Background and aims The optimal target range for pulse oximeter saturation (SpO$_2$) in extremely preterm infants is unknown. BOOST-II UK is one of 5 international studies that have recently investigated this.

Methods Preterm infants born before 28 weeks’ gestation were randomised within 24 h of birth to an SpO$_2$ target range of 85–89% or 91–95%. The intervention used masked off-set oximeters and was continued until 36 weeks gestation. The primary outcome was a composite of death or serious neurosensory disability (SND) in survivors at age 2 corrected for prematurity, evaluated in 745 infants cared for using updated trial oximeters. A sensitivity analysis restricted to infants assessed by a Bayley III examination and a secondary analysis including a further 228 infants who were studied before the oximeters were updated were also performed.

Results The primary outcome was determined for 722 (96.9%) of infants.

The sensitivity analysis showed similar results. In the secondary analysis the mortality difference was 4.9% (p = 0.05). Severe visual loss did not differ between groups.

Conclusions The higher SpO$_2$ target group had 8.5% greater survival with no increase in serious neurosensory disability. For infants born before 28 weeks’ gestation, SpO$_2$ targets below 90% are not recommended.

**Abstract O-007 Table 1** Cognitive and motor outcomes at 18 months

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Intensive Treatment</th>
<th>Expectant Monitoring</th>
<th>Mean Difference (95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSID-Cognitive (10 months)</td>
<td>103.6 ± 10.9</td>
<td>104.6 ± 11.4</td>
<td>1.0 (0.8;1.2)</td>
</tr>
<tr>
<td>BSID-Motor (10 months)</td>
<td>101.8 ± 10.6</td>
<td>101.6 ± 11.7</td>
<td>0.2 (-0.2;+1.6)</td>
</tr>
</tbody>
</table>

The plasma glucose concentration was higher in the intensive treatment group: +0.24 mmol/l (+0.31;+0.16). Hypoglycemia episodes (after randomization) occurred more frequently in the expectant monitoring group (70% vs. 57%, p < 0.001). More infants in the intensive treatment group received additional feeding (94% vs. 76%), tube-feeding (12% vs. 4%) and/or intravenous glucose (20% vs. 6%) (all: p < 0.001). Conclusion An expectant monitoring strategy is not inferior to intensive treatment with regard to developmental outcome at 18 months in otherwise healthy newborn infants ≥35 weeks and ≥2000 gram with moderate hypoglycemia.

**Abstract O-008**

**EARLY BIFIDOBACTERIUM BREVE BBG-001 TO PREVENT NECROTISING ENTEROCOLITIS, LATE-ONSET SEPSIS AND DEATH: THE PIPS TRIAL**

<table>
<thead>
<tr>
<th>Institution</th>
<th>Department</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of London</td>
<td>London, UK</td>
<td>UK</td>
</tr>
<tr>
<td>Barts Health NHS Trust</td>
<td>London, UK</td>
<td>UK</td>
</tr>
<tr>
<td>National Perinatal Epidemiology Unit</td>
<td>University of Oxford, Oxford, UK</td>
<td>UK</td>
</tr>
</tbody>
</table>

Background Interpretation of published trials of probiotics in preterm infants is complicated by the use of multiple bacterial strains and exclusion from some trials of babies at high-risk of complications.

Methods Multi-centre double blind Randomised Placebo Controlled Trial of Bifidobacterium breve BBG-001, 2.1 to 5.3 × 10^8 cfu daily, (B breve) in infants below 31w gestation randomised before 48h. Primary outcomes were necrotising enterocolitis (NEC) Bell stage 2, late onset sepsis (LOS) and death. Results are presented by intention to treat adjusted for sex, gestation and randomisation within 24 h and allowing for clustering of multiples.
Results 1310 infants were randomised, median gestation 28.0 weeks; median birthweight 1010g and median age starting the intervention 44 h. No adverse events related to the intervention were reported.

Conclusions This intervention was not associated with any advantage in this population of babies. This result highlights the need to assess the efficacy of different probiotic strains and challenges the validity of combining trials using different probiotic interventions in meta-analyses.

**Background**

Cross-sectional analyses at 6, 12, 24 months and 5.5 years, revealed positive intervention effects on child development in VLBW infants who were supported by the Infant Behavioural Assessment and Intervention Program® (IBAIP) as comparing to standard follow-up care. Longitudinal effects were not analysed yet.

**AIM**

To investigate the longitudinal effects of the IBAIP in VLBW infants on cognitive and motor development.

**Methods**

In a RCT, 86 VLBW infants received the IBAIP until 6 months CA, 90 VLBW infants received standard care. At 6, 12, and 24 months CA, cognitive and motor development were assessed with the Bayley Scales of Infant Development. At 5.5 years CA the Wechsler Preschool and Primary Scale of Intelligence and the Movement Assessment Battery for Children were used. Longitudinal data were analysed with linear mixed models in total group and three subgroups, using Z-scores generated from raw cognitive and motor scores.

**Results**

A significant intervention effect (0.4SD) on motor development was found (p = 0.006). On cognitive development, a non-significant intervention effect over time was found (p = 0.063). In children with bronchopulmonary dysplasia (BPD) significant intervention effects were found for both cognitive (effect=0.75SD; p = 0.019) and motor (effect=0.95SD; p = 0.026) outcome. Maternal education hardly influenced intervention effects over time, but in children with combined biological and social risks a longitudinal intervention effect of 0.8SD was found on cognitive development (p = 0.044).

**Conclusion**

The IBAIP leads to improved motor development in VLBW infants, and in infants with BPD also to improved cognitive development, over a five years period after the intervention.