ROTIUM™

ATREON ORTHOPEDICS

The Rotium™ Bioresorbable Scaffold Wick
for Rotator Cuff Repair

The Rotium™ Bioresorbable Wick is comprised of biodegradable polymer nanofibers that replicate the structure of the native extracellular matrix and completely resorbs after 3-4 months. The nanofibers act as a scaffold that support cellular ingrowth and facilitate healthy tissue regrowth, such as Sharpey fibers. Traditional rotator cuff repair results in high levels of scar tissue at the bone-tendon interface, resulting in weaker connection of the tendon to the bone. The Rotium™ Wick supports and encourages the regeneration of healthy tendon at the bone-tendon interface.

Product Composition

Versatility

- Rotium™ is FDA indicated to be used in conjunction with over 40 commonly used anchors. Similar products on the market only have one suture anchor product configuration.
- Ease of use allows for incorporation into existing repair techniques without adding time
- No change is required in placement configuration for existing anchors or procedures. Furthermore, no special instrumentation is required.
- Can be used in open or arthroscopic procedures.

Coverage

- The Rotium™ Wick provides over **9 times** the surface area coverage than a comparable product, with a surface area of 400 sq. mm.
- Rotium™ provides optimum coverage of the supraspinatus footprint of 368 sq. mm.

Affordability

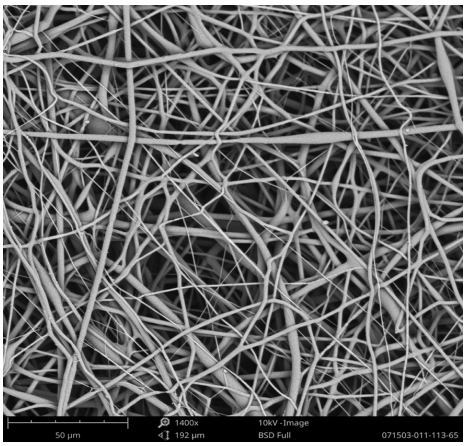
- Rotium™ benefits patients, surgeons, and insurers by providing a lower overall cost per procedure than comparable products with greater benefits, such as increased wick retention and strength. Alternative scaffold products cost upwards of $3,500, 10x the cost of Rotium™ per procedure.

Electrospun Nanofibers

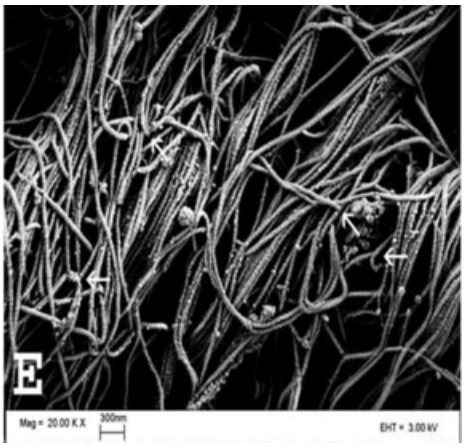
- Rotium™ is composed of 100% synthetic materials. This ensures the product is highly reproducible, has no risk of immune rejection, and can be stored in ambient conditions. The product is made of electrospun nanofibers and resorbs by natural metabolic processes, resulting in complete resorption and replacement with native tissue.

Product Testing

- Rotium™ demonstrated the ability to increase the strength of a rotator cuff repair in traditional animal models over 12 weeks by **75%**. Rotium™ also promotes the development of prominent collagen fibers, which provide strength to the bone/tendon interface.



SEM image of the Rotium™ Wick



SEM image of native tendon ECM

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Animal Studies and Data

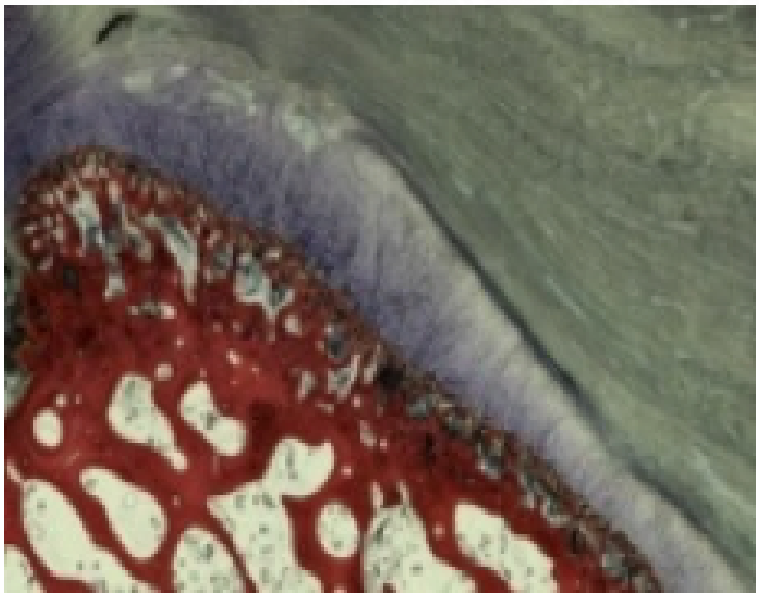
Rotium™ Sheep Study

Colorado State University

Atreon Orthopedics completed a large sheep study with Colorado State University in which Rotium™ demonstrated the ability to increase the strength of a rotator cuff repair in traditional animal models.

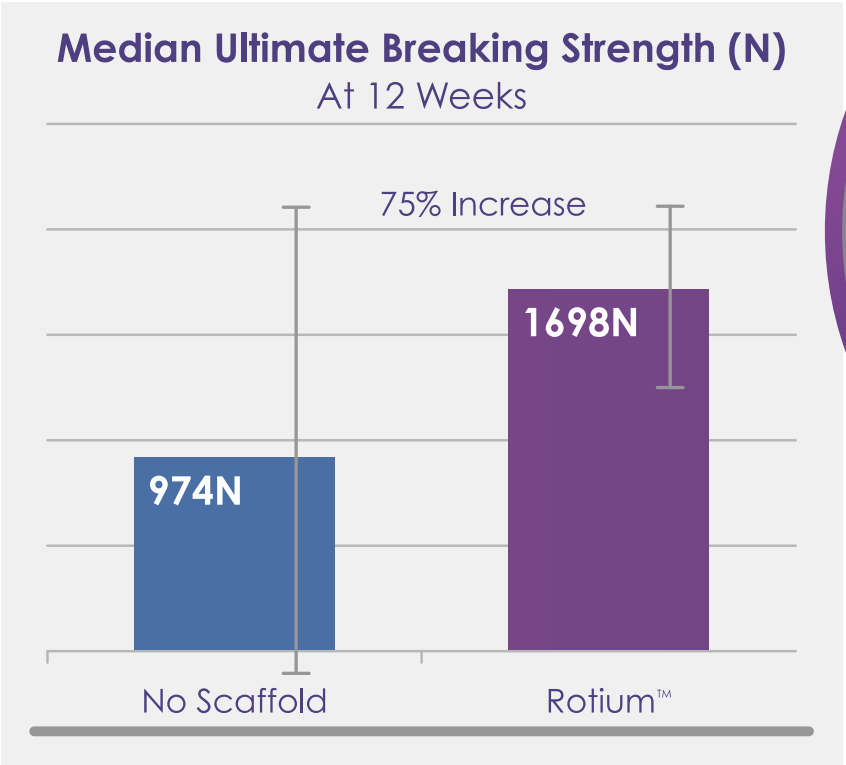
In the traditional sheep model, Rotium™ displayed a strength increase of approximately **75%** at twelve weeks.* The histology shows that the Rotium™ Bioresorbable Wick promoted the development of prominent collagen fibers, similar to Sharpey fibers, which provide strength to the bone/tendon interface.

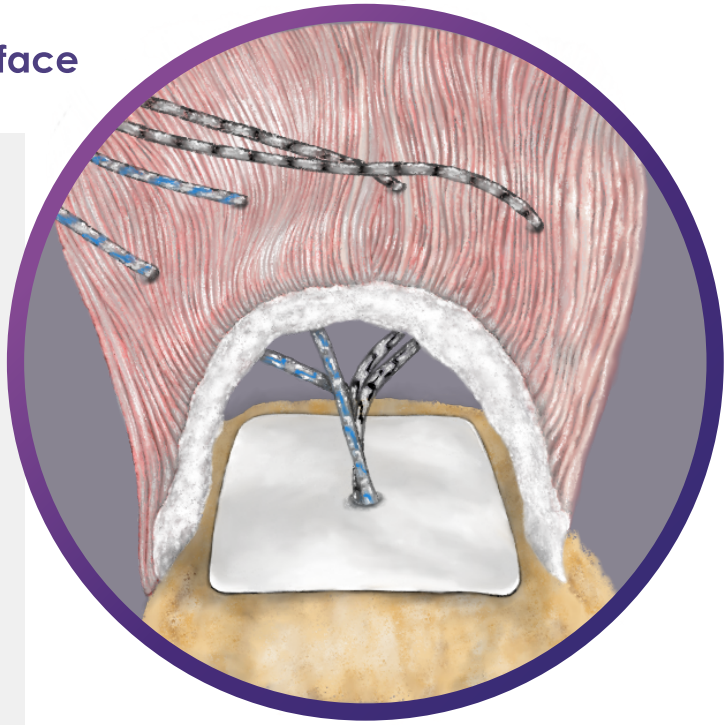
**Results are shown in the graph below.*



Histology, Rotium™ Wick Rotator Cuff Repair

Tissue Regeneration at the Tendon-Bone Interface





"When you see the results, it [Rotium™] is very exciting and is giving us a lot of hope that we finally found something to get this tendon and bone to grow together."

- Anthony A. Romeo, MD
Rothman Institute