Acid Aspiration Prophylaxis

Classification:	Guideline
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Departments/Group this Document applies to:	Obstetricians, Midwives, Anaesthetists, Medical staff, Nursing staff

Approval Group: Women's Health CIG 05/06/2019 Anaesthetic CSU 19/06/2019	**Date of Approval:**	19/06/2019
	Last Review:	04/2019
	Review Date:	04/2022

Unique Identifier: MIDW/GL/47	**Status:** Approved	**Version No:** 5

Guideline to be followed by (target staff): The document applies to maternity units and surgical wards caring for pregnant women requiring incidental surgery. In particular, midwives, obstetricians, anaesthetists and nursing staff.

To be read in conjunction with the following documents: None

CQC Fundamental standards:
Regulation 12 – Safe care and treatment

Disclaimer

Since every patient's history is different, and even the most exhaustive sources of information cannot cover every possible eventuality, you should be aware that all information is provided in this document on the basis that the healthcare professionals responsible for patient care will retain full and sole responsibility for decisions relating to patient care; the document is intended to supplement, not substitute for, the expertise and judgment of physicians, pharmacists or other healthcare professionals and should not be taken as an indication of suitability of a particular treatment for a particular individual.

The ultimate responsibility for the use of the guideline, dosage of drugs and correct following of instructions as well as the interpretation of the published material **lies solely with you** as the medical practitioner.

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Guideline Statement

Pulmonary aspiration is defined as the inhalation of foreign material below the level of the vocal cords and into the lower respiratory tract (Clayton 2004, Lykens 1993)· A recent national audit conducted by the Royal College of Anaesthetists (NAP4) identified aspiration as the commonest cause of death in association with complications of airway management (Cook, 2011). The factors increasing the risk of aspiration associated with pregnancy include the gravid uterus, progesterone-mediated lower oesophageal sphincter relaxation, lower gastric pH and delayed gastric empting during labour (Pinder, 2006).

Aspiration of acidic gastric content is more harmful than non-acidic content. Therefore, it is important to neutralise the acidic gastric content.

Executive Summary

To provide health care professionals with clear guidance of the management of acid aspiration prophylaxis for expectant mothers

- During labour,
- If requiring operative delivery,
- Those needing incidental surgery during pregnancy.
- Or procedures within 48 hours after delivery.

Definitions

Pulmonary aspiration of gastric contents causes Acid Aspiration Syndrome when the volume aspirated into the lungs exceeds 25ml and has an acidic pH (less than 2.5). It could be the reason for severe morbidity and mortality
This was acknowledged by Mendelson (Mendelson, 1946) and is known as Mendelson Syndrome (Pulmonary Acid Aspiration Syndrome)
Reducing the volume and raising the pH of gastric contents is necessary to reduce the possibility of aspiration and damage caused by it, if it occurs

Acid aspiration prophylaxis has been practiced for many years. NICE guidance now exists for low risk and higher risk pregnant women in labour (NICE Intrapartum Care 2017).

All women undergoing Caesarean section should be offered acid aspiration prophylaxis (NICE Caesarean Section 2019).

Roles and Responsibilities:

Antacid prophylaxis is the responsibility of the team looking after the expectant mother. So medical team in charge of the mother should prescribe it and the midwife/nursing staff should administer them as prescribed.

2.0 Implementation and dissemination of document

The document applies to maternity units caring for pregnant women and to surgical wards where mothers require incidental surgery. It is for midwives, obstetricians, anaesthetists, medical and nursing staff.
The document can be accessed in the anaesthetic domain of the clinical guidelines on the hospital intranet. In addition, copies can be accessed in the Anaesthetic Obstetric Office Guideline Folder on labour ward.

3.0 Processes and procedures

3.1. Women with uncomplicated labour:

- Inform the woman that she may drink during established labour and that isotonic drinks, to prevent ketosis, may be more beneficial than water. Inform the woman that she may eat a

light diet (e.g. toast) in established labour unless she has received opioids, or she develops risk factors that make a general anaesthetic more likely.
- Acid prophylaxis is not required unless circumstances change.

3.2 Women with complicated/complex labour who are more likely to undergo general anaesthesia (See appendix 1):

- Can drink water or isotonic fluids, should not eat food or drink milk.
- RANITIDINE 150 mg orally 6 hourly throughout labour until delivery of the baby and placenta. A repeat dose of ranitidine is advised if the woman vomits within ½ hour of the first dose – in this case IM or IV (50mg) would be better.

3.3 Women undergoing elective obstetric procedures (e.g. Caesarean section under general anaesthesia or central neuroaxial block)

- RANITIDINE 150 mg orally at 22.00 hours in the evening prior to operation
- RANITIDINE 150 mg orally at 06.00 hours on morning of operation.

  If operation is likely to be delayed 6 hours after previous dose, consider giving further dose of Ranitidine
- SODIUM CITRATE (0.3 MOLAR) 30ml to be given in theatres if procedure is under general anaesthesia. METOCLOPRAMIDE 10mg orally may be added at discretion of anaesthetist (e.g. diabetic patient)
- Women should not eat food or drink milk in the six hours prior to anaesthesia. They may drink water or other clear, non-fizzy fluids (Black tea, coffee, isotonic drinks) until 2 hours prior to anaesthesia.

3.4 Women requiring Emergency Anaesthesia:

- RANITIDINE 50mg by SLOW IV injection over 2 minutes, diluted to 20ml if no RANITIDINE has been given within the last 6 hrs
- Additionally, METOCLOPRAMIDE 10mg to be given IV if patient not adequately starved
- SODIUM CITRATE (0.3 MOLAR) 30ml to be given immediately prior to induction of anaesthesia

NOTE:

A. Oral ranitidine takes 90 – 120 minutes to work so if surgery is required within 2 hours of taking the first dose of ranitidine, sodium citrate (30ml) should be given.

B. IV ranitidine takes 30 minutes to have an effect in raising the pH of gastric contents. It is important for anaesthetists, obstetricians and midwives to liaise closely so that women who are likely to be transferred to theatre can be given IV ranitidine as soon as the possibility of surgical intervention is evident.

C. Administration of IV ranitidine should not delay transfer to theatre in urgent cases. Sodium citrate should be given, if required, and the ranitidine added as soon as possible.

D. Sodium citrate should ideally be given just before transfer to the operating table as the movement promotes mixing with stomach contents

E. Pregnant patients greater than 20 weeks gestation for elective obstetric or non-obstetric procedures should be managed as above.

F. Post-partum mothers should have full antacid prophylaxis for all procedures up to 48 hours post-delivery (including a rapid sequence induction with a cuffed endotracheal tube for general anaesthetic)

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5.0 Governance

5.1 Record of changes to document

Version	Date	Name	Reason
1	**2005**	**Anaesthetic Team**	**New**
	10/2008		**Review date extended**
	5/2009 & 9/2009		**Review date extended**
2	**02/2010**	**Emma Brandon**	**Review and update**
3	**06/2013**	**Graziana Massolini**	**Reviewed and updated**
5	04/2019	Eleanor Tyagi	Sections 3.1 and 3.2 reviewed and updated to better reflect the NICE intrapartum care guidelines.

5.2 Consultation History

Stakeholders Name/Board	Area of Expertise	Date Sent	Date Received	Comments	Endorsed Yes/No
Jayne Plant	Library	27/03/2019	22/05/2019	Received	Yes
Alan Dutta-Plummer	Pharmacist	02/04/2019		Nil comments received	
Francisca Mngola	Pharmacist	02/04/2019	24/05/2019	Comments received	Yes
Obstetric Anaesthetists	Obstetric Anaesthesia	April 2019		No changes	
All staff in Women's health – consultants, junior doctors and midwives	Maternity	02/05/2019		See individual comments	
Julie Cooper	Maternity	15/05/19		Removed a line about this guideline being included in midwifery teaching and changed 'products of conception' to baby	Yes

5.3 Audit and monitoring

This Guideline outlines the process for document development will be monitored on an ongoing basis. The centralisation of the process for development of documents will enable the Trust to audit more effectively. The centralisation in recording documents onto a Quality Management database will ensure the process is robust.

Audit/ Monitoring Criteria	Tool	Audit Lead	Frequency of Audit	Responsible Committee/ Board		
%of women having elective caesareans, or %of 'at-risk' women in labour, who are following the starvation/acid prophylaxis guidelines	Audit 8.5 of the RCOA audit compedium	Anaesthetic Team	Every 2 years	Women's Health CIG	Anaesthetic Team	

5.4 Equality Impact Assessment

As part of its development, this Guideline and its impact on equality has been reviewed. The purpose of the assessment is to minimise and if possible remove any disproportionate impact on the grounds of race, gender, disability, age, sexual orientation, religion or belief, pregnancy and maternity, gender reassignment or marriage and civil partnership. No detriment was identified. Equality Impact assessments will show any future actions required to overcome any identified barriers or discriminatory practice.

Equality Impact Assessment			
Division	Women and Children's Health	Department	Maternity
Person completing the EqIA	Eleanor Tyagi	Contact No.	
Others involved:		Date of assessment:	
Existing policy/service	Yes	New policy/service	N/A

Will patients, carers, the public or staff be affected by the policy/service?	Yes
If staff, how many/which groups will be affected?	*For example: community midwives, phlebotomists, all staff*

Protected characteristic	Any impact?	Comments
Age	NO	Positive impact as the policy aims to recognise diversity, promote inclusion and fair treatment for patients and staff
Disability	NO	
Gender reassignment	NO	
Marriage and civil partnership	NO	
Pregnancy and maternity	NO	
Race	NO	
Religion or belief	NO	
Sex	NO	
Sexual orientation	NO	

What consultation method(s) have you carried out?
Email to staff (anaesthetic, women's health and pharmacy) as part of the consultation period. Will be discussed at the guideline review group meeting.
How are the changes/amendments to the policies/services communicated?
For example: email, meetings, intranet post, etc
What future actions need to be taken to overcome any barriers or discrimination?

What?	Who will lead this?	Date of completion	Resources needed
Review date of EqIA			

Appendix 1:

Women at higher risk of general anaesthesia requiring antacid prophylaxis in labour

a. BMI > 40 at booking

b. Multiple pregnancy

c. Breech presentation

d. Oxytocin for augmentation

e. Pathological CTG / foetal scalp pH done

f. Significant meconium staining of liquor

g. Some women with epidural analgesia (consult anaesthetist)

h. Trial of scar

i. Diabetes

j. APH

k. Pregnancy induced hypertension

l. IUGR, premature labour < 36 weeks
m. Any other patient at risk of aspiration identified by the team