

PROstep™

Akin Osteotomy

Operative technique



PROstep™

Akin Osteotomy

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Stryker recognizes that proper surgical procedures and techniques are the responsibility of the medical professional. The following guidelines are furnished for information purposes only. Each surgeon must evaluate the appropriateness of the procedures based on his or her personal medical training, experience, and patient condition. Prior to use of the system, the surgeon should refer to the product instructions for use package insert for additional warnings, precautions, indications, contraindications and adverse effects. Instructions for use package inserts are also available by contacting the manufacturer. Contact information can be found on the back of this operative technique and the instructions for use package inserts are available on stryker.com under the link for prescribing information.

Please contact your local Stryker representative for product availability.

Introduction

The Akin osteotomy is a medial closing wedge osteotomy.

The osteotomy is used to straighten the big toe and prevent interphalangeus (overlapping of the toes), which can cause pain and discomfort.

When used in conjunction with the treatment of hallux valgus, the osteotomy is performed after the halux valgus (bunion) is corrected. The osteotomy is made on the proximal phalanx of the hallux.

Indications and warnings

Indications

The HV screw is indicated for fixation of bone fractures for bone reconstruction. Examples include:

- Mono or bi-cortical osteotomies in the foot or hand
- Distal or proximal metatarsal or metacarpal osteotomies
- Fusion of the first metatarsophalangeal joint and interphalangeal joint
- Fixation of osteotomies for hallux valgus treatment (such as scarf, chevron, etc.)
- Akin type osteotomy
- Arthrodesis base first metatarsal cuniform joint to reposition and stabilize metatarsus varus primus
- Talar/navicular arthrodesis

Contraindications

General surgical contraindications:

- Infection
- Physiologically or psychologically inadequate patient
- Irreparable tendon system
- Possibility for conservative treatment
- Growing patients with open epiphyses
- Patients with high levels of activity

Prior to use of the system, the surgeon should refer to the product instructions for use package insert for warnings, precautions, indications, contraindications and adverse effects. Instructions for use package inserts are also available by contacting the manufacturer. Contact information can be found on the back of this operative technique and the instructions for use package inserts are available on stryker.com under the link for prescribing information.

Patient positioning and setup

NOTICE

Patient positioning based on right-handed health care professional.

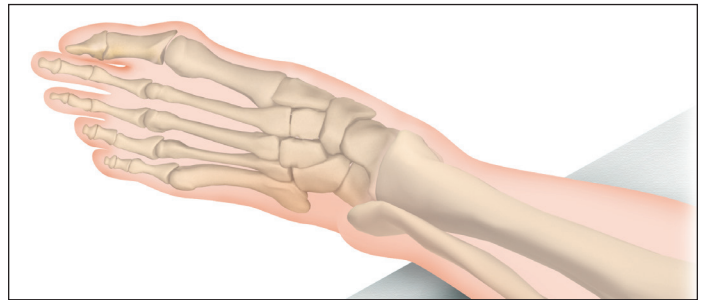
Patient positioning and equipment setup is extremely important when performing any PROstep procedure.

The patient's feet should be positioned off the end of the table, enabling ease of access for the x-ray, thereby ensuring consistent x-rays throughout the procedure.

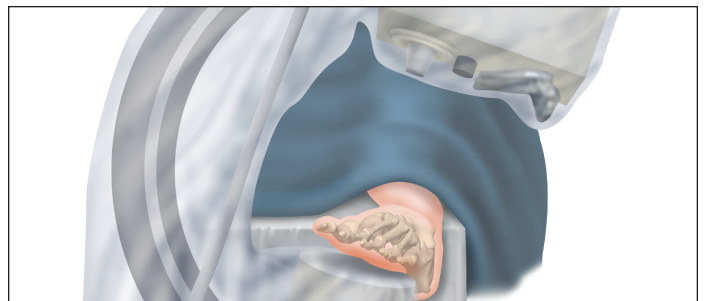
The x-ray itself should come in from the patient's right and should be rotated to a slight oblique angle.

The PROstep Power Box can then be positioned to the patient's left.

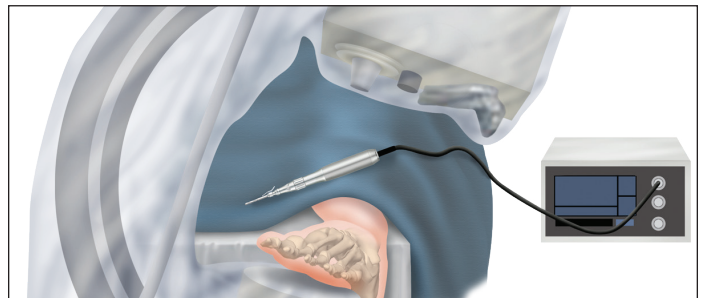
This setup enables free movement around the patient's feet, to either stand at the side or the end of the table as the operation demands. The position of the equipment is independent of whether the operative side is left or right.



Patient positioning and setup **Figure 1**



Patient positioning and setup **Figure 2**



Patient positioning and setup **Figure 3**



Patient positioning and setup **Figure 4**

Operative technique

Surgical approach

Hallux valgus phalangeal deformity

The stab incision, created with a blade (57S1MI07), is placed over the medial aspect of the proximal phalanx of the hallux.



57S1MI07
Blade handle (part of a set)

The placement of this incision is vital. Firstly, the incision must avoid the dorsomedial cutaneous nerve to the hallux. If palpable, this nerve should be marked before making the incision.

The incision must also allow for a sufficient proximal osteotomy of the phalanx, otherwise the osteotomy becomes very difficult to fix. Thus it is advisable to check the positioning of the skin incision using x-ray. Once the incision is made, then the straight periosteal elevator (57S1MI07) is used to carefully create a working area for the burr.



57S1MI07
Straight periosteal elevator (part of a set)

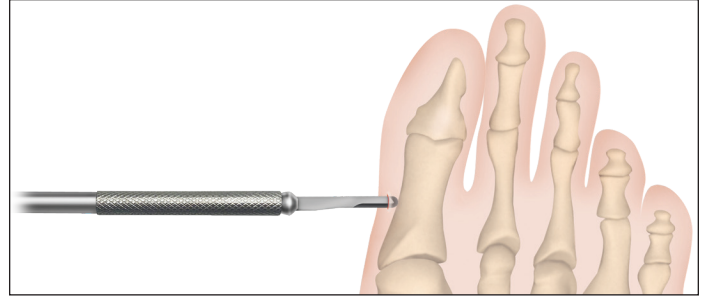
Osteotomy with burr



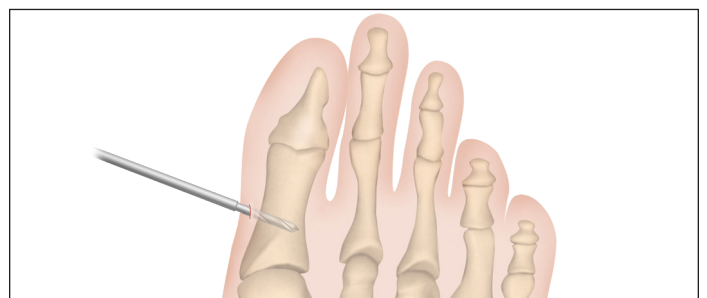
57SR0212
2mm x 12mm MICA Burr

Step 1: Plane

The burr should be inserted into the portal until it is in contact with the bone. The burr should then be angled proximally in order to make a slightly oblique osteotomy.



Stab incision **Figure 5**



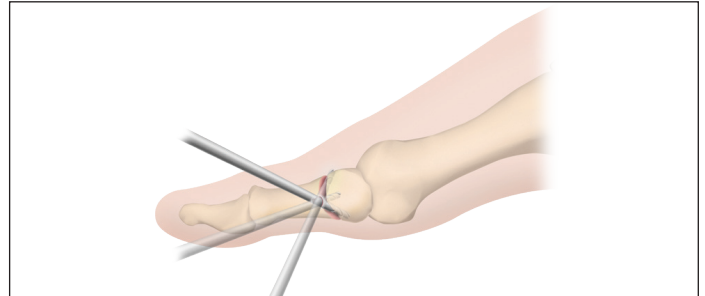
Osteotomy with burr **Figure 6**

NOTICE

The oblique osteotomy is to make sure that the screw is perpendicular to the osteotomy for greater stability.

Step 2: Osteotomy

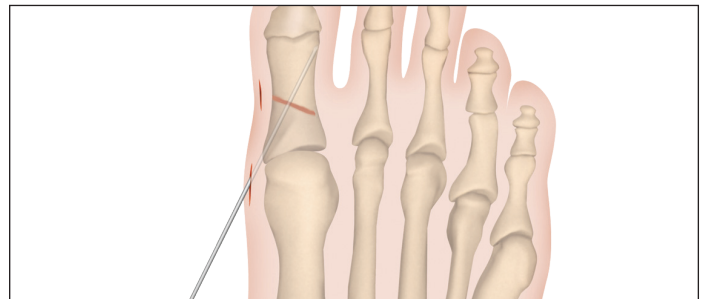
Under controlled power, the burr should enter the proximal phalanx until the lateral cortex is felt, but not penetrated. The burr is then rotated and lifted to cut the dorsal cortex, and rotated and lowered to make sure the plantar cortex is fully cut, while maintaining the lateral cortex.



Osteotomy **Figure 7**

Step 3: K-wire

A second incision is made at the base of the proximal phalanx. Insert a 0.9mm x 150mm k-wire (DSDS1009S) laterally and just proximal to the IPJ. While inserting the k-wire, it is important to make sure that the hallux is held in varus and that the 2mm osteotomy is closed. Once you have hit the lateral cortex, determine the length of screw needed using the depth gauge (57S000DG). After use of the depth gauge, insert the wire through the skin and clip the distal end for stability.



K-wire **Figure 8**

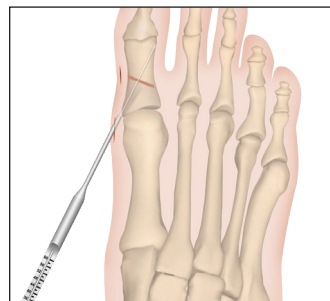
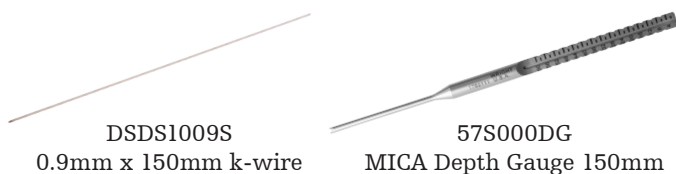


Figure 9
Measure screw length

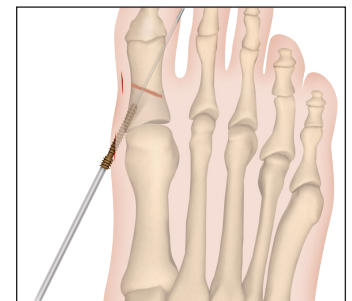
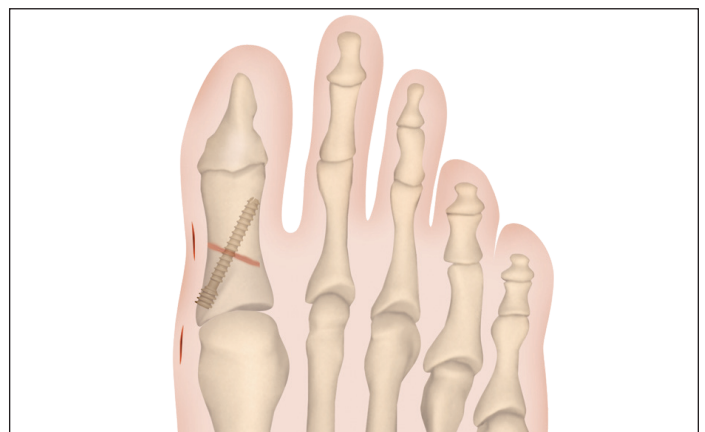


Figure 10
Fix with cannulated HV screw

Step 4: Screw fixation

After drilling using the 2.2mm drill (57S00022), a 3mm cannulated HV screw should be inserted over the k-wire and used to fix the osteotomy bicortically.



Final screw position **Figure 11**

Explant information

If removal of the implant is required due to revision or failure of the device, the surgeon should contact the manufacturer, using the contact information located on the back cover of this operative technique to receive instructions for returning the explanted device to the manufacturer for investigation.

Postoperative management

Postoperative care is the responsibility of the medical professional.

Ordering information

Part number	Description
57S00022	2.2mm x 60mm drill bit, sterile
57S02020	2mm hex driver, sterile
DSDS1009S	K-wire 0.9mm x 150mm
57S000DG	PROstep MICA Depth Gauge
57SR0212	PROstep MICA Burr 2mm x 12mm
HVS03014	HV screw 3mm x 14mm
HVS03016	HV screw 3mm x 16mm
HVS03018	HV screw 3mm x 18mm
HVS03020	HV screw 3mm x 20mm
HVS03022	HV screw 3mm x 22mm
HVS03024	HV screw 3mm x 24mm
57S1M107	MIS sterile instrument pack PROstep MICA Handle Curved elevator Straight elevator Double-ended rasp Blade

Notes

Notes

Foot & Ankle

This document is intended solely for the use of healthcare professionals. A surgeon must always rely on his or her own professional clinical judgment when deciding whether to use a particular product when treating a particular patient. Stryker does not dispense medical advice and recommends that surgeons be trained in the use of any particular product before using it in surgery.

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Manufacturer:
Wright Medical
Technology Inc.
1023 Cherry Road
Memphis, TN 38117
800 238 7117
901 867 9971
stryker.com