OstoPump: Ostomy system for enteral refeeding
Necrotizing Enterocolitis

- Necrotizing enterocolitis (NEC) disrupts the ability to absorb nutrients naturally due to necrotic bowel
- Approximately 3,500 infants undergo surgery for necrotizing enterocolitis in the US annually
- **Clinical Challenge:**
  - Intravenous (IV) feeding is standard of care while the bowels are healing from NEC surgery.
  - Prolonged IV feeding can result in:
    - More central catheter days and a longer hospital stay
    - Higher risk for acquired bloodstream infections
    - Delayed gut development

OstoPump

Solution: UVA researchers have developed an ostomy refeeding system, which allows infants to resume enteral (tube) feeding while recovering from necrotizing enterocolitis (NEC) surgery.

A distal anchoring system maintains proper positioning in the abdomen and a temporary external artificial intestine that connects the two ostomies to recycle nutrients.

Enteral feeding with OstoPump
- Reduces treatment costs associated with IV feeding
- Improves healing rate
- Leads to better patient outcomes
Ostopump: Anchoring cone prototype

• The novel anchoring cone design was tested in an *in vitro* intestine model and was found to
  – restrict backflow into the intestine
  – allow the bowel contents to collect within the funnel and slowly drain into the distal ostomy
Intellectual Property

UVA LVG Tech ID: **KANE2-OSTOPUMP** (2014-159)

- Title: Ostomy Pump System and Related Methods of Use and Manufacture
- US patent application no. US 14/743,484 filed June 18, 2015 (*Allowed*)