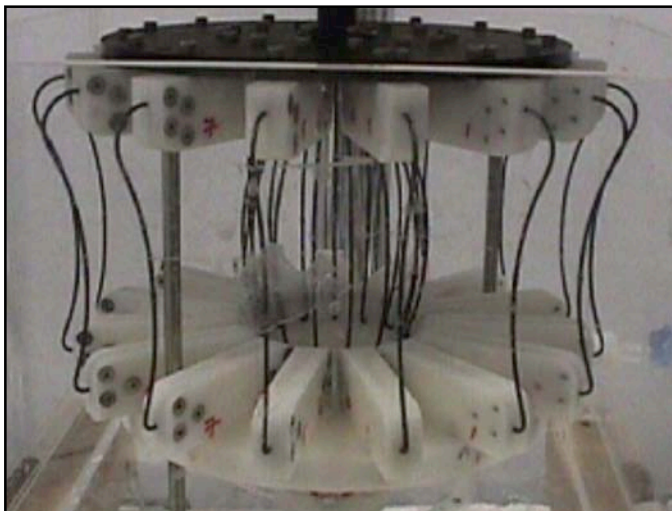


## Technical Note #4: Intro to Nitinol

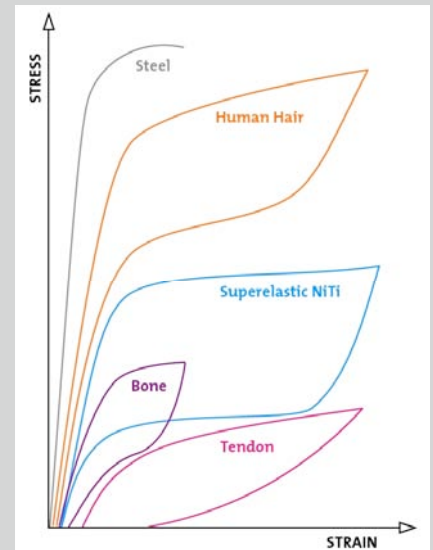
The primary component used in manufacturing the Rebound HRD is a 7-strand Nitinol (NiTi) cable. Nitinol (an alloy of nickel and titanium) is a material of choice for many medical and high tech applications because of its unique performance characteristics. For implantable devices, Nitinol is a preferred material because of its durability, superelasticity, corrosion resistance, biocompatibility, biomechanical properties and non-magnetic properties. These qualities have enabled numerous medical device innovations that have greatly contributed to the development of minimally invasive and other surgical procedures. **Some specific examples of Nitinol's use in medical implantable devices include cardiovascular stents & filters, surgical anchors, orthopedic implants and septal occluders.**



### Nitinol is a Preferred Material for its Biomechanical Compatibility

The physiological similarity of Nitinol (NiTi) to biologic materials has encouraged its use in developing new implantable medical device technology.

The chart to the right compares Nitinol's stress and strain characteristics with steel and some common biologic materials.



Source: Memory-Metalle GmbH

*Rebound HRD Nitinol frames were fatigue cycle tested in 37°C +/-2°C saline to simulate physiological compression and subject the devices to possible failure. During testing, the frames were visually inspected daily and with a 30x microscope at completion. All frames were intact after enduring 10,512,000 cycles.*

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**MMDI**  
Minnesota Medical Development, Inc.  
14305 21st Avenue North  
Suite 100  
Plymouth, MN 55447  
www.2mdinc.com

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