

Mor-O Clearance Check Devices for Radiation Therapy

Summary

A linear accelerator (linac) is a machine that delivers radiation therapy to patients. Linacs have the potential to collide with patients or equipment during use. The Mor-O Clearance Check includes easy-to-use devices that could help ensure patient safety and reduce clinician re-work through advance detection and prevention of potential linac-patient collisions. The Mor-O Clearance Check can be designed for variable vertical positioning and the detection of clearance with non-zero table angles, or in other forms, to support a single table angle.

Key Investigator

Andrew Morrow, MS

Field

Radiation Oncology

Technology

Clearance check for detection and prevention of linac collisions

Key Features

- Improved safety through advanced collision detection
- Increased clinic efficiency and reduced clinical re-work
- Easy and inexpensive to manufacture and incorporate into clinical setting

Stage of Development

Preclinical, prototype

Status

Available for licensing

Patent Status

US Patent 9,220,922

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Market

Radiation therapy is a common treatment for diseases such as cancer. Radiation may be delivered via a linear accelerator (linac) which is a non-invasive machine that works to narrowly target diseased cells in order to minimize damage to healthy tissue. While largely effective, this procedure has risks, including the potential for the linac head (gantry) to collide with the couch (table) or the patient. Preventing linac-patient collisions is a significant concern for clinicians. Collisions may result in clinical re-work, having to reschedule a patient's appointment, or other disruptions in workflow. More serious consequences may include patient injury or equipment damage.

While collision-prediction software applications exist, these programs can be expensive, complicated to use, time-consuming to implement, and often detect only obvious points of contact. Therefore, there is a need for a low-cost, effective, and convenient alternative for detecting and preventing linac-patient collisions.

Technology

The technology includes devices designed to ensure patient safety and reduce clinical re-work through advance detection and prevention of linac-patient collisions. Some devices support all gantry and table positions, and other, less complicated, devices support a single table angle of zero.

The goal of these devices is to increase the efficiency of radiotherapy treatment planning, reduce the time from CT simulation to treatment start for patients, and to enhance the safety of radiotherapy treatment. The technology is inexpensive to manufacture, easy to integrate into the clinical setting, and requires as little as one minute to use.

Multiple Device Design

