

INTERNSHIP/FINAL THESIS – Project ACHILLES

Insertion of an intravenous access (IV) is described by 67% of children as the worst and most painful thing during their hospital stay. It is however a necessary procedure to provide intravenous infusion of fluids or medication and is commonly used within the pediatric population. Infusion therapy for children brings several technical and emotional complicating challenges compared to adults.

Within this PIHC project, we want to develop a child friendly smart sleeve that i) secures the IV line; ii) reduces stress for children; and iii) has an integrated early warning system for IV dysfunction.



Our sleeve will secure and camouflage the infusion line and distract them. The early warning system will help to prevent complications and safeguard functioning of the IV. Proper stabilization of the IV is important to prevent IV dysfunction. It is a design challenge to adequately stabilize the joint in a comfortable manner while avoiding too much pressure on insertion of the IV and surrounding tissues - and keeping freedom of movement as big as possible.

TASK DESCRIPTION

You will work at the textile lab in the Epy Drost building on the development of the sleeve by comparing currently available options, collecting requirements and prototyping

Prototyping covers topics from pattern making, smart textiles, sensor integration.

Collaborate with material experts, designers, and textile engineers within research group, but also the whole project team (MST, Deventer Ziekenhuis, Saxion Research Group Ambient Intelligence) is open for collaboration and support of your research.

PRACTICAL INFORMATION

- **Student profile:** You are a Textile or design student (or similar) with an interest in smart textiles and medical textiles; Either as an internship or graduation research. You have experience in working with textiles and have knowledge of knitting, weaving, embroidery, sewing,... so you can make choices for relevant techniques to use in prototyping.
- We are looking for a student that can connect with different fields of expertise, who is hands on in his/her approach. You will mainly work independently in the lab, but you're pro-active in including relevant partners in your research, as a group we work together to achieve the best results in our projects.
- **Contact person(s) for this assignment:** Hellen van Rees / h.m.c.vanrees@saxion.nl +31649398205
- **Research group Sustainable and Functional Textiles:** saxion.nl/sft