

Test your surgical skill

Torque measurement of bone screws

Tasks

- 1 Insert electronic screwdriver into screw head so that it is properly engaged; leave screwdriver engaged in the same screw for the whole session
- 2 Tighten the screw until you feel you have reached optimal torque
- 3 Press the marked button on the screen
- 4 Now exceed optimal torque so that screw thread in bone is stripped
- 5 Press again the marked button on the screen and analyze result
- 6 Repeat steps using different screws and different bone models

Learning outcomes

- Feel and achieve optimal torque in different bone qualities
- Practice over- and undertightening of screws
- Investigate potential problems when inserting the screwdriver into the screw head

Take-home message

Optimal torque should be between 60% and 85% of maximum torque

Optimal tightening of screws

Screws need to be tightened between ~60% and ~85% of their maximum torque

- **If torque is too high**, the interface between screw and bone is destroyed and purchase is lost
- **If torque is too low**, the screw can't transmit forces applied

Torque measured

