

2013

Hospital Tuanku Ampuan
Afzan

[GUIDELINES FOR LOW RISK BIRTH CENTRES]

Table of content	Page
1. Acknowledgement	2
2. Introduction	3
3. Current Maternity Services In Malaysia	3
4. Information on the current functioning Low Risk Birth Centre	4
5. Aim	4
6. Objectives	4
7. Financial Implications With Setting Up Of Centre	5
8. Organisation	5
i. Staffing And Personnel	5
ii. Staff Qualification	6
iii. Facility & Equipments	6
iv. Patient Transfer & Transport	6
9. Admission Criteria	7
10. Evidence Based Need	7
11. Hospitals to Establish Low Risk Birth Centre	8
12. Conclusion	8
13. KPI	9
14. Audits	9
15. Reference	10
Appendix 1: Statistic on Low Risk Birthing Centre and High Risk Labour Room	11-12
Appendix 2: Drug List	13
Appendix 3: Admission Checklist for Low Risk Birth Centre	14
Appendix 4: Intrapartum risk factors	15
Appendix 5 : Transfer checklist	16
Appendix 6: Discharge Check List	17-18
Appendix 7: Flow Chart for Management of Patient in Low Risk Birth Centre	19

LOW RISK BIRTH CENTRES FOR MALAYSIA

1. ACKNOWLEDGEMENT

Dato Sri Dr Hasan bin Abdul Rahman.
 Director General of Health, Ministry of Health Malaysia.
(Who initiated this guideline)

Advisors

Dr. Ravichandran Jeganathan
 Senior Consultant Obstetrician & Gynaecologist
 National Head of Obstetrics and Gynaecology services Malaysia
 Hospital Sultanah Aminah, Johor Bahru.
(For his support, timely advice and confidence in us)

Dato Ravindran Jegasothy
 Senior Consultant Obstetrician & Gynaecologist
 Hospital Kuala Lumpur.
(For his guidance and advice)

Team Members (In alphabetical order)

Leader

Dr. Sharmini Diana Parampalam
 Consultant Obstetrician & Gynaecologist,
 Hospital Seberang Jaya, Pulau Pinang.

Members

Dr. Carol Lim Kar Koong
 Consultant Obstetrician & Gynaecologist
 Hospital Wanita dan Kanak-kanak, Likas, Sabah.

Dr. Hamidah bt Omar
 Consultant Obstetrician & Gynaecologist
 Hospital Tengku Ampuan Rahimah, Klang Selangor

Dr. Mohd Azam bin Mohd Yusoff
 Consultant Obstetrician & Gynaecologist
 Hospital Tengku Ampuan Afzan Kuantan.

Dr. Saripah Samsiah bt S.Haron
 Consultant Obstetrician & Gynaecologist
 Hospital Sultanah Aminah, Johor Bahru.

Dr. Tan Chew Khang
 Consultant Obstetrician & Gynaecologist
 Hospital Seri Manjung, Perak.

2. INTRODUCTION

There are 138 hospitals in Malaysia providing maternity services and 44 hospitals with specialist O&G services. A total of 401,398 deliveries were reported in 2010. Most hospitals are able to cope with their number of delivery in terms of physical facilities and manpower. However, there are hospitals which are overcrowded and congested with this Obstetric workload. There is a concern regarding the care for high risk women in these crowded specialist facilities which is shared with the care for the low risk women.

Maternity care in Malaysia is predominantly hospital-based and consultant-led. Many countries have reported midwife-led birth centres for low risk women which are as safe as consultant led care. These midwife-led birth centres are associated with less intervention during labour and delivery ¹.

In hospitals with high work load, it would be useful to triage their women into high risk and low risk to enable appropriate level of care for both groups to either hospital or birth centres respectively. This could assist in reducing our maternal and perinatal mortality and morbidity in keeping with our commitment to achieve MDG 4 and 5. There is a need to relook into the currently operating low risk birth centres and establishing new low risk birth centres in states where there is a need.

3. CURRENT MATERNITY SERVICES IN MALAYSIA

According to the preliminary report of the National Obstetric Registry which collects obstetric data from 14 state hospitals across Peninsular Malaysia and East Malaysia, there are a total of 73,095 deliveries from July-December 2009. Of the total deliveries, 73 % were normal vaginal deliveries and the overall Caesarean section rate was 20.1%. 90.4% of the delivering women were between 20-40 years old and 59.2 % were gravida 2- 5². (NOR 2009)

Similarly, the National Healthcare Statistics Initiative Report 2010 reported a total of 401,398 deliveries in all public hospitals. 77.35% of these deliveries were vaginal deliveries. Instrumental delivery rate was 3.15%, the total Caesarean section rate was 18.86%. Eclampsia occurred in 1.05/1000 deliveries and postpartum haemorrhage occurred in 20.83 per 1000 deliveries³. (NHS REPORT 2010)

This data suggests that a substantial number of women delivering in public hospitals can be classified into the low risk women which can be managed in low risk birth centres with the convenient link to the hospital to address any possible complications.

4. INFORMATION ON THE CURRENT FUNCTIONING LOW RISK BIRTH CENTRE IN MOH

There are only three hospitals in Malaysia with functioning low risk birthing centre, namely Hospital Tengku Ampuan Afzan, Kuantan, Pahang, Hospital Tawau and Sultanah Aminah, Johor Bahru, Johor. The current data is based on the low risk birthing centre in Hospital Tengku Ampuan Afzan, Kuantan, Pahang which is located about 150 meter away from the main building. The patient admission centre is located within the low risk birthing centre. The

low risk birthing centre is equipped with 4 delivery beds, 5 antenatal beds and 9 postnatal beds. The centre is mainly managed by the midwifery staff and assisted by 2 house officers and one medical officer. There is a specialist in charge to ensure smooth running of the centre in the clinical and administrative aspects.

The data in our low risk birthing centre as compared to high risk labour room showed the following results (Refer Appendix 1). The successful spontaneous vaginal delivery in low risk centre was higher ranging from 96.1% to 98.6% (mean 97.12%) between 2009 and 2011 as compared to high risk labour room which ranged from 66.38% to 70.6% (mean 68.99%) for this similar period⁴.

As for instrumental delivery, the low risk birthing centre had lower rates as compared to high risk labour room, with 1.04% to 3.71% (mean 2.54%) versus 5.42% to 6.52% (mean 6.11%) respectively. Similarly, Caesarean section rate was remarkably lower in low risk birthing centre between 2009 – 2011, ranging from 1.28% to 2.41% (mean 1.69%) as compared to overall HTAA caesarean rate of 22.80% to 24.92% (mean 23.87%) for this 3-year period.

Low risk birthing centre also showed lower episiotomy rate, i.e. between 18.16% to 24.84% (mean 22.54%) while the rate in high risk labour room was 39.18% to 44.30% (mean 41.65%) for the same period.

Neonatal admission to SCN and NICU confirmed the similar pattern as low risk birthing centre showing figure of 4.57% - 7.97% (mean 6.35%) as compared to high risk labour room ranging from 23.23% to 24.71% (mean 23.86%).

In conclusion, comparison between low risk birthing centres and high risk labour room revealed that low risk birthing centre has lower rates for the following - Caesarean section, instrumental delivery, episiotomy as well as neonatal SCN/NICU admission. On the other hand, low risk birthing centre recorded higher spontaneous vaginal delivery rates.

5. AIM

To decongest the currently overcrowded obstetric facilities which are burdened with high load of deliveries and limited physical space without compromising patient care.

6. OBJECTIVES

1. To provide an alternative high quality care and safe delivery to low risk women.
2. To reactivate the currently available low risk birth centres, if there is a need.
3. To establish new low risk birth centres where there is such a need.
4. To ensure that resources in obstetrician-led hospital are focused to care for high risk women.
5. To empower midwives to practice in a safe environment that supports normal labour.
6. To enable mothers to experience a positive and satisfactory birth experience with minimal medical intervention
7. To reduce bed occupancy rate in the parent hospital and therefore reducing overcrowding.

8. To cater for training of doctors and nurses (from district hospitals and health clinics) in appropriate skills to facilitate normal birth.

7. FINANCIAL IMPLICATIONS ASSOCIATED WITH SETTING UP OF NEW LOW RISK BIRTH CENTRE.

There are three possible models for a low risk birth centres for MOH hospitals. Ideally the new birth centres should utilise existing premises with minimal cost incurred. The models include:

1. To establish a low risk birth centre within the same building as labour wards with two separate wings for low risk and high risk women.
 2. To build a low risk birth centre within the hospital compound, but not necessarily in the same labour room
 3. To place a low risk birth centre outside the hospital compound but with easy access to the parent hospital. For example, when there is a need for transfer of a patient, the patient should reach the parent hospital in no more than 15 minutes.
- Examples include rental of buildings, renovating underutilised government buildings.

The birth centres for models 2 and 3 should include wards besides the labour suites.

8. ORGANIZATION

The setting up of this low risk birth centre will be the responsibility of the hospital director of the parent hospital. This low risk birth centre is governed by the Obstetrics & Gynaecology department of the parent hospital and is responsible for its management and operation.

8.1 STAFFING & PERSONNEL

The care of this centre will be provided by qualified professional and clinical staff with access to consulting clinical specialist.

8.2 Staff qualification

The midwifery nursing staff in these centres must have the following certification:

- a. Obstetric Life Saving Skills Course
- b. Neonatal CPR (NRP) equivalent to American Academy of Paediatrics
- c. Adult CPR equivalent to America Heart Association Class C Life Support

The norm for midwifery staff to delivery bed ratio should be 1:1. Medical officers and specialist will be available for consultation.

8.3 Facility & Equipment

Properly maintained equipment for routine care of women and neonates should be available. The number of delivery beds will be decided by individual hospitals.

The requirement for **each delivery suite** would be as follows:-

- Delivery bed
- Bassinette
- Blood pressure equipment ,thermometers, daptone
- Stethoscope for adult and paediatric.
- Intravenous equipment
- Oxygen equipment for mother and newborn
- Suction equipments (mother and newborn)
- Entonox
- Delivery set
- Episiotomy set
- Portable lighting
- Essential obstetric drugs (*refer to appendix 1*)

General equipments

- Cardiotocograph machine. (1:4 delivery suites)
- An infant warmer (1:4 delivery suites)
- Infusion pump
- Syringe pump (in case of emergency situation)
- Fully equipped adult & infant resuscitation trolley
- Defibrillator
- Portable incubator for neonate.
- Forceps Ventouse
-
- Balloon tamponade equipments
- Ultrasound scan machine
- Postnatal beds as necessary

Others facilities:

- Telephone, computer and internet assess
- Facsimile machine
- Access for 24 hours ambulance service

Drugs (Refer Appendix 2)

8.4 Patient Transfer & Transport

A fully equipped ambulance with necessary facility and equipment for adult and neonate should be available. In the event that women/ neonate need to be transferred to the parent hospital for further care, transport must be available round the clock. Appropriate care should be continued during the transfer. The reasonable time for transfer should be 15 minutes from the low risk centre to the parent hospital.

There should be clearly written guideline on the criteria for transfer of patients to the parent hospital including the checklist for transfer (Appendix 3).

9. ADMISSION CRITERIA

Women suitable for delivery in Low Risk Birth Centres. (Refer Appendix 4)

- ❖ Singleton pregnancy
- ❖ Cephalic presentation
- ❖ Gravida 2 to gravida 5
- ❖ POA of >37 to <41week
- ❖ Spontaneous labour
- ❖ Uncomplicated pregnancy
- ❖ Estimated fetal weight of 2.5 – 3.5kg
- ❖ No problem of subfertility/ last child birth < 5 years
- ❖ No previous obstetric complications
- ❖ No medical problem
- ❖ Age between 18 to 40yrs
- ❖ BMI >18 and < 30
- ❖ Height >145 cm
- ❖ Haemoglobin >10 g%
- ❖ Normal admission CTG
- ❖ Clear liquor upon artificial rupture of membranes

10. EVIDENCE BASED NEED FOR LOW RISK BIRTH CENTRE.

The following evidence was obtained from a literature review on this subject. Increasing workload in obstetric units of major hospitals have led to overcrowding of wards and reduced patient satisfaction. In Malaysia, it is estimated that about 25 - 30% of these patients are of low risk category and therefore they will be eligible for delivery in a Low Risk Birthing Centre. Other than decongesting the over-stressed labour units of these hospitals, this move would offer better focused-care for the high risk mothers with the aim to achieve the Millennium Development Goals 4&5.

Taking the statistics from the largest maternity unit in Malaysia, Sabah Women's & Children's Hospital with more than 15,000 deliveries in 2011, about 3,750 to 4,500 deliveries could have been conducted in a low risk birth centre.

However, while we segregate the care of labouring mothers according to obstetric and medical risk categories, we must ensure that this move does not compromise patient safety, both maternal and neonatal health.

Globally, the evidence has been confined to publications from Australia, Europe and America. There was no publication from developing countries especially among Asian countries.

There was evidence to support birth centres are safe for low risk patients. The outcomes for both mothers and babies have been comparable between hospitals and birth centres^{5, 6,7,8,9}. Midwife-led care has been found to be as safe as consultant-led care in Republic of Ireland⁹. However, two papers have cited that birth centre may be less safe for infants of

primiparous mothers^{8, 9}, thus making it is important to have the correct selection of patients suitable for delivery at birth centre.

A 2012 publication of a systematic review (1990-2008) showed that Intervention rate (Caesarean Section, Instrumental Deliveries, Episiotomy, etc) and medicalisation of birth was less in birth centres. For measures that relate to process of care (e.g. epidural, labor induction, episiotomy), lower use was found in certified nurse midwife-led centres. For infant outcomes (e.g. low Apgar, low birth weight, neonatal intensive care unit admission) there was no difference between the care given by physicians and certified nurse-midwives. Perineal lacerations were lower and breast feeding was higher among women cared by certified nurse-midwives compared with physicians¹³. As such, this will not increase the need for more doctors to operate the birth centres. The need for medical equipments (CTG machines, ultrasound machines, etc) will not be as great as compared to hospital.

However, a randomised controlled trial in Norway published in 2011 showed no significant difference in the total operative deliveries in low risk women cared by midwives and a standard obstetric unit. The postpartum haemorrhage, sphincter injury and neonatal outcome, augmentation rate and the use of epidural analgesic were not significantly different¹⁴

Maternal satisfaction was also found to be better among the mothers who delivered in birth centres.⁷ Among the reasons cited was the fact that these mothers were encouraged to breastfeed their babies immediately after birth. This could reflect the overcrowding and over-stressed personnel in the hospitals, where one-to-one attention was inadequate to achieve this. Similarly, there was no cost difference between the two models⁶. The length of stay was also found to be shorter at birth centre⁹.

11. HOSPITALS TO ESTABLISH LOW RISK BIRTH CENTRES

Those hospitals with obstetric ward bed occupancy rates of more than 95 % per day should consider establishing low risk birth centres. Similarly, hospitals with huge obstetrics work load, e.g. those with deliveries more than 8 thousand deliveries per year may also be considered for low risk birth centres. The planning and establishment of this centre will be by the respective state head for O&G service and state and hospital director upon request by the Head of Department of the parent hospital.

This is a timely project. With the aid of this paper and models suggested the timeline to establish this centre is end of 2013.

12. CONCLUSION

There is good evidence to support the establishment of low risk birth centre within the Ministry of Health, Malaysia. This low risk birth centre can provide increased access to maternity care while conserving medical resources. A literature review revealed that birth centre are safe for the healthy low-risk women and have outcomes that are comparable to standard obstetric units. This has been supported by our own local data from Hospital Tengku Ampuan Afzan, Kuantan .This will indeed aid in our strive to achieve MDG4 and 5. Staff and patient satisfaction will be accomplished with less congested wards and labour suites.

13. KEY PERFORMANCE INDICATORS

KEY PERFORMANCE INDICATORS	STANDARD
1. Percentage of low risk deliveries conducted = $\frac{\text{Total number of low risk deliveries conducted in low risk centre}}{\text{Total number of low risk deliveries conducted in low risk centre and parent hospital}}$	>90%
2. Transfer of patients = $\frac{\text{Total number of women transferred to parent hospital}}{\text{Total number of women admitted to low risk centre}}$	< 20%
3. Initiation of lactation within one hour of birth $\frac{\text{Total number of newborns initiated breastfeeding within one hour of birth}}{\text{Total number of newborns delivered}}$	100%

14. AUDIT

1. Number of admissions and deliveries
2. Rate of compliance to checklist
3. Incidence of episiotomy
4. Post partum haemorrhage
5. Pre-eclampsia / Eclampsia
6. 3rd or 4th degree perineal tears
7. Maternal mortality
8. Number of admission to NICU.
10. Number of HIE babies and perinatal mortality
11. Time taken to transfer patients to parent hospital.
12. Outcome of mother and baby transferred.
 - i. Rate of operative deliveries (instrumental, caesarean deliveries)

15. REFERENCE

1. Cecily Begley, Declan Devane, et al. Comparison of midwife-led and consultant-led care of healthy women at low risk of childbirth complications in the Republic of Ireland: a randomised trial. *Pregnancy and Childbirth* 2011, 11:85
2. National Obstetric Registry. Preliminary report July –December 2009)
3. National Healthcare Initiative report 2010.
4. Laporan Tahunan Jabatan O&G Hospital Tengku Ampuan Afzan, Kuantan, Pahang 2009, 2010 dan 2011.
5. Elizabeth Feldman, Marsha Hunt. Outcomes and Procedures in low risk birth: A Comparison of Hospitals and Birth Centre Settings. *Birth* Vol 14, Issue 1, 1987
6. Homer C, Davis G, et al. Birth Center or Labour Ward? A Comparison of the clinical outcomes of low-risk women in a NSW hospital. *Aust J Adv Nurs* 2000 Sep-Nov; 18(1):8-12
7. Linder_Pelz S, Webster MA, Martins J, et al. Obstetric risks and outcomes: birth centre compared with conventional labour ward. *Community Health Stud* 1990; 14(1):39-46
8. Byrne JP, Crowther CA, Moss JR. A randomized controlled trial comparing birthing centre care with delivery suite care in Adelaide, Australia. *Aust N Z J Obstet Gynaecol* 2000 Aug; 40(3):268-74
9. Waldenstrom U, Nilsson CA, Winbladh B. The Stockholm Birth centre trial: Maternal and Infant Outcome. *BJOG* 1997 Apr; 104(4):410-8
10. Gottvall K, Grunewald C, Waldenstrom U. Safety of birth centre care: perinatal mortality over a 10-year period. *BJOG* 2004 Jan; 111(1):71-8
11. Biro MA, Waldenstrom U, Pannifex JH. Team midwifery care in a tertiary level obstetric service randomised controlled trial. *Birth* 2000 Sep; 27(3):168-73
12. Tracy SK, Dahlen H, Caplice S. Birth centres in Australia: a national population-based study of perinatal mortality associated with giving birth in a birth centre. *Birth* 2007 Sep; 34(3):194-201
13. Johantgen M, Fountain L, et al. Comparison of Labor and Delivery Care Provided by Certified Nurse-Midwives and Physicians: A Systematic Review, 1990-2008. *Women's Health Issues* 22-1(2012) e73-81.
14. Bernitz S, Rolland R et al. Is the operative delivery rate in low-risk women dependent on the level of birth care? A randomised controlled trial. *BJOG*. 2011 Oct; 118 (11): 1357 – 64

APPENDIX 1

Statistic comparing between Low Risk Birthing Centre and High Risk Labour Room,
Hospital Tengku Ampuan Afzan, Kuantan, Pahang

Table 1: Total Admission and Delivery

Year	2009	2010	2011
Total Admission (antenatal and intrapartum)	3323	2703	2598
Total Delivery in LRBC	2877	2125	2238
Total Hospital Delivery (including LRBC)	9528	9704	10088
% of delivery in LRBC	30.10	22.21	22.18

Table 2: Mode of delivery in LRBC versus High Risk Labour Room

Year	2009		2010		2011	
Mode of Delivery	LRBC	High Risk LR	LRBC	High Risk LR	LRBC	High Risk LR
SVD (%)	2780 (96.63)	4178 (66.38)	2096 (98.64)	4847 (70.00)	2151 (96.11)	5125 (70.60)
Ventouse (%)	57 (1.98)	274 (5.03)	14 (0.66)	393 (5.68)	81 (3.62)	375 (5.17)
Forceps (%)	26 (0.90)	61 (1.35)	8 (0.38)	58 (0.84)	2 (0.09)	18 (0.25)
Total instrumental delivery (%)	83 (2.88)	335 (6.38)	22 (1.04)	451 (6.52)	83 (3.71)	393 (5.42)
Vaginal Breech delivery (%)	14 (0.49)	39 (0.78)	7 (0.33)	17 (0.25)	4 (0.18)	20 (0.30)
LSCS* (%)	-	2194 (22.80)	-	2264 (24.92)	-	2275 (23.88)
Total Delivery	2877	6651	2125	7579	2238	7850

*Note: Numbers of patients transferred out from LRBC for Emergency LSCS are included in the total LSCS figures. Refer Table 3 for further details.

Table 3: Number of patient transferred from LRBC for caesarean section

Year	2009	2010	2011
Total number transferred for caesarean section	82	35	37
total admission to LRBC delivery suite	2959	2160	2275
%	2.41	1.28	1.40

Table 4: Number of patient transferred out from LRBC to high risk labour room

Year	2009	2010	2011
Total Number of transferred out patients	378	355	323
% of total admission	11.38	13.13	12.43

Table 5: Episiotomy rates in low risk birthing centre versus high risk labour room

Year	2009		2010		2011	
	LRBC	High Risk LR	LRBC	High Risk LR	LRBC	High Risk LR
Total episiotomy	709	1919	386	2352	556	2170
% episiotomy over vaginal delivery	24.64	41.47	18.16	44.30	24.84	39.18

Table 6: Neonatal Admission to SCN/NICU

Year	2009		2010		2011	
	LRBC	High Risk LR	LRBC	High Risk LR	LRBC	High Risk LR
Admission to SCN/ NICU	152	1545	176	1873	207	1855
% of total delivery	4.57	23.23	6.51	24.71	7.97	23.63

APPENDIX 2***Drug list***

- ☐ Oxytocin
- ☐ Syntometrine
- ☐ Hemabate
- ☐ Lignocaine
- ☐ Nifedipine
- ☐ Labetolol
- ☐ MgSO₄
- ☐ Hydrallazine
- ☐ Pethidine
- ☐ Phenargan
- ☐ Nubain
- ☐ Narcane
- ☐ Vitamin K
- ☐ Hepatitis B vaccine

APPENDIX 3

Admission checklist for low risk birth centre

Patient's Name :

I/C No :

	PATIENT CHARACTERISTICS	YES	*NO
	Antenatal		
1	Age between 18 - 40 years		
2	Gravida 2 – 5		
3	Gestation > 37 to < 41 weeks		
4	No previous obstetric complications (eg perinatal death, perinatal asphyxia, shoulder dystocia)		
5	No medical problems		
6	No problem of subfertility/ last child birth < 5 years		
7	Uneventful pregnancy		
8	Singleton pregnancy		
9	BMI > 18 and < 30 kg/m ²		
10	Haemoglobin > 10g%		
11	Height > 145cm		
	Presenting complaint		
12	Spontaneous labour		
13	No leaking more than 12 hours		
14	No fresh PV bleeding		
	Observation		
15	Normal maternal vital signs (BP, Temp, Pulse)		
16	Uterus corresponds to gestation		
17	Estimated fetal weight 2.5 - 3.5kg		
18	Cephalic presentation		
19	Clear liquor (no meconium stain)		
20	Normal admission CTG		

Note:

- Presence of any (✓) in 'NO' column will preclude admission to LRBC.
- High risk patients in impending delivery are to be delivered there (inform specialist)
- In emergency situation, high risk conditions need to be stabilised first prior to transfer

APPENDIX 4

Intrapartum risk factors

Patient's Name :

I/C No :

RISK FACTORS	Tick ✓ if there is a risk
First stage	
Fever (>38°C)	
Proteinuria (1+ or more)	
Blood pressure (>140/90 mmHg)	
Meconium stained liquor	
Fetal heart rate <110/minute or >160/minute	
Labour pain >8 hours for multigravida	
Cervical dilatation static for 4 hours	
Cord prolapse	
Antepartum hemorrhage	
<u>Irregular / incoordinate contractions >4hours</u>	
Second stage	
Second stage >1 hour for primigravida >30 minute for multigravida	
Per vaginal bleeding , shortness of breath, fetal heart rate >100/minute or cyanosis	
Fetal heart rate <110/minute or >160/minute	
Shoulder dystocia	
Third stage	
Retained placenta	
Retained membrane (POC)	
3 rd or 4 th degree tears	
PPH>500ml	
Uterine inversion	

*Adapted from Perinatal Care Manual 2010 (2nd Edition)

APPENDIX 5**REASONS FOR INTRAPARTUM TRANSFER TO PARENT HOSPITAL****Maternal**

1. Abnormal vital signs (eg hypertension, tachycardia, fever)
2. Cardiorespiratory distress /collapse
3. Prolonged labour
4. Aggressive/ restless mother
- 5.

Fetal

1. Abnormal fetal heart rate
2. Change in liquor colour

REASONS FOR POSTPARTUM TRANSFER TO PARENT HOSPITAL**Maternal**

1. PPH
2. Abnormal vital signs (eg hypertension, fever)
3. Cardiorespiratory distress /collapse

Fetal

- 1 As per neonatal indications

APPENDIX 6**Discharge Check List****Mother**

	Yes	No
Afebrile		
No Pallor		
Bp <140/90 mmHg		
Able to ambulate well		
Perineum intact/ episiotomy or tear well sutured		
No excessive per vaginal bleeding		
Uterus well contracted		
Able to pass urine well		
Able to breastfeed baby well		
Advice regarding contraception / family planning given		
Appointment to nearest clinic for post natal/ neonatal follow up given		

Baby

	Yes	No
Normal temperature		
Able to suckle well		
Physical examination normal		
No congenital abnormality detected		
No jaundice		
Baby has passed urine		
Baby has passed meconium		
No bleeding from stump of umbilical cord		
BCG Vaccination given		
Hepatitis B Vaccination given		
Vitamin K given		

APPENDIX 7

FLOW CHART FOR MANAGEMENT OF
PATIENT IN LOW RISK BIRTH CENTRE