

# **SLEEP ON SIDE WHEN BABY'S INSIDE FROM 28 WEEKS OF PREGNANCY**

[www.sleeponside.org.nz](http://www.sleeponside.org.nz)



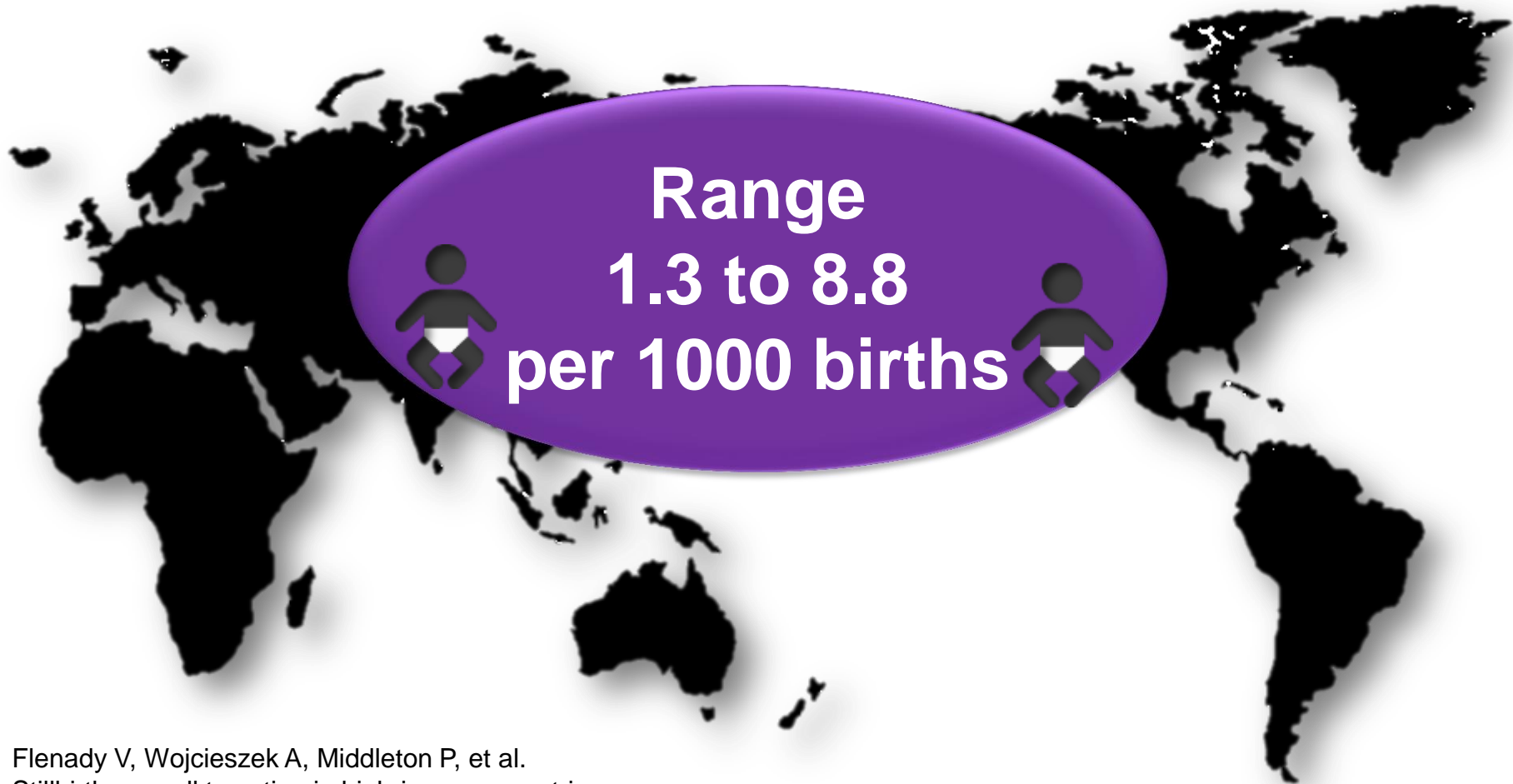
**Lesley McCowan,  
Campaign Lead**

**Isis McKay,  
consumer  
representative**



# LATE STILLBIRTH RATE

$\geq 28$  weeks of gestation  
High Income Western Countries



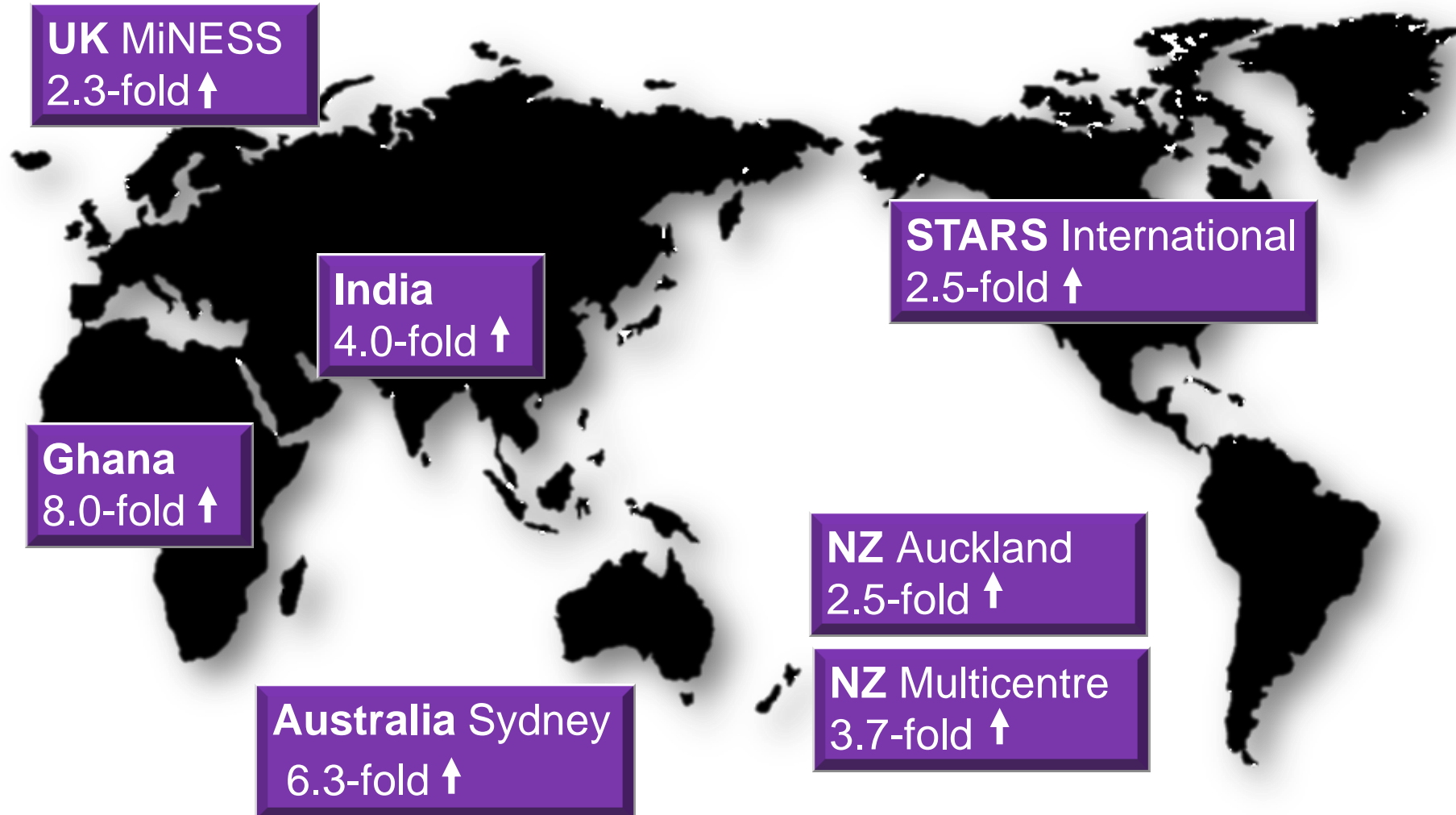
Flenady V, Wojcieszek A, Middleton P, et al.  
Stillbirths: recall to action in high-income countries.  
*The Lancet* 2016.



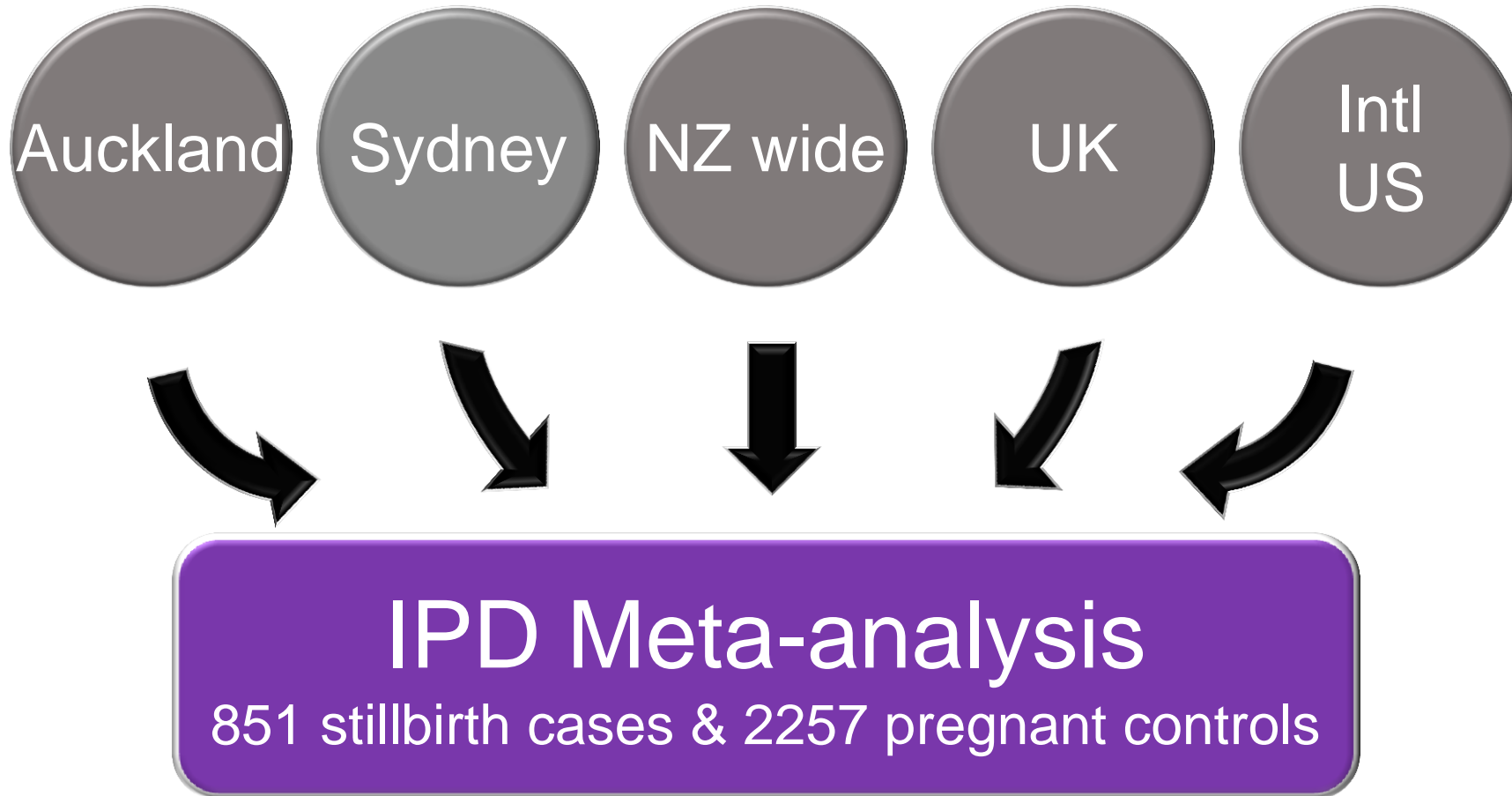
# WHAT ARE THE NZ DATA?

- Late stillbirth (  $\geq 28$  weeks') occurring in singleton non-anomalous pregnancies affects approximately **one in every 500 women**, resulting in deaths of approximately **160 New Zealand babies** annually.
- Identification of modifiable risk factors has the potential to reduce this tragic pregnancy complication

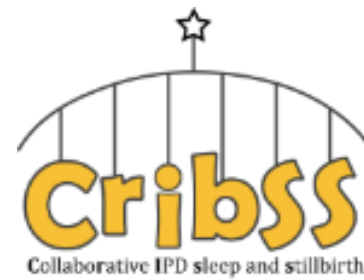
# ASSOCIATION BETWEEN SUPINE GOING TO SLEEP POSITION & LATE STILLBIRTH



# INDIVIDUAL PARTICIPANT DATA META-ANALYSIS



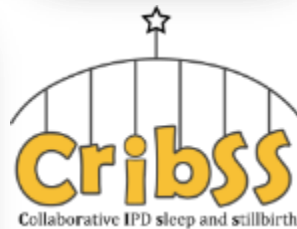
# SLEEP POSITION RESULTS IN IPD



	Case N=851	Control N=2257	OR (95% CI)	Cases N=826 Controls N=1953 aOR (95%)
<b>Going-to-sleep position last 2 weeks</b>				
Left side	359 (42.19)	1074 (47.59)	1	1
Back	67 (7.87)	73 (3.23)	2.89 (2.01 to 4.14)	2.63 (1.72 to 4.04)
Right side	221 (25.97)	624 (27.65)	1.1 (0.9 to 1.34)	1.04 (0.83 to 1.31)
Tummy	3 (0.35)	8 (0.35)	1.15 (0.3 to 4.45)	0.63 (0.12 to 3.25)
Variable side	102 (11.99)	265 (11.74)	0.92 (0.69 to 1.23)	0.97 (0.7 to 1.35)
Propped up	20 (2.35)	46 (2.04)	1.28 (0.74 to 2.23)	1.3 (0.68 to 2.49)
No recall	79 (9.28)	167 (7.40)	1.4 (1.03 to 1.91)	2.26 (1.48 to 3.46)

# CribSS

## Collaborative Individual Participant Data Sleep & Stillbirth Research Group





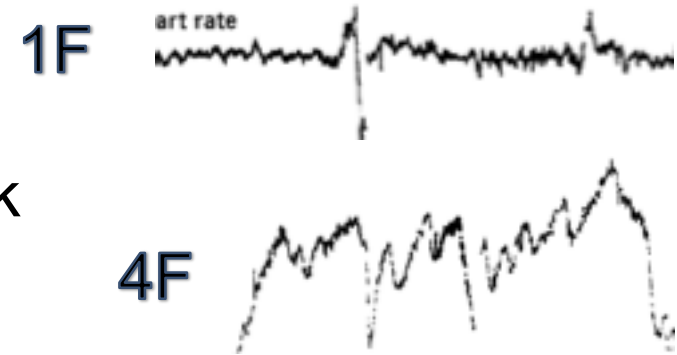
# DOES FETAL BEHAVIOUR & ACTIVITY VARY WITH MATERNAL POSITION?

## 30 healthy pregnant women in late pregnancy

- Fetal behaviour assessed on back, left and right side:
- Scorers unaware of maternal position
- Low activity behaviour state (1F) reflecting ↓ oxygen consumption more common when on the back



- High fetal activity (4F) very rare when mother on back



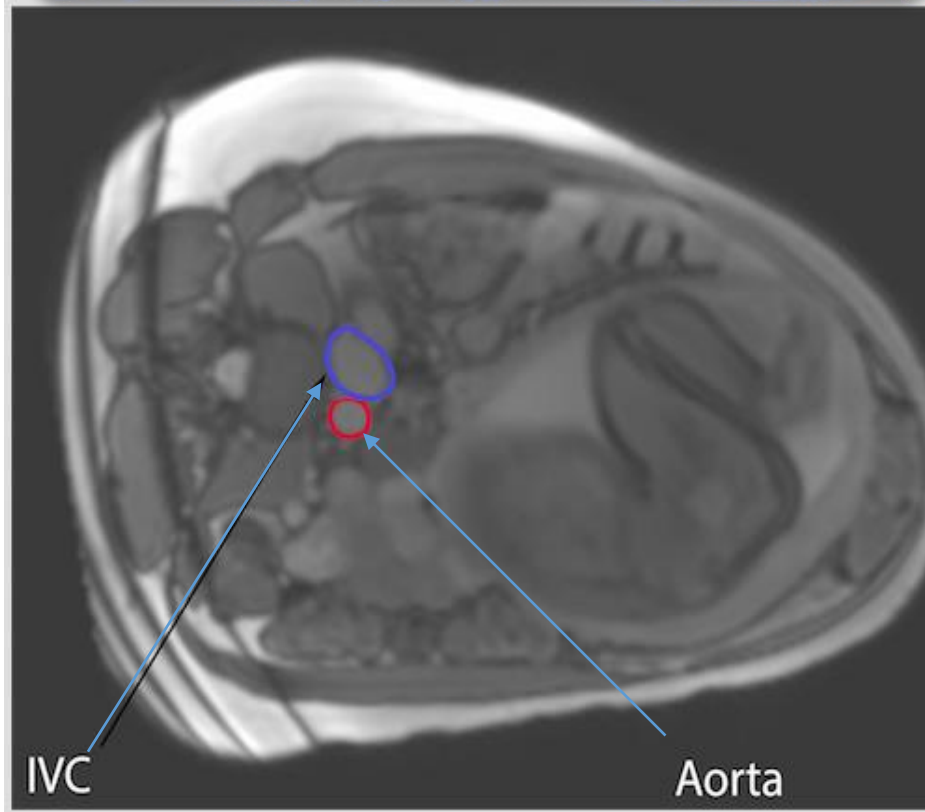
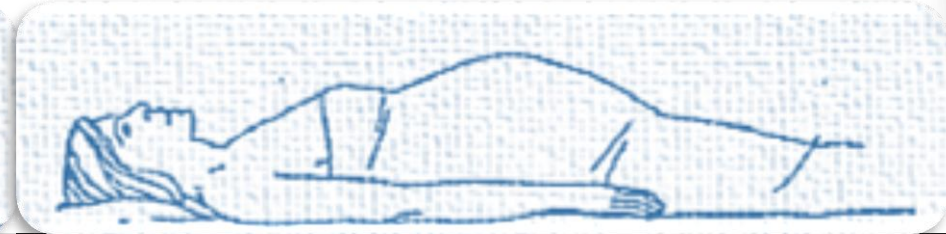
- Suggests lying on back is associated with lower oxygen behaviour in baby even in healthy pregnancy

Stone et al [The Journal of physiology](#). 2017 Feb 15;595(4):1213-21.

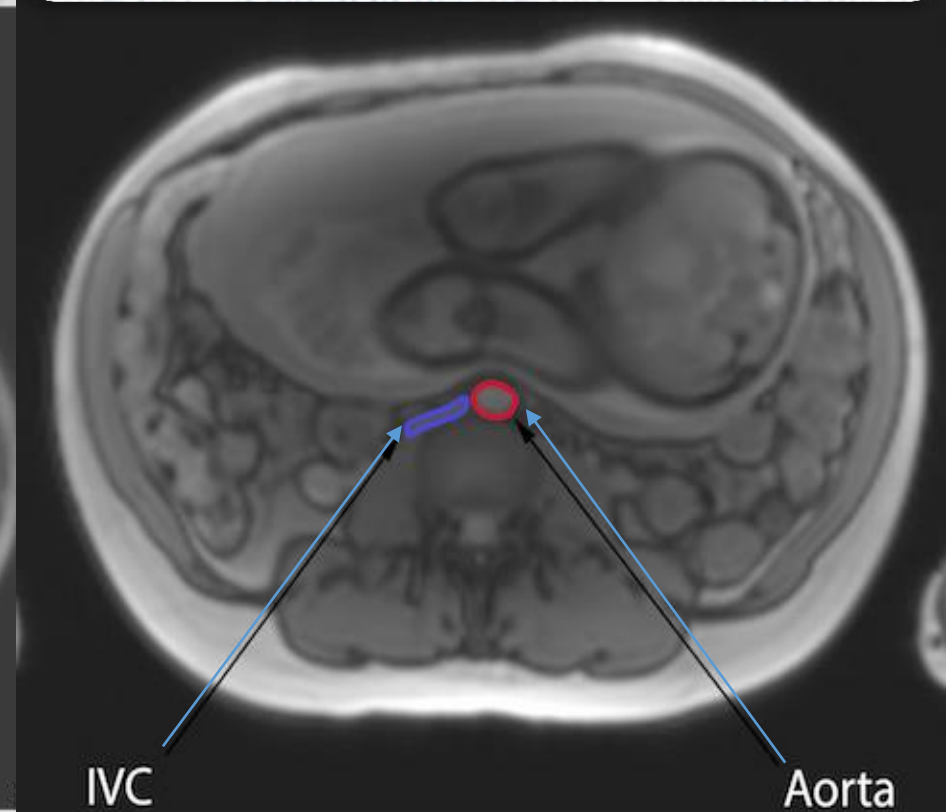
[J Physiol](#). 2017 Oct 11. doi: 10.1113/JP275084. [Epub ahead of print]

# THE EFFECT OF POSITION: PREGNANCY MRI

Humphries A, Stone P, et J Mat Fetal Med May 2018;



**Left side IVC patent**



**On back IVC compressed**



# SUPINE POSITION IN LATE PREGNANCY-

effect on blood flow and fetus



pregnant uterus - compression of vena cava (85%)



reduced venous return & cardiac output (16%)



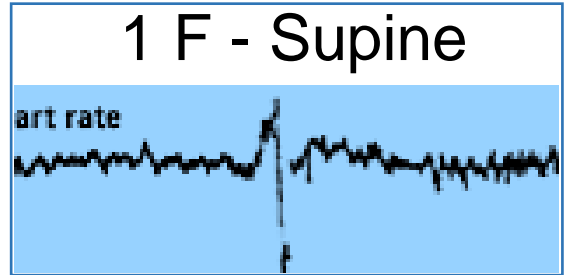
reduced aortic flow (32%)



reduced placental flow



low oxygen - baby stressor



Humphries et al 2018 Journal of Maternal-Fetal Neonatal Medicine  
Stone et al. 2017. The Journal of Physiology

# GOING-TO-SLEEP POSITION IS MODIFIABLE

**NZ women have changed going-to-sleep position**

- TASS 2006-9      left side 43%
- MCSS 2011-15   left side 58%

**Survey of 377 women living in South Auckland:**

- 85% reported could change position if better for baby

**We now know can recommend sleep on either side**

RESEARCH ARTICLE

Open Access

Survey of maternal sleep practices in late pregnancy in a multi-ethnic sample in South Auckland, New Zealand



Robin S. Cronin<sup>1\*</sup>, Carol Chelimo<sup>2</sup>, Edwin A. Mitchell<sup>2</sup>, Kara Okesene-Gafa<sup>1</sup>, John M. D. Thompson<sup>1</sup>, Rennae S. Taylor<sup>1</sup>, B. Lynne Hutchison<sup>2</sup> and Lesley M. E. McCowan<sup>1</sup>

BMC pregnancy childbirth 2017 17:190

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**#sleeponside**



# THE STAKEHOLDERS



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Childbirth Educators  
Liaison

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Minglan Li  
Researcher



Tim Edmonds  
CureKids



Saraïd Black  
CureKids

# MESSAGES TO SHARE WITH PREGNANT WOMEN

## From 28 weeks:

- Settle to sleep on your side to reduce the risk of stillbirth
- Start every sleep on your side including day-time naps
- It does not matter which side
- It is common to wake up on your back- just roll back on to your side
- Suggest discuss with glucose screening at 24 -26 weeks

<https://www.sleeponside.org.nz/>

Email: [info@sleeponside.org.nz](mailto:info@sleeponside.org.nz) to request pamphlets  
(and soon available through HealthEd)



# RESOURCES TO SHARE

## “SOS WHEN BABY INSIDE”



<https://www.sleeponside.org.nz/>

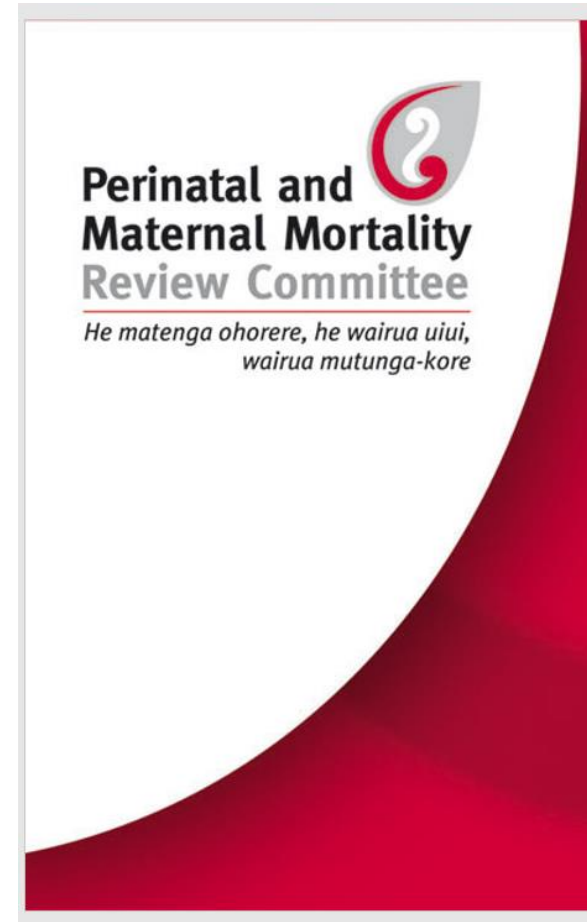
Email: [info@sleeponside.org.nz](mailto:info@sleeponside.org.nz) to request pamphlets



# LAUNCHED – 26-27 JUNE 2018

PMMRC Annual  
Conference  
Tues 26 June

‘Soft’ Media Launch  
Wed 27 June



# NEXT STEPS



# HOW TO SLEEP SAFELY DURING PREGNANCY



**With thanks to**

Miriama Kamo- voice over,  
Claudia Gunn- singing voice

<https://vimeo.com/274391432/ffd3412081>

# HOW MIGHT THE CAMPAIGN REDUCE LATE STILLBIRTH?

- Stillbirth in the last three months of pregnancy affects about one in every 500 babies in New Zealand (approx. 160 babies per year).
- Going to sleep on the side is associated with approximately half the risk of stillbirth compared with going to sleep on the back.
- “Sleep on side” from 28 weeks of pregnancy has the potential to reduce late stillbirth in NZ by approximately 10%



# INDIVIDUAL PARTICIPANT DATA (IPD) META-ANALYSIS

