

MEASUREMENT GRID

SOOTHE INITIATIVE



The SOOTHE initiative is focused on supporting hospitals and care teams in fostering a neuroprotective NICU culture by training staff and providers, engaging families, optimizing developmentally appropriate sensory care, and minimizing unnecessary interventions to promote a nurturing environment for infants.

Main Aim

By 6/2027, 80% of participating NICUs will implement at least 1 evidence-based strategy from each of these sensory domains (sight, sound, touch, and taste/smell) to improve the sensory environment AND achieve a 20% increase in families educated on recognizing and responding to infant stress cues

Data submission

1. **Monthly (patient-level):** demographics/core neuroprotective care practices/referrals for up to 20 infants—5 per birth-weight category:
a) ≥ 2500 g · b) 1500–2499 g · c) 750–1499 g · d) < 750 g.
 - If a category has < 5 infants in a month, report all available.
 - At start, hospitals may opt not to report very low-volume categories (less than 5 infants per quarter in the category) for QI tracking.

Inclusion. All NICU admissions with minimum 7-day stay.

Exclusion. Infants who die.

2. **Quarterly (hospital-level):** policies/procedures/guidelines that support implementation; average unit sound-level spot checks; staff education/training.

The measures listed in this document will be calculated and reported monthly to participating hospitals in a quality improvement data report so that facilities can track their progress. Key monthly measures will be disaggregated by the primary caregiver's race-ethnicity and language, infant insurance type, and birth weight. These data measures may be subject to change during the initiative as needed for QI purposes.

PROCESS MEASURES – PATIENT LEVEL: Abstract Monthly from Patient Records

	Potentially Better Practice	Measure / Description
SENSORY	Implement mouth care with expressed BM to include oral swabs and milk drops	Measure: Percentage of infants that received oral care in the first 3 days of life (DOL) that were also provided breastmilk drops
	Support early skin to skin care to facilitate exposure to parental scent and taste cues	Measure: Percentage of infants who received SSC by family caregiver by DOL 7
	Promote midline flexion with 360-degree containment to mimic in utero positioning and allow for appropriate movement	Measure: Percentage of patients with documented use of a validated positioning assessment tool (e.g. IPAT) at any time of their stay
NOXIOUS STIMULI	Recognizing stress cues	Measure: Percentage of parents who received training on recognizing infant stress cues and who demonstrated the ability to recognize these cues. Documentation: Record the date when the parent demonstrated the ability to recognize stress cues. Demonstration can be observed during any care activity (e.g., before, during, or after procedures, feeding, or diaper changes)
	Implement evidence-based skin assessment and management protocols	Measure: Percentage of infants who maintain intact skin with no documented injuries such as pressure injuries, Medical Adhesive-Related Skin Injury (MARSI), CPAP-related injuries, or other non-surgical open wounds (excluding diaper dermatitis) throughout their NICU stay Each condition will be reported separately and as a combined measure
		Measure: Average number of laboratory test results per infant during the first 7 days of life (DOL). Calculated by dividing the total number of laboratory test results obtained during DOL 1–7 for all infants in the monthly sample by the total number of infants in that sample Documentation:

	Decrease number of laboratory tests in the first 7 days of life	Report the total number of test results documented for each qualifying infant in your monthly sample. Please take the following into consideration: • Count all lab results, even if drawn from the same specimen at the same time. • Panels (e.g., BMP, CMP) count as one result per panel, not per component. • If multiple different panels are performed from the same draw (e.g., CBC and blood gas), count each panel separately. • Include results with any of the following statuses: hemolyzed, clotted, insufficient specimen / QNS, unable to analyze, or other “no result” statuses. • If a test is repeated (valid or invalid), each occurrence counts as a separate result. Where to tally: count lab results from the Review Summary tab using your EHR’s built-in lab groupings. Record the Total count, then counts for Chemistry, Blood Gases, Hematology, and Coagulation. Duplicates across groups: If the same test result appears in more than one group (e.g., a coagulation result listed under Chemistry and under Coagulation), count it once with Chemistry. Be consistent: Pick a method and use it throughout the initiative. Consistency is important.
POSITIVE INTERACTIONS	Respond with intentional touch	Measure: Percentage of parents who received training on providing intentional, positive touch, with emphasis on responding to infant stress cues, and who demonstrated the ability to respond appropriately. Documentation: Record the date when the parent demonstrated the ability to respond with intentional, positive touch. This demonstration may be observed during any care activity (e.g., before, during, or after procedures, feeding, or diaper changes). Examples of intentional, positive touch include hand hugs, containment holding, facilitated tucks, midline flexion support (helping the infant bring hands toward the mouth for self-soothing), etc.
	Promote first oral feeding experience with parent or family member	Measure: Percentage of infants who received their first oral feeding experience from a parent/family member

Therapist or staff provides education to families on neurodevelopmental appropriate care, including setting sensory/touch goals and anticipatory guidelines	Measure: Percentage of patients whose parent/family caregiver met with a therapist or staff member to receive education on neurodevelopmentally appropriate care. Education should include: 1. Setting individualized sensory/touch goals; 2. Provide anticipatory guidelines using structured tools (e.g., SENSE Program, Discharge Parent Pass)
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Hospital Level – Quarterly Reporting

Staff education on SOOTHE topics	Data for each training topic will be collected individually. Percentages for physicians/advanced providers, nurses, and therapists should be recorded separately. Percentage of physicians/advanced providers, nurses, and therapists trained on: A. Developmentally appropriate care practices ○ Environmental noise in the NICU ○ Midline flexion with 360-degree containment (including positioning guidelines, use of a validated positioning tool such as IPAT, observation, and supervised practice) ○ Safe sleep modeling (e.g., “Clear the Crib” practice) ○ Developmentally supportive infant handling and transfers (simulation, bedside observation, direct assistance), including the “two-person care” or “four-handed care” framework B. Minimizing stress or pain ○ Unit’s central line use and guideline ○ Stress cue recognition and setting intention before physical contact (clear purpose, pre-arranging supplies, clustering care) ○ Pain recognition using a standardized pain management scale NOTE: Count as “trained in a group” (A or B) only if all topics in that group are completed. How to tally: attendance records from rooster, course completion reports from the education platform and/or counts from attestation tallies confirming staff participation.
Educational Materials on reducing environmental noise	Measure: Environmental noise education materials available to staff and families (Y/N). Include: 1. The impact of environmental noise on infant development; 2. The purpose and expectations of quiet time in the NICU; 3. Recommended noise thresholds; 4. A QR code linking to the NIOSH Sound Level Meter app for awareness; 5. Unit’s Quiet-Time schedule

Implement scheduled quiet time	Measure: Monthly average sound level (in decibels) during daily spot checks conducted within the 2-hour quiet time – once on day shift and once on night shift. Unit keeps daily “Quiet Time” log with start time, end time, record spot check of noise during quiet times (LAeq if using NIOSH app)
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Hospitals need to implement and/or reinforce key processes, guidelines, policies, and resources to support the SOOTHE initiative. Quarterly, hospitals will report the current implementation status of the structural measures listed below until full implementation is achieved.

Report as follows:

- **Not started**
- **Planning**
- **Started Implementing** - started implementation in the last 3 months
- **Implemented** - less than 80% compliance after at least 3 months of Implementation (Not routine practice)
- **Fully Implemented** - at least 80% compliance after at least 3 months of Implementation (Routine practice)

Sensory Domain	STRUCTURAL MEASURES	
Hearing	S1	Reading program to promote a language-rich environment through shared reading (books and tools available) and engaging families in early communication with the infant
Hearing	S2	Policy, procedure or guideline for routine use of evidence-based calming sounds (e.g., white noise, lullabies, or recorded parent voice) within recommended noise limits (≤ 45 dBA), and an audio device available to support this practice.
Sight	S3	Policy, procedure or guideline for lighting that includes gestational age-appropriate dimming, light cycling for infants 32 weeks gestation and older, and special population guidance (e.g. post eye exam, procedures, Golden Hour, birthing room and transition to NICU, ELBW)
Taste/Smell	S4	Scent cloth program to promote soothing smell and parent-infant bonding. Include: 1. Clean scent cloths are available for families. 2. Staff and caregivers receive guidance on safe use. 3. Program is included in unit policies or care routines.
Taste/Smell	S5	Policy, procedure or guideline to reduce negative taste and smell experiences, including use of unscented products for premature infants and annual inventory and monitoring strategy to assess scented product use in the NICU, including perfumes used by staff.
Touch	S6	Policy, procedure or guideline on optimizing central line use, including the maximum number of IV placement attempts by a single clinician and the use of a specialized team for central line placement.
Touch	S7	Policy, procedure or guideline for pre- and post-procedural pain management, including pharmacologic and non-pharmacologic comfort measures.

N/A	S8	Policy, procedure or guideline for conducting and documenting procedure time-outs or huddles prior to invasive procedures, integrated into the chart or flowsheet.
Touch	S9	Policy, procedure or guideline to avoid duplicate or redundant tests
Touch	S10	Policy, procedure or guideline on parents holding the infant during and after enteral feedings once infant becomes eligible
N/A	S11	Implemented a policy, guideline, or procedure on modeling safe sleep prior to discharge (e.g. "clear the club")?
N/A	S12	Engaging patient advisor with QI team