

Supplementary table 1: Neonatal nursing care tasks recommendations on which tasks should be done and their frequency over 24 hour periods

| Task Area | Task done by | Frequency (minimum daily requirement) | Comment |
|---|------------------------|--|---|
| Admission | | | |
| Admission nursing history, clinical evaluation and vital signs | Nurse | On admission | |
| Routine vital signs and monitoring | | | |
| Temperature (including incubator temperature) | Nurse | <i>Normal:</i> 4 times daily/6 hourly <i>Category C patients:</i> 2 times daily/12 hourly | KMC newborns: Vital signs monitoring and monitoring of general clinical condition |
| Pulse | Nurse | | |
| Respiration | Nurse | | |
| Checking and documenting oxygen saturation for babies not on oxygen (for babies on oxygen see section below). | Nurse | 4 times daily/6 hourly | Although it is recognized that the availability of pulse oximeters is limited at present, checking oxygen saturation in sick babies not on oxygen should be promoted. |
| Skin colour | Nurse | <i>Normal:</i> 4 times daily/6 hourly <i>Category C patients:</i> 2 times daily/12 hourly | Conduct together with vital signs monitoring |
| Jaundice | Nurse | | |
| Respiratory effort | Nurse | | |
| Abdominal distension | Nurse | | |
| Weight | Nurse/clinician | Alternate days | |
| Input/output - general | Nurse | 4 times daily/6 hourly | |
| Input - IV fluids | Nurse/clinician | Frequency depends on prescription. Infusion rate checked and documented 3 hourly. | Conduct together with vital signs |
| Input/output documentation (amount that has been infused) | Nurse | 3 hourly | |
| Regular patient checks/care | | | |
| Changing diapers/checking for stool and urine | Nurse/patient's family | As required | Done with vital signs and document passing stool and urine during diaper change |
| Cleaning/bathing/clothing | Patient's family | As required | |
| Changing bed linens | Nurse/patient's family | As required | |
| Incubator monitoring and settings | Nurse | During shift changes/per shift | |
| Wound care (checking/renewing dressings) | Nurse | As required | |
| Administering interventions/doing investigations | | | |
| Taking venous blood | Nurse/clinician | As required | Nurses can perform this task if they have the skills to do so and if the clinicians charged with the responsibility are unavailable. |
| Taking heel-prick blood | Nurse/clinician | As required | |
| Collecting urine / stool | Nurse/patient's family | As required | |
| Resuscitation with bag valve mask | Multidisciplinary | As required | |
| Drugs and vaccines | | | |
| Drug preparation | Nurse | As per drug schedule | |
| Dilutions (compatibility) | Nurse | | |

| | | | |
|---|---|---|---|
| Oral drug administration | Nurse | | |
| IV drug Administration | Nurse | | |
| Cannula patency check | Nurse | Before IV drug administration | Test if line is patent with water for injection. |
| Checking cannula sites | Nurse | During shift changes/twice a day | Visual inspection and palpation of the soft tissue for localized infection. |
| Giving Vitamin K | Nurse | At birth/as required | |
| Routine cord care - antiseptic application | Nurse/patient's family | Once daily | |
| Eye care - routine drops application | Nurse/ patient's family | Once daily | |
| OPV vaccination | Nurse | As required | |
| BCG vaccination | Nurse | As required | |
| Oxygen | | | |
| Checking tube position and nostril care/damage | Nurse | 8 times daily/3 hourly | |
| Initiating and regulating oxygen flow | Nurse | As required | |
| Documenting oxygen treatment | Nurse/clinician | As required | |
| Checking and documenting pulse oximetry | Nurse/clinician | 3 hourly/as required | For patients on oxygen |
| Monitoring/regulating pressure | Nurse/clinician | 3 hourly/as required | Regulating pressure is done by clinician |
| Checking nose/cleaning airway | Nurse | 3 hourly/as required | |
| Checking respiration | Nurse | 3 hourly/as required | |
| Checking and changing humidifier | Nurse | As required | |
| CPAP management | | | |
| CPAP machine setup | Nurse/clinician | As required | |
| Applying nasal prongs/fixing tubing | Nurse/clinician | As required | |
| Phototherapy | | | |
| Checking eyes for damage | Patient's family under supervision by nurse | 4 times daily/6 hourly | |
| Skin colour | Nurse/family | 4 times daily/6 hourly | Conduct together with vital signs |
| Checking exposure/baby positioning | Shared by clinical team | Continuous/6hourly/per shift | |
| Fixing eye pad | Patient's family under supervision by nurse | Continuous/6hourly | |
| Documenting phototherapy | Nurse/clinical team | Shift change/continuous | Done during admissions and as required |
| EBM and formula milk preparation | | | |
| Formula making | Nurse/ nutritionist/ mother | 8 times daily/3 hourly | |
| Storage and labelling of expressed breastmilk | Nurse/ nutritionist/ mother | 8 times daily/3 hourly | |
| Measuring volumes for individual patients | Nutritionist | Continuous | |
| Disinfection of cups | Nurse/patient attendant | 8 times daily/3 hourly (after every feed) | |
| Feeding | | | |
| Teaching/counselling on breastfeeding (attachment/suck) | Nurse/nutritionist | On admission and as required/daily | |
| Checking feed prescribed/type of feed | Nurse/mother under supervision | 3 hourly or as per feeding schedule | |
| Cup feeding | Nurse/mother under supervision | 8 times daily/3 hourly | |

| | | | |
|---|--|--|--|
| Nasogastric tube feeding/checking nostril | Nurse/mother under supervision | 8 times daily/3 hourly | Nostril should be checked by a nurse when administering drugs |
| Checking residual gastric volumes (nasogastric aspiration) | Nurse/mother under supervision | 8 times daily/3 hourly | |
| Charting feed volumes / times | Nurse/mother under supervision | 8 times daily/3 hourly | |
| Nasogastric tube insertion | Nurse | As required and replace after every 3 days | |
| Blood transfusion/ exchange transfusion | | | |
| Cross-checking blood for transfusion with co-worker | Nurse | As required | |
| Transfusion chart (patient observations/volume of blood) | Nurse | 1/4 hourly | |
| Pre-administration check of laboratory results/medical record | Clinician | As required | |
| Exchange transfusion progress | Nurse/clinical team | Continuous with clinical team during procedure | |
| Documentation | | | |
| Discharge and admission registration | Nurse | As required | Nurses would benefit from clerical assistants, but nurses are responsible. |
| Patient labels | Nurse | As required | |
| Notifications – Birth | Nurse | As required | |
| Notifications – Death | Clinician/HRIO | As required | |
| Treatment sheets review | Nurse/clinician | Once daily | |
| Incident book | Nurse | As required | |
| Updating mother/child health book (vaccines, weight etc.) | Nurse | As required | |
| Recording in drug books | Nurse | As required | |
| Billing | Multidisciplinary | As required | Services free in public hospitals, therefore no billing |
| Recording of Stocks – non-pharmaceuticals | Nurse | As required | |
| Managing medical records | Nurse/clinical team | Continuous/as required | |
| Counselling /support | | | |
| Parent - counselling, answering questions about clinical/nursing care | Nurse | Continuous/as required | |
| Support for KMC | Shared with clinician and patient's family | As required | |
| Supervision of mother during KMC | Nurse/clinician | As required | Experienced mothers could assist in helping the other mothers |
| Expressing breastmilk | Nurse/ nutritionist/ experienced mothers | As required | |
| Health education and progress | Nurse | As required | |
| Post-discharge care advice | Nurse | On discharge/as required | |
| Instructions for drugs/medication on discharge | Nurse/pharmacist | On discharge | Nurse reinforces medication instructions for post-discharge use during the discharge process |

| | | | |
|--|------------------------------|---|---|
| | | | after or before patient obtains medication from the pharmacy, depending on hospital policy. |
| Family planning | Nurse | As required | |
| HIV/STI prevention | Nurse/ counsellor/ clinician | As required | |
| Bereavement counselling | Nurse/clinician | As required | |
| Infection control and cleaning | | | |
| Cot cleaning | Support staff | Daily cleaning and thorough cleaning after discharge of a baby before another uses it and as required | |
| Cleaning incubator | Support staff | | |
| Hand washing | Multidisciplinary | As required | |
| Visitors education/practice (on gowns/shoes/hand hygiene) | Nurse | As required | |
| Miscellaneous | | | |
| Providing input to medical ward rounds | Nurse | During ward rounds | |
| Accompany to lab/X-ray/theatre for procedure or operation | Nurse | As required | |
| Accompany on outward referral to another facility | Nurse | As required | |
| Last offices (stopping interventions and preparing documentation). | Nurse | As required | Washing the body and anything else should be done by mortuary or support staff. |
| Pre-operative and post-operative care | Nurse | As required | |
| Assistance with portable chest X-ray | Nurse/radiology team | As required | |
| Preoperative and postoperative care | Nurse | As required | |
| Setting alarms (incubator) | Nurse | As required | Part of 6 hourly review and checks |
| Equipment checks | Nurse/biomedical team | As per schedule/as required | |
| Equipment handover | Nurse | Once per shift | |

Tasks listed as being done by nurses can also be done by students under supervision of a qualified nurse, who is responsible for confirming that the task has been done correctly and as per hospital policy. However, students are not to carry out any tasks for category A patients.

Abbreviations: IV: intravenous, KMC: kangaroo mother care, HRIO: health records and information officer.

Extracted from: Murphy GA V, Omondi GB, Gathara D, et al. Expectations for nursing care in newborn units in Kenya: moving from implicit to explicit standards. *BMJ Global Health* 2018;3:e000645. doi:10.1136/bmjgh-2017-000645