Background and Aims Preterm birth is associated with raised blood pressure (BP) and other features of the metabolic syndrome in later life, but effect sizes and biological mechanisms are unknown. We conducted a meta-analysis to address these associations in adult life.

Methods We performed a systematic review and meta-analysis of studies in which metabolic syndrome associated indices were compared in adults (∼18 years of age) born preterm (<37 weeks gestation) and at term (37–42 weeks gestation). Outcome measures included; systolic blood pressure (SBP), diastolic blood pressure (DBP), BMI, percentage fat mass and fasting plasma levels of lipids, glucose and insulin.

Results Data from 27 studies and 306,123 adults (16,994 preterm, 290,029 term) were included, with an average outcome age of 26.1 years. In adults, preterm compared with full-term birth was associated with significantly higher SBP (mean difference [95% confidence interval]: 4.2mmHg [2.7, 5.7], p < 0.001) and lower density lipoprotein (LDL) (0.14mmol/L [0.05, 0.22], p = 0.01). Meta-regression revealed a significant gender effect, with 3.0mmHg greater SBP in preterm compared to term women (rho = 0.424, p = 0.001). Blood pressure (BP) and other features of the metabolic syndrome in adult life. Women born preterm appear to be at greater risk than men born preterm. Follow-up of older subjects born preterm will be required to determine if the effects we observe are exacerbated by age.

Conclusions Preterm compared to term birth, is associated with higher blood pressure and LDL in adult life. Women born preterm appear to be at greater risk than men born preterm. Follow-up of older subjects born preterm will be required to determine if the effects we observe are exacerbated by age.

Conclusion Both IGF2 and GRB10 are imprinted in the placenta and impact on fetal and placental growth. IGF2 is paternally imprinted and increased expression is implicated in overgrowth disorders; in contrast, GRB10 is maternally imprinted in trophoblasts and disruption in mice leads to overgrowth. Additionally, GRB10 has recently been identified as having a role in insulin signaling. As genomic imprinting is under epigenetic regulation, these targets are strong candidates for exploration of environmentally influenced non-Mendelian effects on fetal size and developmental programming.

Introduction Albumin is one of the most important proteins in plasma and plays a key role in physiological processes like preservation of colloid osmotic pressure and binding of bilirubin and drugs. However, albumin concentrations are often low during the first days of life in preterm infants. We hypothesized that early parenteral lipid and high dose amino acid (AA) administration from birth onwards to very low birth weight (VLBW) infants increases hepatic albumin synthesis rates and albumin concentration.

Methods Inborn VLBW infants were randomized to one of three different parenteral nutritional regimens within 48hrs after birth