Pathology Tissue Slicer

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Technology description

The invention is a manual electrical Tissue Slicer device that will enable the pathologist to slice surgical tissue specimens into standardized, clean cut sections in a precise, quick, and safe way.

Overview

Currently, pathologists grossly evaluate and dissect each specimen to identify pathologic lesions and abnormalities to obtain tissue blocks for microscopic examinations. Specimen sampling is one of the most critical steps in achieving the correct diagnosis. The most important objective in examining and dissecting specimens is to section the tissue at regular and narrow intervals in order to thoroughly examine the tissue to make a definitive diagnosis. Taking unnecessary sections can be costly in time and supplies. Taking too few sections, on the other hand, can lead to potential errors due to the omission of important diagnostic information. It is of tremendous importance to know how to evaluate each specimen and how to adequately dissect it. Since long time, pathologists have been using only surgical blades and knife to cut the tissue.

Advantages

The device is applicable to all kinds of surgical specimens, small and large without the need to switch between surgical blades and knifes. The tissue sections will be of the exact thickness to fit into a tissue block for microscopic examinations. This novel tissue slicer will reduce the time spent on cutting the tissue to less than 10%, which will eliminate the need for keeping the patients under general anesthesia for extended periods of time. The device is composed of a manual or an electrical cutting knife with multiple replaceable disposable blades, a specialized cutting board and a multi pin specimen holder device. The board serves two purposes; 1) to secure the tissue to be cut in place and 2) to protect the prosector from cutting injuries. This is potentially a device that could be considered as the Standard of Practice in all pathology labs in the future.

Institution

University of Kansas

Inventors

Ossama Tawfik
Brooke Montgomery