



RACP Foundation Research Awards

FINAL REPORT

Project / Program Title		NeoBolus – Fluid bolus therapy in neonates: A multi-centre, prospective cross-sectional study
Name		Dr Amy Keir
Award Received		2015 Eric Burnard Fellowship
Report Date		27 August 2018
Funding Period	Start Date:	1 January 2018
	Finish Date:	31 August 2018

PROJECT SUMMARY

Sick newborn babies are sometimes given extra fluids with the goal to help support their blood pressure and circulation. This extra fluid is given straight into a vein and is called a “fluid bolus.” Our international study set out to find out the how, what, when and why clinicians around the world are giving babies fluid boluses. We wanted to find this out to understand how this therapy is used across the world, to identify whether further research is required to align or update clinical management protocols.

We found that between 1 and 2% of babies in neonatal units were given a fluid bolus. The types of fluids, amount given and the time taken to give the fluid, as well as the specific reasons it was given, varied between units.

In summary, our study showed clinicians are doing different things with fluid boluses in different units with babies with similar problems. When practices are different like this, it usually means clinicians are not quite sure what the right thing to do is and that a clinical trial is needed to provide the answer. Finding this out strengthens our argument that a clinical study in this area is needed and provides us with the data to better design one.

PROJECT AIMS / OBJECTIVES

The NeoBolus Study represents an international research collaboration targeting important clinical questions with the aim to ultimately improve the care of all infants admitted to intensive care units around the world.

Our research project has allowed for a better understanding of what fluids and why are being given to unwell infants. The project will collect information about the types of infants being given fluid therapy to help with their blood pressure or other circulation problems to allow us to better understanding why this treatment is being given and what effects, good or bad, it might have. It is important to find out basic information about current clinical practice to help us better understanding how to help unwell infants in the future.

The ultimate aim of the NeoBolus Study was to gather important clinical information to provide accurate and up-to-date information to help guide the development of clinical trials in the future to improve outcomes for these vulnerable infants.

SIGNIFICANCE AND OUTCOMES

Our study suggests fluid bolus therapy remains a practice in preterm and term infants in neonatal units in highly resourced countries. The most common type of fluid used is 0.9% sodium chloride at 10mL/kg over 30 minutes.

The most common indications for fluid bolus therapy in neonates are low blood pressure, decreased perfusion on clinical assessment and a metabolic acidosis.

Current clinical trials in this area are focusing on the use of inotropes; however, fluid bolus therapy also warrants closer examination. This study provides key data to develop interventional trials.

PUBLICATIONS / PRESENTATIONS

The results of the NeoBolus study were presented at the Perinatal Society of Australia and New Zealand Annual Congress in New Zealand in 2018. It was also presented at the Pediatric Academic Societies 2018 Meeting in Toronto, Canada.

Both of these presentations allowed me the opportunity to meet with the various site investigators involved with the study and strengthen the research links built through undertaking this work.

The full paper is currently under review for publication in a peer-reviewed biomedical journal