

Title of Presentation:

Temporary Joint Spanning External Fixation in Lower Extremity Periarticular Trauma: A Survey of the OTA

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Learning Objectives (After attending this session, the attendee should be able to):

- better understand the current trends in the initial treatment of lower extremity periarticular trauma.

PURPOSE:

The use of temporary external fixation of intraarticular and periarticular fractures of the lower extremity has gained popularity as staged protocols have been successfully employed over the last decade. Using temporary external fixation allows time for the patient to be resuscitated, the soft tissue of the injured extremity to recover sufficiently for “safe” reconstruction, and the surgeon to prepare a preoperative plan. The aim of our study was to survey experts in orthopedic fracture care, the membership of the Orthopedic Trauma Association (OTA), who definitively treat complex periarticular lower extremity regarding their experiences and preferences with temporary joint spanning external fixators of the lower extremity. The data collected could then be used by orthopedic surgeons to optimally provide the first stage of treatment for these injuries.

METHODS:

A survey of the OTA membership was designed using online software (Survey Monkey) and posted on the official survey page of the OTA website (address) from November 2008 to January 2009. The first part of the survey evaluated geographic data and the surgeon’s volume/experience in treating periarticular lower extremity injuries. The second portion of the survey began with preferences regarding general principles and routine management of joint spanning lower extremity external fixators. We first analyzed the preferences of the OTA members as a group. A total of 200 responses of approximately 378 OTA members were received. The total group was then subdivided into those who perform a high volume (21 or greater) periarticular knee injuries or plafond injuries treated with knee spanning or ankle spanning fixators, respectively.

RESULTS:

Several items showed trends to general agreement or disagreement. 90% of the respondents believe some type of soft-tissue protection is important with pin insertion with 70.3% in agreement that pre-drilling is important. 81.2% believe that overlap of the pin sites and the definitive plate fixation should be avoided. 72.7% surgeons agree that the accuracy of the reduction in the external fixator is important, while 93.9% believe that length is the most critical aspect of the reduction. 99% of those polled indicate that CT scans are helpful in planning reconstruction and 93.4% believe that the CT scan should be performed after stabilization by external fixation. A majority, 72.9%, believe that using a certain brand of external fixator is not important. There were no significant differences in the responses of the 60 surgeons who perform ≥ 21 knee-spanning fixators. Sixty-seven surgeons reported performing ≥ 20 ankle spanning external fixators annually. These respondents showed a clearer agreement that the plating of the fibula in plafond fractures should be left to the discretion of the definitive surgeon. Fifty percent of them report they have to revise the external fixators from referral surgeons greater than 25% of the time. A trend existed also toward more incorporation of the midfoot/ forefoot in the fixator.

CONCLUSIONS:

The respondents in our study show that while many differences in the use of temporary external fixation of the lower extremity remain, several opinions are shared by a majority. Orthopaedic surgeons who do not routinely treat periarticular fractures of the lower extremities or are unsure of the current practices of their regional orthopaedic traumatologist may express reluctance to place initial external fixation. Trends and preferences can be used as a guide for the community surgeon to aid in the care of trauma patients that arrive at their hospitals. Ideally, a more standardized approach and improved communication of these preferences would improve the care of the patients with these complicated fractures both initially and definitively.”

