

# THE GERIATRIC ANKLE FRACTURE

*Stanley R. Kalish, DPM*

*David J. Caldarella, DPM*

*Thomas J. Chang, DPM*

The management of the geriatric ankle fracture is based upon individual assessment of the fracture, not on the age of the patient alone. The expansion of the geriatric population is directly due to improvements in modern medical care, and in the increased importance of nutrition and exercise. With this increase in the number of senior citizens, comes a proportionate increase in the number of geriatric ankle fractures.

## IDENTIFYING THE MECHANISM

The question comes to mind whether Lauge-Hansen and Weber-Danis classifications are as important in the geriatric fracture as in the younger fracture. The answer is dependent upon the severity of the fracture and the physiologic and functional age of the geriatric patient. Obviously Type C pronation-eversion (P.E.R. Type IV) and Type B supination external rotation (S.E.R. Type IV) fractures should in most cases be surgically stabilized and reduced in an anatomic fashion. However, those patients who are medically unstable and metabolically deficient should be treated more conservatively and casted more frequently. For example, a rush rod might be used in place of an open axial fixation with 5-6 hole tubular plates for a high fibular fracture. (Fig. 1, 2) This would result in less exposure, less surgical time, and less overall tissue trauma.

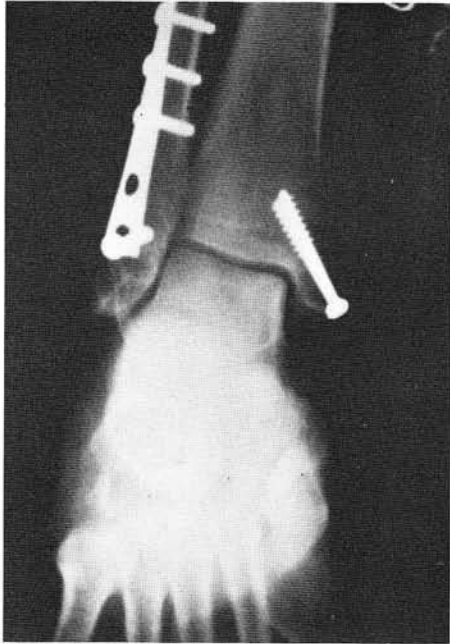
This philosophy of treatment is somewhat different than the philosophy of dealing with the non-geriatric patient. The author has achieved excellent results by aggressive treatment of all

Weber-Danis type A and B fractures. The results have been similar to those reported by the Swiss A. O. group with type A, B, and C fractures that were treated by aggressive open reduction and anatomical approximation.

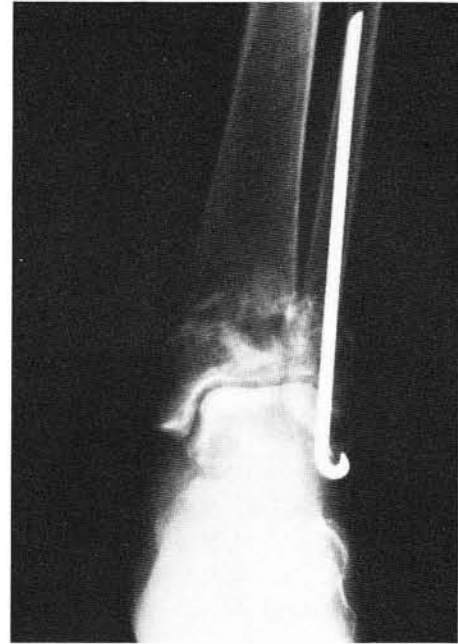
In the 1980s, the Swedish literature reported 150 cases of S.E.R. II fractures that were studied 5 years post-injury and seemed to do equally well whether treated by closed reduction or by open repair. This information can easily be extrapolated and applied to the treatment of S.E.R. II fractures in the geriatric population where the risks of surgery are greater.

As surgeons, we can apply the statistical evaluations and "pick and choose" those situations where ORIF vs. closed reduction are safer and more appropriate. In a diabetic with peripheral vascular disease, it would certainly be a better choice to close reduce and cast a S.E.R. II. In the osteoporotic patient with a S.E.R. II, a closed reduction could be a better choice. However, osteoporosis in itself, should not be the limiting criteria for open vs. closed treatment. The German A. O. group favors the spoon plate or anti-glide technique in the treatment of the osteoporotic fracture of the distal fibular. (Fig. 3A, B, C) The use of bonegrafts, bone paste, and other substitutes to remodel and rebuild defects caused by the combination of osteoporosis and trauma are excellent adjunctive techniques for the open osteoporotic fracture.

It is not uncommon at Northlake Regional Medical Center to utilize freeze-dried allografts to rebuild the distal fibula and tibial plafond in the



**Fig. 1.** Preoperative radiograph of a rush rod used to stabilize the fibula component in an ankle fracture in an 80 year old patient. Note the severe osteoporosis present.



**Fig. 2.** Postoperative radiograph



**Fig. 3A, B, C.** A posterior anti-glide plate utilized in a 68 year old patient with a S.E.R. IV. A major indication for this device is the osteoporosis commonly seen in the geriatric population.



**Fig. 3B.**



**Fig. 3C.**

osteoporotic geriatric fracture. The results are gratifying, as the fixation devices hold well in the reconstructed bone.

Anesthesia may be a more limiting factor in the treatment of the geriatric ankle fracture. However, unhealthy patients can be closed reduced and stabilized with a regional block anesthesia such as a spinal or epidural block. MAC anesthesia (local and IV sedation) are also possibilities in the severe fracture repair (open reduction).

In summary, the geriatric fracture should be treated with the same intensity and concern as the adult and pediatric fracture. However, the geriatric patient differs physiologically, psychologically and metabolically. These considerations must be noted and evaluated when managing the geriatric ankle fracture.