Maternity Education Program

Uterine Inversion

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.

Developed by Sue Hampton, Midwifery Educator – Clinical Skills Development Service (CSDS) MNHHS, Dr Belinda Lowe, Obstetrician & Gynaecologist – Gold Coast University Hospital

3D animation developed by Peter Thomas, 3D Interactive Specialist –CSDS

Uterine Inversion – 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 inversion.

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:

- Manage the third stage of labour as per the clinical guidelines.
- Identify the clinical features concerning for uterine rupture.
- Recognise uterine inversion and act promptly.
- Recognise and respond to a clinically deteriorating patient.
- Implement emergency management of uterine inversion.

Supporting documents

1. 2D pictures
2. Uterine inversion simulation

Overview

Uterine inversion occurs when the uterine fundus collapses into the endometrial cavity, turning the uterus partially or completely inside out. It is a rare complication of vaginal or cesarean delivery, but when it occurs, it can be a life-threatening obstetric emergency. If uterine inversion is not promptly recognized and treated, uterine inversion can lead to severe postpartum hemorrhage and shock which ultimately could result in a maternal death.[1]

Uterine inversion is rare, occurring in 0.05 percent of births. Active management of the third stage of labour may reduce the incidence of uterine inversion, but mismanagement of the third stage can lead to uterine inversion. A fundal implantation of the placenta may also contribute to a uterine inversion and needs to be considered when managing the third stage of labour.

The inverted uterus usually appears as a bluish-gray mass protruding from the vagina, often with the placenta still attached. The vasovagal effects of the inversion produce vital signs that are disproportionate to the amount of bleeding, usually accompanied by lower abdominal pain. The management of a uterine inversion is to replace the uterus quickly back into position, and manual replacement is the quickest method. Once the uterus has reverted, uterotonic agents should be given to promote uterine tone and to prevent recurrence. If initial attempts to replace the uterus manually fail, then hydrostatic pressure can be employed to assist reduction. Leave the placenta attached once the uterus has been replaced until the patient can be safely transferred to theatre. Administration of terbutaline, nitroglycerin (GTN), magnesium sulphate or general anesthesia may be required to allow the uterus to relax for manipulation. If these methods fail, the uterus will need to be replaced surgically.[2]

Obstetric Emergency is any clinical situation involving a maternity patient where immediate medical/ midwifery assistance is required.

[1] Puerperal uterine inversion George Macones, Vincenzo Berghella, Vanessa A Barss, Up to Date march 2020 - https://www.uptodate.com/contents/puerperal-uterine-inversion

[2] Prevention and Management of Postpartum Hemorrhage Janice m. Anderson, Duncan Etches, American Family Physicians 2007- https://www.aafp.org/afp/2007/0315/p875.html

Further readings and resources

Prevention and Management of Postpartum	
Author	Royal College of Obstetricians and Gynaecologists
Link	https://bit.ly/34f3siO

Perinatal Practice Guidelines – Uterine inversion	
Author	Royal College of Obstetricians and Gynaecologists
Link	https://bit.ly/2FMwFIq

Uterine Inversion	
Author	Monika Thakur, Angesh Thakur Nation Centre for Biotechnology Information (NCBI)
Link	https://bit.ly/2HfWr8r

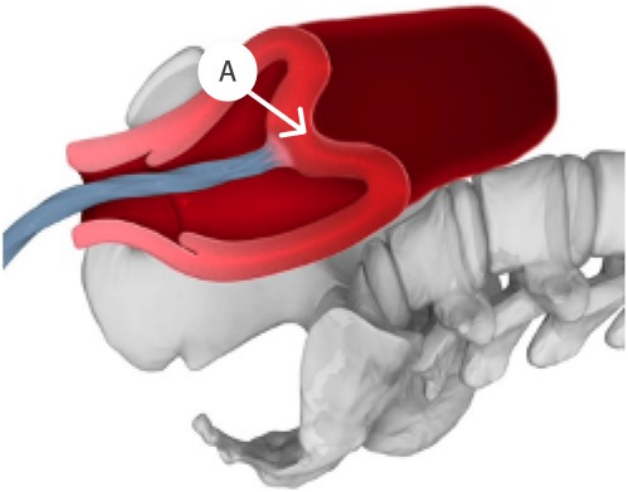
Uterine Inversion	
Author	Pradeesha Hettiarachchi, Abigail Evans, O&G Magazine
Link	https://bit.ly/3kezUaw

Puerperal uterine inversion	
Author	Pradeesha Hettiarachchi, Abigail Evans, O&G Magazine
Link	https://bit.ly/3kiEq7S

Emergency Management

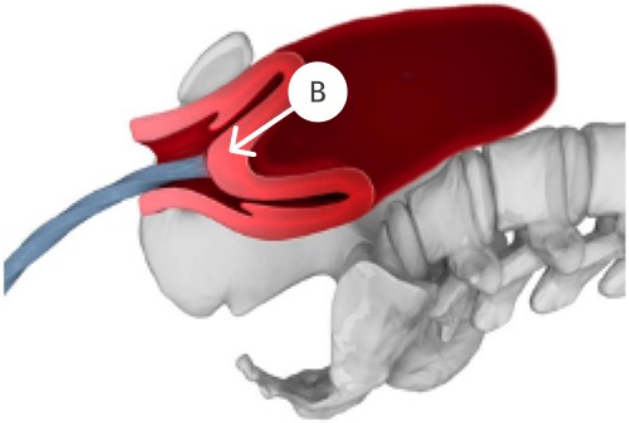
Management of uterine inversion

Degree of inversion



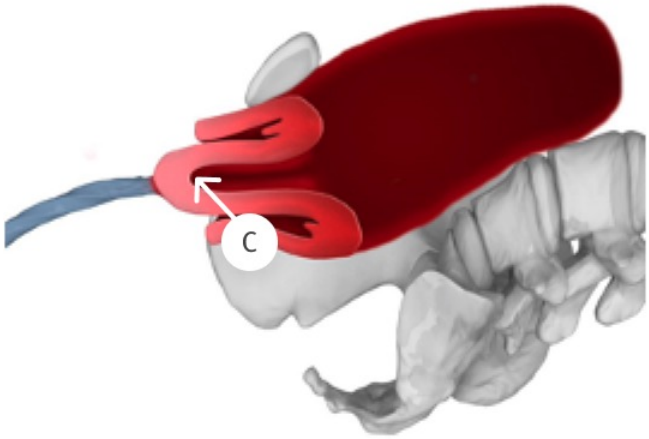
A

First degree inversion – fundus inverting into uterus, may not be obvious but a dip in the fundus maybe felt.



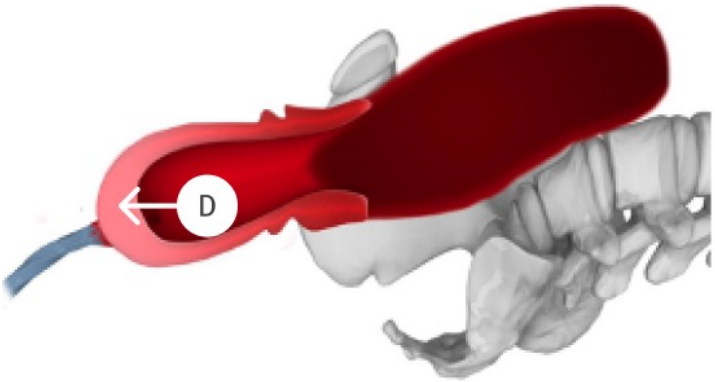
B

Second degree inversion – Fundus and placenta entering the cervix, woman maybe experiencing discomfort.



C

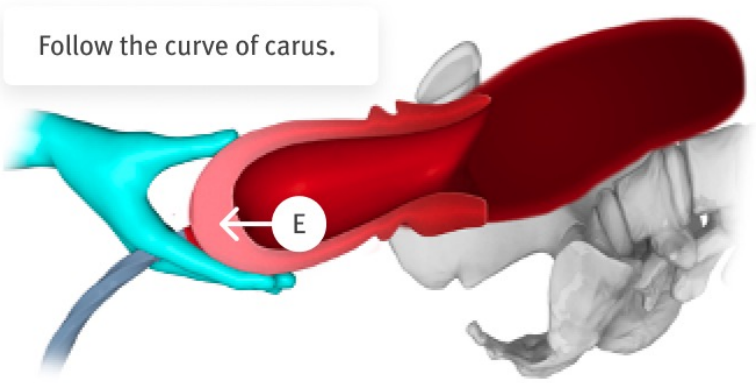
Third degree inversion – placenta surface is visible at introitus, woman probably in pain with early signs of shock.



D

Fourth degree inversion – uterus completely inverted outside of vagina with placenta still attached, woman in pain and most likely shocked.

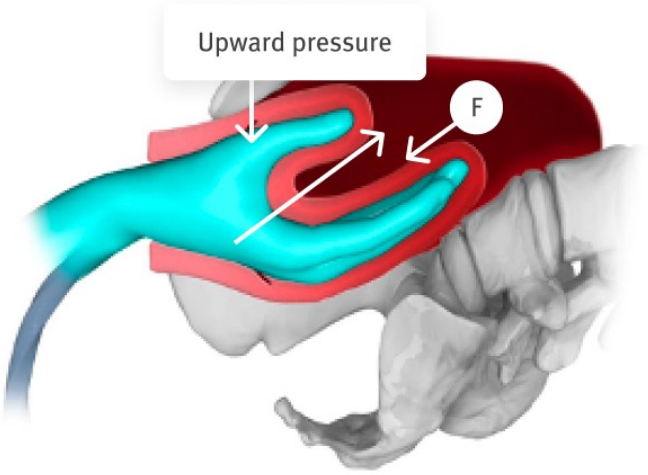
Manual replacement of the uterus



E

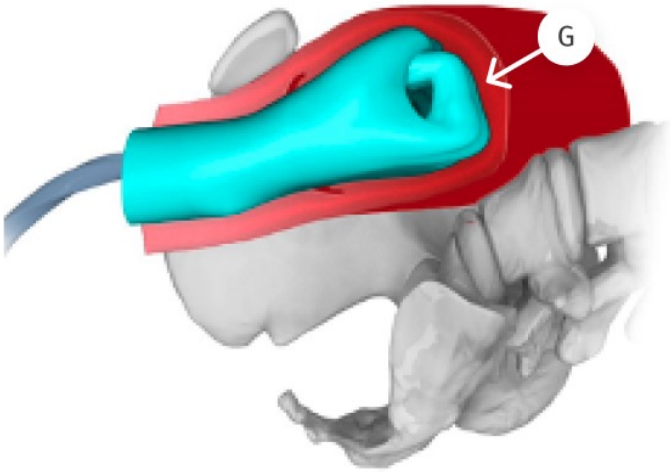
Apply even pressure on the fundus to replace the uterus.

Do not remove placenta.



F

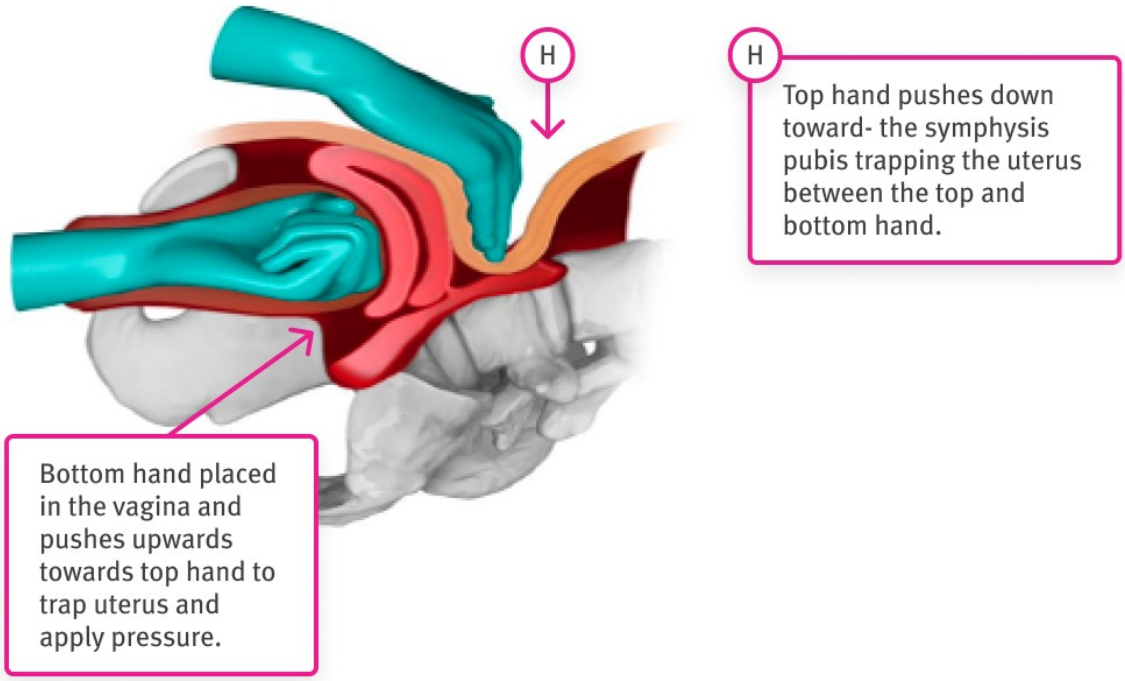
Once around the curve of carus apply gentle upward pressure, the uterus will naturally want to return to the correct position.



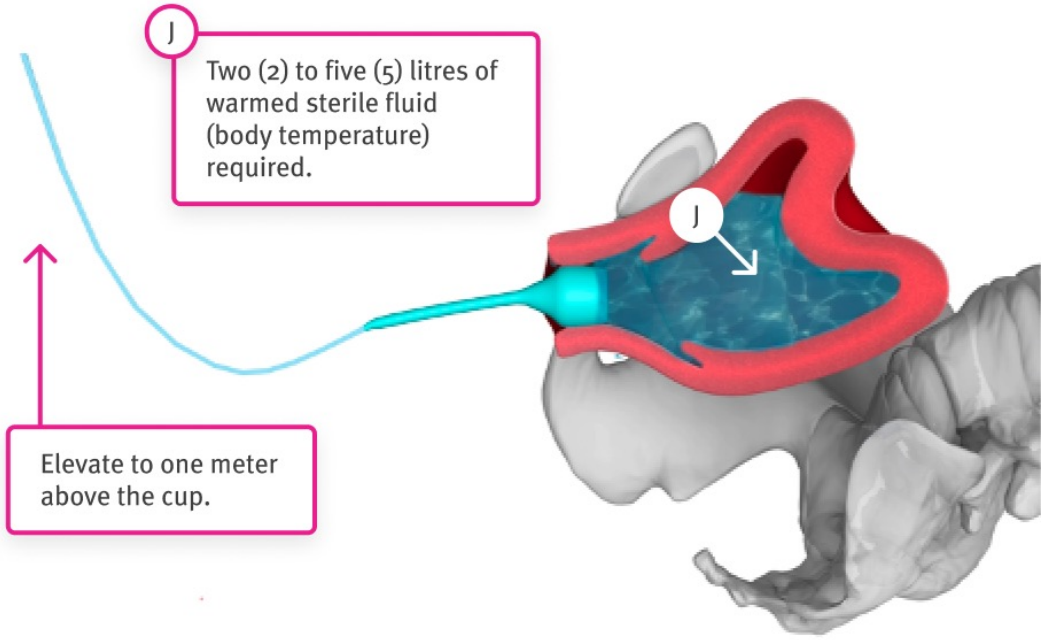
G

Once uterus is reinverted, hand should be made into a fist to complete inversion.

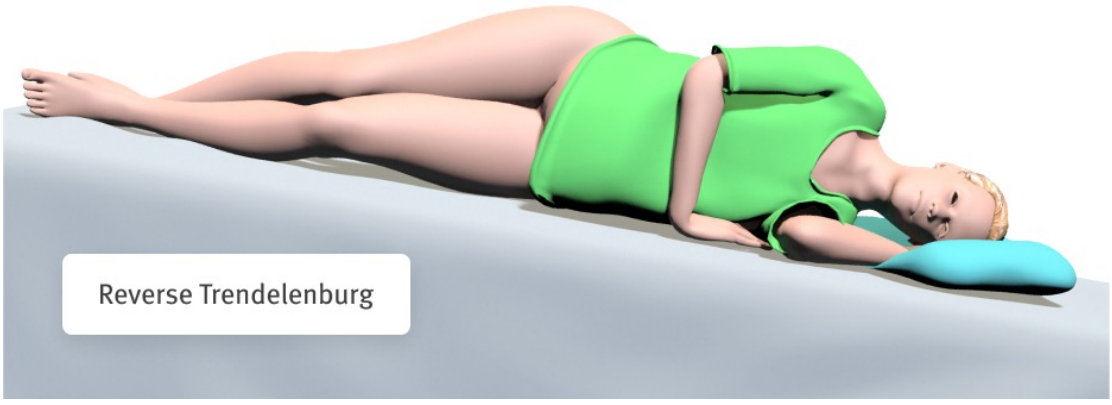
Bimanual compression applied to prevent bleeding when transporting to theatre.



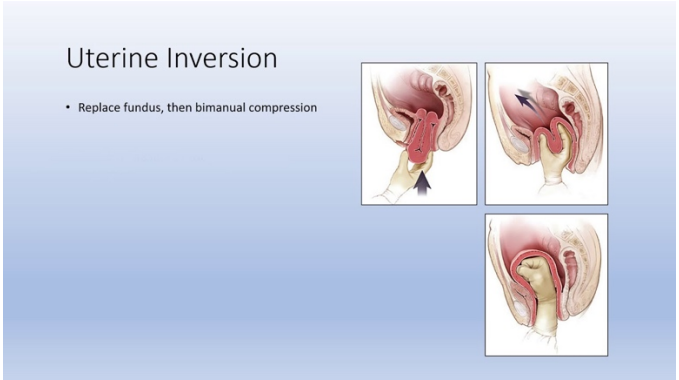
Hydrostatic pressure (O'Sullivan technique)

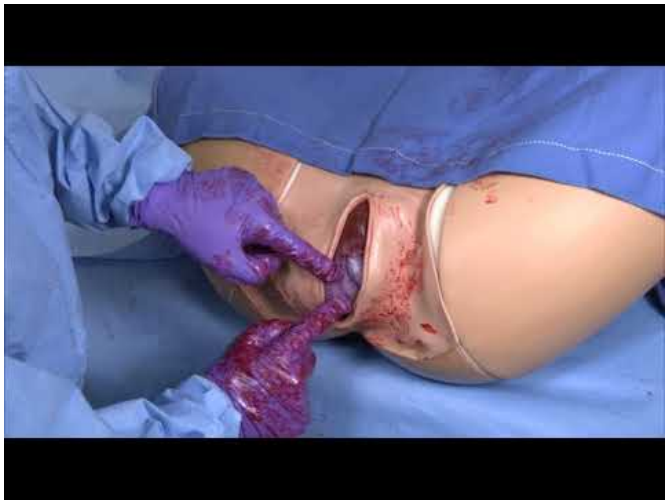


Hydrostatic pressure (O'Sullivan technique) is the reduction of an acute uterine inversion. It is an option if all other interventions have failed and surgical intervention is not possible or delayed. The woman is placed in Reversed Trendelenburg position (see below).



A bag of warmed fluid (body temperature) is hung at least one meter above the woman and is allowed to flow by gravity or with light pressure through tubing (suction tubing) connected to a silastic ventouse cup or a neonatal mask in the vagina; the seal between the cup/ mask and the vagina prevents significant leakage. The resulting intravaginal hydrostatic pressure may force the inverted fundus back to its normal position. Two to five litres of fluid may be needed to achieve this procedure.

Uterine Inversion – Obcast video	
	Scan me on your phone
https://bit.ly/303LLut	

How to Manage Uterine Inversion – Merck Manuals	
	Scan me on your phone
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Acronyms and Abbreviations

Term	Definition
BP	Blood pressure
CAT 1	Category 1
CCT	Controlled Cord Traction
CTG	Cardiotocograph
DRABC	Danger: Response: Airway: Breathing: Circulation
FH	Fetal heart
GBS	Group B streptococcus
G&H	Group & Hold
GTN	Glycerine Trinitrate
Hb	Haemoglobin
IVC	Intravenous Cannula
MROP	Manual Removal of Placenta
NAD	Nothing abnormal detected
NCHI	Nation Centre for Biotechnology Information
NR	Not Recorded
N^2O^2	Nitrous Oxide/Oxygen
OA	Occipital Anterior
Obs.	Observations
OT	Operating Theatre
PHR	Pregnancy health record
RCOG	Royal College of Obstetricians & Gynaecologists
SVD	Spontaneous Vaginal Delivery
USS	Ultrasound scan
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. Janice M Anderson DE. American Family Physician. [Online].; 2007 [cited 2020 10 14. Available from: https://www.aafp.org/afp/2007/0315/afp20070315p875.pdf.

2. Macones G. UpToDate. [Online].; 2019. Available from: https://www.uptodate.com/contents/puerperal-uterine-inversion.

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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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Developed by Sue Hampton, Midwifery Educator – Clinical Skills Development Service (CSDS) MNHHS, Dr Belinda Lowe, Obstetrician & Gynaecologist – Gold Coast University Hospital

Published by Clinical Skills Development Service
+61 3646 6500
Email CSDS-Courses@csds.qld.edu.au
Visit https://csds.qld.edu.au/mep