

Fig. 37.

Background

Neonatal circulatory failure is a unique condition which can affect up to 50% of all infants admitted to NICU.^{1,2} It is a state of low blood flow in babies and can lead to problems such as brain bleeds or gut problems in preterm babies. In the long term it can affect a child's development and lead to cerebral palsy a condition that has a great impact on patients, their families and society.^{1,2} Many of the treatments involve medications, but there is a lack of research in the treatment of this condition. In fact around 70-80% of drugs used in the neonatal population are unlicensed.³ This is an under-researched area within the field of neonatology with a number of unanswered questions. The **NEO-Circ** and the **Neo-Adapt** projects aim to answer some of these dilemmas though-

- Developing an evidence based definition of circulatory failure
- Researching novel and non-invasive ways of monitoring an infant's cardiovascular health^{4,5}
- Developing a licensed neonatal formulation of dobutamine⁶. Evidence indicates that dobutamine may improve long term outcome in infants with circulatory failure as well as other parameters such as gut blood flow.^{7,8,9}

The **NEO-Circ** and the **Neo-Adapt** Projects

NEO-Circ 1- Looking at how babies process the medication dobutamine

NEO-Circ 3- A large randomised controlled trial looking at the use of dobutamine in neonatal circulatory failure

NEO-Circ 4- A summary publication of all the studies looking at the use of dobutamine in neonates and children

NEO-Adapt 1, 2 & 3- Small studies based on the Trevor Mann Baby Unit exploring new ways of monitoring the cardiovascular health in neonates aged older than 33 weeks gestational age who are well, receiving intensive care and therapeutic total body cooling.

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- 2013-2016 PhD studentship £ 125198 (Partly funded by a FP7 grant & by the Rockinghorse Appeal)



NEO-Circulation Consortium

The consortium includes international experts from 8 countries in neonatal medicine, pharmacology, pharmacogenomics, drug formulation and pre-clinical neonatal models and an experienced group of experienced multicentre clinical trials neonatal units.



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