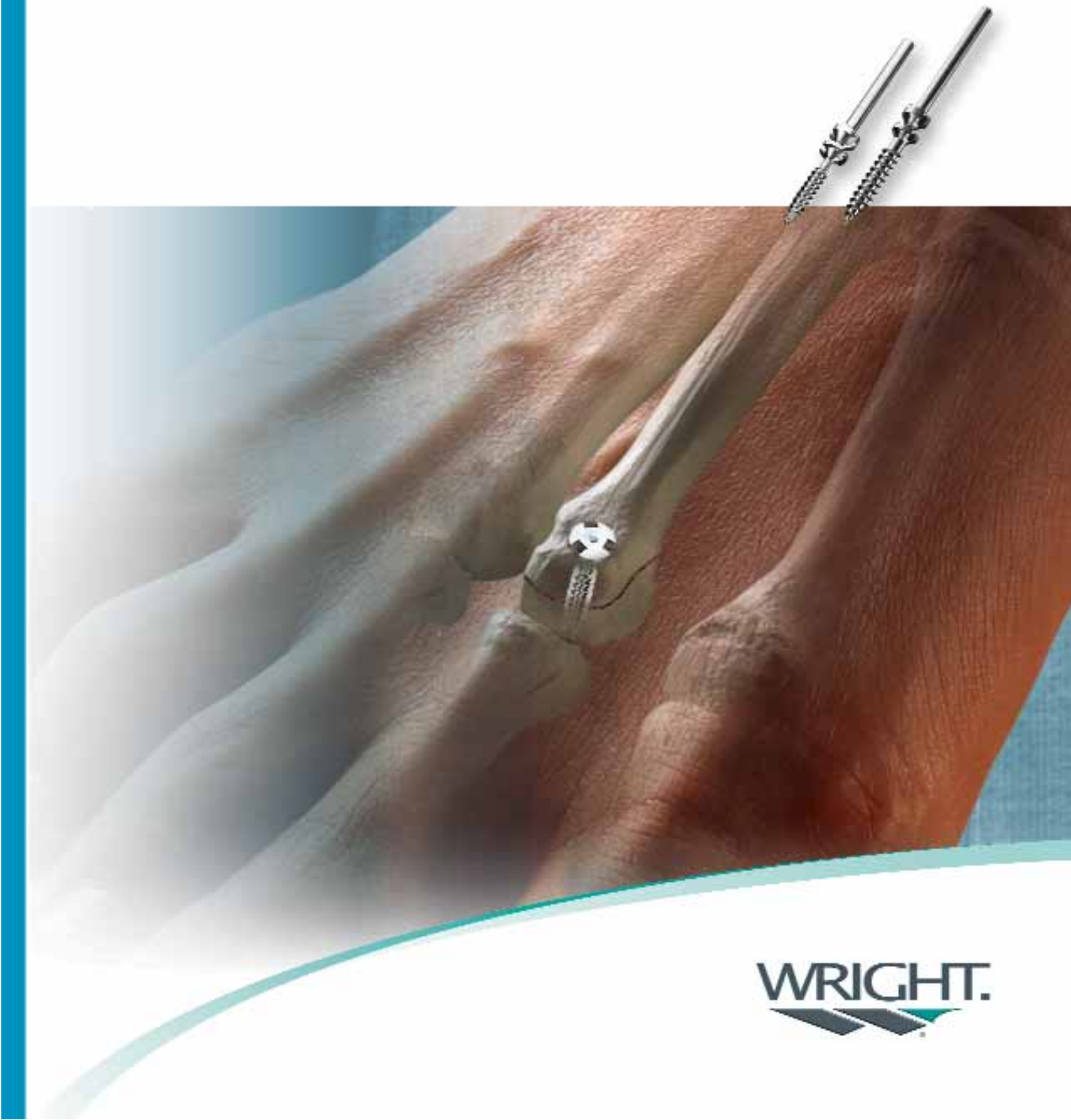
CHARLOTTE™

Snap-Off Screws

SURGICAL TECHNIQUE



WRIGHT.

CHARLOTTE™
snap-off screws

surgical technique

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CHARLOTTE™
SNAP-OFF SCREWS

as described by
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INTRODUCTION

The CHARLOTTE™ Snap-off Screws are self-tapping, self-drilling screws used primarily for the following applications:

- Fixation of small metaphyseal bone fragments
- Distal Oblique Metatarsal (Weil) Osteotomy
- Distal Chevron Osteotomy
- Various osteotomies in the foot and hand

SURGICAL GOALS

- To precisely position and maintain bony fragments in their desired orientation.
- To provide stable fixation of the osteotomy/fusion site until stable bony union occurs.

SYSTEM BASICS

- All implant components are made from titanium alloy.
- CHARLOTTE™ Snap-off Screws are self-drilling and self-tapping. Simply place the bony fragments in the desired position, and drive the screws to secure.
- CHARLOTTE™ Snap-off Screws are available in 2.0mm diameter with 11, 12, and 14mm lengths.
- CHARLOTTE™ Snap-off Screws are available in 2.7mm diameter with 13, 15, and 17mm lengths.
- The next-generation snap-off feature ensures that the CHARLOTTE™ Snap-off Screw head is smooth after the driving shank has been broken off.
- The instrument set includes a shank remover that can be used to gently break off the screw shank without loosening the threads in the underlying bone.

FIGURE 1 |

FIGURE 2 |

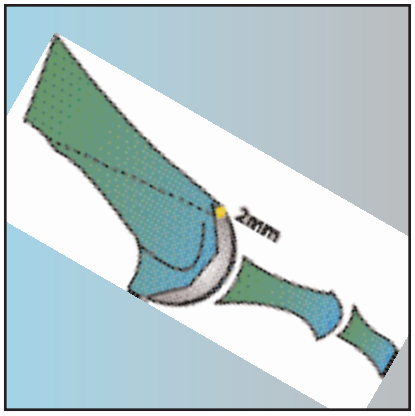

FIGURE 3 |

SURGICAL TECHNIQUE - WEIL OSTEOTOMY

The Weil Osteotomy is a long transverse cut that allows the surgeon to make a stable correction to lesser metatarsal length without affecting dorsal/plantar rotation of the metatarsal head. The CHARLOTTE™ Snap-off Screws provide a quick, accurate method of fixation that is much more stable than K-Wires.

APPROACH/OSTEOTOMY

The symptomatic metatarsal head is approached through a dorsal incision, dissecting between the extensor tendons. The exposure should extend as distally as possible to provide adequate access for the saw. **| FIGURE 1** The Weil osteotomy is made with an oscillating saw, and should begin in the articular cartilage, 2mm plantar to the superior margin of the articular surface of the metatarsal head. The cut is made parallel to the sole of the foot (generally 25-40° dorsal to the long axis of the metatarsal). Ideally, the cut should be 2-3cm in length; modifications to cut angle may be made to ensure appropriate cut length in the case of cavus or planus foot. **| FIGURES 2 & 3**

FIGURE 4 |

SCREW LENGTH DETERMINATION

It is essential that the length of the CHARLOTTE™ Snap-off Screw is carefully chosen. The screw should be long enough to obtain purchase in the metaphyseal bone of the metatarsal head, but must not penetrate the plantar surface of the head. A Caliper (P/N 45112003) has been provided to aid in screw selection. To use, hook the end of the probe to the underside of the metatarsal head and direct it in the same fashion as the screw will be directed. Bring the outer barrel of the caliper into contact with the dorsal surface of the metatarsal, and take the measurement. **| FIGURE 4** Subtract 1-2mm from the measurement to account for cortical thickness, and choose the appropriate screw.

FIGURE 5 |

SCREW PLACEMENT

Manually manipulate and shorten the metatarsal head until the correct length relationship with the adjacent metatarsals has been achieved. Secure the shank of the CHARLOTTE™ Snap-off Screw in a small Jacobs chuck and/or pin driver using a power driver, advance the screw while holding the metatarsal head in its correct orientation. **| FIGURE 5**

SHANK REMOVAL/FINAL TIGHTENING

If the screw shank does not break off, stop the power driver before the screw head contacts bone to prevent the threads from stripping. Loosen and remove the Jacobs chuck, and use the Shank Remover (P/N 45112001) to gently break off the screw shank. **| FIGURE 6**

FIGURE 6 |

FIGURE 7 |

Use the Screwdriver (P/N 45112000) to manually tighten the CHARLOTTE™ Snap-off Screw until the head sits flush with the surrounding bone. **| FIGURE 7**

FINAL PREPARATION

Once the CHARLOTTE™ Snap-off Screw is secure, check the plantar aspect of the metatarsal head to ensure that the screw does not penetrate into the joint. The distal and dorsal residual of the metatarsal shaft may then be removed with a sagittal saw or bone rongeurs to restore the curvature of the metatarsal head.

ORDERING **information**

CHARLOTTE™ SNAP-OFF SCREWS	
PART NUMBER	**DESCRIPTION**
45110001	SNAP-OFF SCREW 2.0MM X 11MM
45110002	SNAP-OFF SCREW 2.0MM X 12MM
45110003	SNAP-OFF SCREW 2.0MM X 14MM
45110004	SNAP-OFF SCREW 2.7MM X 13MM
45110005	SNAP-OFF SCREW 2.7MM X 15MM
45110006	SNAP-OFF SCREW 2.7MM X 17MM
INSTRUMENTS	
45112000	SNAP-OFF SCREW DRIVER
45112001	SNAP-OFF SCREW SHANK REMOVER
45112003	SNAP-OFF SCREW CALIPER
SURGICAL TRAY	
45112002	SNAP-OFF SCREW INSTRUMENT TRAY

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