

A Prospective Evaluation of Complications After Pinning of the Hand and Wrist with Exposed Kirschner Wires

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• Objectives

- K wires are commonly used for fixation of fractures or stabilization of soft tissue repairs.
- These pins are often left exposed for ease of removal.
- Complications following surgery such as loosening, migration, or infection are not uncommon and can compromise surgical outcome.
- The purpose of our study was to prospectively evaluate the frequency of complications related to exposed pins during hand surgical procedures.

• Methods

- All patients who had pins placed as part of their hand or wrist surgery by one of 12 attending hand surgeons over a 6-month period were included.
- Patients were enrolled prospectively.
- Complications were recorded by the attending surgeon at follow-up visits and reported to the principal investigator.
- Demographics and patient comorbidities including diabetes mellitus and smoking history were recorded.

• Results:

- There were 141 patients enrolled during the study period and 230 pins used.
- There were 65 women and 76 men, with a mean age of 40.7 years.
- Thirteen patients were smokers, and 8 patients had a history of diabetes.
- There were 35 soft tissue procedures and 106 fractures.
- There were 35 complications (25%).
- There was a 12% incidence of infection (n= 17) including 2 cases of osteomyelitis.
- There were 18 additional complications, including 9 major complications (6.4%).
- Smoking, age, and location (hand/fingers vs. wrist) were significantly associated with infection.

• Conclusions

- One in four patients treated with exposed pins developed a minor or major complication, which is substantially higher than reported in existing retrospective studies.
- Most patients with complications did not require additional surgery.
- While pins are often needed during hand surgery, surgeons should be aware that adverse events are frequent.