Guideline for Regional In-Utero Transfer of High Risk Women within Northern Ireland, (Including potential transfer outside Northern Ireland via air ambulance)

December 2016
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Introduction

Purpose of the Guideline
This clinical guideline has been developed using research evidence, expert opinion and professional consensus to provide the best available evidence-based practice for the regional transfer of mothers and babies *In-Utero* between hospitals and maternity units, including the potential transfer outside Northern Ireland (NI) by road/air ambulance.

As different teams of doctors and midwives are involved in the management of patients, this guideline is not prescriptive and should take into account individual variations and needs. The purpose is to provide a safe and efficient *In-Utero* Transfer service within the maternity network and applies to all obstetric units throughout Northern Ireland.

Scope of the Guideline
The guideline summarises best available evidence regarding *In-Utero* Transfer and details a transfer proforma to be completed with every patient and placed at the front of the Northern Ireland Maternity Handheld Record.

Objectives
- To provide a safe, efficient and cohesive *In-Utero* Transfer service which is generic across the Northern Ireland maternity network
- Improve clarity on all aspects of an emergency *In-Utero* Transfer
- Improve documentation before, during and after transfer
- Develop a Regional *In-Utero* Transfer proforma
- Facilitate easier transfer between units
- Promote patient safety during transfer
- Educate all staff involved in transfer on the importance of safe, efficient transfer which is well documented within patient notes.
- Initiate audit of the use of the GAIN guideline.

Roles and responsibilities
It is the responsibility of all staff involved in transferring mothers to familiarise themselves with the content of this guideline and the transfer proforma, promoting its use during every emergency transfer.

Policy Statement
To provide a framework for practice ensuring optimal safety during the emergency *In-Utero* Transfer period.
Guideline Methodology

Who is the guideline intended for?
This guideline is relevant to all obstetricians, midwives, paediatricians, anaesthetists, patients and Northern Ireland Ambulance Service (NIAS) staff involved in the In-Utero Transfer of mothers across the Northern Ireland maternity network.

It will inform those involved within the maternity setting ensuring arrangements are in place to deliver appropriate care for mothers and babies who are undergoing In-Utero Transfer.

Involvement of Stakeholders
Key to the development of GAIN guidelines is the involvement of relevant professionals and patients (Appendix 3: Patient questionnaire into current In-Utero Transfer practices, Appendix 4: Snap shot of current practice and local patients’ perspective). A list of the Guideline Development Group (GDG) members for the ‘Guideline for Regional In-Utero Transfer of High Risk Women within Northern Ireland’ (including potential transfer outside Northern Ireland via air ambulance) can be found in Appendix 6.

Terms of Reference
The ‘Management of Severe Pre-eclampsia and Eclampsia’ recommended that transfer protocols should be developed to ensure that patients are transferred with appropriate personnel and equipment. Further, transfer documentation also requires standardisation.

Needs Assessment
Transfer protocols were discussed in a GDG meeting. This highlighted the significant lack of appropriate documentation and clear protocols for the In-Utero Transfer of High Risk Obstetric Patients throughout NI and emphasised the need for guideline development.

Initial reviews conducted between April 2014 – Jan 2015 highlighted that there is a distinct lack of up-to-date information on practice across Northern Ireland. A background literature search was conducted to identify any existing guidelines on In-Utero Transfer, both locally and nationally. The literature review search looked at:

- Royal College of Obstetricians and Gynaecologists (RCOG),
- National Institute of Clinical Excellence (NICE) and
- British Association of Perinatal Medicine (BAPM) guidelines.

A PUBMED search restricted to ‘In-Utero Transfer’ was conducted to obtain evidence from current literature and an internet-wide search conducted to ascertain current transfer activity, published by the National Audit Office and Department of Health.
A National Health Service (NHS)/DHSSPSNI search for ‘In-Utero Transfer’ was used to identify best-practice recommendations. This search identified existing practice, current local and national guidelines and best-practice recommendations. An initial snapshot audit within one trust (Southern Health and Social Care Trust (SHSCT)) was undertaken to ascertain current practice and patient opinion on transfer (Appendix 4).

A summary of findings was presented to an expert committee of consultant obstetricians, anaesthetists and midwives, along with input from NIAS and a summary of key transfer requirements produced. A proforma for use during In-Utero Transfer was then developed, piloted and then revised again (page 14).

Guideline Development Group
The GDG comprised a team of healthcare professionals involved in In-Utero Transfer and was supported by GAIN (Appendix 6). The key steps in the development of this guideline were taken from the ‘Key Steps in the Development of the Guideline’ (Appendix 7).

Six GDG meetings were held between January 2014 and February 2016. During each meeting clinical questions were reviewed and assessed and recommendations formulated. Service-user concerns were identified through the patient questionnaire and snapshot audit (Appendix 3 & 4).

Patient/User Representatives
Patients did not directly participate on the GDG. However, the snapshot audit of current practice allowed patient representatives, who had undergone the transfer process, to voice their opinions through an anonymised questionnaire (see Appendix 3 and 4).

Guideline review by Expert Advisers
Following the development of the guideline GAIN undertook a consultation process of the guideline and the guideline was also reviewed by an expert external from the GDG. Areas for adjustment were identified and the guideline subsequently revised following approval of the GDG.

Updating the Guideline
In keeping with GAIN requirements these guidelines will be reviewed in 2019 or sooner in light of any emerging evidence.

Clinical Audit
Implementation and adherence of this guideline should be audited following a period of imbedding.

Funding
The GDG was commissioned by GAIN to develop this guideline.
Background and Current Practice

In recent decades, considerable developments have been made to improve the management of high risk obstetric patients at local, regional and national level. There still remains the potential of an untoward or fatal outcome of either mother and/or baby during emergency In-Utero Transfer.

Emergency In-Utero Transfer, is defined as: ‘the unplanned, acute transfer of a mother for specialist maternal or anticipated neonatal care which cannot be provided locally, either to other units in the network or to units outside the network, such as designated tertiary centres’.

This transfer practice is an inevitable occurrence in the current structure of maternity and neonatal networks and will continue to play a vital role in providing optimal care for mothers and babies.

Incidence
Unlike neonatal transfer between neonatal units, information regarding exact incidence of In-Utero Transfer and neonatal outcomes in recent years is limited. The Perinatal Emergency Transfer Study conducted in 1999 recorded 309 mothers or infants transferred out of the 37 largest perinatal centres in the United Kingdom (UK) during a 3-month census which equates to 1,236 episodes per year. Most perinatal centres were regularly unable to meet in-house demands for neonatal intensive care and there were a large number of inappropriate and unplanned neonatal transfers, mostly due to a ‘lack of neonatal cots’. There was a wide geographical variation in the extent to which supply met demand.

The 2006 National Perinatal Epidemiology Unit Survey, involving over 2,500 women in England, reported that 0.5% of women experienced transfer from one hospital to another during labour, with 1.7% being transferred from separate birth centres or maternity units to hospitals. Fenton et al reported a regional annual acute In-Utero Transfer rate of 3.7 per 1000 deliveries with the primary indications being for fetal reasons.

In-Utero Transfer patterns over 10 years (1995 - 2004) recorded for babies <32 weeks’ gestational age show a gradual decline from 2.1/1000 births to 1.8/1000 births with the overall average remaining at 2.1. The average rate of In-Utero Transfer/1000 births <32 weeks gestation however was 87.8 over 10 years, highlighting the increased risk of transfer being associated with preterm delivery.

Information regarding exact incidence of In-Utero Transfer within Northern Ireland is lacking. Northern Ireland Maternity Information Service (NIMATS) data from the Southern Health and Social Care Trust (SHSCT) 2013 – 2014 recorded 51 In-Utero Transfers between hospitals. This equated to 0.4% of births in Craigavon Area Hospital and 1.9% of births in Daisy Hill Hospital. Based upon this data the main indications for transfer from Daisy Hill Hospital to another unit were preterm labour, antepartum haemorrhage and preterm rupture of membranes.
Indications for transfer
Often the main indication for transfer is for the access to neonatal intensive care unit (NICU) and special care baby unit (SCBU) facilities for the neonate. The 2010 Bliss Baby Report, a patient-questionnaire based survey, recorded the primary indication for In-Utero transfer as lack of capacity of neonatal cots (43%). One of the first regional publications looking at maternity/neonatal transfers in Northern Ireland found that the main maternal conditions requesting In-Utero transfer were pre-term labour and pre-eclampsia.

Outcomes of transfer
Published data reported on population-based outcomes after acute antenatal transfer and had documented no adverse incidents during transfer with 24% of women remaining undelivered following transfer. This data also highlighted the importance of undertaking routine audit of acute antenatal transfers. Maternal outcomes following In-Utero transfer were recorded - data included 258 In-Utero Transfers within 37 of the largest perinatal centres within the UK over 3 months (April – June 1999). They found that 61% of mothers transferred delivered at the receiving hospital, with 12% being transferred to a third hospital. One mother delivered during transfer and nine mothers delivered within one hour of arrival at the receiving unit. Two mothers received a blood transfusion during transfer and 42% received tocolytics. Eight percent of mothers received High Dependency Unit (HDU) or Intensive Care Unit (ICU) care following transfer, highlighting that these patients have a significant potential to become unwell during transfer and further emphasizing the need for accurate documentation during transfer. Median journey time was 35 minutes. It was also reported that 71% of infants transferred In-Utero were admitted to the NICU and in the study cohort, seven infants (2.7%) were stillborn and two early neonatal deaths (0.7%) were recorded.

In comparison, the Northern Ireland Neonatal Intensive Care Outcomes Research and Evaluation (NICORE) Group reported an incidence of 6.9% of all live births receiving neonatal intensive care in 2009 (1769 infants) with a 97% survival to discharge from the neonatal unit rate. This highlights the significantly increased incidence of neonatal intensive care unit admission and neonatal death for infants transferred In-Utero. These findings emphasise the importance of optimal care at all stages of the In-Utero transfer process for mothers and their babies.

Patients’ Perspective
The National Perinatal Epidemiology Unit recorded women’s experience of maternity care. One woman referred to her information needs, stating:

“…we were transferred from one hospital to another. Hospital 1 had not told us what would be happening and Hospital 2 assumed they had.”

Furthermore, Bliss, a UK charity that helps care for premature and sick babies, conducted a survey into activity in 2006-2007 involving all UK hospitals with a neonatal unit and received a 92% response rate, with 500 questionnaires being completed by
parents with premature and unwell babies.\textsuperscript{13} Twenty-four percent of patients reported being transferred \textit{In-Utero}. One patient was quoted as saying:

“…the first hospital was chaotic and extremely disconcerting. No cots, no information. We spent eight hours waiting (in a waiting room or ambulance) for them to find a cot. Little info at this time very scared parents to be”\textsuperscript{13}

Thirty-five percent of women report that their transfer was outside the local area.\textsuperscript{12} Bliss conducted a similar survey three years later reporting that lack of capacity remained an issue, with 43\% of mothers who were transferred to another hospital before giving birth reporting that this was due to lack of capacity.\textsuperscript{14}

\textbf{Current Obstacles}

The London Emergency Bed Service and Ambulance Service survey report that an average of 240 minutes is spent contacting 6 - 8 units when attempting to arrange \textit{In-Utero} transfer.\textsuperscript{15} This ties staff up for long periods potentially impacting upon care provision and clinical safety within the acute setting.

\textbf{Current Practice}

In Northern Ireland, exact data on incidence of \textit{In-Utero} transfer is limited. NIAS comment that there is no specific documentation used for \textit{In-Utero} transfer. The incidence of \textit{In-Utero} Transfers cannot be specifically obtained from their records. Only if treatment or intervention occurs during the transfer is the standardised NIAS Patient Report Form\textsuperscript{*} used (Appendix 1). This Report form is generic for all ambulance service transfers and is not specific to maternity and \textit{In-Utero} Transfer. Requests for transfer are made under the direction of ambulance control and no documentation is made in the maternity record regarding transfer duration, intervention, observations, or staff involved.

\textbf{Development of proforma}

As a consequence of the current practice and the lack of documentation for \textit{In-Utero} Transfer of high risk women within Northern Ireland, a transfer proforma was developed.
Evidence for Recommendations

In 2011 the DHSSPSNI issued a summary of key learning themes from reported Serious Adverse Incidents (SAI’s) and highlighted that ‘trusts should develop and implement protocols for the emergency In-Utero transfer of high risk women, to include potential transfer outside Northern Ireland via air ambulance’. The protocol should also cover arrangements for the transfer of mother and baby back from units outside Northern Ireland. The 2012 GAIN guideline on the Management of Pre-eclampsia and Severe Eclampsia further highlighted this, detailing that ‘maternity units should consider developing transfer protocols using standardised documentation to ensure that patients are transferred with appropriate personnel and equipment’.

The Neonatal Taskforce, consisting of personnel from across the NHS neonatal community produced a Tool Kit for High Quality Neonatal Services for the Department of Health in 2009, earmarking transfer services as one of the seven key areas recommended for improvement. The taskforce highlighted concerns raised by the National Audit Office Report in 2007 over the variation in transfer arrangements around England. As a marker of good practice, they emphasised the need for network guidelines on In-Utero transfer. This would include:

- the referral process
- indications and contraindications for transfer
- documented discussion with parents in the use of steroids, tocolysis and fibronectin screening
- documented discussion between referring/receiving units.

Further recommendations included a clear, documented referral process for all categories of transfer including a defined means of communication with other organisations and identified link personnel, the details of which should be circulated to all involved agencies.

Records of communication must be clear, accurate and retrievable and in accordance with agreed standards. Furthermore, good practice should involve clinical observation and record-keeping during transfer to the standard as that provided at any other time.

The National Audit Office Report recommends that healthcare trusts undertake strategic needs assessments of the local population, taking into account and addressing the blockages in networks which prevent efficient In-Utero Transfers.

Recommendations from NICE are detailed in a Quality Standard into specialist neonatal care and highlight the need for integration of In-Utero and postnatal transfers with the perinatal network.

BAPM in the 2010 Report into Service Standards for neonatal care highlighted that ‘when it is anticipated prior to delivery that a baby may require intensive or high dependency care, and this is not available locally, In-Utero Transfer should occur
provided this does not jeopardise the mother’s health or risk delivery on route. Each network must have clearly established arrangements to facilitate such transfers.\textsuperscript{18}

The RCOG in their Working Party report into standards for maternity care highlight that there should be agreed pathways of care and standardised protocols and guidelines for In-Utero transfer.\textsuperscript{19} Records of time from decision to transfer to time the transfer takes place and reasons for delay should be recorded.\textsuperscript{19} Furthermore, managed maternity and neonatal care networks should include effective arrangements for managing the prompt transfer and treatment of women and their babies experiencing problems and complications.\textsuperscript{19}

Locally, the DHSSPSNI commented that units must have written guidelines for transfer with a formalised communication network to ensure timely and appropriate transfer.\textsuperscript{20}

In 1996, it recommended that a regional transfer service be created and should be based at the regional centre – The Royal Maternity Hospital (RMH).\textsuperscript{20}

In 2006 an audit was conducted into acute maternity services. It concluded that one trust within Northern Ireland did not have appropriate training for staff in transfer arrangements, and that such transfers were increasing with extended time frame to access transfer services, placing both mother and baby at risk.\textsuperscript{21}

In 2006 the Clinical Resource Efficiency Support Team (CREST) devised a protocol for inter-hospital transfer of patients. This highlighted that a clinical summary should be prepared. A standardised proforma was developed but this lacked appropriate detail for obstetric transfer and could not be reproduced in the maternity setting.\textsuperscript{22}

In 2012 DHSSPSNI issued a strategy for Maternity Care in Northern Ireland for 2012-2018.\textsuperscript{23} It detailed the importance of good communication during transfers and engagement of Trusts with NIAS to develop clear protocols for requesting and performing transfers either between different units within the Trust, between trusts or from home.\textsuperscript{23} Clear policies for transfer of care between lead professionals or units are highlighted through learning from Serious Adverse Incidents (SAIs).\textsuperscript{23}

In 2008 BAPM issued a framework for practice which stated that management should involve consultant obstetric staff, senior midwifery staff at both referring and receiving units with final decision being made at consultant obstetric level.\textsuperscript{24} Communication between units is critical and there must be a clear, agreed delineation as to who is responsible for care at each stage of the transfer process.\textsuperscript{24} Maternal consent should be documented appropriately.\textsuperscript{24}
**Recommendations**

1. During the process of emergency *In-Utero* Transfer of a mother, the *In-Utero* Transfer proforma (page 14) should be used and placed at the front of the Northern Ireland Maternity Handheld Record.

2. A copy of the proforma should be retained at the referring hospital for audit purposes.

3. The need for *In-Utero* Transfer must be discussed with the mother and consent obtained and documented.

4. Once a neonatal cot has been identified, prior to arranging transport, the referring obstetric team must establish arrangements for transfer and acceptance with the receiving obstetric team.

5. The referring hospital remains responsible for the mother until handover at the receiving hospital. Ideally, all staff being asked to escort mothers should have undertaken training/familiarisation in an ambulance environment, either covered by their local base unit or regional/national courses, e.g. NAPSTaR.  

6. Appropriately trained staff should accompany the mother – this depends on the clinical situation and the urgency of the transfer. Equipment and medication required during the transfer must be individualized to each mother and is the responsibility of the referring unit.

7. Both the maternal and fetal condition should be monitored safely during transfer. At no point should staff be unrestrained in the back of a moving ambulance.

8. Maternal observations should be recorded using the Regional Obstetric Early Warning Score (OEWS) chart.

9. Observations should be recorded every 15 minutes or more frequently depending on the clinical situation.

10. On arrival at the receiving hospital, a formal handover should take place with the obstetric team – medical and midwifery.

11. Formal handover at receiving hospital should be documented in the transfer proforma. Only then, does the mother become the responsibility of the receiving hospital.

12. The referring trust must ensure that staff and equipment are enabled to return to their base unit after completion of the transfer process.

13. All maternity units should have a designated ‘Transfer Lead’ who would evaluate each transfer and assess ‘what went well, what could be improved’. 
14. A regional database of all In-Utero Transfers should be established.

15. The regional database information should be audited to improve consistency of the transfer process and promote patient safety during transfer. Given that there is no regional mechanism at present for this, audit should at present be carried out at Trust level.

16. GAIN should be involved in the development of regional audit methodology.
**Northern Ireland Maternal Transfer Proforma**

**STOP, THINK, IS THIS MOTHER AND BABY FIT FOR TRANSFER**

For use when transferring women from one obstetric unit to another, or to another hospital, ICU or outside Northern Ireland

This Proforma has been agreed and updated. Please note: This updated version should be used from 1 October 2019.

---

**Woman’s details (addressograph):**

Name: ___________________ DOB: ____________
H&C No. __________________ Hospital No. ________

**Woman’s Preferred Contact:**

Name: ________________________________
Relationship: _________________________
Contact Tele No: ______________________

---

**Indication for transfer:** (see MHHR & OEWS for further details)

---

**Gestation:** ___ + ___ weeks  EDC:__/__/___
**No. of fetuses:** 1, 2  Other: _______
**Chorionicity** (if multiple pregnancies) ___

**Lie & Presentation**

---

**Membranes ruptured?** (Delete as appropriate):

Yes/No
Date: ___ / ___ / ___  Time: ___ : ___
Liquor: _____________________________

---

**Obstetric, Medical & Surgical history:**

**Parity:** _____ + _____
**Previous modes of delivery (including year):**
_________________________________________
_________________________________________
_________________________________________
**Significant current obstetric history (including outcome of fetal anomaly scan):**
_________________________________________
_________________________________________
_________________________________________
**Significant past obstetric history:**
_________________________________________
_________________________________________
_________________________________________
**Past medical/surgical history:**
_________________________________________
_________________________________________
_________________________________________

---

**Referring Hospital:**

Hospital Name: _________________________
Referring Dr/Midwife _____________________

---

**Receiving Hospital:**

Name: _________________________________
Department/Ward: ______________________
Contact Tele No. of receiving unit: __________
Doctor/midwife accepting transfer: __________
Grade/Band: _______ Bleep/Contact No.: _______  Obstetric Consultant: ________________

---

**Woman’s Consent to Transfer:**

Informed Consent Received:  **Yes/No**
If **No**, please explain: _________________________
Risk of giving birth during transfer explained:  **Yes/No/NA**

---

**Allergy Status:**

Allergic to: ____________________________
Nature of reaction: ______________________
________________________________________
________________________________________
**Or**
If NO Known Allergies tick box □

---

**Infection Status:**

(Including GBS carriage in this pregnancy, HIV & Hep B & C)
________________________________________
________________________________________
________________________________________
**Or**
If NO Known Infection tick box □

---

Signature ___________________  Designation ________________  Date ___/___/___  Time: ___: ___
Maternal observations Prior to Transfer (continue to document on OEWS Chart)

Time: ___: ___ HR: ___ RR: ___
Temp: ___ BP ___/___ O₂ Sats: ___
OEWS: Total Yellow Score: ___ Total Red Score: ___

Fetal Heart Rate (FHR) Time: ___: ___
FHR on auscultation Prior to Transfer _______ bpm
If CTG performed: Time: ___: ___
Normal Suspicious Pathological*
*If CTG pathological and facilities for obstetric intervention are available consider delivery of baby prior to transfer

Ultrasound findings:

<table>
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<tr>
<th></th>
<th>Fetus 1</th>
<th>Fetus 2 (if applicable)</th>
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<tbody>
<tr>
<td>Presentation</td>
<td></td>
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<tr>
<td>Low lying placenta</td>
<td>Yes/No</td>
<td>Yes/No</td>
</tr>
<tr>
<td>EFW in grams/centile</td>
<td></td>
<td></td>
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<tr>
<td>IUGR</td>
<td></td>
<td></td>
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<tr>
<td>Liquor volume</td>
<td>Yes/No</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Umbilical Artery Doppler</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDF: Pi &gt;95th centile</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>PI value</td>
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Examination: Date: ___/___/___ Time: ___: ___

Uterine contractions - Yes/No (frequency/strength):

Speculum/VE not indicated □

VE findings:

Speculum findings:

Investigations:

Blood group: __________ Rhesus factor: __________

Bloods sent to lab Yes/No (attach results if available)

Urinalysis: __________

Test for Risk of Pre-term Labour

Fetal fibronectin (fFN) □ Partosure □

US cervical length □

Result: __________

Have neonatal medical staff counselled the woman/partner Yes/No/Not applicable

Maternity care during transfer (additional notes):

Treatment (See Medicine Kardex):

Indicate below medicines administered prior to transfer

Anti-hypertensives (dose and time):

____________________________ N/A □

MgSO4 (dose and time):

____________________________ N/A □

Tocolytics (dose and time):

____________________________ N/A □

Steroids (dose and time):

____________________________ N/A □

Analgesia (dose and time):

____________________________ N/A □

Antibiotics (dose and time):

____________________________ N/A □

Current medication please state

____________________________ N/A □

Discussed with consultant/midwife on call prior to transfer: Yes/No

Time decision made for transfer: ___: ___

Discussed with: __________

Time ambulance called: ___: ___

Time ambulance arrived: ___: ___

Time ambulance departed: ___: ___

Proposed Management Plan

Signature ___________________________ Designation ___________________________ Date ___/___/___ Time ___: ___
### Transfer Checklist

**Name of Doctor/Midwife Chaperone:**

**Name of Ambulance Staff:**

**Documentation / Equipment for Transfer:**
- Delivery pack □
- Maternity Hand Held Record □
- Regional OEWS Chart □
- Neonatal resus □
- IV access (If applicable) □
- Catheter (if applicable) □

**Transfer Time from Care Setting:** ___: ___

**Arrival Time at Transfer Location:** ___: ___

**Indication for Not Accepting Transfer:**
- No NICU cots □
- No maternal beds □
- Other □ please indicate reason: ________________

**Contact Number:** ______________________

**Time Contacted:** _____: _____

**Transfer Accepted:** Yes/No

**First Hospital Contacted:**
- Contact name: ____________________________
- Transfer accepted: Yes/No
- Indication for not accepting transfer:
  - No NICU cots □
  - No maternal beds □
  - Other □ please indicate reason: ________________

**Second Hospital Contacted (if applicable):**
- Contact name: ____________________________
- Transfer accepted: Yes/No
- Indication for not accepting transfer:
  - No NICU cots □
  - No maternal beds □
  - Other □ please indicate reason: ________________

**Third Hospital Contacted (if applicable):**
- Contact name: ____________________________
- Transfer accepted: Yes/No
- Indication for not accepting transfer:
  - No NICU cots □
  - No maternal beds □
  - Other □ please indicate reason: ________________

**Fourth Hospital Contacted (if applicable):**
- Contact name: ____________________________
- Transfer accepted: Yes/No
- Indication for not accepting transfer:
  - No NICU cots □
  - No maternal beds □
  - Other □ please indicate reason: ________________

**Fifth Hospital Contacted (if applicable):**
- Contact name: ____________________________
- Transfer accepted: Yes/No
- Indication for not accepting transfer:
  - No NICU cots □
  - No maternal beds □
  - Other □ please indicate reason: ________________

If maternal observations are taken during transfer use Regional OEWS Chart

For further details of care following transfer refer to Maternity Hand Held Record and the OEWS Chart

**Signature** ____________________________ **Designation** ____________________________ **Date** __/__/___ **Time** __: __

Details of Trust’s (Hospital) contacted to arrange transfer

**Transfer Accepted:** Yes/No
References

1. GAIN guideline. Management of pre-eclampsia and severe eclampsia. March 2012

2. Department of Health – Tool Kit for High Quality Neonatal Services (Nov 2009) Available from URL:


4. Supporting Safer Services: A summary of key themes and learning from Serious Adverse Incidents reported to DHSSPSNI between 1 April 2007 and 30 April 2010. DHSSPSNI. Sept 2011


20. DHSSPSNI. Delivering the future - report of the high risk pregnancy group/ DHSSPSNI; Belfast: 1996.


Appendices
Appendix 2

Snapshot audit of current practice proforma

**Patient notes**

Gestation: ______ Date of transfer: ___ / ___ / ___

No of Fetuses: ____ Transfer from: ______ To: _____

Indication for transfer: _______________________________________________

Documentation in patient notes re: transfer
(e.g. Number of units contacted? consultant in referring/receiving unit informed?
details of discussion with patient? time spent by doctor organising transfer? Grade of doctor organising transfer at referring unit/accepting transfer?)

_________________________________________________________________

_________________________________________________________________

_________________________________________________________________

**Transfer**

Current trust transfer proforma completed? Yes / No

Duration documented? How long? __________

Staff on transfer? ______________________

Observations recorded on transfer? Yes/No Details documented in notes during transfer?

_________________________________________________________________

_________________________________________________________________

Details documented in notes re: handover at receiving unit?

_________________________________________________________________

_________________________________________________________________
Appendix 3

Patient Questionnaire into current In-Utero transfer practices

Patient Questionnaire

We understand you have recently been transferred from one hospital to another and we would appreciate if you would mind completing the questions below in order to help us improve our service. Your answers will be strictly confidential. Many thanks.

What is your understanding as to why you were transferred to another hospital?
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Were you happy to be transferred or did you have any concerns?
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Were you happy with the staff’s explanation regarding the transfer?
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Did you feel your questions regarding the transfer were answered?
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Any further comments regarding the transfer?
____________________________________________________________________
Appendix 4

Snapshot Audit of current practice and local patients’ perspective

A total of 10 NI Maternity Handheld charts were reviewed at site within the SHSCT (Craigavon Area Hospital) in January - March 2015 to ascertain current practice regarding In-Utero transfer prior to the implementation of this guideline and proposed transfer proforma. A proforma was completed (Appendix 2) and results analysed. In addition, a short patient questionnaire was completed anonymously to obtain patient opinion on the current transfer process. (Appendix 3) results of the pilot survey and patient questionnaire are summarized below.

In-Utero transfer demographics and geographics

The average gestation at the time of In-Utero transfer was 32+3 weeks gestation (range: 30+2 – 35+1 weeks). Twenty percent of transfers involved a twin pregnancy. Transfers were from all trusts within Northern Ireland, excluding the Belfast Trust. Distance ranged from 21.1 – 68.1 miles. Eighty percent of transfers were from a hospital greater than 30 miles away from the receiving hospital.

Indication for In-Utero transfer

Indications for In-Utero transfer, as documented in the patients’ NI Maternity Charts, are listed in Table 1.

<table>
<thead>
<tr>
<th>Indication for transfer documented in Maternity Chart (n=10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possible Marginal abruption at 13+2 weeks gestation and Possible Urinary Tract Infection</td>
</tr>
<tr>
<td>Pre-eclampsia and no neonatal cots</td>
</tr>
<tr>
<td>Threatened preterm labour and positive fetal fibronectin test</td>
</tr>
<tr>
<td>Possible pre-eclampsia with 4+ protein, IUeR, no neonatal cots</td>
</tr>
<tr>
<td>Spontaneous rupture of membranes, 35 week gestation, DCDA twins, no neonatal cots</td>
</tr>
<tr>
<td>Two cases with PPROM, no neonatal cots</td>
</tr>
<tr>
<td>Antepartum haemorrhage, anterior placenta praevia, less than 34 weeks gestation</td>
</tr>
<tr>
<td>31 weeks gestation, compromise pregnancy, no neonatal cots</td>
</tr>
<tr>
<td>Threatened preterm labour, 31+5 weeks’ gestation, twins</td>
</tr>
</tbody>
</table>

Table 1: Indications for In-Utero transfer, as documented in the Patients’ Northern Ireland Maternity Charts.

Timing of In-Utero transfer

Fifty percent of transfers were outside of normal working hours with 30 per cent occurring after 11pm. Twenty percent of transfers documented the time spent by the doctor organising the transfer: this ranged from 30 minutes to 1 hour, 55 minutes. The decision to transfer the patient until the time transfer commenced ranged from 1 1/2 - 2 1/2 hours (unknown in 70 per cent of cases). Actual
transfer time ranged from 35 minutes – 1 hour, 40 minutes (average: 60 minutes) (unknown in 20 per cent of cases). The total time from decision to transfer until arrival at the receiving unit ranged from 2 hours to 13 hours 45 minutes.

Staff involved in In-Utero transfer

Medical staff making the referral for transfer ranged from senior house officer grade to consultant. Eighty percent involved a doctor of registrar grade of above. Forty percent of transfers required contacting two or more maternity units prior to the transfer being accepted with one case documenting that four units were contacted. Only 60 per cent of transfers documented the grade and/or name of the doctor at the receiving unit. The consultant obstetricians’ on-call at both the receiving and referring units were only aware of the transfer in 20 per cent of cases. In 60 per cent of cases, the referring unit’s consultant was aware that the transfer was taking place. In 80 per cent of cases a midwife accompanied the patient for the transfer. In one case both a midwife and a doctor were present. In the remaining transfer, the chaperone was unknown. NIAS staff were not named in any transfers cases.

Transfer documentation

In all cases a proforma was completed. Twenty percent recorded maternal observations during transfer with 60 per cent documenting observations before transfer. Fifty percent made some documentation in the notes during transfer – examples include:

“…4-5 pains during transfer”
“…MgSO4 running”
“…fetal hearts recorded”

Sixty percent documented a handover at the receiving unit, documenting

“…handover given”

No cases documented the names of the personnel involved in the handover. In 90 per cent of transfers there was no documentation in the maternity chart regarding any discussion with the patient regarding transfer.

Outcome of transfer

Fifty percent of patients were transferred straight to labour ward on arrival at the receiving unit. The length of admission was known in 90 per cent of transfers - this ranged from 0 days – 9 days (average 3.6 days). Thirty percent of patients remained undelivered and were discharged home. Forty percent delivered on the same day as the transfer. One patient was transferred on to another hospital on the same day she arrived at the receiving hospital. In 20 per cent, the outcome of transfer was unknown.
**Patients’ perspective**

Eight patients were asked to respond anonymously expressing their personal experience regarding *In-Utero* transfer. A 100 per cent response rate was obtained.

All patients understood the indication for transfer – all of them documenting that it was due to lack of neonatal cot availability in the referring unit with one patient commenting that this was due to

“*threatened labour with twins*”.

All patients commented that they were happy with the staff’s explanation regarding transfer.

All patients felt that all their questions regarding their transfer were answered. One patient commented that she:

“*didn’t have any questions to ask as everything was already explained*”.

All patients were happy to be transferred. One patient commented that she was

“*happy to be transferred here [Craigavon] rather than Glasgow because there were no beds/cots anywhere else in NI*”.

Main concerns regarding transfer were around the distance from home with one patient commenting that she was

“*concerned that her partner had to travel for 2 hours each way to visit after a working day and may miss the birth.*”
## Appendix 5

### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAPM</td>
<td>British Association of Perinatal Medicine</td>
</tr>
<tr>
<td>CREST</td>
<td>Clinical Resource Efficiency Support Team</td>
</tr>
<tr>
<td>DCDA twins</td>
<td>Dichorionic, diamnionitic twins</td>
</tr>
<tr>
<td>DHSSPSNI</td>
<td>Department of Health, Social Services &amp; Public Safety Northern Ireland</td>
</tr>
<tr>
<td>GAIN</td>
<td>Guidelines and Audit Implementation Network</td>
</tr>
<tr>
<td>GBS</td>
<td>Group B Streptococcal Infection</td>
</tr>
<tr>
<td>GDG</td>
<td>Guideline Development Group</td>
</tr>
<tr>
<td>HDU</td>
<td>High Dependency Unit</td>
</tr>
<tr>
<td>ICU</td>
<td>Intensive Care Unit</td>
</tr>
<tr>
<td>IUGR</td>
<td>Intrauterine growth restriction</td>
</tr>
<tr>
<td>NHS</td>
<td>National Health Service</td>
</tr>
<tr>
<td>NI</td>
<td>Northern Ireland</td>
</tr>
<tr>
<td>NIAS</td>
<td>Northern Ireland Ambulance Service</td>
</tr>
<tr>
<td>NICE</td>
<td>National Institute of Clinical Excellence</td>
</tr>
<tr>
<td>NICU</td>
<td>Neonatal Intensive Care Unit</td>
</tr>
<tr>
<td>NIMATS</td>
<td>Northern Ireland Maternity Information Service</td>
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<tr>
<td>OEWS</td>
<td>Obstetric Early Warning Score</td>
</tr>
<tr>
<td>PPROM</td>
<td>Preterm prelabour rupture of membranes</td>
</tr>
<tr>
<td>RCOG</td>
<td>Royal College of Obstetricians and Gynaecologists</td>
</tr>
<tr>
<td>RMH</td>
<td>Royal Maternity Hospital</td>
</tr>
<tr>
<td>SAI</td>
<td>Serious Adverse Incident</td>
</tr>
<tr>
<td>SCBU</td>
<td>Special Care Baby Unit</td>
</tr>
<tr>
<td>SHSCT</td>
<td>Southern Health and Social Care Trust</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom</td>
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</table>
Appendix 6

Membership of the Regional *In-Utero* transfer of high risk women within Northern Ireland (including potential transfer outside Northern Ireland via air ambulance) GDG.

<table>
<thead>
<tr>
<th>Name</th>
<th>Designation</th>
<th>Trust</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harmini Sidhu</td>
<td>Consultant Obstetrician</td>
<td>Southern HSC Trust</td>
</tr>
<tr>
<td>GDG Members</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gillian Blayney</td>
<td>ST3 Trainee, Obs &amp; Gynae</td>
<td>Southern HSC Trust</td>
</tr>
<tr>
<td>Dominic McAtamney</td>
<td>Consultant Anaesthetist</td>
<td>Belfast HSC Trust</td>
</tr>
<tr>
<td>Charles McAllister</td>
<td>Consultant Anaesthetist</td>
<td>Southern HSC Trust</td>
</tr>
<tr>
<td>Kate McDaid</td>
<td>Assistant Director of Healthcare</td>
<td>Western HSC Trust</td>
</tr>
<tr>
<td>Richard Tubman</td>
<td>Consultant Neonatologist</td>
<td>Belfast HSC Trust</td>
</tr>
<tr>
<td>Nicola Porter</td>
<td>Manager</td>
<td>GAIN</td>
</tr>
<tr>
<td>Siobhan Crilly</td>
<td>Regional Clinical Audit Facilitator</td>
<td>GAIN</td>
</tr>
<tr>
<td>Robert Mercer</td>
<td>Regional Clinical Audit Facilitator</td>
<td>GAIN</td>
</tr>
<tr>
<td>Peer Reviewer</td>
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<td></td>
</tr>
<tr>
<td>Kevin McKeating</td>
<td>Consultant Anaesthetist</td>
<td>National Maternity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hospital Dublin</td>
</tr>
</tbody>
</table>
Appendix 7

Key Steps In the Development of the Guideline

1. Establish a clearly defined remit.

2. The nominated Chair appoints a Guideline Development Group (GDG).

3. Each member of the GDG receives GAIN information on guideline development and quality appraisal of clinical guidelines.

4. The group sets the key questions.

5. Organisational and financial barriers to the application of recommendations of a guideline need to be discussed and addressed.

6. Members of the group then conduct systematic review searches, each member having responsibility for addressing a specific question.

7. The results of the searches are presented to the GDG and further searches may be commissioned.

8. Evidence tables are compiled for each of the key questions.

9. A draft guideline paper is submitted to GAIN based on the evidence search and evidence table check list.

10. This is circulated by GAIN to a large group of professionals with expertise in the area.

11. The results of the consultation process are forwarded to the GDG.

12. The GDG prepares a second draft of the guideline which may take account of the consultation process. The GDG also considers further key questions which may require additional searches.

13. The GDG present the second draft of the guideline to GAIN.

14. This is subject to a more limited consultation process of peer review.

15. The GDG then produces the final version of the guideline.

16. The guideline is launched at a regional meeting.

17. The GDG is reconvened by the Chairman after 2-3 years as part of the guideline review policy.