



Abstract PO-0459 Figure 1

**Conclusions** Neurodevelopment at preschool age is better for VPT children with normal SP and Gaze at 4 months. The effect of subnormal Gaze seems more pervasive, indicating head movements to compensate effectively for poor SP.

**PO-0458 FULL-TERM NEWBORNS DETECT MATERNAL BREAST ODOURS AT A CORTICAL LEVEL: A MULTICHANNEL NIRS STUDY**

J Frie, P Kuhn, M Bartocci, H Lagercrantz. *Department of Women's and Children's Health, Karolinska Institutet, Stockholm, Sweden*

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**Background and aims** Behavioural and physiological changes have been recorded in newborns following exposure to maternal odours. We aimed to investigate the cortical activation following the presentation of maternal breast odours (MBO).

**Methods** We used a multichannel NIRS device to record bilaterally cortical activation in the orbito-frontal gyri (OFG), prefrontal (PFC) and primary somatosensory (S1) cortices during 50 s (10 s baseline, 10 s presentation, 30 s post-stimuli). Odours were presented in controlled conditions (silent room, active sleep, randomised order) using cotton cloths: clean (CC) and worn by the mother in her bra during preceding 12 h (MBO). Seventeen full-term infants were included. After systematic artefact removal HbO<sub>2</sub> changes from baseline and between odours were compared using ANOVA and post-hoc analysis.

**Results** We found no S1 activation following any odour. MBO (and not CC) induced an increase bilaterally in the OFG ( $p > 0,001$ ).

MBO as compared to CC elicited a higher increase ( $p < 0,05$ ) in the OFG bilaterally and in the left PFC.

The mean increase of HbO<sub>2</sub> from baseline during the 30 s post stimuli were higher in MBO as compared to CC:

- 3,3 (0,7–5,9)  $\mu\text{mol/l}$  vs 0,8 (-1,4–3,0)  $\mu\text{mol/l}$  in the left OFG.
- 2,4 (-0,3–5,2)  $\mu\text{mol/l}$  vs 1,1 (-1,2–3,4)  $\mu\text{mol/l}$  in the right OFG.

**Conclusions** Newborn infants can detect their MBO at a cortical level and discriminate it from a control smell. As MBO is used in the NICU it is of great interest to further investigate how hospitalised infants react cortically to MBO.

**PO-0459 FAT MASS(FM) AND FAT FREE MASS(FFM) INDICES IN PRETERM AND TERM INFANTS DURING FIRST 6 MONTHS OF LIFE**

I Goswami, N Rochow, G Fusch, C Fusch. *Pediatrics, McMaster University, Hamilton, Canada*

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**Background** The development of normative reference Body Composition (BC) data in infancy, is an important step towards evaluation of postnatal growth in clinical practice. Weight gain fails to differentiate lean body mass (constitution) from fat mass (nutrition). Percentile ranks and length normalised indices of