

Two-year follow up shows delaying umbilical cord clamping saves babies' lives

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The new research, led by the University of Sydney, is a two-year follow up of the Australian Placental Transfusion Study, the award-winning and largest-ever clinical trial of delayed cord clamping of babies born before

30 weeks. It was conducted in 25 hospitals across seven countries.

The new study compared outcomes for over 1500 babies from the initial study, 767 with caregivers aiming for 60 second delay in clamping and 764 with caregivers aiming for cord clamping before 10 seconds after delivery.

Researchers found that delaying clamping reduces a child's relative risk of death or major disability in early childhood by 17 percent. This included a 30 percent reduction in mortality before the age of two.

In addition, 15 percent fewer infants in the delayed-clamping group needed blood transfusions after birth.

The study is published in *The Lancet Child and Adolescent Health* today.

It is coordinated by the University of Sydney's NHMRC Clinical Trials Centre in collaboration with the IMPACT Clinical Trials Network of the Perinatal Society of Australia and New Zealand and the Australian and New Zealand Neonatal Network.

Study lead, Professor William Tarnow-Mordi, Head of Neonatal and Perinatal Trials at the Clinical Trials Centre and Professor of Neonatal Medicine in the Faculty of Medicine and Health said the simple process of aiming to wait a minute before clamping will have significant impact worldwide.

"It's very rare to find an intervention with this sort of impact that is free and requires nothing more sophisticated than a clock. This could significantly contribute to the [UN's Sustainable Development goal](#) to end preventable deaths in newborns and children under five—a goal which has really suffered during the pandemic," he said.

"Applied consistently worldwide, aiming to wait a minute before cord clamping in very [preterm](#) babies who do not require immediate resuscitation could ensure that an extra 50,000 survive without major disability in the next decade," said biostatistician Dr. Kristy Robledo from the University of Sydney who led the two-year follow-up analysis.

"In other words, for every 20 very preterm babies who get delayed instead of immediate clamping, one more will survive without major disability."

Why wait?

Delayed [umbilical cord](#) clamping is routine in full term babies to allow the newborn time to adapt to life outside the womb, however, until recently, clinicians generally cut the cord of preterm babies immediately so urgent medical care could be given.

"Ten years ago, umbilical cords were routinely clamped quickly after a very [preterm birth](#) and the baby was passed to a paediatrician in case the child needed urgent help with breathing," said Professor Tarnow-Mordi.

"But we now know that almost all very preterm babies will start breathing by themselves in the first minute, if they are given that time."

"We think that, after delaying cord clamping, babies get extra red and [white blood cells](#) and stem cells from the placenta, helping to achieve healthy oxygen levels, control infection and repair injured tissue."

What does this mean for babies born today?

The childhood follow-up to the [Australian Placental Transfusion Study](#) is the largest world-wide two-year follow up of preterm cord clamping

providing the best evidence to date on positive outcomes at two years of age.

Co-author and founder of Miracle Babies Foundation Melinda Cruz, herself a parent of three preterm babies, said she hoped the results would give parents confidence to discuss their options with their birthing professionals.

"I hope that prospective parents around the world will read about this trial for themselves and discuss it with their midwives and obstetricians," she said.

From research to practice

The first evidence, published in the [*American Journal of Obstetrics and Gynecology*](#), indicating that delayed umbilical cord clamping might have benefits for preterm infants and their mothers came in 2017 from a systematic review of randomised trials in nearly 3,000 preterm babies.

The [Australian Placental Transfusion Study](#) led by Professor Tarnow-Mordi was the largest of these trials and went to be named winner of the 'Trial of the Year' by Federal Health Minister, Greg Hunt MP and the Australian Clinical Trials Alliance in 2018.

While the World Health Organization recommends that newborns, including [preterm babies](#) who do not require positive pressure ventilation should not have their cord clamped earlier than one minute after birth this has not always been consistently applied.

Next steps

"Midwives welcome this research—delaying cord clamping ensures that

the physiological changes happening at the time of birth can happen and there are clearly very good outcomes especially for premature babies.

We can all do this and now we know we should," said Professor Caroline Homer, President of the Perinatal Society of Australia and New Zealand and past President of the Australian College of Midwives.

"Moving forward it's vital that perinatal professionals record the time of first breath and cord clamping to the second during births to allow for robust, large-scale data to further our work in this area," said co-author Professor Jonathan Morris, Professor of Obstetrics and Gynaecology at the University of Sydney and Director of Women and Babies Research at The Kolling Institute.

"Intensive staff training in the new protocols will also be vital as it can be daunting to delay treatment in very early and sick babies, but the evidence suggests this results in the best outcomes for these children."

The ALPHA Collaboration (Advancing Large collectively Prioritised trials for Health outcomes Assessment) will be vital to taking this research forward. They are an international collaboration of perinatal researchers, professionals, parents and policymakers that work with organisations and individuals worldwide to ensure that [trials](#) like this can, in the future, run at least ten times larger and faster, in a new era of increased international collaboration.

More information: Kristy P Robledo et al, Effects of delayed versus immediate umbilical cord clamping in reducing death or major disability at 2 years corrected age among very preterm infants (APTS): a multicentre, randomised clinical trial, *The Lancet Child & Adolescent Health* (2021). [DOI: 10.1016/S2352-4642\(21\)00373-4](https://doi.org/10.1016/S2352-4642(21)00373-4)

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