

# The Hand Patient:

## A rugby player with instability of the MP joint of his thumb

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Dear Colleague,

**Re: Your patient with pain and instability of the MP joint of his right thumb**

Thank you for your referral of Mr. F S a 27 year old right hand dominant rugby player who has injured his right thumb repeatedly whilst playing his sport. The first traumatic incident was about six months ago when he attempted to stop an opponent with his out stretched right hand. After the match he ignored the pain in his thumb believing it might only be a bruise or sprain. His commitment to the game precluded him from seeking medical advice. He kept on hurting his thumb during every subsequent match.

On **examination** it is clear that the right MP joint (metacarpo-phalangeal joint) is slightly swollen and definitely tender on the ulnar aspect of the MP joint. Compared to the left-hand side the joint is unstable when stressed towards the radial side. The neurovascular examination of the right hand is within normal limits.

The **special investigation** included a plain x-ray of both hands including the wrists. These x-rays do not show any abnormalities. It was therefore decided to do a stress view of the right MP joint comparing it with the left-hand side. One can clearly see the instability when the MP joint is stretched toward the radial side. The joint opens up on the ulnar side. No fracture can be seen.

The **diagnosis** is a chronic avulsion injury of the ulnar collateral ligament of the MP joint of the right thumb. This injury is also called the "game keepers thumb".

The **treatment** consists of conservative and surgical management. Since Mr. S wishes to complete the rugby season it was decided to manage this chronic injury conservatively with a soft splint and strapping. This was decided since any surgical intervention at this stage was not of crucial importance.

Once the rugby season ends we would suggest a permanent solution to this chronic instability. This would entail an arthrodesis of the MP joint in about ten degrees of flexion. It has been shown repeatedly that ligament reconstruction in the chronic injury of the MP joint of the thumb invariably fails. Even dynamic reconstruction such as muscle advancements are of very limited value. These eventually all end in a painful instability.

With sincere regards,  
Ulrich Mennen



Avulsion of the ulnar collateral ligament of the metacarpo-phalangeal joint of the thumb.

### DISCUSSION

Injury to the ulnar collateral ligament of the MP joint of the thumb is a not too uncommon injury. One often sees this injury in skiers who wrap the strap of their ski pole around the thumb. If the ski pole gets stuck, the thumb is forcefully abducted resulting in damage to the ulnar collateral ligament.

In an acute injury i.e. within one week, a ligament reconstruction should be attempted. It is advised that a Kirschner wire be inserted across the MP joint for at least eight weeks to allow full healing of the ligament. If the avulsion includes a fragment of bone this should be replaced and fixed if possible with a tiny screw or interosseus wire. Again it would be advisable to stabilize the joint with a K-wire for eight weeks.

Injuries occurring after two weeks should be treated with thumb MP joint arthrodesis. This is a good procedure which gives the patient a permanent stable painless strong thumb. An arthrodesis of the MP joint of the thumb does not cause any loss of thumb function since most of the movements of the thumb occur at the first carpo-meta-carpal joint and at the inter-phalangeal joint.

Arthrodesis is achieved by removing the articular cartilage and fixing the raw surfaces together by cross K-wires. Alternatively two small screws can be used. A small plate and screws of an inter-osseus wire with a cross wire are further options. Patients are encouraged to use the thumb while union takes place. Of course only light activities of daily living should be encouraged since the wires may bend or tear out if excessive forces are applied to the thumb. Union usually takes place within four months, after which the wires can be removed. As mentioned, after the arthrodesis the patients hardly notice that they have a fixed joint.