Infection Incidence in 120 Incisions with Early Shower Exposure after 1st Post-Operative Visit

Great Lakes Podiatry

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Purpose

Keeping a surgical wound dry until the removal of sutures has evolved into a common practice in foot and ankle surgery. However, by allowing early wound exposure to showering, contaminants and debris can be removed and early inspection of the surgical site can be employed. There have been many products developed with the goal to allow the patient to fully shower while keeping the surgical site dry. The efficacy and safety of these products can be disputed. With that being said, we hypothesized we would not see an increase in the incidence of postoperative infection when early showering was employed compared to the accepted postoperative infection rates demonstrated in foot and ankle surgery.

The purpose of the study was to determine if allowing early surgical wound exposure to showering would increase the infection incidence compared to the accepted value in foot and ankle surgery.

Patients & Methods

80 consecutive patients operated on by DL from 2017 to 2018 were allowed to shower after the first postoperative visit. Patients undergoing large rearfoot reconstructive procedures and patients with exposed hardware were excluded from the study. At day five or six postoperatively, patients were given permission to wet the wound and apply band aids to the surgical incision during the day and keep the incision uncovered at night. They were instructed to let the water run over the incision but not submerge the foot in standing water. 120 incisions ranging from 1 to 10 centimeters (cm) in length and 80 patients were included in the present study. Incisions were closed in a 3 layer fashion and dressed with a bolster dressing. Infections were documented based on clinical signs. In the suspicion of infection, the operating surgeon promptly prescribed an oral antibiotic to combat the suspecting organism. Sutures were removed without complications in all patients at ten to fourteen days postoperatively. One patient was excluded due to not following post-operative instructions and another due to immunosuppressive therapy for a recent organ transplantation. The mean age was 49.9 (14-79). There were 10 diabetics and 33 smokers. Soft tissue procedures were performed on 17 patients. 16 patients (32 incisions) underwent ankle arthroscopy. Austin bunionectomy was performed in 14 patients and endoscopic plantar fasciotomy (EPF) in 12. 29 of the 80 patients had multiple incisions with the most being 5.

Results

Figure 1: Left- 5 days post-op; Right- 10 days post-op with showering

Figure 2: Left- 5 days post-op; Right- 10 days post-op with showering

	Patients (Incisions)	Infected
Total	80 (120)	2 (2.5%)
Austin	16	
Endoscopic Plantar Fasciotomy	12	0
Arthroscopy	16	0
Soft Tissue	17	2
Hardware Removal	4	
Neuroma	8	
Other Soft tissue	13	
Other Bony	18	

Literature Review

A systematic review conducted by Dayton et all involving 2150 patients demonstrated there was no increased incidence of infections in the patients allowed to shower or bathe as a part of their normal daily hygiene before suture removal compared with those who were instructed to keep the site dry until suture removal.[1] Feilmeirer et al had an infection incidence of 4.5% in 110 elective foot and ankle.[2] Sticha et al conducted a study involving 100 patients who underwent forefoot, rearfoot, or ankle procedures in which external fixators or wires were not used. Patients were allowed to bathe on the 4th postoperative day. Wounds were inspected up to 12 weeks following surgery. The incidence of infection was 1.0%.[3] Heal et al randomized 857 patients into two groups: 415 patients were instructed to wash the surgical wound with tap water within 12 hours of the surgery and the other 442 patients were to keep the surgical wound dry and covered for 48 hours after surgery. The showering group had an infection incidence of 8.5% versus 8.9% for the nonshowering group.[4]

Results

In the 120 incisions, there were 2 superficial infections (1.6%). 2 of the 80 patients developed a superficial infection (2.5%). Procedure performed was excision of neuroma and plantar fibroma. The average age of patient with infection was 50 years old. We did not find any correlation with incidence of infection with diabetes, smoking, procedure or age.

Discussion

According to literature, it has been accepted that the infection rate for foot and ankle surgery has been 1.0% to 5.3%. The infection incidence in the present study was within the accepted value at 2.5%. No patients demonstrated the need for post-operative antibiotics or additional care. The present study is in agreement with previous literature regarding early exposure. It is our belief that it is safe and practical to allow patients to shower their surgical incisions at the 5th or 6th post-operative day. It would be beneficial for a large study to determine the effect of external hardware as well as larger operations.

References

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