

# Management of Painful Constitutional Laxities

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## 1 Introduction

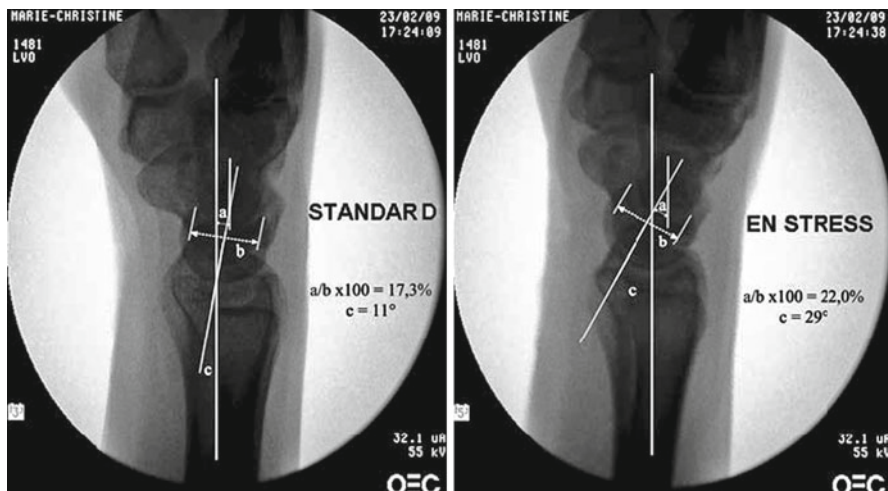
Painful constitutional midcarpal laxities are particular and sometimes block our surgical consultations [1–3, 6, 7].

In 1984, Louis described a capitolunate instability pattern as a distinct form of instability [5]. In 1986, Johnson and Carrera reported chronic capitolunate instability of traumatic origin [8, 9]. In 1984, White and Coll. proved that all the patients who have a CLIP ('capitolunate instability pattern' or capitolunate trigger during Watson manoeuvre) were receptive to a plastered immobilization [14]. In 1996, Ono, Gilula and Coll. disagreed with them [10, 14]. They described the DCT and the VCT ('dorsal and volar capitate displacement test'). In 1996, Schernberg showed on stress views that the dorsal displacement of the capitate was more prominent on lax wrists than on normal wrists [12, 13]. In 2002, out of 100 normal wrists, Park defined the displacement index of the capitate and three types of capitolunate laxity following the direction in dorsal stress of the lunate [11] (Fig. 1). Laxity was definitely more important when the patients were women and young adults (20–29 years old). Neither was there difference between dominant and nondominant wrists nor between dorsal or volar displacements.

In 2002, Kuhlman established that the discomfiting SNAP-type trigger was due to a rupture or a loosening of the dorsal radiocarpal ligament [4]. He did not refer to a non-pathologic state.

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**Fig. 1** Park's type II pattern of midcarpal laxity: standard and anteroposterior radiological views. Extension and dorsal displacement stress of the lunate

## 2 Casuistics

The patients are often young adults from 12 to 20 years old who have no trauma but sometimes suffer from a dorsal wrist pain in the median long fingers as they practise manual activities (gymnastics, gardening, move, athletics). This pain is often associated with the extension of the wrist when we lean on the heel of the hand, by writing, and by ball sports [1]. A dorsal wrist pain spreads to the median long fingers. It can happen at rest and be latent but scarcely engender cramps.

There was no mention of swelling or abnormality. There is no dysesthesia, but cracks or snaps are reported. A shoot up sometimes precedes the painful episode.

The clinical exam usually points out a hypermobility, particularly in the sagittal plane with ranges which come close to or exceed 90°.

The ligamentous testing underlines a sensitive triquetro-lunate ballottement and a midcarpal trigger, sometimes with a CLIP. This trigger is the consequence of the fixing of the dorsal horn of the lunate with the dome of the capitae.

The standard radiographic report is normal.

The differential diagnosis can be established with:

- Hidden arthrosynovitis cysts
- Dorsal synovial pinching
- Early aseptic necrosis of the lunate (Kienböck)
- RUD instability
- Extensor carpi ulnaris instability
- Radiocarpal instability with a deficiency of the extrinsic ligaments

It is a diagnosis of exclusion for which it can sometimes be relevant to resort to scan or NMR.

### 3 Medical Management

This is a medical, easy and often rapid treatment. Night immobilization in a small antebrachio-palmar orthosis and strengthening of the extrinsic muscles participate in lessening the pain within 2 or 3 weeks. Kapandji proposed to ‘reinforce the tendinous cage’ [15].

This ‘sheath’ effect is maintained by daily and long-term exercises of isotonic strengthening of the common flexors of the fingers and the extensor carpi ulnaris. After a few weeks, the orthosis is removed but can be put back whenever necessary.

There is no surgical necessity except in exceptional cases. A fibrosis around the dorsal intercarpal ligament artificially stiffens these hyperlax wrists.

### 4 Particular Cases: Minor Intracarpal Joint Upsets

Minor joint upsets are rare. The patients who suffer from these upsets are usually hyperlax and the pain, sharp and brutal, spontaneously arises without any initial trauma. The pain can be compared to that of a blade.

The pain is often dorsal and transfixing.

The medical exam of a painful wrist is particularly difficult considering the intensity of the pain.

The aspect of the wrist and the fingers is normal. The wrist is maintained in an ‘antalgic’ position. On the contrary, the exam of the contralateral wrist generally shows a hypermobile wrist, a small midcarpal trigger. The elbows show a recurvatum and the sub-astragalian are hyperlax.

Usually, there is no significant abnormality on the radiographic report.

Exceptionally, the parallelism between two ossicles is modified (Figs. 2 and 3): capitolunate or triquetrum-lunate.

The differential diagnosis is that of a classic midcarpal hyperlaxity.

The paraclinic report is strictly normal:

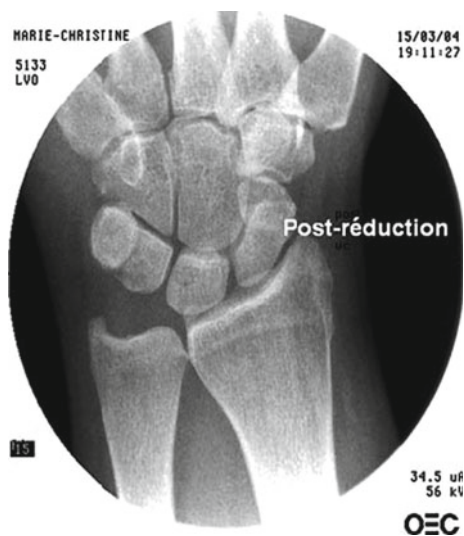
- 99-m technetium scintigraphy does not reveal any hyper-fixing.
- There is no ligamentous injury or articular foreign body on the arthroscanner; it can confirm the loss of articular parallelism.

The result is strangely similar to that of the minor vertebral articular upsets like lumbagos.

**Fig. 2** Minor articular upset: radiological view showing a capitate-hamate interval which is perfectly visible but a superimposed lunate-triquetral interval



**Fig. 3** Post-reduction minor articular upset: radiological view after manipulations. It shows the triquetro-lunate and capitolunate intervals whose bones are not superimposed



The diagnosis is confirmed by axial traction manipulations and anteroposterior joint ballotement. A small trigger almost immediately engenders a disappearance of the pains.

A radiographic report of control shows parallelism has been re-established.

As for wrists with a hyperlax and painful mediocarpus, the strengthening of the extrinsic muscles stays enabled to avoid or decrease the frequency of these 'joint accidents'.

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