MULTIPLE INFUSION CLINICAL RESEARCH

Summary	Citation
· If an "emergency medication line" controlled by an infusion pump is set up, it is strongly suggested that the associated primary IV tubing be labelled as the emergency medication line at the injection port closest to the patient. · The label should be prominent and visually distinct from all other labels in the environment. One-way to accomplish this is to use a light-linking system.	Cassano-Piché A, Fan M, Sabovitch S, Masino C, Easty AC, Health Technology Safety Research Team, Institute for Safe Medication Practices Canada. Ont Health Technol Assess Ser [Internet]. Multiple intravenous infusions phase 1b: Practice and Training Scan. 2012 May; 12(16):1-132. | https://www.ncbi.nlm.nih.gov/pubmed/23074426
· ECRI lists the "Mix-up of IV lines leading to misadministration of drugs and solutions" as the fourth most important safety concern · "Spaghetti syndrome": Multiple IV infusions increase the risk of connecting the line to the wrong infusion pump, wrong fluid container, or wrong administration route.	Top 10 Patient Safety Concerns for Healthcare Organizations; ECRI Institute PSO; 2015; downloaded 07/12/2019 | https://www.ecri.org/components/PSOCore/Pages/Webinar_TopTenPatientSafetyConcerns.aspx
· The likelihood of an adverse drug event increased by 3% for each additional IV medication being administered. Recommendation: physically trace each infusion line from the fluid container and verify that the patient connector is attached to the correct administration site.	Article based on the above recommendations by ECRI; Mix-up of IV lines leading to misadministration of drugs and solutions; Health Devices Nov 2014, ECRI Institute | https://www.healthynh.com/images/PDFfiles/nhhc-quality-commission/Isotubing/Mix-Up_of_IV_Lines_Leading_to_Misadministration.pdf
· The IOM that medical errors cost between $17 billion and $29 billion per year · Over a five-year period, more than 6,000 adverse events and 710 deaths associated with infusion devices were reported to FDA—more than any other medical technology. · Recommendation: distinguish the "IV push port" by applying a label that is visually prominent and different from all other labels used in the bedside environment.	AAMI; QUICK GUIDE- Optimizing Patient Outcomes: Questions Senior Hospital Leaders Should Ask about Infusion Therapy Safety; www.aami.org/foundation | https://www.aami.org/productspublications/pressreleasedetail.aspx?ItemNumber=4023
· Recommendation: Illuminating the infusion pathway (on demand) to automate line-tracing can improve accuracy and efficiency · Findings show line labels/organizers improve infusion identification efficiency, shifting the resource burden to a time before urgent or emergent actions are required	Sonia J. Pinkney, MHSc, PEng1; Mark Fan, MHSc2; Christine Koczmara, BSc, RN; Patricia L. Trbovich, PhD; Untangling Infusion Confusion A Comparative Evaluation of Interventions in a Simulated Intensive Care Setting; Critical Care Medicine: July 2019 – Volume 47 – Issue 7 – p e597–e601 | Link to Article
· The most frequent types were rate of infusion mix-up or line mix-up (22.6%) and 48.1% were categorized as harm score D or greater · Intensive care units (30.2%) ranked highest among all units where IV line errors were reported	Wollitz, Grissinger; Aligning the Lines: An Analysis of IV Line Errors; Vol. 11, No. 1—March 2014 Pennsylvania Patient Safety Advisory | http://patientsafety.pa.gov/ADVISORIES/Pages/201403_01.aspx
· The most common errors associated with multiple IV infusions occur during setup and include infusion rate or line mix-ups (22.6%)	Blum; Multiple IV Lines Pose Safety Issues; Pharmacy Practice News; May 2015 | https://www.pharmacypracticenews.com/Clinical/Article/05-15/Multiple-IV-Lines-Pose-Safety-Issues/32459

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