

# Infant Massage as a Stress Management Technique for Parents of Extremely Preterm Infants

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## Introduction/Purpose

Parents of extremely preterm infants experience increased stress and anxiety as a result of their child’s condition.<sup>1,2</sup> This negatively influences long-term development and behavior in these infants.<sup>3-5</sup>

Research has indicated that mothers self report improved psychological variables after being taught to massage their infants.<sup>6-10</sup> In addition, improved developmental outcomes are noted for infants, and parent-infant attachment is improved.<sup>11,12</sup>

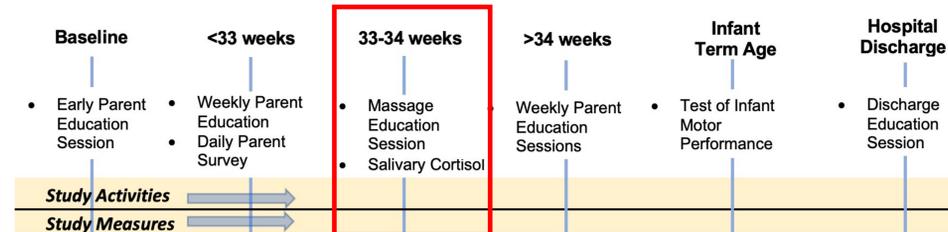
The purpose of this study was to use salivary cortisol to obtain a biological marker to assess change in stress levels in mothers of extremely preterm infants after participating in a session of infant massage.

## Methods

This data was collected as part of the TEMPO Study, which was a prospective single group, non-randomized study in the Neonatal Critical Care Center at UNC Children’s Hospital.

Physical and occupational therapists led this intervention and monitored vitals to ensure safety while teaching parents to perform infant massage on their babies in accordance with the White-Traut ATVV protocol.<sup>12</sup>

Salivary cortisol samples were collected via buccal swab from both the parent and infant immediately before and after the intervention at the second massage education session.



## Results

32 parent-infant dyads were enrolled in this study. Due to one parent absence, one declining to be tested, transfers to other hospitals, and infant death, 22 parent-infant dyads completed the study.

The cortisol test used in this study could not detect values <50 ng/dL, so parents with both pre- and post-infant massage cortisol levels <50 ng/dL were excluded from the final results. Among the remaining 16 samples, the average percent change was 20.1%, and this change was statistically significant.

<b>N</b>	16
<b>Average Change</b>	-26.47 ng/dL
<b>Standard Error</b>	10.29 ng/dL
<b>Standard Deviation</b>	39.84 ng/dL
<b>Range of Change</b>	-108 to + 55 ng/dL
<b>Confidence Interval</b>	(4.40, 48.53)
<b>p-value</b>	.016

## Conclusions

This study demonstrated a clinically significant change in salivary cortisol levels among mothers of extremely preterm infants upon completion of one session of infant massage.<sup>13</sup> Infant massage should be integrated into care models in neonatal intensive care units as it has been shown to be safe for use in extremely preterm infants and demonstrates potential for stress reduction in their parents, which could have short- and long-term benefits.

Further research is needed to establish long-term benefits associated with completing infant massage and to correlate this biological change with clinical symptoms of stress. Additionally, future research should investigate salivary cortisol levels in infants as we were unable to assess this in this study.

## References

Scan the QR code for a list of references:



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