

MP-Joint Dislocation of the Thumb

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Dear Colleague,

RE: Your patient with a painful dislocated MP-joint of the right thumb

Thank you for the referral of Mrs. R J J a thirty-three year old right hand dominant housewife, who slipped and fell on a wet floor injuring her right thumb. She noticed that her right thumb was deformed at the metacarpophalangeal (MP) joint level. The thumb was very tender. She also noticed a swelling on the volar aspect of her thumb.

On **examination** one finds a hyperextended position of the metacarpophalangeal joint of the right thumb with a hard "nodule" on the volar aspect of the thumb. The patient is reluctant to move the joint because of pain. There is also a mechanical blockage, which prevents the joint from moving. The neurovascular examination is normal.

Special investigation was an X-ray, which clearly showed a hyperextension injury of the MP joint of the right thumb. The joint is still dislocated. The "nodule" on the volar aspect is the head of the first metacarpal.

The **diagnosis** is a hyperextension dislocation of the MP joint of the right thumb, which needs urgent attention. This is a so-called "button hole" deformity. The base of the proximal phalanx "sits" on the neck of the first metacarpal. The metacarpal head is prominent, visible and palpable volarly. The head of the metacarpal ruptures through the proximal attachment of the volar plate and the interval between the two heads of the flexor pollicis brevis. The volar plate moves with the proximal phalanx and becomes interposed between the metacarpal head and the proximal phalanx.

Since this is a so-called "button

hole" deformity, any attempt to reduce this dislocation closes the ruptured gap around the metacarpal neck. Only in those cases where severe rupture of the soft tissue has taken place (including the collateral ligaments) may it be possible to do a closed reduction.

The surgical approach is from the dorso-radial side of the joint, allowing the surgeon to approach the MP-joint from the dorsal and volar aspect. One should be careful not to damage the neurovascular bundle, which lies exactly in this area. The anatomy of course may be disturbed because of the abnormal position of the proximal phalanx. The volar plate must be replaced into its anatomical position. The joint should be cleared of all debris including chondral and osteo-chondral fractures and soft tissue tags. Once the dislocation has been reduced, one usually finds a reasonable stable situation. However, since this has been a dislocation, much of the soft tissue structures have been stretched including the collateral ligaments. It is of paramount importance that this particular joint is absolutely stable, otherwise the thumb cannot be used. For this reason I prefer to put a K-wire across the MP-joint for six to eight weeks, to allow the soft tissue to heal completely.

Discussion

Sometimes, due to swelling the dislocation can easily be missed. Once the swelling disappears the deformity becomes more evident. In chronic dislocations the ligaments are attenuated which renders the MP-joint unstable. In these cases the only practical solution is an arthrodesis of the MP-joint of the thumb. The functional loss of a MP thumb arthrodesis is virtually nil, since most of the movement occurs at the first carpometacar-

pal joint and the interphalangeal joint level. Patients are on the whole happy with a stable, non-painful thumb, which allows them to all the activities of daily living.

With sincere regards
Ulrich Mennen

Legend: Clinical and radiological appearance MP-joint dislocation of the thumb



Fig 1A: Clinical appearance



Fig 1B: Radiological appearance

A hyperextension force to the thumb results in the typical dislocation of the MP joint. The metacarpal head slips through the interval between the two heads of FPB and the volar plate, which is still attached to the base of the proximal phalanx engages between the metacarpal head and phalanx. Closed reduction is seldom effective because of the "button-hole" effect. Surgical reduction is indicated.