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Publication(s)

External Link(s)

- From inventors with Design Health
- Duke today article

Illuminated medical tubing for safer line management

Unmet Need

Several clinical care scenarios require the use of multiple devices attached to patients to monitor their well-being. These devices can include pulse oximeter, electrocardiogram, IV lines, in addition to other equipment essential for patient health and monitoring. It becomes increasingly challenging to deliver effective clinical care as the amount of lines to monitor and interact with increases. Incorrectly identifying patient's IV lines can result in dangerous medication interactions, incorrect dosing, rates, or treatments which can bring significant clinical harm. . One study in Pennsylvania showed thousands of patients suffer from medication infusion errors in their state yearly. . There is an unmet need for a more functional medical tubing system that allows health care providers to deliver safer and more effective care.

Technology

Duke inventors have developed a system to clearly identify medical tubing by attaching an illuminating device to it. This invention is intended to be used in clinical settings that require the use of multiple medical devices that physically attach to a patient via tubing. Specifically, the inventors have developed a battery operated and wirelessly controlled LED lit line attachment that does not require removal of current lines. This technology was demonstrated in a simulated hospital setting.

Other Applications

This technology could also be used in heavy wire settings such as in wired office situations, wiring sound systems at concert venues, or wires in industries with heavy machinery.

Advantages

- Reduces mistakes caused my misidentification of medical lines to increase patientsafety
- Increases treatment efficiency by decreasing time to identify lines
- Increases reliability of line identification
- Ease of supply identification
- External attachment to preestablished lines