

## Finger Injury: Flexor pulley injury in rock climbers

By William Renner, M.D.

This and other topics will be discussed in:



**30**  
CPD Points  
RANZCR

A Weekend Workshop:  
**One-on-One  
Musculoskeletal MR**  
Interactive Cases and Lectures  
by William Renner, M.D.

**2017 Course - 30 CPD Points RANZCR**

Melbourne – July 29-30  
Brisbane – Aug 5-6  
Sydney – Aug 12-13  
Perth – Aug 19-20  
Adelaide – Aug 26-27  
Hobart – Sept 2-3

Register at [www.MSKMR.com](http://www.MSKMR.com) NOW and save 10%!

*"I can't say enough wonderful things about Dr. Renner's MSK MRI course. Having been to many other Musculoskeletal CME courses over the past couple of years, Dr. Renner has the best by far in my opinion!"*  
Dr. Joseph Mazzi, Director of MSK,  
Stony Brook University, Westinghouse University Hospital

### Flexor pulley injury in rock climbers

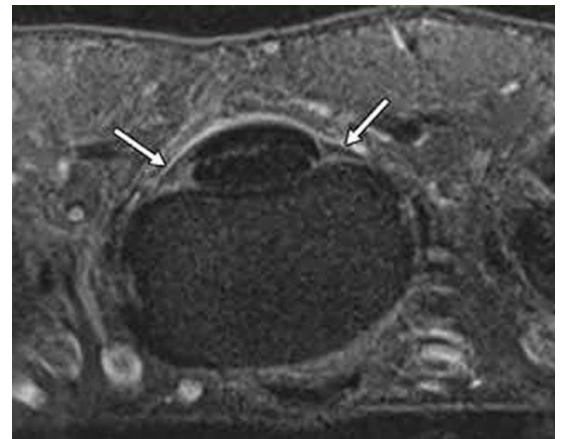
Injuries are most common in rock climbing and other sports resulting in a forced extension of a flexed finger

Approximately 30% of all hand injuries in rock climbers are pulley injuries.

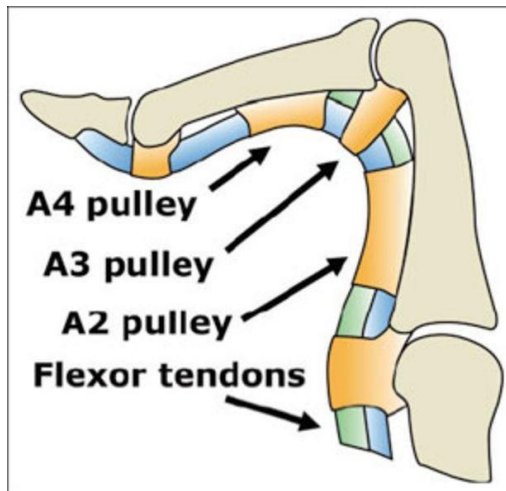




Sagittal T1-weighted MRI of middle phalanx shows location of A1 through A5 pulleys.



Axial proton density-weighted fat-suppressed image at level of third metacarpophalangeal joint shows A1 pulley (arrows).



Normal Pulley holding flexor tendons tight to bone (black bold arrows).

On dorsal aspect thin extensor system is seen (arrowheads)

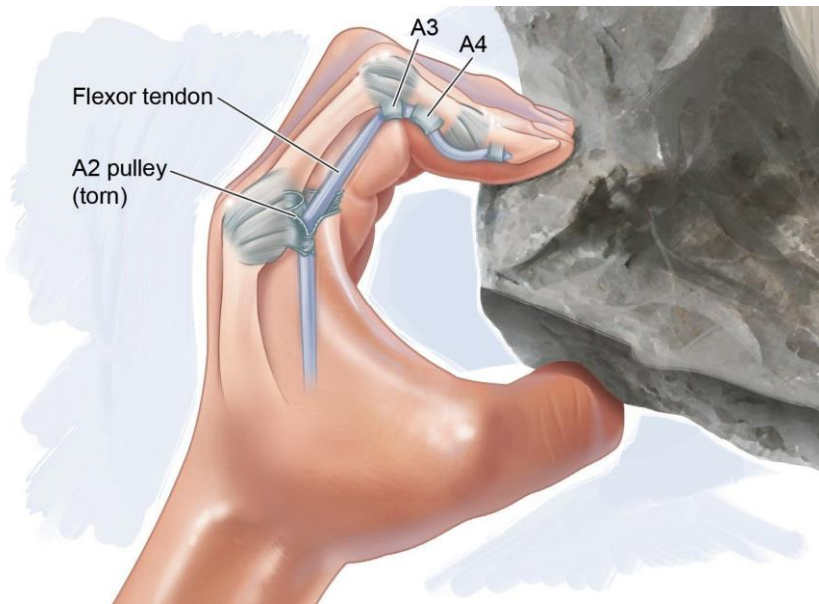


Diagram reveals bowstring deformity of the flexor tendons secondary to tear of the A2 pulley.

## Finger Pulley Tears

A2 pulley of the ring figure is the most common injured pulley

Usually seen in rock climbers

### Findings on MR:

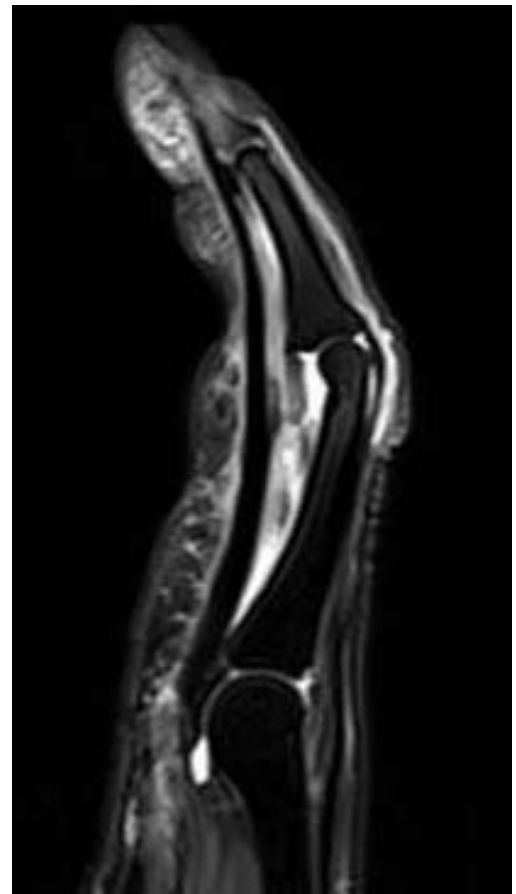
Focal discontinuity of pulley fibers

Bowstringing - increased gap between the flexor tendon and volar surface of the phalanx

Edema superficial and deep to pulley

Fluid within tendon sheath

Partial pulley tears may not result in bowstringing



Sag T2 FS reveals bowstring deformity of the flexor tendons secondary to tears of the A2, A3, and A4 pulleys.