ONCOLOGY PATIENT - FEVER - LOW RISK MANAGEMENT

PRACTICE GUIDELINE ©

DOCUMENT SUMMARY/KEY POINTS

Disclaimer

- Oncology Patient – Fever – Low Risk Management is intended to be a network document. At times within the documents there will be separate work flows to support SCH or CHW. HITH is a network service, therefore staff across SCH & CHW will utilise this guideline.

Summary

- In consultation with the oncology team, children admitted to the SCHN Network who require treatment for febrile neutropenia, fit the low risk febrile neutropenia stratification and fit the Hospital in the Home (HITH) admission criteria may be effectively treated at home with the use of continuous intravenous antibiotic infusors or oral antibiotics.
- Oncology team to direct patient management as the primary medical team. Infectious Diseases team must be contacted prior to the patient being referred to HITH for Infectious disease (ID) approval as per antimicrobial stewardship policy.
- The following Practice Guideline identifies febrile neutropenia patients appropriate for low risk management

Related Documents

- Oncology/Blood Transplant and Cellular Therapy – Fever or Suspected Sepsis – Initial Management: http://webapps.schn.health.nsw.gov.au/epolicy/policy/5585
- Central Venous Access Devices (CVAD): Practice Guidelines SCHN: http://webapps.schn.health.nsw.gov.au/epolicy/policy/5119
- Continuous Intravenous Antibiotic Infusions - Hospital In The Home [HITH]: http://webapps.schn.health.nsw.gov.au/epolicy/policy/4767
- Admission to Hospital in the home (HITH): http://webapps.schn.health.nsw.gov.au/epolicy/policy/5349

Approved by:	SCHN Policy, Procedure and Guideline Committee	
Date Effective:	1st June 2022	**Review Period**: 3 years
Team Leader:	Innovation Manager	**Area/Dept**: Kids Cancer Centre SCH

CHANGE SUMMARY

- New SCHN Guideline
- **16/12/22:** Minor review to include a CHW specific dose range p7, Table 4.

READ ACKNOWLEDGEMENT

The following staff are to read and acknowledge the document

- All SCH Kids Cancer Centre (KCC) Clinical Staff
- All CHW Cancer Centre for Children Clinical Staff
- All HITH Clinical Staff
- All Infectious Diseases (ID) and Antimicrobial Stewardship Clinical Staff
- All Oncology Pharmacy SCH/CHW Staff
- All ED Clinical Staff

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1 Background

In children with cancer who have fever and neutropenia (FN), an infection or serious medical complication is documented in less than half of all episodes. The risk of infection or complication may be assessed using the 'AUS-rule' that has been validated in an Australian paediatric FN study. Children with low-risk FN may be managed safely at home with oral or intravenous antibiotics. This has been shown to improve quality of life and reduce healthcare expenditure.

This guideline outlines risk stratification, use of the clinical decision rule, HITH eligibility and pharmacy procedures for management of low risk febrile neutropenia oncology patients at SCHN.

2 Risk Stratification

There are two components to risk stratification, suitability for risk stratification and the AUS-rule clinical decision rule. Following risk stratification the clinician should also review the patient's eligibility for early transfer to hospital in the home (HITH) (Section 3).

The following criteria below need to be fulfilled to be suitable for assessment with the 'AUS-rule'. The suitability for risk stratification must be documented in the electronic medical record (eMR). All patients presenting with fever in an oncology setting should have their risk stratification recorded in the eMR.

Table 1: Suitability for risk stratification

Criteria	Eligible	Not eligible
Neutropenia ANC of < 1.0 X 10^9/L	☐ Yes	☐ No
Fever of ≥ 38.0°C	☐ Yes	☐ No
Cancer or haematological malignancy	☐ Yes	☐ No
All criteria needs to be fulfilled to continue with risk stratification		

Febrile neutropenia clinical decision rules should not be used for patients with non-neutropenic fever. This tool is not yet validated in non-neutropenic fever.

2.1 AUS-rule clinical decision rule

All children with cancer or haematological malignancy admitted to hospital with fever (≥ 38.0°C) and neutropenia (ANC <1.0x10^9 cells/L) should be risk stratified using the AUS-rule (Table 2). The clinical decision rule should be completed regardless if the patient is a candidate for home management. The risk score must be documented in the eMR.

AUS-rule score is based on the full blood count blood results at the time of the initial onset of fever. The AUS-rule predicts microbiologically or clinically defined bacterial infections. The AUS-rule score can assist clinicians in determining when the patient can be safely transferred to home-based FN care.

Table 2: AUS-rule variables and score

Criteria	Yes	No
Preceding chemotherapy more intensive than ALL maintenance	☐ 1	☐ 0
Total white cell count < 0.3 x10^9/L	☐ 1	☐ 0
Platelet <50 x10^9/L	☐ 1	☐ 0
TOTAL SCORE		
Score 0 = This patient is very-low risk for a bacterial infection. If they are clinically stable and fulfil the HITH criteria then transfer to the 'Low-risk FN program' after a minimum of 4 hrs of observation.		
Score 1 = This patient is low risk for a bacterial infection. If they are clinically stable and fulfil the HITH criteria then transfer to the 'Low-risk FN program' within 24 hrs.		
Score 2 = This patient is moderate risk for a bacterial infection. If they are clinically stable and fulfil the HITH criteria then consider transfer to the low-risk FN program after a minimum of 24 hrs inpatient observation.		
Score 3 = This patient is higher risk for a bacterial infection. If they are clinically stable and fulfil the HITH criteria then consider transfer to the low-risk FN program after a minimum of 36-48 hrs inpatient observation.		

Chemotherapy Intensity: ALL maintenance is defined here as 6-mercaptopurine and oral methotrexate weekly. A clinical decision regarding intensity should be made by the oncology team. Intensity of molecular targeted therapies, immunotherapy and radiotherapy is to be determined on an individual case basis.

White cell count: Impact of recent colony stimulating factors (CSF) is unknown. Scorings should be based of full blood count at time of presentation of fever. Patients may be underscored if CSF recently administered. Clinical decision to proceed with home management as per AUS-Rule score.

Platelets: Impact of recent platelet transfusion is unknown. Scoring should be based on full blood count at time of presentation of fever. Patients may be underscored if recent platelet transfusion. Clinical decision to proceed with home management as per AUS-Rule score.

3 Eligibility for early transfer to Hospital-In-The-Home (HITH)

Depending on the AUS-rule score, patients with FN may be suitable for transfer to HITH within 4 to 24 hours (For scores 0,1 & 2) of admission (Table 3). Actual transfer times are dependent on clinical status and availability of HITH and pharmacy resources.

The eligibility assessment must be documented in the Oncology Low Risk Fever Management eMR.

The patient will require outpatient monitoring and antibiotics (Table 4), via HITH, until resolution of fever and evidence of marrow recovery (see 5.2).

Table 3: Eligibility criteria for early transfer to HITH is to be completed by the Oncology team in the Low Risk Fever Management form_ Risk Stratification for and Eligibility for HITH Hospital in the Home eMR (must be YES to all to proceed to HITH):

Criteria	Eligible	Not eligible
Disease status. Leukaemia/lymphoma in remission (as per last BMA) or solid tumour stable/responding (as per oncologist)	☐ Yes	☐ No
Disease group. Not any of: ALL induction, infant ALL, AML, post HSCT or CAR-T, congenital immunodeficiency, aplastic anaemia	☐ Yes	☐ No
Expected duration of neutropenia < 7 days	☐ Yes	☐ No
No confirmed focus of infection requiring inpatient care*	☐ Yes	☐ No
No medical complication requiring inpatient care**	☐ Yes	☐ No
No severe sepsis at FN presentation***	☐ Yes	☐ No
No active infection with multi-drug resistant bacteria (ie, MRSA, VRE, MDRGN)****	☐ Yes	☐ No
Availability of a 24 hour caregiver	☐ Yes	☐ No
Good education of patient and carer on reportable symptoms	☐ Yes	☐ No
Availability of a telephone (with credit)	☐ Yes	☐ No
Availability of 24 hour phone advice/emergency department review from treating hospital	☐ Yes	☐ No
Within 1-hour of an emergency department or treating hospital	☐ Yes	☐ No
Treating team confirm suitable for home management	☐ Yes	☐ No
No previous history of non-compliance with medical care	☐ Yes	☐ No

*including, *but not limited to*, CVAD site infection, cellulitis, perianal cellulitis or pain, pneumonia, colitis.
**including, *but not limited to*, pain requiring intravenous analgesia, poor oral intake or excessive loss requiring intravenous hydration; respiratory distress or oxygen requirement; pulmonary infiltrates on CXR.
***severe sepsis includes any of (i) altered conscious state, (ii) inotrope requirement, (iii) fluid bolus requirement >40ml/kg or (iv) respiratory report requirement.
****existing colonisation with MRO are still HITH eligible. Discuss during referral process.
Note: *COVID positive or recent infection will be discussed in referral process*

In addition to the above criteria, the following must be addressed prior to transfer to the program. Availability of HITH services must not be guaranteed until a home risk assessment has been performed by HITH staff.

Assessment of parental or carer suitability for home dosing should be confirmed prior to discharge by pharmacy and or nursing staff and documented in the eMR.

For patients going home on IV therapy availability of home treatment must not be guaranteed until supply of infusors has been confirmed.

For patients going home on oral therapy availability of home treatment must not be guaranteed until hospital supply of oral antibiotics is confirmed and first dose administered and tolerated as an inpatient.

4 Antibiotic Treatment

IV and oral antibiotic options are available. The choice of type and route is based on is based on risk stratification and primary oncologist decision. Patients with previous or existing multi resistant organism (MRO) should be discussed with primary oncologist and ID.

For IV Monotherapy (use of a single antibiotic) an antipseudomonal beta-lactam is recommended. Alternate options are available for patients requiring modification due to allergy. Where possible consider oral treatment.

4.1 Intravenous and Oral Antibiotic Option

Table 4: Intravenous and oral antibiotic options

	IV Option	Oral Option
No beta-lactam allergy	**Pipercillin-tazobactam** SCH: 400mg/kg/day (pipercillin component) CHW: 300-400 mg/kg/day (piperacillin component) Maximum 16,000mg (16g) of Pipercillin every 24 hours Intravenous continuous infusion	**Amoxicillin-clavulanate** 22.5mg/kg/dose (amoxicillin component) Max 875mg amoxicillin per dose Oral every 12 hours PLUS **Ciprofloxacin** 10mg/kg/dose Max 500mg per dose Oral every 12 hours
Non-life threatening beta-lactam allergy (rash)	**Cefepime** 150mg/kg/day Maximum 6,000mg (6g) every 24 hours Intravenous continuous infusion Note this infusor has reduced stability and should be discussed with pharmacy. Consider Oral if possible.	**Clindamycin** 10mg/kg/dose Maximum 450mg per dose Oral every 8 hours PLUS **Ciprofloxacin** 10mg/kg/dose Max 500mg Oral every 12 hours
Life-threatening beta-lactam allergy (anaphylaxis)	If requiring IV antibiotics manage as inpatient	**Clindamycin** 10mg/kg/dose Maximum 450mg per dose Oral every 8 hours PLUS **Ciprofloxacin** 10mg/kg/dose Max 500mg Oral every 12 hours

All antibiotic doses are based on the dosing weight documented on eMR.

4.2 IV Therapy

IV Infusor Availability

HITH is a network service and the existing practice guideline to support home management of continuous infusions should be followed.

- Continuous Intravenous Antibiotic Infusions - Hospital In The Home [HITH]

To obtain IV infusors follow HITH and pharmacy process for each site.

Complete or request ID approval (Guidance MS or AB4KIDS) approval if not already completed for expected planned duration of home treatment.

SCH: Infusors are not made on site and there is no capacity for same day delivery. Pharmacy must be notified by 12 midday to arrange infusors for the following day. Onsite preparation of the first 1-2 days using prefilled infusors may be considered. Infusors made onsite must be prepared daily on the day of planned administration and not in advance. See Appendix II for compounding of elastomeric infusors.

Oncology team to review patients on morning rounds to identify potential patients and refer to HITH where appropriate.

CHW: For the patients who are eligible, a prescription must be submitted to pharmacy before 10 am. Pharmacy will make up the first infusor pack for the patient for Day 0 discharge and will be sent to the ward. Baxter orders must be ordered prior to midday for same day delivery by 1700. Oncology staff will initiate the first Pipercillin-tazobactam infusor pack prior to discharged

HITH will attend morning rounds with Oncology to identify potential patients and discuss patients already in HITHs care.

IV Infusor Ordering in eMR

An inpatient medication order must be ordered in the eMR for the initiation of the Day 0 IV infusor. This must be prescribed as a 24 hour dosing schedule. The Day 0 IV infusor must be commenced no longer then a 6 hours post the last dose of antibiotic administration

A Low Risk Febrile Neutropenia Powerplan has been created to utilise for antibiotic administration in the HITH setting which must be utilised to prescribe medications for this program

Order in the eMR as an inpatient order selecting 24 hour dosing schedule. Aim to commence infusor within a 6 hour post last dose. It is ok to connect the infusor immediately after the end of the last intermittent dose. Start time should be coordinated with HITH to commence with a start time appropriate for the patient and family, HITH and pharmacy.

4.3 Oral Therapy

Oral Antibiotic Availability

For patients who are well oral options can be considered instead of intravenous antibiotics.

Oral antibiotics are to be provided by the hospital. Assessment of parental or carer suitability for home dosing should be confirmed prior to discharge by pharmacy and or nursing staff and documented in the eMR (medical, nursing or pharmacy). Patients with previous difficulty

swallowing oral dosage forms should have a dose of both oral antibiotics prior to transfer home to ensure they are tolerated.

Oral Antibiotic Ordering

An inpatient order for Oral antibiotics must be prescribed in the eMR to allow the first dose of antibiotic to be administered on the ward.

A prescription for each antibiotic must also be prescribed in the eMR to supply from hospital pharmacy.

A Low Risk Febrile Neutropenia Powerplan has been created to utilise for antibiotic administration.

Consult Appendix I for formulation and dosing. Dose rounding is encouraged to aid parent and carer administration.

SCH and CHW: Complete ID approval (Guidance MS or AB4KIDS) approval for ciprofloxacin and clindamycin, not required for amoxicillin-clavulanate.

5 Oncology Outreach and HITH schedule, key responsibilities and patient point of contact

Once the patient is assessed as low risk and has met all criteria for early transfer, they are referred to HITH. This is completed by the Oncology team via the Hospital in the Home (HITH) Referral form in the eMR. Transfer to HITH is recommended after a minimum period of in-hospital observation as per the AUS-rule score. See Table 5 for HITH schedule. Day 0 is the day of transfer to HITH.

Where possible Low Risk Patients should be allocated to the HITH AM Movement sheet.

5.1 HITH schedule and key responsibilities

The following is a recommended schedule for HITH visits and interventions (see Table 5).

- Daily visits (Day 0 is day of transfer to HITH) until suitable for discharge (see 5.2)
- Interventions to be undertaken during home visit;
    - Administer intravenous antibiotic (if applicable)
        - **SCH**: Alternating lumens for antibiotics is only required if requested by oncology
        - **CHW**: Alternate lumen of administration of IV antibiotics
    - Confirm home administration of oral antibiotic (if applicable)
    - Blood specimens taken
        - FBC daily. From Day 5 clinical decision based on neutrophil recovery
            - **SCH**: If sample clots notify oncology team fellow for clinical decision, if patient is otherwise well, repeat the next day

        - **CHW**: Notify On Call Oncology On Call fellow for clinical decision as to whether or not bloods need repeating

    - Blood Cultures
        - Blood cultures are not required unless requested by the oncology or ID team. This will be discussed with the respective medical team.
        - If error in sampling, may need to repeat next day, escalate to the Oncology Team.
    - Home assessment chart reviewed / discussed (refer to home assessment chart/Cartula communication), including temperature, oral intake / hydration, bowel patterns

- Patients' blood results monitored daily by Oncology Team.
- Patient/family contacted by telephone by the Oncology Team at least once during the HITH admission for a phone review.
- If absolute neutrophil count (ANC) remains < 0.2 x 10^9/L on Day 4, the patient must have medical review on Day 5 and decision made for readmission or ongoing HITH follow up.
- **SCH:** Oncology Team to review the Day 4 bloods and notify HITH and family that an onsite appointment is required. 2N or MDU can be used as a location for appointment.
- **CHW:** HITH CNS2 to contact OTC CSA to book an appointment for the patient
- If Day 4 or 5 fall on a weekend or public holiday an individual plan for the patient should be made by the Oncology team.

Table 5: HITH schedule

Day	Appointment/Intervention	Responsibility
0 (day of transfer)	• Bloods reviewed prior to leaving hospital • Pathology Request forms provided • IV or Oral antibiotics ordered from Oncology pharmacy • Other home medications ordered if required • Management Plan completed in eMR **Prior to HITH transfer** • Complete eligibility and risk stratification • Complete HITH eligibility • Complete HITH referral • Prescribe antibiotics and pathology in powerplan • Consent if participating in QOL study	Oncology Medical
	• HITH home visits arranged • Educational material / self-assessments (temperature monitoring) provided to patient • Readmission letter provided to patient • Low Risk F+N Card **SCH:** First infusor connection to be co-ordinated by oncology in 2W. Outliers to be discussed. Book Day 5 appointment on 2N	SCH: Oncology CNC or delegate CHW: Oncology team and nursing staff

Day	Appointment/Intervention	Responsibility
	CHW: First infusor connected if IV by Oncology Nurses. Oncology to provide education of the program and give families the package. Oncology nurses to connect the first infusor	
	Oral • First dose Oral antibiotics provided to ward • Ongoing oral antibiotics and home management plan provided to patient and family.Assessment of competency and parental understanding of medication administration performed **Intravenous Infusor** First dose connected in hospital **SCH** • Order by 12 midday for next day delivery. • Onsite preparation may be considered. • If infusor ordered before 10am SCH may be able to get same day delivery for pipercillin-tazobactam. • Please contact team pharmacist as soon as infusors are considered. **CHW:** • If prescription ordered before 10 am CHW can get same day delivery, • after 10am CHW pharmacy will provide Ongoing infusors ordered and schedule of procurement provided to HITH	Oncology Pharmacy
	• Confirm Referral & Suitability completed. • Confirm capacity to delivery home therapy. • HITH contact details provided.	HITH
1	Home visit for: • IV antibiotics (if applicable) • Observations, vital signs and review home assessment chart (eMR and paper with patient) • FBC *Day 1 Blood culture only if requested*	HITH AM Movement Sheet Preferred
	• Review of blood results and action as required	Oncology Medical
	• Telephone follow up (record in eMR) • Blood results discussed	SCH: Oncology CNC CHW: Oncology Team
2	Home visit for: • IV antibiotics (if applicable) • Observations, vital signs and review home assessment chart (eMR and paper) • FBC	HITH AM Movement Sheet Preferred
	• Review of blood results and action as required	Oncology Medical
	• Telephone follow up (record in eMR) • Blood results discussed	SCH: Oncology CNC CHW: Oncology Team

Day	Appointment/Intervention	Responsibility
3	Home visit for: • IV antibiotics (if applicable) • Observations, vital signs and review home assessment chart (eMR and paper) • FBC	HITH AM Movement Sheet Preferred
	• Review of blood results and action as required	Oncology Medical
	• Telephone follow up (record in eMR) • Blood results discussed	SCH: Oncology CNC CHW: Oncology Team
4	Home visit for: • IV antibiotics (if applicable) • Observations, vital signs and review home assessment chart (eMR and paper) • FBC *NB. If ANC < 0.2 x 10^9 /L and still on the program, patient must have medical review on Day 5 and decision made for readmission or ongoing HITH follow up. If Day 4 or 5 is a weekend/public holiday, confirm plan on prior working day.*	HITH AM Movement Sheet Preferred
	• Review of blood results and action as required. • Confirm Day 5 plan. • Including ordering more infusors or oral antibiotics.	Oncology Medical
	• Telephone follow up (record in eMR) • Blood results and Day 5 plan discussed	Oncology CNC CHW: Oncology Team
5-7	If ANC remains < 0.2 X 10^9 cells/L patient to attend hospital for medical review and decision made for readmission or ongoing HITH follow up. HITH CNS2 to book an appointment in Oncology Outpatient Clinic and to notify the medical team if complicated. SCH patient may be seen in MDU. If Day 5-7 falls on a weekend or public holiday, confirm plan on prior working day. Order ongoing infusors or oral antibiotics in working hours from oncology pharmacy.	Oncology Medical

5.2 HITH discharge criteria

Patients can be discharged by the oncology team from the low risk program via HITH when all of the following are fulfilled:

- clinically well
- no documented infection requiring ongoing antibiotics
- afebrile for > 24 hours
- evidence of marrow recovery (as judged by the treating clinician), including a post nadir ANC of at least >0.2 X 10^9 cells/L and platelet recovery

6 Patient Resources

Patient resources include:

- HITH home visit schedule: Provided by Oncology Team
- Pathology request forms: Provided by Oncology Medical or Oncology CNC
  - Educational material: Provided by a trained Oncology delegate
  - hospital contact numbers including HITH contact card
  - home observation and assessment chart with instructions for use
  - patient information sheet when to call the hospital and when to re-present to hospital
  - letter for presentation to an emergency department including description of medical history, recent treatment received and current situation
- Patient own thermometer
- CVAD Emergency kit
- Equipment for Oral therapy administration eg syringes
- Cytotoxic waste disposal if chemotherapy within last 7 days
  - Cytotoxic Spill kit information sheet

7 Medical Reviews and Re-admission

A medical review and/or re-admission for in hospital care may be required for some patients on the low-risk FN program. All patients/families should receive education on symptoms and signs for review or readmission, prior to transfer to HITH.

- Medical review for SCH will be a booked appointment in the SCH 2N (or MDU)
- Medical review for CHW will be a booked appointment in the Oncology Treatment Centre

Patients with the following criteria will require a medical review and/or readmission for inpatient care:

- Recurrent or persistent fever (> 48hrs from presentation) or new fever after being afebrile for 24 hours
- Feeling unwell / new signs and symptoms
- Significant decrease in oral intake (i.e. < 50% baseline) or significantly increased losses (vomiting or diarrhoea)
- Positive blood culture result (reported after patient hospital discharge) or other infection requiring inpatient care
- Pain: severe or persistent

- Inability to continue with oral antibiotics if applicable (i.e. allergy, vomiting, severe diarrhoea or patient refusal)
- Chills/rigors/shaking

Patients requiring urgent review

Patients requiring urgent review are required to present to the Emergency Department (ED) or via ambulance.

Patients presenting to the ED for urgent review must be admitted. The patient will be managed according to triage category. ED must speak to oncology team on call identifying the patient as a low risk home management febrile neutropenia patient. The Oncology team is responsible for reviewing the patient in ED after the ED assessment is complete. The Oncology team must notify HITH of any patient on the low risk program presenting to the hospital. HITH should also notify Oncology On call and ED of any patient presenting to ED.

Patients on IV antibiotics with signs of sepsis should receive a stat dose of aminoglycoside e.g. Gentamicin +/- Vancomycin as per empiric guidelines. Disconnect the infusor and activate the Febrile Neutropenia protocol.
http://webapps.schn.health.nsw.gov.au/epolicy/policy/3705

Switch to intermittent dosing from infusor when practicable. If a patient has been on pipercillin/tazobactam at home and has a new fever it can be appropriate to continue therapy with the same antibiotic with an intermittent (6 hourly) frequency. Additional or escalation of antibiotics is at the discretion of the treating oncology team and will be patient specific.

Patients on oral antibiotics at home who present to ED for the above reasons should be prescribed IV therapy as per febrile neutropenia pathway. Patients with an allergy to pipercillin/tazobactam should be prescribed IV antibiotics as per alternative antibiotic choices provided in the febrile neutropenia pathway.

Patients requiring non urgent review – HITH

Patients requiring non urgent review for febrile neutropenia related issues should contact the following. Patients and families should continue to contact their Oncology CNC for oncology queries.

SCH

In hours the call will be managed by HITH 7:30am – 9:30pm 7 Days

After hours contact the inpatient oncology ward

SCH: **C2W 9382 1236**

CHW

In hours the call will be managed by HITH CNC 7:30am – 9:30pm 7 Days

After hours the inpatient oncology ward

CHW: **Camperdown 9845 1123**

8 Adverse Event Reporting

Representation or readmission to hospital with a new fever or for any other reason is considered an adverse event. Adverse events should be formally reported as per incident management policy in IMS+ by the oncology delegated staff member. Location should be recorded as HITH with indication this is a low risk FN patient on home treatment.

SCH: Incidents will be monitored daily (M-F) and discussed in the Oncology huddle. Ongoing incident management will be addressed in Oncology Continuous Quality Improvement (CQI) and ID scheduled meetings.

CHW: Incidents will be discussed on a daily basis at rounds and will also be presented and discussed at the monthly Morbidity and Mortality meeting

Incidents will also be reviewed by the SCHN PSIRC - Patient Safety Incident Review Committee.

9 Cytotoxic Waste Management

Patients may have received chemotherapy within the last 7 days. Urine, faeces, sweat, vomit and the patient's blood may be potentially contaminated.

If a patient has received chemotherapy within the last 7 days patient waste should be disposed of as per the Cytotoxic and Hazardous drugs: Administration and Handling – SCH or CHW Guideline. There is no separate handling guidelines for community administration by health care professionals.

Appendix I: Oral Antibiotic Dosing Information

The following information is provided to assist in prescribing oral antibiotic for home administration for low risk management of febrile neutropenia in oncology patients.

All patients must have the first dose of both antibiotics in hospital. All oral antibiotics should be provided by the hospital pharmacy.

Consider dose rounding for all solid formulation oral antibiotics. Assessment of parental or carer ability to dose oral antibiotics should be completed and documented in the eMR prior to transfer to HITH.

Amoxicillin-clavulanate

Formulation: Tablet and liquid

- tab, amoxicillin 875 mg, clavulanic acid 125 mg (scored)
- oral liquid, amoxicillin 80 mg/mL, clavulanic acid 11.4 mg/mL

Practice Points

- Options available allow for paediatric dosing
- Formulation to be confirmed prior to first dose
- Clavulanic acid-associated diarrhoea can occur, use the higher dose amoxicillin formulation where possible
- Give with food
- Can give concurrent with enteral feeds however do not add to the ng feed bag

Ciprofloxacin

Formulation: Tablets 250mg, 500mg, 750mg

- Tablets are scored (brand name is scored, generic no score)
- Wear a mask and gloves if crushing the tablets
- Taste is unpleasant
- Taste can be disguised by mixing it in juice or soft food

Whole tablet or portion of tablet

- If able, the patient is able to swallow the tablet or tablet portion whole
- If unable to swallow whole or portion of a tablet, crush the tablet and mix with a spoonful of jam, apple puree or other food.
- Do not mix with yoghurt or milk-based products.
- It is recommended not to use favourite foods when dosing medications to avoid developing aversions due to flavour change.

Part dose

- If unable to tolerate a crushed tablet or a part dose is required, parent or carer can prepare a liquid for each individual dose.
- Disperse one 250 mg tablet in 10 mL of water to make an approximate concentration of 25 mg/mL. The tablet does not disperse easily. Taste is unpleasant
- Shake or stir until an even dispersion is formed and then measure dose and give immediately.
- Discard unused portion.
- For patients unable to tolerate crushed oral tablets who do not have a nasogastric or other feeding tube a liquid may be available. Consult with pharmacy if appropriate on an individual patient basis.

Practice Points

- Oral hydration is required during treatment course with ciprofloxacin. Water or age appropriate fluids are recommended.
- Do not give dairy products, antacids, iron, calcium or zinc supplements within 2 hours of ciprofloxacin as they significantly reduce absorption.
- Enteral feeds contain sufficient amounts of calcium, magnesium, iron and zinc to impair absorption of ciprofloxacin.
- Stop NG feeds 2 hours prior and 2 hours after ciprofloxacin dose.
- Discuss with dietitian if patient is on continuous feeds as this will reduce feed schedule by 4 hours per day.

Clindamycin

Formulation: Capsule 150 mg

- Wear a mask and gloves if opening the capsules
- Taste is unpleasant
- Taste can be disguised by mixing it in juice or soft food
- It is recommended not to use favourite foods when dosing medications to avoid developing aversions due to flavour change.
- An oral liquid can be made by dissolving powder from the capsules in water
- An oral liquid SAS product may be available, contact pharmacy before prescribing.

Dose of 150mg unable to swallow unit dose

- If able the patient should swallow the capsule whole
- If unable to swallow whole, open the capsule and disperse the contents in 10mL water then administer the whole dose

Dose less than 150mg

- Add the contents of the capsule to a small medicine measure or oral dispenser and make up to 3 mL concentration of 50 mg/mL
- Shake or stir until an even dispersion is formed and then measure the dose and give immediately
- Discard unused portion of liquid

Practice Points

- May cause oesophagitis so follow the dose with water

Appendix II: Compounding of Elastomeric Devices

The use of on-site loaded infusors allows timely administration of antibiotics.

The following antibiotics are suitable for on-site compounding as part of the low risk febrile neutropenia management program.

- Pipercillin-tazobactam
- Cefepime

Pipercillin-tazobactam is the preferred IV antibiotic for the low risk febrile neutropenia program.

Blank LV 10/Mobilife/Nipro Surefusor infusor (s) containing 180mL of sodium chloride 0.9% will be provided by oncology pharmacy. These infusors will be dispensed from pharmacy with the patients name and instructions to dilute. Follow manufacturer's instructions to fill the device.

Infusors prepared outside a laminar flow cabinet must be prepared on the day of intended use and not pre-prepared.