STUDY UPDATE FOR PARENTS: 5 May 2013

The BOOST II study – improved survival with higher oxygen saturation targeting

Thank you for taking part in the BOOST II study. The results when the babies left hospital will be published shortly. The results when all the babies have reached two years old are still to come.

What was BOOST II trying to find out?

- Doctors and nurses worldwide gave preterm babies being nursed with oxygen enough to keep their blood oxygen saturation between 85% and 95%. That was the normal range worldwide.

- BOOST II aimed to find out if targeting the higher (91‐95%) or lower (85‐89%) part of the normal range was better long term. These targets were reached by adjusting the concentration of oxygen babies breathed and measuring their blood oxygen saturation with an oximeter machine.

- Too much or too little oxygen for long periods might harm babies’ eyes, lungs and brain, in or out of the study. It was not clear if 91‐95% was too much or 85‐89% was too little or if aiming for the higher or lower target would increase or decrease survival.


What are the latest results?

More babies in the Australian, New Zealand, UK BOOST II and US studies survived to hospital discharge if they had been nursed with the higher than with the lower oxygen-saturation target. These results can be found in the New England Journal of Medicine at www.nejm.org.

Also, targeting the lower part of the range (85-89%) reduced the number of babies having treatment for eye disease (called retinopathy of prematurity), but increased the number of babies having a major gut problem called necrotising enterocolitis.

The study oximeters were updated in 2009. Babies nursed with updated oximeters were more likely to survive with an oxygen saturation target range of 91-95% than with a target of 85-89%, but had no differences in retinopathy of prematurity, necrotising enterocolitis, or any other outcomes.
What do the results mean for babies in the future?

Without the research which you have made possible, we still would not know if the higher or lower part of the previously normal oxygen saturation target range was better. Now, thanks to your support, more babies will survive in future.

That is an important step forward, but we need to know how babies nursed with higher or lower oxygen targets in the neonatal unit are doing when they get older. It is very important for us to follow up the BOOST-II study babies until they are two years of age to get the full picture.

Can these results explain why my baby had a particular outcome?

The difference in oxygen saturation levels only explains part of the risks these tiny babies have. We will never be able to work out exactly why an individual baby had a particular outcome.

If you want to discuss any part of the study further please do not hesitate to contact boost2@ctc.usyd.edu.au or your local BOOST II consultant investigator at the hospital where your baby was enrolled in the study, who will be happy to arrange to discuss any questions you have.

Thank you again for taking part in this important work.

To see the results in the New England Journal of Medicine please go to this web page: [www.nejm.org] and search for “oxygen saturation in preterm babies”