

Broken Bones

This first study we found was from a hospital in Sweden. The researchers had taken dog bones from euthanized dogs and placed them under torsion. It's the twisting motion. But without enough torque to cause the bone to break microphones were hooked to the bones and they were able to hear that micro-cracking was occurring. Performing repeated small torsions finally lead to the breaking of the bone. This would be analogous to metal fatigue in an airplane. This phenomena was not known to have occurred prior to this study.

The second study was from Sweden and it showed the ability of child's legs to stand up to torsion forces increased dramatically during the first year of life. Therefore, the younger the child, the easier it is to break a child's leg by torsion.

A third study was located in England which was performed on the bones of euthanized rabbits, which is where this photo came from. This study is believed to simulate closely the amount of torque necessary to create spiral fractures in children's legs. It was found that the amount of torque necessary to cause the breaking of the bone with one torque action is similar to the amount of torque that is generated when an adult holds a ten pound weight in his hand and rests his elbow at the edge of the table. Let me demonstrate. If you put a ten pound weight in your hand, placed your elbow, it would create a torque in your elbow joint. That is the amount of torque it would take to break a femur with one motion of a young child.

A fourth study from Germany has never been translated before into English. Our firm translated it. This study was actually conducted on the bones of young children who had recently died. This is a diagram of the mechanism that was used for that test. It was able to establish the amount of force necessary to break bones.