

To Fix or not to Fix: Isolated Weber B Fractures of the Ankle

Ankle fractures have always fascinated orthopedic surgeons since the management options have been debated ever since the AO fracture principles came into vogue. The 1970s shifted the trend toward aggressive interventions, and in the 21st century surgery is preferred for most displaced ankle fractures. Nevertheless, there is significant debate about the management of isolated Weber B fractures, and several controversies remain. The Weber B fracture may or may not disrupt the syndesmosis, as the fracture line runs at the level of syndesmosis and corresponds to the AO/ OTA 44-B1 injury pattern. These fractures may be simple (B1.1), associated with rupture of the anterior syndesmotic ligaments (B1.2), or comminuted (B1.3).

Proponents of operative fixation of these injuries cite the advantages of anatomical restoration of the lateral malleolus; on the contrary, proponents of nonoperative management argue that anatomical restoration does not necessarily result in better functional outcomes. This is highlighted by Mittal et al,¹ who conducted a combined randomized controlled trial and an observational study (CROSSBAT trial) to address this controversy. This study was conducted across 22 centers in Australia and New Zealand and included adult patients with an isolated Weber B (AO/OTA 44-B1) lateral malleolus fracture with <2 mm talar shift (widening of the medial clear space). Eighty patients were randomized to the operative group and an equal number to the nonoperative group. Two hundred and seventy-six patients, who were not willing to be randomized, formed the observational cohort. An intention-to-treat principle was followed when analyzing results. At 1 year follow-up, the authors noted no difference in patient-reported functional outcome scores between the study groups. On the contrary, the rate of adverse events was higher in the operative group; this was offset by a higher malunion rate in the nonoperative group. The authors' message was clear: Surgery was not superior to nonoperative management, as documented by them for this specific group of fractures.

However, before concluding that surgery is unnecessary for all Weber B fractures, one needs to read the fine print carefully. Perhaps the most important factor in deciding whether or not to operate an isolated Weber B fracture is the presence or absence of talar shift. It is well known that even minor talar shifts can lead to abnormal loads on the ankle; a shift of 1 mm can decrease the contact area of the joint by 40%,² and this can lead to early arthrosis. The authors of the CROSSBAT trial were careful to exclude any fractures with a talar shift. The second important factor is stability of the syndesmosis; avulsion of the anterior syndesmotic ligaments can lead to instability. Detection of such instability by clinical examination and routine imaging can often be misleading, and more often than not, the clinician must combine clinical judgment with special radiological views, computed tomography, or magnetic resonance imaging scans to confirm the diagnosis.³ The third factor in determining the management is the extent of fibular shortening. Comminuted fibular fracture patterns (B1.3) can have fibular shortening, which in turn renders the ankle unstable and must be addressed by surgical means. What is never in the control of anyone, whether the case is operated or not, is the extent of ankle cartilage damage that could occur at the time of injury. This we are unable to document with currently available diagnostic modalities, and this could have significant long-term issues, which may not be observed at the 2-year follow-up. Comorbidities, patient age, and the degree of osteoporosis, as well as facilities available for management at different centers are also factors that come into consideration.

To sum up, the surgeon should be aware of the red-flag signs with the innocuous looking Weber B fractures and should seek them out in every case. These include significant talar shift, signs of syndesmotic instability, and significant fibular shortening. Nonoperative management would work well when there are no red-flag signs, and for those that have, surgery may well be the better option. But those surgeons who have limitations due to equipment and facility shortcomings can now be reassured that by not operating these fractures they are doing something wrong. Inherent in all this discussion is the fact that an accurate reduction of the fracture, and maintenance of this reduction till fracture healing, is an essential aspect of the treatment.



Siddhartha Sharma



Mandeep S Dhillon

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Siddhartha Sharma

Assistant Professor
Department of Orthopedics
Postgraduate Institute of Medical Education and Research
Chandigarh, India

Mandeep S Dhillon

Professor and Head
Department of Orthopedics
Postgraduate Institute of Medical Education and Research
Chandigarh, India