

# Double dislocation of the interphalangeal joints in the finger

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## ABSTRACT

A case of simultaneous dislocation of the proximal and distal interphalangeal joints of the same digit is described. The case presented at Princess Basma Teaching Hospital after athletic trauma. It was treated successfully with close reduction followed by two weeks immobilization in slight flexion position. The condition is described in this report with review of the relevant literature.

**Keywords:** Double dislocation, dislocation of a finger, sport injury.

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Single dislocation of the finger is a common problem, but double dislocations of a single finger is rare.<sup>1</sup> Although the first case was reported by Bartels in 1874,<sup>2</sup> only a few cases have been reported during the last 20 years.<sup>3-5</sup> Double dislocation, is more serious than single dislocation as it may lead to instability,<sup>6</sup> and a painful finger.<sup>1</sup>

**Case report.** A 23-year-old male schoolteacher was seen in the accident and emergency room with a painful hand. He had sustained a hyperextension injury to his right little finger during a basketball game. On examination the finger was swollen and deformed. X-ray showed double dorsal dislocation of the interphalangeal joints (Figure 1). Closed reduction under digital nerve block was performed and the finger was immobilized in slight flexion by a padded aluminum splint for 2 weeks, followed by mobilization, and he recovered uneventfully without stiffness or instability after 3 weeks.

**Discussion.** Double interphalangeal dislocation in one digit is rare and is characterized by an uncomplicated course in the majority of cases. It usually occurs in young male athletes<sup>7</sup> and is more

common on the ulnar side of the hand.<sup>8</sup> The majority of cases involve the right hand.<sup>9</sup>

Dislocation is usually caused by a force which leads to hyperextension of the finger during athletic activity,<sup>10</sup> but it may also occur as a result of a fall.<sup>6,7</sup>

Clinically the finger is painful, deformed, and swollen, x-ray shows simultaneous dorsal dislocations of the proximal and distal interphalangeal joints (stepladder appearance).<sup>6</sup> The dislocation is often associated with a fracture.<sup>4,11</sup>

The usual treatment is reduction and immobilization for 2-4 weeks followed by active mobilization. Some authors perform reduction under a ring block using 1% xylocaine<sup>6</sup> and others perform reduction without anesthesia.<sup>11</sup> Gross instability should be looked for after reduction.<sup>2</sup> Early closed reduction was carried out in most cases, but in some reported cases, closed reduction was achieved even 2 weeks after dislocation.<sup>10</sup> Splintage of the finger was made either with padded aluminum splint,<sup>3</sup> or with wrist plaster case with finger extension, strapping alone was equally effective.<sup>6</sup> Only few authors consider the ideal position of immobilization in the "intrinsic plus position",<sup>3,13</sup> in which the metacarpophalangeal joint is flexed to 90° and proximal

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**Figure 1a** - X-ray films of the right little finger - Anterior-posterior view.



**Figure 1b** - X-ray films of the right little finger - Lateral view.

interphalangeal joint slightly flexed to 15°- 20°. In the reported case immobilization was in slight flexion of the finger.

Few reported cases were managed surgically, because of soft tissue interposition,<sup>7</sup> chronic pain,<sup>1</sup> to prevent later instability<sup>4</sup> and because the diagnosis had been missed causing capsular contracture.<sup>12</sup>

In conclusion, double interphalangeal dislocation in a digit is rare, usually treated by reduction and immobilization for a short period. Complications are unusual.

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