

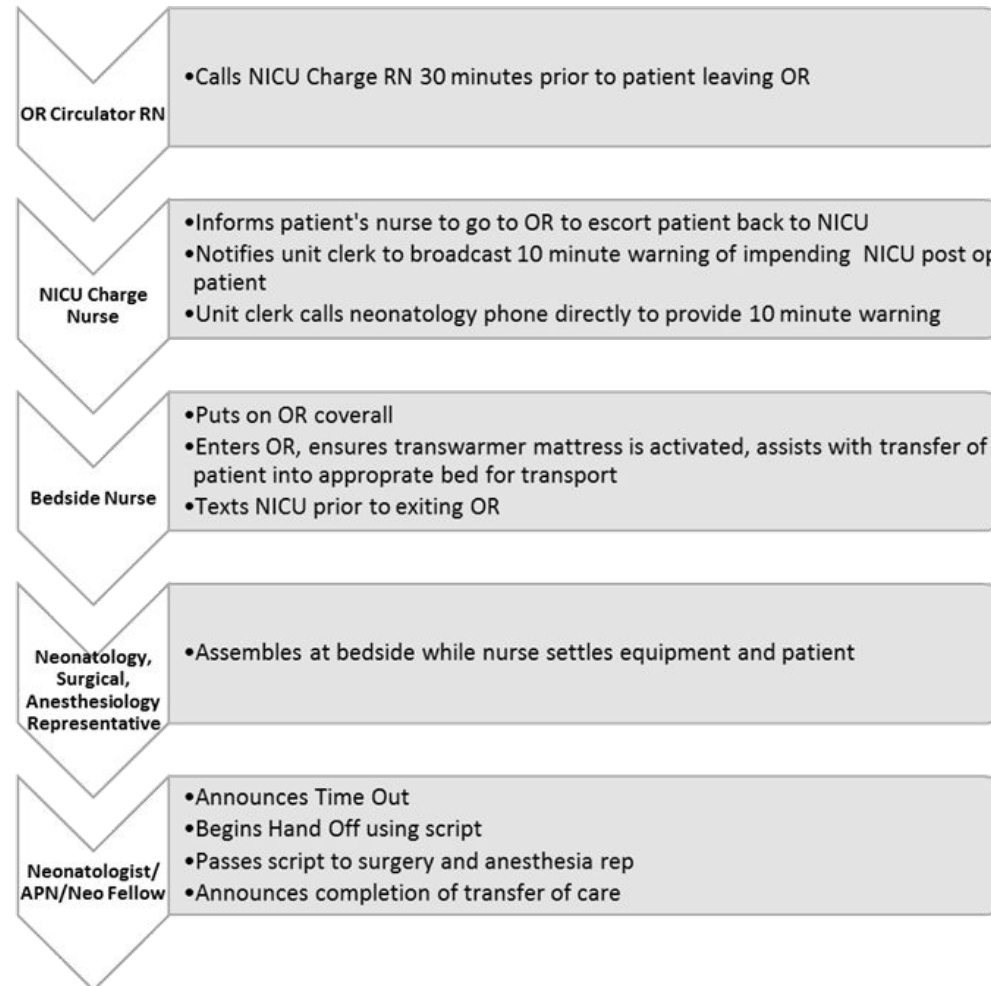
Hypothermia prevention and safe handoff protocols

Guidelines for heat loss prevention and temperature monitoring

Figure 1 Guidelines for preventing hypothermia and maintaining euthermia during the perioperative period as well as guidelines for standardizing temperature monitoring.

Guidelines for Heat-Loss Prevention during Transport during the Perioperative Period	Guidelines for Temperature Monitoring
<ol style="list-style-type: none">1. Establish euthermia prior to transport, to and from the OR<ol style="list-style-type: none">a. Patients should be euthermic (37° C) prior to transport to the operating room (and prior to surgical prep if procedure to be done in NICU).b. All infants should have a cap on their head prior to going to the operating room.c. Temperature probe should be placed in axillary position.d. If infant's temperature is less than 37° C at least 15 minutes prior to OR, place infant on transwarmer mattress for transport.e. All infants should be placed on transwarmer postoperatively for temperature < 39° C.2. Mandatory use of shuttle with incubator (Giraffe Bed) or radiant warmer (Panda) for transport to and from the operating room.<ol style="list-style-type: none">a. Patient temperatures should be monitored by infant servo control (ISC) during transport.b. NICU nurse will accompany all patients to and from the OR (must wear coverall)c. It is the responsibility of the NICU/OR nurse to ensure that shuttle is plugged in at all times during OR procedure to maintain environmental temperature of incubator and battery charge of shuttle.d. Patients admitted to the NICU directly from the OR should use the shuttle for post-operative transport.3. Use transporter as alternative mode of transport if shuttle unavailable.<ol style="list-style-type: none">a. Environmental temperature of transporter should be set to the same environmental temperature as the patient's bed in the NICU. Environmental temperature of transporter should be no lower than 30° C.b. Assure that equipment is plugged in and warmed prior to transport (per manufacturer specification)	<ol style="list-style-type: none">1. Standardized methods for temperature monitoring<ol style="list-style-type: none">a. Axillary temperature will be used pre-op and post-op in NICUb. Esophageal temperature or rectal temperature will be used intraoperatively for procedures in the OR.c. Rectal temperature will be used intraoperatively for procedures performed in the NICU2. Standardized frequency of monitoring during the peri-operative and operative period<ol style="list-style-type: none">a. Frequency of monitoring and documentation is recommended to be within 60 minutes of scheduled OR time and again within 15 minutes of departure to the OR (or per hospital routine).b. During the OR procedure, continuous temperature monitoring is recommended and documentation should be every 15 minutes (or per hospital routine).3. Documenting temperatures in NICU patients transported to and from the OR for this QI project include:<ol style="list-style-type: none">a. Prior to leaving NICU<ul style="list-style-type: none">• Axillary temperature within 60 minutes of scheduled OR time and again within 15 minutes of departure to OR.b. On arrival in OR<ul style="list-style-type: none">• Axillary or skin temperaturec. Prior to returning to NICU from OR<ul style="list-style-type: none">• Document last esophageal temperature when available AND• Axillary temperature after placement of infant into giraffe/panda/incubatord. On arrival in NICU<ul style="list-style-type: none">• Axillary temperature within 15 minutes upon arrival to NICU4. Documenting temperatures in patients undergoing surgery in the NICU for this QI project include:<ol style="list-style-type: none">a. Prior to arrival of surgical team (must be within 60 minutes and taken axillary)b. Immediately preceding surgical prep of patient (rectal)c. Document rectal temperature q 15 minutes during procedured. At time of break in surgical sterile field (axillary or skin)e. At time of post-op nursing assessment (axillary) within 30 minutes after drapes removed or completion of surgery.

Workflow diagram describing the ideal communication between the OR and NICU to facilitate an effective patient hand-off



Structured post-op handoff form

I	Neonatology: <ul style="list-style-type: none">• (Pause) Announcement that hand-off will begin. Have all participants sign Hand off audit tool.• Introduction of ALL team members: Minimum requirement to start Hand-off includes at least one informed representative from: Surgery, Anesthesia, Neonatology, and Neonatal nursing.• Introduce patient using Name, MRN and illness severity• Were there any obstacles to keeping the patient norm othermic?
P	Surgery: <ul style="list-style-type: none">• Brief history: diagnosis, surgical procedure• State name of intra-operative procedure completed and surgical findings (ie. Length of bowel removed/remaining, type of atresia, etc.)• Post-op antibiotics: Name and duration of treatment• Post-op labs and frequency• Drains/ lines/ tubes• Dressings and local used, any special instructions for wound care• Feeding plan• What are you most worried about for the next 24 hours?• Who should be contacted for questions?
A	Anesthesia: <ul style="list-style-type: none">• Current airway management:<ul style="list-style-type: none">• ETT size and depth• Ease of ventilation/ intubation and equipment used if difficult airway• Respiratory treatments, suctioning, last ABG and results• Blood loss• Urine output• Current fluid maintenance and volume delivered• Blood products administered including volume expanders• Current vascular and arterial access. New lines.• Meds delivered: Include antibiotics, pain meds and other meds. DOSE and TIME of last dose.• Pain management including regional• Intra-operative complications (i.e. Unplanned extubation, adverse events, code, temp instability)• Availability of additional blood products• Any outstanding antibiotics/ meds needing delivery• Ventilatory status if chemical paralysis remains present• Most recent and pending labs• What are you most worried about for the next 24 hours?
S	Neonatology: <ul style="list-style-type: none">• Synthesize pertinent events and plan of care• Allow opportunity for questions• Transfer Care to neonatology and NICU nurse• Announce Hand-off completed