

ORTHOSPORTS

QUESTION FOR PHYSIOTHERAPISTS



QUESTION | I AM CONFUSED BY THE IDEAL TREATMENT FOR MY PATIENTS WITH BOXER'S FRACTURES. I HAVE SEEN VERY SIMILAR APPEARING FRACTURES TREATED WITH A WIDE VARIETY OF TECHNIQUES – FROM BUDDY SPLINTING TO SURGERY. SHOULD I BE SENDING ALL MY PATIENTS FOR AN ORTHOPAEDIC OPINION TO DETERMINE THE BEST TREATMENT PLAN?

ANSWER | By “boxer’s fracture”, you are asking about fractures of the neck of the 5th metacarpal bone. These occur in misplaced punches, where impact is taken at the knuckle of the little finger, thereby transmitting the force of the landed punch through the 5th metacarpal bone rather than through the 2nd and 3rd metacarpal bones. This results in an extraarticular fracture of the neck of the 5th metacarpal. The force of the punch and the native tension of the surrounding tissues causes this fracture to flex relative to its anatomical position.

You are correct in that there is a wide array of treatment options when managing these injuries, even when the same injury is presented to different orthopaedic surgeons. More recently, I have noticed that there seem to be more patients seeing me for follow-up who have been treated surgically elsewhere.

In terms of function, the ulnar digits are generally used more for power grip than the radial digits; the radial digits are more specialised for finer tasks. Furthermore, the 4th and 5th carpometacarpal (CMC) joints have a greater range of motion than the 2nd and 3rd CMC joints. This allows a greater acceptable angulation at metacarpal neck fractures when they occur on the ulnar digits. I therefore accept up to 45° of angulation at the 5th metacarpal neck for non-operative management.

It is not just the angulation that determines the patient’s management. If there is significant malrotation through the fracture, causing the little finger to ride over or to splay away from the ring finger when flexed, then I would advise surgical reduction and fixation. However, bear in mind that swelling in the region of the 5th metacarpophalangeal (MCP) joint (even without a fracture) will itself cause a mild apparent malrotation of the little finger which will resolve once the swelling decreases.

For patients where a decision has been made for nonoperative management, I will advise anything from buddy strapping to the adjacent finger, to a thermoplastic splint or a full cast. This decision is made in conjunction with the patient (or parent), depending on how reliable the patient is in looking after his/her injury, the degree of pain from the injury, and the ability of the patient to cope with the inconvenience of various immobilisation devices.

For reliable patients with minimal pain, I would advise a simple buddy strap of the ring and little fingers for about 4 weeks. For those with moderate pain, I would add to this a hand-based thermoplastic ulnar gutter splint (leaving the wrist free) to be used until the pain settles down in a few weeks. For slightly less reliable patients, the splint may need to include the wrist. And for more unreliable patients or those in significant pain, then a full cast from forearm to fingertip is advised for 4 weeks.

In each of these, the ring and little fingers should be buddy strapped, the MCP joints flexed to about 70 degrees and the interphalangeal (IP) joints kept fully straight.

At the end of the 4 week period, the patient's fracture needs to be reassessed clinically and radiologically to advise whether to start movement therapy.

Hopefully, these principles will allow you to advise your patient. As always, if there is any doubt on management for any individual patient, it would be best to seek a further opinion.

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