

The Use of Kinesiotape for the Management of Post-surgical Scar Tissue

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Introduction: The Use of Kinesiotape with Post-surgical Scar

- Management of scar tissue is an important part of post-surgical tx.
- Clinically proven **conservative** treatment methods include:
 - > Pressure therapy
 - > Silicone sheeting
 - > Use of paper tape
- Clinically proven **invasive** treatment methods include:
 - > Intralesional corticosteroid injections
 - > Laser treatment
 - > Radiation
 - > Surgical revision
- Kinesiotaping for post-surgical scar is a **conservative** treatment method that has been clinically proven to be very effective in our clinic, even when other proven methods have not

CASE STUDY

Presentation

- 34 yo, Caucasian Female
 - > Florist
 - > Left hand dominant
 - > Dorsal laceration with florist scissors to dominant hand
 - > Non-smoker, non-drinker
 - > Determined and persistent
- Extensor Tendon Primary Repair
 - > Ring finger, left hand
 - > EDC, Zone 5-6
 - > Surgery 4 days post injury
- Treatment
 - > Early tendon mobilization, initiated 48 hours post-op.
 - > Wound care and scar management

Timeline for: Wound care, Edema management, Scar management

- Week 1 – 4
 - Dressing changes
 - External suture removal
 - Light tubigrip continuous over hand, wrist and wound area
 - Muscle pumping stim. for edema with early active motion. 48 hours post op
 - Silicone sheeting introduced when wound closed
- Week 5 – One incident of wound irritation with inflammation
 - Wound irritated by 2 internal sutures erupting through suture line. Sutures cut back, wound again healed & closed

Timeline cont.

- 3 months
 - Scar management continued
 - > Direct scar massage
 - > Mini-massager
 - > Light tubigrip compression
 - > Silicone sheeting
 - Full functional use and preparing for return to work
- 6 months - **Plateau**
 - > Monthly reviews with therapist
 - Scar pink with good capillary refill
 - Mild hypertrophic appearance along suture line

Timeline cont.

- 6 month - Plateau cont.
 - Fibrous tissue within dermis approximately 3.5 cm in diameter
 - Generalized dorsal edema
 - Treatment with
 - > silicone sheeting
 - > Light compression
 - > Manual edema massage
 - > Tissue massage
 - Therapist attends Kinesiotaping course for lymphedema and learns about taping for scars
- 11 months

Timeline cont.

- One Year
 - One year follow-up with Surgeon. Offered:
 - > Steroid injections
 - > Surgical revision
 - > Do Nothing
 - Patient not satisfied with appearance, advised to think about options
 - One year follow-up with therapist. Offered alternative
 - > **Kinesiotaping**
Commences

Timeline

- 13 months (1 month taping)
 - Taping reduced fibrous area in dermis and hypertrophic appearance of scar by 50%
- 14 months (2 months taping)
 - Generalized edema gone and fibrous area reduced by 75%.
No hypertrophy
- 18 months (5 months taping)
 - Scar appears as thin white line
 - All fibrous tissue absorbed
 - No limits with function

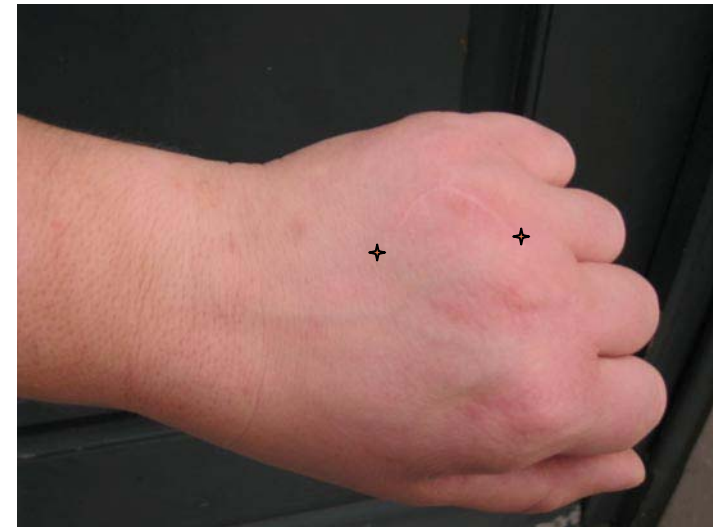
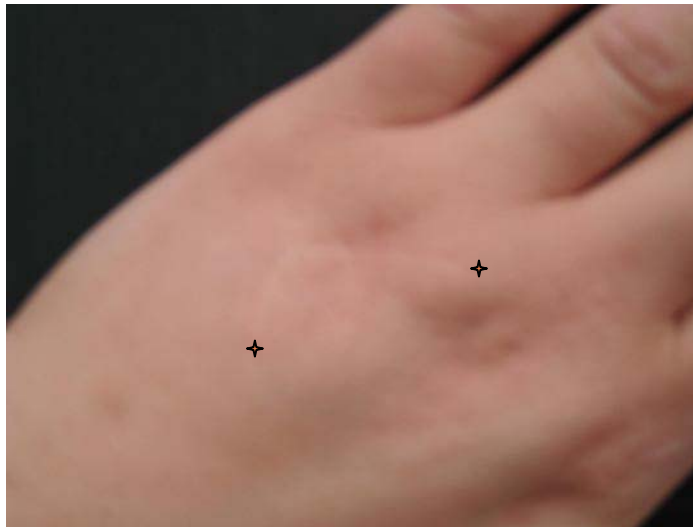
Most Important Known Scar Determinates

- 1) The extent and duration of inflammation
- 2) The magnitude of mechanical tension acting on the scar
- 3) The genetic phenotype of the individual

Important Known Benefits of Kinesiotaping

- 1) Reduces inflammation and increases lymphatic flow and uptake
- 2) Specific taping technique for scar reduces the mechanical tension acting on the scar while facilitating the desired muscle and fascial release

Sorry – no help from kinesiotape!



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2008



✦ Marker for start
and end of scar

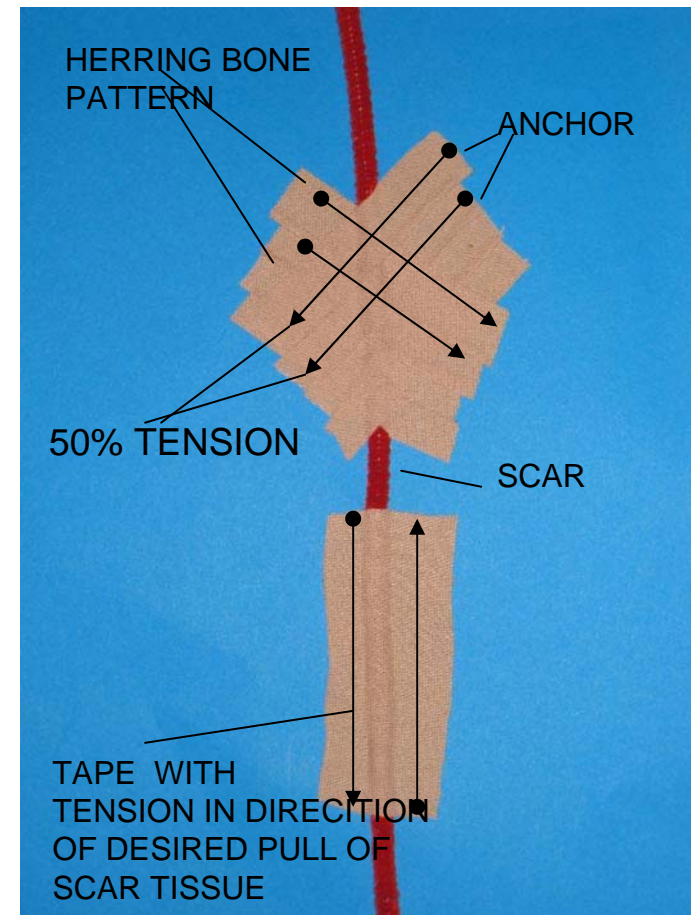
Cutting the tape

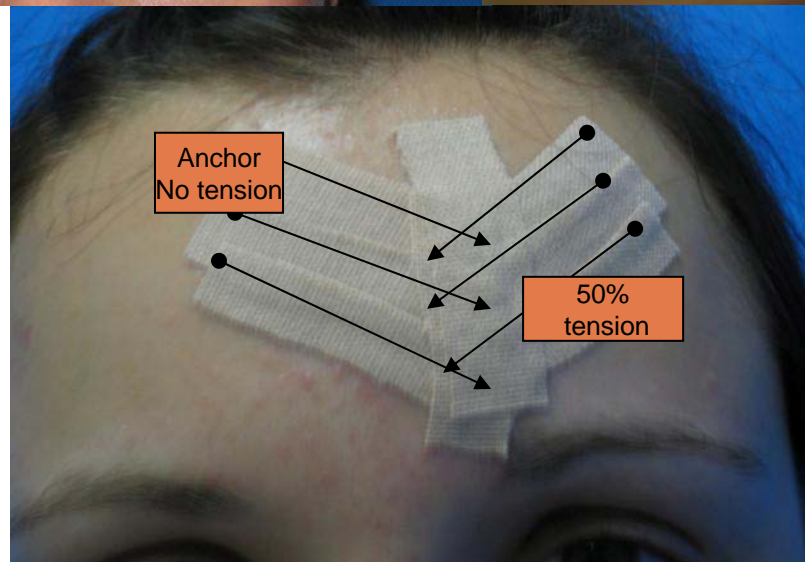
- Cut lengthwise on the roll of tape to be sure that elastic qualities can be used
- Follow natural markers on the back of the tape if appropriate
- Width approx 1.0 – 1.5 cm
- Length as appropriate for scar
- Provide enough length so the the tape crosses the scar with at least 1.0 cm overlapping on each side
- Cut enough pieces so that the entire scar can be covered with over lapping of individual pieces



- Put soft tissues on max stretch where appropriate
- Tape in direction for pull to come in toward scar for reducing mechanical tension at scar line
- anchor tape then place with 50% off-paper tension
- To assist with decreasing adhesions to underlying tissue or structures, place tape in direction of desired movement of scar/skin
- Over-lap pieces and cover entire scar area, herring bone pattern
- Put clearance above scar to encourage lymph clearance if needed

Application of the Tape







Metacarpal ORIF





Put soft tissue on max stretch



Place extensor facil. strip



Herringbone pattern across scar



Anchor with 50% pull towards scar



Completed taping

Kinesiotape for Post-surgical Scars

Advantages

- **EFFECTIVE!!**
- Able to apply in difficult areas such as neck, face,
- Provides light compressive forces but can be coupled easily with tubigrip
- Relatively inexpensive, requires small amounts of tape
- Allows for and encourages functional movement and muscle stimulation
- Allows patient to work and not interfere with scar treatment

Disadvantages

- Tape requires reapplication every 3-4 days in most cases (Time between application can increase as scar responds and matures)
- Scar tissue can be fragile and may not be able to tolerate continuous taping for long periods of time

Conclusion and Discussion

- This specific patient presented with optimal circumstances to ensure a good result: non-smoker, committed to HEP and tx, no underlying disease etc.
- Had a scar in a high movement, high tension area and directly over a joint
- Traditional conservative tx methods did not work but Kinesiotaping did
- Kinesiotape accomplished more in 1 month than previous methods over a 9-12 month period
- Kinesiotaping was very conducive to her lifestyle as an active person and florist
- Scars do mature up to 2 years so some scar changes may have occurred through natural processes but we do not know this to be absolutely true
- Hypertrophic scarring can be devastating for the patient
- As health care providers we have an opportunity to provide the most clinically proven techniques to produce the most optimal outcomes.
- Patient satisfaction is the BEST outcome. In this case 100%!!



Iona
Tendon repair

Sandy
Metacarpal ORIF



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