

Online supplementary table 5. Univariable and multivariable generalised linear mixed models for the associations between neonatal hyperglycaemia (>12 and >14 mmol/L) and Wechsler Intelligence Scale for Children IV (WISC-IV) score at 6.5 years of age in children born extremely preterm.

| Hyperglycaemia definition | Mean WISC-IV score | | Univariable | | Multivariable | | |
|---------------------------|---|--------------------|------------------------------------|-------------------------|------------------------------------|------------------------|-------|
| | No hyperglycaemia (n) | Hyperglycaemia (n) | Difference in mean scores (95% CI) | P value | Difference in mean scores (95% CI) | P value | |
| >12 mmol/L | at least once | 86.03 (177) | 81.98 (178) | -4.05 (-7.04 to -1.06) | 0.008 | -1.07 (-4.10 to 1.96) | 0.487 |
| | on ≥ 2 consecutive days | 85.24 (262) | 80.50 (93) | -4.74 (-8.17 to -1.32) | 0.007 | -1.43 (-4.87 to 2.02) | 0.417 |
| | on ≥ 3 consecutive days | 84.78 (314) | 78.12 (41) | -6.66 (-11.21 to -2.11) | 0.004 | -2.07 (-6.57 to 2.44) | 0.368 |
| | Days with hyperglycaemia (per 1 day increase) | - | - | -0.78 (-1.24 to -0.32) | 0.001 | -0.22 (-0.72 to 0.28) | 0.383 |
| >14 mmol/L | at least once | 86.14 (222) | 80.45 (133) | -5.70 (-8.74 to -2.65) | <0.001 | -2.88 (-5.97 to 0.20) | 0.067 |
| | on ≥ 2 consecutive days | 84.91 (299) | 79.12 (56) | -5.79 (-9.76 to -1.82) | 0.004 | -1.41 (-5.37 to 2.56) | 0.486 |
| | on ≥ 3 consecutive days | 84.45 (334) | 76.85 (21) | -7.60 (-13.81 to -1.40) | 0.017 | -4.13 (-10.21 to 1.96) | 0.183 |

| Hyperglycaemia definition | Mean WISC-IV score | | Univariable | Multivariable | | |
|---|-----------------------|--------------------|------------------------------------|---------------|------------------------------------|---------|
| | No hyperglycaemia (n) | Hyperglycaemia (n) | Difference in mean scores (95% CI) | P value | Difference in mean scores (95% CI) | P value |
| Days with hyperglycaemia (per 1 day increase) | - | - | -1.00 (-1.63 to -0.37) | 0.002 | -0.40 (-1.05 to 0.24) | 0.222 |

A random intercept was used to account for the clustering effect of twins/triplets. Adjusted for gestational age at birth, sex, occurrence of intraventricular haemorrhage grade 3-4 and/or periventricular leukomalacia, durations of mechanical ventilation and steroid treatments during the first 14 postnatal days, surgery due to patent ductus arteriosus or necrotising enterocolitis during the first 14 postnatal days, number of culture-verified sepsis episodes during the first 14 postnatal days, and educational status of the mother.