

A Simple Technique for Removing a Stripped Cannulated Screw of Femoral Neck Fracture

Qingxi Zhang¹, Guo Dong¹ and Fuchuan Wang²

¹Department of Orthopedic Surgery, Xingtai People's, Hebei of China.

²Department of Orthopedic Surgery, Xingtai people's Hospital, China.

doi: <http://dx.doi.org/10.13005/bbra/1336>

(Received: 02 March 2014; accepted: 04 April 2014)

We use a simple technique to remove a cannulated screw of femoral neck fracture with a stripped hexagonal recess. If the hexagonal recess of the screw had been stripped during attempts at screw removal using a conical extraction device, we complete the following procedure after loosening the contact outside between the bone and the screw. Using a kirschner wire bit, Another annular space is drilled immediately adjacent to the screw. Using an big wire scissors, leverage force is then applied to the cap of screw, cut in half, which can be removed with the vice attached. This technique can be used to remove several stripped screws and does not require any special tools.

Key words: Annulated screw, Femoral neck fracture, Stripping; removal, Technique.

Cannulated screw are now widely viewed as the standard method for femoral neck fracture treatment, and some promising clinical reports support this trend. However, along with their increased use, some of their limitations are also becoming evident, especially those regarding their removal.¹⁻⁵ Therefore, we describe a simple, effective method of removing a Stripped cannulated screw.

Technique

All procedures of removing a cannulated screw are the same as those used for conventional screw removal. After exposing the metal screw and removal of bone covering the cap are performed using an osteotome and elevator. If the hexagonal recess of the screw has been stripped during attempts at screw removal using a conical

extraction device, we perform the following procedure after loosening the contact surface between the bone and the screw cap.

DISCUSSION

Cannulated screw is a good option for femoral neck fracture and can be used effectively in the metaphyseal-diaphyseal area where the thin cortex can provide insufficient bone for stable cortical fixation. Most femoral neck fractures with good bone stock should be treated with cannulated screw.

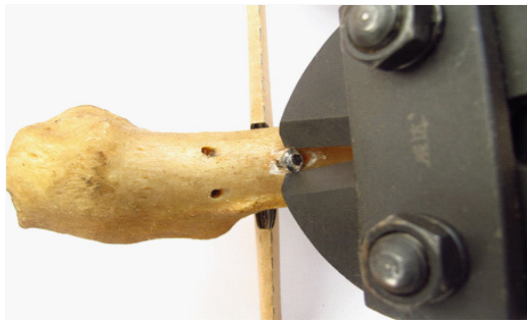
As a result of the increased popularity of cannulated screw for fracture treatment, removal of the cannulated screw with a stripped hexagonal recess has become a challenging surgical problem.¹⁻³ To solve this problem, conical extraction devices were developed⁴; however, they often fail to remove many screws. Some authors have recommended various surgical tips to prevent this problem.³

Nevertheless, despite the best efforts,

* To whom all correspondence should be addressed.



Step 1. Using a kirschner wire bit, Another annular space is drilled immediately adjacent to the screw



Step 2. Using an big wire scissors, leverage force is then applied to the cap of screw, cut in half



Step 3. Screw can be removed with the vice attached

stripping of the hexagonal recess of a screw occasionally occurs. When screw removal using a conical extraction device fails, surgeons must use a metal drill or cutter to remove the screw. During this procedure, there is potential bone injury, and surrounding soft tissue could be destroyed. Metal particles are scattered in the operated area. Increase the chance of bleeding and postoperative infection. Surgery time is also increased.

Our technique is performed facility, and we believe that the additional annular space far less of a risk than alternative procedures. Although widened drill holes can be a stress concentration when excessive force applied to the bone, we believe that when this technique is used for a single screw, the risks are minimal. Nonetheless, an additional 1 to 2 months of protected weightbearing is recommended.

REFERENCES

1. Suzuki T, Smith WR, Stahel PF, et al.. Technical problems and complications in the removal of the less invasive stabilization system. *J Orthop Trauma*. 2010; **24**: 369-373. Ovid Full Text Full Text Library Holdings
2. Bae JH, Oh JK, Oh CW, et al.. Technical difficulties of removal of locking screw after locking compression plating. *Arch Orthop Trauma Surg*. 2009; **129**: 91-95. Bibliographic Links Library Holdings
3. Ehlinger M, Adam P, Simon P, et al.. Technical difficulties in hardware removal in titanium compression plates with locking screws. *Orthop Traumatol Surg Res*. 2009; **95**: 373-376. Full Text Library Holdings
4. Georgiadis GM, Gove NK, Smith AD, et al.. Removal of the less invasive stabilization system. *J Orthop Trauma*. 2004; **18**: 562-564. Ovid Full