A Simple Method and Apparatus to Produce a Closed, Transverse Bone Fracture in a Mouse or Other Skeletal Creature

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Technology description

A standard pair of pliers was modified to create a device that applies three-point bending forces across the leg of a mouse directly over the tibia bone. With this device, a reproducible transverse fracture can be fashioned quickly and easily, producing an animal model for fracture healing.
Although surgical fixation can be applied to the fracture, short-term splinting allows abundant bridging callus formation. This device does not require a platform for stabilizing the animals; instead the jaws are placed directly onto the limb, allowing production of many fractures within minutes. By using three-point fixation, there is no crush type injury, as when using a guillotine-type device to drop a weight onto a pre-rodded bone.

Advantages

Scientists studying fracture healing will find this simple device useful because no special surgical skills are required to produce and stabilize a fracture in a mouse model of fracture healing.

Institution

NIH - National Institutes of Health

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