

Peroneal Irritation After Lateral Malleolar Fractures

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Purpose: Peroneal irritation is a common finding after open reduction and internal fixation (ORIF) of lateral malleolar fractures. It has been correlated with posterior plate position, but no specific investigation has been performed to determine factors associated with this finding. There were two goals of this trial: first, to evaluate the patient, surgical, and construct factors associated with peroneal symptoms; second, to document the incidence of peroneal symptoms over time after fixation.

Methods: 227 patients with Weber B ankle fractures were prospectively evaluated at 2, 6, 12, and 26 weeks after fibular fixation in a multicenter trial. Patient demographics, plate location and position, and syndesmotom fixation were documented. At each follow-up examination, the status of the peroneal tendons was documented as: asymptomatic, sensitive to touch, occasionally bothersome, or significantly bothersome. Comparisons were made between asymptomatic versus all other groups and between asymptomatic or sensitive to touch versus any category or bothersome. Statistical significance was set at $P < 0.05$.

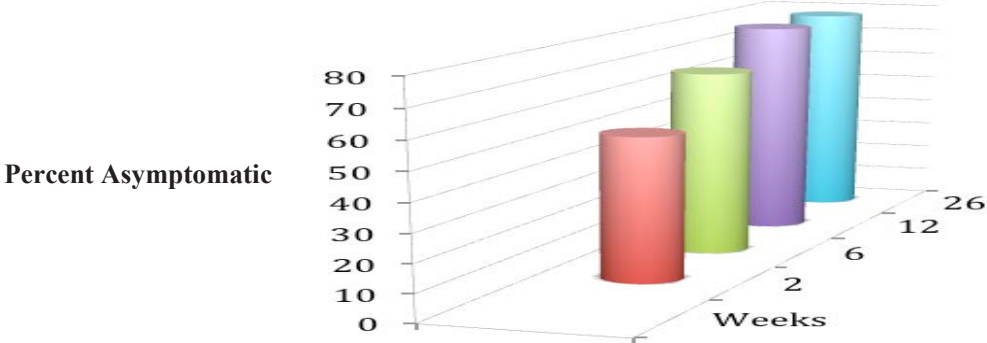
Results: 227 patients were enrolled and form the basis of this trial. There were 128 women and 99 men aged 18-77 years (average 43) treated with 114 lateral and 113 posterior plates. At 6 months of follow-up none of age, gender, race, ISS, BMI (body mass index), incision length, posterior versus lateral plating, plate length, number of screws distal to the fracture, or the presence of syndesmotom fixation correlated with peroneal symptoms when comparing asymptomatic against all others, or when comparing any level of bothersome versus not. However, active smokers were less likely to be asymptomatic ($P = 0.0004$) and more likely to have bothersome sequelae ($P = 0.006$). Patients with low-energy injuries were more likely to be asymptomatic ($P = 0.0001$). There was a greater distance from the tip of the fibula to the plate in asymptomatic patients compared to all others ($P = 0.05$). The percentage of asymptomatic patients improved from 52% at 2 weeks, to 67% at 6 weeks, and stabilized at 78% by 12 weeks (figure).

Conclusion: The rate of peroneal symptoms after ankle fracture stabilizes by 12 weeks. Smokers and patients who sustained high-energy injuries had greater rates of peroneal symptoms.

The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or medical device he or she wishes to use in clinical practice.

The only surgeon-controlled factor predicting peroneal symptoms was a shorter distance from the tip of the fibula to the plate. Surgeons should attempt to keep plates as proximal as feasible. Additionally, smoking cessation should be examined as a possible intervention.

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PAPER ABSTRACTS