Designated Assessment and Resuscitation Team (DART)

Purpose:

To reduce morbidity and mortality of the neonates by introducing a DART model to provide highly skilled and focused care to at-risk newborns during delivery resuscitation, intra-hospital transport and postnatal evaluation of newborns in regional referral hospital.

Team:

- Pediatric/ Neonatal specialist nurse/Mid-level providers
- Midwives
- NICU RNs
- NICU physician specialist

Responsibilities:

- Newborn assessment and evaluation of newborn in Postnatal ward, Recovery Theatre and Transitional Unit
- Assist theatre midwife with neonatal Resuscitation of high-risk deliveries
- Transport of high-risk deliveries

Newborn assessment and evaluation

Training:

DART team will round with midwives during each shift reviewing newborns in Postnatal ward, Theatre recovery or Transitional Unit to identify newborns at risk and potential transfer to NICU or Baby Unit.
The team will be trained to review NEWS chart according to institutional guidelines.
Will review guidelines for admission to NICU or Baby Unit; Discharge guidelines; anticipatory discharge guidelines and follow up and per GHS policy.
Will support families and staff in providing high quality care

Monitoring and Evaluation:

- Weekly review of data and performance by the local team leader
- Monthly remote follow up with U.S. based team

Criteria for midwives to request evaluation by DART (by phone or in person):

- Birth weight below 2kg or above 4kg
- Babies born to HIV/TB mothers, Hep B positive and syphilis positive mothers.
- Any baby the midwife or obstetrician is concern about –
    - Mothers with bad obstetric history
    - Teenage mothers
    - Abnormal fetal scans
    - Maternal mortality
    - Born at home or born before arrival
- Maternal illicit drug use and alcohol
- Babies who required any help or resuscitation at birth
- Infant born to diabetic mothers.
- Hypoglycemia
- Babies born to mothers who are Rhesus negative, Blood group O and G6PD deficient mothers.
- Babies with congenital abnormalities.
- Risk of sepsis (PROM >/=18hours, maternal temperature (>/= 38), chorioamnionitis)
- Babies below 36weeks of gestational age or >/= 41weeks
- Babies with meconium-stained liquor
- Babies with spo2 less than 92% after 10minutes of life
- Babies with an APGAR score less than 7 at 5minutes
- **NICU or Baby Unit admission policy (as per hospital guidelines) will be automatically admitted without delay by DART evaluation**

Process:

- DART will evaluate all newborns during the rounds
- Review newborns and NEWS chart, will identify babies with danger signs
- Will assess babies requested by the midwifes with the guidelines above and will decide about potential escalation of care to NICU or stepdown
- If DART have concerns regarding baby, will speak directly to the neonatologist/ pediatric specialist or NICU team.

Neonatal Resuscitation

NRP and Transport Training:

Each shift will have a designated two midwives/RNs available at all deliveries that meet "high-risk" delivery criteria.

The team will be trained in two separate two-day trainings in accordance with the Neonatal Resuscitation Program 8th edition guidelines. The training will be conducted by a certified NRP instructor. After completion of the NRP 8th edition training, the team will be coached and mentored during delivery and transport.

Training will consist of:

- NRP training to include:
  - Skill and equipment training
  - Case simulations and video
  - Debriefing
  - Transport training
- Delivery and transport mentoring

Monitoring and Evaluation:

- Weekly review of data and performance by the local team leader
- Monthly remote follow up with U.S. based team
- Monthly Skill evaluation through observational assessments

Criteria for the DART delivery attendance:

DART attendance is expected at delivery for patients who meet the "high-risk" delivery criteria. The DART team should be alerted and contacted via designated phone when these patients are admitted to the Labor Ward or Theater, or during failed resuscitation by Midwifes.

High-risk delivery criteria (as per hospital policy):

- Stat C-section deliveries
- Severe Fetal Bradycardia
- Vaginal bleeding; abruptio placenta and placenta previa, suspected fetal hemorrhage
- Prolapsed cord
- Prematurity less than 32 weeks gestation
- <34 weeks gestation triplets
- <34 weeks gestation quadruplets
- Asphyxia
- Failed resuscitation requiring higher level of resuscitation
- Suspected or confirmed congenital anomalies (diaphragmatic hernia, omphalocele, gastroschisis etc.) or chromosomal anomalies
- Hydrops fetalis
- Suspected erythroblastosis fetalis (refer to MCA dopplers)

Escalation to Neonatal/ Pediatric Specialist:

- If an obstetrician has concerns regarding a potential delivery and wishes a specialist neonatologist to attend that birth the specialist obstetrician should speak directly to the neonatologist.
- Deliveries <28 weeks GA be discussed so the neonatologist/ pediatric specialist has the option of attending the delivery and should be discussed with the neonatologist in advance.
- Deliveries of infants with fetal hydrops or life-threatening congenital anomalies (e.g. diaphragmatic hernia or other conditions) requiring immediate decisions regarding resuscitation should be attended by a neonatologist.
- For any case in which the infant resuscitation was unexpectedly complex or where there is a poor response to resuscitation the attending neonatologist should be called.

Responsibilities of the DART:

- Attend all high-risk deliveries (as stated above)
- Be available to Labor Ward and Theatre midwifes in event of a high-risk or complicated delivery and resuscitation, or consult
- Assist with Transport of high-risk deliveries from the Labor Ward or Theatre to the NICU
- Monitor compliance of check list of all resuscitation equipment in resuscitation area by the midwife resuscitation team
- Meet with the Labor Ward and Theatre staff at the beginning of each shift to determine potential high-risk deliveries
- Communicate with NICU staff of potential high-risk deliveries
- Discuss any admissions to NICU or Baby Unit with Neonatal/ Pediatric Specialist
- Carry a designated phone solely used for DART communications
- Participate in NRP trainings MOC codes
- Liaise among the Obstetricians, Midwifes, and Neonatal/ Pediatric Specialist

Neonatal Transport Guidelines

Team:

The DART team will assist with transport of high-risk deliveries (as stated above).
Will monitor compliance of equipment preparedness by Midwife resuscitation team in the Labor Ward and the Theatre.

Purpose:

Neonatal transport with thermoregulation and respiratory support is the standard of care for newborns in both inter-hospital and intra-hospital transport. Maintaining temperature and providing respiratory support to those with respiratory compromise is critical to reducing morbidity and mortality in both preterm and term newborns.

General Guidelines:

- Babies less than 34 weeks or 1800 grams will be transported on a thermal mattress
- Assess and document heart rate, temperature and oxygen saturation prior to transport.
- Notify admitting MO and NICU Matron prior to high-risk delivery and prior to transport.
    - Inform if the admission will require respiratory support

Respiratory Support Guidelines in Delivery Setting and on Transport:

- When transporting on respiratory support, oxygen saturations must be documented prior to leaving delivery setting and monitored throughout transport
- Oxygen saturation is to be documented on admission to NICU

CPAP:

- Any infant in respiratory distress
- If infant is <34 weeks and/or <1800 grams
- Provide CPAP via T-piece resuscitator/ Neopuff
- T-piece resuscitator/ Neopuff settings:
    - PIP at 20 -25 cm H_20
        - Adjust PIP to maintain chest rise
    - Peep at 5 cm H_20
    - FiO_2 titrate based on pulse oximeter reading

Nasal Cannula:

- If mild respiratory distress requiring less than or equal to 2L oxygen to maintain O2 saturations >95%

Thermoregulation:

- All babies less than 34 weeks or 1800 grams will be transported on a thermal mattress
- All newborns < 34 weeks or < 1800 grams should be placed in polyethylene plastic bag or wrap at delivery and during transport
- Temperature must be documented prior to transport and on arrival to the NICU.

NICU handover:

- Notify NICU about transport prior to arrival with information of Gestational Age, Reason for transfer and the need for respiratory support
- There should be handover of maternal information, delivery resuscitation and reason for admission on admission. EMR information should be filled so maternal information and baby information is in NICU form.