

Cross locking screws

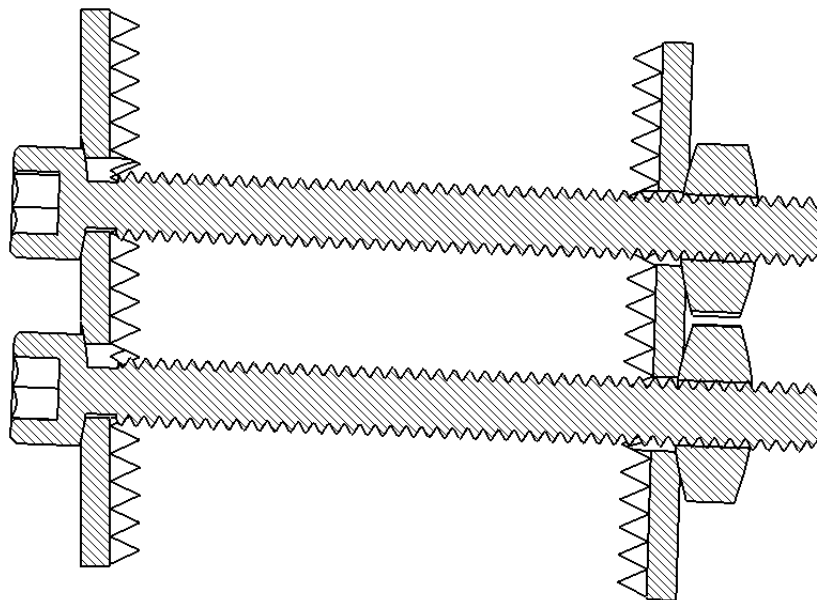


The primary purpose of the cross locking screws is to allow for secure compression between the ligament and the olecranon. The screws are made of Titanium, which is the same material as the ulnar body component. An additional purpose of the screws is to increase the implant's moment of inertia while improving its resistance to implant pull out. Cross locking screws have been shown to significantly increase torsional and bending stiffness (Dalton).

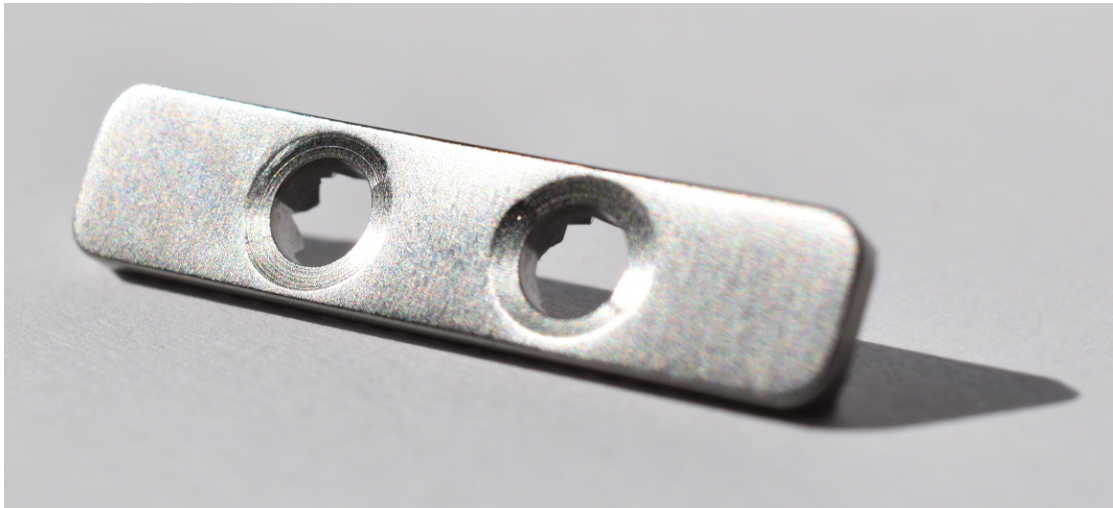
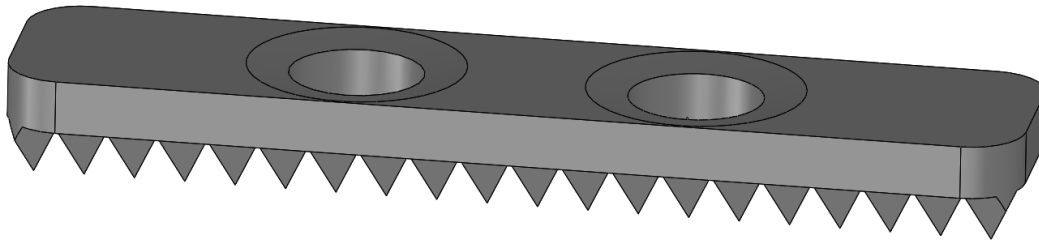
Dalton JE, Salkeld SL, Satterwhite YE, Cook SD. A biomechanical comparison of intramedullary nailing systems for the humerus. *J Orthop Trauma*. 1993;7(4):367-74.



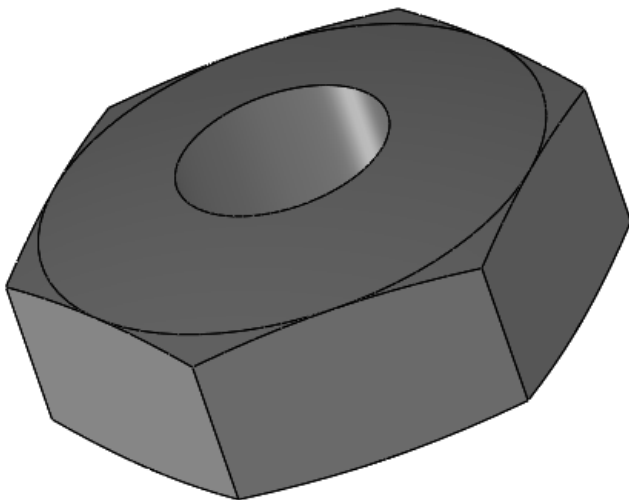
When the screws are tightened, the plates are pulled into a secure location against the ulna, where substantial pressure is being created between the plate and the olecranon ensuring secure ligament healing.



The bony surfaces of the ulna may not be parallel to the ulnar body component resulting in off axis loading. In order to maximize the contact between both the screw heads and the nuts against the cross locking plates, the mating surfaces were designed to allow for the nuts and bolts to evenly distribute forces during the tightening process.



The plate has two concave mating surfaces that distribute forces when off axis loading may occur.



The nut has a convex appearance that mates with the concave portion of the cross locking plate.