



VersaWrap[®]

**VERSAWRAP[®]
APPLICATIONS FOR HAND
& WRIST SURGERY**

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SUMMARY FOR HAND & WRIST

- VersaWrap is a versatile hydrogel implant for Hand & Wrist surgery
- VersaWrap has multiple uses for soft tissue and neurovascular reconstruction
- Surgical outcomes with the use of VersaWrap are improved compared to other biologic solutions
- Clinical outcome trials for applications in Hand & Wrist surgery are currently underway





ADHESIONS AND SCARRING AFTER HAND & WRIST SURGERY



Adhesions and post-operative scarring often develop following hand and wrist procedures as a result of reduced tissue gliding and lack of substantial subcutaneous tissues



Scarring and adhesions are more common after repair for traumatic injuries such as flexor tendon rupture involving pulleys and digit nerves



Other maladies, such as carpal tunnel syndrome release and tumor resection can also lead to post-operative pain and prolonged recovery



RATIONALE FOR VERSAWRAP USE IN THE HAND & WRIST

Collagen membranes, xenografts, platelet rich plasma and amniotic based products are often utilized during surgery, but with inconsistent clinical results

VersaWrap is a polysaccharide-based gelatinous layer that provides a gliding surface for healing tendons and nerves. VersaWrap minimizes post-operative tethering

Pre-clinical testing demonstrates that the Alafair hyaluronic acid blend technology statistically decreased the incidence of adhesions when compared to a commercially available device¹

¹S.M. Mayes, J. Davis, and J. Scott et al. / *Acta Biomaterialia* 106 (2020) 92–101



CASE EXAMPLE #1 LACERATION OF FDP, FDS, AND DIGITAL NERVE OF THE SMALL AND RING FINGERS



- The patient is a 34-year-old active male who sustained a volar aspect laceration across the small finger at the DIP joint level and across the ring finger at the PIP joint level from a spinning piece of sheet metal.
- He experienced numbness along the ulnar border of both the small and ring fingers, and absent FDP tendon function to both the small and ring fingers.



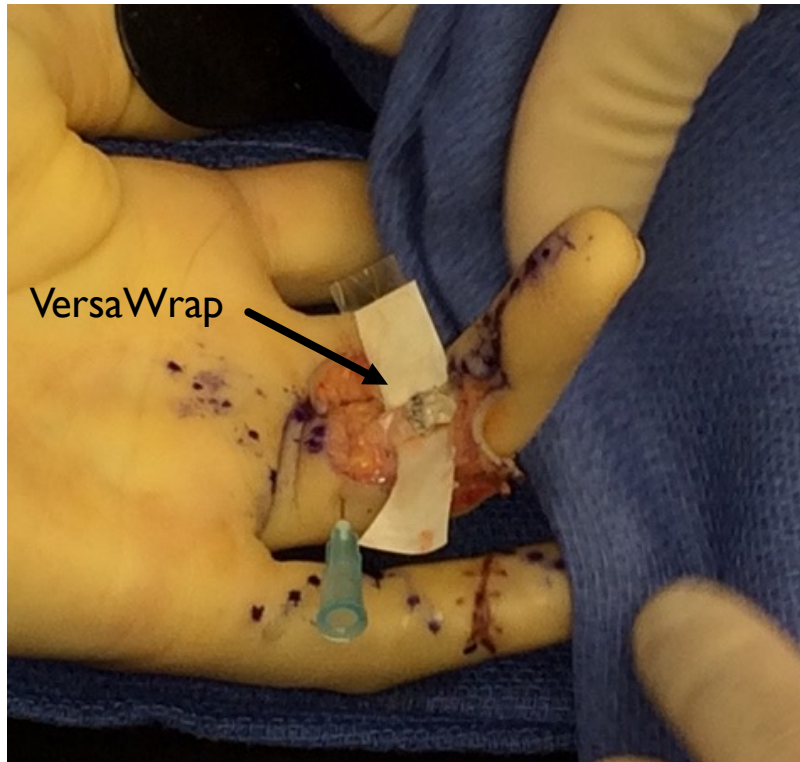
CASE EXAMPLE #1 LACERATION OF FDP, FDS, AND DIGITAL NERVE OF THE SMALL AND RING FINGERS

- Surgical exploration was performed at 9 days post-injury
- The small finger FDP and ring finger FDP were both found to be lacerated
- One of the two slips of the ring finger flexor digitorum superficialis (FDS) was also lacerated
- The ulnar digital nerves of both fingers were also lacerated





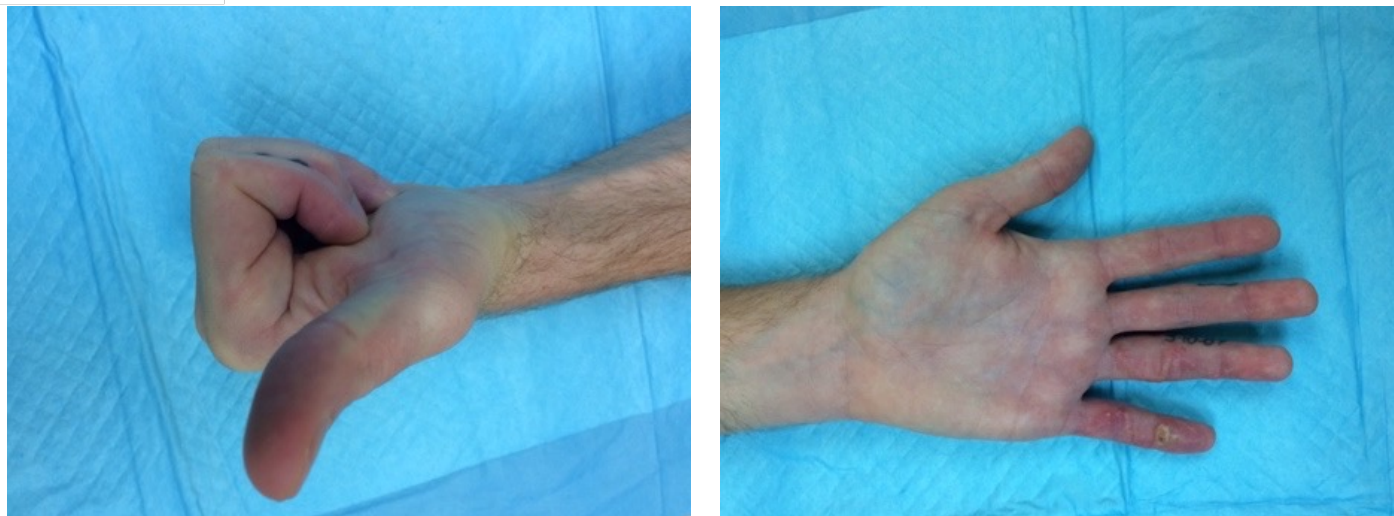
CASE EXAMPLE #1 LACERATION OF FDP, FDS, AND DIGITAL NERVE OF THE SMALL AND RING FINGERS



- FDP of both small and ring fingers were repaired. The FDS of the ring finger was repaired
- VersaWrap was placed around the repaired tendons and nerves to allow tissue gliding
- Post-operatively a routine flexor tendon rehabilitation protocol was followed



CASE EXAMPLE #1 LACERATION OF FDP, FDS, AND DIGITAL NERVE OF THE SMALL AND RING FINGERS



- At three months follow-up, the patient has excellent range of motion of all digits. The scars are remodeling very well with excellent soft tissue envelopes in both digits. The patient shows independent glide between FDS and FDP with mild residual stiffness. Tinel's sign over the repaired digital nerves is out to the DIP flexion crease level



CASE EXAMPLE #2 LACERATION OF FDP AND FDS WITH CONTUSED COMMON DIGITAL NERVES

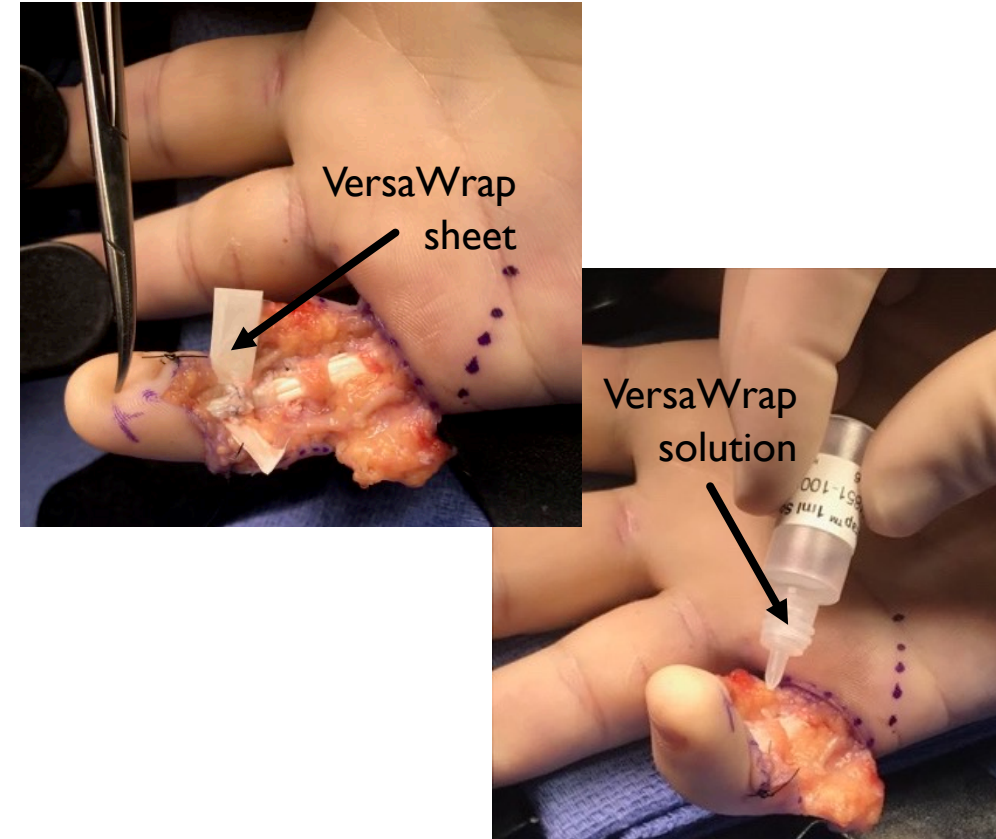
- The patient is a 23-year-old male who sustained an accidental self-inflicted knife wound to the right, dominant hand.
- Patient presented with absent sensation along ulnar border of small finger and absent flexor tendon function to the small finger





CASE EXAMPLE #2 LACERATION OF FDP AND FDS WITH CONTUSED COMMON DIGITAL NERVES

- Surgical exploration was performed at 17 days post-injury
- The small finger FDP and FDS were found to be lacerated.
- The digital nerves of the small finger had contusions but were not completely lacerated
- The small finger FDP and both slips of FDS were repaired.
- Each tenorrhaphy site was treated with VersaWrap





CASE EXAMPLE #2 LACERATION OF FDP AND FDS WITH CONTUSED COMMON DIGITAL NERVES

- Post-operatively a routine flexor tendon rehabilitation protocol was followed along with supervised hand therapy.
- At three months follow-up, the patient has excellent range of motion of all digits. The patient made a full composite fist with no flexion contractures. The soft tissue envelope is in excellent condition with normal sensation in the digital nerves to the injured small finger.
- Sensation is equal in all digits with a 5 mm 2-point discrimination, including the small finger with the nerve contusion.





CASE EXAMPLE #3

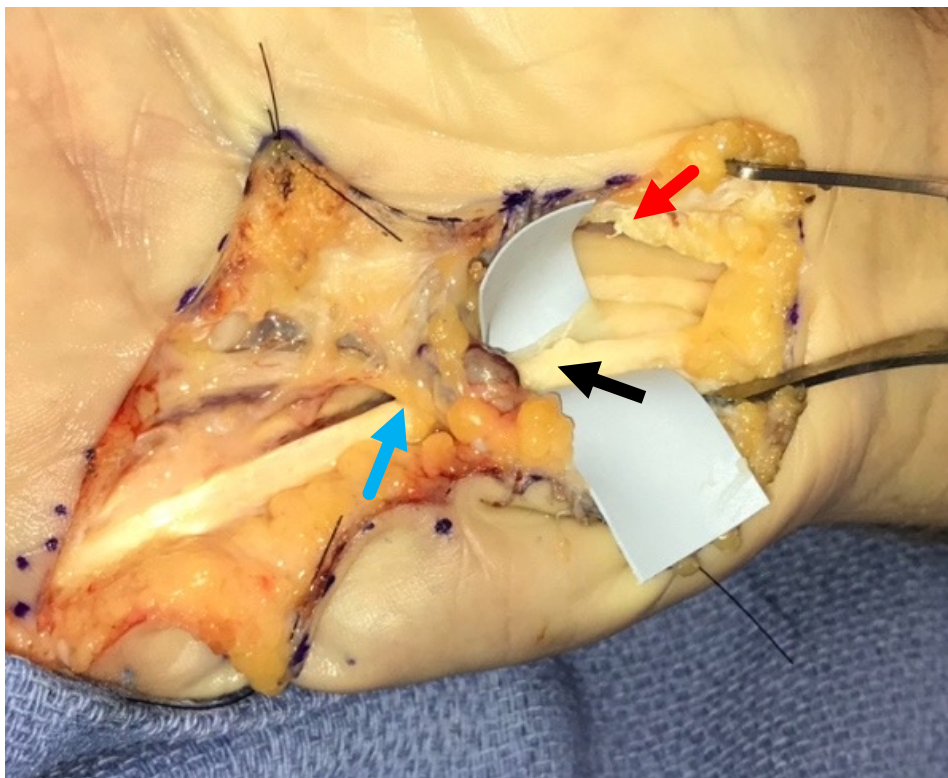
RUPTURED FDP WITH AN ORGANIZED HEMATOMA AROUND COMMON DIGITAL NERVES

- The patient is a 73-year-old male who was walking a dog when the dog leash yanked suddenly, causing immediate pain in the patient's dominant right hand.
- Pre-operative assessment revealed the patient had a swollen and slightly bruised small finger with absent FDP function. Sensation was present throughout all fingers



CASE EXAMPLE #3

RUPTURED FDP WITH AN ORGANIZED HEMATOMA AROUND COMMON DIGITAL NERVES



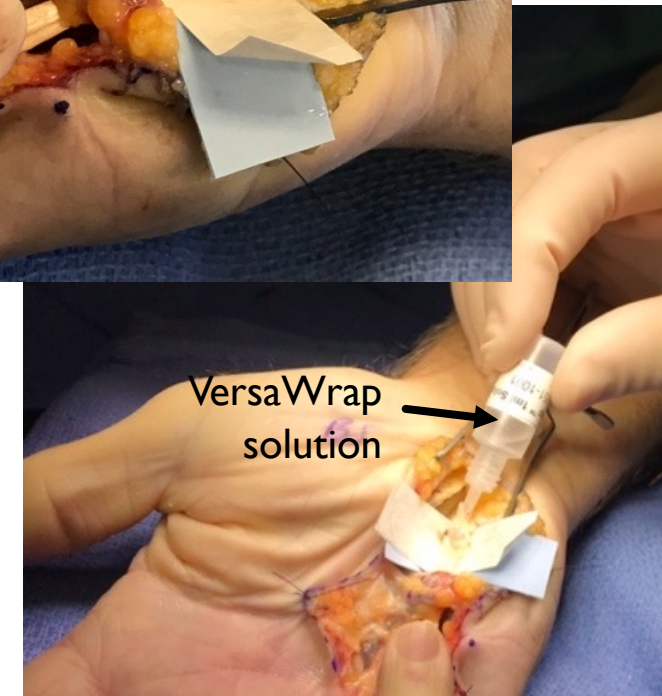
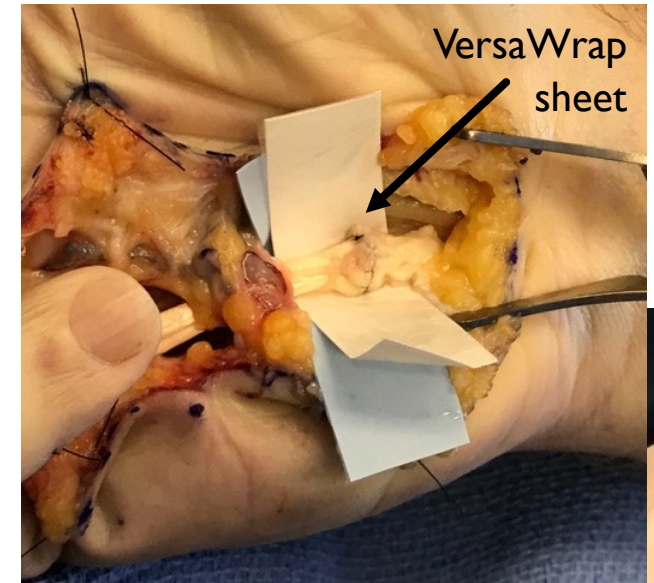
- Surgical exploration was conducted at 26 days post-injury and the small finger FDP was found ruptured in the palm, at the transverse carpal ligament level. A small organized hematoma was found in the palm, around the common digital nerves to the small finger.
- Red arrow is edge of transverse carpal ligament, opened to allow access to tendon in canal; black arrow is tendon repair site; blue arrow is nerve and vessel crossing over tendon (hematoma has already been washed away)



CASE EXAMPLE #3

RUPTURED FDP WITH AN ORGANIZED HEMATOMA AROUND COMMON DIGITAL NERVES

- The small finger FDP was repaired and neurolysis of the digital nerves to the small finger was conducted, debriding the hematoma.
- VersaWrap was wrapped around the tenorrhaphy site and digital nerves where neurolysis was conducted
- Post-operatively a routine flexor tendon rehabilitation protocol was followed along with supervised hand therapy.
- At five months follow-up, the patient has excellent active motion. The patient makes a full composite fist with no flexion contractures. The soft tissue envelope is in excellent condition with normal sensation in the digital nerves to the injured small finger





CASE EXAMPLE #4 THUMB FLEXOR TENDON TENOLYSIS WITH ULNAR AND RADIAL NERVE REPAIR

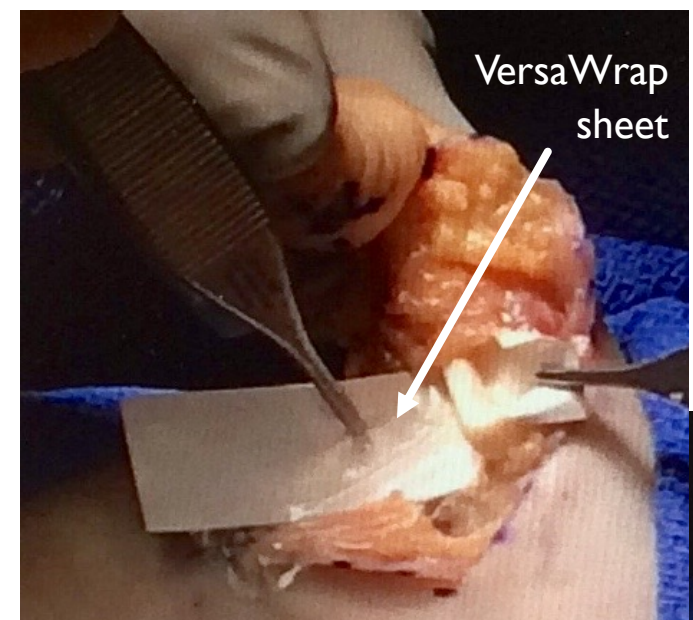
- The patient is a 23-year-old female who sustained an accidental self-inflicted broken bottle wound to the right, dominant hand.
- Patient presented with thumb numbness and absent flexor pollicis longus tendon function to the thumb.





CASE EXAMPLE #4 THUMB FLEXOR TENDON TENOLYSIS WITH ULNAR AND RADIAL NERVE REPAIR

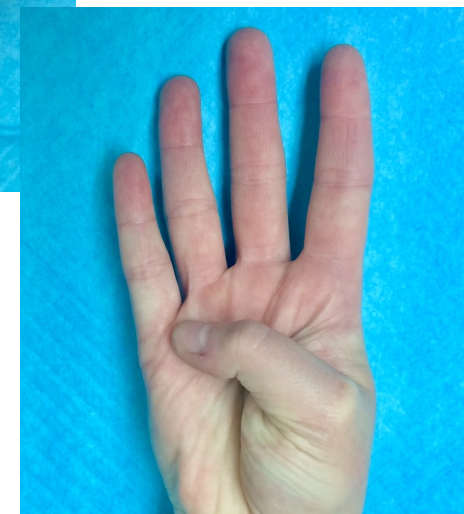
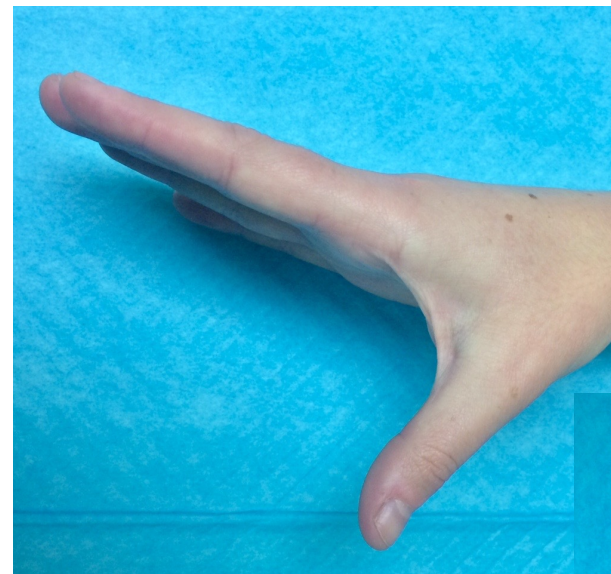
- Surgical exploration was performed at 36 days post-injury; both digital nerves in the thumb were found to be lacerated and the FPL was partially injured. Microscope assisted repair of both digital nerves was conducted along with tenolysis of the injured FPL.
- VersaWrap was wrapped around the repaired tissues to minimize tethering.
- Standard rehabilitation for nerve and tendon injuries with supervised care from a certified hand therapist was initiated at 10 days postop





CASE EXAMPLE #4 THUMB FLEXOR TENDON TENOLYSIS WITH ULNAR AND RADIAL NERVE REPAIR

- At twelve months follow-up the patient had excellent recovery including full range of motion.
- The patient presented no signs of tendon or nerve tethering or adhesions. Nerve recovery was good and continued to improve.
- Sensation was consistently improving over time with an 8 mm 2-point discrimination of both radial and ulnar digital nerves in the thumb. There was no paresthesiae.





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- Dr. Slater graduated with Honors from Stanford University and then completed Medical School at the University of Wisconsin-Madison.
- He completed his Internship in Surgery and his residency in Orthopaedic Surgery at the University of North Carolina - Chapel Hill, where he was awarded the Nathan Womack Award as the premier graduating chief resident in the Department of Surgery.
- Subsequently, he completed a one-year Fellowship in Surgery of the Hand and Upper Extremity at the University of California-Davis. He remained on the full-time faculty in the Department of Orthopaedic Surgery at UC-Davis for several years.
- Currently he is a Clinical Professor of Orthopaedics and runs a solo private practice in Folsom, CA devoted to treating disorders of the upper extremity. He serves on several boards of directors and committees for a variety of professional organizations at the local, state, regional and national levels.



ORDER INFORMATION

Catalog Number	Size / Volume	Quantity
VTP-2201	2 in x 2 in Sheet, 0.03 oz Solution (5 cm x 5 cm, 1 mL)	1 unit / box
VTP-1201	1 in x 2 in Sheet, 0.03 oz Solution (2.5 cm x 5 cm, 1 mL)	1 unit / box

Availability of these products is in the United States only. Always refer to the appropriate instructions for use for complete clinical instructions. Non contractual document. The manufacturer reserves the right, without prior notice, to modify the products to improve quality. Warning: Applicable laws restrict these products to sale by or on the order of a physician.

For more information or to place an order, please contact:
800.206.5586
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