

# Test your surgical skill **Torque measurement of bone screws**



#### **Optimal tightening of screws**

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

- 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

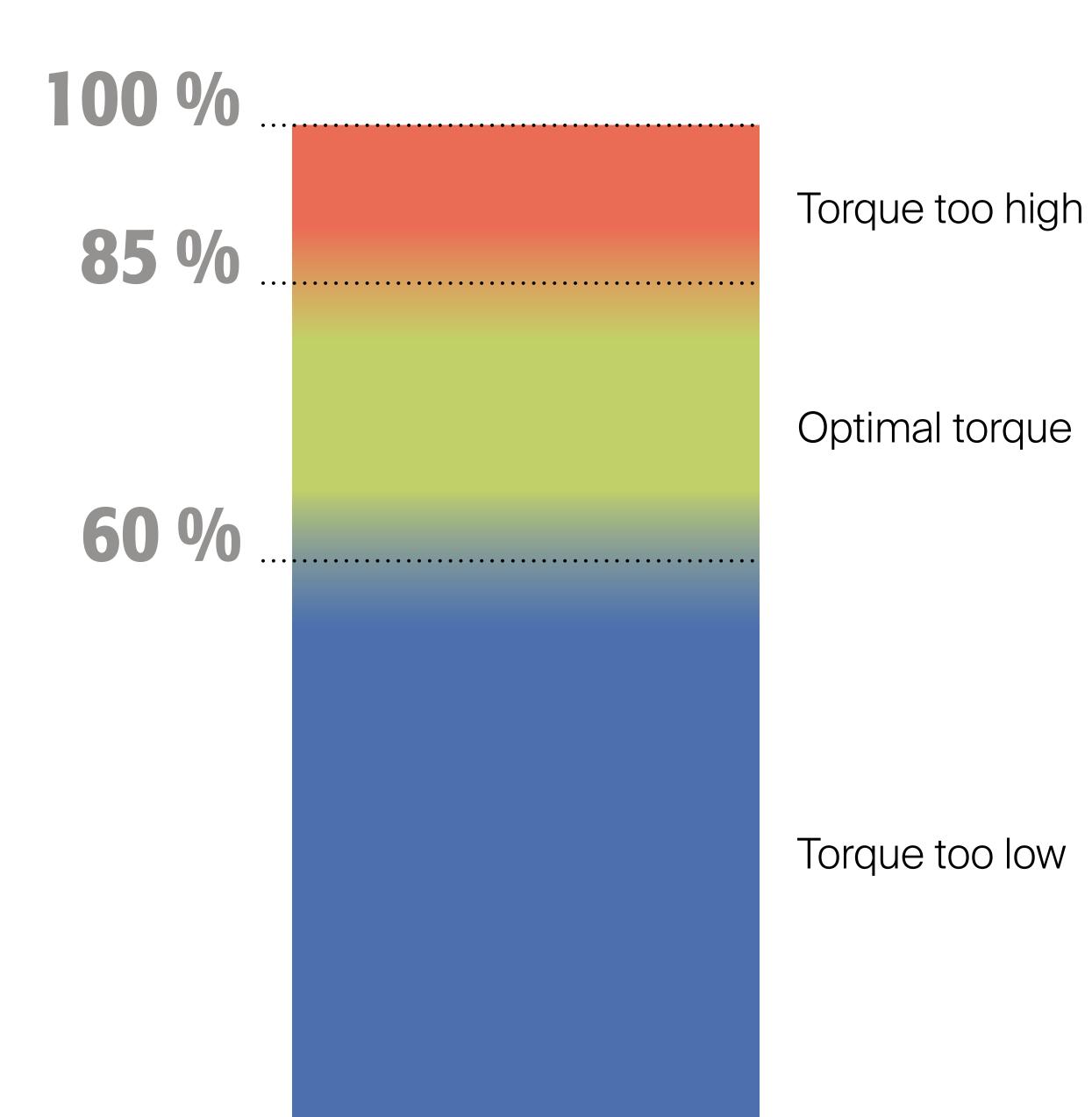
- If torque is too high, the interface between screw and bone is destroyed and purchase is lost
- If torque is too low, the screw can't transmit forces applied

### **Torque measured**

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



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