

Dr. Doug Blank
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Biography

Dr Doug Blank is a consultant neonatologist at Monash Newborn, Monash Children's Hospital and a research fellow at The Ritchie Centre, Department of Paediatrics, Monash University. He is a leader in neonatal resuscitation research and the principal investigator of several trials at birth in preterm and term neonates.

Dr Blank was born and educated in the USA. Between his residency and fellowship, he worked in eSwatini from 2009-2011 with the Baylor International Paediatric AIDS Initiative, providing care for children living with HIV and educating local providers, including creating national guidelines (<https://bit.ly/2OYqyW9>). He led a national support group for adolescents living with HIV, including a leadership program to train these teens to run the program (<https://bit.ly/3tUushg>). He returned to San Diego, California for his clinical fellowship in neonatology from 2011-2014, where he started to engage in neonatal resuscitation research.

Dr Blank moved to Melbourne in 2014, to pursue a PhD through the Ritchie Centre at Monash on the advice of a mentor who said, "there is no better place in the world I could send you to learn and you won't find nicer people to work with."

During his PhD, Dr Blank received the "People's Choice" award at the Monash University 3MT competition (<https://bit.ly/3tCBJcc>) and his thesis, "Umbilical cord management at birth" was awarded the Dean's Award. In 2019, he joined the faculty at Monash Newborn as a consultant neonatologist and has continued his work at the Ritchie Centre.

Research interests:

Dr Blank's current trials include resuscitating babies during delayed cord clamping (<https://bit.ly/3tHWvka>), lung ultrasound to understand fetal to neonatal changes in the lungs and heart at birth (<https://bit.ly/3c9x8l2>), and improving team performance during neonatal resuscitation through video review of emergencies. He is involved in preclinical trials and working with the world-class scientists in the Ritchie Centre (<https://bit.ly/2Oqecpd>). He coordinates the education program for NICU trainees at Monash. Outside of work he enjoys exploring Melbourne's excellent playgrounds with his 4 school aged sons.

Qualifications

Neonatology via the Department of Obstetrics and Gynaecology, PhD, Umbilical cord management at birth, MONASH UNIVERSITY

Feb 2015 → ...

Award Date: 20 Jan 2019

Medicine, Doctor of Medicine, Virginia Commonwealth University

Aug 2002 → May 2006

Award Date: 18 May 2006

3 Sept 2019 → ... Fellow, Royal College of Australasian College of Physicians - Paediatrics and Child Health Division, FRACP

5 Apr 2016 → ... American Board of Pediatrics - Perinatal-Neonatal Medicine, ABP-Neonatologist

Employment

Senior Research Fellow

Paediatrics Monash Health

MONASH UNIVERSITY

1 Jan 2022 → present

Neonatal Consultant

Monash Health

Clayton, Australia

1 Aug 2018 → present

PIPER-Neonatal Consultant, Casual

Royal Children's Hospital Melbourne

Parkville, Australia

1 Aug 2018 → present

Research outputs

Extended period of ventilation before umbilical cord clamping at birth: A study that mis-interprets and mis-represents the physiology

Hooper, S. B., Crossley, K. J., Blank, D. A., Davies, I. M., Polglase, G. R. & te Pas, A. B., 1 Sept 2024, In: The Journal of Physiology. 602, 17, p. 4327-4328 2 p.

Combining activity and grimace scores reflects perinatal stability in infants <32 weeks gestational age

Tuttle, Z., Roberts, C., Davis, P., Malhotra, A., Tan, K., Bhatia, R., Zhou, L., Baker, E., Hodgson, K. & Blank, D., Sept 2024, In: Pediatric Research. 96, 4, p. 983-989 7 p.

Assessing the influence of abdominal compression on time to return of circulation during resuscitation of asphyxiated newborn lambs: a randomised preclinical study

Polglase, G. R. (Leading Author), Hwang, C., Blank, D. A., Badurdeen, S., Crossley, K. J., Kluckow, M., Gill, A. W., Camm, E., Galinsky, R., Brian, Y., Hooper, S. B. & Roberts, C. T. (Leading Author), 19 Jun 2024, In: Archives of Disease in Childhood: Fetal and Neonatal Edition. 109, 4, p. 405-411 7 p.

Endotracheal epinephrine at standard versus high dose for resuscitation of asystolic newborn lambs

Polglase, G. R. (Leading Author), Brian, Y. (Leading Author), Tantanis, D., Blank, D. A., Badurdeen, S., Crossley, K. J., Kluckow, M., Gill, A. W., Camm, E., Galinsky, R., Thomas Songstad, N., Klingenberg, C., Hooper, S. B. & Roberts, C. T. (Leading Author), May 2024, In: Resuscitation. 198, 9 p., 110191.

Blood pressure and cerebral oxygenation with physiologically-based cord clamping: sub-study of the BabyDUCC trial

Badurdeen, S., Blank, D. A., Hoq, M., Wong, F. Y., Roberts, C. T., Hooper, S. B., Polglase, G. R. & Davis, P. G., 2024, In: Pediatric Research. 96, p. 124-131 8 p.

Deferred cord clamping, cord milking, and immediate cord clamping at preterm birth: a systematic review and individual participant data meta-analysis

Seidler, A. L., Aberoumand, M., Hunter, K. E., Barba, A., Libesman, S., Williams, J. G., Shrestha, N., Aagerup, J., Sotiropoulos, J. X., Montgomery, A. A., Gyte, G. M. L., Duley, L., Askie, L. M. & iCOMP Collaborators, 9 Dec 2023, In: The Lancet. 402, 10418, p. 2209-2222 14 p.

Short, medium, and long deferral of umbilical cord clamping compared with umbilical cord milking and immediate clamping at preterm birth: a systematic review and network meta-analysis with individual participant data

Seidler, A. L., Libesman, S., Hunter, K. E., Barba, A., Aberoumand, M., Williams, J. G., Shrestha, N., Aagerup, J., Sotiropoulos, J. X., Montgomery, A. A., Gyte, G. M. L., Duley, L., Askie, L. M. & iCOMP Collaborators, 9 Dec 2023, In: The Lancet. 402, 10418, p. 2223-2234 12 p.

Perinatal predictors of clinical instability at birth in late-preterm and term infants

Santomartino, G. A., Blank, D. A., Heng, A., Woodward, A., Kane, S. C., Thio, M., Polglase, G. R., Hooper, S. B., Davis, P. G. & Badurdeen, S., Mar 2023, In: European Journal of Pediatrics. 182, 3, p. 987-995 9 p.

Assessing lung aeration using ultrasound after birth in near-term lambs at risk of respiratory distress

Pryor, E. J., Davies, I. M., Crossley, K. J., Thiel, A. M., McGillick, E. V., Rodgers, K., Nitsos, I., Kitchen, M. J., Blank, D. A. & Hooper, S. B., 2023, In: Frontiers in Pediatrics. 11, p. 1-10 10 p., 1148443.

Heart Rate Changes following Facemask Placement in Infants Born at $\geq 32^{+0}$ Weeks of Gestation

Badurdeen, S., Brooijmans, E., Blank, D. A., Kuypers, K. L. A. M., Te Pas, A. B., Roberts, C., Polglase, G. R., Hooper, S. B. & Davis, P. G., 2023, In: Neonatology. 120, 5, p. 624-632 9 p.

Quantifying lung aeration in neonatal lambs at birth using lung ultrasound

Pryor, E. J., Blank, D. A., Hooper, S. B., Crossley, K. J., Badurdeen, S., Pollock, J. A., Stainsby, A. V., Croton, L. C. P., O'Connell, D. W., Hall, C. J., Maksimenko, A., Hausermann, D., Davis, P. G. & Kitchen, M. J., 28 Sept 2022, In: Frontiers in Pediatrics. 10, 11 p., 990923.

Single versus continuous sustained inflations during chest compressions and physiological-based cord clamping in asystolic lambs

Schmölzer, G. M., Roberts, C., Blank, D., Badurdeen, S., Miller, S., Crossley, K., Stojanovska, V., Galinsky, R., Kluckow, M., Gill, A. W., Hooper, S. B. & Polglase, G. R., 1 Sept 2022, In: Archives of Disease in Childhood: Fetal and Neonatal Edition. 107, 5, p. 488-494 7 p.

The physiology of delayed umbilical cord clamping at birth: let's not add to the confusion

Hooper, S. B., te Pas, A. B., Blank, D. A. & Polglase, G. R., 1 Aug 2022, In: Journal of Physiology. 600, 15, p. 3625-3626 2 p.

Rapid centralised randomisation in emergency setting trials using a smartphone

Badurdeen, S., Hodgson, K. A., Santomartino, G. A., Stevens, L., Donath, S., Roberts, C. T., Manley, B. J., Polglase, G. R., Hooper, S. B., Davis, P. G. & Blank, D. A., Aug 2022, In: European Journal of Pediatrics. 181, 8, p. 3207-3210 4 p.

Physiologically based cord clamping for infants $\geq 32+0$ weeks gestation: A randomised clinical trial and reference percentiles for heart rate and oxygen saturation for infants $\geq 35+0$ weeks gestation

Badurdeen, S., Davis, P. G., Hooper, S. B., Donath, S., Santomartino, G. A., Heng, A., Zannino, D., Hoq, M., Omar F Kamlin, C., Kane, S. C., Woodward, A., Roberts, C. T., Polglase, G. R., Blank, D. A. & on behalf of the Baby Directed Umbilical Cord Clamping (BabyDUCC) collaborative group, 23 Jun 2022, In: PLoS Medicine. 19, 6, 20 p., e1004029.

Comparison of intraosseous and intravenous epinephrine administration during resuscitation of asphyxiated newborn lambs

Roberts, C. T., Klink, S., Schmölzer, G. M., Blank, D. A., Badurdeen, S., Crossley, K. J., Rodgers, K., Zahra, V., Moxham, A., Roehr, C. C., Kluckow, M., Gill, A. W., Hooper, S. B. & Polglase, G. R., May 2022, In: Archives of Disease in Childhood: Fetal and Neonatal Edition. 107, 3, p. 311-316 6 p.

Respiratory support after delayed cord clamping: A prospective cohort study of at-risk births at $\geq 35+0$ weeks gestation

Badurdeen, S., Santomartino, G. A., Thio, M., Heng, A., Woodward, A., Polglase, G. R., Hooper, S. B., Blank, D. A. & Davis, P. G., Nov 2021, In: Archives of Disease in Childhood: Fetal and Neonatal Edition. 106, 6, p. F627-F634 8 p.

Effect of maternal oxytocin on umbilical venous and arterial blood flows during physiologicalbased cord clamping in preterm lambs

Stenning, F. J., Polglase, G. R., Pas, A. B. T., Crossley, K. J., Kluckow, M., Gill, A. W., Wallace, E. M., McGillick, E. V., Binder, C., Blank, D. A., Roberts, C. & Hooper, S. B., Jun 2021, In: PLoS ONE. 16, 6, 16 p., e0253306.

Lung ultrasound during newborn resuscitation predicts the need for surfactant therapy in very- and extremely preterm infants

Badurdeen, S., Kamlin, C. O. F., Rogerson, S. R., Kane, S. C., Polglase, G. R., Hooper, S. B., Davis, P. G. & Blank, D. A., May 2021, In: Resuscitation. 162, p. 227-235 9 p.

Assessing pulmonary circulation in severe bronchopulmonary dysplasia using functional echocardiography

Sehgal, A., Blank, D., Roberts, C. T., Menahem, S. & Hooper, S. B., Jan 2021, In: Physiological Reports. 9, 1, 9 p., e14690.

Going "the Last Mile" with guidelines for deferred umbilical cord clamping

Blank, D. & Niermeyer, S., 1 Nov 2020, In: Pediatrics. 146, 5, 3 p., 027151.

Physiologic-Based Cord Clamping Maintains Core Temperature vs. Immediate Cord Clamping in Near-Term Lambs

Blank, D. A., Crossley, K. J., Kashyap, A. J., Hodges, R. J., DeKoninck, P. L. J., McGillick, E. V., Rodgers, K. A., te Pas, A. B., Hooper, S. B. & Polglase, G. R., 23 Oct 2020, In: Frontiers in Pediatrics. 8, 9 p., 584983.

Cardiopulmonary Resuscitation of Asystolic Newborn Lambs Prior to Umbilical Cord Clamping; the Timing of Cord Clamping Matters!

Polglase, G. R., Schmölzer, G. M., Roberts, C. T., Blank, D. A., Badurdeen, S., Crossley, K. J., Miller, S. L., Stojanovska, V., Galinsky, R., Kluckow, M., Gill, A. W. & Hooper, S. B., 30 Jul 2020, In: Frontiers in Physiology. 11, 9 p., 902.

Tools to assess lung aeration in neonates with respiratory distress syndrome

King, A., Blank, D., Bhatia, R., Marzbanrad, F. & Malhotra, A., 1 Apr 2020, In: *Acta Paediatrica*. 109, 4, p. 667-678 12 p.

Effect of spontaneous breathing on umbilical venous blood flow and during delayed cord clamping in preterm lambs

Brouwer, E., te Pas, A. B., Polglase, G. R., McGillick, E. V., Böhringer, S., Crossley, K. J., Rodgers, K., Blank, D., Yamaoka, S., Gill, A. W., Kluckow, M. & Hooper, S. B., Jan 2020, In: *Archives of Disease in Childhood: Fetal and Neonatal Edition*. 105, 1, p. F26-F32 7 p.

Haemodynamic instability and brain injury in neonates exposed to Hypoxia-Ischaemia

Badurdeen, S., Roberts, C., Blank, D., Miller, S., Stojanovska, V., Davis, P., Hooper, S. & Polglase, G., 1 Mar 2019, In: *Brain Sciences*. 9, 3, 13 p., 49.

Hemodynamic significance and clinical relevance of delayed cord clamping and umbilical cord milking

Katheria, A. C. & Blank, D., 2019, *Hemodynamics and Cardiology: Neonatology Questions and Controversies*. Seri, I. & Kluckow, M. (eds.). 3rd ed. Philadelphia PA USA: Elsevier, p. 83-93 11 p.

Haemodynamic effects of umbilical cord milking in premature sheep during the neonatal transition

Blank, D. A., Polglase, G. R., Kluckow, M., Gill, A. W., Crossley, K. J., Moxham, A., Rodgers, K., Zahra, V., Inocencio, I., Stenning, F., Larosa, D. A., Davis, P. G. & Hooper, S. B., 1 Nov 2018, In: *Archives of Disease in Childhood: Fetal and Neonatal Edition*. 103, 6, p. F539-F546 8 p.

Physiologically based cord clamping stabilises cardiac output and reduces cerebrovascular injury in asphyxiated near-term lambs

Polglase, G. R., Blank, D. A., Barton, S. K., Miller, S. L., Stojanovska, V., Kluckow, M., Gill, A. W., Larosa, D., Te Pas, A. B. & Hooper, S. B., 1 Nov 2018, In: *Archives of Disease in Childhood: Fetal and Neonatal Edition*. 103, 6, p. F530-F538 9 p.

Baby-directed umbilical cord clamping: A feasibility study

Blank, D. A., Badurdeen, S., Omar F Kamlin, C., Jacobs, S. E., Thio, M., Dawson, J. A., Kane, S. C., Dennis, A. T., Polglase, G. R., Hooper, S. B. & Davis, P. G., 1 Oct 2018, In: *Resuscitation*. 131, p. 1-7 7 p.

Respiratory changes in term infants immediately after birth

Blank, D. A., Gaertner, V. D., Kamlin, C. O. F., Nyland, K., Eckard, N. O., Dawson, J. A., Kane, S. C., Polglase, G. R., Hooper, S. B. & Davis, P. G., 1 Sept 2018, In: *Resuscitation*. 130, p. 105-110 6 p.

Haemodynamic effects of prenatal caffeine on the cardiovascular transition in ventilated preterm lambs

Binder-Heschl, C., Crossley, K., Pas, A. T., Polglase, G., Blank, D., Zahra, V., Moxham, A., Rodgers, K. & Hooper, S., 1 Jul 2018, In: *PLoS ONE*. 13, 7, 10 p., e0200572.

Lung ultrasound immediately after birth to describe normal neonatal transition: An observational study

Blank, D. A., Farouk Kamlin, C. O., Rogerson, S. R., Fox, L. M., Lorenz, L., Kane, S. C., Polglase, G. R., Hooper, S. B. & Davis, P. G., 28 Jun 2017, In: *Archives of Disease in Childhood*. 103, 2, p. F157-F162 6 p.

Lung ultrasound during the initiation of breathing in healthy term and late preterm infants immediately after birth, a prospective, observational study

Blank, D. A., Rogerson, S. R., Kamlin, C. O. F., Fox, L. M., Lorenz, L., Kane, S. C., Polglase, G. R., Hooper, S. B. & Davis, P. G., 1 May 2017, In: *Resuscitation*. 114, p. 59-65 7 p.

The timing of umbilical cord clamping at birth: physiological considerations

Hooper, S. B., Binder-Heschl, C., Polglase, G. R., Gill, A. W., Kluckow, M., Wallace, E. M., Blank, D. & Te Pas, A., 13 Jun 2016, In: *Maternal Health, Neonatology and Perinatology*. 2, 9 p., 4.

Lung ultrasound accurately detects pneumothorax in a preterm newborn lamb model

Blank, D. A., Hooper, S. B., Binder-Heschl, C., Kluckow, M., Gill, A. W., LaRosa, D. A., Inocencio, I. M., Moxham, A., Rodgers, K., Zahra, V. A., Davis, P. G. & Polglase, G. R., 1 Jun 2016, In: *Journal of Paediatrics and Child Health*. 52, 6, p. 643-648 6 p.

Pedi-cap color change precedes a significant increase in heart rate during neonatal resuscitation
Blank, D., Rich, W., Leone, T., Garey, D. & Finer, N., 1 Nov 2014, In: Resuscitation. 85, 11, p. 1568-1572 5 p.

Umbilical cord milking improves transition in premature infants at birth
Katheria, A., Blank, D., Rich, W. & Finer, N., 7 Apr 2014, In: PLoS ONE. 9, 4, 6 p., e94085.

Stevens-Johnson syndrome and HIV in children in Swaziland
Dziuban, E. J., Hughey, A. B., Stewart, D. A., Blank, D. A., Kochelani, D., Draper, H. R. & Schutze, G. E., 2013, In: Pediatric Infectious Disease Journal. 32, 12, p. 1354-1358 5 p.

Prizes

3MT-Monash University-People's Choice

Blank, D. (Recipient), Aug 2016

Dean's Award for Doctoral Thesis Excellence, Industry Engagement

Blank, D. (Recipient), 1 Oct 2020