Background and Aims A recent RCT suggested improved neurological outcome at discharge for moderate to severe perinatal asphyxia babies given iv magnesium sulphate. However, this trial was performed in babies who were not cooled.

Methods We present a pilot case series of 3 patients with moderate to severe HIE who satisfied the criteria for cooling and received both cooling and iv magnesium sulphate loading of 200mg/kg. Serum Magnesium levels were monitored at 0, 12, 24, 48, 72 hours of cooling.

The babies were reviewed for adverse effects of magnesium sulphate in terms of hypotension, arrhythmia, feed intolerance, respiratory depression and hypocalcemia.

Results One patient received systemic cooling and two other patients received selective head cooling. In addition to iv magnesium sulphate loading, decision was made to institute continuous infusion of iv magnesium sulphate in one of these patients for 4 days at 20–40 mg/kg/h for PPHN. All babies achieved serum magnesium levels of >1.2 mmol/l within 24h of the loading dose, which was similar to the level aimed for in the previous RCT.

Magnesium sulphate was well tolerated with only mild hypotension requiring one day of dopamine (max 5 mcg/kg/min) in one patient. No babies had respiratory depression, arrhythmia, feed intolerance or hypocalcemia. Neurodevelopmental outcome to date is also presented.

Conclusions Magnesium sulphate is well tolerated in babies with moderate to severe HIE in the cooling era. A large RCT is required to assess its efficacy, long term impact and further look into adverse effects.

Aims We have safely established an in-house cooling service: a first published article on October 30, 2012. Downloaded from http://adc.bmj.com/ Arch Dis Child: first published as 10.1136/archdischild-2012-302724.1111 on 1 October 2012. Downloaded from http://adc.bmj.com/