Behavioural effects of placental restriction, neonatal growth and dietary methyl supplementation

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Poor growth before birth (IUGR) is associated with decreased cognitive function in human children, as well as increased risk of metabolic disease in later life. These growth-restricted babies also characteristically have accelerated neonatal growth rates (neonatal catch-up growth). Rapid neonatal catch-up growth is independently associated with metabolic disease and obesity in later life, but positively predicts improved neurological development and survival. Using an ovine model of poor growth before birth, which produces similar adverse metabolic consequences as human IUGR, we wish to test whether neonatal interventions that improve insulin secretion, but which slow neonatal growth, have any impact on behaviour in early postnatal life. The Honours student will gain skills in animal handling including measures of behaviour and use of behavioural analysis software, data analysis, written and oral presentation skills.