Royal Devon University Healthcare NHS Foundation Trust

Labour and Perineal Trauma Policies

Reference Number: F4609
Date of Response: 23rd May 2022

Further to your Freedom of Information Act request, please find the Trust's response, in **blue bold text** below:

Request and Royal Devon's Eastern FOI Office Response

1. Please can I request to see the trust policies/protocols/guidance on induction of labour and on perineal trauma. I would like to better understand the trust's guidance on certain areas such as the right to discuss an induction in advance of the procedure, frequency of monitoring of mother and baby, and how it is decided when a woman is able to access the labour ward.
   Please see the following policies/Protocols/Guidance attached:

   - **Induction of Labour – Patient Information Leaflet**
   - **Care of women in labour in all care settings – Clinical Guideline**
   - **CTG Monitoring Intrapartum – Clinical Guideline**
   - **Induction of Labour – Clinical Guideline** ***(available to download from our website, under 'Maternity': www.rdehospital.nhs.uk/patients-visitors/patient-information-leaflets)***
   - **CTG Monitoring: Antenatal – Clinical Guideline**
   - **Text stored in Electronic Patient Records – Protocols & Guidance**
   - **Repair of Perineal Trauma – Clinical Guideline**

Clinical Guideline for:

Induction of Labour (IOL)

Summary

This guideline outlines indications for and process of IOL.

Contents

1.0 INTRODUCTION

1.1 The clinical requirement for Induction or Labour (IOL) arises from circumstances in which it is believed that the outcome of the pregnancy will be better if it is artificially interrupted rather than being left to follow its natural course. IOL is perhaps unique in medicine because it seeks to advance a process which in the natural course of events is inevitable unless the pregnancy is terminated by Caesarean Section.

1.2 Induced labour has an impact on the birth experience of women. It may be less efficient and is generally more painful than spontaneous labour. It is also more likely to require epidural analgesia and assisted birth. IOL is a relatively common procedure. In 2016-17 29% of all deliveries in the UK were induced. This includes IOL for all medical reasons. Where labour was induced by drugs, whether or not surgical induction was also attempted, fewer than two-thirds of women gave birth without further intervention, with about 15% having instrumental births and 22% having emergency Caesarean Sections.

2.0 IOL BOOKING PROCESS

2.1 Dates should be confirmed by the booking ultrasound scan

2.2 The decision to induce labour, except in cases of uncomplicated post-dates pregnancies or PROM at term, should not be made without discussion with an experienced Obstetrician.

2.3 Membrane sweeps **may be offered from 38/40 prior to a formal booked IOL, except in cases of known rupture of membranes.** For example, if a woman is advised an IOL at 39 weeks, she may be offered membrane sweeping at 38 weeks.

2.4 Membrane sweeps are associated with

- reduced time between treatment and spontaneous labour
- reduced incidence of prolonged pregnancy
- reduced need for formal methods of IOL
- increased maternal discomfort and bleeding

Membrane sweeps are not associated with maternal or neonatal infection

2.5 A decision to induce is a decision to deliver. Women should not be sent home once an IOL has begun without discussion with a Consultant.

2.6 Each IOL should be booked in the computerised IOL/LSCS diary, accessed through the NHS Mail Inbox. Low risk IOL takes place every day. Recommended information required: patient name, hospital number, parity, gestation, indication for IOL and any other important risk factors (e.g. previous Caesarean Section). The yellow IOL proforma should also be completed by the authorising health professional.

2.7 Low risk women being induced for certain indications – see section 5.1 can be offered inpatient propess induction or outpatient induction with mechanical methods – see point 6.1

2.8 The IOL medication and analgesia should be prescribed when booking an IOL. Propess® 10mg PV and terbutaline 250mcg S/C on the once-only section of the drug chart. Analgesia, usually paracetamol 1g PO/IV QDS and dihydrocodeine 30mg PO

QDS on the PRN/as required page of the drug chart. Group B Streptococcus intra-partum antibiotic prophylaxis should also be prescribed where appropriate.

2.9 The indications and arrangements for IOL should be discussed with the woman and ideally her partner in the ANC. The indication for IOL, the person authorising the IOL and any specific management plan clearly documented in the notes.

2.10 A patient information leaflet including details of admission should be given to the patient when an IOL is booked.

2.11 All women for IOL should be admitted to the Fetal and Maternal Assessment Unit (Monday to Friday) and Triage (Saturday and Sunday) upon arrival for IOL.

3.0 LOWER RISK IOL: PROLONGED PREGNANCY

3.1 For IOL for prolonged pregnancy: If the cervix is unfavourable and it is not possible to undertake a membrane sweep, women should be advised that the IOL process may be prolonged and may result in Caesarean Section due to failed IOL. Deferment of IOL until the cervix is more favourable (but not after 42 weeks) should be discussed as an alternative.

3.2 Post mature women who are otherwise low risk can be offered out patient IOL with mechanical methods – see point 6.3.

3.3 For women declining IOL at term +14, an appointment to see their Consultant should be made (for low risk women refer to Consultant in ANC that day). Fetal health assessment (as directed by Consultant) on FMAU should be offered twice weekly, to include AFI & Doppler at term +14. Women to be reviewed in ANC at 43 weeks if not delivered.

PRE-LABOUR RUPTURE OF MEMBRANES (PROM) AT TERM

3.4 Women with PROM at term, who have clear liquor and are not known to have a risk factor for GBS, offer either induction as soon as reasonably possible or expectant management for up to 24 hours following SROM. Induction of labour is then recommended at 24 hours.

3.5 Women with PROM and known risk factor for Group B Streptococcus should be commenced on IV antibiotics and IOL commenced immediately. Propess® may be used if the cervix is unfavourable (BS<6).

3.6 Women with PROM and **thick meconium** should be transferred to Labour Ward and IOL commenced immediately with oxytocin. If meconium is thin, IOL should still be commenced but Propess® may be used if the cervix is unfavourable (BS<6).

3.7 Please refer to Pre labour rupture of membranes (PROM) at term guideline and Group B streptococcal sepsis early onset prevention - Maternity and NNU guideline for further details.

3.8 If a patient is seen with **SROM and contractions and has a digital vaginal examination** but is found not to be in established labour; the patient should remain as an inpatient. A review and intervention is recommended if not in established labour within 6 hours of VE, due to the increased risk of infection

3.9 Propess® is the only prostaglandin licensed for the use in PROM but should be used with caution due to the **increased risk of hyperstimulation**. To reduce this risk, women should only be given Propess® if there is no evidence of regular painful contractions and the Bishops score is <6. In the event of painful contractions or Bishops score ≥6 women should be transferred to Labour Ward for assessment and IOL with oxytocin.

3.10 **IOL using balloon catheter or other mechanical methods is not an option in PROM**

4.0 IOL Indications

Maternal Conditions		
Indication	**Gestation that IOL may be offered**	**Evidence**
Ante-Partum Haemorrhage at Term or recurrent in third trimester (unexplained)	Consider from 37	RCOG Green-Top Guideline 63: Antepartum Haemorrhage
Epilepsy	Not an indication for IOL	RCOG Green-Top Guideline 68: Epilepsy in Pregnancy
Diabetes in Pregnancy (Type 1 / 2 / Gestational) Macrosomia Controlled by insulin, normal fetal growth Controlled by diet, no complications	 37 38 38-39	NICE Guideline NG3: Diabetes in Pregnancy Local RD&E consensus: Diabetes in pregnancy - antenatal care Maternity guideline
Hypertensive Disorders Essential Hypertension Gestational Hypertension Pre-eclampsia Eclampsia	If severe/uncontrolled BP, may induce earlier Not before 37 Not before 37 Preferably not before 34 Stabilise and deliver	NICE Clinical Guideline 107: Hypertension in Pregnancy
IVF Pregnancy	39-40	Local RD&E consensus: IVF assisted reproduction treatments Maternity guideline
Maternal Age ≥40 at booking	39-40	RCOG Scientific Impact Paper 34: Induction of Labour at Term in Older Mothers Local RD&E consensus: Age - raised maternal age in pregnancy guideline
Maternal Request eg partner posted abroad	40 if favourable	NICE Clinical Guideline 70: Inducing Labour
Obstetric Cholestasis	Bile Acids ≥100 – 37/40 Bile Acids <100 – 39/40	RCOG Green-Top Guideline 43: Obstetric Cholestasis
Parity >4	Not an indication for IOL Mechanical methods for Cervical ripening preferred as increased risk hyperstimulation with Propess®	Local RD&E consensus
Pelvic Girdle Pain / Symphysis pubis dysfunction	From 38 if favourable	Local RD&E consensus: Pelvic girdle pain in pregnancy - Maternity guideline

Precipitate Labour	Should not be offered IOL	NICE Clinical Guideline 70: Inducing Labour
Previous Caesarean Section	Not an indication for IOL Mechanical methods for cervical ripening preferred as increased of risk uterine scar rupture with Propess®. Neither are licensed although in common use in UK. Offer Caesarean Section as an alternative. Consultant discussion and decision advised.	RCOG Green-Top Guideline 45: Birth After Previous Caesarean Birth Local RD&E consensus: Vaginal birth after caesarean section (VBAC) Maternity guideline
Previous Stillbirth	Individualise care	Local RD&E consensus
Prolonged pregnancy	41+0 to 42+0, routinely 41+5	NICE Clinical Guideline 70: Inducing Labour
Red Cell Antibodies	37-38 (if stable) May be earlier if unstable or rising titres	RCOG Green-Top Guideline 65: Red Cell Antibodies During Pregnancy
Sickle Cell Disease	38	RCOG Green-Top Guideline 61: Sickle Cell Disease in Pregnancy
Venous Thromboembolism on treatment dose heparin.	Not an indication for IOL. Consider timing of IOL to minimise omitted heparin doses	RCOG Green-Top Guideline 37A: Thrombosis and Embolism During Pregnancy
Fetal Conditions		
Indication	**Gestation that IOL may be offered**	**Evidence**
Breech	Should not be offered IOL	NICE Clinical Guideline 70: Inducing Labour
Growth Restriction AC/EFW <10th centile or static growth Normal Umbilical Artery Doppler Abnormal Doppler (Umbilical, MCA or DV)	37 Individualise care	RCOG Green-Top Guideline 31: Small for Gestational Age Fetus
Late Booker (pregnancy dated by USS >20/40)	40	Local RD&E consensus
Low Papp A <0.41 MOM	39-40	Local RD&E consensus
Macrosomia	Should not routinely be offered IOL – if EFW >95th centile d/w Cons Offer CS if diabetic and EFW >4.5kg - Offer CS if non-diabetic and EFW >5.0kg	NICE Clinical Guideline 70: Inducing Labour RCOG Green-Top Guideline 42: Shoulder Dystoci

Multiple pregnancy Mono-chorionic twins Di-chorionic twins	 36 37	NICE Clinical Guideline 129: Multiple Pregnancy Local RD&E consensus: Multiple pregnancy - Maternity guideline
Polyhydramnios (AFI >25)	39	Local RD&E consensus: Polyhydramnios Maternity guideline
Reduced fetal movements	If presents >40/40 – advise IOL If presents >39/40- discuss pros/cons Recurrent reduced FM offer IOL from 39/40 If other risk factors – for senior decision re timing	Local RD&E consensus: Reduced fetal movements Maternity guideline
Stillbirth / Intra-Uterine Fetal Demise	Offer mifepristone at time of IUD diagnosis with misoprostol 48 hours later. Propess® / oxytocin not routinely used.	Local RD&E consensus: Stillbirth Maternity guideline (greater than or equal to 24 weeks)
Ruptured Membranes Pre-term (PPROM) <37 / 40	 37 34 if GBS +ve	Preterm (less than 37 weeks) prelabour rupture of membranes PPROM - Maternity Guideline
Term (PROM) ≥37 / 40 AND not contracting	Offer immediate IOL and recommend IOL at 24 hours after SROM; Propess if BS <6, if ≥6 then IV oxytocin	NICE Clinical Guideline 70: Inducing Labour
Group B Streptococcus	Recommend IOL as soon as SROM confirmed, commence IV Antibiotics	RCOG Green-Top Guideline 36: Group B Streptococcal Disease
Meconium (thick)	Transfer to LW as soon as SROM confirmed, commence oxytocin	Pre labour rupture of membranes (PROM) at term guideline
Meconium (thin)	Offer IOL as soon as SROM confirmed	
Suspected chorioamnionitis	Offer IOL, commence IV Antibiotics	Group B streptococcal sepsis early onset prevention - Maternity and NNU guideline
Unstable lie	Offer stabilising amniotomy from 38	Local RD&E consensus

5.0 OUTPATIENT IOL

Outpatient IOL with a mechanical cervical ripening device allows women the opportunity to return home and await effacement and dilatation of their cervix prior to returning for ARM.

5.1 Criteria for Outpatient IOL

Inclusion criteria :

- Gestations between 37+0 to 41+6 weeks
- Parity up to and including P3
- Cephalic presentation
- Cervix not suitable for ARM
- Intact membranes
- No pre-existing medical conditions (unless explicit agreement from a consultant)

Induction indications include:

- Obstetric cholestasis
- Raised maternal age with normal growth velocity
- Low Papp A with normal growth velocity
- Gestational diabetes (GDM) on diet or metformin
- Maternal choice for concern regarding large for gestational age (LGA) baby
- IVF conception
- Antepartum haemorrhage (APH) over 2 weeks ago
- Pelvic Girdle pain
- Social Indication

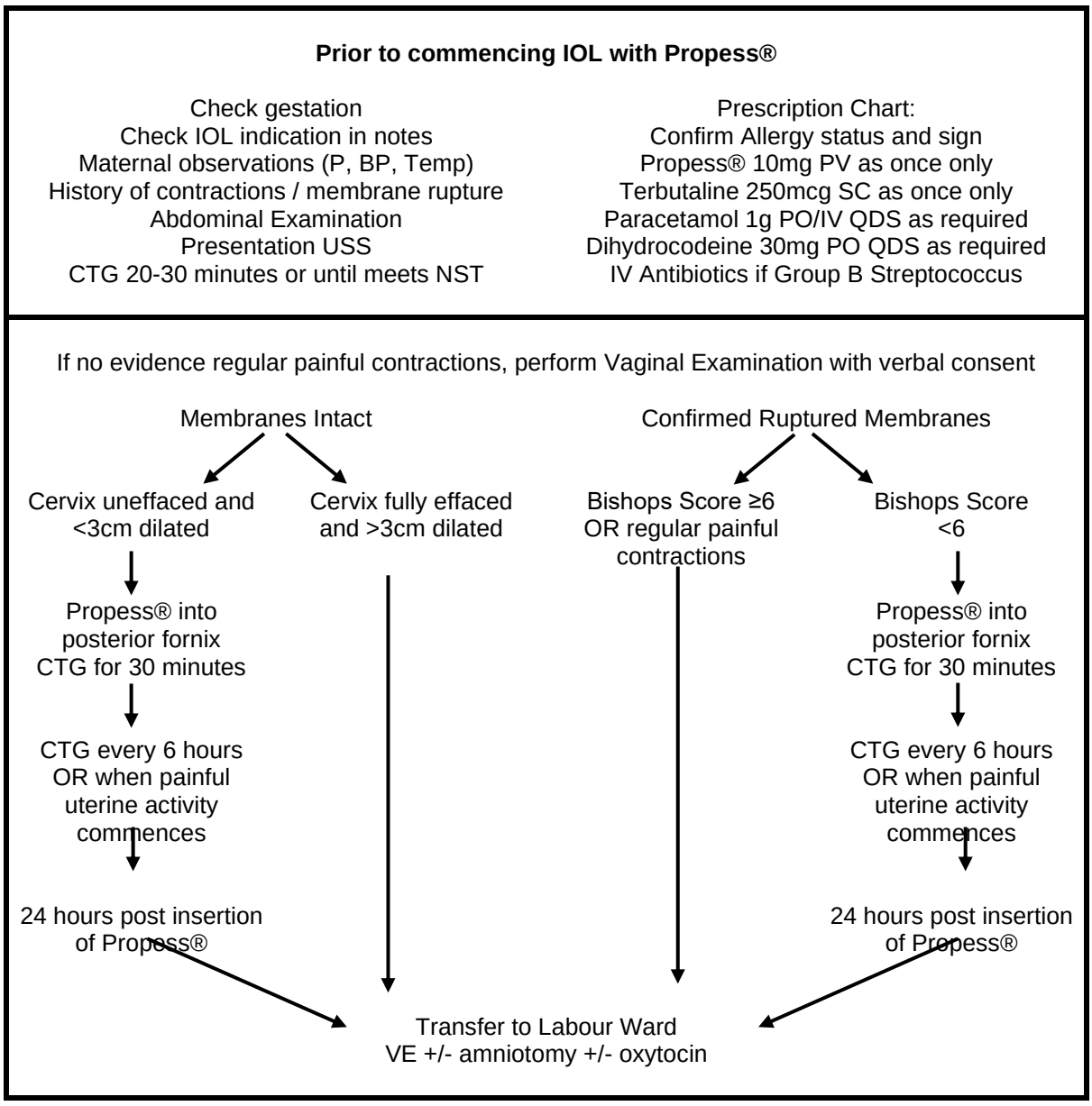
5.2 Contraindications to Outpatient IOL include:

- GDM on insulin – unless specific consultant plan for outpatient IOL with mechanical methods documented
- Pregnancy induced hypertension (PIH) or pre-eclampsia (PET)
- Multiple pregnancy
- Reduced fetal movements
- SGA with customised growth chart EFW less than 5th centile.
- Previous Caesarean section (CS) or uterine surgery
- 42+0 weeks and above
- Any CTG concerns on pre IOL CTG assessment
- Free fetal head
- APH in the last 2 weeks
- Significant social complexity
- Limited English
- Women with no telephone or no form of transport
- ≥Para4

5.3 Women should receive clear instructions as highlighted in algorithm ******f when to call and when to return.

6.0 IOL ALGORITHMS

6.1 Propess® IOL Algorithm



6.2 Cervical ripening balloon catheter or Dilapan IOL algorithm – **In patient**

Prior to commencing IOL with a Cervical Ripening Balloon Catheter

Check gestation
Check IOL indication in notes
Maternal observations (P, BP, Temp)
History of contractions / membrane rupture
Abdominal Examination
Presentation USS
CTG 20-30 minutes or until meets NST

Prescription Chart:
Confirm Allergy status and sign
Paracetamol 1g PO/IV QDS as required
Dihydrocodeine 30mg PO QDS as required
IV Antibiotics if Group B Streptococcus

If no evidence regular painful contractions, perform Vaginal Examination with verbal consent

Membranes Intact

Cervix uneffaced and <2cm dilated

Insert Mechanical Method – Dilapan/CRB
CTG for 30 minutes

CTG if painful uterine activity

12-24 hours post insertion of balloon/Dilapan or if balloon falls out or is SROM

Cervix fully effaced and >2cm dilated

Transfer to Labour Ward
VE + amniotomy +/- oxytocin

If Dilapan Rods inserted – document the number inserted and the number removed in maternal notes

6.3 Outpatient IOL – Mechanical Dilapan Rod or Cervical Ripening Balloon (CRB)

Prior to commencing outpatient IOL

Confirm the patients fits criteria as outlined in point 5.1:

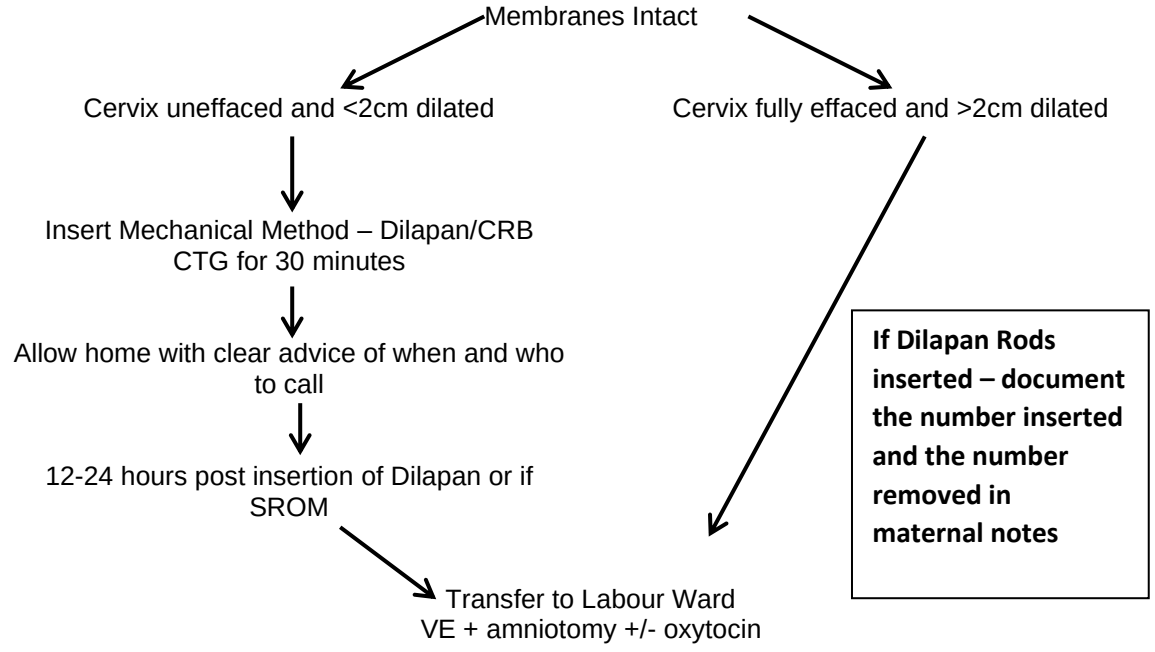
Check practicalities
Has transport – lives within 30 minutes
Will not be alone at home
Has a good understanding of English or will be with someone able to interpret at all times
Has triage/ labour ward contact details for queries
Aware to call immediately for advice if: PROM, Uterine Activity, Fetal Movement Concerns or Vaginal Bleeding

Prior to commencing Outpatient IOL with Cervical Ripening Mechanical method

Check gestation
Check IOL indication in notes
Maternal observations (P, BP, Temp)
History of contractions / membrane rupture
Abdominal Examination
Presentation USS
CTG 20-30 minutes or until meets NST

Prescription Chart:
Confirm Allergy status and sign
Paracetamol 1g PO/IV QDS as required
Dihydrocodeine 30mg PO QDS as required
IV Antibiotics if Group B Streptococcus

If no evidence regular painful contractions, perform Vaginal Examination with verbal consent



7.0 HYPERSTIMULATION

7.1 Contraction frequency being more than five in 10 minutes (for at least 20 minutes) or contractions exceeding 2 minutes in duration.

7.2 Hyperstimulation will not occur as a result of a cervical ripening balloon catheter.

7.3 Hyperstimulation is more likely with Propess® in the presence of PROM.

7.4 Terbutaline is a B_2 agonist which relaxes the uterus.

7.5 Prolonged Bradycardia: Remove Propess® and give 250 mcg terbutaline S/C and transfer to Labour Ward for Registrar or Consultant review

7.6 Pathological CTG: Remove Propess® and give 250 mcg terbutaline S/C if needed and transfer to Labour Ward for Registrar or Consultant review

7.7 Suspicious CTG: If in labour – remove Propess® and transfer to Labour Ward, continue CTG and get Registrar or Consultant review. If not in labour, leave Propess® in situ and transfer to Labour Ward for Registrar or Consultant review (the review may take place prior to transfer). Subsequent management will depend on Registrar or Consultant assessment

7.8 Normal CTG: Diagnosis of hyperstimulation not confirmed – leave Propess® in and continue CTG. Women may remain on APNW provided adequate midwives to monitor CTG. Discuss with the Senior Matron / Labour Ward Coordinator or Registrar if concerned.

8.0 INDUCTION METHODS: LABOUR WARD CARE

8.1 **Women who have started in labour with Propess®in situ /mechanical methods:** If a women labours with Propess®/mechanical methods alone, then provided that the CTG remains normal for a 30 minutes post removal of Propess®/mechanical methods, the woman is not started on oxytocin and there are no fetal or maternal reasons requiring continuous electronic fetal monitoring, then subsequent monitoring can be by intermittent auscultation as per unit guideline**. Low risk women may also labour in the low risk birth centre as induction alone is not an indication to deliver on the Labour Ward.**

8.2 **Women who have not laboured in the 24 hour period post Propess® insertion**: Any patient who has not laboured over the 24 hours following Propess® insertion needs to be transferred to Labour Ward for ongoing care. If there is a delay – **Propess can remain in situ for up to 30 hours**. **A cannula and bloods (FBC / G&S) are NOT required prior to amniotomy for every patient.**

8.3 If cervix is dilated enough to allow access to the fetal membranes an amniotomy will be performed and oxytocin commenced. Please ensure there is a 30 minutes period between removal of Propess® and commencing oxytocin.

8.4 If membranes have already ruptured, a baseline vaginal assessment is performed and the Propess® removed. Oxytocin can then be commenced after 30 minutes.

8.5 Women who have had a cervical ripening balloon catheter that has spontaneously fallen out should have an amniotomy performed on Labour Ward. No delay is necessary from amniotomy to starting oxytocin.

8.6 Women who have had a cervical ripening balloon catheter that has remained in situ should have the 30mL balloon deflated, the balloon removed and an amniotomy performed on Labour Ward. No delay is necessary from removal of balloon and amniotomy to starting oxytocin.

8.7 Women who have had dilapan mechanical dilatation that have remained in situ should have them removed, counted and documented. An amniotomy can then be performed and oxytocin commenced.

8.7 The oxytocin intravenous infusion should be prescribed on a fluid chart as 500mL 0.9% Normal Saline with 30 IU Syntocinon®. See Oxytocinon (Syntocinon) - Maternity guideline

8.8 If amniotomy not possible: Decision about further management should be in accordance with the woman's wishes and should take account of the clinical circumstances. Full discussion should occur between the Consultant and patient. Options include the use of a cervical ripening balloon catheter to mechanically dilate the cervix or a Caesarean Section.

9.0 DECISION TO DELAY IOL DUE TO EXCESSIVE WORKLOAD

9.1 The elective workload should be reviewed at the Labour Ward handover by the Labour Ward Consultant and the Senior Matron / Labour Ward Coordinator. Any decision to postpone IOL or delay transfer to Labour Ward MUST be made by the Labour Ward Consultant and the Senior Matron / Labour Ward Coordinator and should be based on clinical need and / or priority. The decision to delay IOL must be recorded in the woman's IOL paperwork with a clear plan. There should be a documented discussion with the woman and her partner, ideally by a Senior Matron / Labour Ward Coordinator.

9.2 Women who have ruptured membranes should remain as inpatients and be treated as a priority for IOL. They should be reviewed by the Labour Ward Consultant and IV Ab's (to cover Group B Streptococcus) should be considered.

9.3 Other women will be assessed by the FMAU/Triage team on the day of cancelled IOL and prioritised for the next day. FMAU/Triage may perform a CTG, basic observations, take a history of fetal movements and review of maternal wellbeing where appropriate.

10. MONITORING COMPLIANCE WITH THIS GUIDELINE

10.1 Any concern or non-compliance with this guideline that is identified through the investigation of clinical incidents, claims or complaints will be reviewed as per the Trust Policies regarding Incidents, Claims and Complaints, and may result in an audit and/or amendment to the guideline.

10.2 Relevant Policies:

- Incident reporting policy and procedure
- Claims management policy and procedure

- Policy and Procedure for the Management of Complaints, Concerns, Comments and Compliments

11.0 ASSOCIATED CLINICAL GUIDELINES

Specific guidelines linked to IOL indications or timings are available in the table in Section 4.0
Labour - Maternity guideline care of women in labour in all care settings

12.0 REFERENCES

Specific guidelines linked to IOL indications or timings are available in the table in Section 4.0
National Institute for Health and Care Excellence Clinical Guideline 70: Inducing Labour July 2008

13.0 PUBLICATION DETAILS

Author of Clinical Guideline	[redacted], Lead Consultant for Labour Ward
Division/ Department responsible for Clinical Guideline	Specialist Services/CWH/Maternity
Contact details	[redacted]
Version number	3.6
Replaces version number	3.5
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Expiry date	08/04/2024
Date document becomes live	18/08/2021

APPENDIX 1: INDUCTION METHODS: PROPESS®

Propess is a vaginal pessary containing 10mg of dinoprostone (Prostaglandin E_2) in a thin flat rectangular pessary contained in a knitted polyester retrieval system. It is essentially equivalent to 3 Prostin® tablets given in a controlled manner, over a 24 hour period without the need for repeated vaginal examinations. The major advantage of Propess® is that it can be easily removed in the event of hyperstimulation.

Prostaglandin E_2 (PGE_2) is a naturally occurring compound found in low concentrations in most tissues of the body. It plays an important role in the complex ripening of the cervix.

The RCOG / NICE 2008 guideline states the following: Vaginal PGE_2 is the preferred method of IOL unless there are specific clinical reasons for not using it (see IOL in high risk situations). It should be administered as a gel, tablet or controlled release pessary.

The release rate is approximately 0.3mg per hour over 24 hours in women with intact membranes, **release being higher with PROM**. If the cervical dilatation is found to be > 3cm and fully effaced, or Bishops score >6 in the presence of spontaneous rupture of membranes, then these women should be admitted to Labour Ward for amniotomy and oxytocin.

The same protocol is used for primiparous and multiparous women with Propess®.

Note that severe asthma is a relative contraindication to Propess® administration and therefore the decision to use it must be made by the senior Obstetrician in ANC. Caution must also be exercised when prescribing Propess® in women with active cardiac, pulmonary, renal or hepatic disease.

On arrival for IOL, the Midwife will check the dates and reason for IOL and check that Propess® is prescribed. Any concerns regarding this need to be communicated to the Senior Matron / Labour Ward Coordinator who will discuss the case with the Registrar or Consultant on Labour Ward. Provided the woman has been seen in the ANC and the IOL has been authorised by a senior Obstetrician the woman does not need to wait to see a doctor.

The Midwife will check maternal observations (pulse, BP and temp), perform an antenatal assessment including presentation USS and a 20-30 minute CTG. All procedures to be undertaken must be discussed fully with the woman. The women should be informed that Propess® works over a 24 hour prior to ripen the cervix ready for labour and as such the next planned examination will not be performed until the next day. A good proportion of women however are likely to labour within this time.

If intrapartum antibiotic prophylaxis for Group B Streptococcus is planned, this should be administered at the earliest opportunity.

If the antenatal assessment and CTG is satisfactory a vaginal examination will be performed, cervical assessment undertaken and the Propess® inserted as follows:

- A vaginal examination will be performed, using only water based lubricant gel for lubrication.
- To prevent non intentional displacement at the time of insertion, it is advised to loop the tape at the pessary end.
- Once the cervix is located and assessed, insert the Propess® in-between fingers and slide into the posterior fornix.

- Turn pessary into transverse position in the posterior fornix, - withdraw fingers carefully allowing pessary tape to run the length of the vagina and tuck the end of the tape into the vagina.
- Instruct the woman to remain semi recumbent on the bed for 30 minutes following insertion. Instruct her to take care when visiting the toilet not to pull on the tape, if at all concerned request the woman to inform a Midwife.

A CTG is to be performed for 30mins after the pessary is inserted and recommenced if the woman complains of any significant painful uterine activity at any time. The vaginal examination and findings should be recorded as normal in the patient records.

Further monitoring of 6 hourly CTGs and maternal pulse will be performed either until labour has established or until 24 hours have passed since pessary insertion.(NOTE: Between the hours of 22.00 hours and 06.00 hours, in the absence of uterine activity the woman does not need to be woken for fetal monitoring.

At any time if the patient complains of significant pain, either dinoprostone induced pain or contractions, maternal Pulse and a CTG should be recorded.

If contraction become strong and regular or if patient requires IM analgesia, maternal pulse, CTG and vaginal examination should be with Propess® in situ. Take care not to accidentally remove or displace Propess®. If not in labour DO NOT REMOVE PROPESS® and continue monitoring.

If labour diagnosed i.e. the cervix is effaced, 3cm or more dilated and the patient is having strong and regular contractions, then remove Propess® by giving gentle traction to the protruding tape at the vulva, until completely removed. The patient should be transferred to Labour Ward for further management.

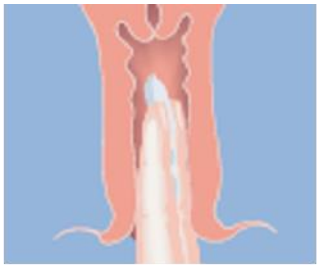
If spontaneous rupture of membranes occurs but labour is not established DO NOT remove Propess®, observe uterine activity and fetal heart at that time, followed by 6 hourly CTGs until either labour does establish or 24 hours has elapsed since insertion.

If at any point the Propess® falls out or is inadvertently pulled out, or is removed in error before the woman is in labour then the same Propess® can be reinserted provided it has remained clean.

If the Propess® falls out and becomes contaminated, a new Propess® can be inserted (this does not need to be prescribed). If reinsertion is required, total pessary time remains 24 hours from insertion of the first pessary. In the presence of confirmed ruptured membranes – transfer the woman to Labour Ward for oxytocin rather than inserting a new Propess®.

Active vaginal bleeding requires urgent senior medical review, CTG and immediate removal of the Propess®.

If any maternal reaction to Propess® is suspected such as: nausea, vomiting, diarrhoea, hypotension, maternal tachycardia, genital oedema, maternal respiratory wheeze in a known severe asthmatic; the Midwife must inform the Senior Matron / Labour Ward Coordinator immediately and the woman's care discussed with the Registrar.



1. Insertion
Holding the Propess® insert between the index and middle fingers of the examining hand, insert it high into the vagina towards the posterior vaginal fornix using only small amounts of water soluble lubricants.

2. Positioning
The index and middle fingers should now be twisted a quarter turn clockwise, pushing the Propess insert higher up, behind the posterior fornix and turning it through 90º so that it lies transversely in the posterior fornix.

3. After positioning
Carefully withdraw the fingers leaving the Propess® insert in the position shown in this diagram where it should remain *in situ*. After insertion ensure that the patient remains recumbent for 20-30 minutes to allow time for the Propess® insert to swell. Again, this will help it to remain in place for the duration of the treatment. Allow sufficient tape to remain outside the vagina to permit easy retrieval.

4. Removal
To stop prostaglandin E2 release, gently pull the retrieval tape and remove the Propess insert.

APPENDIX 2: INDUCTION METHODS: CERVICAL RIPENING FOLEY BALLOON CATHETER.

A cervical ripening balloon catheter is used as an alternative to Propess® to facilitate amniotomy without risk of hyperstimulation associated with Propess®.

A cervical ripening balloon catheter should not be used in the presence of ruptured membranes.

Indications for a cervical ripening balloon catheter are

- for women who are suitable for IOL and have had one previous C/S – must remain as an inpatient
- for other high risk groups of women for whom Propess® is not preferable eg. grand multiparity (Para >4)
- patient choice
- Out patient IOL – indication point 5.1
- for women for whom Propess® has failed to ripen the cervix for amniotomy

The same protocol is used for primiparous and multiparous women with cervical ripening balloon catheters.

Equipment (box in FMAU and in stock cupboard on Labour Ward)

Foley catheter with 30ml capacity balloon. If latex allergy, latex free catheters are available – ccheck for latex free sign.
30ml sterile water
20ml and 10ml syringe to inflate balloon with water
2 spiggots
Micropore or mefix tape

The following may also be required
Cusco speculum
Rampley sponge holder to guide catheter through cervix
Good light
Stirrups

Ask the patient to bring a skirt/sarong as jeans/leggings may be uncomfortable to wear after catheter insertion.

Procedure

On arrival for IOL, the Midwife will check the dates and reason for IOL. The Midwife will check maternal observations (pulse, BP and temp), perform an antenatal assessment including presentation USS and CTG. All procedures to be undertaken must be discussed fully with the woman and verbal consent obtained. If intrapartum antibiotic prophylaxis for Group B Streptococcus is planned, this should be administered at the earliest opportunity. Ensure that analgesia is prescribed.

If all of these are satisfactory then the Registrar or Labour Ward Consultant will attend to insert the cervical ripening balloon catheter.

- Clean external genitalia
- Perform a gentle vaginal examination

- If cervix fully effaced and >2cm dilated then for amniotomy on Labour Ward, otherwise proceed
- Insert the catheter into the cervix and beyond the internal os. If this is not possible then try under direct vision using a speculum and sponge holders to guide the catheter though cervix. The silastic catheter has the advantage of being more rigid and slightly slimmer than the latex catheter. However, it is more expensive so should only be used if it is not possible to place the latex catheter or in cases of sensitivity to latex.
- Inflate balloon with 30ml sterile water using syringe. This should not be painful. If painful then reconsider placement and check balloon of catheter is above internal os.
- Tape catheter to leg under tension
- Place spiggots in ends of catheter to prevent mess

Admit (if remaining an inpatient) and encourage her to keep the catheter with tension on her leg, re-taping if necessary

Instruct the woman to remain semi recumbent on the bed for 30 minutes following insertion. A CTG is to be performed for 30mins after the balloon catheter is inserted and recommenced if the woman complains of any significant painful uterine activity at any time. The vaginal examination and findings should be recorded as normal in the patient records.

At any time if the patient complains of significant pain or contractions, maternal Pulse and a CTG should be recorded.

Reassure the woman that she can go to the toilet, mobilise and wash as normal. Reassure her that the catheter may fall out spontaneously.

APPENDIX 3 – OUTPATIENT INDUCTION WITH CERVICAL RIPENING DILAPAN RODS

Indications for a Dilapan Rod mechanical induction cervical ripening balloon catheter are:

- for women who are suitable for IOL and have had one previous C/S – must remain as an inpatient
- for other high risk groups of women for whom Propess® is not preferable eg. grand multiparity (Para >4)
- patient choice
- Out patient IOL – indication point 5.1
- for women for whom Propess® has failed to ripen the cervix for amniotomy

Dilapan Rod mechanical induction should not be used in the presence of ruptured membranes

The same protocol is used for primiparous and multiparous women.

THE RECOMMENDED DILAPAN-S® ADMINISTRATION TECHNIQUE

Instructions for insertion

1. Ask the patient to empty her bladder.
2. Insert a vaginal speculum and wipe the vagina with an aseptic solution.
3. Remove the Dilapan-S from the pack using the sterile technique. The device is delivered in a single pouch.
4. The best results can only be obtained if employing the correct technique of device insertion (see Figures 1 and 2).
   a) A speculum can be used to visualize the cervix, the dilator can be grasped with a tenaculum for easier insertion in the cervical canal.
   b) Prior to insertion, moisten the Dilapan-S with sterile saline to lubricate its surface.
   c) Grasp the holder of the Dilapan-S (see Figure 1). Start inserting the Dilapan-S steadily and without use of strong force to pass through the external and internal os of the cervix (see Figure 2).
   d) DO NOT INSERT/PUSH THE DILAPAN-S BEYOND THE HOLDER. The end of the holder should remain outside the external os (see Figure 2).
   e) When using several dilators, repeat steps (b) through (d) for each Dilapan-S device.
5. Clearly document the number of Dilapan inserted in the maternal notes

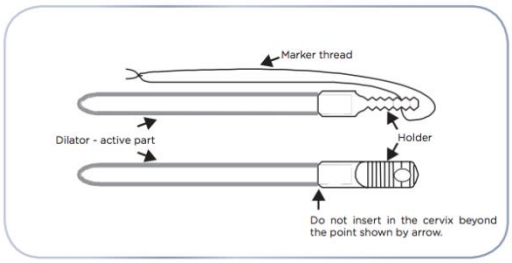


Figure 1 - DESCRIPTION

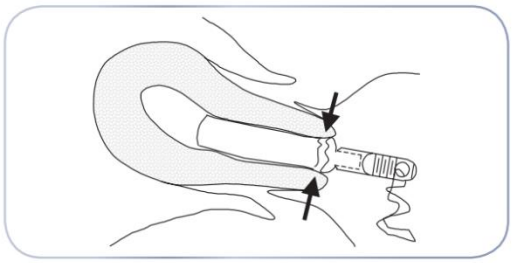


Figure 3 - INCORRECT TECHNIQUE OF EXTRACTION

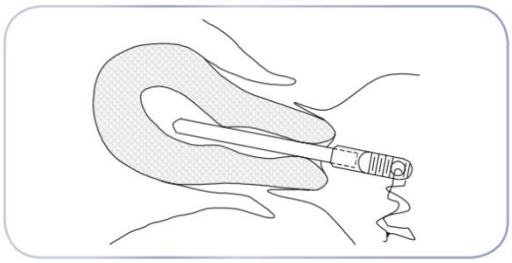


Figure 2 - CORRECT TECHNIQUE OF INSERTION

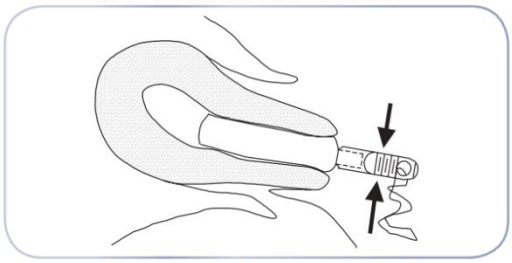


Figure 3 - CORRECT TECHNIQUE OF EXTRACTION

<u>Post Dilapan-S insertion</u> – monitoring of maternal and fetal well-being

CTG monitoring should commence for 30 mins after Dilapan-S insertion.

The woman should be instructed to inform the midwife if:

- Contractions become regular (every 5 minutes or more frequent)
- She becomes uncomfortable with contractions
- She has bleeding

<u>When to remove Dilapan-S</u>

Dilapan-S can remain in the vagina for up to 24 hours, however, it should be removed immediately in the following instances:

- When labour is established (regular uterine activity of 3 contractions in 10 minutes or more frequent for at least 2 hours and / or cervical dilatation of 4cm or more)
- PV bleeding **(not just blood stained show)**
- Evidence of fetal compromise
- Following 24 hours, even if labour is not established
- SROM

Eighty percent of expansion occurs in 6-8 hours. Dilapan-S can be removed from the 12 hour onwards for assessment. Optimum time for removal is between 12-16 hours.

To remove Dilapan-S, either pull on the attached sting and pull gently to remove the rods Alternatively, gently grasp the plastic handles with forceps or by hand. **Do not rotate Dilapan-S when removing. Document time of removal and number of Dilapan-S rods in the patient notes**.

Note: In the unlikely event that the total number of Dilapan-S rods cannot be identified, an ultrasound can be undertaken to identify or rule out Dilapan-S rod location. Dilapan-S is not radiopaque.

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NHS Foundation Trust

Clinical Guideline for:
Care of Women in Labour in All Care Settings

Summary

This document will encompass care of the normal labouring woman, including low and high risk women and NICE recommendations for when and which course of action should be taken if progress is not adequate. Normal labour is defined as spontaneous initialisation of labour commencing between 37 – 42 weeks gestation. This document will not cover pre-term labour, induction of labour, use of oxytocin in labour or assisted vaginal delivery or associated care. Hyperlinks can be followed to access these on the Trust Maternity documents/guidelines via Hub.

Contents

1. INTRODUCTION

1.1 The aim of this guideline is to provide documented resource to support excellence in clinical practice and is supported by evidence from National Institute of Health and Care Excellence (NICE) documents.

1.2 This document will encompass care of the normal labouring woman, including low and high risk women and NICE recommendations for when and which course of action should be taken if progress is not adequate. Normal labour is defined as spontaneous initialisation of labour commencing between 37 – 42 weeks gestation. This document will not cover pre-term labour, induction of labour, use of oxytocin in labour or assisted vaginal delivery or associated care. Hyperlinks can be followed to access these on the Trust Maternity documents/guidelines via Hub.

2. ADMISSION

2.1 The woman and her partner should be made welcome, the midwife is responsible for identifying from the handheld notes if the woman is under midwife led or consultant led care.

2.2 There should be a two-way discussion about the plan of care; any specific requests should be recorded. If a birth plan has been written, this should be read, discussed, signed and filed clearly in the continuous notes at this time. If a mother does not wish to receive the care as suggested in these guidelines then this must be respected and the discussion recorded in her notes. Where this decision presents a concern in facilitating a normal labour and birth, this should be discussed with the midwife co-ordinator and obstetric staff.

2.3 For women who are under midwife-led care an initial risk assessment should be undertaken to ensure she remains suitable for midwife-led care. Risk factors for Obstetric unit birth are highlighted in Appendix 1.

2.4 Baseline observation recorded to include:

- Maternal pulse, BP, temperature and urinalysis
- Abdominal palpation – to determine fundal height, baby's lie, presentation, position, engagement and frequency and duration of contractions.
- Auscultation of the fetal heart for a minimum of 1 minute immediately after a contraction and record it as a single rate – palpate the woman's pulse to differentiate between the two. Record accelerations or decelerations if heard.
- Dependent on above findings, vaginal examination should be offered.

2.5 Routine admission Cardiotocograph (CTG) recording is not required in the low-risk woman. See indications in Appendix 2 and Clinical Guideline for electronic fetal monitoring.

2.6 High risk women should be seen or discussed with the labour ward Registrar with the minimum of delay. After discussion with the obstetric registrar and/or consultant, a plan for future management should be agreed with the woman and documented in the notes.

2.7 Women identified with mental health or psychiatric issues should have a clear documented plan of care and treatment documented in the hospital notes.

2.8 If a low risk woman develops any risk factors highlighted in Appendix 3 at any time throughout her labour, the midwife caring for her must refer her to the obstetric team on the labour ward for assessment and a plan of action made. In the event of imminent delivery assess and discuss whether birth in the current location is preferable.

2. 9 **Pregnant women with risk factors who decline standard fetal monitoring for any reason should be advised to be delivered by caesarean section due to the inability to monitor for and identify fetal distress that could lead to fetal death. This would include women with previous caesarean scar, prolonged labour, and women otherwise low risk who decline intermittent fetal monitoring. See Guideline** Clinical Guideline for care of women who refuse recommended Maternity care.

3. FIRST STAGE OF LABOUR

3.1 First Stage of Labour – Latent Phase

3.1.1 On admission the correct diagnosis of the phase of labour is important.

3.1.2 Latent first stage of labour is a period of time, not necessarily continuous, when

- There are painful contractions **and**
- There is some cervical change, including cervical effacement and dilatation up to 4 cm (NICE, 2017)

3.1.3 There are no uniformly accepted contemporary criteria for the normal duration of the latent phase (Satin, 2020), therefore it is very difficult to objectively determine a prolonged latent phase. Key things to assess are, is the woman coping well, is she well supported, what are her wishes and to make a plan **together**. Appendix 4, Checklist for the latent phase prior to returning home, may help with this action and should be completed in all circumstances when a woman returns home following the diagnosis of the latent phase of labour. Women without risk factors should be encouraged to remain at, or return home, **unless doing so leads to a significant risk that she could give birth without a midwife present or become distressed**.

3.2 First Stage of Labour – Active Phase

3.2.1 The active phase of the first stage of labour is defined when the cervix is ≥4 cm dilated in the presence of rhythmical contractions.

3.2.2 If the woman wishes to labour in water see Clinical Guideline for water birth.

3.2.3 In the active phase of labour a partogram should be commenced. It is important that all boxes of the partogram are clearly and fully completed.

3.2.4 All women may have a light diet and free fluids unless specified in their labour record.

3.2.5 **Frequency of data collection to document on partogram**

OBSERVATION	Frequency
BP and temp and offer vaginal examination	4 hourly unless otherwise indicated
Pulse	Hourly
Frequency of contractions	Every 30 mins
Urine	Record frequency of emptying the bladder
Fetal Heart	Every 15 mins after a contraction for 1 min record as single rate *(where possible)*. Record accelerations or decelerations if heard.

Midwives to document observation of vaginal loss regularly during labour, especially in the presence of ruptured membranes and/or epidural analgesia.

3.2.6 **Documenting vaginal examination on the partogram**

- Vaginal examinations (VE) should be offered 4 hourly once in established labour (4 cm regular contractions), with abdominal palpation being recommended before each VE.
- Vaginal examinations should be offered more frequently if delay in labour diagnosed. See 3.2.10

Documentation should include:

- **Cervical Dilatation**
- **Position**
- **Moulding**. The degree of moulding of the fetal head should be noted at vaginal examination, defined as:
  - Bones normally separated 0
  - Suture line closed, no overlap +
  - Overlapping of sutures but reducible ++
  - Overlapping of suture lines and irreducible +++
- **Caput**
- **Station**
- The fetal heart should be auscultated after each vaginal examination.

3.2.7 **Artificial Rupture of Membranes (ARM)**
Membranes should not be artificially ruptured without clinical indication. Indications for rupturing membranes include:

- Delay in first stage (see below).
- Abnormal external CTG.
- Difficulty in achieving an external trace and need for use of fetal scalp electrode.

3.2.8 **Spontaneous Rupture of Membranes**
When membranes rupture spontaneously, the fetal heart should be auscultated.

3.2.9 **Uterine contractions**

- Uterine contractions should be assessed by abdominal palpation. This provides a subjective impression of the strength of the contractions together with the frequency and duration.
- Both frequency and strength of the contractions should be recorded on the partogram, see example below:

3.2.10 **Delay in the first stage as defined as:**

Nulliparous: <2cm dilatation in 4 hours

Parous : <2cm dilatation in 4 hours or **a slowing in the progress of labour**

- Consider amniotomy if membranes intact, and offer vaginal examination in 2 hours whether intact or not.
- After 2 hours if progress > 1cm continue without intervention
  < 1cm diagnose delay and seek obstetric advice which may include transfer from a low risk setting – hyperlink transfer of care.
  Offer continuous electronic fetal monitoring – see Clinical Guideline for electronic fetal monitoring.

4. SECOND STAGE OF LABOUR

4.1 Second stage of labour is defined as cervix has reached full dilatation on vaginal examination or the presenting part is visible. If the woman has no urge to push re-assess in 1 hour.

4.2 In the second stage of labour without complications, it is important that the woman should not be actively encouraged to push until the presenting part is visible or until the desire to push is overwhelming.

4.3 **Frequency of data collection to document on partogram or within birth note text**

OBSERVATION	Frequency
Temp	4 hourly
BP and offer vaginal examination	Hourly unless otherwise indicated
Pulse	Every 15 mins
Frequency of contractions	Every 30 mins
Urine	Record frequency of emptying the bladder
Fetal Heart	Every 5 mins after a contraction for 1 min record as single rate *(where possible)*. Record accelerations or decelerations if heard. Palpate the woman's pulse every 15 minutes to differentiate between the two heart rates

4.4 Midwives to document observation of vaginal loss regularly during labour, especially in the presence of ruptured membranes and/or epidural analgesia.

4.5 The progress of both station and position should be assessed hourly by vaginal examination and documented on the partogram or within the birth note text. Senior advice will be sought if delay is suspected.

4.6 Variation in progress in the second stage is not uncommon, especially in primigravid women with epidural analgesia.

4.7 The second stage may be divided into two phases: the descent/rotation phase and the pushing/active phase.

- The mother should be free to choose her position for delivery within safe and reasonable limits. If the chosen position is not possible ensure that this is adequately explained and documented in the labour notes.
- There is no evidence that sustained (Valsalva) pushing is physiologically more effective (Cochrane 2006).
- The person conducting the delivery should be responsible for giving guidance to the mother. It is important to avoid more than one person talking at any one time.

4.8 **Definition of delay and recommended duration of second stage**.

Nulliparous: Birth expected within 3 hours of active 2nd stage.
If after 1 hour of active second stage progress is inadequate, delay is suspected and amniotomy should be offered.

Parous: Birth would be expected within 2 hours of start of active second stage. If after 30 minutes progress in inadequate, amniotomy should be offered if the membranes are intact.

4.9 If delay is diagnosed in the second stage of labour and it deviates from guidance above then it is the midwife's responsibility to seek obstetric advice, this may include transfer in from a low risk setting – see Clinical Guideline for maternal transfer by ambulance.

5. THE THIRD STAGE OF LABOUR

5.1 The third stage commences with the complete delivery of the baby. It is important that options for management of the third stage have been discussed with the woman (where possible) in advance of its commencement.

5.2 **Women at increased risk of postpartum haemorrhage include**:

- Multiple births
- VBAC
- Grandmultiparity (more than 4 births)
- Significant APH in this pregnancy
- Previous PPH
- Haemoglobin less than 10g/dl

In these cases it is recommended that intravenous access should be secured if not already in place, and active management advised.

5.3 **Active Third stage**

This unit currently uses 1 ampoule of Syntometrine (containing 5 international units (IU) oxytocin and 0.5mg ergometrine) intramuscularly (IM). Contraindication to this would be women with a diastolic blood pressure over 90mmHg and mothers with cardiac disorders. In these circumstances 10 IU of Oxytocin (Syntocinon) should be given IM.

5.4 **Process:**

- Following delivery of the baby administer the appropriate uterotonic drug as above.
- Allow for deferred clamping and cutting of the cord until pulsation has stopped unless clinical indication to do so earlier. Document the time in the labour notes Leave sufficient length for cord blood sampling if required.
- Observe for signs of separation and then deliver placenta by controlled cord traction.
- Delivery of the placenta should be expected within 30 minutes. In the event that it is retained – see Clinical guideline for retained placenta.

5.5 **Observations in the third stage**

- Observe her general physical condition, as shown by her colour, pulse and her own report of how she feels.
- Vaginal blood loss.

5.5.1 In addition, in the presence of haemorrhage, retained placenta or maternal collapse, frequent observations to assess the need for resuscitation are required and documented on the continuous labour notes.

5.6 Physiological Management

5.6.1 May be offered to low risk women and involves no administration of a uterotonic, delivery of the placenta is by maternal effort only without any clamping or cutting of the cord.

5.6.2 **If the baby requires resuscitation or the cord is very short it should be clamped and cut after which the clamp may be removed from the maternal end to drain.**

5.6.3 Delivery of the placenta should be expected within 1 hour. If no sign of separation or delivery consider emptying the bladder, encouraging skin to skin and feeding at the breast or a change of position. After this time Syntometrine 1 ampoule should be administered after an explanation to the women, and obstetric opinion sought. Obtain IV access at this point. Care should now be as for active third stage of labour – see section 5.3.

5.7 Examination and Disposal of the Placenta

5.7.1 After the third stage of labour the placenta and membranes are examined as soon as possible. The midwife should wear the personal protective equipment provided by the Trust - gloves, glasses and apron – same as for a delivery.

5.7.2 The main purposes for the examination are:

- To determine whether or not the placenta and membranes are complete
- To detect other abnormalities this might provide retrospective information about an intrauterine problem. This may be helpful in planning care for the neonate (Enkin et al 2000).

5.7.3 After examination the placenta should be placed in a clear plastic bag, sealed and placed in the yellow placenta pot.

5.8 Placentas needing histological examination

5.8.1 See Request Form for Placental Examination

5.8.2 Histology forms **MUST** be completed and signed by an Obstetric middle grade or Consultant.

5.8.3 The fact that an examination has been requested **MUST** be documented in the labour notes by the midwife and/or medical staff

6. WOMEN PRESENTING IN LABOUR WHO HAVE HAD NO ANTENATAL CARE

6.1 For women who present to the RD&E in labour having had no antenatal care, the following guidance should be followed as far as possible, depending on what is appropriate given the woman's stage of labour.

6.2 Labour Care

6.2.1 'Late Booking' packs are available on labour ward for midwives to use. These include all the paperwork required to follow the guidance below.
If possible, take a full medical, psychological and social history.
• Try to find out why there has been no care during pregnancy.
• Ask the woman who, if anyone, she would like to support her as her birth companion(s) during labour.
• Explore sensitively any possible vulnerability or safeguarding concerns, including:
- young maternal age
- maternal mental health
- maternal learning disability
- maternal substance misuse
- domestic or sexual abuse
- homelessness
- human trafficking
- undocumented migrant status
- female genital mutilation
- the woman or family members being known to children's services or social services.

6.2.2 A midwife should carry out an initial labour assessment as detailed in section 2 of the Care in Labour Guideline.

6.2.3 The on call Obstetric Registrar should be informed and should carry out an obstetric and general medical examination as soon as possible. An assessment of the unborn baby should also be undertaken, including ultrasound if possible, to determine:
• viability
• the presentation
• an estimate of gestational age
• the possibility of multiple pregnancy
• the placental site.

6.3 **Screening Tests**

6.3.1 Women should be offered, tests for:
• anaemia (full blood count)
• haemoglobinopathies
• blood group and rhesus D status
• atypical red cell alloantibodies
• random blood glucose
• asymptomatic bacteriuria
• HIV, hepatitis B and syphilis.

6.3.2 A Family Origin Questionnaire (FOQ) must be completed and sent with the full blood count. The bloods should be sent as urgent and marked as FTSC to ensure the correct tests are done.

6.3.3 Rapid HIV testing should be offered to women thought to be at high risk of infection, which might include:
• recent migrants from countries with high rates of HIV infection
• women who misuse substances intravenously
• suspected sexual abuse.
Following a risk assessment, contact the Microbiology office or the on call Microbiologist out of hours to arrange for rapid testing to be done if required.

6.3.4 The screening co-ordinators should be informed to ensure there is appropriate tracking and follow-up in place. See the Clinical Guideline for Screening for Infectious Diseases in Pregnancy.

6.4 **Safeguarding**

6.4.1 Explain to the woman why and when information about her pregnancy may need to be shared with other agencies. If possible, contact the woman's GP and, if appropriate, other health or social care professionals for more information about the woman's history and to plan ongoing care.

6.4.2 For any woman who presents in labour who has not been booked to give birth under the care of the RD&E, the Child Protection Information Sharing (CP-IS) system should be checked via the NHS Spine to see if a Child Protection Plan exists for the unborn baby. Any midwives with NHS smartcards, including all the labour ward matrons, are able to undertake this check.
If there are safeguarding concerns, the Trust Safeguarding Children Policy should be followed, including documenting all concerns and actions taken.

6.5 Where no medical conditions or obstetric complications are detected then routine labour care according to the Trust Care in Labour guideline should be given.

7. MONITORING COMPLIANCE WITH THIS GUIDELINE

7.1 Any concern or non-compliance with this guideline that is identified through the investigation of clinical incidents, claims or complaints will be reviewed as per the Trust Policies regarding Incidents, Claims and Complaints, and may result in an audit and/or amendment to the guideline.

7.2 Relevant Policies:

- Incident reporting policy and procedure
- Claims management policy and procedure
- Policy and Procedure for the Management of Complaints, Concerns, Comments and Compliments

8.0 REFERENCES

Ifirevic Z, Gould D. Immersion in Water During Labour and Birth Royal College of Obstetricians and Gynaecologists and Royal College of Midwives Joint Statement No.1 April 2006.

Brown L (1998) The Tide has Turned: An Audit of Water Birth. British Journal of Midwifery. April. Vol. 6, No 4.

Charles C. (1998) Fetal Hypothermia Risk from Warm Water Immersion. British Journal of Midwifery. March Vol 6, No3.

Management of third and fourth degree perineal tears following delivery. RCOG Guideline No 29. Royal College of Obstetricians and Gynaecologists: 2007 London.

Mayes Midwifery; A textbook for midwives. 13th edition 2004.

Methods and materials used in perineal repair. RCOG Guideline No 23. Royal College of Obstetricians and Gynaecologists: 2000 London.

National Institute of Health and Care Excellence (NICE) (2014) Clinical Guideline 190 Intrapartum Care: Care of Healthy women and their babies during childbirth. London: NICE, updated 2017

Satin AJ (2020) Latent phase of labour. UpToDate 2020!

9. ASSOCIATED CLINICAL GUIDELINES OR POLICIES

Clinical Guideline for electronic fetal monitoring

Clinical Guideline for care of women who refuse recommended Maternity care

Clinical Guideline for water birth

Clinical Guideline for maternal transfer by ambulance

10. PUBLICATION DETAILS

Author of Clinical Guideline	Senior Matron
Division/ Department responsible for Clinical Guideline	Specialist Services/CWH/Maternity
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Expiry date	10/06/2023
Date document becomes live	28/07/2020

APPENDIX 1 – INDICATIONS FOR AN OBSTETRIC LED UNIT BIRTH

This list is not exhaustive, for some women, their individual circumstances will need to be considered during the antenatal period or at the onset of labour in order to provide appropriate, individualised care.

Factor	Additional information
Previous complications	Unexplained stillbirth/neonatal death or previous death related to intrapartum difficulty Previous baby with neonatal encephalopathy Placental abruption with adverse outcome Eclampsia Uterine rupture Primary postpartum haemorrhage >1000mls Retained placenta requiring manual removal in theatre (alongside birth centre may be appropriate if this is the only risk factor) Caesarean section Shoulder dystocia
Current pregnancy	Any condition where continuous EFM is recommended during labour (See Appendix 2) Maternal request for continuous EFM in labour Maternal age ≥40 years at booking Placenta praevia Placental abruption Anaemia – haemoglobin less than 100g/litre at onset of labour Thrombocytopenia – Platelet count <100 Confirmed intrauterine death Substance misuse or alcohol dependency requiring assessment or treatment BMI at booking of greater than 35kg/m^2 for primips or 39.9kg/m^2 for multips Recurrent antepartum haemorrhage Ultrasound diagnosis of oligo-/polyhydramnios
Previous gynaecological history	Myomectomy Hysterotomy
Existing Medical Conditions	Severe cardiac disease Hyperthyroidism Renal disease For women with other pre-existing medical conditions, an individualised care plan will be made during the antenatal period in order to determine the most appropriate place of birth.

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APPENDIX 2 – INDICATIONS FOR CONTINUOUS EFM/CTG (based on FIGO & NICE)

ASSESSMENT

Are any of the following risk factors present?

Maternal Antenatal risk factors:

- Previous caesarean section/uterine scar including myomectomy
- Post term pregnancy (> 42 weeks)
- Preterm (>26/40 - < 37 weeks)
- Maternal diabetes
- Pre-eclampsia/hypertension
- Prelabour ruptured membranes for > 24 hours prior to onset of labour
- Obstetric Cholestasis
- Other maternal medical disease:
  - Severe anaemia
  - Hyperthyroidism
  - Renal disease
  - Suspected chorioamnionitis or maternal sepsis
  - Significant maternal cardiac disease
- Obstetric emergency including:
  - Antepartum haemorrhage
  - Cord prolapse
  - Maternal seizure
  - Maternal collapse

Maternal Intrapartum Risk factors:

- Fresh vaginal bleeding that develops in labour (other than a show).
- A temperature of 38°C or above on a single reading, or above 37.5°C on two consecutive occasions 1 hour apart
- A maternal pulse >120bpm on two occasions 30 mins apart
- Confirmed delay after conservative measures – ARM/Rehydration.
- Oxytocin use
- The presence of **significant** meconium - stained liquor (defined as thick or tenacious dark green/black amniotic fluid, or any meconium - stained amniotic fluid containing lumps of meconium)
- Epidural Anaesthesia
- Maternal request for EFM

Fetal risk factors:

- Fetal growth restriction <5th centile on CGC
- Pre term (>26/40 - <37/40)
- Oligohydramnios
- Abnormal Uterine Artery Doppler
- Multiple pregnancy
- FH abnormalities detected on intermittent auscultation*
- Breech presentation or other abnormal presentation
- Reduced fetal movements on admission – if CTG normal and otherwise low risk may discontinue

NO

NO

Offer intermittent auscultation using either Doppler or Pinard stethoscope:

Always listen for a full minute **after a contraction (when comfortable for the woman)**. Document it as a single rate at least every:

- 15 minutes in the first stage
- 5 minutes in the second stage

Abnormal FHR on auscultation?

FHR less than 110bpm or more then 160bpm*

YES

Offer and recommend continuous EFM/CTG if indicated
(may use telemetry if appropriate)

Light Meconium---stained liquor

Women with light meconium stained liquor should have a full assessment of gestation, stage of labour, volume of liquor, parity, the FHR, the presence of other risk factors & transfer pathway, when deciding if IA is appropriate

YES

Consider offering & recommending continuous EFM/CTG if any other risk factors present (may use telemetry if appropriate)

*** If the fetal heart rate (FHR) is heard above 160 bpm on intermittent auscultation (IA), the FHR should be auscultated for 3 consecutive contractions. If FHR is still raised, EFM should be offered and recommended. If the CTG appears normal (with NO decelerations) after 20 minutes and there are no other risk factors, it may be possible to discontinue EFM and resume IA after consultation with a senior obstetrician. If the FHR is heard above 160bpm at any time subsequently, then continuous EFM should be offered and recommended.**

APPENDIX 3 – TRANSFER TO OBSTETRIC LED CARE IF ANY OF THE FOLLOWING ARE OBSERVED DURING ANY ASSESSMENT

Observations of the woman:

- Any risk factor recorded in the woman's notes that indicate the need for obstetric care
- Pulse >120bpm on 2 occasions 30 minutes apart
- A single reading of a diastolic BP>110mmHg or systolic BP>160mmHg.
- A single reading of diastolic BP>90mmHg or systolic BP>140mmHg associated with 2+proteinuria.
- Either - diastolic BP>90mmHg or systolic BP>140mmHg on **2 consecutive readings taken 30 minutes apart.**
- Temperature of ≥38°c on a single reading, or ≥37.5°c on 2 consecutive readings 1 hour apart.
- Any vaginal blood loss other than a show.
- Rupture of membranes more than 24 hours **before the onset of labour**.
- The presence of significant meconium defined as dark green or black amniotic fluid that is thick or tenacious, or any meconium –stained amniotic fluid containing lumps of meconium. The presence of thin meconium in itself in the absence of other accompanying risk factors does not necessitate transfer from a community setting.
- Pain reported by the woman that differs from the pain normally associated with contractions.
- Confirmed delay in the first or second stage following an ARM procedure where no other risk factors are present and time has been allowed for progress (2 hours in the first stage and 1 hour in the second stage as long as all other observations are normal)
- Request by woman for additional pain relief using regional analgesia.
- Obstetric emergency – including APH, Cord Prolapse, PPH, seizure or collapse, or need for advanced neonatal resuscitation.
- Retained placenta.
- Third or fourth degree tear or other complicated perineal trauma requiring suturing

Observations of the unborn baby;

- Any abnormal presentation, including cord presentation.
- Transverse or Oblique lie
- Free floating head in a nullip
- Suspected IUGR or macrosomia
- Suspected anhydramnios or Polyhydramnios
- Fetal Heart rate of <110
- Fetal Heart rate of >160bpm over 3 consecutive contractions
- A deceleration in FHR heard on intermittent auscultation
- Reduced fetal movements in the last 24 hours reported by the woman

If any of the above factors are observed but birth is imminent, assess whether birth in the current location is preferable to transferring the woman to an obstetric unit and discuss this with the co-ordinating midwife. When escalating concerns use an approved method of communication such as SBAR and ensure that this is documented.

APPENDIX 4 – CHECKLIST FOR THE LATENT PHASE, PRIOR TO RETURNING HOME

Identify	**Latent first stage of labour**		**Tick once complete**
		Are there painful contractions AND some cervical change (including effacement and dilatation up to 4cm)	
Communicate	**Give Information**		
		What to expect in latent first stage of labour	
		How to contact their midwifery care team and what to do in an emergency	
		How to differentiate between Braxton Hicks contractions and active labour contractions	
		Recognition of amniotic fluid ('waters breaking')	
		Description of normal vaginal loss	
	Discuss		
		How she is coping	
		Her wishes, expectations and concerns	
		How to work with any pain experienced	
		How to contact their midwifery care team and what to do in an emergency	
	Advise		
		Encourage her to remain at or return home, unless doing so leads to a significant risk that she could give birth without a midwife present or become distressed.	
		Ensure in your assessment you consider: -	
		• Parity	
		• Geography	
		• What support woman has	
		• Previous obstetric history	
		• Self-recognised length of latent phase*	
Act	**Ensure**	Adequate analgesia	
		Woman and partner happy with plan	
	Document	Individualised plan with the woman	
		Any Obstetric review	

*there is no agreed definition of prolonged latent phase of labour, you must use your clinical judgement to consider if an Obstetric review is required when assessing the latent phase of labour.

Signature: Print: Date:

Royal Devon and Exeter NHS
NHS Foundation Trust

Clinical Guideline for:
CTG Monitoring Intrapartum

Summary

This guideline covers intrapartum use of Electronic Fetal Monitoring (EFM).

CONTENTS

1. INTRODUCTION

1.1 Electronic fetal monitoring (EFM) via Cardiotocography (CTG) was introduced with an aim of reducing perinatal mortality and cerebral palsy. This reduction has not been demonstrated in the systematic reviews of randomised controlled studies (RCTs) studied by the National Institute for Health and Care Excellence (NICE) in developing guidance. However an increase in maternal intervention rates has been shown.

1.2 This guideline covers intrapartum use of EFM and is based on NICE guidance.

1.3 The terms EFM and CTG can both be used when describing continuous documented fetal heart rate monitoring.

2. INTRAPARTUM ELECTRONIC FETAL HEART RATE MONITORING

2.1 EFM/CTG is only used in the obstetric unit labour ward and should not be used in labour in low risk birth settings. Offer telemetry to any women who wishes to remain mobile or use the pool (who has no additional risk factors)

2.2 Indications for EFM/CTG in labour can be found on assessment algorithm - appendix 1.

2.3 **Before commencing EFM/CTG, ensure that**

- An abdominal palpation has been performed and the fetal position has been clearly assessed and documented, that the procedure has been explained and consent gained.
- Cardiotocograph (CTG) machine is set to a paper speed of 1 centimetre (cm) per minute.
- The date and time on the CTG are checked.
- Sensitivity displays are set to 20 beats per minute (bpm)/cm.
- Fetal Heart range displays of 50-210 bpm are used.
- That all recorded fetal heart traces are clearly identifiable with maternal
  - Name
  - DOB
  - hospital/Unit number
  - date and time of starting the CTG
  - maternal pulse
  - any event which may affect the fetal heart trace (Vaginal Examination, change of position) – ensure event signed, dated and timed.
  - If an opinion is sought, then the signature of that person is recorded on the CTG as well as in the maternal records

    Date and time and signature of person discontinuing the CTG

3. EFM/CTG: DEFINITIONS

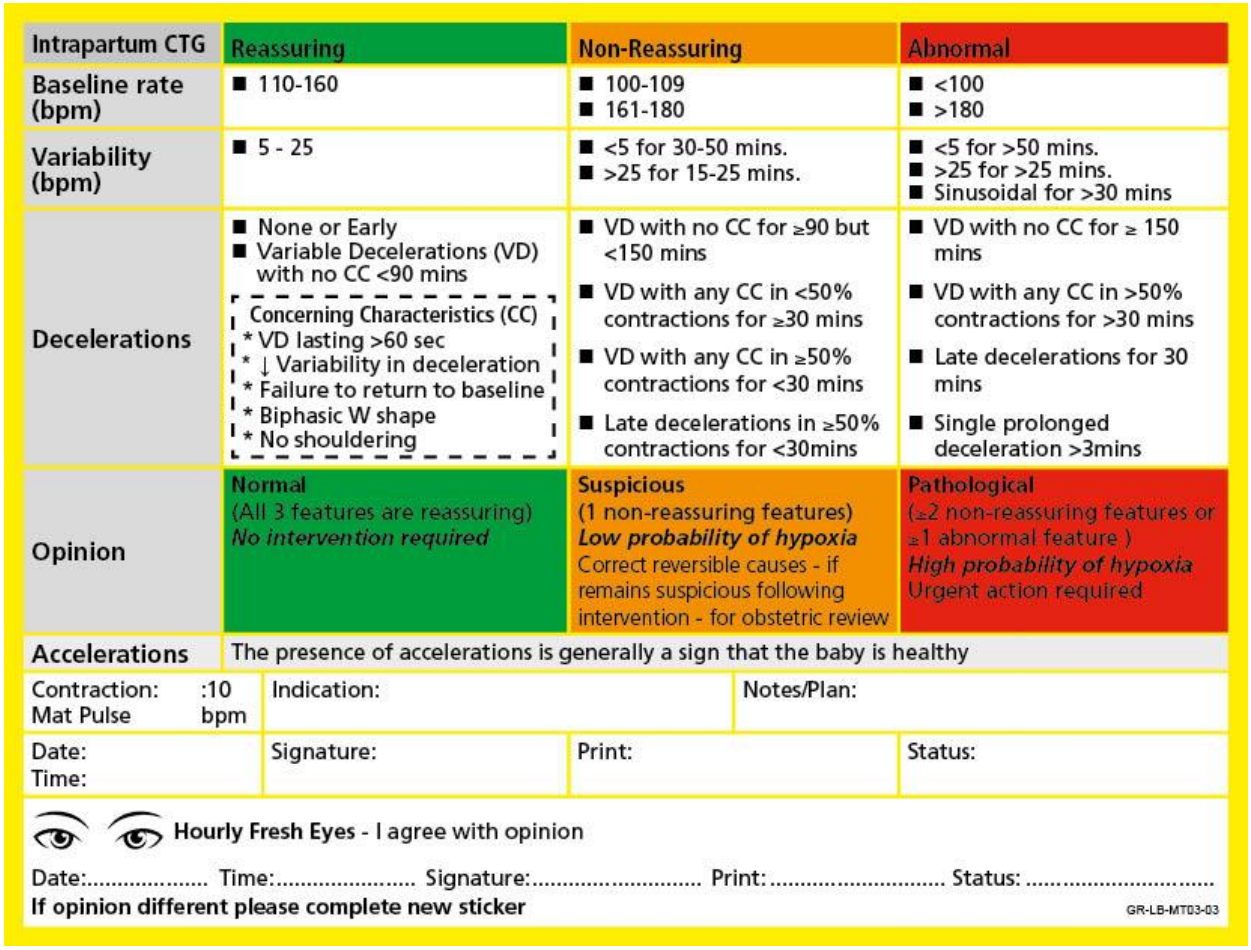
3.1 Definition of normal, suspicious and pathological FHR traces

Category	Definition
Normal	All three features are classified as reassuring
Suspicious	One feature classified as non-reassuring and the remaining features classified as reassuring
Pathological	Two or more features classified as non-reassuring or more one or more classified as abnormal

4. CTG INTERPRETATION STICKER & MANAGEMENT

4.1 For women having continuous EFM, a documented systematic assessment based on the above definitions should be undertaken every hour, or more frequently if a change in the appearance from the previous review. The CTG interpretation sticker should be used where available to assist with this assessment.

4.2 It is good practice to visualise the trace 20 mins after commencement to ensure it is not significantly abnormal and hence requires action and senior review.



Intrapartum CTG	Reassuring	Non-Reassuring	Abnormal
Baseline rate (bpm)	■ 110-160	■ 100-109 ■ 161-180	■ <100 ■ >180
Variability (bpm)	■ 5 - 25	■ <5 for 30-50 mins. ■ >25 for 15-25 mins.	■ <5 for >50 mins. ■ >25 for >25 mins. ■ Sinusoidal for >30 mins
Decelerations	■ None or Early ■ Variable Decelerations (VD) with no CC <90 mins Concerning Characteristics (CC) * VD lasting >60 sec * ↓ Variability in deceleration * Failure to return to baseline * Biphasic W shape * No shouldering	■ VD with no CC for ≥90 but <150 mins ■ VD with any CC in <50% contractions for ≥30 mins ■ VD with any CC in ≥50% contractions for <30 mins ■ Late decelerations in ≥50% contractions for <30mins	■ VD with no CC for ≥ 150 mins ■ VD with any CC in >50% contractions for >30 mins ■ Late decelerations for 30 mins ■ Single prolonged deceleration >3mins
Opinion	**Normal** (All 3 features are reassuring) *No intervention required*	**Suspicious** (1 non-reassuring features) ***Low probability of hypoxia*** Correct reversible causes - if remains suspicious following intervention - for obstetric review	**Pathological** (≥2 non-reassuring features or ≥1 abnormal feature) ***High probability of hypoxia*** Urgent action required
Accelerations	The presence of accelerations is generally a sign that the baby is healthy		

Contraction: :10 Mat Pulse bpm	Indication:	Notes/Plan:	
Date: Time:	Signature:	Print:	Status:

Hourly Fresh Eyes - I agree with opinion

Date:..... Time:..... Signature:..... Print:..... Status: .....

If opinion different please complete new sticker

GR-LB-MT03-03

4.3 **Variable decelerations –** The definition and description of variable decelerations has changed and the terms typical and atypical deceleration are obsolete. Variable decelerations are split into those with and those without Concerning Characteristics as highlighted in the above sticker – examples can be found on appendix 4.

4.4 **Maternal factors that may contribute to an abnormal trace.**

- Woman's position – advise her to adopt left lateral position
- Woman is hypotensive
- Woman has just had a vaginal examination
- Woman has just emptied her bladder or bowel
- Woman has been vomiting or had a vasovagal episode
- Woman has just had regional analgesia sited or topped up

4.5 **Review for ALL continuous EFM/ CTG monitoring**

- A documented systematic assessment, based on the definitions and classifications should be undertaken every hour.
- CTG interpretation can, at times, be difficult, especially when one midwife is giving care for prolonged periods of time or the CTG becomes suspicious or pathological
- All continuous CTG's must be regularly reviewed by another experienced professional (coordinator, experienced midwife, SpR, Consultant). **'Fresh Eyes'** This should be undertaken:
  - If the midwife giving care has any concerns
  - If there are any changes in the CTG
  - Every hour

4.6 **Actions required in event of a suspicious or pathological EFM/CTG**

- See appendix 2 and appendix 3 for details on how to manage suspicious/pathological EFM/CTG.

5. ARCHIVING

5.1 It is essential that all fetal heart traces are stored securely in the appropriate CTG envelopes with its details documented in chronological order on the outside, and filed in the women's medical case notes. Intrapartum CTG traces are also archived with K2 CTG archiving system.

5.2 If a CTG is ever removed from the notes for risk management purposes, then evidence should be placed in the notes highlighting the date the trace was removed and who has responsibility for it. The CTG trace should be returned to the mother's notes as soon as possible.

6. EDUCATION

6.1 Correct interpretation of electronic fetal heart traces is crucial to the plan of care of a woman in a high risk labour.

6.2 The Maternity Unit Training Needs Analysis states that midwives and career obstetricians should undertake the K2 Medical Systems training package.

6.3 For permanent members of staff and those working in RDEFT maternity services for longer than a year the continuing professional development requirement is that Chapters 1 and 2 must be completed and then knowledge should be updated annually by:

- Completing Chapters 1 and 2 each alternate year
- +5 cases each year

6.4 K2 requires a password. This can be obtained from one of the many K2 administrators in the unit. Please ask the LW co-ordinator.

6.5 K2 can be accessed in the hospital by HUB – A-Z of services > Maternity. Click on Link on right of the page to K2.

6.6 K2 can be accessed from Home – http//training.K2ms.com – you may be asked to pay for access, ignore that message and click on “associate yourself with an organisation”, then choose Royal Devon and Exeter. The administrator will then be emailed to authorise use.

6.7 A certificate will be issued on completion of the whole training package.

6.8 K2 automatically stores information on who has completed the packages.

7. REFERENCES

7.1 National Institute for Health and Clinical Excellence (2017) NICE Clinical Guideline 55. Intrapartum care: Care of healthy women and their babies during childbirth.

7.2 FIGO Consensus guidelines on intraprtum fetal monitoring : Ayres-de-campos A et al. International Journal of Gynaecology and Obstetrics. 131(2015) 13-24

8. MONITORING COMPLIANCE WITH THIS GUIDELINE

8.1 Any concern or non-compliance with this guideline that is identified through the investigation of clinical incidents, claims or complaints will be reviewed as per the Trust Policies regarding Incidents, Claims and Complaints, and may result in an audit and/or amendment to the guideline.

8.2 Relevant Policies:

- Incident reporting policy and procedure
- Claims management policy and procedure
- Policy and Procedure for the Management of Complaints, Concerns, Comments and Compliments

9. ASSOCIATED CLINICAL GUIDELINES

Antenatal care of pregnant women

Care of women in labour

Intermittent auscultation

Clinical Guideline for the Management of Women With Perceived Reduced Fetal Movements

Clinical Guideline for fetal blood sampling (FBS) in labour and cord pH

10. PUBLICATION DETAILS

Author of Clinical Guideline	Tracey Kay, Lead Consultant for Labour Ward
Directorate/Department responsible for Clinical Guideline	Specialist Services/ CWH/Maternity
Contact details	6613
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Date document becomes live	12/08/2019

APPENDIX 1 - ASSESSMENT AND OPTIONS FOR FETAL MONITORING IN LABOUR (based on FIGO & NICE)

Assessment
Are any of the following risk factors present?

Maternal Antenatal risk factors:

- Previous caesarean section/uterine scar including myomectomy
- Post term pregnancy (> 42 weeks)
- Preterm (>26/40 - < 37 weeks)
- Maternal diabetes
- Pre-eclampsia/hypertension
- Prelabour ruptured membranes for > 24 hours prior to onset of labour
- Obstetric Cholestasis
- Other maternal medical disease:
  - Severe anaemia
  - Hyperthyroidism
  - Renal disease
  - Suspected chorioamnionitis or maternal sepsis
  - Significant maternal cardiac disease
- Obstetric emergency including:
  - Antepartum haemorrhage
  - Cord prolapse
  - Maternal seizure
  - Maternal collapse

Maternal Intrapartum Risk factors:

- Frank vaginal bleeding that develops in labour
- A temperature of 38°C or above on a single reading, or above 37.5°C on two consecutive occasions 1 hour apart
- A maternal pulse >120bpm on two occasions 30 mins apart
- Confirmed delay after conservative measures – ARM/Rehydration.
- Oxytocin use
- The presence of **significant** meconium - stained liquor (defined as thick or tenacious dark green/black amniotic fluid, or any meconium - stained amniotic fluid containing lumps of meconium)
- Epidural Anaesthesia
- Maternal request for EFM

Fetal risk factors:

- Fetal growth restriction <5th centile on CGC
- Pre term (>26/40 - <37/40)
- Oligohydramnios
- Abnormal Uterine Artery Doppler
- Multiple pregnancy
- FH abnormalities detected on intermittent auscultation*
- Breech presentation or other abnormal presentation
- Reduced fetal movements on admission – if CTG normal and otherwise low risk may discontinue

NO

NO

Offer intermittent auscultation using either Doppler or Pinard stethoscope:

Always listen for a full minute **after a contraction (when comfortable for the woman) and continue for at least 30 seconds**. Document it as a single rate at least every:

- 15 minutes in the first stage
- 5 minutes in the second stage

Abnormal FHR on auscultation?

FHR less than 110bpm or more then 160bpm*

YES

Offer and recommend continuous EFM/CTG if indicated
(may use telemetry if appropriate)

Light Meconium---stained liquor

Women with light meconium stained liquor should have a full assessment of gestation, stage of labour, volume of liquor, parity, the FHR, the presence of other risk factors & transfer pathway, when deciding if IA is appropriate

YES

Consider offering & recommending continuous EFM/CTG if any other risk factors present (may use telemetry if appropriate)

*** If the fetal heart rate (FHR) is heard above 160 bpm on intermittent auscultation (IA), the FHR should be auscultated for 3 consecutive contractions. If FHR is still raised, EFM should be offered and recommended. If the CTG appears normal (with NO decelerations) after 20 minutes and there are no other risk factors, it may be possible to discontinue EFM and resume IA after consultation with a senior obstetrician. If the FHR is heard above 160bpm at any time subsequently, then continuous EFM should be offered and recommended.**

APPENDIX 2 - ACTIONS IF CTG IS SUSPICIOUS – CORRECTION OF REVERSIBLE CAUSES

Suspicious CTG

Low probability of hypoxia at this stage (inform Midwife coordinator)

Inadequate quality CTG (FHR and/or contraction pattern)?

Check maternal pulse

Poor contact from external transducer?

If using telemetry consider changing to static monitoring
Check position of transducer
Consider applying Fetal Scalp Electrode (FSE)

FSE not working?

Uterine hypercontractility?

(Contractions more than 5:10)

Is the mother receiving oxytocin?

- **Reduce or stop infusion and review by obstetrician before increasing rate or recommencing**

Has the mother recently received propess?

- **Remove propess**
- **Consider tocolysis with subcutaneous terbutaline 0.25mg**

Other maternal factors

What is the mother's position?

- **Encourage mother to mobilise if possible or adopt left lateral position**

Consider:

- **Is mother hypotensive?**
- **Has a vaginal examination just been performed?**
- **Has mother been vomiting or had a vasovagal episode?**
- **Has mother just had epidural sited?**

Check blood pressure and offer 500mls crystalloid (IV) if appropriate

Maternal tachycardia/pyrexia

Is there a maternal infection?

- **Check maternal pulse & respiratory rate**
- **Check temperature. If 37.5°C on two occasions, two hours apart or 38.0°C or higher, consider screening & treatment for sepsis (including offering paracetamol)**
- **If temperature less than 36°C, screen for sepsis including maternal blood lactate**

Is mother dehydrated?

- **Check blood pressure & offer oral fluids and/or 500mls crystalloid (IV) if appropriate**

Do not use maternal facial oxygen therapy for intrauterine fetal resuscitation.

(Oxygen may still be used for maternal indications or as part of pre---oxygenation before maternal anaesthetic)

Continue to observe CTG closely for further non---reassuring or abnormal features. If CTG remains suspicious, consider additional methods to assess fetal oxygenation eg. Fetal Scalp Stimulation (if reduced variability).
Always consider CTG in context with clinical circumstances.
If CTG becomes pathological, see actions for pathological CTG

APPENDIX 3 - ACTIONS IF CTG PATHOLOGICAL (FIGO & NICE)
(in addition to actions to correct reversible causes as listed in Suspicious CTG algorithm)

Pathological CTG

High probability of hypoxia – urgent action required (Inform Midwife coordinator and an obstetrician – if busy in theatre, take CTG to show them)

Is there a fetal bradycardia?

- **Commence actions to correct reversible causes as listed in Suspicious CTG algorithm**
- **STOP oxytocin infusion**
- **Seek obstetric & midwife coordinator support**
- **Make preparations for urgent birth**
- **Expedite birth if bradycardia persists for 9 minutes, or sooner if fetal heart rate is less than 80bpm with reduced variability**

Consider Fetal Scalp Stimulation (FSS) if appropriate?

- **The main purpose of FSS is to evaluate fetuses that are demonstrating** reduced variability on the CTG**, to distinguish between deep sleep and hypoxia/acidosis.**
- **When FSS** does not **elicit the appearance of accelerations and subsequent normalisation of the CTG, continue monitoring and perform FBS if possible/appropriate.**

Fetal Blood Sampling (FBS) possible and/or appropriate?

Encourage mother to adopt left lateral position for FBS. Check B/P and give 500mls crystalloid (IV) if appropriate.

Fetal Blood Sample result (pH)	Recommended Action
Normal FBS Result 7.25 or above	• If the CTG remains pathological and there are no accelerations in response to FSS, consider taking a second sample in 1 hour or sooner if there are other new abnormalities. • Discuss with a consultant obstetrician if a third fetal blood sample is thought to be needed. • If an FBS is within the normal range , always consider clinical circumstances such as the presence of maternal sepsis or significant meconium, as the fetus may still be at risk.
Borderline FBS Result 7.21-7.24	• If the CTG remains pathological and there are no accelerations in response to FSS, consider taking a second sample in 30mins • Consider expediting birth if there is a rapid fall since the last sample • Discuss with a consultant obstetrician is a third fetal blood sample is thought to be needed
Abnormal FBS Result 7.20 or below	• Inform obstetric consultant and neonatal team • Expedite birth within 30 minutes

All FBS results should be interpreted taking into account the previous pH measurement, the rate of progress in labour and the clinical features of the mother and fetus.

Fetal Blood sampling not possible/inappropriate?

- **Encourage mother to adopt left lateral position. Check B/P and give 500mls crystalloid (IV) if appropriate.**
- **If an FBS cannot be obtained but the associated Fetal Scalp Stimulation results in fetal heart rate accelerations and normalisation of the CTG, decide whether to continue with the labour or to expedite birth considering the clinical circumstances, and after discussion with the Consultant Obstetrician and the woman.**

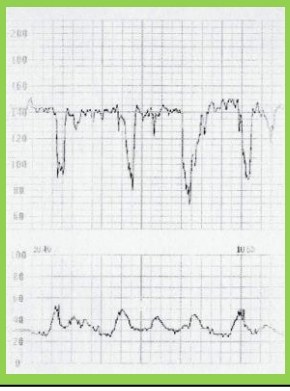
EXPEDITE BIRTH:

The urgency and mode of birth should take into account the severity of the FHR and the clinical circumstances.
The accepted standard is that birth should be accomplished within 30 minutes
A caesarean section or operative vaginal birth may be advised, depending on results of FBS and stage of labour

APPENDIX 4 – VARIABLE DECELERATIONS

Variable decelerations constitute the majority of the decelerations during labour. They are an autonomic nervous system response (triggered by the baroreceptors) to compression of the umbilical cord.

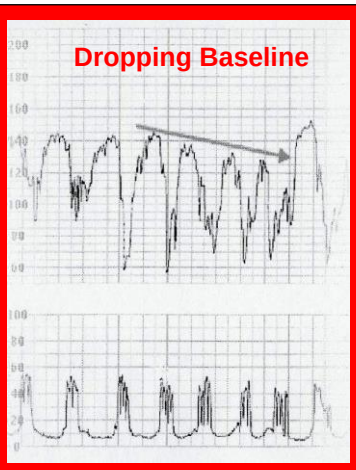
Variable decelerations with no CONCERNING CHARACTERISTICS

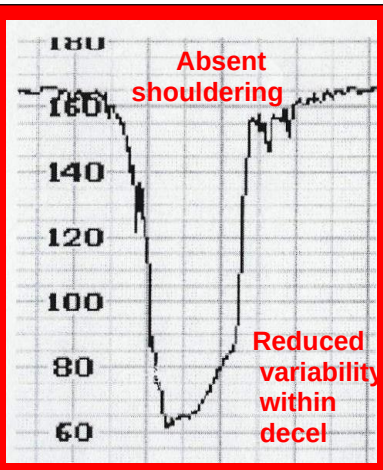


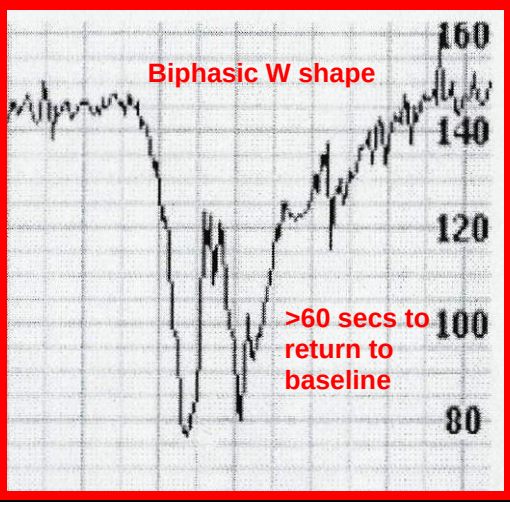
These type of decelerations typically exhibit a symmetrical rapid drop and rapid recovery back to the baseline, they could be described as V shaped. They are seldom associated with an important degree of hypoxia/acidosis if all other CTG features are normal.

Variable decelerations with CONCERNING CHARACTERISTICS –

Variable decelerations are likely to be associated with hypoxia if they present with more than 50% of contractions and they exhibit the following concerning characteristics







Royal Devon and Exeter NHS
NHS Foundation Trust

Clinical Guideline for:
CTG Monitoring: Antenatal

Summary

This guideline covers antenatal use of Electronic Fetal Monitoring (EFM).

CONTENTS

ANTENATAL CTG SUMMARY FLOW CHART

Is gestation 28 weeks or beyond?

NO → If gestation <26/40, auscultate fetal heart using sonicaid or Pinard stethoscope.
Between 26-28/40, CTG must only be undertaken after discussion with senior obstetrician.

YES ↓

Is antenatal CTG indicated for fetal or maternal reasons?

NO → Auscultate fetal heart

YES ↓

Is any painful uterine activity present?

YES → Commence electronic fetal monitoring.
Do not use computerised CTG.

NO ↓

Commence computerised CTG using Non-Stress Test (NST) (Dawes Redman criteria)
The monitor will indicate when the criteria have been met, or if they are not met after 60 minutes of monitoring.

NST CRITERIA MET

Visually review and classify the CTG. If this is normal and there are no other ongoing clinical concerns, the analysis can be **stopped**.

This can be with as little as 10 minutes recording time.

The printer will produce a report of the analysis results.

Do not review the numeric data as the CTG has been classified as normal and this data is, therefore, insignificant.

NST CRITERIA NOT MET BEFORE 60 MINUTES

If there are clear abnormal features, or any cause for concern, request senior obstetric review and continue the recording.
If the trace does not appear to be abnormal continue the recording until the criteria are met.

Short-term variation (STV) is uninterpretable prior to 60 minutes; do not review the numeric data.

DO NOT prematurely stop the recording. If the analysis has been stopped before criteria are met and before
60 minutes - IT IS NOT VALID.

NST CRITERIA NOT MET AFTER 60 MINUTES OF ANALYSIS

Indicates that normality has not been demonstrated

In the context of antenatal CTG classification, this is an abnormal outcome.

The case must be reviewed by a senior obstetrician and action taken, based on the reasons for failure, visual trace review and a holistic assessment of the pregnancy.

Short-term variation (STV) must be considered.

See Appendix 2 for actions to be taken based on STV results.

**CTG analysis is an aid to pregnancy management, not a diagnostic tool.
A comprehensive overview must always be taken and senior advice sought if concerns are present.**

1. INTRODUCTION

1.1 Electronic fetal monitoring (EFM) via Cardiotocography (CTG) was introduced with an aim of reducing perinatal mortality and cerebral palsy. This reduction has not been demonstrated in the systematic reviews of randomised controlled studies (RCTs) studied by the National Institute for Health and Care Excellence (NICE) in developing guidance. However an increase in maternal intervention rates has been shown.

1.2 This guideline covers the antenatal use of EFM. Whilst the intrapartum use is based on NICE guidance, there is no such clear and research based guidance on its recommended use and interpretation in the antenatal period, and as such this guideline is based on best available evidence of practice in the South West and suggested guidance by Prompt. The recommendations from Saving Babies Lives version 2 *A Care Bundle for Reducing Perinatal Mortality* (2019) have also been incorporated.

1.3 The terms EFM and CTG can both be used when describing continuous documented fetal heart rate monitoring.

2.1 Recommended use of EFM/CTG in the antenatal period

- 26 weeks onwards EFM/CTG may be attempted but the women must be fully informed that recording the fetal heart may be difficult and interpretation of the trace may be of varied opinion as there is insufficient evidence to base a reliable analysis and categorisation.
- In the event of reduced fetal movements please follow the Clinical Guideline for the Management of Women With Perceived Reduced Fetal Movements.

(14 weeks – 26 weeks gestation use a Sonicaid or, where medically indicated due to other factors, ultrasound scan)

- Antenatal CTG should only be undertaken when clinically indicated. Common indications are detailed below, but this list is not exhaustive and an individualised care plan may be required.

Maternal- pre-existing	**Maternal- gestational**	**Fetal**
Cardiac Disease	Preeclampsia	Reduced Fetal Movements
Pulmonary Disease	Gestational Diabetes	IUGR
Renal Disease	Prelabour Rupture of Membranes	Infection
Thyroid Disease	Prolonged Pregnancy	Multiple pregnancy
Autoimmune Disease	Vaginal Bleeding	Fetal Arrhythmias
Hypertension	Abdominal Trauma	Oligohydramnios
Diabetes	Suspected Premature Labour	

2.2 **Before commencing EFM/CTG, ensure that:**

- An abdominal palpation has been performed and the fetal position has been clearly assessed and documented, that the procedure has been explained and consent gained.
- Cardiotocograph (CTG) machine is set to a paper speed of 1 centimetre (cm) per minute.
- The date and time on the CTG are checked.
- Sensitivity displays are set to 20 beats per minute (bpm)/cm.
- Fetal Heart range displays of 50-210 bpm are used.
- The following details have been entered into the CTG machine before commencing the fetal heart rate trace (this is to ensure that archived traces are fully identifiable)
  - Name
  - DOB
  - Hospital/Unit number
- Maternal pulse is documented at the start of the CTG trace.
- Where able – the CTG is archived via the Huntleigh Archive system and hence patients details will need to be added to the central system.

2.3 Any event which may affect the fetal heart trace (Vaginal Examination, change of position) must be documented on the trace and must be signed, dated and timed. If an opinion is sought, then the signature of that person should be recorded on the CTG as well as in the maternal records.

2.4 The date and time and signature of person discontinuing the CTG must be documented at the end of the CTG trace.

3. COMPUTERISED CTG INTERPRETATION

3.1 Where possible, all antenatal electronic fetal monitoring (**in the absence of painful uterine activity**) should be undertaken using a computerised CTG Non-Stress Test (NST), automatically analysed using the Dawes-Redman criteria. This provides an objective assessment of the fetal heart rate trace but should be used as part of a holistic approach to care and should not replace individual clinical judgement.

3.2 Computerised CTG analysis may be used prior to the insertion of Propess for induction of labour but should not be used for the post-Propess monitoring. It may be used for routine monitoring when Propess is in situ but **should not be used** when painful uterine activity is present. **It must not be used in the latent phase of labour.**

3.3 The fetal heart should be auscultated with a sonicaid or Pinard stethoscope before commencing electronic fetal monitoring.

3.4 See Appendix 1 for details on setting up the CTG monitor to perform computerised CTG analysis.

3.5 The computerised CTG (cCTG) will run for a maximum of 60 minutes and will analyse the trace according to the NST criteria after the first 10 minutes.

3.6 **RESULTS:**

3.6.1 **Criteria met**: If the cCTG meets the NST criteria, this is a normal result. These criteria can be achieved as early as 10 minutes and by default, the CTG machine will print out the report as soon as they are met. The CTG does not need to be continued for the traditional 20 minutes. The practitioner who stops the CTG must sign the CTG at the end of the print out and must confirm that the CTG is normal by completing the preformatted antenatal CTG sticker following a visual assessment of the trace.

3.6.1 **Criteria not met**: The CTG must continue for the FULL 60 minutes. If it the criteria is still not met at 60 minutes, the computer will end the analysis and print the results on the trace. This is an abnormal result and must be discussed with a senior obstetrician. CTG monitoring should continue. Reasons for the non-stress test criteria not being met at 60 minutes and actions to be taken can be found in Appendix 2. If the Short-Term Variability (STV) is abnormal at 60 minutes, the flow chart in Appendix 3 must be followed.

3.7 **DO NOT RELY ON THE ANALYSIS IN ISOLATION: It may not always identify abnormal patterns that may be more obvious from visual interpretation with an expert assessment of the whole clinical scenario.**
If the CTG is suspected to be abnormal at any point then prompt review by a senior midwife or obstetrician must be sought and actions taken. See 4.4.

4. ANTENATAL CTG INTERPRETATION STICKER & MANAGEMENT

4.1 Following commencement of an antenatal CTG, it is good practice to review (visualise) the trace after 10 mins to ensure it is not obviously abnormal with decelerations and to ensure the recording is of sufficient quality.

4.2 A documented systematic assessment should then take place hourly or prior to removal (if normal). The antenatal CTG interpretation should be documented via the CTG tab in the chart.

Antenatal CTG	Reassuring	Non- Reassuring	Comments
Baseline rate (bpm)	■ 110-160	■ <109 ■ >160	
Variability (bpm)	■ ≥5	■ <5 for >50 mins ■ Sinusoidal pattern for >30 mins ■ >25 for >25 mins.	
Accelerations	■ Present	■ None for 50 minutes	
Decelerations	■ None	■ Unprovoked deceleration/s ■ Decelerations related to uterine tightenings (not in labour)	
Opinion	Normal (All 4 features are reassuring)	Abnormal (1 or more non-reassuring features)	Dawes Redman used Y / N Criteria met at.....mins
Mat Pulse:		Indication for CTG:	
Action: (If abnormal CTG or Dawes Redman criteria not met by 60 minutes, a prompt review is required by experienced obstetrician/senior midwife.)			GR-LB-MT06-03
Date: DD/MM/YYYY	Time: HH:MM	Signature: Print:	Status:

Above is an example of the criteria which will appear on the CTG evaluation tool on epic.

4.4 Classification of an antenatal CTG

- A CTG with all 4 features reassuring features present will be classified as normal
- A CTG with 1 non reassuring feature is classified as abnormal and will require prompt review by a senior midwife or experienced obstetrician and actions taken which could include; change of position, IV fluids, continued monitoring, transfer to LW, induction of labour etc.

5. ARCHIVING

5.1 It is essential that all fetal heart traces are stored securely in the appropriate CTG envelopes with its details documented in chronological order on the outside and sent for scanning into the chart on discharge. In addition, where able, CTGs should be archived electronically via the Huntleigh system.

5.2 If a CTG is ever removed from the mother's paper notes for risk management purposes, then evidence should be placed in the notes highlighting the date the trace was removed and who has responsibility for it. The CTG trace should be returned to the mother's notes as soon as possible.

6. EDUCATION

6.1 Correct interpretation of electronic fetal heart traces is crucial to the plan of care of a woman with a higher risk pregnancy.

6.2 The Maternity Unit Training Needs Analysis states that midwives and career obstetricians should undertake the K2 Medical Systems training package.

6.3 For permanent members of staff and those working in RDEFT maternity services for longer than a year, the continuing professional development requirement is that 3 Chapters of the K2 package (Cord Blood Gas, Intrapartum CTG and Fetal Physiology) must be completed and repeated every 3 years. Competency should be updated annually by undertaking assessments as below.

6.4 Midwives are required to complete the Intrapartum CTG, Antenatal CTG and Intrapartum Intermittent Auscultation competency assessments. Obstetricians are required to complete the Intrapartum CTG and Antenatal CTG competency assessments. Scores of ≥80% must be achieved for each assessment.

6.5 K2 requires a password. This can be obtained from one of the many K2 administrators in the unit. Please ask the LW co-ordinator.

6.6 K2 can be accessed in the hospital by HUB – A-Z of services > Maternity. Click on Link on right of the page to K2.

6.7 K2 can be accessed from Home – http//training.K2ms.com – you may be asked to pay for access, ignore that message and click on “associate yourself with an organisation”, then choose Royal Devon and Exeter. The administrator will then be emailed to authorise use.

6.8 K2 automatically stores information on who has completed the packages.

7. REFERENCES

National Institute for Health and Clinical Excellence (2017) NICE Clinical Guideline 55. Intrapartum care: Care of healthy women and their babies during childbirth.

FIGO Consensus guidelines on Intrapartum Fetal Monitoring : Ayres-de-campos A et al. International Journal of Gynaecology and Obstetrics. 131(2015) 13-24

NHS England (2019) Saving Babies Lives Version Two: A care bundle for reducing stillbirth

8. MONITORING COMPLIANCE WITH THIS GUIDELINE

8.1 Any concern or non-compliance with this guideline that is identified through the investigation of clinical incidents, claims or complaints will be reviewed as per the Trust Policies regarding Incidents, Claims and Complaints, and may result in an audit and/or amendment to the guideline.

8.2 Relevant Policies:

- Incident reporting policy and procedure
- Claims management policy and procedure
- Policy and Procedure for the Management of Complaints, Concerns, Comments and Compliments

9. ASSOCIATED CLINICAL GUIDELINES

Antenatal care of pregnant women

Clinical Guideline for the Management of Women With Perceived Reduced Fetal Movements

10. PUBLICATION DETAILS

Author of Clinical Guideline	Lead Consultant for Labour Ward
Directorate/Department responsible for Clinical Guideline	Specialist Services/ CWH/Maternity
Contact details	6613
Version number	1.2
Replaces version number	1.1
Date written	04/03/2020 (separated from Electronic Fetal Monitoring guideline)
Approving body and date approved	Maternity Governance Forum 13/10/2021 (chairs action)
Review date	13/07/2024
Expiry date	13/10/2024
Date document becomes live	13/10/2021

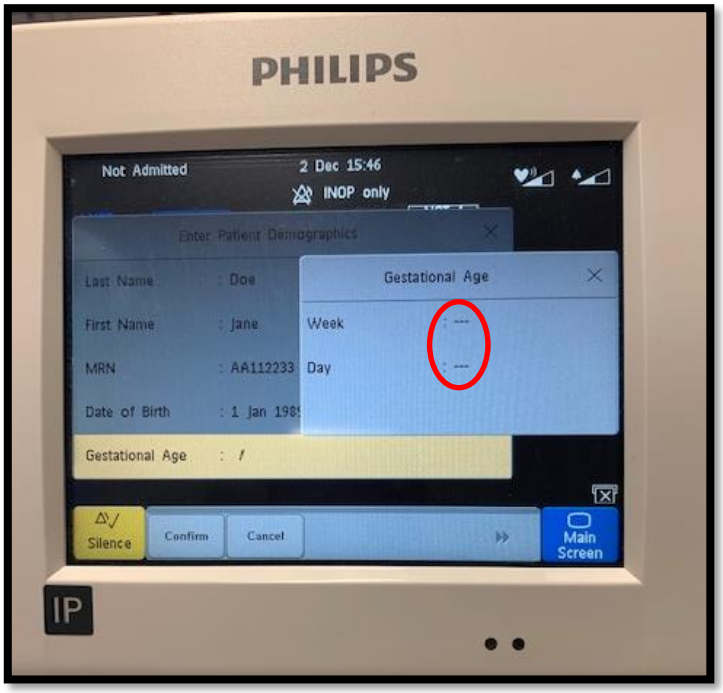
APPENDIX 1:

Setting up the NST (Non-Stress Test) Report based on Dawes/Redman:

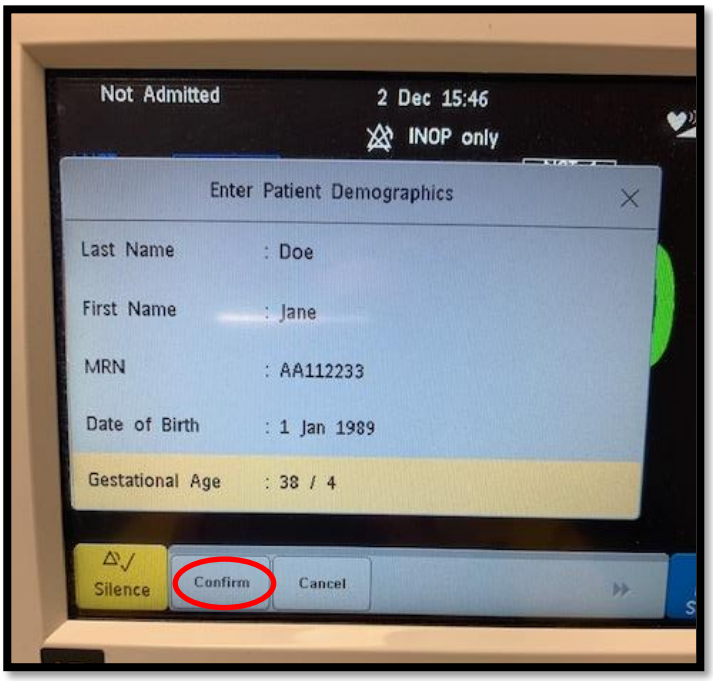
1. Turn on CTG machine, ensure that NST is displayed in top left of screen.

2. Press ‘Patient Demogr.’ and enter Name, Hospital Number (MRN) and Date of Birth.

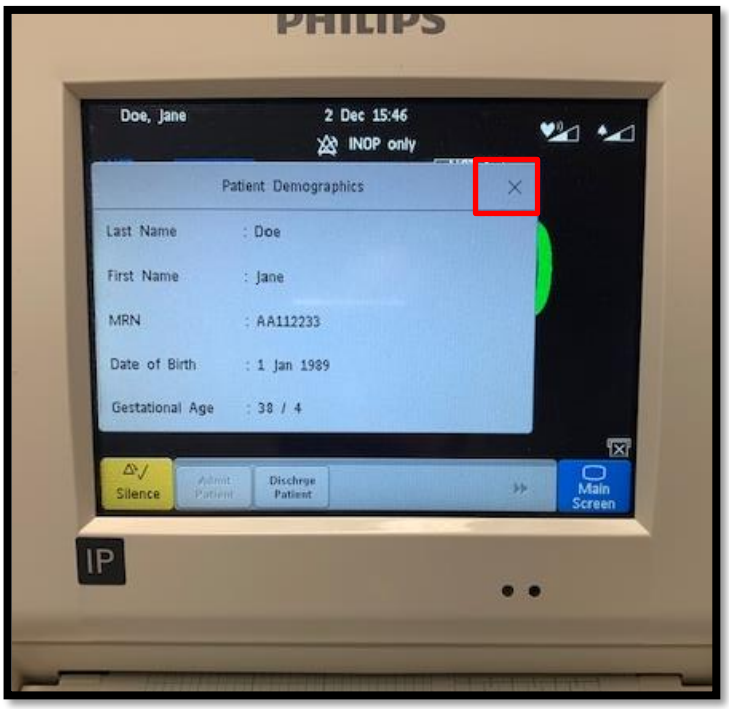
3. Ensure Gestational Age is entered – this is essential for completing the NST report.



4. Press confirm.



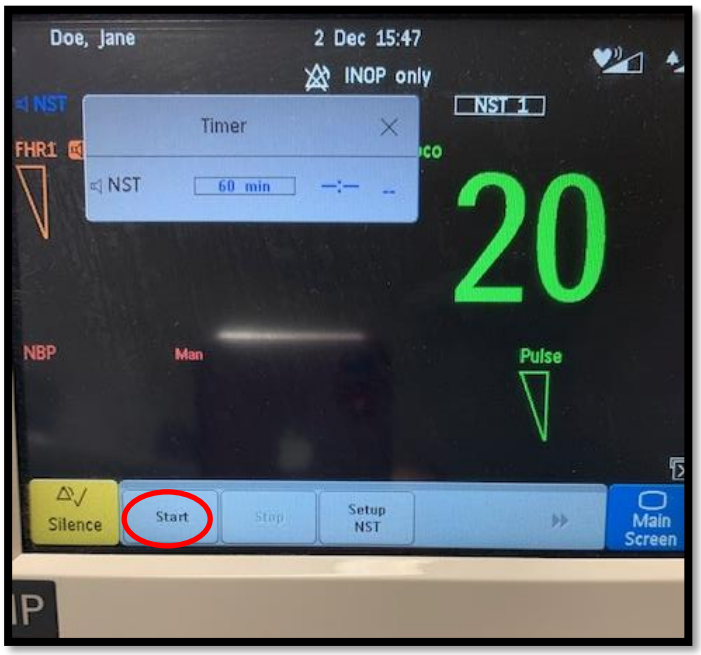
5. Press the X to close the Patient Demographics box.



6. Use the right hand double arrow at the bottom of the screen to scroll until you see ‘Timer’. Press ‘Timer’

.

7. Ensure the woman has the fetal movements button and ask her to press it whenever she feels a fetal movement during the CTG. Press start.

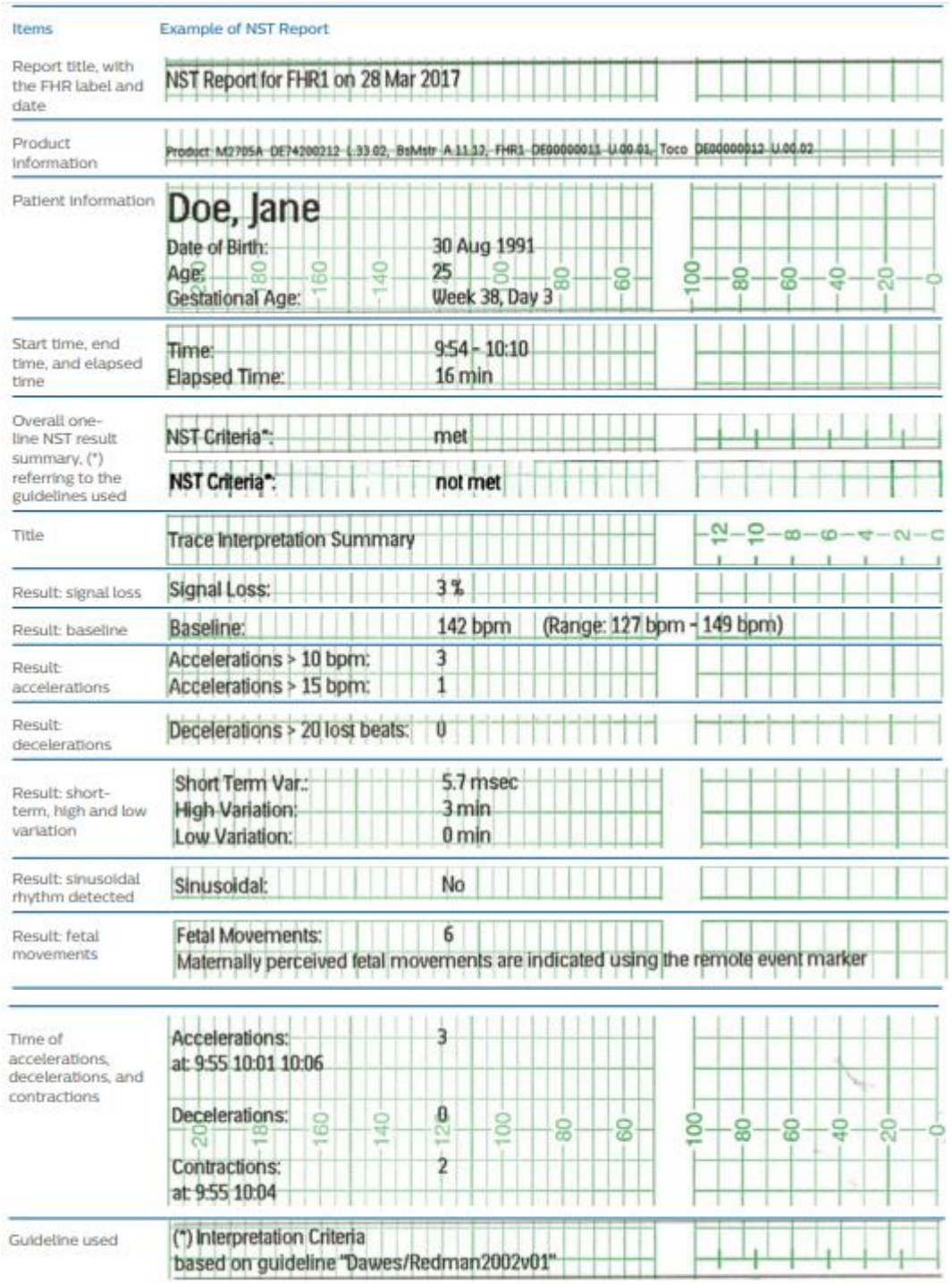


8. Ensure that the CTG trace is printing and is of good quality, adjusting the transducers if necessary. When the criteria have been met the non-stress test (NST) is complete and the results will automatically print out. The CTG recording will continue. Check you are happy with the trace then stop the CTG and complete an antenatal CTG sticker as normal.

9. If, after 60 minutes, the criteria have not been met, senior obstetric review must be sought.

APPENDIX 2

When the NST criteria have been met, or if the recording reaches 60 minutes and the criteria have not been met, then a report, as shown below, will automatically print out. The report will state whether the criteria have been met or not met.



Items	Example of NST Report
Report title, with the FHR label and date	NST Report for FHR1 on 28 Mar 2017
Product information	Product: M2705A DE74200212 I.33.02, BsMstr A.11.12, FHR1 DE00000011 U.00.01, Toco DE00000012 U.00.02
Patient information	Doe, Jane Date of Birth: 30 Aug 1991 Age: 25 Gestational Age: Week 38, Day 3
Start time, end time, and elapsed time	Time: 9:54 - 10:10 Elapsed Time: 16 min
Overall one-line NST result summary, (*) referring to the guidelines used	NST Criteria*: met NST Criteria*: not met
Title	Trace Interpretation Summary
Result: signal loss	Signal Loss: 3 %
Result: baseline	Baseline: 142 bpm (Range: 127 bpm - 149 bpm)
Result: accelerations	Accelerations > 10 bpm: 3 Accelerations > 15 bpm: 1
Result: decelerations	Decelerations > 20 lost beats: 0
Result: short-term, high and low variation	Short Term Var.: 5.7 msec High Variation: 3 min Low Variation: 0 min
Result: sinusoidal rhythm detected	Sinusoidal: No
Result: fetal movements	Fetal Movements: 6 Maternally perceived fetal movements are indicated using the remote event marker
Time of accelerations, decelerations, and contractions	Accelerations: 3 at: 9:55 10:01 10:06 Decelerations: 0 Contractions: 2 at: 9:55 10:04
Guideline used	(*) Interpretation Criteria based on guideline "Dawes/Redman2002v01"

Reasons for not meeting Non-Stress Test Criteria and Actions

If, at any point, the trace is clearly abnormal, immediate intervention and senior review should take place. Continue the CTG and do not wait for the NST analysis before taking action.

- **Signal Loss** – the signal loss must be less than 30%. If the criteria are not met due to signal loss, the trace must be repeated with efforts made to improve the quality of the trace, for example a change of maternal position.

- **Baseline** – the baseline heartrate must be between 116 and 160bpm. If the criteria are not met due to a baseline outside of this range, the trace must be reviewed by a senior obstetrician and should continue until a plan has been made.

- **Accelerations** – lack of accelerations and fetal movements will result in the trace not meeting the criteria. The trace should be reviewed by a senior obstetrician and should continue until a plan is made.

- **Decelerations** – if a deceleration of more than 100 lost beats is present then the trace will not meet the criteria at 60 minutes. If this occurs, the trace should be reviewed by a senior obstetrician and should continue until a plan is made.

- **Short-term variation (STV)** – the STV must be >3.0 milliseconds (ms). If the STV is >3.0ms but <4.5ms, the long-term variation (LTV) averaged across all episodes of high variation must be greater than the 3rd percentile for the gestational age.

  If the trace does not meet the criteria due to low STV it should be reviewed by a senior obstetrician and a plan made in accordance with the flow chart in Appendix 3. If the trace is visually normal it may be discontinued.

  Short-term variation is a computerised measure of the micro fluctuations of the fetal heart. These are not visible to the human eye.

  A value of less than 3ms is strongly linked to the development of metabolic acidaemia and impending intrauterine death, particularly with the absence of an episode of high variation.

  STV can only be analysed after a full 60 minutes.

STV (ms)	**<2.6**	**2.6-3.0**	**>3.0**
Metabolic acidaemia	10.3%	4.0%	2.7%
IUD	24.1%	4.3%	0.0%

- **High variation** – in order to meet the criteria, the trace must contain at least one episode of high variation. If the criteria are not met due to this then it must be reviewed by a senior obstetrician. If the trace is visually normal, it may be discontinued.

- **Sinusoidal rhythm detected** – if a sinusoidal rhythm is detected, the trace will not meet the criteria. Urgent review by a senior obstetrician must be sought and the trace should continue until a plan has been made.

Sinusoidal FHR needs to be distinguished from a pseudosinusoidal FHR which, while it closely resembles a sinusoidal pattern, is usually transient, resolves spontaneously and is associated with a good fetal outcome.

Where a diagnosis of Sinusoidal FHR pattern is made, immediate intervention is required with probable emergency delivery if intrauterine resuscitation is not appropriate.

Maternal blood should be taken for an urgent Kleihauer test to assess the degree of any feto- maternal haemorrhage.

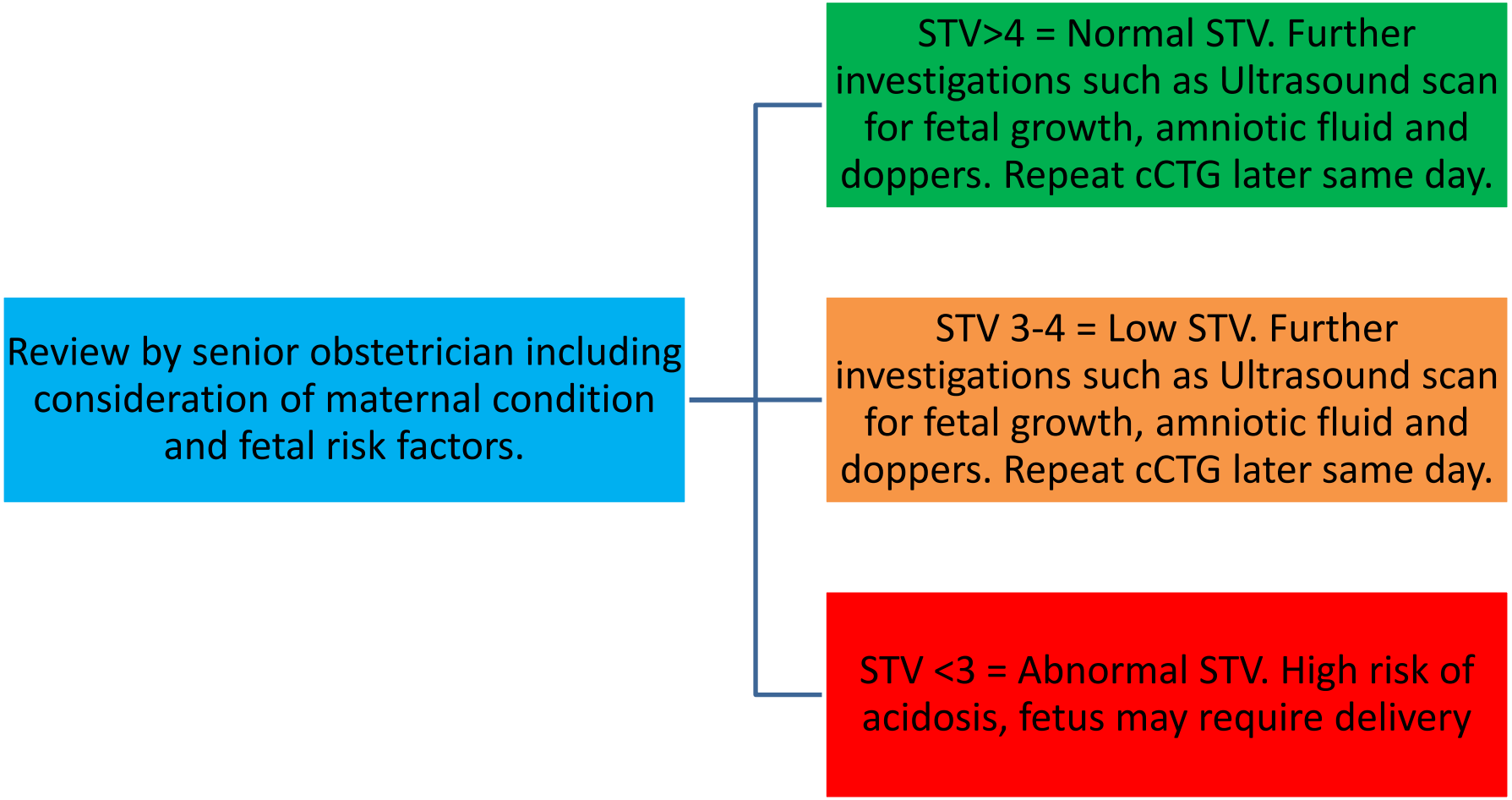
The Obstetric Registrar, Obstetric Consultant, Neonatal Paediatricians and Haematologist, should be alerted.

- **Fetal Movements** – these are marked on the trace by the woman pressing the remote event marker when she feels fetal movements. Fetal movements must be present for the NST criteria to be met. If a trace does not meet the criteria due to a lack of perceived fetal movements, it must be reviewed by a senior obstetrician. If the trace is visually normal it may be discontinued.

DO NOT RELY ON THE ANALYSIS IN ISOLATION
It may not always identify abnormal patterns that may be more obvious from visual interpretation with an expert assessment of the whole clinical scenario.

APPENDIX 3

Actions to be taken if NST Criteria not met after 60 minutes: (STV= Short Term Variation)



Text stored in Electronic Patient Record

Birth Preferences

Personalised Care and Support Plan
We would like to make your pregnancy and birth as special as possible, whilst also ensuring that it is safe and results in the best possible outcome for you and your baby. This page is to record the discussion between you and your midwife or health professional using your My Body, My Baby, My Choices journal.

Please remember that every pregnancy and labour is different. It is good to make plans but often it is unpredictable – the most important thing is to have an open mind.

Your midwife and other health professionals involved in your care will discuss your personal pathway of care, please ask if you require further information.

Please record these PCSP in the pregnancy overview and plan.

Antenatal Personalised Care and Support Plan

What would you like us to call you? ***
Have any risk factors been identified in this pregnancy and have any referrals been made?
e.g Obstetric, PMHT, Diabetic Team ***
Do you have any concerns in this pregnancy that you would like to discuss? Has a plan been made to support you with this? ***
Is there anything that we can help you with in this pregnancy?
e.g Smoking Cessation, healthy eating advice, staying active in pregnancy ***
Is there any further information / support that you require?
Please state which format information has been provided in i.e information leaflet, signposting to relevant resources, online advice ***
Planned place of birth Please record in pregnancy overview and plan
Current Pregnancy Pathway {Current Pregnancy Pathway:1028800112}

Labour Personalised Care and Support Plan
Preferred place of birth
Hospital / Birth Centre / Home {Preferred place of birth:1028800113}
Who will be present? ***
Can students be present? {Yes/No:102440005}
Your midwife can discuss what to bring, please ask ***
What is important to you about your labour? ***
Is there anything that you are concerned/anxious about in relation to your labour? ***
Signs of labour – contractions or waters breaking ***
Inducing labour – methods used and reasons ***
Adopting different positions for labour and birth ***
Mobility during labour ***
Ways of coping with pain and pain relief for labour:
Water immersion
Pharmacological e.g Pethidine, Epidural
Other methods e.g Hypnosis, Relaxation, Massage ***
Do you have any preferences about positions in labour or pain relief options? ***

Monitoring your baby during labour
Intermittent
Continuous ***
Types of Birth
Vaginal birth, Water birth, Cesarean Section, Ventouse, Forceps, Breech ***
Delivery of the Placenta
Physiological
Active Management ***
Perineal Repair / Episiotomy ***
Skin to skin contact is recommended for >1hr after birth. Is this something that you would be interested in doing? ***
How do you plan to feed your baby? How can we best support you with this? ***
Vitamin K for your baby {Yes/No:102440005}

Postnatal Personalised Care and Support Plan
Who will be there to support you and your baby at home? ***
What matters to you postnatally? ***
Do you have any previous postnatal experiences that might affect how you feel? ***
Is there anything that you feel that you may need extra help / support with?
Please state any information provided and the format it has been provided i.e leaflet, signposting ***

Royal Devon and Exeter NHS
NHS Foundation Trust

Clinical Guideline for
Repair of Perineal Trauma

Summary

This guideline outlines the process for diagnosis, classification and management of perineal trauma after childbirth.

Key Points

The essential elements of this guideline are:

- How to classify perineal trauma
- Technique of perineal repair
- Specific advice for management of obstetric anal sphincter injury (3rd and 4th degree tears)
- Follow up arrangements for obstetric anal sphincter injury

CONTENTS

1.0 INTRODUCTION

1.1 Perineal trauma can have a major adverse impact on women's health and mismanagement of perineal trauma is a source of obstetric litigation. Long term morbidity associated with anatomically incorrect approximation of wounds or unrecognised trauma to the external anal sphincter can lead to major physical and social problems.

2.0 INTRAPARTUM INTERVENTIONS TO REDUCE PERINEAL TRAUMA

2.1 Warm compression during the second stage can be protective against significant vaginal tears.

2.2 Either the 'hands on' (guarding the perineum and flexing the baby's head) or the 'hands poised' (with hands off the perineum and baby's head but in readiness) technique can be used to facilitate spontaneous birth. Perineal protection at the time of crowning can be protective.

2.3 A routine episiotomy should not be carried out during spontaneous vaginal birth.

2.4 Where an episiotomy is performed, the recommended technique is a mediolateral episiotomy originating at the vaginal fourchette and usually directed to the right side.

2.5 The angle to the vertical axis should be 60 degrees at the time of the episiotomy.

2.6 An episiotomy should be performed if there is a clinical need such as instrumental birth or suspected fetal compromise.

2.7 Tested effective analgesia should be provided prior to carrying out an episiotomy, using 5mls lidocaine 1% except in an emergency due to acute fetal compromise.

2.8 Women with a history of severe perineal trauma should be informed that their risk of repeat severe perineal trauma is not increased in a subsequent birth, compared with women having their first baby.

2.9 Episiotomy should not be offered routinely at vaginal birth following previous third- or fourth-degree trauma.

2.10 Women with infibulated genital mutilation should be informed of the risks of difficulty with vaginal examination, catheterisation and application of fetal scalp electrodes.

2.11 They should also be informed of the risks of delay in the second stage and spontaneous laceration together with the need for an anterior episiotomy and the possible need for defibulation in labour.

3.0 CLASSIFICATION OF PERINEAL TRAUMA.

- A first-degree tear involves vaginal skin only. This is the only tear that may not need to be sutured depending on the extent of the tear.
- A second-degree tear involves vaginal skin and perineal muscles.
- A third degree tear involves the anal sphincter. This is sub-divided into
  - 3a – less than 50% of external anal sphincter torn (EAS)
  - 3b – more than 50% of external anal sphincter torn.
  - 3c – internal anal sphincter torn. (IAS)
- A fourth degree tear involves the anal sphincter (EAS and IAS) and rectal mucosa.
- Rectal ‘button hole' tear – if a tear involves the rectal mucosa with intact internal and external anal sphincter complex, it is NOT a fourth degree tear. This should be documented as a rectal button hole tear.
- An episiotomy is a surgical incision of the perineal body to facilitate delivery.

4.0 EDUCATION

4.1 Episiotomies and perineal tears must be repaired by obstetricians or midwives who have been trained and supervised until fully competent.

4.2 Midwifery staff new to the Trust need to provide evidence of competency in suturing e.g. certificate and then be observed by LW Matron or Clinical Facilitators. For midwives who are not competent in suturing they must attend a suturing workshop and then be supervised by a midwife, LW Matron or Clinical Facilitator competent in suturing. Their suturing competency is then assessed by LW Matron, Clinical Facilitator, Registrar or Consultant and signed off. The form is then filed in their personnel file.

4.3 Any staff learning perineal repair must be under direct supervision at all times. It is the duty of the obstetric registrar or consultant on labour ward to supervise SHOs.

4.4 Only very small first degree tears do not need to be sutured.

4.5 Third and fourth degree tears should be performed by appropriately trained practitioners.

4.6 Women who refuse suturing after sustaining perineal trauma must be seen by the consultant or SpR on the labour ward to inform them of the risks of not being sutured. This discussion must be documented within the Electronic Patient Record (EPR) on MyCare.

5.0 NON SUTURING

5.1 The recommendation for leaving first, and particularly second-degree perineal tears is associated with poorer wound healing and non-significant differences in short term discomfort.

5.2 If a woman chooses not to be sutured, evidence of information and advice given must be documented within the EPR. To include:

- Reason for woman not following recommendation for suturing
- Diagram to illustrate the extent of trauma
- Size and depth of tear

- Bleeding
- Apposition of edges
- Maternal healing

5.3 Women on heparin/anticoagulants, low platelets or a bleeding diathesis such as haemophilia, should be advised to accept perineal suturing because of the increased risk of haematoma.

6.0 THE TECHNIQUE OF REPAIR – 1ST & 2ND DEGREE TEARS

6.1 Vicryl Rapide (2/0 gauge on a 35mm taper cut needle) is currently the suture material of choice, as it's tensile strength reduces between 10-14 days, and is completely absorbed by 35-42 days.

6.2 Repair should be undertaken as soon as possible, ideally within an hour of delivery. Document reason for any delay within the EPR. However, suturing of the perineum needs to be delayed by 1 hour if the woman has delivered in water, due to the effects of the tissues being immersed in water.

- Lithotomy position provides good visibility and access unless the woman has severe symphysis pubis dysfunction, when a lateral position is preferable.
- Clean to reduce the risk of infection.
- Carefully examine extent of tear, refer to senior colleague for further advice if unsure.
- Effective analgesia is essential; lidocaine 1% 20mls may be used. If Lidocaine 1% was used to perform the episiotomy then only 15 mls can be used for suturing as the total amount to be administered is 20 mls 1% Lidocaine. If an epidural is in use, it is recommended that it be continued.
- A digital rectal examination is recommended prior to commencing suturing to eliminate 3rd and 4th degree tears that may otherwise be missed.
- Muscle layer can be sutured with interrupted sutures, figure of eight sutures or continuous sutures, prior to commencing the posterior vaginal wall. This reduces the incidence of needle stick injury. The muscle layer may need several layers of sutures depending on the extent of the tear.
- Posterior vaginal wall should be sutured with continuous non-interlocking sutures once the apex has been visualised.
- Perineal skin should be sutured with a subcuticular suture. Subcuticular technique is proven to reduce postnatal perineal pain.
- Vaginal and Rectal examinations must be performed at the end of the procedure.
- **All swabs, instruments and needles must be counted** before and after performing the repair and documented within 'Perineal Trauma' section within the 'delivery summary' on the EPR. All sharps to be disposed of safely.
- All staff must accurately record the suturing by documenting in the suturing proforma.The woman should be given the patient information leaflet ' *Advice about your perineal stitches after giving birth'*

7.0 3RD AND 4TH DEGREE TEARS

7.1 Perineal tears should be correctly classified and this should be documented on the operation note within the EPR. Where there is doubt, it is advisable to classify it to a higher rather than lower grade.

7.2 Repair of 3rd and 4th degree tears should be conducted in an operating theatre without significant delay, ideally within four hours of delivery. Repairs should be performed under regional or general anaesthetic as the sphincter must be relaxed to allow repair without tension.
There are certain circumstances where repair can be performed in the delivery room (such as a situation where the woman has an epidural working well, good light and the theatre is busy) but this decision should only be made by a senior obstetrician.

7.3 The anal mucosa can be repaired with a continuous or interrupted technique using 3-0 polyglactin (vicryl).

The internal anal sphincter (IAS) should be repaired separately using 3-0 PDS (polydioxanone) with interrupted or mattress sutures without overlapping the ends of the IAS.

The external anal sphincter (EAS) should be sutured with 2/0 or 3/0 PDS (polydioxanone). 2-0 polyglactin (vicryl) can be used with equivalent outcomes.

For repair of full thickness external anal sphincter tears, either an overlapping or end to end technique should be usedusing several small sutures. Surgical knots should be buried to prevent knot migration to the skin.

For partial thickness (all 3a and some 3b) tears, an end to end technique should be used.

Then the 2nd and 1st degree parts of the repair should be sutured with Vicryl Rapide.

7.4 A rectal examination should be performed after repair and if sutures have inadvertently been inserted through the anorectal mucosa then these should be removed.

8.0 POST-OPERATIVE CARE FOR 3RD & 4TH DEGREE TEARS

ALL WOMEN SHOULD BE REVIEWED BY A DOCTOR PRIOR TO DISCHARGE FROM THE POSTNATAL WARD OR LABOUR WARD

- Full explanation of injury and repair
- Woman should be advised that prognosis following external anal sphincter injury is good with 60-80% of patients asymptomatic at 12 months.
- A course of laxatives, e.g. Laxido, to prevent constipation and wound dehiscence. Bulking agents should not be given.
- Broad Spectrum Antibiotics for a week
- Regular analgesia.
- The women should be given the patient information leaflet ' *Advice about your perineal stitches after giving birth'* and the fact documented on the suturing proforma.
- Review by Obstetric Physiotherapist for advice regarding pelvic floor exercises

9.0 FOLLOW-UP FOR ALL 3RD AND 4TH DEGREE TEARS

9.1 60-80% of women who have sustained a 3rd or 4th degree tear with appropriate repair are asymptomatic 12 months after delivery.

9.2 All women who sustained any 3rd or 4th degree tear should be offered an appointment to the designated perineal clinic which runs fortnightly in GOPD. This should be made for 3 months after delivery and ordered within the EPR prior to discharge if possible.

9.3 At the follow-up, the woman should be asked specifically about symptoms of pain, faecal and flatal incontinence and urgency. The woman should be offered examination.

9.4 All women who have sustained a 3b, 3c or 4th degree tear should be offered ano-rectal clinical measurements.

9.5 Referral to the colorectal team should be considered for any woman who has symptoms or abnormal clinical measurements.

9.6 In order for a woman who has had previous third- or fourth-degree trauma to make an informed choice, discussion with her about the future mode of birth should encompass:

- current urgency or incontinence symptoms
- the degree of previous trauma
- risk of recurrence
- the success of the repair undertaken
- the psychological effect of the previous trauma
- management of her labour
- findings from ano-rectal clinical measurements if previous 3b, 3c or 4th degree tear

9.7 There are no systematic reviews or randomised controlled trials to show the best mode of subsequent deliveries. If a woman is symptomatic or has abnormal clinical measurements then an elective Caesarean Section should be considered.

10.0 EPISIOTOMY

10.1 If an episiotomy is indicated for delivery, careful attention should be given to ensure that a 60 degree angle from the midline is made when the perineum is distended.

10.2 Evidence for the protective effects of episiotomy is conflicting but mediolateral episiotomy should be considered in instrumental deliveries.

10.3 Verbal consent must be obtained for the episiotomy and documented in the EPR.

11.0 DOCUMENTATION

11.1 Consent, suturing procedure and information/discussions should be documented within the EPR.

11.2 If the procedure is performed in theatre a theatre- perineal suturing proforma should be completed within the EPR

12.0 FUTURE MATERNAL MORBIDITY

12.1 All women requiring perineal refashioning within a year of delivery will be identified through surgical coding and from the ongoing third/fourth degree tear audit.

13.0 MONITORING COMPLIANCE WITH THIS GUIDELINE

13.1 Any concern or non-compliance with this guideline that is identified through the investigation of clinical incidents, claims or complaints will be reviewed as per the Trust Policies regarding Incidents, Claims and Complaints, and may result in an audit and/or amendment to the guideline.

13.2 Relevant Policies:

- Incident reporting policy and procedure
- Claims management policy and procedure
- Policy and Procedure for the Management of Complaints, Concerns, Comments and Compliments

14.0 REFERENCES

National Institute for Health and Clinical Excellence. *2007 NICE Intrapartum Guidelines: Care of healthy women and their babies during childbirth*. London.

Methods and materials used in perineal repair. RCOG Guideline No 23. Royal College of Obstetricians and Gynaecologists: 2000 London.

Management of third and fourth degree perineal tears following delivery. RCOG Guideline No 29. Royal College of Obstetricians and Gynaecologists: June 2015 London.

15.0 PUBLICATION DETAILS

Author of Clinical Guideline	Senior Maternity Matron – Hospital Services
Directorate/Department responsible for Clinical Guideline	Child and Women's Health Maternity Department
Contact details	6682
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Appendix 1

PERINEAL TRAUMA IN BIRTH SUMMARY

Appendix 2

Delivery Room - Perineal Suturing Proforma

Review the Delivery Report for details.

Classification of tears:

- 1st degree: injury to perineal skin only.
- 2nd degree: perineum involving perineal muscles, but not involving the anal sphincter.
- 3rd degree: injury involving the anal sphincter.
    - 3a – less than 50% of external anal sphincter torn (EAS)
    - 3b – more than 50% of external anal sphincter torn.
    - 3c – Internal anal sphincter torn (IAS)

4th degree: involvement of the anal sphincter (EAS and IAS) and rectal mucosa.

Episiotomy: Type of tear: Other tears:	Consent: {RH8 OB Consent:102440001}
Suture material:	Analgesia: {OB Analgesia:102440026}
Local: *** ml	Local type: {OB Local for Suture Repair:102440031}
PR prior to repair: {PR EXAMINATION:1024400025}	

Details of repair

Apex secured: {Yes/No:102440005}	Vaginal mucosa: {Repair:1024400020}
Perineal muscle: {Repair:1024400020}	Perineal skin: {Repair:1024400021}
Labial tear: {Repair:1024400021}	Status of repairer: {RH8 OB MIDWIFE OBS:31496}

Additional details:
***

External Vaginal / Perineal Examination

Haemostatsis: {Yes/No:102440005}	EBL: **Delivery Blood Loss** None
PR exam: {Yes/No:102440005}	PR Diclofenac: {In progress/ordered:14549}
Vaginal pack: {Yes/No:102440005}	If vaginal pack remove: ***

Comfortable throughout: {Yes/No:102440005}	Pain relief ordered: {Yes/No:102440005}
Antibiotics: {Yes/No:31488}	Laxatives:{Yes/No:102440005}

Advice given
Extent of trauma and type of repair: {Yes/No:102440005}
Hygiene: {Yes/No:102440005}
Diet, including fibre: {Yes/No:102440005}
Pain relief: {Yes/No:102440005}
Pelvic floor exercises: {Yes/No:102440005}

Counts

Swabs count before suturing:
Checked by:
Swab count after suturing:
Checked by:

Post-delivery plan

Level of care: {RH8 OB STANDARD HDU:31492}	VTE risk assessed: {Yes/No:102440005}
Uterotonics: {Uterotonics:102440029}	VTE prophylaxis: {VTE Prophylaxis:102440025}
Catheter: {Catheter:102440006}	Follow up required: {Perineal repair follow up:1024400026}
Remove Catheter: {Remove Catheter:31497}	Other: ***

Appendix 3

Theatre - Perineal Suturing Proforma

Date: **Location:**

Name: **DOB:** , **MRN:** **NHS:**

Diagnosis

Procedures

Surgeons

Procedure Summary
Anaesthesia: **ASA:** **Estimated Blood Loss:**
Total IV Fluids: *** mL
Drains:
Staff:

Classification of tears:

- 1st degree: injury to perineal skin only.
- 2nd degree: perineum involving perineal muscles, but not involving the anal sphincter.
- 3rd degree: injury involving the anal sphincter.
    - 3a – less than 50% of external anal sphincter torn (EAS)
    - 3b – more than 50% of external anal sphincter torn.
    - 3c – Internal anal sphincter torn (IAS)
- 4th degree: involvement of the anal sphincter (EAS and IAS) and rectal mucosa.

Episiotomy: Type of tear:	Consent: {RH8 OB Consent:102440001}
Other tears:	Analgesia: {OB Analgesia:102440026}
Suture material:	Local: *** ml
PR prior to repair: {PR EXAMINATION:1024400025}	Local type: {OB Local for Suture Repair:102440031}
Catheter: {Catheter:102440006}	

Counts before suturing

Details of repair

Apex secured: {Yes/No:102440005}	Vaginal mucosa: {Repair:1024400020}
Perineal muscle: {Repair:1024400020}	Perineal skin: {Repair:1024400021}
Labial tear: {Repair:1024400021}	External anal sphincter: {Repair:1024400023}
Internal anal sphincter:{Repair:1024400023} Suture material for sphincter repair: {OB suture material for sphincter repair:102440027}	Anal mucosa: {Repair:1024400023}

Additional details:
***

External Vaginal / Perineal Examination

Haemostatsis: {Yes/No:102440005}	EBL: 22/04/22 00:17 - 22/04/22 12:17 **Delivery Blood Loss** None
PR exam: {Yes/No:102440005}	PR Diclofenac: {In progress/ordered:14549}
Vaginal pack: {Yes/No:102440005}	If vaginal pack remove: ***
Comfortable throughout: {Yes/No:102440005}	Pain relief ordered: {Yes/No:102440005}
Antibiotics: {Yes/No:31488}	Laxatives:{Yes/No:102440005}

Advice given
Extent of trauma and type of repair: {Yes/No:102440005}
Hygiene: {Yes/No:102440005}
Diet, including fibre: {Yes/No:102440005}
Pain relief: {Yes/No:102440005}
Pelvic floor exercises: {Yes/No:102440005}

Counts after suturing

Post-delivery plan

Level of care: {RH8 OB STANDARD HDU:31492}	VTE risk assessed: {Yes/No:102440005}
Uterotonics: {Uterotonics:102440029}	VTE prophylaxis: {VTE Prophylaxis:102440025}
Remove catheter: {Remove Catheter:102440023}	Follow up required: {Perineal repair follow up:1024400026}
Other: ***	

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cc: Medical Record