

Association of Orthopaedic Practitioners

Guidance for the removal of Kirschner wires by Orthopaedic Practitioners or Registered Nurses* in an orthopaedic outpatient setting.

This guidance builds on previous work by the Orthopaedic and Trauma Alliance and Hywel Dda Health Board. The guidance has been approved by the British orthopaedic Association Casting Subcommittee.

Summary

The removal of Kirschner wires (K-wires) from orthopaedic and trauma patients is often performed in the outpatient setting. The ability of practitioners to extend their role to perform this procedure gives the opportunity for a reduction in patient wait times as well as less movement between areas of the department. This guideline is advisory and the individual's extended role should be assessed in conjunction with local clinical need and would need to be endorsed by the local senior medical team.

Aim

The aim of the protocol is to prevent harm to patients and improve patient flow by providing practitioners with the knowledge and skill required to remove K-wires safely.

Objectives

The practitioner should be able to...

- Describe the use of K-wires in orthopaedic surgery.
- Outline the benefits of practitioners extending their role to perform K-Wire removal.
- Identify key aspects of patient assessment prior to K-wire removal.
- Provide evidence of current Aseptic Non Touch Technique training certification.
- Safely remove k-wires following a period of supervision.
- Provide accurate information and advice to the patient before, during and after the procedure.

Equipment List

Dressing trolley

Wound cleansing pack

Sterile gloves

Wire-holder forceps

Betadine lotion or other appropriate antiseptic solution

Dressing for post-procedure

Sharps box

**The term 'practitioners' will be used to describe orthopaedic practitioners (who hold the British Casting Certificate) and registered nurses throughout the document*

Procedure

Following written medical request to remove wires

Patient assessment and consent:

- Consult patient's xrays to check the direction of the wire(s) and the number of wires in situ.
- Describe the procedure to the patient (and/or guardian) and obtain verbal consent and document.
- Discuss relevant medical history (including allergies e.g iodine)
- Ensure the patient is positioned comfortably on the trolley or couch with their limb supported.
- Remove dressings and observe the pin-site(s) (if there is evidence of infection, irritation or trauma – refer to requesting surgeon)

Method

Using Aseptic non Touch Technique

- Remove plaster and/or dressings
- Clean the site with Betadine or other appropriate antiseptic solution
- Grip the wire firmly with wire removers and rotate left to right
- If it still feels tight, apply steady traction to the wire and counter traction to the limb, proceed with circumferential half turns to pull in the reverse line of insertion until the wire has been removed.
- If the wire will not come free after the steady traction and rotating, consult the doctor in charge of the patient.
- Place the wire(s) in the sharps box.
- Allow the wire tract to bleed momentarily then apply a swab using steady pressure until haemostasis is achieved.
- Repeat for each wire until all have been removed, as requested.
- Apply dressing as per local protocols.
- Wire holders to be cleaned and sterilised following local procedure.

If you have any concerns during the procedure stop and consult the doctor in charge of patient.

Patient Advice

The patient should be advised to:

Keep the area clean and dry for the next 24hrs (or longer if other wounds or a cast are present)

Take a mild analgesia e.g paracetamol for pain relief

Contact their GP, A&E or fracture clinic should they experience any burning pain, smell or discharge at the pin-site.

Assessment Sheet

The student is able to....	Evidenced by:
Discuss the use of K-wires in orthopaedic surgery, including:	
<ul style="list-style-type: none"> Trauma indications 	
<ul style="list-style-type: none"> Orthopaedic indications 	
<ul style="list-style-type: none"> Fracture healing stages and time span 	
<ul style="list-style-type: none"> Potential complications related to K-wires 	
<ul style="list-style-type: none"> K wire technique of removal 	

Supervised Practice

DATE					
Xray review					
Obtained consent					
Assessment of patient					
Assessment of pin site(s)					
Positioning of patient					
Preparation of trolley and equipment					
Cleaning of pin-site					
Removal of wire					
Disposal of wire					
Dressing application					
Advice given					
Signature of assessor					
Signature of student					