Second Stage of Labour: Strategies for avoiding a tight situation

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Conflict of Interest

- Dr Miller has no conflict of interest to declare, financial or otherwise

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Acknowledgments

- **The land on which we stand**
  - I acknowledge that the land on which we learn today is the traditional and unceded land of the Coast Salish peoples
- **The shoulders on which I stand**
  - Thanks to all the babies, families, colleagues and teachers who have and continue to teach me in the delivery room and beyond
- **Those that have contributed**
  - Dr Amanada Loewy who submitted the abstract for this talk

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Objectives

By the end of the talk, the participant will be able to:

1. Describe the evidence for passive second stage and for hands on vs hands off approach to delivery
2. Demonstrate the two step approach to delivery for avoiding shoulder dystocia
3. Manage a nuchal cord including the use of the somersault maneuver

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Passive Second Stage

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PEOPLE (Pushing Early or Pushing Late with Epidural) Trial

> Multicenter, randomized, controlled trial of delayed pushing for nulliparous women in the second stage of labor with continuous epidural analgesia
>
> William D. Fraser, MD,[a] Sylvie Marcoux, MD, PhD,[b] Isabelle Krauss, MD,[a] Joanne Douglas, MD,[d] Céline Goulet, PhD,[c] and Michel Boulvain, MD, PhD,[a] for The PEOPLE (Pushing Early or Pushing Late with Epidural) Study Group
>
> *Quebec and Montreal, Quebec, and Vancouver, British Columbia, Canada*

American Journal of Obstetrics and Gynecology, 2000

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PEOPLE Trial - outcomes

Outcome	Immediate	Delayed
Length of Second Stage	123	187
Active Second Stage	100 min	68 min
Difficult delivery		↓ RR 0.79 (0.66-0.95)
Maternal Morbidity	=	=
Low pH		↑
Maternal Experience	=	=

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2011 Systematic Review and Meta-analysis

Outcome	Delayed Group	Significance
SVD rate	Increased	RR 1.09 (CI 1.03-1.15)
C/S rate	No difference	
AVB	Decreased	RR 0.89 (0.81-0.98)
Total second stage	60 min longer	
Active second stage	21.98 min shorter	

Immediate Compared With Delayed Pushing in the Second Stage of Labor, *Methodius G. Tuuli, MD, MPH, Heather A. Frey, MD, Anthony O. Odibo, MD, MSCE, George A. Macones, MD, MSCE, and Alison G. Cahill, MD, MSCI,* Obstetrics and Gynecology VOL. 120, NO. 3, SEPTEMBER 2012

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2011 systematic review continued

Outcome	Delayed Pushing
Maternal Fever	Higher (2 fold)
Maternal outcomes	No significant difference
Cord pH	Slightly worse
Neonatal outcomes	Poorly reported

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JAMA 2018 Trial

JAMA | Original Investigation

Effect of Immediate vs Delayed Pushing on Rates of Spontaneous Vaginal Delivery Among Nulliparous Women Receiving Neuraxial Analgesia

A Randomized Clinical Trial

Alison G. Cahill, MD, MSCI; Sindhu K. Srinivas, MD, MSCE; Alan T. N. Tita, MD, PhD; Aaron B. Caughey, MD, PhD; Holly E. Richter, PhD, MD; W. Thomas Gregory, MD; Jingxia Liu, PhD; Candice Woolfolk, PhD; David L. Weinstein, MD; Amit M. Mathur, MD; George A. Macones, MD, MSCE; Methodius G. Tuuli, MD, MPH

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JAMA 2018 Trial Results

Outcome	Immediate	Delayed	RR
SVD	85.9%	86.5%	insignificant
AVB	6.3%	5.9%	insignificant
C-Section	7.8%	7.6%	insignificant
PPH	2.3%	4.0%	RR 0.6 (0.3-0.9)
Chorioamnionitis	6.7%	9.1%	RR 0.7(0.66-0.9)
Neonatal Morbidity	7.3%	8.9%	insignificant
3rd and 4th degree tears	5.3%	4.3%	RR1.2 (1.0-1.4)
Patient experience			insignificant
All adverse outcomes	**14.1%**	**17.4%**	**RR 0.8 (0.7-0.9)**

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JAMA study conclusions

"The current finding that delayed pushing prolonged the second stage of labor without increasing spontaneous vaginal delivery rates further argues against routine use of delayed pushing."

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Cochrane 2017

"In the absence of strong evidence supporting a specific … timing of pushing, the woman's preference and comfort and clinical context should guide decisions"

Lemos A, Amorim MMR, Dornelas de Andrade A, de Souza AI, Cabral Filho JE, Correia JB., Pushing/bearing down methods for the second stage of labour. Cochrane Database of Systematic Reviews 2017, Issue 3. Art. No.: CD009124

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ALARM recommendations

RECOMMENDED PRACTICES IN SECOND STAGE BY PARITY AND USE OF EPIDURAL ANALGESIA (AFTER FULL DILATION AND WHEN POWER IS ADEQUATE[52])				
	Nulliparous		Parous	
	No epidural	Epidural	No epidural	Epidural
Total duration*	3 hours	4 hours	2 hours	3 hours
Passive 2nd stage†	May wait up to 2 hours before pushing particularly when the presenting part is above +2 station or in an non-occiput anterior (OA) position, and the urge to push is absent. Encourage waiting to allow passive descent.		May wait up to 1 hour	May wait up to 2 hours before pushing, provided continued passive descent
Commence pushing	When urge to push present and not able to allow passive descent OR after 2 completed hours of passive second stage		When urge to push present OR after 2 completed hours of passive second stage	
Assessment	Hourly for descent and position. Reassess the need for assisted birth after 2 hours of active pushing.			

SOGC Guideline on Management of Spontaneous Labour at Term in Healthy Women, Lee, Dy, and Azzam JOGC 2016; 38:843-65

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ACOG Recommendations

Collectively, and particularly in light of recent high-quality study findings (57), data support pushing at the start of the second stage of labor for nulliparous women receiving neuraxial analgesia. Delayed pushing has not been shown to significantly improve the likelihood of vaginal birth and risks of delayed pushing, including infection, hemorrhage, and neonatal acidemia, should be shared with nulliparous women receiving neuraxial analgesia who consider such an approach.

ACOG Committee Opinion, Approaches to Limit Intervention in Labor and Birth, Obstetrics and Gynecology 133(2), Feb 2019

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Discuss

What have you been doing?

Does this evidence change anything?

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Hands on, hands off

- Good visualization has been shown to reduce 3rd and 4th degree tears
- "manual protection" of the perineum reduces 3rd and 4th degree tears
- Hands poised may have a slightly lower rate of tears but not significant
- Hot compresses – may reduce 3rd and 4th degree tears but not 1st and 2nd
- Massage – no impact on tears

Lemos A, Amorim MMR, Dornelas de Andrade A, de Souza AI, Cabral Filho JE, Correia JB., Pushing/bearing down methods for the second stage of labour. Cochrane Database of Systematic Reviews 2017, Issue 3. Art. No.: CD009124

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Two-step delivery

Traditional Teaching = expedite

vs

Two step – allow restitution, urge to push/next contraction

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Kotaska and Campbell Paper

Two-Step Delivery May Avoid Shoulder Dystocia: Head-to-Body Delivery Interval Is Less Important Than We Think

Andrew Kotaska, MD, FRCSC,[1,2] Kim Campbell, RMRN, MN[3]
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[2]School of Population and Public Health, University of British Columbia, Vancouver BC
[3]Division of Midwifery, Department of Family Practice, Faculty of Medicine, University of British Columbia, Vancouver BC

J Obstet Gynaecol Can 2014;36(8):716–720

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Evidence

- Locatelli (2011) – cord pH drops 0.008 for each minute
- Zhang et al (2016)
  - average head-to-body 71s +/- 61
  - Posterior shoulder emerged first 70% of the time
- Across studies
  - 40-70% of the time, shoulders deliver within 1 contraction
  - 90+% deliver within 4 minutes
- Shoulder dystocia – maybe reduced

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Kotaska and Campbell Conclusion

In a two-step approach to delivery, we conclude that a head-to-body delivery interval of up to four minutes between contractions is common, is safe, and may reduce the incidence of shoulder dystocia

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Discuss

What have you been doing?

Does this evidence change anything?

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Somersault Manoeuvre for Tight Nuchal Cord

- Risk of not managing – compression, acidemia, torn cord
- Risk of managing – delay in delivery, complete lack of blood flow, esp with shoulder dystocia, loss of delayed cord clamping

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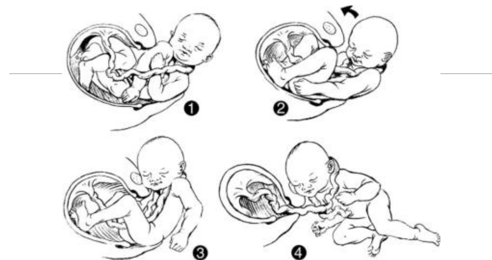

Nuchal Cord Management and Nurse-Midwifery Practice, Mercer J et al, Journal of Midwifery and Women's Health; 2005; 50(5):373-379

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