Local Guideline and Procedure

John Hunter Children's Hospital
CHILDREN, YOUNG PEOPLE AND FAMILIES

NSW GOVERNMENT Health
Hunter New England Local Health District

Febrile Neutropenia

Sites where Local Guideline and Procedure applies	JHCH
This Local Guideline and Procedure applies to:	Paediatric Oncology units at JHCH
1. Adults	No
2. Children up to 16 years	Yes
3. Neonates – less than 29 days	No
Target audience	Medical and nursing staff providing care to the paediatric oncology and haematology patient.
Description	Care of the patient who is febrile and neutropenic

Go to Procedure

Keywords	Cancer, chemotherapy, Children, fever, neutropenia.
Document registration number	
Replaces existing document?	Yes
Registration number and dates of superseded documents	11.8 Febrile Neutropenia 2012

Related Legislation, Australian Standard, NSW Ministry of Health Policy Directive or Guideline, National Safety and Quality Health Service Standard (NSQHSS) and/or other, HNE Health Document, Professional Guideline, Code of Practice or Ethics:

- National Standards 3: 3.8.1 and 3.9.1
- NSW Health Policy Directive 2017_032 Clinical Procedure Safety
- NSW Ministry of Health Policy PD 2005_406 Consent to Medical Treatment
- NSW Health Policy Directive PD 2007_036 Infection Control Policy

Prerequisites (if required)	The clinician performing the procedure is responsible for ensuring they have the knowledge, skill, authority and ability (capacity) to do so either autonomously or with education, support and supervision.
Local Guideline and Procedure note	This document reflects what is currently regarded as safe and appropriate practice. The guideline section does not replace the need for the application of clinical judgment in respect to each individual patient but the procedure/s **require mandatory compliance**. If staff believe that the procedure/s should not apply in a particular clinical situation they must seek advice from their unit manager/delegate and document the variance in the patient's health record.
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Date authorised	13/12/2017
This document contains advice on therapeutics	No
Issue date	Decmeber 2017
Review date	December 2020

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PURPOSE AND RISKS

Early recognition of febrile neutropenia and intervention with broad spectrum antibiotics significantly reduces mortality rates in the patient with febrile neutropenia.

The risks are.

- Septic shock of a febrile neutropenic patient.

The risks are minimised by:

- The registrar being notified immediately when the oncology patient arrives on the ward and a full assessment carried out and the consultant notified.

- A full set of observations are to be attended on arrival and hourly observations for a minimum 4 hours after arrival and care as per the local CERS guidelines.

- Patient receiving broad spectrum intravenous antibiotics immediately, within 30 minutes or within 60 minutes as per patient clinical condition.

Risk Category*:* *Clinical Care & Patient Safety*

GLOSSARY

Acronym or Term	Definition
CVAD	Central Venous Access Device
CVL	Central Venous Line
IV	Intravenous
IVAB	Intravenous Antibiotics
IVT	Intravenous Therapy
PR	Per Rectum
PORT	Portocath
PODU	Paediatric Oncology Day Unit

GUIDELINE

This Guideline does not replace the need for the application of clinical judgment in respect to each individual patient.

OUTCOMES:

- The safety of the neutropenic patient is not compromised.
- After consultation with the on-call consultant, the patient receives broad spectrum Intravenous antibiotics, immediately, within 30 minutes or within 60 minutes as per patient clinical condition.
- Patient is isolated in a Hepa™ filtered positive pressure room or single room where available.
- Negative pressure room may be used for neutropenic patients who are potentially infective at the discretion of the treating oncologist.
- Respiratory like illnesses or airborne precautions to take priority for the negative pressure room.

SPECIAL REQUIREMENTS:

- If the patient is not currently an inpatient, the parent or carer should call ward J1 and be directed to present to the ward or Paediatric Oncology Day Unit.
- Paediatric oncology patient's DO NOT go via the Emergency Department unless transferred by ambulance.
- The registrar will be notified when the parent/carer contacts the ward to give them time to prepare for impending arrival.
- The registrar is notified immediately when the oncology patient arrives on the ward and a full assessment is to be carried out and the consultant notified.
- The patient should be administered a broad spectrum antibiotic within one hour of arrival to the ward.
- A full blood count, UEC, LFTs; and blood cultures **from each lumen** must be attended.
- If patient is clinically unstable a Venous Blood Gas and lactate should be taken.
- A full set of observations are to be attended on arrival.
- Hourly observations for a minimum 4 hours after arrival. In the event that a patient's vital signs do not fit within the Between the Flag guidelines care should be escalated as per the local CERS guidelines.
- A Rapid Response should be called on 7700 if urgent medical attention is required.
- If the patient remains febrile or spikes a temperature ≥38.0^{c} repeat blood cultures to be collected once every 24hours from all lumens/access devices.
- **Never** administer per-rectal (PR) medications, Ibuprofen, non-steroidal anti-inflammatory drugs (NSAIDs) or aspirin™.

It must be remembered that not all septic patients will be febrile. If the parents are concerned about the child then they should be clinically evaluated and discussed with the Oncologist on call. Antibiotics may be commenced even in those patients that are not febrile.

SIGNS OF COLD SHOCK: diminished pulses, prolonged capillary refill (>3seconds), hypotension
SIGNS OF WARM SHOCK: bounding pulses, flash (very rapid) capillary refill, wide pulse pressure (diastolic BP less than 50% of Systolic BP)

PROCEDURE

This procedure requires mandatory compliance.

This procedure does not replace the need for the application of clinical judgment in respect to each individual patient**.**

CLINICAL PROCEDURE SAFETY LEVEL

Every clinician involved in the procedure is responsible for ensuring the processes for clinical procedure safety are followed. The following level applies to this procedure (click on the link for more information):
Level 1 procedure

Staff Preparation

It is mandatory for staff to follow relevant: "Five moments of hand hygiene", infection control, moving safely/safe manual handling, documentation practices and to use HAIDET for patient/carer communication: **H**and hygiene **A**cknowledge, **I**ntroduce, **D**uration, **E**xplanation, **T**hank you or closing comment.

Equipment Requirements

- Alcohol based hand rub
- Personal Protective Equipment
- Dressing Trolley
- Large alcohol wipes or neutral detergent to clean trolley
- 10ml Luer Lock syringes x 3 (for each lumen)
- Pink and purple top blood culture bottles (for each lumen of the CVAD)
- 70% Isopropyl Alcohol swabs

If accessing a Port- a-cath gather all equipment and access Port as per local guideline

Patient Preparation

Upon arrival to the ward the patient should have a full set of observations.

- **DO NOT** wait for LMX/Topical Anaesthetic cream to take effect prior to accessing a portacath or obtaining peripheral access if required. **Access Immediately.**
- **DO NOT FLUSH CVAD** prior to aspirating blood, these bloods should be used for blood cultures. If line will not aspirate D/W MO prior to flushing as this may result in a "Septic Shower"
- Two blood culture bottles, aerobic and anaerobic (purple top & pink top) for EACH LUMEN to ensure all lumens of a Central line are cultured. Label bottles with the lumen sampled

It is mandatory to ensure that the patient/ carers has received appropriate information to provide informed consent and, that patient identification, correct procedure and correct site process is completed prior to any procedure.

Pre-procedure

STOP and confirm the following before commencing the procedure:

- Patient identification using three core patient identifiers (Name – family and given names, date of birth and Medical Record Number - MRN)
- Procedure verification – procedure + site/side/level.
- Allergy/adverse reaction check
- Anticipated critical events
- Verbal consent to be obtained, written consent is not mandatory

Procedure Steps

- Clean Dressing trolley with large alcohol wipe.
- Access CVL or Port according to local policy.
- Attach 10ml Luer lock syringe
- Withdraw 10mls of blood – to be used for blood cultures
- Clamp line and remove 10ml syringe
- Attach 10ml Luer lock syringe and collect enough blood for FBC UEC's
- Clamp the line
- Attach 10ml syringe of normal saline, unclamp the line and flush using a positive pulsatile method.
- Clamp the line
- Repeat for each lumen
- Attach Labelled IV giving set
- Unclamp the line and commence IVT at rate ordered.
- Commence IVABs

Post procedure

- Document procedure in patient's health care record
- Provide advice for clinical handover to staff caring for patient

- Label specimen/images correctly
- Arrange post procedure tests where clinically relevant

IMPLEMENTATION, MONITORING COMPLIANCE AND AUDIT

This Guideline and procedure will be posted on the policy and procedures guidelines on the HNE Policy, Procedure and Guideline Directory and HNE Kids Health website.

Incident investigations associated with this Guideline and Procedure will include a review of process.

REFERENCES

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FEEDBACK

Any feedback on this document should be sent to the Contact Officer listed on the front page.

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