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Date	**Version**	**Author**	**Comments**
24/06/2014	0.1	Dr. S M Dornan	Initial draft received from author
03/07/2014	0.2	Dr. S M Dornan	Widely circulated amongst Excellence and Clinical Governance, Supervisors of Midwives and all key workers. End date for comments 17/7/14.
05/08/2014	0.3	Dr. S M Dornan	I (A. King) reviewed the comments with the author. Accepted comments have been incorporated.
3/08/2014	0.4	Dr. S M Dornan	Original guideline restructured and minor changes made by Mrs Bannon. Widely circulated again. End date for comments 6/10/2014.
18/12/2015	0.5	Dr. S M Dornan	Updated version recirculated to all stakeholders
16/05/2016	0.6	Dr. S M Dornan	Meeting with Dr Peter Crean (governance lead) and Dr Samina Dornan to discuss final draft.
01/06/2016	0.7	Dr. S M Dornan	Amendments requested by anaesthetic team following discussion at labour ward forum.

1.0 INTRODUCTION / PURPOSE OF POLICY

1.1 Background

This recommended practice outlines the additional care that women with multiple pregnancies should receive with Belfast Health and Social Care Trust. The general package of antenatal and Intrapartum care outlined in the NICE guidelines on antenatal care is taken as being provided.

1.2 Purpose

To provide staff with a clear pathway to follow.

1.3 Objectives

To promote and facilitate standardisation and consistency of practice.

2.0 SCOPE OF THE POLICY

For all medical and midwifery staff who care for women with multiple pregnancy.

3.0 ROLES/RESPONSIBILITIES

It is the responsibility of all staff involved in caring for women with multiple pregnancy to read this guideline.

4.0 DEFINITIONS

TERM	DEFINITION
Multiple Pregnancy	A twin or higher order of live fetuses
Chorionicity	Whether a placenta is shared between fetuses
Monochorionic	A shared placenta, implying fetuses are genetically identical and at increased risk of pregnancy complications
Dichorionic	Separate placentas, not necessarily implying that fetuses are not genetically identical
Twin to Twin Transfusion Syndrome (TTTS)	A condition unique to monochorionic multiples whereby blood is distributed unequally between fetuses
Intrauterine Growth Restriction (IUGR)	Where placental function is impaired such that the fetus is smaller than genetically determined and at increased risk of morbidity and mortality
Selective Intrauterine Growth Restriction (sIUGR)	Where, within a multiple pregnancy, there is =/>20% estimated fetal weight discordance between fetuses

Selective Fetal Reduction	In-pregnancy ultrasound guided feticide of 1 or more fetuses in Quadruplets and higher order multiple pregnancies (though not legal in Northern Ireland, but patients need to be given information as per NICE guideline).
Laser Ablation	In-pregnancy combined fetoscopic/ultrasound guided ablation of placental inter-twin vascular anastomoses
Amnioreduction	In-pregnancy ultrasound guided removal of excessive amniotic fluid
Aneuploidy	Abnormal chromosomes
Lambda Sign	Ultrasound appearance of inter-twin membrane which contains the placenta tissue and is diagnostic of dichorionicity
T Sign	Ultrasound appearance of inter-twin membrane which does not contain the placenta tissue and is diagnostic of monochorionicity

Key Policy Statement(s)

The consultation and ratification process has been undertaken as detailed in the guideline for guideline development.

5.0 IMPLEMENTATION OF POLICY

5.1 Dissemination

Following ratification by the Standards and Guidelines Committee and approval by the Policy Committee this guideline will be published on the Belfast Trust Intranet Site and staff will be informed. The policy and guidelines section is regularly accessed by staff.

5.2 Resources

This guideline will be published on the Belfast Trust Policies and Procedures intranet section.

5.2 Exceptions

This guideline applies to staff working in the Fetal Medicine Department of RJMS.

6.0 MONITORING

This guideline contains the current evidenced based thinking on this topic,
However data and statistics are routinely collected and correlated and should the need arise the guideline will be updated.

7.0 EVIDENCE BASE / REFERENCES

Antenatal Management of Multiple Pregnancy

1. NICE Guidelines

References for Intrapartum care of Multiple pregnancies

1. *High Risk Pregnancy*
2. *DK James, PJ Steer, CP Weiner, B Gonick Ch 10 pp137-149*
3. *RCOG Evidence -based Clinical Guideline Number 8 the use of Electronic Fetal Monitoring.*
4. *Crowther CA (1999) Caesarean delivery for the second twin. (Cochrane Review). The Cochrane Library, Issue 2. Update Software Oxford.*

NB: Further reading on evidence supporting this guideline is available from Dr S. Dornan Consultant Obstetrician Maternity Services Belfast

8.0 CONSULTATION PROCESS

This guideline will be widely circulated amongst Excellence and Clinical Governance, Supervisors of Midwives and all key workers in BHSCT

9.0 APPENDICES / ATTACHMENTS

Appendix 1 - Antenatal Care Schedule for Dichorionic Diamniotic twins(DCDA)
Appendix 2 - Antenatal Schedule for Monochorionic Diamniotic Twin Pregnancy (MCDA)
Appendix 3 - Antenatal Schedule for Monochorionic Monoamniotic Twin (MMT) Pregnancy
Appendix 4 - Antenatal Schedule for Triplet Pregnancy
Appendix 5 - Multiple Pregnancy Place, Timing and Mode of Birth - Discussion Checklist
Appendix 6 - Preterm birth in multiple pregnancies
Appendix 7 - Twin birth admission in labour checklist
Appendix 8 - Twin birth second stage of labour checklist
Appendix 9 - Twin birth documentation proforma

10.0 EQUALITY STATEMENT

Major impact ☐

Minor impact ☐

No impact. ☒

SIGNATORIES

(Policy – Guidance should be signed off by the author of the policy and the identified responsible director).

________________________________ **Date: ____November 2016____**

Author

________________________________ **Date: ____November 2016____**

Director

Appendix 1

Antenatal Care Schedule for Dichorionic Diamniotic twins(DCDA)

(A summary copy of this visit schedule will be placed in the woman's handheld notes)

Routine booking history and investigations

After diagnosis of twins, the woman should attend the Multiple Pregnancy Clinic (MPC) for the first time within 2 weeks of diagnosis preferably before 14 weeks of gestation, to meet the team and discuss how the pregnancy will be managed.

Consultant MPC and Midwife to:

Review booking history and screening tests. Prenatal screening tests are not available on the NHS in Northern Ireland for non-targeted screening.

Discuss risks and care package for multiple pregnancies, including pre-term labour.

Place appropriate visit schedule in handheld notes
Check information pack was given at booking visit and if not provide it.
Assess risk of PET, thromboembolism and any other co-morbidities, taking multiple pregnancy into account

GP letter to be completed and sent

Visit Schedule	**ACTIONS TO BE TAKEN**	SIGN& DATE
11-13+6 weeks	Booking scan to establish viability, number of fetuses, chorionicity, dating, labelling and excluding major fetal anomalies	
16 Weeks	See Midwife if there are no concerns.	
20 Weeks	Routine anomaly scan Uterine Artery Doppler's in Primigravida or if increased risk Cervical length with empty bladder on abdominal scan in Primigravida. Refer for TVS if difficult to image or cervical length < 2.5cm Midwife review: Booking history and screening tests (if not completed before). BP and urinalysis. Check FBC Mat B1, Appointment for antenatal education session. Discuss with Consultant Obstetrician if there are any co-morbidities or other risk factors (which have not been addressed before)	

24 Weeks	Ultrasound scan Cervical length with empty bladder on abdominal scan. Refer for TVS if difficult to image or cervical length < 2.5cm Midwife review. BP and urinalysis. Leaflets preterm labour and Pre Eclampsia Discuss any concerns with Consultant Obstetrician.	
28 Weeks	Growth Scan including umbilical artery Doppler(UAD) and cervical length Midwife review: BP and urinalysis Routine bloods (FBC,RBS and alloantibody screen) Offer single dose of Anti-D if Rhesus Negative Discuss infant feeding options Discuss any concerns with Consultant if necessary Discuss pre-term labour, but please also inform that there is no present proven prophylactic measures including administering untargeted corticosteroids	
30 Weeks	Midwife review: BP & urinalysis	
32 Weeks	Growth scan/ UAD Cervical length in primigravida only Midwife review BP and urinalysis To see MPC Medical team to: Discuss place, timing and mode of delivery Complete checklist Discuss analgesia and/or anaesthesia Discuss if there are any co-morbidities or other risk factors Anaesthetic review if indicated If the first twin is not cephalic or the woman is requesting a Caesarean section without medical indication please complete mode of delivery checklist. Give date for, induction of labour /Caesarean section at 37-38 weeks	
34 Weeks	Midwife review: BP and urinalysis Give date for, induction of labour/Caesarean section at 37-38 weeks if not already given.	

36 Weeks	Growth scan/UAD Cervical length in primigravida only Midwife Review: BP and urinalysis If booking for Caesarean section before 38 completed weeks gestation arrange for corticosteroid injections. Discuss any concerns with Consultant, if necessary	
37 Weeks	Midwife Review: BP and urinalysis Discuss any concerns with medical MPC team, if necessary	
38 Weeks	Following informed discussion If the woman chooses to continue her pregnancy organise a Day Obstetric Unit assessment along with a CTG, followed by a joint consultation with Consultant and Midwife in MPC Measure BP and urinalysis Assess maternal wellbeing Discuss any concerns with Consultant, if necessary and plan to expedite delivery	

Appendix 2

Antenatal Schedule for Monochorionic Diamniotic Twin Pregnancy (MCDA)

(A summary copy of this visit schedule will be placed in the woman's handheld notes)

Review booking history and screening tests.

After diagnosis of twins, the woman should attend the MPC for the first time within 2 weeks preferably before 14 weeks gestation to meet the team and discuss how the pregnancy will be managed.

Medical MPC team and Midwife to:
Review booking history and screening tests.

Prenatal screening tests are not available on the NHS in N.I. for non-targeted screening.

Discuss risks and care package for multiple pregnancies, including pre-term labour,

Place appropriate visit schedule in handheld notes
Check information pack was given at booking and if not provide it
Assess risk of PET, thromboembolism and any other co-morbidities, taking multiple pregnancy into account

GP letter to be completed and sent

Visit Schedule	**Actions**	**Sign& Date**
11-13+6 weeks	Booking scan to establish viability, number of fetuses, chorionicity, dating, labelling and excluding major fetal anomalies	
16-17weeks	TTTS screening	
18-19 Weeks	Scan and consultation regarding TTTS by medical/sonographer MPC team.	
20-21 Weeks	Anomaly scan and also to check for TTTS. Uterine Artery Doppler's in Primigravida or if increased risk Cervical length with empty bladder on abdominal scan in Primigravida. Refer for TVS if difficult to image or cervical length < 2.5cm Midwife review: Booking history and screening tests (if not completed before). BP and urinalysis. Check FBC Mat B1, Appointment for antenatal education session. Discuss with Consultant if there are any co-morbidities or other risk factors (which have not been addressed before)	

21-23	Scan to check for TTTS	
24-27 Weeks	Scan to rule out TTTS Cervical length with empty bladder on abdominal scan. Refer for TVS if difficult to image or cervical length < 2.5cm Midwife r/v. BP and urinalysis. Leaflets preterm labour and Pre Eclampsia Discuss any concerns with Consultant.	
28-29 Weeks	Growth Scan including umbilical artery Doppler(UAD) and cervical length Consider Middle Cerebral Artery Doppler (MCA) if post laser) Midwife r/v: BP and urinalysis Routine bloods (FBC,RBS and alloantibody screen) Offer single dose of Anti-D if Rhesus Negative Discuss infant feeding options Discuss any concerns with Consultant if necessary Discuss pre-term labour, but please also inform that there is no present proven prophylactic measures including administering untargeted corticosteroids	
30-32 Weeks	Growth scan/ UAD Cervical length in primigravida only Consider Middle Cerebral Artery Doppler (MCA) if post laser Midwife review: BP and urinalysis To see MPC Medical team to: Discuss place, timing and mode of delivery Discuss analgesia and/or anaesthesia Discuss if there are any co-morbidities or other risk factors Anaesthetic review if indicated If the first twin is not cephalic or the woman is requesting a Caesarean section without medical indication please complete mode of delivery checklist. Give date Caesarean section at 37 weeks for uncomplicated MCDA twins. Arrange for corticosteroid injections to be given at least 24 hours prior to admission Book IOL at 37 weeks in uncomplicated MCDA twins. Please inform of 10% risk of TTTS after the birth of the first twin during vaginal birth.	

34 Weeks	Scan Growth/UAD Consider Middle Cerebral Artery Doppler (MCA) if post laser MPC and Midwife BP and urinalysis If not already discussed, please discuss the mode of delivery, as above	
36 Weeks	Scan Growth/UAD Cervical length in primigravida only Consider Middle Cerebral Artery Doppler (MCDA) if post laser Midwife r/v BP and urinalysis Make sure that induction/Caesarean section is organised for 36/37 weeks for uncomplicated and 36 weeks for complicated MCDA twins Review by medical MPC team if necessary	
37 Weeks	If not yet delivered, Scan by Consultant MPC or FMU for growth Doppler's redistribution and CTG in Day Obstetric Unit. Strongly advise delivery ASAP Midwife r/v BP and urinalysis Assess maternal well being If planning to continue beyond Term. Inform of the risks of stillbirth.	
38+ Weeks	If still not delivered Daily CTG in Day Obstetric Unit Midwife review; BP and urinalysis Assess maternal wellbeing Book IOL or Caesarean section as agreed when reaches 39+ weeks' if not yet delivered Discuss any concerns with Consultant if necessary and for Consultant review If planning to continue beyond Term. Inform of the risks of stillbirth.	

Appendix 3

Antenatal Schedule for Monochorionic Monoamniotic Twin (MMT) Pregnancy

(A summary copy of this visit schedule will be placed in the woman's handheld notes)

All MMT pregnancies will only be scanned in Fetal Medicine Unit by Fetal Medicine Consultant.

Fetal Medicine Review
After diagnosis of twins, the woman should attend the MPC for the first time within 2 weeks preferably before 14 weeks gestation to meet the team and discuss how the pregnancy will be managed.

Review booking history and screening tests. Prenatal screening tests are not available on the NHS in NI for non -targeted screening.

Discuss risks and care package for multiple pregnancies, including pre-term labour,

Place appropriate visit schedule in handheld notes
Check information pack was given at booking and if not provide it
Assess risk of PET, thromboembolism and any other co-morbidities, taking multiple pregnancy into account

GP Letter to be completed and sent

Visit Schedule	**Actions**
11-13+6 weeks	Booking scan to establish viability, number of fetuses, Chorionicity, dating, labelling and excluding major fetal anomalies
16-17-weeks	Fetal Medicine scan and consultation
18 Weeks	Fetal Medicine scan and consultation
20 Weeks	An anomaly scan Uterine Artery Dopplers in primigravida or if increased risk Cervical length with empty bladder on abdominal scan in primigravida. TVS if difficult to image or cervical length < 2.5cm Midwife Review: Review and discuss all screening tests Measure BP and urinalysis Give Mat B1 Form Health Visitor Liaison referral Flier for next parent education sessions Book parent education classes Check FBC

22 Weeks	Fetal Medicine scan and consultation Midwife r/v Measure BP and urinalysis
24 Weeks	Fetal Medicine scan and consultation Cervical length with empty bladder on abdominal scan in primigravida only. TVS if difficult to image or cervical length < 2.5cm Midwife r/v Measure BP and urinalysis Discuss preterm labour and 'what to do'
26 Weeks	Fetal Medicine scan and consultation Midwife r/v Measure BP and urinalysis Discuss infant feeding options
28 Weeks	Fetal Medicine scan and consultation, if concerns about significant cord entanglement consider Cervical length with empty bladder on abdominal scan in primigravida only. TVS if difficult to image or cervical length < 2.5cm CTG's 3 x weekly (Monday, Wednesday and Friday) Decide whether for Fetal Medicine consultation weekly Plan delivery 34-36 weeks by Caesarean section Consider administering steroids Midwife r/v Measure BP and urinalysis Routine bloods (FBC,RBS and alloantibody screen) Offer single dose of Anti-D if Rhesus Negative Discuss risks and care package for multiple pregnancies, including pre-term labour, but please also inform that there is no benefit in performing routine cervical cerclage and administering untargeted corticosteroids
30 weeks	Fetal Medicine scan and consultation Give date for Caesarean Section at 36 weeks if there are no concerns
32 weeks	Fetal Medicine scan and consultation Cervical length with empty bladder on abdominal scan in primigravida only. TVS if difficult to image or cervical length < 2.5cm
34 weeks	Fetal Medicine scan and consultation Give delivery date if not already done **Arrange for corticosteroid injections to be given at least 24 hours prior to admission**
35 weeks	Fetal Medicine scan and consultation

Appendix 4

Antenatal Schedule for Triplet Pregnancy

All higher number pregnancies than twins will be scanned by Fetal Medicine Consultant in Fetal Medicine department.

(A summary copy of this visit schedule will be placed in the woman's handheld notes)

After diagnosis of triplet pregnancy, the woman should attend the Fetal Medicine Unit for the first time within 2 weeks preferably before 14 weeks to meet the team and discuss how the pregnancy will be managed.

Fetal Medicine Review

Review booking history and screening tests. Prenatal screening tests are not available on the NHS in NI for non- targeted screening.

Discuss risks and care package for multiple pregnancies, including pre-term labour,

Place appropriate visit schedule in handheld notes
Check information pack was given at booking and if not provide it
Assess risk of PET, thromboembolism and any other co-morbidities, taking multiple pregnancy into account
GP Letter to be completed and sent

Visit Schedule	Actions
11-13+6 weeks	Booking scan to establish viability, number of fetuses, Chorionicity, dating, labelling and excluding major fetal anomalies
16 - 17weeks	To rule out TTTS if there is Monochorionic pair
18-19 Weeks	Fetal Medicine scan, and consultation
20-21 weeks	Fetal Medicine detailed anatomy scan, and consultation Uterine Artery Doppler's in Primigravida or if increased risk Cervical length with empty bladder on abdominal scan in primigravida only. TVS if difficult to image or cervical length < 2.5cm Midwife Review: Review and discuss all screening tests Measure BP and urinalysis Assess maternal wellbeing Give Mat B1 Form Health Visitor Liaison referral Flier for next parent education sessions Book parent education classes

22 Weeks	Fetal Medicine scan, including cervical assessment by TVS, and consultation Midwife Review Measure BP and urinalysis Assess maternal wellbeing Check FBC
24 Weeks	Fetal Medicine scan, and consultation Cervical length with empty bladder on abdominal scan in primigravida only. TVS if difficult to image or cervical length < 2.5cm Midwife Review Measure BP and urinalysis Assess maternal wellbeing Discuss preterm labour and 'what to do' Discuss risks and care package for multiple pregnancies, including pre-term labour, but please also inform that there is no benefit in performing routine cervical cerclage and administering untargeted corticosteroids
26 Weeks	Fetal Medicine scan, and consultation Midwife Review Measure BP and urinalysis Assess maternal wellbeing Complete infant feeding list
28 Weeks	Fetal Medicine scan, including cervical assessment by TVS, and consultation, Cervical length with empty bladder on abdominal scan in primigravida only. TVS if difficult to image or cervical length < 2.5cm Midwife Review Discuss and review blood results from previous visit Measure BP and urinalysis Routine bloods (FBC,RBS and alloantibody screen) Assess maternal wellbeing Offer single dose of Anti-D if Rhesus Negative If risk factors are present consider steroids
30 Weeks	Fetal Medicine scan and consultation Consider admission for bed rest Discuss place, timing and mode of delivery Complete checklist Midwife Review Measure BP and urinalysis Assess maternal wellbeing Consider steroid administration
32 Weeks	Fetal Medicine scan and consultation Cervical length with empty bladder on abdominal scan in primigravida only. TVS if difficult to image or cervical length < 2.5cm Midwife consultation

	BP and urinalysis Assess maternal wellbeing
34 Weeks	Fetal Medicine scan and consultation and tailor further management according to clinical situation (aim to deliver by Caesarean section at 35 weeks) Midwife Review Measure BP and urinalysis Assess maternal wellbeing

SUMMARY OF BOOKING PROCEDURE

Determining gestational age and chorionicity

Early scan for confirmed multiple pregnancy

- Aim to determine all of the following in the same first trimester scan when crown-rump length measures from 45mm to 84mm (at approximately 11 weeks 0 days to 13 weeks 6 days):*
  - gestational age
  - chorionicity (see below) and
  - the risk of chromosomal abnormalities
- Assign nomenclature to the babies (for example, upper and lower, or left and right) and document
- Use the largest baby to measure gestational age

*'Antenatal care' (NICE clinical guideline 62) recommends determination of gestational age from 10 weeks 0 days. However, the aim in this recommendation is to keep to a minimum the number of scan appointments that women need to attend within a short time, especially if it is already known that a woman has a twin or triplet pregnancy.

Chorionicity	Problems determining chorionicity
• Determine when multiple pregnancy is detected using: - The number of placental masses and/or - The lambda or T-sign and/or - Membrane thickness • For women presenting after 14 weeks 0 days, use all of the above features and discordant fetal sex. • Do not use three-dimensional ultrasound scans to determine chorionicity. • A CLEAR AND ENLARGED IMAGE, ESTABLISHING CHORIONICITY, MUST BE PLACED IN THE PATIENT'S ANTENATAL NOTES	• If transabdominal views are poor because of a retroverted uterus or high BMI, use transvaginal ultrasound. • If it is not possible to determine chorionicity when detecting the multiple pregnancy, seek a second opinion or refer to a healthcare professional competent in determining chorionicity by ultrasound as soon as possible. • If it is still difficult after referral, manage as monochorionic until proved otherwise.

Appendix 5

Name:
Hospital No:

Multiple Pregnancy Place, Timing and Mode of Birth

Discussion Checklist

Gravida ………… Parity ……… Gestation …………………..

TIMING OF DELIVERY
All elective births, before 36 weeks, should be offered Corticosteroid (within 7 days of delivery) • Advised multiples are more likely to be born early Dichorionic/Diamniotic aim for delivery from 37/38 weeks, depending on mode of delivery • Monochorionic/Diamniotic aim for delivery by 37 weeks • Triplet Pregnancies aim to delivery after 35 weeks 0 days
MODE OF DELIVERY
Vaginal Birth • Vaginal birth is usual if Twin I is cephalic (Di/Di & Mono/Di) in case of Mono/Di during vaginal delivery, counsel about 10% risk of acute TTTS but vaginal delivery still safer for mother • Twins are monitored continuously during labour. Twin I may have FSE fitted • Procedure following birth of Twin I • If Twin 2 non-cepahlic may need Maneuvers to aid delivery, • Risk of needing Caesarean section for Twin 2 is small (<3%)
Caesarean Birth • Elective Caesarean section for Twin I breech, placenta praevia, maternal choice Pros/Cons of elective Caesarean section discussed Risks: • Major surgery and risks thereof – bleeding, damage to organs most commonly bowel or bladder, wound infection, thrombosis • May mean longer hospital stay • Babies may have 'wet lung' and need special care • Longer recovery and driving restrictions • Effect on future birth options, increases complications during future pregnancy and delivery • Can make Breast Feeding more difficult Benefits: • Avoid complex delivery of Twin II if not cephalic • Avoids emergency Caesarean section which can still occur if aiming for vaginal delivery in <3% cases.
ANALGESIA
• Pain relief in labour leaflet given • Epidural anaesthesia discussed
GENERAL

Preferred mode of birth ………………………………………………………………………………………

Contingency plan ……………………………………………………………………………………….....

Signed: Date:

Appendix 6

PRETERM BIRTH IN MULTIPLE PREGNANCIES

Predicting the risk of preterm birth

- Be aware that women with twin pregnancies have a higher risk of spontaneous preterm birth if they have had a spontaneous preterm birth in a previous single pregnancy

- Cervical length should not be used routinely but may be used to identify pregnancies at risk of PTL

- the following does not predict the risk of preterm birth:
  - Fetal fibronectin testing alone
  - Home uterine activity monitoring

Preventing preterm birth

- Do not use the following (alone or in combination) routinely to prevent spontaneous preterm birth:
  - Bed rest at home or in hospital
  - Intramuscular or vaginal progesterone
  - Cervical cerclage
  - Oral tocolytics
  -

Untargeted corticosteroids

- Inform women:
  - Of their increased risk of preterm birth
  - About the benefits of targeted corticosteroids
  - That there is no benefit in using untargeted administration of corticosteroids

- Do not use single or multiple untargeted (routine) courses of corticosteroids.

1. Mode of Delivery for Twins

1) No difference in outcome has been shown between Caesarean section and vaginal delivery of appropriately grown twins with Twin I cephalic presentation.

2) Vaginal delivery is anticipated if Twin I is vertex presentation in the absence of any other obstetric or fetal problems.

3) Current opinion suggests that if the first twin is breech, Caesarean section should be performed unless vaginal delivery is imminent. This is recommended due to the lack of prospective evidence regarding the mode of delivery in singleton breech pregnancies and the added risks of multiple birth.

4) Previous Caesarean section is not a contraindication to vaginal delivery if in spontaneous labour otherwise please discuss with the consultant of the day if management is not already established.

5) Patients who are carrying monoamniotic /monochorionic twin pregnancies should be offered Caesarean section

6) Triplet or higher multiple pregnancies should be offered delivery by elective Caesarean section. Timing should be co-ordinated with SCBU to ensure adequate cots available.

7) If first twin delivers vaginally, Caesarean section delivery of a second twin not presenting cephalically is associated with increased maternal febrile morbidity with, as yet, no identified improvement in neonatal outcome.

2. Fetal Monitoring

The risks associated with multiple pregnancy are complex, with fetal risks associated with increased risk of prematurity, intra-uterine growth restriction and placental abruption.

NICE guidelines consider multiple pregnancies to be an indication to offer continuous electronic fetal monitoring during labour.

The second twin is most at risk - with this risk being maximal after the delivery of Twin I.

3. Analgesia

Epidural analgesia is preferred due to the relaxation it affords, which may aid manipulation and assisted delivery of Twin II. Maternal choice should be respected.

4. Admission to Delivery Suite

On Admission to delivery suite Medical team should review & re-discuss the management plan with the woman. If second twin is ≥25% bigger than twin 1 and breech, consider Caesarean section.

(Midwife to complete Admission Checklist – Appendix 2)

1. When a patient with twin pregnancy is admitted in suspected spontaneous labour or for induction of labour:

2. Escalation of care room (locally known as maternal high dependency rooms) will be fully equipped in advance of patient arrival where possible.

3. Sister-in-charge and most Senior Obstetrician on Labour Ward should be kept fully informed as she will act as team Co- coordinator throughout stay on Delivery Suite.

4. Inform Registrar/Senior Registrar of admission.

5. If gestation less than 35 weeks or growth restriction or discordance suspected inform Registrar/Senior Registrar and SCBU.

Decision for Mode of Delivery:

If patient in labour, Registrar (SpT 3-5) to inform Senior Registrar (SpR 6-7) or consultant to discuss situation and confirm expected mode of delivery.
Additional senior consultation if necessary.

5. First Stage of Labour

7.1. *Midwifery Observations*:

- Routine maternal observations as per guideline for care of woman in first stage of labour
- Continuous fetal monitoring with CTG is recommended throughout. (FSE for Twin I when possible). When a patient has objection to continuous fetal monitoring, recommended best practice is for a 30 minute CTG repeated every 2 hours with intermittent auscultation as per standard protocol and documented in the health records
- A documented formal assessment of CTG should occur hourly using CTG documentation aid stickers (one for each fetus). If the CTG is not considered normal for either fetus, this should be discussed with the shift leader and a doctor

7.2. *Analgesic Considerations:*

Epidural Analgesia is the preferred method of pain relief. This permits for most interventions that may be required if twin 2 is a non-vertex presentation. However if patients decline epidural they should have access to whichever form of pain relief they choose.

6. *Initial Preparation for Delivery:*

- Site IV cannula (16 gauge - grey)
- Send blood for FBC and G+S
- IV infusion Normal Saline or Hartman's (3L / 24hrs) or as Anaesthetist requests in case of epidural analgesia
- Clear Fluids only by mouth
- Zantac (Ranitidine) 150mg 6 hourly

7. Final Preparations for Delivery

As full dilatation is reached final preparations should be made

- Transfer patient to Obstetric Theatre
- Preparation of Oxytocin infusion (30 international units of Syntocinon in 500ml Sodium Chloride 0.9%)
- Availability of Syntocinon 40 international units with 500ml Sodium Chloride 0.9% (for PPH).
- Sister-in-charge/Senior Registrar to ensure no non-emergency surgery is started, or that an anaesthetic team is available from now until end of third stage.
- Midwife to make sure that instrumental delivery trolley is ready in Theatre.

8. Second Stage of Labour

(Midwife to complete Second Stage of Labour Checklist – Appendix 3)

It is recommended that the patient is transferred to Obstetric Theatre for this stage.
A deviation from this recommendation i.e.to remain in Delivery Suite room MUST only be taken by the Consultant Obstetrician. The anaesthetic staff must be informed of this decision to give an opportunity to discuss this deviation with the mother and prepare theatre.

At onset of second stage the following personnel should be informed:

- Sister-in-charge
- Obstetric Team
- Anaesthetic/Theatre Team
- Neonatal Team

A senior clinician (Senior Registrar or Consultant) should review situation (including casenotes, clinical history, CTGs, progress in first stage of labour and risk factors) and plan second stage management based on the review. The review and management plan should be documented in the notes.

Careful attention should be paid to the CTG of both fetuses during the second stage.

As delivery approaches all relevant personnel should be present in the Theatre.

10.1. Delivery of Twin I:

- Two midwives and two members of the obstetric team, one of which is Senior Registrar or above to be present in delivery room/theatre
- Overall supervision of delivery is the responsibility of the most senior doctor (Senior Registrar or Consultant)
- If Twin 1 is cephalic and a normal delivery is expected, midwife could perform delivery
- 2 cord clamps should be attached to the cord of twin I for identification purposes

10.2. Delivery of Twin II:

- Continuous fetal monitoring
- Determine presentation and lie by ultrasound scan
- Stabilise as longitudinal lie if necessary
- Start Syntocinon infusion (30 international units of Syntocinon in 500ml Sodium Chloride 0.9%)
- Obstetrician to assess position by ultrasound scan
- If presenting part (vertex or breech) at spines or below ARM should be performed. If presenting part remains above spines defer intervention if CTG satisfactory
- If CTG abnormal, there is a change from previous baseline or difficulty obtaining a satisfactory trace of Twin 2, delivery should expedited by most appropriate means depending on the circumstances
- After 20 minutes:
  - If Cephalic, reassess position, consider controlled ARM and consider instrumental delivery if appropriate
  - If Breech consider breech extraction(BE)

Any other presentation, management at discretion of Senior Registrar or Consultant. They should consider external version (EV) to correct the lie to longitudinal or internal podalic version(IPV) and BE. Caesarean may be considered if EV or IPV & BE not possible.

9. Third Stage of Labour

- Administration of preferably Syntometrine1 amp or 1ml, but if blood pressure is elevated the Syntocinon 10 international units after delivery of the second twin
- Completion of the third stage to be performed by the person responsible for the delivery of twin 2
- Careful determination of estimated blood loss.
- Commence Syntocinon 40 international units in 500mls NaCl at 125 ml/hr.
- Careful examination of placentae and documentation of chorionicity. If this is not easily determined, for examination by Registrar. Send placentae for pathological examination unless > 37 weeks, both fetuses normally grown and discordant gender (a girl and a boy) and ensure documentation which twins cord is double clamped.
- Please perform Cord pH's
- Maternal observations performed, Temperature, Pulse and Blood pressure including lochia estimation

Assessment of the mother and infants should be made following delivery to determine suitability for low dependency accommodation on the Ward. If this is not deemed suitable, then they should be accommodated on Labour Ward.

Appendix 7

TWIN BIRTH ADMISSION IN LABOUR CHECKLIST

Patient Sticker Here	Initial when Completed	Comments
Women and Birth Partner/s in High Risk Room on Labour Ward		
Review the Handheld and Hospital Notes Including Care Plan to Identify any Antenatal Risk Factors		
Explain the Plan for Birth		
IV access, FBC and G&S		
Confirm Presentation of Both Twins using Ultrasound if Necessary		
Explain Continuous Fetal Monitoring Recommended - A Scalp Electrode may be used for Twin 1 - May use Ultrasound to identify Optimal Location of EFM Transducers - Use Twin Monitor		
Discuss Analgesia and Explain an Epidural is helpful if Manipulation required for Delivery of Twin 2 and can be used if Caesarean section needed		
Ranitidine 150mg 6 hourly prescribed		
Obstetrician to Document Risk Assessment and Care Plan for Twin birth in Records.		
Inform NNU if < 37 weeks gestation or Growth Restriction or other Fetal Concern eg. Anomaly		
When above Checklist Complete: Date Time Name	Signature	Grade

Appendix 8

TWIN BIRTH SECOND STAGE OF LABOUR CHECKLIST

Patient Sticker Here	Initial when Completed	Comments
The following informed at diagnosis of full dilatation - Sister-in-charge - Obstetric Team - Anaesthetic/Theatre Team - Neonatal Team		
SR or Consultant documented Risk Assessment and Management Plan for Second Stage		
Transfer patient to Theatre for second stage		
Syntocinon infusion ready (30 international units in 500ml Sodium Chloride 0.9%)		
Syntocinon 40 international units in 500ml Sodium Chloride 0.9% and 500ml Hartman's available (if PPH)		
Syntometrine 1 amp/1ml orSyntocinon 10 international units ready for 3rd Stage Management		
Equipment in Room: - Forceps Trolley and Ventouse Machine - Ultrasound Machine - 2 Resuscitaires - Lithotomy Stirrups. - Twin Delivery Pack. - Extra Towels, Baby Linen, Cord Clamps.		
When above checklist complete: Date Time Name Signature Grade		

Appendix 9

TWIN BIRTH DOCUMENTATION PROFORMA

Name: Hospital number: Place Sticker Here	Gestation		Comments
Chorionicity Designated Antenatally	DC DA	MC DA	
	Twin 1	Twin 2	
Presentation at Start of Second Stage	Cephalic Breech Other	Cephalic Breech Other	
Start of Second Stage CTG	Normal Suspicious Pathological	Normal Suspicious Pathological	
Syntocinon Infusion	Yes No	Yes No	
Analgesia	None Entonox IM Opioid Epidural Spinal GA	None Entonox IM Opioid Epidural Spinal GA	
IV Access	Yes No	Yes No	If No, Why?
Sister-in-charge Informed	Yes Name: No		
2 Midwives Present for Delivery of Both Twins	Yes Name: No		
Obstetric Registrar Present for Delivery of Both Twins	Yes Name: No		
Senior Obstetric Registrar Present for Delivery of Both Twins	Yes Name: No		
Consultant Obstetrician Present	Yes Name: No		
Neonatology Team Present	Yes Names: No		

Mode of Birth Twin 1 Time	Spontaneous Vaginal Ventouse Forceps CS		
Obstetrician Checked Twin 2 Position	Yes Name: No		
Syntocinon Infusions Between Twins	Yes No		
Continuous Fetal Monitoring During Delivery of Twin 2	Yes No		
ARM when Presenting Part at Spines If No, Why?	Yes No Expedited delivery Ruptured spontaneously Other		
Mode of Birth Twin 2 Time	Spontaneous vaginal Ventouse Forceps CS		
Delivery of Twin 2 Expedited If Yes, Fully Documented in Notes by Obstetrician	Yes No Yes No		
If Twin 2 undelivered after 20 min Expedited Delivery Considered If Yes, Fully Documented in Notes	Yes No Yes No		
	Twin 1	Twin 2	
Presentation at Birth	Cephalic Breech Other	Cephalic Breech Other	
Internal or External Manoeuvres Performed And if Yes, Fully Documented in Notes	Yes No	Yes No	Details
2 Cord Clamps to Cord of Twin 1	Yes	No	
Cord Gases Taken	Yes No	Yes No	
Apgars at 1 and 5 minutes			
Placenta and Membranes Examined - Chorionicity Confirmed - Complete	Yes No		
Placenta sent for histology*	Yes No		
When above checklist complete: Date Time Name	Signature	Grade	

File Checklist in Labour Records when Complete

* Send placenta for Pathological Examination (ensuring documentation of which twins cord is double clamped) unless > 37 weeks, both fetuses normally grown (> 9th centile) and discordant gender (a girl and a boy).