹

The three most important factors when performing intercarpal fusions are bone surface preparation, adequate bone grafting and reliable fixation.²

The BioPro® Clover Staple™ is the proven reliable fixation option surgeons choose for intercarpal fusions. A case series including 32 consecutive patients resulted in 100% union rate, usually within 6 weeks.¹



The Clover Staple design is perfect for many popular partial arthrodesis procedures. The open center design allows for easy monitoring of the fusion site.

Scaphotrapeziotrapezoid (STT)



Four corner fusion (4-CF)

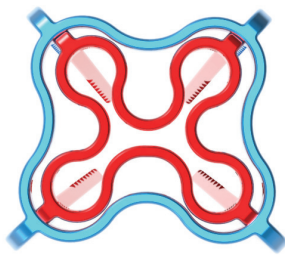
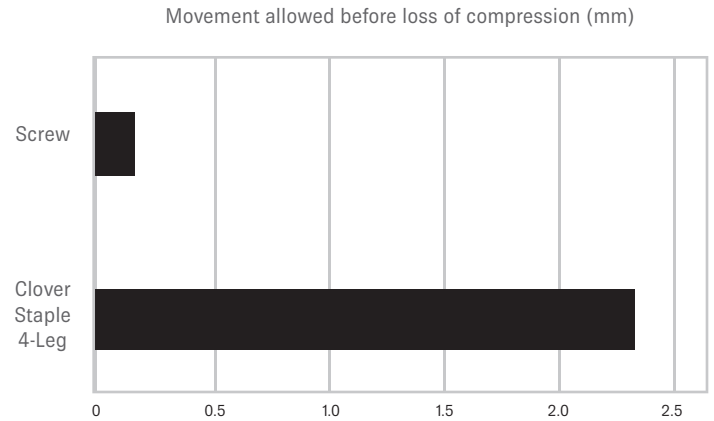


Radioscapholunate (RSL)

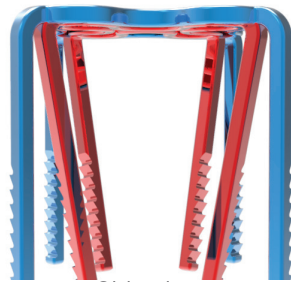


The Clover Staple is manufactured from Nitinol, a memory alloy that is activated at patient body temperature. The strategically placed bends pull the legs towards the center of the device creating over 5 lbs* of dynamic compression and allowing optimal bone to bone apposition.

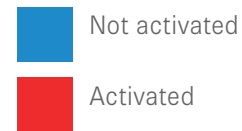
During the bone remodeling process, bone movement is expected. While screws are a popular fixation method, a study has shown that screws lose all compression at 0.16mm of movement due to remodeling.³ The BioPro Clover Staple offers up to 2.33mm of compression, maintaining compression significantly longer during the remodeling process.



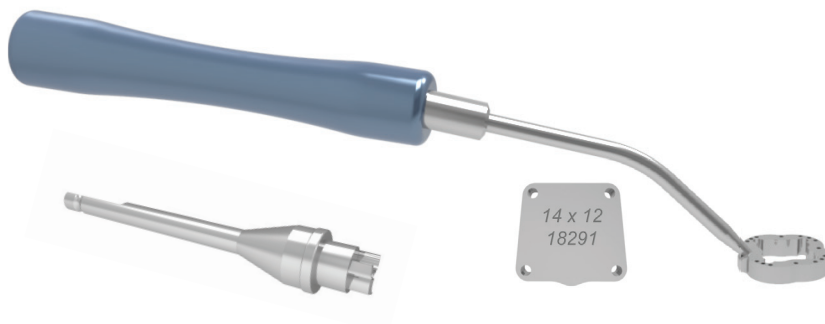
Top view



Side view



The Clover Staple is 1mm thick which requires minimal bone removal to recess the implant dorsally. The instrumentation allows for precise removal of bone, ensuring only the bone necessary for proper positioning is removed. This maintains sufficient bone stock for a successful fusion while avoiding risk of impingement.





References:

1. Faillace, John. NiTiNOL Low Profile Multi-pronged Memory Metal Staple in Small Bone Fusion. Poster presentation American SSH. September 2017.
2. Houvet, Patrick. "Intercarpal Fusions: Indications, Treatment Options and Techniques." EFORT Open Reviews 1.2 (2016): 45–51. PMC. Web. 2 Feb. 2018.
3. Chang,Thomas. Overley, Benjamin. Pancrantz ,David. AN IN VITRO COMPARATIVE STUDY OF SCREW AND NITINOL STAPLE COMPRESSION: A Model Showing Active Dynamic Compression.

*Data on file.

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