INTRAVENOUS TUBING IDENTIFICATION SYSTEM
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Industry Sector(s): Medical Supplies
Product Category: Medical Labeling for Infusion/Intravenous Tubing

Opportunity Overview

A patient undergoing treatment in a healthcare setting, for example, an emergency room, ambulance, critical care unit, nursing home, or outpatient clinic may be connected to numerous electronic leads and medical tubing collecting vital information and delivering essential medications. The combination of tubing, electronic leads, and medical devices in proximity to the patient add to the complexity of functioning in the care-giving environment. The healthcare professional is forced to physically follow the tube from one connection point to the other, weaving their way through the entangled maze. This could cause the healthcare professional to lose track of the line and select the incorrect connection, leading to potentially serious medical complications. Healthcare professionals have been known to apply pieces of tape with hand written identifiers to the IV tubes; however, labels are often rubbed off or illegible. In addition, tapes and adhesives can leave sticky residues causing lines to bunch and become even more entangled. The identification system enclosed herein provides a system and method where the lines may be clearly identified with matching identifier clasps at each end connection site. The clasps are semicircular and snap around the outside surface of the IV tubing. The possible identifiers located on a plastic tab on the back of the clasp include various shapes that come in a male/female pair, each attaching to either end of the line.

Markets & Applications

The problems associated with tubing misconnections are found worldwide in healthcare settings. Therefore, the market potential can be defined within universal critical care healthcare systems. Any medical tubing administering nutrition, medication, or fluids to a patient could potentially benefit from this identification system.

Competitive Advantage/Value Propositions

This design offers a system which is safe, efficient for use in trauma environments, disposable for sanitary purposes, easily stored and accessible for each patient, easily identifiable and distinguishable, and can be universally adopted. Other IV tube solutions offer organizational functions and ward off tangling of lines; however, they do not quickly identify insertion and bag port sites. In addition, these devices tended to restrict the ability of the patient to move within the confines of the bed, risking the dislocation of organizer scaffolding. The IV tube identifier clips can be easily manufactured using a stamp press into severable sheets which can be easily stored and discarded in hospital bedrooms before and after use.
JCAHO, the healthcare regulatory commission, has released numerous campaigns to research and provide solutions towards ending incidences relating to tubing misconnections. The IV tube identifier clips would provide another layer of security and assurance to hospital networks that they are taking the necessary precautions and complying with JCAHO quality standards.

Researcher Biography

**John T. Finnell, MD, MSC.**
Dr. Finnell, a native from Connecticut, obtained his BS and MD at the University of Vermont. He completed a transitional internship and then EM residency at UCSF Fresno. Dr. Finnell is a diplomat of the American Board of Emergency Medicine and an examiner for the ABEM Oral Boards. Following his residency training, JT joined the faculty at Regions Hospital, St. Paul, Minnesota. There he was an Assistant then Associate Residency Director. JT first joined the Regenstrief Institute in 2002 as an NLM-funded medical informatics fellow. During his fellowship, he earned a master’s degree from the Indiana University Clinical Investigator Training Enhancement (CITE) Program. JT's research activities have focused on building the infrastructure necessary to capture emergency department visit data and his first publication, entitled "Community Clinical Data Exchange for Emergency Medicine Patients," explored the pattern of emergency healthcare delivery across Indianapolis over a one year period. JT is P.I. for the BioMedical Informatics training grant and had served as Co-P.I. with Dr. Stephen Downs since 2007. He is also the P.I. for the $1.4 million dollar Indiana Health Information Technology Training Collaborative (I-HITTC) contract which builds upon the collaborations between Indiana University School of Informatics, School of Nursing, School of Medicine, and the Regenstrief Institute. The primary goal of this funding from the Office of the National Coordinator for Health Information Technology is to address the workforce needs of qualified health IT workers over the next several years.

Development Plans/Needs

1. The group is currently working to implement a pilot study with ER nurses at Wishard Memorial Hospital. This would generate first-hand accounts and genuine anecdotes from actual market end users, attesting to the benefits of the identifiers and the effect they may have on daily nursing protocols and safety outcomes. The innovators have already made 10 prototypes with a local water jet processing company using high density polyethylene.

2. The group is looking for an interested party with experience and connections in medical supplies distribution and associated manufacturing, with the hopes of carrying this product in catalogs. Another benefit of approaching larger medical supplies distributors is to take advantage of their marketing and sales distribution channels that they have carved out.