

TREATMENT OF GERIATRIC ANKLE FRACTURES

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Treatment of fractures in the geriatric population can be very challenging. Soft bones, medical problems and lack of support at home add to the challenge but when the fracture involves the ankle this compounds things because this type of fracture has such an impact on the life style of the geriatric patient. If one keeps in mind the life experiences that most of the geriatric population has and uses a team approach to treatment; many times the goal of restoring function to the patient can be readily achieved.

Often ankle fractures in the geriatric population are thought to be seen chiefly in the nursing home environment. With the increase in the aging population and changes in the way the elderly live many patients who live at home will be seen in private offices or emergency rooms for treatment of ankle fractures and expect to be treated so that they can resume their life style. With changes in scope of practice and an better-educated community many geriatric patients will seek the help of a Podiatrist in the treatment of their fracture.

GOALS OF TREATMENT

When repairing fractures the goal should be for anatomic alignment, restoration of full pain free function and prevention of arthritis. In the geriatric population often all of these goals can not be met. The decision of what goals to try and accomplish needs to involve the patient and those who will help in their care such as family members.

Considerations should include the abilities of the patient prior to the traumatic incident. Could the patient walk and if so did they require assistance. Where do the patient live and what kind of support system does the patient have. Elderly patients of ten need a great deal of support for basic needs when they are recovering from an ankle fracture weather or not surgery was performed.

The mental health of the patient needs to be considered when trying to determine the treatment plan and out come goals. If the patient is incapable of understanding postoperative instructions, such as a patient with advanced Alzheimer's disease, then one should seriously consider conservative modes of treatment

Life expectancy also becomes an issue in the geriatric population because long term results may not have time to develop. This allows for a little more

flexibility when trying to determine how anatomic the ankle needs to be after a closed reduction.

THE TEAM APPROACH

Whether the geriatric patient is seen in the office or the emergency department it is important to use a team approach in the treatment. Often the patient will need medical clearance for surgery and the patient's best does this won primary care doctor if possible. The primary care physician will know the patient better and will be able to assist in possible medical complications if they should arise.

The assistance of physical therapy or rehab will be very helpful because many of the geriatric population will have difficulty being nonweight bearing after treatment. Occupation therapy can also assist in training the patient to learn to make adjustments in their life while they recover. Often home nursing or assistance can be arranged and many hospitals will have case managers that will help with setting this up.

The most important part of the team is the family support. Children, spouses and friends can often mean the difference between success and disaster. Try to include them in the beginning for the best result.

SURGICAL OR CONSERVATIVE CARE

At some point in the treatment plan a decision must be made as to whether surgery is to be performed or the whether the ankle is to be reduced and casted. As far as the fracture itself goes the same rules apply as in the non-geriatric population. Ankle fractures that are unstable and in poor alignment with greater then 2mm of talar shift should be reduced. If this can not be done then the ankle should be opened, reduced and fixated. This standard should be seriously considered when dealing with the geriatric population and several studies have been done to bear this out.

One study on geriatric ankle fractures by Sirmivasan and Moran demonstrated results of surgery on ankle fractures in 74 patients over the age of 70 years.¹ They found that the inability to bear weight after surgery led to lengthy stays socio-economic problems. 85% of the

patients in the study regained their pre-injury ambulation and significant risks were noted in the area of wound healing and technical difficulties with poor bone quality. Overall they felt that in spite of the risks associated with the surgery most patients can expect a good outcome. Pagliaro, Michelson, and Mizel performed a similar study on 23 cases of geriatric ankle fractures and found that a fracture union rate of 100% was achieved after open reduction and internal fixation of the fractures. They also noted complications that are associated with preexisting systemic disease.²

In contrast to these studies Salai et al's study of 84 patients with geriatric ankle fractures revealed that better results were gained when the ankles received closed treatment compared to open. They also noted that the cost of treatment was less for the nonoperated group.³

CASE ILLUSTRATIONS

The first patient is a 72-year-old diabetic female who presented with a medial malleolar fracture after slipping on the floor (Figure 1). The patient was seen and immobilized in a cam walker and told to use her walker and remain non-weight bearing. Two days later the patient returned ambulating on the fractured ankle and had now developed an unstable tri-malleolar ankle fracture (Figure 2). After discussing the options with the patient the decision was made to proceed with surgical repair of the fracture.

The operation involved plating the fibula and because of soft bone and some loss of bone on the medial Malleolus tension banding was used (Figure 3). Following the surgery the patient walked on the ankle causing a loss of some of the reduction (Figure 4). The patient also developed a DVT in spite of anticoagulation, dehisced the medial incision and developed a pleural effusion which resulted in a lung thorocentesis. Ultimately after 10 weeks in the hospital it was the family and a host of physicians and other allied health professionals that helped the patient to a good result. The patient now ambulates in a custom shoe with a double upright brace and is at about 85% of her pre injury ambulation.

The second patient is an 87-year-old female that fell and suffered a trimalleolar ankle fracture and was taken to the emergency room. The ankle was very unstable and when given the option of attempting to heal the ankle with a cast or surgical intervention the patient chose surgery. The patient's only medical problem was mild hypertension. The patient was living alone and still drove her own car. The surgery was done. The fibula was plated and the medial Malleolus was tension banded because of the soft bone (Figure 5). The patient stayed one night in the hospital and went on to a full recovery with no complications. The patient now ambulates at 100% of her pre-injury level.

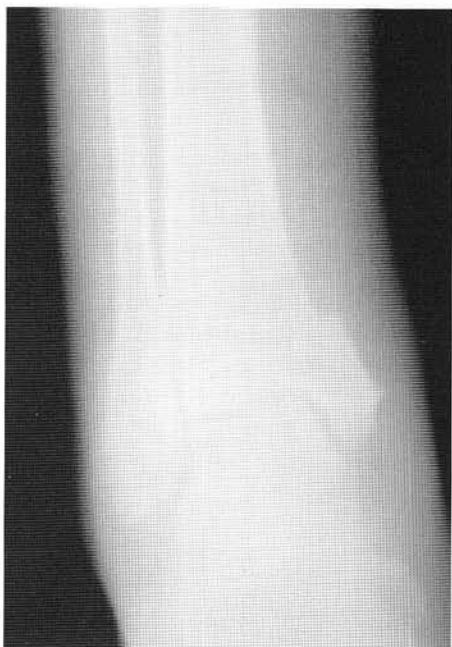


Figure 1. Medial malleolar fracture.



Figure 2. Trimalleolar ankle fracture.



Figure 3. Postoperative radiograph of ankle fracture repair.



Figure 4. Post op ankle after the patient walked on it.

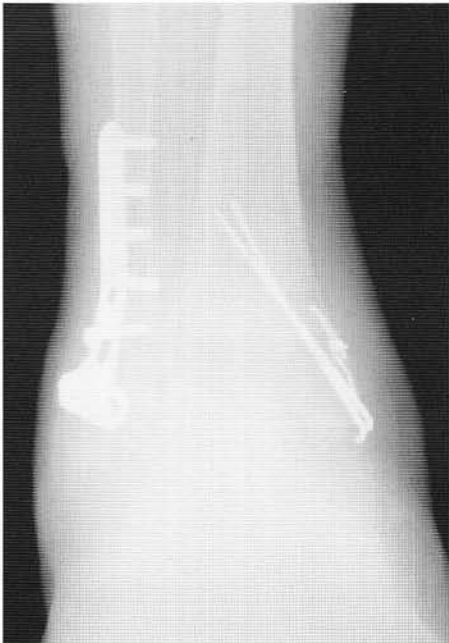


Figure 5. Post op ankle fracture repair.

CONCLUSION

The geriatric patient with an ankle fracture should be treated as any other patient keeping in mind the possible systemic illnesses. Adjustments can be made to accommodate for osteoporotic bone when it comes to internal fixation. Every effort should be made to get the patient back to their pre-injury condition and this may require plenty of post treatment help from family and possible allied health care personal.

REFERENCES

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