ACT Government | Canberra Health Services

Our reference: **FOI19/78**

[redacted]

Dear [redacted]

DECISION ON YOUR ACCESS APPLICATION

I refer to your application under section 30 of the *Freedom of Information Act 2016* (FOI Act), received by Canberra Health Services (CHS) on Monday 18 November 2019.

This application requested access to:

> *'1. All protocols, policy directives, instruction manuals, circulars or other documents in relation to: -*
>
> *i. The administration of tocolytic agents in cases of uterine hypertonus/hyperstimulation between 1 January 2010 to 1 January 2012.*
> *ii. Circumstances in which a continuous cardiotocography ought be applied either prior to or after the commencement of labour between 1 January 2010 and 1 January 2012.'*

I am an Information Officer appointed by the Chief Executive Officer of Canberra Health Services (CHS) under section 18 of the FOI Act to deal with access applications made under Part 5 of the Act. CHS was required to provide a decision on your access application by **Monday 16 December 2019**.

I have identified eight documents holding the information within scope of your access application. These are outlined in the schedule of documents included at Attachment A to this decision letter.

Decisions

I have decided to grant full access to all six documents requested within your access application. The documents released to you is provided at Attachment B to this letter.

Please note the documents were in effect for the timeframe you requested.

In reaching my access decision, I have taken the following into account:

- The FOI Act;
- The contents of the documents that fall within the scope of your request; and
- The *Human Rights Act 2004*.

Charges

Processing charges are not applicable to this request.

Disclosure Log
Under section 28 of the FOI Act, CHS maintains an online record of access applications called a disclosure log. The scope of your access application, my decision and documents released to you will be published in the disclosure log not less than three days but not more than 10 days after the date of this decision. Your personal contact details will not be published.
https://www.health.act.gov.au/about-our-health-system/freedom-information/disclosure-log.

Ombudsman review
My decision on your access request is a reviewable decision as identified in Schedule 3 of the FOI Act. You have the right to seek Ombudsman review of this outcome under section 73 of the Act within 20 working days from the day that my decision is published in ACT Health's disclosure log, or a longer period allowed by the Ombudsman.

If you wish to request a review of my decision you may write to the Ombudsman at:

The ACT Ombudsman
GPO Box 442
CANBERRA ACT 2601
Via email: ACTFOI@ombudsman.gov.au.

ACT Civil and Administrative Tribunal (ACAT) review
Under section 84 of the Act, if a decision is made under section 82(1) on an Ombudsman review, you may apply to the ACAT for review of the Ombudsman decision. Further information may be obtained from the ACAT at:

ACT Civil and Administrative Tribunal
Level 4, 1 Moore St
GPO Box 370
Canberra City ACT 2601
Telephone: (02) 6207 1740
http://www.acat.act.gov.au/

Further assistance
Should you have any queries in relation to your request, please do not hesitate to contact the FOI Coordinator on (02) 5124 9831 or email HealthFOI@act.gov.au.

Yours sincerely

Katrina Bracher
Executive Director
Division of Women, Youth and Children

13 December 2019

ACT Government | Canberra Health Services

FREEDOM OF INFORMATION SCHEDULE OF DOCUMENTS

Please be aware that under the *Freedom of Information Act 2016*, some of the information provided to you will be released to the public through the ACT Government's Open Access Scheme. The Open Access release status column of the table below indicates what documents are intended for release online through open access.

Personal information or business affairs information will not be made available under this policy. If you think the content of your request would contain such information, please inform the contact officer immediately.

Information about what is published on open access is available online at: http://www.health.act.gov.au/public-information/consumers/freedom-information

APPLICANT NAME	WHAT ARE THE PARAMETERS OF THE REQUEST	FILE NUMBER
[redacted]	*1. All protocols, policy directives, instruction manuals, circulars or other documents in relation to: -* *i. The administration of tocolytic agents in cases of uterine hypertonus/hyperstimulation between 1 January 2010 to 1 January 2012.* *ii. Circumstances in which a continuous cardiotocography ought be applied either prior to or after the commencement of labour between 1 January 2010 and 1 January 2012.*	**FOI19/78**

Ref Number	Page Number	Description	Date	Status Decision	Factor	Open Access release status
1.	1 – 3	5.14 Administration of Oral Nifedipine for Suppression of Labour in Delivery Suite	October 2006	Full Release		YES
2.	4 – 8	6.3 Salbutamol Infusion	June 1999	Full Release		YES
3.	9 – 12	7.6.1 Cardiotocography (CTG) Application and Interpretation	June 2004	Full Release		YES
4.	13 – 14	7.6.2 Antepartum Electronic Fetal Monitoring (EFM)	June 2004	Full Release		YES

5.	15 – 16	7.6.3 Intrapartum Electronic Fetal Monitoring (EFM)	June 2007	Full Release		YES
6.	17 – 19	Preterm Labour	May 2008	Full Release		YES
Total Number of Documents						
6						

5.14 ADMINISTRATION OF ORAL NIFEDIPINE FOR SUPPRESSSION OF LABOUR IN DELIVERY SUITE

Women in preterm labour will receive oral Nifedipine to suppress contractions and delay birth until maternal steroids have been administered.

MANAGEMENT

Midwives and medical staff will:

- be aware that oral Nifedipine is only administered once pre-term labour has been diagnosed as per MPS 3.1.13.
- be aware that the use of Nifedipine is to reduce the likelihood of birth within 48hours and to allow time for administration of maternal steroids to enhance fetal lung maturity.
- discuss the advisability of Nifedipine administration including the benefits, possible maternal and fetal side effects with the woman and gain her consent for its use.
- be aware of the following maternal contraindications:
    - hypotension (systolic BP less than 90mmhg)
    - previous adverse reactions to calcium channel blockers
    - cardiac disease
    - hepatic dysfunction
    - pre-eclampsia
    - undiagnosed significant bleeding
- be aware of the following fetal contraindications:
    - suspected intrauterine infection
    - labour in the presence of placenta praevia
    - placental abruption
    - severe fetal growth restriction
    - lethal fetal anomalies
    - fetal death in utero
- be aware of common side effects which include:
    - palpitations
    - peripheral oedema
    - hypotension
    - dizziness
    - flushing
    - headache
    - nausea and vomiting

Midwifery and Medical Awareness
"Nifedipine is classified as a risk Category C drug in pregnancy. It carries the potential for fetal hypoxia associated with maternal hypotension. The blood pressure lowering effect of Nifedipine may be potentiated by other antihypertensive drugs." NSW Health Dept Circular

- be aware of the following rare side effects:
    - abnormal liver function tests

5.14 ADMINISTRATION OF ORAL NIFEDIPINE FOR SUPPRESSION OF LABOUR

- congestive cardiac failure
- transient hyperglycaemia
- tachycardia
- chest pain
- ischaemia (retinal, cerebral)
- tinnitus
- pruritus

Midwifery and medical officer alert
Nifedipine must be administered only in **DELIVERY SUITE** in the presence of uterine contractions.
Nifedipine MUST NEVER be crushed it can only be administered whole

- record and document maternal and fetal vital signs before the commencement of Nifedipine.
- prescribe and/or administer Nifedipine **only in Delivery Suite as** follows:

Initial dose	**20 mg** Nifedipine and mixed in a small amount of water. As per weekly review meeting 24/4/2006
If Uterine Contractions persist after 30 minutes	Administer another **20 mg** Nifedipine crushed. This can be repeated at 30 minute intervals for two further crushed doses (up to **80 mgs**).
Maximum dose in 24 hours	**160mgs**
If contractions cease a maintenance dose may be administered in the Ante/Gynae ward	20-40 mgs 6 hourly may be given depending on uterine activity during the next 24 hours with a maximum dose of **160 mgs in 24 hours**

- take, report and document the woman's temperature, pulse, blood pressure and respiratory rate every hour during the stabilising phase. Once stabilised take fourth hourly observations during treatment.
- take, report and document systolic BP < 100mmHg, Temperature > 37.5, or pulse >100.
- auscultate and document hourly fetal heart rate during stabilisation if the pre administration CTG was reassuring.
- document the administration and effects of Nifedipine in the appropriate clinical record.
- be aware that the maintenance of Nifedipine treatment for >48 hours for tocolysis is not standard protocol. Consultant obstetrician may request this in unusual circumstances or in the circumstances of a trial.

OUTCOMES

- The woman has made an informed decision to receive Nifedipine for tocolysis.

5.14 ADMINISTRATION OF ORAL NIFEDIPINE FOR SUPPRESSION OF LABOUR

- The medical officer has diagnosed threatened preterm labour and has prescribed and documented the medication correctly.
- All observations have been reported and recorded appropriately.

REFERENCE

NSW Health Department Circular: Protocols for administration of Tocolytic Agents for threatened Preterm Labour 23 April 2002 Circular No 2002/49

Written by: Trish Downs, RM Delivery Suite August 2002
Updated by: Brigid Ryan, Midwifery Educator, November 2002
Reviewed by: Sue Gladwish, September 2006
Approved by: Maternity and Gynaecology Clinical Management Meeting, November 2002

Submit Date	Date October 2006	Final review date	September 2008
Executive Approval	Vanessa Owen Director of Nursing/Midwifery, W&CH	Signature	
	David Knight A/g Director of O&G, W&CH	Signature	

6.3 SALBUTAMOL INFUSION

POLICY

Salbutamol infusions are commenced in Delivery Suite when indicated. A salbutamol infusion is ordered by medical staff who are experienced in obstetrics or are under the supervision of an obstetric registrar or specialist obstetrician.

PURPOSE

To provide guidelines for midwives and medical staff for the care of women in preterm labour, for whom tocolysis with salbutamol is indicated.

STANDARD

Midwives and medical staff will:

- Ensure the indication for salbutamol is valid
- Ensure contradictions to the administration of salbutamol do not exist
- Obtain informed verbal consent for the infusion
- Ensure the appropriate tests are ordered and carried out
- Commence infusion and increase appropriately to achieve cessation of contractions
- Observe the effects and side effects of salbutamol
- Document all care and medication appropriately.

PROCESS

Midwives and medical staff will:

- liaise with the Centre for Newborn Care staff, neonatal and obstetric registrars after admitting a woman in threatened preterm labour and prior to accepting a woman in threatened preterm labour from another hospital.
- be aware of the following:
    - ❖ salbutamol is a tocolytic drug in the betamimetic group of agents
    - ❖ betamimetics are used extensively to suppress uterine contractions preterm, to allow adequate time for corticosteroid therapy to be administered to the preterm baby
    - ❖ salbutamol is a beta-receptor stimulant which reduces uterine activity
- be aware of the contraindications for salbutamol infusions as follows:
    - ❖ pre-existing heart disease, arrhythmias
    - ❖ signs of advanced labour
- be aware of **complications and side-effects** of a salbutamol infusion including:
    - ❖ maternal (above 140 bpm) and fetal tachycardia (above 160 bpm)
    - ❖ chest pain
    - ❖ shortness of breath
    - ❖ pulmonary oedema
    - ❖ supra ventricular tachycardia-ventricular failure
    - ❖ slight hypotension
    - ❖ fine tremor of skeletal muscles particularly in hands
    - ❖ nausea, vomiting, dizziness and headaches
    - ❖ palpitations
    - ❖ transient maternal hyperglycaemia
    - ❖ glycosuria
- assess the woman on admission as management is dictated by the following factors:
    - ❖ gestational age, maturity of the baby

- ❖ presence or absence of infection, haemorrhage, maternal disease or other complicating factors.
- ❖ presentation
- ❖ dilatation of cervix

- notify the CNC and neonatal registrar regarding admission and provide regular updates each shift of change in maternal or fetal condition.
- ensure the neonatal registrar and/or CNC nursing staff discuss with the woman the anticipated outcome for her baby if it is born preterm.
- orientate the woman to the CNC if her condition permits.
- offer the woman the services of a social worker
- collect the following prior to commencing a salbutamol infusion:
  - ❖ blood for FBC, electrolytes, group & screen
  - ❖ urine for micro-culture
- ensure an ultrasound scan is organised if appropriate
- observe and record as follows:

for the woman

- ❖ **baseline pulse, blood pressure and respirations** and observe the woman during the first half hour of administration of the drug to note any adverse effects. **Take pulse, respirations and blood pressure after 15 minutes** of IV salbutamol administration then
- ❖ **half hourly:**maternal pulse and respirations, contraction assessment and PV loss
- ❖ **second hourly:** temperature and BP
- ❖ **fourth hourly:** urinalysis NB specific gravity, assessment of descent by abdominal or post anal palpation as appropriate and more frequently as indicated

for her baby

- ❖ baseline CTG
- ❖ **continuous CTG during commencement of IV salbutamol** then intermittently or as indicated during the infusion otherwise
- ❖ **half hourly** FH auscultation.

- set up infusion regime as follows:
  - ❖ commence a **mainline** of Hartmanns solution 1000mls through an IMED pump
  - ❖ load a 100ml bag of Normal Saline with 10mgs of salbutamol and run as a **sideline** through an IMED pump

    $\frac{10mg}{100ml} = \frac{10{,}000micrograms}{100ml}$ =100 micrograms/ml
  - ❖ commence salbutamol at 3mls/hr and mainline at 45mls/hr
  - ❖ increase the salbutamol to the rate required to stop contractions
  - ❖ increase at 10 minutely intervals until there is evidence that the duration, strength and frequency has diminished THEN INCREASE SLOWLY until contractions cease
  - ❖ titrate mainline to infuse **total** IV fluid intake of 48mls/hr
- be aware of the dosage of salbutamol which is 2-20 μg/min but may be increased up to 45 μg/min provided the maternal pulse rate does not exceed 140 bpm.
- be aware that the salbutamol infusion should be maintained at a rate which will inhibit contractions for 24-48 hours (to allow the dexamethasone to take effect) provided the woman and her baby tolerate it.

Midwifery and medical staff alert

6.3 SALBUTAMOL INFUSION

DO NOT ALLOW SALBUTAMOL TO EXCEED 27MLS/HR (45µg/min) without consulting the obstetric registrar and specialist obstetrician on duty.
Note that most women will not tolerate >20-25µg/min.

SALBUTAMOL REGIME

(Regime provides 1152 mls total in 24 hours at flow rate 48mls/hr)

Dose/min	Dose/hour	SIDELINE (salbutamol) mls/hr	MAINLINE (Hartmanns) Mls/hr
5 micrograms/min	300 micrograms/hr	3mls/hr	45mls/hr
10 micrograms/min	600 micrograms/hr	6mls/hr	42mls/hr
15 micrograms/min	900 micrograms/hr	9mls/hr	39mls/hr
20 micrograms/min	1,200 micrograms/hr	12mls/hr	36mls/hr
40 micrograms/min	2,400 micrograms/hr	24mls/hr	24mls/hr
45 micrograms/min	2,700 micrograms/hr	27mls/hr	21mls/hr

Midwifery and medical staff alert

Reduce salbutamol, by halving the rate at first then reduce further if no improvement in the maternal or fetal condition, for:

- **severe muscle tremor**
- **maternal tachycardia above 140bpm**
- **fetal tachycardia above 180bpm**

Cease and notify obstetric registrar or specialist obstetrician immediately for:

- **shortness of breath**
- **chest pain**
- **signs and symptoms of pulmonary oedema**

- ensure other medications are ordered and given including:
  - ❖ antibiotics if membranes are ruptured (IV Ampicillin Q6H is the drug of choice)
  - ❖ IM dexamethasone 12mg Q12H x 2 doses
- provide midwifery care as indicated including:
  - ❖ full sponge as often as the woman wishes – if labour stops she may get up for a shower and toilet privileges with assistance as necessary
  - ❖ frequent perineal toilets (at least 4 hourly) when membranes are ruptured
  - ❖ frequent mouth washes and teeth cleaning
  - ❖ oral fluids as desired and tolerated
- provide reassurance and explanations of progress, test and examination results.

6.3 SALBUTAMOL INFUSION

Midwifery and medical staff awareness:

- **doctor/midwife should listen to the woman's chest every 8 hours.**
- **order bloods-FBC electrolytes, RFT, -daily or as indicated**
- **note potassium levels (any fall may be related to intracellular movement of K+ and is usually self reversing once salbutamol is stopped.) Treatment is required if serum potassium <2.5mmol/L.**
- **urinary osmols should be attended if indicated.**

- be aware of the **REGIME TO DECREASE salbutamol** once contractions have ceased for 1 hour as follows:
    - ❖ titrate down at hourly intervals according to contractions until the maintenance rate is reached 5 mμ/min (3mls hr) unless otherwise ordered by the obstetric registrar or specialist obstetrician or unless the woman's condition warrants some other regime.
- be aware that if labour is progressing despite the maximum tolerated dose of salbutamol, discussion should take place between the woman, her midwife, the obstetric registrar or specialist obstetrician +/- neonatal registrar and the salbutamol be discontinued.

DOCUMENTATION

Midwives and medical staff will:

- Accurately and appropriately document all care, medications and observations on the back of the admission summary, the miscellaneous observation chart (if used), progress notes, fluid balance and IV orders and medication charts.
- Update/complete Obicare as required.

OUTCOME

- A woman in threatened preterm labour can express her understanding of the reasons for attempting to inhibit labour using salbutamol.
- The woman gives her consent to this intervention.
- Midwives and medical staff follow this policy when using salbutamol to inhibit preterm labour.

REFERENCES

Enkin, M.,Kierse, M. and Neilson,J. *A Guide to Effective Care in Pregnancy and Childbirth* 2nd ed. Oxford: Oxford Uni Press, 1995.

Bennett, V.and Brown ,L. *Myles textbook for Midwives* 12 ed. Edinburgh: Churchill Livingstone,1996.

Gilbert, E. and Harman, J. *High Risk Pregnancy and Delivery* Wisconsin: Mosby, 1993.

Adelaide Women's and Children's Hospital Protocols and Guidelines for Management. February 1996

Ventolin Obstetric Injection product information sheet. January 1995

6.3 SALBUTAMOL INFUSION

Written :1988, Revised 1991, 1993
Updated by: Carolyn Bartholomew RN RM Delivery Suite 1999
Marg. Oldigs RN RM Level 2 Delivery Suite
Alison Chandra RM CMC Delivery Suite
Endorsed by: Maternity and Gynae. Clinical Management Meeting, June 1999
Approved by: Rosemary O'Donnell and Professor David Ellwood, Directors, WCHS,

Submit Date		**Final Review Date: May 2002**	
Executive Approval	Rosemary O'Donnell	Signature	Date 26/7/99

7.6.1 CARDIOTOCOGRAPHY (CTG) APPLICATION AND INTERPRETATION

POLICY

Cardiotocography (CTG) is a method of assessment of fetal wellbeing used in conjunction with other modalities to make decisions on pregnancy management.

PURPOSE

To provide midwives and medical officers with guidelines for applying and interpreting CTG.

STANDARD

Midwives +/- medical officers will:

- determine the need for Electronic Fetal Monitoring (EFM) as indicated.
- provide explanation and gain consent for procedure.
- perform EFM as per guidelines.
- interpret the trace correctly.
- document on the CTG, CTG reporting form and clinical record.

PROCESS

APPLICATION

A EXTERNAL CTG

The midwife or medical officer will:

- determine the need for CTG as per MPS 7.6.2 and 7.6.3.
- obtain informed consent for the assessment.
- ask the woman to void.
- palpate the abdomen as per MPS 7.1.
- auscultate FH manually and take maternal pulse simultaneously.
- check machine calibration including: date, time, paper rate (1cm/min) and check serial numbers.
- attach woman's PINS and add date and time in writing.
- apply Doppler with gel to the abdomen over the anterior shoulder - secure with belt.
- depending on the machine, calibrate the uterine transducer then apply to the upper abdominal wall - secure with belt or in the older machines calibrate after the belt is on.
- **for antepartum CTG**, provide instruction and button for the woman to register fetal movements.

B INTERNAL CTG - FETAL SCALP ELECTRODE (FSE)

INDICATION:

- the inability to obtain a quality external trace
- suspected or evident severe fetal compromise

REQUIREMENTS

- membranes are ruptured
- cervix > 1cm dilated
- fetal presenting part is accessible and identifiable

CONTRAINDICATIONS

- Infection
  - Hep B and Hep C
  - HIV
  - Herpes Simplex

7.6.1 CARDIOTOCOGRAPHY (CTG) APPLICATION AND INTERPRETATION

- Bleeding disorders
- Face presentation

The midwife or medical officer will:

- determine the need for CTG as per MPS 7.6.3.
- obtain informed consent for the assessment and attachment of a FSE.
- perform a vaginal examination, identify the presenting part and attach the FSE.
- attach the lead to the woman's thigh and connect the FSE.
- attach tocometer and commence tracing.document on the CTG and in the partogram that FSE is the method of monitoring.

INTERPRETATION OF CTG

The mnemonic **Dr C Bravado** (ALSO, 2000) is used when interpreting CTG traces:

- **D**etermine **R**isk

As per MPS 7.6.2 & 7.6.3.

- **C**ontractions

Use the tocometer to record the frequency and timing of contractions. Hyperstimulation is defined as more than 4 contractions per 10 minutes or > 7 contractions in 15 minutes.

- **B**aseline **RA**te

Normal baseline rate is 110-160 beats per minute (bpm).
This is the heart rate in the absence of fetal movements and contractions.

- **V**ariability

The minor fluctuations in baseline FHR occurring at three to five cycles per minute. It estimates the difference in beats per minute between the highest peak and lowest trough.

- **A**ccelerations

An acceleration is a transient increase in FHR of 15 bpm lasting >15 seconds or more. There should be 2 accelerations in a 10 minute period. The significance of no accelerations on an otherwise normal CTG is unclear.

- **D**ecelerations

Decelerations are categorised into early, variable and late.
Early decelerations are uniform, repetitive, periodic slowing of FHR with onset early in the contraction and return to baseline by the end of the contraction: the nadir of the deceleration corresponds with the peak of the contraction.
Variable decelerations are intermittent, periodic slowing of FHR which are unpredictable and irregular in their shape, depth and relationship to contractions.
Late decelerations are uniform, repetitive periodic slowing of FHR with onset after the start contraction and return to baseline after the end of the contraction: the nadir of the deceleration is later than the peak of the contraction.

- **O**verall Assessment

The above information is incorporated to categorise the trace as:

Reassuring
Non-Reassuring – Suspicious
Non-Reassuring – Pathological

(see Appendix 1)

7.6.1 CARDIOTOCOGRAPHY (CTG) APPLICATION AND INTERPRETATION

- Plan and document ongoing management

DOCUMENTATION

- Any intrapartum events that affect the FHR should be documented contemporaneously on the CTG trace and in the clinical record.
- Interpretation and management plan are documented on the CTG reporting form.
- Any member of staff who is asked to provide an opinion on a trace must **sign, date** and **time** on the CTG and CTG reporting form.
- Special note: **Each baby in a multiple pregnancy will be reported on individually using the Multiple Pregnancy CTG Report form.**

OUTCOME

- The woman can describe the reason for cardiotocography and her understanding of the results.
- Cardiotocography will be performed appropriately and interpreted correctly.

REFERENCES

Advanced Life Support In Obstetrics (ALSO) Course Syllabus 4th ed. American Academy of Family Physicians:Kansas 2000

The Use of Electronic Fetal Monitoring The use and interpretation of Cardiotocography in intrapartum fetal surveillance Evidence-based Clinical Guideline Number 8, Clinical Effectiveness Support Unit, Royal College of Obstetricians and Gynaecologists UK 2001

Updated by: Peter Bland, Staff Specialist May 2004
Brigid Ryan, Midwifery Educator, May 2004
Endorsed by: Maternity & Gynaecology Clinical Management Meeting, 28th June 2004

Submit Date	**June 2004**	**Final review date**	**May 2007**
Executive Approval	Liz Sharpe A/g Director of Nursing/Midwifery W&CH	Signature	
	Steve Robson Director of O&G, W&CH	Signature	

Appendix 1

ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS (RCOG) CLASSIFICATIONS (2001)

7.6.1 CARDIOTOCOGRAPHY (CTG) APPLICATION AND INTERPRETATION

NORMAL A CTG where **all four** features fall into the reassuring category.
SUSPICIOUS A CTG whose features fall into **one** of the non-reassuring categories and the remainder of the features are reassuring
PATHOLOGICAL A CTG whose features fall into **two or more** non-reassuring categories or **one or more** abnormal categories.

RESULT	Baseline (bpm)	Variability (bpm)	Decelerations	Accelerations
1.Reassuring	110 - 160	≥5	None	Present.
2. Non-Reassuring	100 – 109 161 - 180	<5 for ≥40 minutes but <90 minutes	Early Variable Single prolonged deceleration up to 3 minutes.	The absence of accelerations with an otherwise normal CTG is of uncertain significance
3. Abnormal	<100 >180 Sinusoidal pattern for ≥10 minute	<5 for ≥90 minutes	Atypical variable Late Single prolonged deceleration greater than 3 minutes	

ACTION TO BE TAKEN

NORMAL	**SUSPICIOUS**	**PATHOLOGICAL**
Repeat as ordered	Repeat within a maximum of 4 hours during labour or within 24 hours antenatally.	Contact medical officer and continue CTG until reviewed or until CTG is reassuring or birth occurs.

7.6.2 ANTEPARTUM ELECTRONIC FETAL MONITORING (EFM)

POLICY

Electronic Fetal Monitoring (EFM) is a method of antenatal assessment of fetal wellbeing used in conjunction with other modalities to make decisions on obstetric management.

PURPOSE

To provide midwives and medical officers with guidelines for using EFM for antenatal assessment.

STANDARD

Midwives +/- medical staff will:

- determine the need for EFM as indicated
- initiate appropriate midwifery/medical interventions and follow up as required
- document findings and any action taken

PROCESS

The antepartum CTG involves the assessment of FHR and uterine activity. The FHR is recorded with an external transducer (ultrasound). The uterine activity is recorded with an external pressure transducer.

INDICATIONS

- Maternal include:
    - ❖ Hypertensive Disease
    - ❖ Diabetes Mellitus
    - ❖ Cardiac Disease
    - ❖ Haemoglobinopathy
    - ❖ Severe anaemia
    - ❖ Thyroid dysfunction
    - ❖ Connective tissue disease
    - ❖ Renal disease
    - ❖ Trauma
    - ❖ Antepartum Haemorrhage
    - ❖ Antenatal presentation for review
    - ❖ Poor obstetric history
    - ❖ Substance history
- Fetal include:
    - ❖ Multiple pregnancy
    - ❖ Growth Restriction
    - ❖ Prematurity
    - ❖ Abnormal Doppler flow studies
    - ❖ Oligohydramnios
    - ❖ Pre-labour ruptured membranes
    - ❖ Alloimmunisation
    - ❖ Suspicious fetal heart rate on auscultation
    - ❖ Decreased fetal movements

7.6.2 ANTEPARTUM ELECTRONIC FETAL MONITORING (EFM)

DOCUMENTATION

All traces will be interpreted and reported on as per MPS 7.6.1.

OUTCOME

The woman can describe the reason for cardiotocography and her understanding of the results.
Cardiotocography will be appropriately performed and interpreted
Appropriate midwifery/medical interventions will be initiated and documented.

REFERENCES

Advanced Life Support In Obstetrics (ALSO) Course Syllabus 4th ed. American Academy of Family Physicians:Kansas 2000
The Use of Electronic Fetal Monitoring The use and interpretation of Cardiotocography in intrapartum fetal surveillance Evidence-based Clinical Guideline Number 8, Clinical Effectiveness Support Unit, Royal College of Obstetricians and Gynaecologists UK 2001

Updated by: Brigid Ryan, Midwifery Educator, May 2004
Peter Bland, Staff Specialist May 2004
Endorsed by: Maternity & Gynaecology Clinical Management Meeting, June 2004

Submit Date	**June 2004**	**Final review date**	**May 2007**
Executive Approval	Liz Sharpe A/g Director of Nursing/Midwifery W&CH	Signature	
	Steve Robson Director of O&G, W&CH	Signature	

7.6.3 INTRAPARTUM ELECTRONIC FETAL MONITORING (EFM)

To provide midwives and medical staff with guidelines for using EFM for the assessment of fetal wellbeing.

EFM is a method of intrapartum assessment of fetal wellbeing used in conjunction with other modalities to make decisions on labour management

MANAGEMENT

The intrapartum CTG involves the assessment of FHR and uterine activity. The FHR may be recorded with an external transducer (ultrasound) or an internal electrode (ECG). The uterine activity is recorded with an external pressure transducer which measures frequency and relative strength of contractions.

INDICATIONS FOR CONTINOUS MONITORING

Maternal

- high risk pregnancy during the antenatal period as per MPS 7.6.2
- intrapartum haemorrhage
- administration of Syntocinon for induction or acceleration of labour
- Prostin when in labour
- uterine scar eg VBAC
- prolonged ruptured membranes
- epidural analgesia
- maternal pyrexia
- prolonged first or second stages of labour

Fetal

- high risk pregnancy during the antenatal period as per MPS 7.6.2
- gestation <37 weeks or >42 weeks
- fetal heart sound abnormalities
- meconium stained liquor or blood stained liquor
- malpresentation or abnormal lie

EFM may not be considered warranted when

- there are lethal fetal anomalies
- extreme prematurity (<24 weeks)

When EFM is necessary for a majority of the labour and is regarded to present time as a normal trace, it may be interrupted for short periods (up to 15 mins) to allow the woman to use toilet or shower. Should not immediately occur following an ARM.

Midwifery and Medical Officer Alert
If EFM cannot be tolerated by the woman during labour or the woman declines EFM this should be documented and the consultant medical officer notified to determine future plan of labour.

MANAGEMENT OF A NON-REASSURING CTG

Implement appropriate actions:

- cease oxytocin if infusion in progress (or reducing rate may be sufficient depending on FHR anomalies)
- Uterine hyperstimulation present administer **0.25 mg subcutaneous Terbutaline**.

7.6.3 INTRAPARTUM ELECTRONIC FETAL MONITORING (EFM)

- change maternal position - the left lateral will generally improve oxygenation to baby or try any position which indicates improved oxygenation as demonstrated by acceptable heart rate recording
- identify possible maternal causes for FHR irregularities, eg hypotension, APH and institute appropriate action including IV hydration.
- perform VE to exclude cord prolapse, determine presentation and position.
- administer oxygen at 8-10 litres/min if the **maternal** condition warrants it.

Midwifery and medical staff alert
If fetal acidosis is suspected or confirmed, maternal oxygen may be contraindicated

- if no improvement, the woman may need to be prepared psychologically and physically for C/S.

DOCUMENTATION

- All traces will be interpreted and reported on as per MPS 7.6.1.

OUTCOME

- The woman can describe the reason for cardiotocography and her understanding of the results.
- Cardiotocography will be appropriately performed, interpreted and documented.
- Appropriate midwifery/medical interventions will be initiated and documented.

REFERENCES

Intrapartum Fetal Surveillance Clinical Guidelines RANZCOG May 2006
Electric Fetal Monitoring in Labour, Scalp Sampling & Cord Blood Gases Obstetric Guideline 6B British Columbia Reproductive Care Program March 2005
Advanced Life Support In Obstetrics (ALSO) Course Syllabus 4th ed. American Academy of Family Physicians:Kansas 2000
The Use of Electronic Fetal Monitoring The use and interpretation of Cardiotocography in intrapartum fetal surveillance Evidence-based Clinical Guideline Number 8, Clinical Effectiveness Support Unit, Royal College of Obstetricians and Gynaecologists UK 2001

Updated by: Alison Clarke RM Level 2 Delivery Suite 2007
Peter Bland, Staff Specialist May 2004
Brigid Ryan, Midwifery Educator, May/August 2004
Endorsed by: Maternity, Gynaecology and Neonatal Clinical Management Meeting, June 2007

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7.13 PRETERM LABOUR

To provide midwives and medical staff with guidelines for the care of women in preterm labour and the preparation required for the birth of a preterm infant.

MANAGEMENT

- Inform the woman and her partner/support group of the risks associated with preterm labour and birth
- Obtain consent for any medical or midwifery interventions
- Monitor the woman and her baby appropriately
- Perform diagnostic tests/investigations as indicated and with consent
- Prepare the woman for the birth of a preterm baby if this becomes inevitable
- Ensure appropriately skilled neonatal medical staff are present for the baby's birth
- Document interventions initiated and woman's/baby's response
- Provide appropriate follow up and debriefing of the woman's experience as necessary.
- Ensure that the Centre for Newborn Care (CNC) is informed and that there is an available bed for the neonate. If an appropriate level bed is not available then consultation with the Neonatologist and the Obstetrician on-call will need to decide the most appropriate management plan.

Diagnosis

- Regular contractions (at least one every 10 minutes)
- Progressive cervical effacement and /or dilation
- Less than 37 completed weeks of gestation

Action plan:

- Confirm gestational age by viewing ultrasound reports, maternity card and LMP.
- Baseline maternal and fetal observations: temperature, pulse, respirations, blood pressure, fetal heart rate.
- Abdominal palpation; Assess symphysis fundal height. fetal lie, presentation and station
- Assess evidence of uterine activity/tone/tenderness.
- Observe vaginal loss noting ruptured membranes or bleeding.
- Record general information and history: parity, expected date of delivery by LMP date and ultrasound, history of recent events - pay particular attention to signs and symptoms of infection, emotional or physical trauma, obstetric, medical, surgical, gynaecological and family history.
- Continue to monitor maternal and fetal vital signs including temperature, pulse, respirations, blood pressure, uterine activity
- Electronic fetal monitoring (EFM), refer to MPG 7.6.3.In gestations less than 26 weeks EFM should be discussed with the woman and obstetric registrar. If PV bleeding or in labour > 26 gestation EFM to be continuous.
- Notify registrar for immediate assessment
- Notify Centre for Newborn Care (CNC) of admission
- Perform a sterile speculum examination
    - Assess cervical dilatation, note any cervical dilation/ visible membranes / evidence of PPROM, PV discharge. Obtain low vaginal swab and high vaginal swab for MC &S.
    - If unable to visualise the cervix on speculum examination consider vaginal examination to assess cervical dilation.
- Assess for symptoms of urinary tract infection and obtain a urine specimen for micro-culture

- administer steroid therapy if less ≤ 34 weeks gestation
    - betamethasone 12mg IM 2 doses 24 hour apart.

- In some cases (e.g. where it is believed preterm birth may occur within the next 24 hours) there may be benefit in giving the second dose of corticosteroids after only 12 hours. There have been no studies carried out which have compared 12 hourly betamethasone with the standard interval of 24 hours, so it is not known if this approach is beneficial.

- administer intravenous antibiotics if membranes are ruptured, refer to MPG 3.1.11 PPROM
- tocolysis should be considered if the completion of the course of corticosteroids is required, refer to MPG 5.14 Nifedipine for suppression of labour
- Insert a 16 G cannula and take bloods for FBC, G&H and as required.
- Ultrasound - this may be necessary to assess presentation, gestation, fetal weight, AFI, fetal normality.
- prepare the woman for an immediate Caesarean section(CS) as appropriate refer to MPG 7.4 "Immediate CS". Note: CS is more likely when the woman has an APH, footling breech or other malpresentation >24 weeks.

During labour:

- Inform Centre for Newborn Care (CNC) and neonatal registrar of impending birth.
- provide usual care in labour. (Refer MPG 7.10.1, 7.10.2, 7.10.3)
- continuous electronic fetal monitoring, as per MPG 7.6.3
- use narcotic analgesia with discretion to avoid compounding the problem of prematurity with neonatal respiratory depression. Epidural anaesthesia may be requested and preferable.
- Avoid fetal blood sampling if less than 34 weeks and according to MPG 4.2
- Remember the woman and partner/support person may not have completed antenatal classes and may feel inadequately prepared for labour and for parenthood. They will need explanations, reassurance and suggestions/guidance for coping with labour.
- Prepare resuscitation trolley with appropriate sized equipment.
- Prepare birth room - heater on, warm blanket for baby, well warmed resuscitation trolley.
- Call neonatal registrar +/- neonatologist for delivery. **Whenever possible forewarn the registrar of impending birth.**
- Ensure a careful, controlled birth of the baby's head.

After the birth:

- Provide care as usual after birth. (Refer MPG 7.10.4)
- Assist with resuscitation if neonatal staff request.
- Administer Konakionas per MPG 5.10 with parents' consent.
- If possible, give parents their baby to hold or at least have a close look at before transfer to CNC
- Ensure photographs of the baby are taken either in the birth room or CNC.
- Encourage parents to visit the CNC as soon as practicable.
- Keep parents informed of baby's progress.
- Follow up the woman in the Antenatal Ward and provide debriefing as indicated.
- Complete and take one copy of the delivery summary, the baby's medication chart and any progress notes to the CNC as soon as possible.

DOCUMENTATION

- Complete accurate documentation of the birth and resuscitation on the delivery summary and baby's progress notes as appropriate

- Complete the medication chart of the woman and her baby.
- Complete the partogram and progress notes.

OUTCOME

A woman experiencing threatened or inevitable preterm labour and birth can describe her understanding of what is likely to happen to her and her baby during labour, birth and the immediate postnatal period.

Midwives and medical staff provide appropriate care to a woman and her preterm baby during the labour, birth and immediate postnatal period.

REFERENCES

Advanced Life Support in Obstetrics, 2001, American Academy of physicians, Preterm labour and premature rupture of membranes
Edozien, L 2004 The labour ward handbook, the Royal Society of Medicine Press.
Royal College of Obstetrics and gynaecology, 2002, Clinical guideline no.1. tocolytic drugs for women in preterm labour
http://www.rcog.org.uk/resources/Public/pdf/Tocolytic_Drugs_No1(B).pdf

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Endorsed by: Maternity, Gynaecology and Neonatal Units Management Meeting, September 2007

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