Maternity Education Program

Uterine Rupture

Participant Resource Kit

CSDS
Clinical Skills Development Service

Queensland Government

Maternity Education Program (MEP)

The resources developed for MEP are designed for use in any Queensland Health facility that care for patients/women who are pregnant/birthing or postnatal. Each resource can be modified by the facilitator and scaled to the needs of the learner as well as the environment in which the education is being delivered, from tertiary to rural and remote facilities.

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Uterine Rupture – Participant Resource Kit

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Who is this resource kit for?

This resource kit provides healthcare workers with knowledge and skills on assessing and managing a uterine rupture.

Target audience

Midwifery and medical staff providing maternity care

Duration

45 mins – including simulation and debrief (15 mins for set up not included)

Group size

Suited to small groups (6 – 8)

Learning objectives

By the end of the session the learner should be able to:

- Identify the risk factors associated with a uterine rupture.
- Identify early the signs of uterine rupture.
- Recognise and respond to a clinically deteriorating patient with a uterine rupture.
- Implement emergency management of uterine rupture.

Supporting documents

1. 2D pictures
2. Uterine rupture simulation

Overview

Uterine rupture in pregnancy is a rare and often catastrophic complication with a high incidence of fetal and maternal morbidity. Numerous factors are known to increase the risk of uterine rupture, but even in high-risk subgroups, the overall incidence of uterine rupture is low[1].

Uterine rupture in an unscarred uterus is extremely rare with incidence rates estimated at 0.5-2.0% per 10,000 deliveries, and occurrence mainly confined to multiparous patients in labour. Other risk factors for uterine rupture in an unscarred uterus include exposure to uterotonic drugs, uterine anomalies, advancing maternal age, dystocia, macrosomia, multiple gestation and abnormal placentation (placenta accreta, increta, or percreta)[2].

The incidence of scar rupture in a patient undergoing Vaginal Birth After Caesarean (VBAC) has been reported between 22 and 74 per 10,000 births[3].

The initial signs and symptoms of uterine rupture are typically nonspecific, which makes the diagnosis difficult and sometimes delays definitive treatment. The most common sign of a uterine rupture is a prolonged and persistent fetal bradycardia. The classic collection of symptoms of a uterine rupture are abdominal pain (constant or between contractions), vaginal bleeding and fetal heart rate abnormalities.

Other non-specific signs and symptoms of a uterine rupture include acute onset of scar tenderness, abnormal progress in labour, prolonged first or second stage of labour, cessation of previously efficient uterine contractions, haematuria, loss of station of the presenting part, chest pain or shoulder tip pain, maternal tachycardia, hypotension or shock[2].

The time of diagnosis to delivery is critical for both the mother and the fetus. The most significant maternal risk is death, though this is rare. An additional risk is that of a peripartum hysterectomy with rates ranging from 0.5 -2 per 1000[3]. From the time of diagnosis to delivery, generally only 10-37 minutes are available before clinically significant fetal morbidity becomes inevitable. The most significant fetal complication is the risk of perinatal death, which has a reported risk of 0.4-0.7 per 1000[3].

Further readings and resources

Vaginal birth after caesarean (VBAC) – Queensland Clinical Guidelines	
Author	Clinical Excellence Queensland, Queensland Health
Link	https://bit.ly/32vtH2Z

Birth after previous caesarean section	
Author	The Royal Australian and New Zealand College of Obstetricians and Gynaecologists
Link	https://bit.ly/32p9hZB

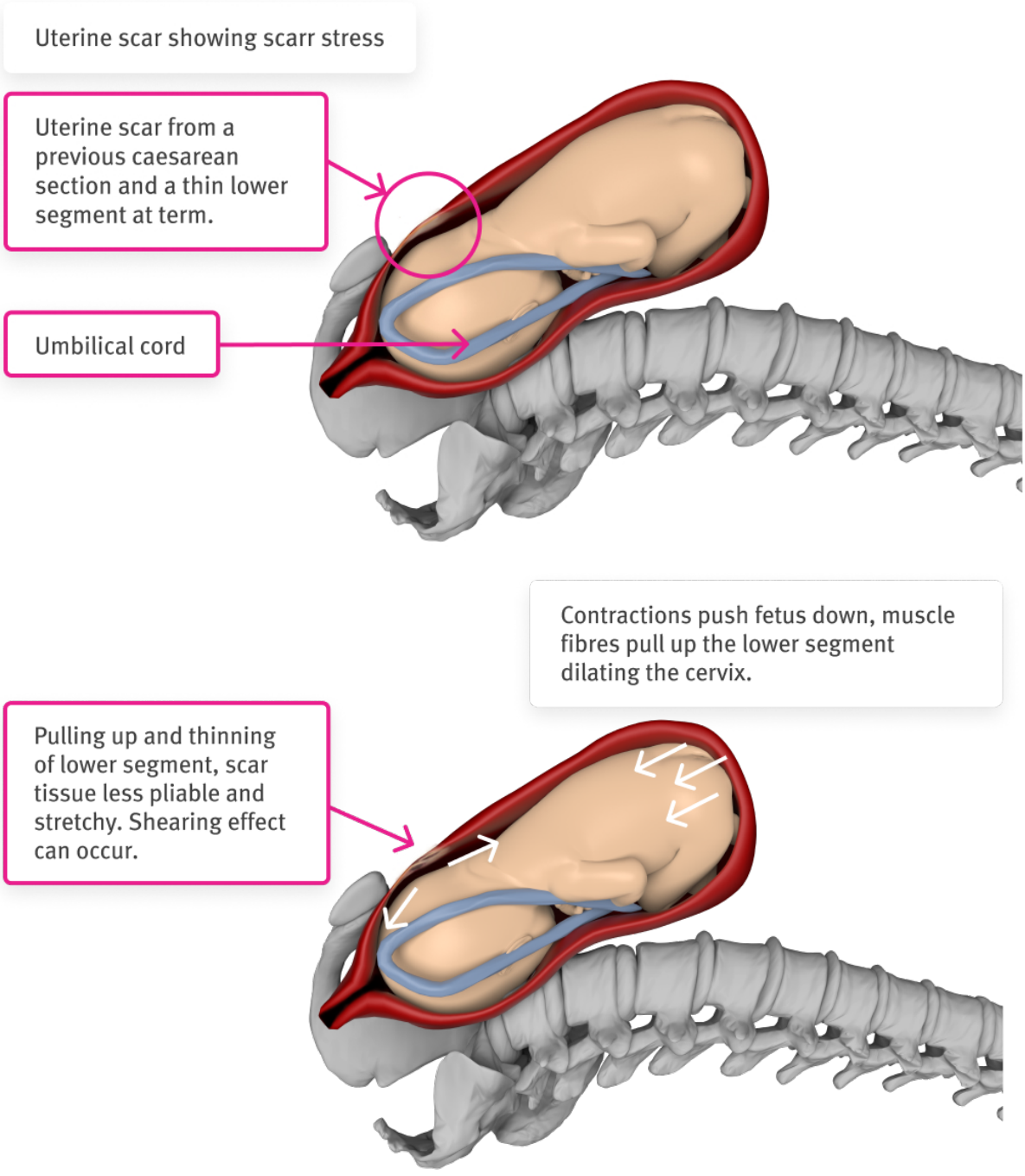
Uterine rupture – South Australian Perinatal Practice Guideline	
Author	Department of Health and Ageing, Government of South Australia
Link	https://bit.ly/2JJLTzk

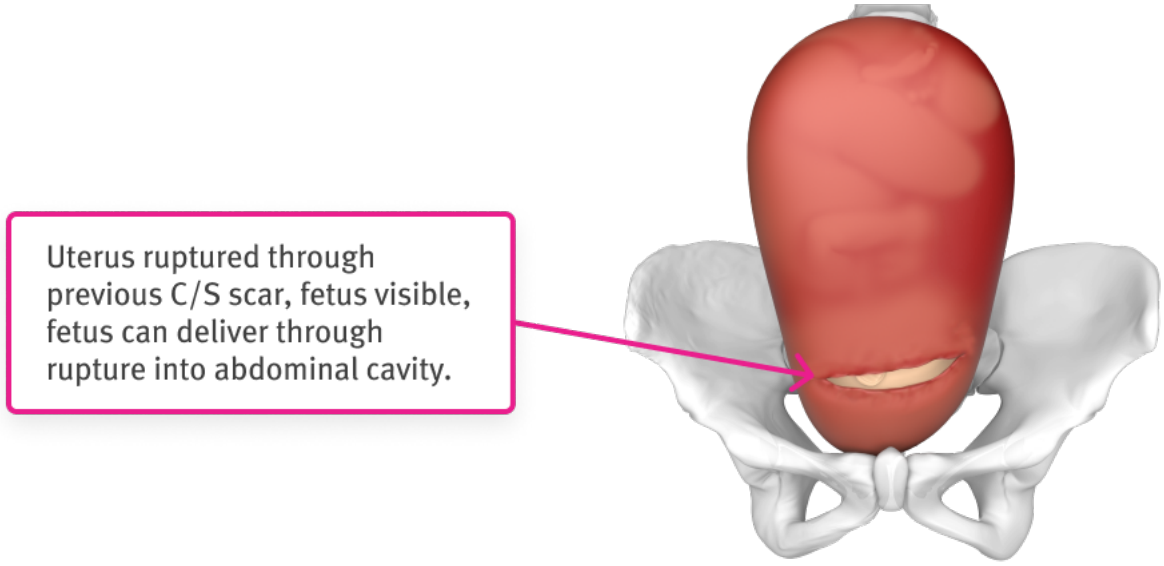
A Case Series of Uterine Rupture: Lessons to be Learned for Future Clinical Practice	
Author	Vladimir Revicky, Aruna Muralidhar, Sambit Mukhopadhyay, and Tahir Mahmood
Link	https://bit.ly/38s5yyj

Uterine Rupture in Pregnancy	
Author	Gerard G Nahum, Krystle Quynh Pham
Link	https://bit.ly/2Il3FZ4

Emergency Management

Management of uterine rupture





Powerpoint presentation

Uterine Rupture can be downloaded from https://bit.ly/2VrxOcu

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Acronyms and Abbreviations

Term	Definition
BP	Blood pressure
CAT 1	Category 1
CTG	Cardiotocograph
C/S	Caesarean section
DRABC	Danger, Response, Airway, Breathing, Circulation
FE	Fully effaced
FH	Fetal heart
GBS	Group B streptococcus
Hb	Haemoglobin
IVC	Intravenous cannula
MVA	Motor vehicle accident
MEP	Maternity Education Program
NAD	Nothing abnormal detected
NCHI	Nation Centre for Biotechnology Information
N^2O^2	Nitrous Oxide / Oxygen
Obs.	Observations
OP	Occipital posterior
OT	Operating Theatre
PHR	Pregnancy health record
RANZCOG	Royal Australian and New Zealand College of Obstetrics and Gynaecology
ROT	Right occipital transverse
Synto.	Syntocinon
USS	Ultrasound scan
VBAC	Vaginal birth after caesarean
VE	Vaginal Examination

References

This resource kit is inspired by the Optimus BONUS project of the Children's Health Queensland's "Simulation Training Optimising Resuscitation for Kids" service. To know more information about STORK and their Optimus project, visit their website at https://bit.ly/3km1wcZ.

1. Nahum GG, Pham KQ. Medscape. [Online].; 2018 [cited 2020 11 10. Available from: https://reference.medscape.com/article/275854-overview.

2. Smith JF, Wax JR. UpToDate. [Online].; 2019 [cited 2020 11 10. Available from: https://www.uptodate.com/contents/uterine-rupture-unscarred-uterus#:~:text=Most%20ruptures%20occur%20in%20women,the%20scarred%20uterus%20%5B1%5D.

3. The Royal Australian and New Zealand College of Obstetricians and Gynaecologists. RANZCOG. [Online].; 2019 [cited 2020 11 10. Available from: https://ranzcog.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical-Obstetrics/Birth-after-previous-Caesarean-Section-(C-Obs-38)Review-March-2019.pdf?ext=.pdf.

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The survey should take no more than 5 minutes to complete. Scan the QR code with your device or visit this link

https://www.surveymonkey.com/r/Z8Q398N

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