Hand Taping - Support / Pain Relief

Indications - thumb/finger joint sprains
Extensor tendon rupture
MCP joint sprains
Hand contusions
Wrist ligament sprains

Equipment:
1) Cohesive wrap (optional)
2) Adhesive spray (optional)
3) Hypafix 5cm
4) Bandage Scissors
5) Elastic Adhesive Bandage (EAB) - 2.5/5cm
6) P-tape - 3.8cm
7) Strappal - 1.25cm/2.5cm
8) Protective dressings/pads (carpal tunnel)
9) Lubrication

Relevant Anatomy:









Joint positioning:
- To allow maximum grip force generation the wrist needs to be in it's functional position of slight extension otherwise active insufficiency may be caused in the finger flexors.
- To unload the TFCC strap in neutral/slight radial deviation. Ulnar deviation compresses the TFCC.
- Thumb should be strapped in the "handshake" position to permit functional grip
- Extensor tendon avulsion (mallet finger) requires both the DIP and PIP be in full extension
- Finger collateral support is performed in full extension

Variations:
Underwrap can be used but adhesive spray will need to be applied underneath it. Hypafix 5cm is ideal.

Technique - Thumb collateral support (zinc oxide - 2.5cm)

- Anchor (1) - proximal phalanx - no tension applied.
- Anchor (2) - around styloid processes
- Build up oblique strips that interweave over the RCL + UCL ligs - both sides need to be taped even if only 1 side is affected
- Reapply anchors
- Finish with 2.5cm EAB or Cohesive wrap
- Check cap refill





Technique - Finger collateral support (zinc oxide - 1.25cm)

- Anchors proximal + distal to affected joint - no tension
- Interweave obliquely orientated strips across the collateral ligs - both sides need to be taped
- Spiral strips can be added for extra support
- Reapply anchors
- Add cohesive 2.5cm if required

Alternative:
Buddy strap +/- padding

Technique - Extensor Tendon support (zinc oxide - 2.5cm)
If the athlete is continuing to play then a splint can not be used. You are trying to keep the DIPJ in an extended position

- PIPJ in 20° flexion, DIPJ full extension
- tape along palmar surface with no tension, come around the nail tip then apply tension from the nail centre to the lowest anchor - repeat
- apply anchors around prox and distal phalanges
- wrap with Cohesive 2.5cm to finish

Post-event an extension splint needs to be applied (for 24/7, 6wks)

Technique - MCP Boxers Strap (EAB 2.5cm)
Used to support collateral and deep transverse ligs of MCPJ, muscle contusion/strains of the lumbricals/interossei and bony bruising of MCPJ.
If required molefoam padding needs to be added prior to tape application. Hypafix to the dorsum of the hand is ideal.
Wrist is extended and the fingers need to be in a flared position with the DIP/PIPJ slightly flexed and the MCPJ fully extended.

- strips of zinc oxide 2.5cm can be used for a heavy application but in most cases compression is achieved with the EAB 2.5cm
- If the problem is the; 2nd MCPJ then strap 2/3; 3rd MCPJ then strap 2/3/4; 4th MCPJ strap 3/4/5; 5th strap 4/5.
- EAB strips start on the back of the hand, come around the base of the prox phalanx and obliquely down the back of the hand + around the wrist. Repeat at each MCPJ then repeat over the 1st strips but loop the base of the finger once.



Technique - Wrist Collateral Support (P-tape 3.8cm)
Used to support collateral ligs at the RCJ and DRUJ of the wrist.
Apply a dressing/pad with lube to the carpal tunnel area. Hypafix around the wrist is ideal. Cohesive wrap is a compromise. Ask the athlete to make a fist during the application

- Hypafix base around area to be taped.

- Use opposite spiral strips of P-tape starting at the MC bases - crossing the lateral and medial joint lines
- Longitudinal and transverse strips can then be added as required
- EAB 5cm or Cohesive wrap can then be added.

Technique - DRUJ A-P ulnar glide (P-tape 3.8cm or strappal 2.5cm)

If an A-P MWM to the ulna reduces pain with pronation/supination then this technique is indicated Hypafix around the wrist is ideal.

- Hypafix 5cm base around the DRUJ.
- Apply tape with no tension for the first 3cm then apply tension whilst applying the A-P glide to the ulna - angle the tape obliquely.
- Repeat the same process with a second strip
- EAB 5cm or Cohesive wrap can then be added.

Note - Check circulation after the taping is completed. Educate the patient on compromised circulation signs (capillary refill)

Removal - tape removal is easiest when the patient is still perspiring from exercise. If the skin and tape is allowed to dry out again then the tension of the tape can change and blistering can be caused. Easiest removal technique is to use the bandage scissors dipped into petroleum jelly. Lifting the tape away from the skin with the flat end of the scissors as you go. Use tape remover (alcohol wipes or Isopropanol spray) to lift any adhesive residue. Check the skin for any undue reaction.