

## Appendix 1.

1. Criteria for receiving care as a low-risk pregnant woman includes no evidence or history of:

- Insulin dependent diabetic
- Heart disease greater than Class I
- Renal disease
- Endocrine disorder, except for treatment of hypothyroidism
- Hematological disorders, except for treatment of antiphospholipid syndrome
- Anemia (hemoglobin < 9)
- Chronic or gestational hypertension, or preeclampsia
- Rh factor sensitization or isoimmunization
- Respiratory disease requiring routine use of prescriptive medications, except for use nonsteroidal medications
- Active herpes
- Prior uterine incision, including prior cesarean section
- <37 weeks or >42 weeks gestation
- Human immunodeficiency virus (HIV) positive
- Known congenital anomalies, except for lethal anomalies (individualized care conference)
- Placental abruption during this pregnancy
- Known or suspected alcohol or drug (except marijuana) use during this pregnancy; patients with a positive drug screen for marijuana may be screened upon admission with a Physician or Certified Nurse Midwife (CNM) order.
- Documented intrauterine growth restriction (IUGR) or fetal macrosomia
- Documented Placental abnormalities
- Multiple gestation
- Malpresentation
- Deep vein thrombophlebitis - Acute
- Cervical ripening, except for the use of foley bulb or Evening Primrose Oil
- Pitocin prior to admission
- Evidence of fetal compromise
- Rupture of membranes > 24 hours will be evaluated by the Care Provider on case by case basis

## PROVISIONS

1. The following intrapartum risk factors may necessitate transfer of the mother to Labor & Delivery (L&D):
  - Maternal request
  - Inadequate pain relief and / or the need for narcotics/controlled substances in the intrapartum phase.
  - Maternal fever, > 38 C, 100.4 F
  - Maternal hypertension – chronic or a hypertensive disorder of pregnancy
  - Seizure
  - Meconium

Lanier AL, Wiegand SL, Fennig K, Snow EK, Maxwell RA, McKenna D. Neonatal outcomes after delivery in water. Obstet Gynecol 2021;138.

The authors provided this information as a supplement to their article.

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- Abnormal fetal heart rate, need for electronic fetal monitoring (EFM)
  - Arrest of progress
  - Frank bleeding
  - Need for operative vaginal delivery
2. The following postpartum complications may necessitate transfer of the mother to L & D:
    - Postpartum hemorrhage
    - Retained placenta
    - Hypertension and/or Seizure Activity
    - Operative procedures
  3. A “Code Green” is called for the following emergencies:
    - Non-reassuring fetal heart tones (FHT’s)
    - Prolapse cord
    - Abruptio
    - Shoulder dystocia
    - Hemorrhage
    - Seizure
  4. The following risk factors may necessitate transfer of the infant to a nursery
    - Resuscitation needed; use of oxygen or positive pressure ventilation (PPV)
    - Apgar <7 at 5 minutes; poor color, or poor tone
    - Heart rate <100 or >160; heart murmur or audible arrhythmia
    - Transient tachypnea or respiratory rate <30 or >60
    - Respiratory distress – tachypnea, grunting, flaring, retracting, apneic episodes
    - Temperature instability; temperature <36.1 C-97 F or >37.5 C-99.5 F
    - SGA (<2500 gm) or LGA (>4000 gms)
    - Suspected infection
    - Positive Coombs, HCT <45 or >70, Blood Sugar <40
    - Congenital anomaly
    - Suspected genetic disorder
    - Jittery, lethargy, or seizure activity
    - Excessive circumcision bleeding
  5. The Resuscitation Team is called for any infant emergency.
  6. All non-emergent transfers are coordinated with the Clinical Nurse Manager (CNM).

### **Provisions for Conduct of Water Birth**

#### **DEFINITIONS**

FHR - Fetal Heart Rate

FHT – Fetal Heart Tones

OB – Obstetric

RN – Registered Nurse

#### **General**

1. Fill the tub with warm tap water.

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2. Water temperature should remain between 97° F and 100° F. Monitor water temperature hourly while the patient is in the tub. Water temperature is to be documented hourly.
3. Assist the patient in and out of the tub as necessary.
4. During hydrotherapy, palpate contractions and auscultate fetal heart rate.
5. Vital Signs are completed per OB Care Provider's orders.
6. If non-reassuring fetal status occurs, discontinue the use of hydrotherapy.
7. If baseline fetal heart rate (FHR) > 160 or < 110, or maternal temperature > 100.4° F develops during water immersion, assist the mother out of the tub to cool. If fetal tachycardia or elevated temperature persists despite these measures, the mother should not return to the tub. OB Care Provider notified and consider providing patient with oral fluids and / or intravenous fluids.
8. The support person, a member of the nursing staff, or OB Care Provider should be present at all times.
9. Staff wears extra-long exam gloves when care requires submersion of hands.
10. The Doppler is cleaned after each patient.
11. Masks with shields are used when risk of splashing occurs/exists.
12. Fecal matter is removed with the strainer and discarded in toilet.
13. If the tub contaminated with loose stool, the patient leaves the tub which needs to be drained and cleaned before using again

**Second stage labor and water birth (Standard preparation for vaginal delivery must also occur)**

1. Shoulder length gloves should be worn.
2. Fetal heart tones should be assessed after each push.
3. If necessary to facilitate delivery the mother should be assisted to hands and knees position or assisted out of the tub to complete delivery.
4. The baby will be directed to the surface immediately after delivery and may rest on mother's chest while oropharynx and nares are suctioned as necessary.
5. Leave baby covered by water or use pre-warmed blanket to maintain body temperature.
6. The cord should never be clamped and cut while baby is still under the water
7. Cord should be clamped immediately if bleeding noted into water (because of concern of cord avulsion).

**Third Stage:**

1. Oxytocin can be administered intramuscularly for active management of third stage while the patient is still in the tub.
2. The patient is assisted out of the tub prior to delivery of the placenta to assess bleeding.
3. When the mother is assisted out of the tub, the infant will be handed to the significant other to ensure safe transfer.

**Evaluation of the newborn after water birth**

1. Standard protocol for newborn care is followed.

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## Appendix 2. Land–Land Neonatal Intensive Care Unit Admissions

Diagnosis	LOS	Disposition	Category
HNF4A congenital hyperinsulinemia	19	Transferred, Home DOL #37	1
Rule out sepsis due to maternal chorioamnionitis	2	Home	2
Clinical signs of sepsis with maternal GBS colonization	3	Home	2
Rule out congenital herpes simplex viral infection	3	Home	2
Rule out sepsis due to maternal chorioamnionitis	3	Home	2
Hyperbilirubinemia	4	Home	1
Respiratory Depression at birth requiring MEV, Pneumothorax	4	Home	1
Rule out sepsis due to maternal chorioamnionitis	3	Home	2
Rule out seizures	4	Home	1
Seizures due to subdural and subarachnoid hemorrhages	8	Home	1
RDS requiring NC, rule out sepsis	7	Home	3
Hematemesis	4	Home	1

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Hyperbilirubinemia due to ABO incompatibility	6	Home	1
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Each row represents one unique individual admission. Categories: 1=other, 2=infectious

morbidity, 3=respiratory morbidity; 4=prematurity; LOS=neonatal length of stay;

RDS=respiratory distress syndrome; MEV=mechanical endotracheal ventilation; NC=nasal cannula; CPAP=continuous positive airway pressure

### Appendix 3. Water–Land Neonatal Intensive Care Unit Admissions

Diagnosis	LOS	Disposition	Category
Neonatal sepsis	8	Home	2
RDS requiring CPAP	4	Home	3
Umbilical cord prolapse	1	Expired	1
Neonatal sepsis, drug withdrawal	7	Home	2
Apnea with cyanosis	7	Home	3
Meconium aspiration syndrome	4	Home	3
Meconium aspiration syndrome	2	Home	3
Respiratory Depression requiring CPAP	3	Home	1
Neonatal sepsis, respiratory depression requiring CPAP	7	Home	2
Neonatal sepsis, congenital pneumonia	8	Home	2
Neonatal sepsis, congenital pneumonia	11	Home	2
RDS, pneumothorax	4	Home	3
Rule out sepsis, maternal GBS colonization	2	Home	2
Skull fracture	9	Home	1
Rule out sepsis, maternal chorioamnionitis	4	Home	2
Rule out sepsis	3	Home	2
Hirschsprung's disease	1	Transferred, Home DOL #8	1
Rule out sepsis, maternal chorioamnionitis	3	Home	2

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Hypoglycemia	3	Home	1
Rule out sepsis, maternal chorioamnionitis	4	Home	2
Congenital diaphragmatic eventration	2	Transferred, Home DOL#7	1
Pulmonary hypertension, clavicular fracture	7	Home	1
Rule out sepsis, maternal chorioamnionitis	4	Home	2
Rule out intestinal obstruction	6	Home	1
Hypoglycemia	5	Home	1
Neonatal sepsis	9	Home	2
Pulmonary hypertension, PFO	15	Home	1
Transient tachypnea of newborn	4	Home	3
Rule out sepsis, maternal chorioamnionitis	8	Home	2
Hypoglycemia, hyperbilirubinemia	4	Home	1

Each row represents one unique individual admission. Categories: 1=congenital or acquired conditions, 2=infectious morbidity, 3=respiratory morbidity; LOS=neonatal length of stay; RDS=respiratory distress syndrome; MEV=mechanical endotracheal ventilation; NC=nasal cannula; CPAP=continuous positive airway pressure

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#### Appendix 4. Water–Water Neonatal Intensive Care Unit Admissions

Diagnosis	LOS	Disposition	Category
Neonatal Sepsis	12	Home	2
Inadequate treatment for GBS	3	Home	2
Readmit DOL #4, rule out sepsis, hypothermia	3	Home	2
Hypoglycemia	5	Home	1
Rule out congenital heart disease	5	Home	1
TTN requiring NC	5	Home	3
Bronchiolitis found to have mosaic trisomy 18	6	Home	1
Hypoglycemia	5	Home	1
Inadequate treatment for GBS	4	Home	2
Inadequate treatment for GBS	3	Home	2
Congenital heart disease – prolonged QT interval	4	Home	1
Hypoglycemia	3	Home	1
Hypoglycemia	5	Home	1
Hirschsprung's Disease	3	Transfer	1

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TTN requiring NC, hypoglycemia	4	Home	3
RDS requiring MEV	12	Home	3
Pneumothorax	6	Home	1
TTN with no respiratory support	4	Home	3

Each row represents one unique individual admission. Categories: 1=other, 2=infectious morbidity, 3=respiratory morbidity; LOS=neonatal length of stay; RDS=respiratory distress syndrome; MEV=mechanical endotracheal ventilation; NC=nasal cannula; CPAP=continuous positive airway pressure