Royal Hospital for Women (RHW)
BUSINESS RULE
COVER SHEET

Health
South Eastern Sydney
Local Health District

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NAME OF DOCUMENT	Acute Abdomen – Management in Pregnancy
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RISK RATING	Medium
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EXECUTIVE SPONSOR	Medical Co-director of Maternity Services
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SUMMARY	Diagnosis and treatment of acute abdominal conditions with both maternal and fetal welfare closely monitored

The Royal HOSPITAL FOR WOMEN

Royal Hospital for Women (RHW)
CLINICAL BUSINESS RULE

Acute Abdomen – Management in Pregnancy RHW CLIN005

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1. BACKGROUND

Acute abdomen refers to any serious acute intra-abdominal condition accompanied by pain, tenderness and muscular rigidity, for which emergency surgery may be required[(1)]. It can occur due to obstetric and non-obstetric aetiologies.

The aim of this CBR is:

- Prompt diagnosis and treatment of a woman presenting with acute abdomen in pregnancy
- Close monitoring of maternal and fetal condition

2. RESPONSIBILITIES

2.1 Medical (obstetric, surgical and anaesthetics) staff:
- assess, diagnose, recognise signs of deterioration, resuscitate, and manage

2.2 Midwifery and nursing staff:
- assist, monitor and escalate signs of deterioration

2.3 Radiology staff:
- perform timely radiological procedures

2.4 Neonatal staff:
- provide care to neonate

3. PROCEDURE

Clinical Practice

3.1 **Assessment**

- Assess haemodynamic stability by performing A to G assessment:
  - **A**irway
  - **B**reathing
  - **C**irculation
  - **D**isability (e.g. neurological status)
  - **E**xposure
  - **F**luids
  - **G**lucose
- Activate appropriate Clinical Emergency Response System (CERs) - clinical review, rapid response, or code blue
- Manage suspected or known trauma as outlined in Trauma During Pregnancy CBR
- Consider point of care (Focused Assessment with Sonography in Trauma, 'FAST') ultrasound in the critically unwell woman
- Obtain detailed clinical history (if possible) including past obstetric history as pregnancy complications may present with acute abdominal pain and can recur in subsequent pregnancies e.g., placental abruption
- Perform physical examination and assess for:
  - Peritonism and distention (abdominal examination as in the non-pregnant woman considering the anatomical changes that may be present due to pregnancy - see appendix 1[2])

- Uterine activity
- Vaginal loss
- Pain

- Insert intravenous (IV) line and collect urgent bloods including but not limited to:
  - Full Blood Count (FBC), Electrolyte Urea Creatinine (EUC), C-reactive protein (CRP), Liver Function Test (LFTs), blood group and antibody screen
  - Kleihauer Betke test
  - venous blood gas
  - +/- amylase/lipase/coagulation profile/urate level (depending on clinical situation)
- Assess fetal heart with doppler, cardiotocograph (CTG) or ultrasound scan (USS)
- Consider further investigation with electrocardiogram (ECG), USS (obstetric +/- abdominal +/- renal tract), X-ray, computerised tomography (CT) or magnetic resonance imaging (MRI). Concerns about ionizing radiation to the fetus should not prevent medically indicated investigation of the pregnant woman or delay diagnosis and treatment

3.2 **Management**

- Provide appropriate analgesia
- Obtain consultation from other specialties as necessary with level of urgency indicated by situation (e.g. anaesthetics, surgical, radiology)
- Perform and monitor observations appropriately to situation and escalate as indicated by the Standard Maternity Observation Chart (SMOC)

3.2.1 **Haemodynamically UNSTABLE**

- Administer urgent fluid resuscitation with strict monitoring of fluid input/output
- Insert indwelling catheter (IDC) to observe hourly urine output (especially if concern for acute urinary retention)
- Consider blood transfusion
- Keep nil by mouth
- Decide collaboratively with consulted teams whether immediate surgical intervention is required +/- birth

3.2.2 **Haemodynamically STABLE**

- Consider intravenous fluids and blood products (depending on clinical situation)
- Consider differential diagnosis (see educational notes)
- Obtain urine for urinalysis (protein, creatinine, glucosuria, nitrites and leukocytes). Send second sample for microculture and sensitivities
- Trial conservative management with close monitoring
- Consider surgical exploration +/- intervention +/- birth if no improvement or there is a deterioration in clinical condition,

3.3 **Documentation**

- Medical record
- Antenatal yellow card

3.4 **Educational Notes**

- Acute abdominal conditions in pregnancy can be challenging to diagnose and treat due to atypical presentations [2]
- Diagnostic radiation has never been associated with fetal teratogenicity and should be used where appropriate for diagnosis[3]
- MRI without gadolinium can be considered as a safe, non-ionizing second line of imaging[4, 5]
- CT Scans with shielding can be performed safely without significant risk of fetal harm after appropriate

counselling[6]

- Aetiology of Acute Abdominal Pain in Pregnancy[2]
    1. Obstetric causes
    2. Non-obstetric abdominal causes
    3. Extra-abdominal causes

Obstetric Causes:	

EARLY PREGNANCY[2]
• Miscarriage or septic abortion
• Ectopic pregnancy
• Molar pregnancy
• Ovarian cyst – torsion, haemorrhage, rupture
• Degeneration of uterine fibroids
• Round ligament pain
• Acute urinary retention
	LATE PREGNANCY[2]
	• Labour including threatened pre-term labour
	• Intra-amniotic infection
	• Placental abruption
	• Pregnancy related liver disease
	  ○ acute fatty Liver
	  ○ HELLP (Hemolysis, Elevated Liver enzymes, Low Platelets count) syndrome
	  ○ preeclampsia
	• Uterine rupture
	• Fibroid degeneration or torsion
	• Fallopian tube torsion
	• Uterine torsion
	• Rectus muscle haematoma
	• Polyhydramnios/TTTS
	• Symphysis diastasis

Non-Obstetric Causes:	
SURGICAL[2] • Appendicitis • Gallbladder disease • Acute pancreatitis • Renal colic • Hernia • Intestinal obstruction • IBD (inflammatory bowel disease) • Ruptured aneurysm (splenic artery and other vessels) • Trauma • Peptic ulcer	**MEDICAL[7]** • Constipation • Gastroenteritis • GORD (Gastro-Oesophageal Reflux Disease) • Acute cystitis / pyelonephritis • Pelvic inflammatory disease • Porphyria • Sickle cell crisis • DVT (Deep Vein Thrombosis)
Extra-abdominal aetiology[8]:	
• Cardiac pain • Pleuritic pain • Drug abuse or withdrawal • Herpes Zoster infection	

3.5 **Related Policies/procedures**

- Fetal Heart Rate Monitoring – Maternity - MoH GL2018/025
- Trauma during pregnancy
- Sepsis in Pregnancy and Postpartum
- Antepartum Haemorrhage (APH)
- Pre-eclampsia - Intrapartum Care
- Deteriorating Maternity woman – Management of – SESLHDPR/705

3.6 **Implementation, communication, and education plan**

3.7 **References**

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3. Lowe S. Diagnostic imaging in pregnancy: Making informed decisions. Obstet Med. 2019;12(3):116-22.
4. Ray JG, Vermeulen MJ, Bharatha A, Montanera WJ, Park AL. Association Between MRI Exposure During Pregnancy and Fetal and Childhood Outcomes. JAMA. 2016;316(9):952-61.
5. Grady K, Howell C, Cox C. Managing Obstetric Emergencies and Trauma Course Manual (2nd edition). London, UK: RCOG Press; 2009.
6. Nelson-Piercy C. Handbook of Obstetric Medicine (5th edition). London, UK: CRC Press; 2015.
7. De Swiet's Medical Disorders in Obstetric Practice. Sultan Qaboos Univ Med J. 2011;11(1):136-7. Epub 2011 Feb 12.
8. Stone K. Acute abdominal emergencies associated with pregnancy. Clin Obstet Gynecol. 2002;45(2):553-61.

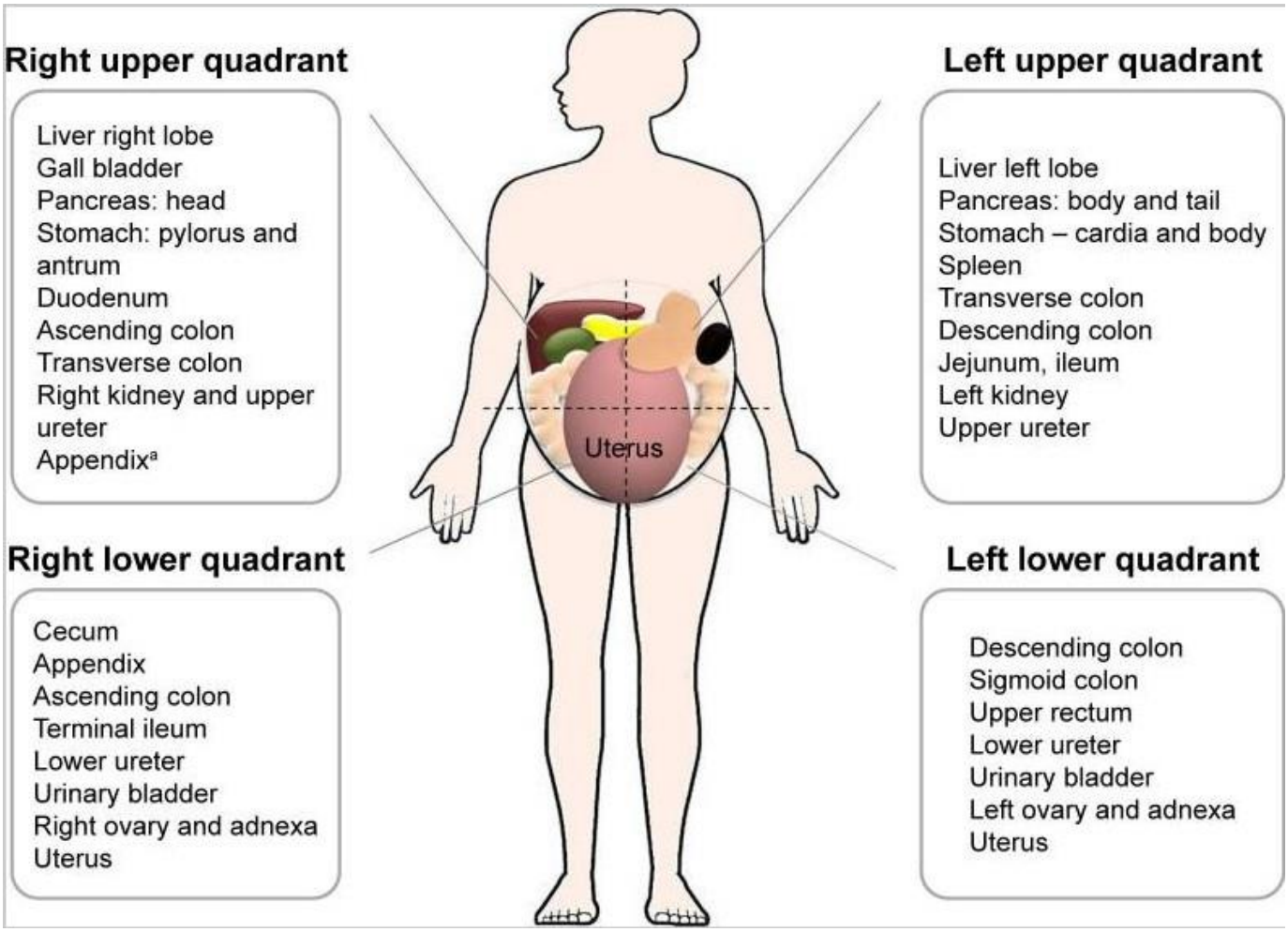
4. CULTURAL SUPPORT

- When clinical risks are identified for an Aboriginal woman, she may require additional supports. This may include Aboriginal health professionals such as Aboriginal liaison officers, health workers or other culturally specific services.
- For a Culturally and Linguistically Diverse CALD woman, notify the nominated cross-cultural health worker during Monday to Friday business hours
- If the woman is from a non-English speaking background, call the interpreter service: NSW Ministry of Health Policy Directive PD2017_044-Interpreters Standard Procedures for Working with Health Care Interpreters.

5. REVISION AND APPROVAL HISTORY

Date	Revision No.	Author and Approval
Reviewed and endorsed Maternity Services LOPs group 7/4/20 Approved Quality & Patient Care Committee April 2016 Amended August 2019 – PACE changed to CERS Reviewed and endorsed Obstetrics LOPs group 7/4/16 Approved Quality Council 21/11/05 Reviewed and endorsed Maternity Services Clinical Committee 9/11/05 Approved Council 24/9/01 Previously titled: The Management of an Antenatal Patient with an Acute Abdomen Reviewed October 2004 (finalised Nov 2005)		

Appendix 1


Right upper quadrant
Liver right lobe
Gall bladder
Pancreas: head
Stomach: pylorus and antrum
Duodenum
Ascending colon
Transverse colon
Right kidney and upper ureter
Appendix[a]
Left upper quadrant
Liver left lobe
Pancreas: body and tail
Stomach – cardia and body
Spleen
Transverse colon
Descending colon
Jejunum, ileum
Left kidney
Upper ureter
Uterus
Right lower quadrant
Cecum
Appendix
Ascending colon
Terminal ileum
Lower ureter
Urinary bladder
Right ovary and adnexa
Uterus
Left lower quadrant
Descending colon
Sigmoid colon
Upper rectum
Lower ureter
Urinary bladder
Left ovary and adnexa
Uterus