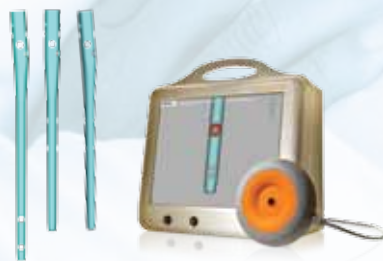




 smith&nephew

A humeral nailing  
solution you can  
be confident in



**TRIGEN<sup>®</sup>**  
Humeral Nail System

**TRIGEN<sup>®</sup>**  
**SURESHOT<sup>®</sup>**  
Distal Targeting System

## Challenges with humeral fractures



Adjusting the C-arm for distal locking in humeral nail procedures



Preventing possible axillary nerve damage<sup>1,2</sup>



Limiting the risk of neurovascular injury during distal locking<sup>4</sup>



Decreasing unnecessary radiation exposure<sup>6,7</sup>



Having options for nail insertion

Meet these challenges confidently with TRIGEN<sup>◇</sup> SURESHOT<sup>◇</sup> and

## Solutions available to you

The position of the C-arm becomes less of a concern during the procedure because the surgeon has the ability to target the distal locking holes using the TRIGEN<sup>®</sup> SURESHOT<sup>®</sup> system for easier alignment and no radiation exposure<sup>5</sup>

The TRIGEN Humeral Nail with its versatile screw configuration was shown in a cadaver study to be one of the safest humeral nails for avoiding axillary nerve damage<sup>3</sup>

The TRIGEN Humeral Nail System with SURESHOT technology is designed to distal lock the nail first, using the electromagnetic wand and perfect circles method for fewer misses during drilling and screw insertion<sup>5</sup>

The number of fluoroscopy images are reduced significantly using the TRIGEN SURESHOT system, limiting the amount of radiation exposure to the patient, surgeon and OR staff<sup>5</sup>

The TRIGEN Humeral Nail System offers a straight and bent nail option. The 4° lateral bend may ease nail insertion avoiding the acromion



the TRIGEN Humeral Nail System

## Confidence in distal locking

The TRIGEN<sup>®</sup> SURESHOT<sup>®</sup> Distal Targeting System increases accuracy while reducing radiation associated with distal locking.

Increased fluoroscopy times<sup>8</sup> in humeral fracture cases can mean increased radiation exposure. With the TRIGEN SURESHOT Distal Targeting System, you can take full control:

- The first and only virtual real-time imaging system for easier and more accurate procedures<sup>5</sup>
- Continuous real-time visual for correct drill direction and angle
- Computer-based calibrated software for perfect circle targeting
- Fluoroscopy-free during distal locking for reduced radiation exposure

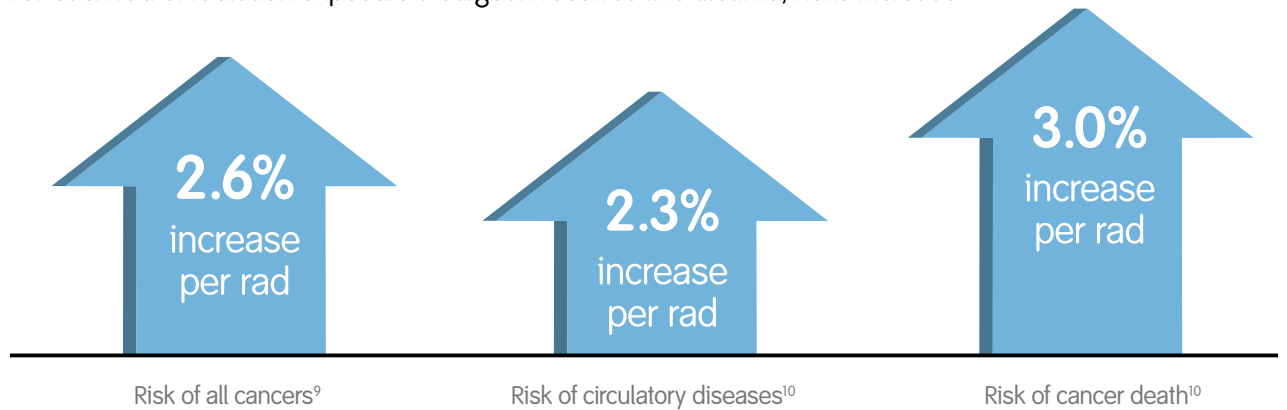


The TRIGEN SURESHOT Distal Targeting System allows you to focus on the anatomy, instead of the mechanics of distal locking by not having to adjust the C-arm and giving you full command to align perfect circles.

## Confidence in radiation reduction

A significant dose response causes increased risks

For each rad of radiation exposure a surgeon receives in a lifetime, risks increase



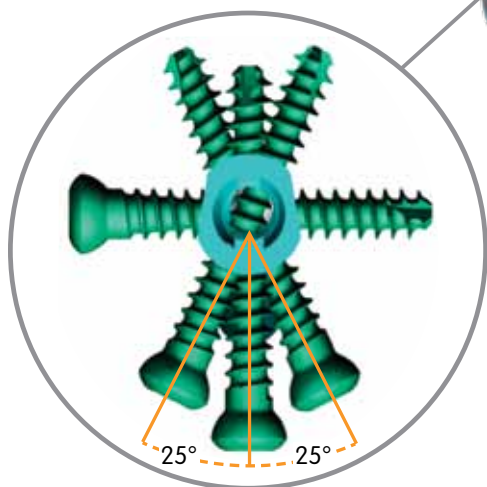
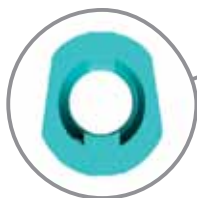
- The National Council on Radiation Protection and Measurements (NCRP) recommends using as low as reasonably achievable (ALARA) levels of radiation<sup>11</sup>
- On February 9, 2010, the FDA unveiled plans to reduce radiation exposure from computed tomography (CT), nuclear medicine exams, and fluoroscopy<sup>6</sup>



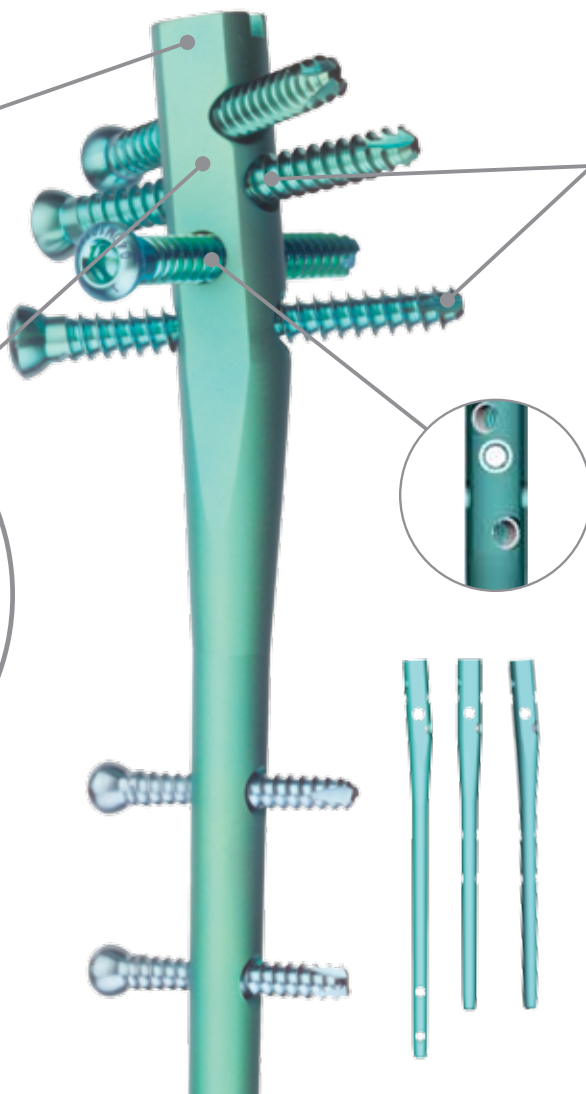
# Confidence in the latest advancements

The TRIGEN® Humeral Nail System was designed specifically to address your concerns about humeral nailing. Everything – from the nail profile to the instrument tray – was created to make your case more successful for you and your patient.

The trapezoidal nail profile provides enhanced rotational stability in the humerus and adds a smaller dimension to the Nail profile in the AP.



Four multiplanar proximal screws improve fracture stability while avoiding the axial and radial nerves.



Bone-specific screws match the changing anatomy of the humerus.

- 5.0mm Cancellous Screws for proximal locks in cancellous bone
- 4.0mm Cortical Screws for distal locks in cortical bone

Threaded screw holes, polyethylene bushings and the TRIGEN captured screw mechanism reinforce fixation while preventing screw back-out and screw loss.

- Multiple lengths (16cm-28cm) allow for more options to cover more indications.
- Bent and straight nail options allow you to choose the entry portal.

One instrument tray includes everything you need for the procedure



## Included in the tray

- Implant removal instruments  
No extra set required
- SURESHOT® Humeral Tray Caddy  
Fits right into tray





Approach your humeral case with more confidence



To find out how you can confidently use the TRIGEN<sup>®</sup> Humeral Nail System, ask your sales rep for the latest updates or watch a surgical video now at [www.KLEOS.md](http://www.KLEOS.md).

think.  
again  
Nail with confidence.

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1. Perlmutter GS. Axillary nerve injury. *Clinical orthopaedics and related research*. 1999 Nov;(368):28-36. 2. Blum J, Rommens PM. Proximal interlocking of humeral intramedullary nails and risk of axillary nerve injury. *Der Unfallchirurg*. 2002 Jan;105(1):9-13. 3. Nijs S, Sermon A, Broos P. Intramedullary fixation of proximal humerus fractures: do locking bolts endanger the axillary nerve or the ascending branch of the anterior circumflex artery? A cadaveric study *Patient Safety in Surgery*. V.2: 2008. 4. Baltov AG, Tzachev NN, Tivchev NP, Iotov, AM. Operative treatment of humeral shaft fracture – interlocking nailing versus plating. *European Federation of National Orthopaedics and Traumatology (8th Congress)*. *Journal of Bone and Joint Surgery – British Volume*, Vol 91-B, Issue SUPP\_1, 180. 5. Tornetta P, Patel P, Tseng S, Whitten A, Ricci W. Distal locking using an electromagnetic field guided computer based real time system. Poster presented at: Annual Meeting of the Orthopaedic Trauma Association; October 8-10, 2009; San Diego, CA 6. Center for Devices and Radiological Health, US Food and Drug Administration. Initiative to reduce unnecessary radiation exposure from medical imaging. <http://www.fda.gov/Radiation-EmittingProducts/RadiationSafety/RadiationDoseReduction/ucm199994.htm>. Updated February 16, 2010. Accessed February 22, 2010. 7. Klein LW, Miller DL, Balter S, et al. Occupational health hazards in the interventional laboratory: time for a safer environment. *Catheter Cardiovasc Interv*. 2009;73(3):432-438. 8. Kraus R, Meyer C, Stahl JP, Schnettler R. Intraoperative radiation exposure in elastic stable intramedullary nailing (ESIN) during the growth period. Observations in 162 long bone shaft fractures. *Unfallchirurg*. 2007 Jan;110(1):28-32. 9. Sont WN, Zielinski JM, Ashmore JP, et al. First analysis of cancer incidence and occupational radiation exposure based on the National Dose Registry of Canada. *Am J Epidemiol*. 2001;153(4):309-318. 10. Ashmore JP, Krewski D, Zielinski JM, Jiang H, Semenciw R, Band PR. First analysis of mortality and occupational radiation exposure based on the National Dose Registry of Canada. *Am J Epidemiol*. 1998;148(6):564-574. 11. National Council on Radiation Protection and Measurements. The application of ALARA for occupational exposures. NCRP Statement No. 8. Issued June 8, 1999. [http://www.ncrponline.org/Publications/Statement\\_8.pdf](http://www.ncrponline.org/Publications/Statement_8.pdf). Accessed February 22, 2010.

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