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## **McKAY ORTHOPAEDIC RESEARCH LABORATORY**

### **CHALLENGE INTRODUCTION**

A major league starting pitcher can throw more than 3300 pitches in a single year's worth of games. An Olympic swimmer may take as many as 60,000 strokes in one week. Each heel of a high school track athlete might hit the ground as many as 5,000 times in a 5- kilometer race. While the human body has a remarkable capacity to heal itself, it also has limitations.

Tendons are among the most commonly injured tissues by athletes young and old. Tendon injuries can be extremely painful and the recovery long and difficult. Treatment of tendon injuries is often hampered by scar tissue, which restricts joint movement and compromises function. Biomechanics researchers are currently looking for ways to improve recovery from tendon injuries in humans by examining the mechanical properties of damaged tendon and other connective tissue in mice. But mouse tendons are very small- how can precise measurements be made on such tiny tissue samples?