

# NICU Line Management Device to Facilitate Kangaroo Care

Nicolas Choquette, Andrea Guerrero Garcia, Fiara Llaguno, Eera Sarda

## Problem



**Caring for a Newborn in the Neonatal Intensive Care Unit (NICU)**  
There are many devices a NICU may use to ensure that your newborn is healthy and growing.

**Nasal cannula**  
Provides pressure and oxygen to support breathing

**Feeding tube**  
Delivers breast milk, formula, and medicine

**Intravenous line**  
Provides medicine and fluids

**Pulse oximeter**  
Measures the amount of oxygen in the blood

**Cardiopulmonary monitor**  
Monitors heart rate and breathing rate

**Temperature probe**  
Helps warming bed regulate the baby's temperature

**Blood pressure monitor**  
Measures the baby's blood pressure

N. Reback

## Needs Statement

A device capable of securing a neonate's critical lines can facilitate **faster** baby transfers and **safer, more frequent** kangaroo care.

Stakeholder interviews with nurses, respiratory therapists and parents

2 UCSF NICU Visits + CAPE Simulation Lab at Stanford

## Key User Needs + Design Constraints

### How Might We...

- Secure lines **without touching the baby?**
- Secure the device to the **environment?**
- Enable **single-person transfer?**

## Brainstorming



## Prototyping PHASE 1