

Parent Administered Sensorimotor Intervention Protocol

Sandra Fucile, PhD, OTR, Laurie Snider, Karel O'Brien, Lorraine Smith, and Kimberly Dow

Objective: To evaluate the effect of a parent-administered sensorimotor intervention (PASI) program on developmental outcomes of infants born preterm during their stay in the neonatal intensive care unit (NICU).

Study Design: A randomized block clinical trial ([ClinicalTrials.gov](https://clinicaltrials.gov/ct2/show/study/NCT03836326) No. NCT03836326) was conducted in a level II and III NICU at Kingston Health Science Centre, a tertiary care hospital in Canada, from December 2019 to January 2022. A randomized block design of four per arm by group was selected because the treatment assignment cannot be masked, and thus it reduced the potential for contamination between groups.

Results: A total of 80 infants completed the study. Infants in the experimental group achieved complete oral feeds sooner (11.9 [SD 4.3] vs 15.3 [SD 6.5] days, $p = 0.013$), and a greater number of them received direct breastfeeds (22 vs 12, $p = 0.010$) than controls. Infants in both groups had equivalent motor functions scores on the TIMP (46.9 [SD 4.8], 46.8 [SD 8.4], $p = 0.961$).

Conclusion: This randomized clinical study suggests that a PASI program enhances the oral feeding skills of an infant born preterm. This study provides evidence to further advocate for the institution of these critical early parent-administered interventions in NICUs.

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Instructions

1. Program can commence once baby can breathe without respiratory assistance and can tolerate complete feeds.
2. Program is 15 minutes in duration.
3. Administer program once a day for 10 days.
4. To stroke your baby, use the pad of your finger to provide a firm touch.
5. Stop the program if baby is exhibiting stress signs such as tachycardia, bradycardia, tachypnea, stiffening of the limbs, and back, drops in oxygen levels, grimacing, yawning, sneezing, crying, hiccuping, looking away, and closing eyes.
6. Infant should be in quiet alert.

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Table 1. PASI Program Steps

Steps	Instructions	Time
Preparing Baby	<ul style="list-style-type: none"> • Unwrap baby if in a blanket, but leave clothes on • Place baby on his/her back • Cup hands over baby's head and legs 	1 minute
Chest	<ul style="list-style-type: none"> • Place finger at side of neck • Move finger down side of chest to the waist • Repeat on other side 	6 strokes per side
Arms	<ul style="list-style-type: none"> • Place finger at the shoulder • Move finger down arm toward hand • Repeat on other side 	6 strokes per side
Legs	<ul style="list-style-type: none"> • Place finger at the hip • Move finger down leg toward foot • Repeat on other side 	6 strokes per side
Cheek	<ul style="list-style-type: none"> • Place finger at the base of the ear • Move finger down toward the corner of the lip • Repeat on other side 	6 strokes per side
Lips	<ul style="list-style-type: none"> • Place finger at the upper lip corner • Move fingers toward the other corner of the lip • Repeat on lower lip 	6 strokes per side
Sucks	<ul style="list-style-type: none"> • Place pacifier at the centre of the tongue • Gently stroke the tongue to start a suck 	5 minutes
Resting Baby	<ul style="list-style-type: none"> • Cup hands over baby's head and leg 	1 minute