Comparison of Braces and Casts after Surgery for Ankle Fracture

A broken ankle is the most common fracture treated in hospitals. They are increasingly common in active younger people and in the elderly. Some ankle fractures need surgery that includes metal plates and screws to make the ankle stable again. After this type of surgery, patients usually wear a cast.

These authors questioned whether ankle braces might work better than a cast. Doctors now think that complete immobilization can get in the way of the healing process. Complete immobilization can result in less range of motion, muscle loss, and osteoporosis. Braces allow some movement, which could help avoid these problems.

The authors tested their theory. They divided 100 patients who needed surgery for ankle fractures into two groups. One group of patients wore a below-knee cast for six weeks. They used crutches for the first two weeks, until the stitches were removed. Then they were allowed to put some weight on their leg for two more weeks, and full weight for the final two weeks. The second group wore a specific kind of ankle brace for six weeks. They followed the same weight-bearing schedule as the cast group. They also took the brace off every day to do range-of-motion exercises. After the six weeks were up, both groups began more active exercises.

All patients were evaluated over the two years after surgery. They got regular X-rays and physical exams, and they answered questions about their ankle function and activities. The authors saw no major differences between the two groups in any of the tests or the questions. The two groups spent almost exactly the same amount of time in the hospital. They also returned to work at about the same time.

However, there was one significant difference between the two groups. Only eight of the 50 people in the cast group had post-surgical problems (such as wound infections). But 33 patients in the brace group had post-surgical problems, mainly with the wound. The authors note that two of the patients in the cast group developed a deep venous thrombosis (a blood clot) that was treated successfully. A blood clot can be life threatening if not treated. Clots can form because of lack of movement after surgery. None of the patients in the brace group developed blood clots.

The authors conclude that casts and the braces work equally well after surgery to repair an ankle fracture. However, they warn that the high risk of complications with ankle braces after surgery means that extra care needs to be taken if a brace is used instead of a cast. More research on how to best use casts and braces after surgery for ankle fracture seems necessary.