Weight, length & Head Circumference measurements

**Optimal Outcomes**
Correct recording of weight, length and head circumference
Documentation is accurate
Evaluation of infant’s growth status at birth
Ongoing evaluation of infant’s growth
Early recognition of growth abnormalities and failure to thrive
Early recognition of disease eg hydrocephalus

**Suboptimal Outcomes**
The procedure causes the infant distress and / or discomfort
Not completed accurately or promptly.

**Hazards**
**Patient**
- Incorrect recording of information leading to unnecessary intervention or repeat of procedure
- Falling from scales / carer’s hands during procedure
- Accidental dislodgement of lines / tubes

**Infection CONTROL**
- Standard precautions must be maintained

**Relevant Personnel**
Registered nurse/midwife
Student Midwife (RN)
Enrolled nurse (permanent staff)
Student midwife (U/G) under the supervision of a registered nurse / midwife

**Documentation**
1. *At birth / on admission* - documentation of weight, length and head circumference should be recorded on cot card, neonatal weight chart (MR550); neonatal admission chart (MR25A), neonatal intensive care chart, Personal Health Record (*Blue Book*) and plotted on centile graphs.

2. *Daily / Weekly bare* weight, length and head circumference should be documented on the neonatal weight chart (MR550); neonatal intensive care chart and plotted on centile graphs.
3. On transfer or discharge the bare weight, length and head circumference should be recorded on neonatal weight chart (MR550); case history notes (MR 45), Personal Health Record (Blue Book), centile graphs and discharge letters (Powerchart)

*Report trends / repeat procedure when*

Weight gain is in excess of 35g/kg/day

Weight gain is less than 10g/kg/day

*And when*

Near term / term infants lose more than 10% of their birth weight within 4 days of birth

An infant has an increase in head circumference greater than 1.0 cm / week

An infant has no growth in head circumference or growth is < 0.25cm / week

1. **Second daily weigh - routine**

All stable infants - the procedure is routinely done with bathing

*This may include* infants < 30 weeks gestation when *stable* for at least 7 days – *discuss with staff specialist on round if uncertain*

2. **Weighing Infants in Oxygen**

Two nurses to assist *(one of whom must be a registered nurse / midwife)* - the infant must remain in oxygen during the procedure.

3. **Special Considerations**

The following infants are *not* routinely weighed as the information may not inform clinical management. *After a discussion with staff specialist* the procedure must always be performed by two registered nurses - a Neonatal Fellow / staff specialist must remain in the NICU area for the duration of the procedure.

- Infants in NICU in the first 7 days whose serum sodium is being monitored
- Extremely preterm unstable infants
- Ventilated infants
- Muscle relaxed infants
- Infants with intercostal drains
4. Daily Weigh -  
After discussion / evaluation at rounds
- Infants with renal or cardiac complications
- Infants with fluid retention / generalised oedema
- Infants with poor / flat weight gain
- Near term / term infants with > 10% loss in birth weight during 1st week

5. Procedure
- Determine need for procedure if infant is unstable or has multiple tubes / lines insitu
- Document reasons if infant not weighed as per guidelines
- Obtain assistance of 2nd registered nurse

Scales
There are two types of scales in the nursery – their features are listed below
1. **TANITA BD-590** (Wedderburn) – will “hold” all weights / 10g increments (use for infants less than 1000 grammes). Situated in SCN, NICU & outpatient clinics
2. **TANITA BLB -12** (Wedderburn) – will hold weights greater than 1000 grammes / 2g increments – ideal use for infants greater than 1000 grammes. Situated in high dependency.

- Ensure all lines / tubes are secure – obtain additional personnel if required
- Place warm scale cover in position and balance scales
- Undress baby and place him/her safely on scales
- Keep hand directly above baby while waiting for weight to stabilise
- Read scales in agreement with 2nd observer (one of whom must be a registered nurse / midwife)
- Remove baby from scales safely
- Check position and security of all tubes / lines
- Discard scale cover & clean scales with detergent
- Subtract weight of tubes / lines etc as appropriate (use chart of weights available in the NICU Resource Folder to ensure consistency in measurements)
- Report observations in terms of weight gain / loss
- Record observations – as above
3. *Dräger Isolette 8000*

- When nursed in a *Dräger Isolette 8000*, the infant may be weighed using the Accessory Scales within the incubator. Document the use of the *Dräger Isolette 8000* on the neonatal weight chart (MR550). See *Instructions for use* in the drawer of the isolette prior to attempting a weight. These scales are not for use for the admission of ventilated infants.

*For other infants*

- The infant must be weighed in the centre of the mattress
- The mattress must be positioned horizontal before *taring* the scales
- Remove any lose objects like toys, water bags etc
- Remove lose items such as nappy, yellow top jar (IGT)
- Ensure all lines / tubes are secure – obtain assistance from 2nd RN
- **Unlock** the keypad
- Press the **Display selection**
- At display 2 press the **Weight key**
- Press the **O/T key**
- The **Lift Baby** indicator is displayed
- Lift the infant of the mattress supporting ventilation circuit and IV lines off the mattress
- When the **Lift Baby** indicator stops and weight reads **zero**
- Place infant on the mattress and continue to support those lines etc you do not wish included in the final weight
- Read scales in agreement with 2nd observer (*one of whom must be a registered nurse / midwife*)
- Replace and check position and security of all tubes / lines
- To enter weight in the **Trend / Alarm window** press **Store key**
- Subtract weight of tubes / lines etc as appropriate (*use chart of weights available in the NICU Resource Folder to ensure consistency in measurements*)
- Report observations in terms of weight gain / loss
- Record observations – as above

If a baby does not tolerate the procedure it must be clearly documented on the neonatal weight chart (MR550) and case history notes (MR 45). The procedure may then need to be modified before attempted again.
6. **Length** *(stable infants)*
   - Done weekly either Saturday / Sunday with bath
   - Cover length board with paper towel
   - One nurse to hold head at top of length board while the 2\textsuperscript{nd} nurse extends the infants leg and takes crown – foot measurement
   - Document – *as above*

7. **Head Circumference**
   - Routinely done weekly either Saturday / Sunday with bath
   - Daily or 2\textsuperscript{nd} daily measurements may be ordered for infants with post haemorrhagic hydrocephalus or other problems
   - Circle tape measure around widest part of the head (maximal occipital - frontal diameter) – to be performed by a registered nurse / midwife who makes a minimum of 2 reproducible measurements
   - Document – *as above*