Universal Surgical Wrist Support

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Technology description

Market Summary

Demand for surgical procedures has increased enormously over recent years. According to the CDC, the number of surgical procedures increased by three million from 2008 till 2010. Many of these surgeries require fine motor skills and movements. Tremors are rhythmic involuntary movements caused by the sequential contraction of agonistic and antagonistic muscles. Fatigue and operative tremors are significant problems during these precise surgical operations. Reducing tremors in the physician's hands would reduce surgery time as well as potentially improve patient outcomes. Supporting the wrist during these fine surgical procedures can greatly reduce the frequency and intensity of tremors. Unfortunately at this time, no universally applicable device exists to support a surgeon's wrists and arms during these surgical procedures.

Technology Summary

Physicians at Emory have developed a surgical wrist support device that attaches to any surgical table, allowing both the table and wrist support height to be adjusted simultaneously. These wrist supports are developed to aid in microsurgeries, such as phonomicrosurgery, and may be used for any surgery involving fine hand movements as well as where surgeons are required to hold their arm or hands in position for extended periods of time. Each wrist support can be adjusted individually in a range of dimensions, thereby accommodating the height of the physician as well as the position and angle of surgical equipment. Its universal applicability and easy adjustment would increase usage by physicians, potentially leading to reduced incidence of operative tremors and improved surgical outcomes.

Application area

Universal support for physician's wrists during fine, microsurgical procedures.

Advantages

Universal design attaches to any surgical table.
Full wrist and arm support during procedure reduces operative tremors and fatigue.
Wrist supports adjustable in any direction, accommodating various positions and angles required during surgery.

Institution

Emory University

Inventors

Adam Klein
Professor, Otolaryngology; Director, EVC
SOM: Otolaryngology:Admin
Michael Johns Iii
Associate Professor
SOM: Otolaryngology