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NHS Borders Statement of intent to support practice

The administration of an intravenous (IV) flush is a routine task associated with the care of patients who have an intravenous access device (e.g. PVC, CVC, Hickman line, PICC line, Midline, or Portacath) in situ. These IV devices may be used for total parental feeding, IV fluids/blood products, chemotherapy or medicines via the intravenous route. Situations where IV flush solutions are administered include:

- On insertion of an intravenous access device to ensure patency.
- At specified intervals in patients with an intravenous access device to maintain patency.
- Before and / or after the administration of an IV medicine (via an intravenous access device)
- During administration of multiple IV medicines. (This is not an exhaustive list of situations)

The most common fluid administered as an IV flush is sodium chloride 0.9%. In some instances, glucose 5% may be used if it is more suitable for use due to compatibility with the IV medicine being administered. Both sodium chloride 0.9% and glucose 5% injections are classified as Prescription Only Medicines (POMs) due to their intended IV route of administration.

Legislation and NHS Borders policy stipulates that all POMs for administration to patients must be prescribed by an appropriate authorised practitioner and a record of their administration should be made and retained using authorised records. Area Drugs and Therapeutics Committee have reviewed this approach in relation to intravenous flushes; practice in other Health Boards (where this practice has been formally adopted without prescription) and relative risk to patients of not receiving an intravenous flush.

It is accepted practice within NHS Borders for IV flush solutions to be administered without a formal prescription or administration record being made as part of the routine care of patients who require IV fluids/IV medicine to be administered via an intravenous access device. This practice is endorsed and supported by NHS Borders for all inpatients.

1. IV Flush policy – core statements

- An IV flush of sodium chloride 0.9% will be administered to all patients on insertion of an intravenous access device and at routine time intervals thereafter to maintain patency. IV therapy administration requires the use of aseptic non touch technique and observation of standard precautions and product sterility.
 - Cleansing of relevant equipment such as PVC, CVC, Portacath hubs etc must be undertaken using the appropriate Chlorhexidine 2% with 70% alcohol wipe. Clean for a minimum of 15 seconds and allow to air dry. In the event of patient allergy to Chlorhexidine 2 %, use povidone iodine (10% in aqueous solution) as an alternative cleanser if compatible with equipment (see manufacturer’s guidelines).
 - An IV flush (2 to 30mls volume depending on method of administration) will be administered before and / or after the administration of an IV medicine and / or between the administration of multiple IV medicines via an intravenous access device as necessary. This will routinely be 0.9% sodium chloride but glucose 5% may be used if compatibility with the IV medicine being administered is assured.
 - Recommended flush volumes –
 - Peripheral cannulae Adults and children > 1 year 2.5 - 5mls
 - Central lines in adults - 30mls
 - A suitably sized syringe should be used for flush administration to prevent excess pressure being applied on the cannula or vein and / or to prevent fracture / rupture (e.g. a 5ml flush should always be given in a 10ml syringe using a push pause technique).
- IV Flush solutions for adult patients within NHS Borders acute areas do not require to be prescribed by an authorised practitioner nor the administration recorded.**
- IV Flush solutions for paediatric patients within NHS Borders acute areas do not require to be prescribed by an authorised practitioner, but a record of the volume administered should be recorded on the fluid balance chart or other appropriate documentation by the person administering the flush**

Non registered staff such as Health Care Support Workers, Operating Department Practitioners, Phlebotomists with appropriate experience, education and training may only administer a sodium chloride flush as part of the peripheral cannula insertion process in adults and children > 1 month of age. They must have received the appropriate training and have been assessed as competent to undertake this role. This process of not prescribing or recording the administration of flush solutions (except in paediatric patients) is an authorised *exemption* to the normal practice for all other POMs, as described on the NHS Borders code of practice for the control of medicines

2. Scope

This policy is applicable to all NHS Borders staff and relevant student nurses who work within adult and children's services and are authorised to administer IV flush solutions directly to patients. (Please see appendix 1) This will predominantly occur within the acute hospital environment but may occur in other situations too such as community Hospitals).

This policy does not apply in neonatal intensive care units and special care baby units.

3. Roles and Responsibilities

Any NHS Borders staff member administering an IV flush must be trained and competent to carry out this practice. Competence will be recorded on the Competency Assessment Recording System (CARS) hosted on Learnpro and updated every 2 years. Student nurses with appropriate education, experience, supervision and training during specific modules of training identified by each HEI can also undertake this practice whilst on placement within NHS Borders (Please see appendix 1)

4. Review of Policy

The policy will be reviewed every 2 years.

Appendix 1



Pre-registration Nursing and Midwifery: Partner Approved Education Institution (AEI) Clinical Skills Curricula



Edinburgh Napier University				
Year One/Part One		Year Two/Part Two		Year Three/Part Three
PLE 1 (Sep to April)		PLE 3 (Sep to Dec)		PLE 5 - Tri 1 (Sep-Dec)
<ul style="list-style-type: none"> PMVA, CPR-Basic Manual Handling Infection Prevention & Control BP Monitoring TPR & Urinalysis NEWS2 & PEWS Personal Care & Care Rounding Oral Medications IM/SC Medications & Injection Technique 	<ul style="list-style-type: none"> Risk Assessments End of Life Care Pain Assessment Professionalism BGM Sexual Health & Wellbeing Respiratory Assess 1 First Aid Safe Medicate Part 1 - Target pass rate 80% 	<ul style="list-style-type: none"> CPR & AED Catheterisation - Midwives Part 1 Intravenous Fluid Therapy Controlled Drug Administration - Midwives Part 1 Blood Transfusion - Midwives Part 1 Yellow Card Scheme Trak Training ABCDE & Priorities of Care 	<ul style="list-style-type: none"> Midwifery only Obstetric emergencies Diabetes Eclampsia Pre eclampsia BFI assessment (in Practice) 	<ul style="list-style-type: none"> CPR Simulation Anaphylaxis Blood and ABG Analysis ABCDE Complex Issues Ward Management Complex Medicine Management Assessment Tools Safe Medicate Part 3 Summative must 100% pass rate ECG Part 2 12 Lead Interpretation
PLE 2 (May to Aug)		PLE 4 (Jan-April)		PLE 5 - Tri 2 (Jan-May)
<ul style="list-style-type: none"> Child & Adult Protection Dementia Framework ABCDE Systematic Assessment NG Tube & PEG Pain Management Safe Medicate 1 Consolidation Year 1 	<ul style="list-style-type: none"> Respiratory Assessment 2 - Chest Auscultation & Suctioning Tracheostomy & Laryngectomy Asepsis & Wound ANTT Sensory overload - Autism, Dementia Virtual Reality Session Pre- and Post-Procedure/Op Care Stoma & Bowel Care ECG Part 1 12 Lead 	<ul style="list-style-type: none"> Nutritional Assessment and Fine Bore NG Confusion & Delirium Neurological Assessment Seizure Management First Aid Mental Health Suicide Awareness SEPSIS & Management Safe Medicate Part 2 90% pass rate Antimicrobial Medications 	<ul style="list-style-type: none"> PMVA Intravenous Medications including exam Infusion Devices Venepuncture & Cannulation Manual Handling 	<p>BN/BM/MM Year 1 = Part 1 Year 2 = Part 2 Year 3 = Part 3</p> <p>MN Part 1 = (PLE 1, 2, 3) Part 2 = (PLE 4, 5, 6)</p>

N.B Midwifery and Child Health skills may vary from table above please check with Local Academic Assessor for clear guidance.

University of Edinburgh - BN Programme				
	Part One/Year One	Part Two/Year Two	Part Three/Year Three	Part Three/Year Four
Semester 1	<ul style="list-style-type: none"> Handwashing & Infection control Communication Vital Signs Bed Making & clinical ward orientation Maternity CPR Stroke/mobility Anatomy lab *IPL (Vital signs, BLS & handwashing) Patient Care (1) 	<ul style="list-style-type: none"> Administering sub-cutaneous and IM injection MHS: SafeTalk Catheterisation ANTT MHS: de-escalation & management of aggression MHS: MI & brief solution approaches Mental health decider skills & Cognitive Behavioural Techniques *IPL - Communication CPR and Resuscitation Nasogastric intubation 	<ul style="list-style-type: none"> *IPL- tactical decision making games CPR and Resuscitation Placement Preparation 	<ul style="list-style-type: none"> Advanced communication skills- LD CPR and Resuscitation Venepuncture Cannulation *Hospital at Night IPL Drug calculations Placement Preparation
Semester 2	<ul style="list-style-type: none"> Vital Signs Revision Patient care (2) First Aid IV fluids & Fluid balance Anatomy lab Neurological observations Managing pain *IPL- Wellbeing Drug calculations - Competency Placement Preparation 	<ul style="list-style-type: none"> Neurological Observations ECG Breaking Bad News Sepsis Management Blood Transfusions Anatomy Lab *IPL PAL student Placement Preparation 	<ul style="list-style-type: none"> Advanced communication skills- Dementia Placement Preparation Acute Care Simulation 	<ul style="list-style-type: none"> *PAL –educator IPL Leadership workshop & Placement Preparation Teaching, supervising & assessing students 1 & 2 *Ward Round IPL
				<p>The asterisked * IPL sessions occur throughout the semester with the medical students and have NS staff inputs. All other sessions NS staff.</p>

N.B IV Therapies will commence in Part 3 Year 3 for UoE BN programme



University of Edinburgh – MN Programme

YEAR ONE		YEAR TWO	
Semester 1 (Part One)		Semester 1 (Part Three)	
<ul style="list-style-type: none"> Handwashing and infection control, communication Vital Signs, Pain Scoring and GCS Patient care IPL (Vital signs, BLS and handwashing) Tissue viability Maternity 	<ul style="list-style-type: none"> ECG Stroke/mobility Fluid balance Catheterisation Drug dispensing and calculations Mental health skills: SafeTalk 	<ul style="list-style-type: none"> IPL- tactical decision making games Venepuncture Cannulation Acute Care Simulation IV therapies Sepsis Management Blood Transfusion 	<ul style="list-style-type: none"> Anatomy Lab CPR and Resuscitation Nasogastric intubation Mental health skills: MI and brief solution approaches
Semester 2 (Part Two)		Semester 2 (Part Three)	
<ul style="list-style-type: none"> PAL - recipient Breaking bad news Administering subcutaneous and IM injections ANTT Anatomy lab CPR Managing pain 	<ul style="list-style-type: none"> IPL - Well being IPL - Communication Mental health skills: de-escalation and management of aggression First Aid 	<ul style="list-style-type: none"> PAL – Educator IPL Neurological Observations Hospital at Night IPL Teaching, supervising & assessing students 1 Advanced communication skills - LD Advanced communication skills - Dementia 	<ul style="list-style-type: none"> Leadership workshop Drug calculations – Competency Ward Round IPL Mental health decider skills and cognitive behavioural techniques



Queen Margaret University – MN Programme

Year One/Part One		Year Two/Part Two	
<ul style="list-style-type: none"> Vital Signs Recording (Manual and Digital) including AVPUC Waterlow scoring/Observing skin integrity Handwashing Basic Infection control Personal Hygiene – bed bath, oral hygiene ANTT Medicine Administration (Oral/Injections incl. S/C & IM) Urinalysis Basic Communication skills NEWS Chart documentation Basic Numeracy Basic First Aid BLS Manual Handling 	<ul style="list-style-type: none"> Prevention & Management of Violence & Aggression (Low level Breakaway) Bowel Assessment (Frequency, Bristol Stool Chart and Rectal Examination) (Excoriation management charts) Supporting patients to eat & drink including fluid balance management. Introduction to basic pharmacology (including use of BNF) Nutritional Assessment (Intro BMI/MUST scoring) Peak Flow Assessment theory only 	<ul style="list-style-type: none"> Bowel Assessment continued including the administration of suppositories and Enemas CPR Hospital Resuscitation (AEDs, algorithm's) Stoma Management Insertion of NG tubes Administration of Controlled Drugs Intro to Pain Assessment & Management (PCA's & Epidurals) Theory Blood Transfusion from BTS team Administration of IV fluid via gravity infusions ANTT recap Intro to Pre & Post op Care Blood Glucose Monitoring including training and barcode for Roche Monitor Administration of insulin (syringe & pens) 	<ul style="list-style-type: none"> Urinary Catheterisation (male & female) Theory of Suprapubic catheters Complex Communication – Breaking Bad News Intro to wound assessment/management/documentation with TVN. Including clips & suture removal. Theory of wound drains. Ongoing development of pharmacology (including use of BNF) Ongoing development of numeracy skills (including gravity/pump infusion calcs, volume into a syringe) Administration of oxygen via nasal cannula, venture mask and Hudson mask. Including administration of nebulisers Manual handling update
Year Three/Part Three		Year Four/Part Three	
<ul style="list-style-type: none"> ABCDE Assessment Airway Management ECG recording & basic interpretation Intro to cardiac monitoring (incl. Aline/CVP) Basic ABG interpretation Advanced Life Support including asynchronous breaths/compressions. Intro to primary/secondary assessment Seizure Management Chest drains – Theory ONLY 	<ul style="list-style-type: none"> Neuro Assessment including GCS and Pupillary assessment Venepuncture & Cannulation from Feb 2022 Respiratory assessment including Auscultation Advanced Wound assessment TVN Manual handling update Prevention & Management of Violence & Aggression (Low level Breakaway) update 	<ul style="list-style-type: none"> Venepuncture & Cannulation (2021 only) IV additive administration from Feb 2022 Abdominal Assessment Basic Heart sound assessment Manual handling update 	<ul style="list-style-type: none"> Advanced Life Support including asynchronous breaths/compressions Mental Health Assessment



Open University BSc Hons Adult/CYP/LD/MH

Part One (16 months- 3PLEs)		Part Two (16 months- 3PLEs)	
<ul style="list-style-type: none"> Vital Signs Recording Neurological observations Handwashing (SIPCEP Foundation level) Infection prevention and management Personal Care Hygiene, skin integrity and wound care Aseptic technique Communication skills Person centred/family centred care Assessment skills and care planning EWS and Chart documentation Sepsis Numeracy Acute and emergency care (BLS - mandatory training) 	<ul style="list-style-type: none"> Manual Handling (mandatory training) Prevention & Management of Violence & Aggression (Mandatory training) Bowel and Bladder Health (urinalysis, catheterisation) Mobility Nutrition and Hydration including assessment and fluid balance management. Medicines management Numeracy Blood Glucose Monitoring Developing professionalism Emergency management of seizures 	<ul style="list-style-type: none"> Safeguarding across life course Medicine optimisation and concordance Intro to pharmacology Numeracy (numeracy assessment) Administer medication vascular access devices and enteral equipment IV fluid administration and intro to IV drug administration Enteral feeding Numeracy Pain Assessment & Management Blood Transfusion (TURAS module) Patient safety Communication skills 	<ul style="list-style-type: none"> Mandatory training updates as necessary (Manual handling, BLS, PMVA) Epilepsy and management of seizures Respiratory assessment Pre and post op care Dementia Developing as a leader
Part Three (16 months- 3PLEs)		Notes	
<ul style="list-style-type: none"> Management of deteriorating patient Physical assessment ABCDE Assessment Venepuncture & Cannulation Medicine management including IV drug administration Pharmacology Central venous access devices Blood Transfusion (theory and TURAS module) ECG 	<ul style="list-style-type: none"> Numeracy (numeracy assessment 100%) Communication skills Safeguarding across lifecourse with emphasis on roles and responsibilities as registrant Mandatory training updates as necessary (Manual handling, BLS, PMVA) Mental Health assessment including prevention of suicide Leadership and management 	<p>OU students are employed in HCSW roles and as part of their employment complete mandatory training as outlined in National PAD. This is completed pre-programme and verified by employer at each Part of the programme.</p> <p>The OU uses clinicalskills.net and in Part 2 students undertake an Open learn free course - Everyday Maths</p> <p>OU students may have completed NHS board training and development in venepuncture and cannulation and may be able to continue practising these skills in the nursing programme as per local policy</p>	