

Guidelines
for use of the
National
Inpatient Medication Chart
including the
paediatric version

July 2009

Guidelines for use of the National Inpatient Medication Chart including the paediatric version

Target Audience: All nursing, medical and pharmacy staff and administrative and allied health staff that are authorised to access and use patient medication charts

Exceptions: The National Inpatient Medication Chart is intended to be used to as a record of orders and administration of general medicines. Where they exist for more specialised purposes (such as intravenous fluids, anticoagulants, management of Diabetes, Palliative Care and Acute Pain) separate, specific charts should be used.

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1. Purpose

Consistent documentation allows accurate interpretation of orders

The National Inpatient Medication Chart is an initiative of the Australian Commission on Safety and Quality in Health Care (the Commission).

Research shows that many adverse events reported in Australian hospitals are associated with medications. Research also demonstrates that improvements to medication chart design can improve the safety of medication processes in hospitals. The National Inpatient Medication Chart (NIMC) was developed by a group of health care professionals (including nursing, medical and pharmacy staff and the private sector) from States and Territories across Australia who were involved in similar medication chart standardising projects within their own organisations.

Australian Health Ministers required a common inpatient medication chart to be in use in all public hospitals by June 2006 to assist in standardisation and consistent documentation of medications. As demonstrated in the Commission's 2008 NIMC quality improvement project, the NIMC is used in health care facilities nationally to reduce the risk of prescribing and administering error. In conjunction with other standardisations, it is a valuable precursor to the electronic health environment.

The NIMC is intended to reflect best practice and assist clinicians in improving the steps in the medication management cycle for safer prescribing, dispensing and administering of medicines in order to minimise the risk of adverse medication events.

The following are general requirements regarding use of the medication chart:

- All Medical Officers must order medicines for inpatients in accord with legislative requirements as required by State/Territory Health (Drugs and Poisons) Regulations;
- The NIMC is to be completed for all admitted patients and placed at the foot of the bed unless ward/unit procedures state otherwise;
- All medications should be reviewed regularly to identify potential drug interactions and to discontinue medicines that are no longer required;
- Specific ordering charts are required for specialised medication orders such as insulin, intravenous fluids, anticoagulants, parenteral cytotoxic and immunosuppressive agents, epidural and regional infusion and patient controlled analgesia.

Paediatric NIMC

In 2008 the Australian health Ministers endorsed the Paediatric NIMC (short and long stay versions). The Paediatric NIMC has additional features that support safe prescribing in the paediatric population. These charts should be used for all children aged 12 years and less.

Instructions on the use of the Paediatric NIMC specific features are outlined in section 6. Unless otherwise indicated the general guidelines in sections 2-5 also apply to the Paediatric NIMC,

2. General instructions

All orders are to be written legibly in ink

- No matter how accurate or complete an order is, it may be misinterpreted if it cannot be read.
- Water soluble ink (eg fountain pen) should not be used.
- Black ink is preferred.
- A medication order is valid only if the medical officer enters all the required items (See Section 4.4).
- All information, including drug names, should be **printed**.
- Only accepted abbreviations should be used. Dangerous abbreviations must be avoided (See Appendix A).
- A separate order is required for each medicine.
- No erasers or “whiteout” can be used. Orders **MUST** be rewritten if **any** changes are made, especially changes to dose and/or frequency.
- The patient’s current location should be clearly marked on the medication chart.

Facility/Service: _____

Ward/Unit:.....

3. Front page of NIMC (including top section of page 3)

3.1 Identification of the patient

AFFIX PATIENT IDENTIFICATION LABEL HERE AND OVERLEAF

| | |
|----------------|--|
| URN: | NOT A VALID PRESCRIPTION UNLESS IDENTIFIERS PRESENT |
| Family name: | |
| Given names: | |
| Address: | |
| Date of birth: | |
| Sex: | <input type="checkbox"/> M <input type="checkbox"/> F |

First Prescriber to Print Patient Name and Check Label Correct: Weight(kg):_____ Height(cm):_____

A watermark has been placed on the “patient identification section” as a reminder that a prescription is not valid unless the patient’s identifiers are present, that is:

- EITHER the **current patient identification label**
- OR, as a minimum, the **patient name, UR number, date of birth and gender** written in **legible print**.

The first prescriber must print the patient’s name. This will reduce the risk of wrong identification label being placed on the chart.

Medication orders cannot be administered if the prescriber does not document the patient identification.

3.2 Patient weight and height

This information should be documented in the space provided (it is important clinical information, vital to confirming doses of certain medicines).

Patient Weight (kg).....Height (cm).....

The weight **MUST** be documented for paediatric patients. Refer to section 6.1 for additional information relevant to paediatric patients

3.3 Numbering of the NIMC

MEDICATION Chart No. _____ of _____

ADDITIONAL CHARTS

| | | | |
|--|---------------------------------------|-------------------------------------|--------------------------------|
| <input type="checkbox"/> IV Fluid | <input type="checkbox"/> BGL/Insulin | <input type="checkbox"/> Acute Pain | <input type="checkbox"/> Other |
| <input type="checkbox"/> Palliative Care | <input type="checkbox"/> Chemotherapy | <input type="checkbox"/> IV Heparin | |

If more than one NIMC in use, then this must be indicated by entering the appropriate chart numbers
Eg: Medication Chart 1 of 2

If additional charts are written, this information must to be updated.

Additional (specialised) charts

ADDITIONAL CHARTS

- ☐ IV Fluid ☐ BGL/Insulin ☐ Acute Pain ☐ Other
☐ Palliative Care ☐ Chemotherapy ☐ IV Heparin

When additional (specialised) charts are written, this should be indicated by placing a tick or cross in the space provided.

3.5 Adverse drug reaction alerts

| | | |
|--|---------------------------|-----------------|
| <div style="border: 1px solid black; padding: 5px; display: inline-block;">Attach ADR Sticker</div> | | |
| ALLERGIES & ADVERSE REACTIONS (ADR) | | |
| <input type="checkbox"/> Nil known <input type="checkbox"/> Unknown (tick appropriate box or complete details below) | | |
| Drug (or other) | Reaction/Type/Date | Initials |
| | | |
| | | |
| | | |
| | | |
| | | |
| Sign..... | Print..... | Date..... |

Medical Officers, Nursing Officers and Pharmacists are required to complete “Allergies and Adverse Drug Reactions (ADR)” details for all patients. *(Patients may be more familiar with the term allergy, than ADR, so this may be a better prompt)*. Once the information has been documented, the person documenting the information must sign, print their name and date the entry.

If any information is added to this section after the initial interview the person adding the information must document their initials in the designated area

If the patient is not aware of any previous ADRs, then the **Nil known** box should be ticked and the person documenting the information must sign, print their name and date the entry.

If a previous ADR exists, then the following steps **must be completed:**

a) Document the following information in the space provided on the NIMC and in the patient's medical notes:

- Name of drug/substance
- Reaction details (eg rash, diarrhoea) and type of reaction (e.g. allergy, anaphylaxis)
- Date that reaction occurred (or approximate timeframe eg “20 years ago”)

Note: This is the minimum information that should be documented. It is preferable also to document how the reaction was managed (eg “withdraw & avoid offending agent”) and the source of the information (eg *patient self report, previous documentation in medical notes etc*).

b) Affix an ADR alert sticker to the front and back page of the NIMC in the spaces provided.

Adverse Drug Reaction

3.6 Once only, pre-medication and nurse initiated medicines

| ONCE ONLY, PRE-MEDICATION & NURSE INITIATED MEDICINES | | | | | | | | | |
|---|------------------------------------|-------|------|-------------------|---------------------------------|-----------------|----------|------------|----------|
| Date Prescribed | Medication (Print Generic Name) | Route | Dose | Date/Time of Dose | Prescriber/Nurse Initiator (NI) | | Given By | Time Given | Pharmacy |
| | | | | | Signature | Print Your Name | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Once only and pre-medication orders:

The following must be documented for **once only** and **pre-medication orders**:

- date prescribed
- generic name of medicine
- route of administration (accepted abbreviations may be used, refer Appendix A)
- dose to be administered, and the basis for the dose calculation (eg mg/kg/dose) for Paediatric NIMC
- date and time medicine is to be administered
- prescriber's signature and printed name
- initials of person that administers the medicine, and initials of a second person's to document double checking of the dose on the Paediatric NIMC
- time medicine administered

Nurse initiated medicines

The following must be documented for **nurse initiated medicines**

- generic name of medicine
- route of administration (accepted abbreviations may be used, refer Appendix A)
- dose to be administered, and the basis for the dose calculation (eg mg/kg/dose) for Paediatric NIMC
- date and time medicine nurse initiated
- nurse initiator to sign and print name
- initials of person who administers the medicine, and initials of a second person's to document double checking of the dose on the Paediatric NIMC
- Time medicine is administered

Local hospital policy/guidelines will outline when nurses can initiate medicines and will specify a **limitation** on **nurse initiated medicines** such as "for one dose only" or "for a maximum of 24 hours only". Generally the capacity applies to a **limited list of medicines** only. Typically this includes: simple analgesics, aperients, antacids, cough suppressants, sublingual nitrates, inhaled bronchodilators, artificial tears, sodium chloride 0.9% flush or IV infusion to keep IV line(s) patent as per local policy

Local hospital policy/guidelines will outline whether telephone orders are allowed and under what circumstances they are to be used.

- date prescribed
- generic name of medicine
- route of administration (accepted abbreviations may be used, refer Appendix A)
- dose to be administered
- frequency medicine is to be administered
- initials of two nursing officers to confirm the verbal order heard and double checked (see example below)
- name of doctor giving verbal order
- time of administration
- initials of person who administers the medicine

Example:

[illegible]

| Medicines taken Prior to Presentation to Hospital (Prescribed, over the counter, complementary) | | | | | |
|--|------------------|----------|---------------------|------------------------------------|----------|
| Own medications brought in? <input type="checkbox"/> Y <input type="checkbox"/> N Administration Aid (specify) | | | | | |
| Medication | Dose & frequency | Duration | Medication | Dose & frequency | Duration |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| GP: | | | Community Pharmacy: | | |
| Documented by: | | (Sign) | (Date) | Medicines usually administered by: | |

- a complete list of all medicines taken normally at home (prescription, non-prescription and complementary medicines) including drug identification details (generic name, strength and form), dose and frequency, and duration of therapy/when therapy started
- whether the patient has their own medicines with them
- whether the patient uses a dose administration aid (*eg Webster Pack or other blister pack*)
- whether there is a preferred dosage form (e.g. suspension in paediatric patients)
- contact details for patient's community health providers (GP and Community Pharmacist)
- whether the patient usually receives assistance to administer/manage their medicines

Any unintentional discrepancies between the medication history and the medication orders noted by the person documenting the medication history must be brought to the attention of the attending medical officer.

Note The NIMC provides space for the **minimum** information that should be documented. It is helpful to also document the indication for use and to use a checklist as a prompt to ensure a comprehensive history is obtained. At local levels, facilities may choose to implement a more comprehensive approach to documentation. For more information about medication history documentation refer to local health service policy.

4. Second and third pages of NIMC

4.1 Variable dose medicines ordering (Not applicable to Paediatric NIMC)

| VARIABLE DOSE MEDICATION | | | Drug level | | | | | | | | | | | | | | | | | |
|--|---------------------------------|---------|-------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Date | Medication (Print Generic Name) | | Time level taken | | | | | | | | | | | | | | | | | |
| Route | Frequency | | Dose | | | | | | | | | | | | | | | | | |
| Prescriber to enter dose times and individual dose | | | Prescriber | | | | | | | | | | | | | | | | | |
| Indication | Pharmacy | | Time to be given: | | | | | | | | | | | | | | | | | |
| Prescriber Signature | Print Your Name | Contact | Time given | | | | | | | | | | | | | | | | | |

continue on discharge? Yes / No
 dependent? Yes / No
 duration: days 0/0

Date:

This section has been formatted to facilitate ordering of medicines that require variable dosing based on laboratory test results or as a reducing protocol *eg gentamicin and steroids*. If these agents are ordered in the regular ordering section, then there is no designated area to record drug levels and if they are ordered in the “once-only” ordering section, the risk of errors of omission is increased.

For **each day of therapy**, the following information should be documented:

- Drug level results
- Time drug level taken

For **each dose**, the following information must be documented:

- Dose
- Doctor's initials
- Actual time of administration (this may be different from the dose time)
- Initials of person who administers the dose

If a patient requires a second variable dose medication or twice daily dosing, prescribe in the regular section using the above format.

4.2 Warfarin ordering (Not applicable to Paediatric NIMC)

| | | | | | | | | | | | | | | | | | | | | |
|---|--|------------------|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Date | WARFARIN (Marevan/Coumadin) select brand | | INR Result | | | | | | | | | | | | | | | | | |
| Route | Prescriber to enter individual doses | Target INR Range | Dose | mg | mg | mg | mg | mg | mg | mg | mg | mg | mg | mg | mg | mg | mg | mg | mg | mg |
| Indication | Pharmacy | | Prescriber | | | | | | | | | | | | | | | | | |
| Prescriber Signature | Print Your Name | Contact | 1600 (Nurse 1) | | | | | | | | | | | | | | | | | |
| DOCTORS MUST ENTER administration times | | | Nurse 2 | | | | | | | | | | | | | | | | | |

continue on discharge? Yes / No
 dependent? Yes / No
 duration: days 0/0

Pharmacist:

The warfarin ordering section is printed in red as an extra alert to indicate that it is an anticoagulant (and a high-risk medicine).

It is recommended that a laminated copy of guidelines for anticoagulation using warfarin is available to assist the doctor/pharmacist/nurse when a patient is commenced on warfarin. The guidelines should offer information about target INR, duration of therapy, dosing, management of excessive bleeding and drug interactions.

A standard dose time of 1600 hours (4pm) is recommended as this allows the medical team caring for the patient to order the next dose based on INR results, rather than leaving it for after-hours staff to do.

The indication and target INR (based on guidelines for anticoagulation using warfarin) should be included when warfarin is initially ordered.

For **each day of therapy**, the following information should be documented:

- INR result
- warfarin dose
- doctor's initials
- initials of nurse that administers the dose and the checking nurse

4.3 Warfarin education record

| WARFARIN EDUCATION RECORD | |
|---------------------------|-------|
| Patient Educated by: | |
| Sign: | |
| Date: | |
| Given Warfarin Book: | |
| Sign: | |
| Date: | |

Because of the well documented risks associated with use of warfarin, all patients should receive counselling about the use of warfarin and given written information on warfarin e.g. a warfarin book..

This section is included as a record that these risk mitigation activities have been completed.

4.4 Regular medicines

For Paediatric NIMC also see section 6.3

[illegible]

A medication order is valid only if the prescribing medical officer enters all listed items.

- a) **Date.** The date that the medication order was started during this hospital admission should be entered. It is **not** the date that the chart was written or rewritten.
- b) **Generic Drug Name.** Because there may be several brands of one agent available, the generic name should be used if possible unless combination preparations are being ordered (eg *Timentin*, *Panadeine* etc). Generally the pharmacy department will stock and supply only one brand of each generic drug.
- c) The **red Tick if Slow Release box** is included as a prompt to prescribers to consider whether or not the standard release form of the drug is required. This box must be ticked to indicate a **sustained, modified or controlled** release form of an oral drug (eg *verapamil SR*, *Diltiazem CD*). If not ticked, then it is assumed that the standard release form is to be administered. Further explanation as below is in the margin of the NIMC.

SR = Sustained, modified or controlled release formulation.

Tickit Slow Release

If scored tablet, then half can be given.

Dose must be swallowed without crushing.

- d) Route. Only commonly used and understood abbreviations should be used to indicate the route of administration. Acceptable abbreviations are listed below.

The National Terminology, Abbreviations and Symbols to be used in the Prescribing and Administering of Medicines in Australian Hospitals 2008 (the National Terminology) forms Attachment A to this document. It provides principles for consistent prescribing terminology, a set of recommended terms and acceptable abbreviation and a list of error prone abbreviations, symbols and dose designations that have a history of causing error and must be avoided. Refer to it as the primary information source on terminology, abbreviations and symbols. The following advice is drawn from that document.

| Commonly used and understood abbreviations | |
|--|-----------------------|
| Abbreviation | Meaning |
| PO | per oral |
| NG | nasogastric |
| subling | sublingual |
| IV | intravenous |
| IM | intramuscular |
| subcut | subcutaneous |
| PR | per rectum |
| PV | per vagina |
| eye drop | eye drop |
| eye ointment | eye ointment |
| topical | topical |
| MA | metered aerosol |
| Neb | nebulised / nebuliser |

| Dangerous abbreviations – Not to be used | | | |
|--|------------------|---|---|
| Abbreviation to avoid | Intended meaning | Reason for avoiding | Acceptable alternative |
| E or e | ear or eye | Misinterpreted as the other organ | ear or eye and specify whether left or right or both |
| SC | subcutaneous | Mistaken for sublingual | subcut or subcutaneous |
| SL or S/L | sublingual | Mistaken for SC and interpreted as subcutaneous | subling or sublingual |

e) Dose

For Paediatric NIMC also see section 6.3

Doses must be written using **metric** and **Arabic** (1,2,3...) systems. **Never** use Roman numerals (i, ii, iii, iv...). Acceptable abbreviations are listed below.

Always use zero (**0.**) before a decimal point (eg *0.5g*) otherwise the decimal point may be missed. However if possible it is preferable to state the dose in whole numbers, not decimals (eg *Write 500mg instead of 0.5g or write 125microgram instead of 0.125mg*).

Never use a trailing zero (**.0**) as it may be misread if the decimal point is missed (eg *1.0 misread as 10*)

Do not use U or IU for units because it may be misread as zero. Always write **units** in full.

Note In the case of **liquid medicines**, the **strength** and the **dose** in milligrams or micrograms (not millilitres) must always be specified eg *morphine mixture (10mg/mL) Give 10mg every 8 hours*

Note The ward/clinical pharmacist will clarify when the strength supplied is different from that ordered eg *For 10mg, the pharmacist may write 2 x 5mg tablets or for 25mg, the pharmacist may write half a 50mg tablet*

| Commonly used and understood abbreviations | |
|--|------------|
| Abbreviation | Meaning |
| mL | millilitre |
| g | gram |
| mg | milligram |
| microgram or microg | microgram |
| mmol | millimole |

| Dangerous abbreviations – Not to be used | | | |
|---|--------------------|--|---|
| Abbreviation to avoid | Intended meaning | Reason for avoiding | Acceptable alternative |
| Ug, mcg or µg | microgram | Mistaken for milligram when handwritten | microgram or microg |
| U or u | unit | Mistaken as the numbers '0' or '4', causing a 10-fold overdose or greater (e.g. 4U seen as '40' or 4u seen as '44'). | unit(s) |
| IU or iu (eg 3 IU) | International Unit | Mistaken for iv (intravenous) or as 31u (thirty-one units) | International unit |
| No zero before decimal point (eg .5mg) | 0.5mg | Misread as 5mg | 0.5mg or write 500microgram |
| Trailing zero after decimal point (eg 5.0mg) | 5mg | Misread as 50mg | Do not use trailing zero after decimal points after whole numbers |

- f) **Frequency and administration times.** The medical officer writing the order **must** enter the **frequency** and **administration time(s)** when writing the medication order. This will prevent errors where the nurse misinterprets the frequency and writes down the wrong times. If these details are not entered, the dose may not be administered by nursing staff.

Acceptable abbreviations are listed below. Times should be entered using the 24-clock (this nomenclature is the global standard).

Drugs should be administered according to the **Recommended Administration Times** unless they must be given at specific times (eg some antibiotics, with/before food) or, as in the case of young children with variable meal and sleep schedules, a specific schedule is required.

| RECOMMENDED ADMINISTRATION TIMES | | | | | |
|----------------------------------|--------|------|------|--------------|------|
| Guidelines only | | | | | |
| Morning | mane | 0800 | | | |
| Night | nocte | | | 1800 or 2000 | |
| Twice a day | bd | 0800 | | 2000 | |
| Three times a day | tds | 0800 | 1400 | 2000 | |
| Antibiotic 6 hourly | 6 hrly | 0600 | 1200 | 1800 | 2400 |
| Antibiotic 8 hourly | 8 hrly | 0600 | 1400 | 2200 | |
| Four times a day | qid | 0600 | 1200 | 1800 | 2200 |

The ward/clinical pharmacist or nurse will clarify (and annotate the chart) the administration time if necessary to correctly administer the drug (in relation to food etc)

| Commonly used and understood abbreviations | |
|--|-----------------------|
| Abbreviation | Meaning |
| mane | Morning |
| nocte | Night |
| bd | Twice daily |
| tds | Three times a day |
| qid | Four times a day |
| unit(s) | International Unit(s) |

| Dangerous abbreviations - not to be used | | | |
|--|--------------------------|---|---|
| Abbreviation to avoid | Intended meaning | Reason for avoiding | Acceptable alternative |
| OD, od or d | Once a day Once daily | Mistaken for twice a day d is easily missed | daily or the specific time |
| QD or qd | Every day | Mistaken as qid (four times a day) | daily |
| M | Morning | Mistaken for n (night) | morning or mane |
| N | Night | Mistaken for m (morning) | night or nocte |
| 6/24 | Every six hours | Mistaken for six times a day | every 6 hrs or 6 hourly or 6 hrly |
| 1/7 | For one day | Mistaken for one week | for one day only |
| X 3d | For 3 days | Mistaken as for three doses | for 3 days |

- g) **Pharmacy.** This section is for use by the ward/clinical pharmacist to clarify the order, indicate source of supply or provide administration instructions.

Annotations include:

I for medicines available on imprest

S for non-imprest items that will be supplied and labelled for individual use from the pharmacy

Pts own for medicines checked by the pharmacist and confirmed to be acceptable for use during the patient's admission

CD to indicate a Schedule 8 medicine (stored in CD cupboard)

Fridge to indicate a medicine that is stored in the fridge

- h) **Indication** This section is for the medical officer to document the indication. This allows the order to be reviewed in the context of why the medicine was prescribed, reducing the risk of misinterpretation of the order (e.g. medicines with look-a-like names) or incorrect doses (e.g. where medicines have different doses for different indications).
- i) **Doctor Signature and Print Name.** The signature of the medical officer must be written to complete each medication order. For each signature (medical officer), their name must be written in print at least once on the medication chart.

4.5 Limited duration and ceased medicines

When a medicine is ordered for a **limited duration**, or only on **certain days**, this must be clearly indicated using crosses (X) to block out day/times when the drug is **NOT** to be given

| | | | | | | | | | | | | | | | | |
|-----------------------|---------------------------------|-----------------------------|-----------------------|----------|--|--|--|--|--|--|--|--|--|--|--|--|
| Date | Medication (Print Generic Name) | | Time of Day / Release | | | | | | | | | | | | | Continue in Discharge? Yes / No Discontinued? Yes / No Duration: Use Day |
| 1/5/19 | Naproxen | | | | | | | | | | | | | | | |
| Route | Dose | Frequency & NOW Enter Times | | 0800 | | | | | | | | | | | | |
| PO | 1g bd | for 3 days post op | | | | | | | | | | | | | | |
| Indication | Pain | | Pharmacy | 20.05.19 | | | | | | | | | | | | |
| | | I after food | | | | | | | | | | | | | | |
| Prescriber Signature: | Print Your Name: | | Contact | | | | | | | | | | | | | |
| A. Jones | S. Jones | | Page 2/2 | | | | | | | | | | | | | |

The medical officer must write the reason for changing the order (eg cease, written in error, increased dose etc) at an appropriate place in the administration record section.

[illegible]

A 5x4 grid with a black arrow pointing to the second column, first row cell.

For Paediatric NIMC also see section 6.3

The last column (which is partially blocked out) is present only as a safety net if the order has not been rewritten. If the medication chart is full, then the medication orders written in it should not be considered valid/current prescriptions.

4.7 Reasons for not administering

If a patient refuses medicine(s), then the medical officer must be notified.

If medicine(s) are withheld, the reason must be documented in the patient's medical notes. If the medicine is not available on the ward, it is the nurse's responsibility to notify the pharmacy and/or obtain supply or to contact the medical officer to advise that the medicine ordered is not available. (Refer to Appendix B - Guidelines for administering and withholding medicines)

| REASON FOR NURSE NOT ADMINISTERING Codes MUST be circled | |
|---|-----|
| Absent | (A) |
| Fasting | (F) |
| Refused - notify Dr | (R) |
| Vomiting | (V) |
| On leave | (L) |
| Not available - obtain supply or contact Dr | (N) |
| Withheld - Enter reason in Clinical Record | (W) |
| Self Administering | (S) |

4.8 Pharmaceutical review

| | | | | | | | | | | | | | | | | | | | |
|------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Pharmaceutical Review: | | | | | | | | | | | | | | | | | | | |
|------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

The clinical pharmacist will sign this section as a record that they have reviewed the medication chart (on that day) to ensure that all orders are clear, safe and appropriate for that individual patient.

4.9 Discharge supply

| Discharge Required Yes / No | Discharge Required Yes / No | Discharge Required Yes / No | Discharge Required Yes / No | Discharge Required Yes / No | Discharge Required Yes / No |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Duration / Qty | Duration / Qty | Duration / Qty | Duration / Qty | Duration / Qty | Duration / Qty |
| Prescriber's Signature | | Print Name | | Date | |
| Pharmacist | | Date | | | |

For **each drug** prescribed while an inpatient, the following information must be documented in the discharge supply section:

- Discharge supply required yes/no
- Duration / Quantity

For **each page** the following information is only required to be documented once:

- Prescriber's signature
- Prescriber to print name
- Date discharge required
- Pharmacist signature
- Date discharge information completed

Jurisdictions may choose not to use this section for ordering the supply of medicines on discharge.

5. Back page of NIMC

5.1 As required ("PRN") medicines

Prescribing:

The medical officer **must** write:

- Dose and hourly frequency. "PRN" (pre-printed) alone is not sufficient
- Indication and maximum daily dose (i.e. maximum dose in 24 hours) *eg Paracetamol 4g/24 hrs*

Administering:

- The actual dose given **must** be recorded
- The person administering each dose is responsible for checking that the maximum daily dosage will not be exceeded

| | | | | | | | | | | | | | | | | | |
|----------------------|---------------------------------|------------------|-----------------|-------|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Date | Medication (Print Generic Name) | | | Date | | | | | | | | | | | | | Confirmed on discharge? Yes/No Dispensed? Yes/No Duration: days Dfrc |
| 1/5/04 | Paracetamol | | | 1/5 | | | | | | | | | | | | | |
| Route | Dose | Hourly Frequency | Max Dose/24 hrs | Time | | | | | | | | | | | | | |
| po | 1g | 4hrly PRN | 4g | 1500 | | | | | | | | | | | | | |
| Indication | Pharmacy | | | Dose | | | | | | | | | | | | | |
| Pain | 2x500mg | | | 1g | | | | | | | | | | | | | |
| Prescriber Signature | Print Your Name | | | Route | | | | | | | | | | | | | |
| S Jones | S Jones | | | po | | | | | | | | | | | | | |
| Contact | Sign | | | | | | | | | | | | | | | | |
| 15/04 | A.B. | | | | | | | | | | | | | | | | |

6. Special features of the Paediatric NIMC

The Paediatric chart incorporates additional features identified as important for facilitating safe medicines use in the paediatric population. These features include designated:

1. Boxes for recording weight on front and back page of chart.
2. Spaces for recording body surface area and gestational age (where relevant).
3. Space for documenting the basis for dose calculation (e.g. mg/kg/dose).
4. Space for double signing when recording administration.

6.1 Patient weight, height, and BSA

The child's weight must be documented in the box on the front of the chart. The weight should also be documented on the back page when PRN medicines are ordered.

The height and body surface area should be documented where body surface area is used to calculate the dose of a medicine.

6.2 Gestational age

There is space for recording gestational age under the BSA and height box. This should be completed for premature infants.

6.3 Dose calculation

The prescriber must document the basis for the dose calculation in the dose calculation box (e.g. mg/kg/dose or microgram/m²/dose etc). This will assist pharmacists, nurses and other doctors in double-checking the dose to ensure that the intended and actual dose is calculated correctly.

| | | | | | | | | | | |
|---------------------------------|--|---|--|------|----|-------|--|--|--|--|
| Date 5/5 | Medicine (Print Generic Name) Paracetamol | | Tick if Slow Release | | | | | | | |
| Route PO | DOSE 150mg | Frequency & NOW enter times 6 hourly | | 0600 | | up of | | | | |
| Pharmacy/Additional Information | | | | 1200 | | | | | | |
| Indication Pain | | | DOSE Calculation (eg. mg/kg per dose) 15mg/kg | 1800 | AB | | | | | |
| Prescriber Signature J Brown | | | Print Your Name J Brown | 2400 | AB | | | | | |
| Contact/Pager 2956 | | | | | | | | | | |

The basis for the dose calculation should first be checked in a current paediatric dosing reference endorsed by the local Drug and Therapeutics Committee.

The actual dose should be calculated using an accurate weight or BSA (up to usual adult dose). If the child is obese or significantly oedematous, the ideal weight may be more appropriate.

All calculations should be double-checked.

6.4 Administration of medicines

There are two spaces for recording the administration of each dose of medicine to allow for the recording of two signatures, to document the double checking process has occurred.

**National terminology, abbreviations and
symbols to be used in the prescribing and
administering of medicines in Australian
hospitals
2008**

AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTHCARE

National terminology, abbreviations and symbols to be used in the prescribing and administering of medicines in Australian hospitals

Introduction

One of the major causes of medication errors is the ongoing use of potentially dangerous abbreviations and dose expressions.¹ This is a critical patient safety issue. A study to identify and quantify prescribing errors in a large US urban teaching hospital found that 29% of prescriptions contained a dangerous abbreviation.² An abbreviation used by a prescriber may mean something quite different to the person interpreting the prescription. Abbreviations may not only be misunderstood but can also be combined with other words or numerals to appear as something altogether unintended.

In addition, there have been changes to training of health care professionals, to health care delivery and to societal expectations, which also necessitate a rethinking of the language used to communicate medication prescribing and administration. Latin was once the language of health care and its use made medical literature universally readable among educated persons.³ Today, English is the predominant language of medical literature.³ Despite this, Latin abbreviations continue to be used amongst health professionals. Although this may be a timesaving convenience, their routine use does not promote patient safety.³

Changes to policy enabling staff with differing levels of training to administer medicines, also necessitates the use of English. This training does not include Latin nor does it include comprehensive

training in terms used for the administration of medicines. In addition, patients and their carers have the right to understand what is being prescribed and administered to them. Prescribing using codes or an outmoded language is no longer acceptable.

Objectives

In order to promote patient safety and clear and unambiguous prescribing of medicines, this document establishes the following:

- Principles for consistent prescribing terminology (Table 1)
- A set of recommended terms and acceptable abbreviations (Table 2)
- A list of error-prone abbreviations, symbols and dose designations that have a history of causing error and must be avoided (Table 3)

Scope

The principles and recommendations apply to:

- ALL medication orders or prescriptions that are handwritten or pre-printed
- ALL communications and records concerning medicines, including telephone/verbal orders/prescriptions, medication administration records and labels for drug storage.⁴

Prescriptions should not contain ANY abbreviations other than those that are in universal and common use, such as the term 'prn' meaning 'when required'. All drug names, protocols and procedures should be in English and written in full.

It is recommended that hospitals develop policies for prescribing terminology together with strategies for implementation within their institutions. In developing strategies, hospitals may wish to refer to the Joint Commission on Accreditation of Healthcare Organisations (JCAHO) "implementation tips" for eliminating dangerous abbreviations (<http://www.jointcommission.org/PatientSafety/DoNotUseList/>).

Although this document provides recommendations it is not all-inclusive. There may also be specific circumstances where other terminology may be considered safe. However, before hospital Drug and Therapeutic Committees (DTCs) decide to include such terminology in local policies the principles outlined in Table 1 should be applied. DTCs should continue to monitor incidents associated with prescribing terminology.

Please note this document is valid as at November 2008 and will be modified on the basis of reported adverse events associated with terminology, abbreviations and/or symbols used in the prescribing or administration of medicines. In addition, when moving to electronic prescribing a reassessment of what is safe terminology should be made.

TABLE 1: Principles for consistent prescribing terminology

1. **Use plain English - avoid jargon**
2. **Write in full - avoid using abbreviations wherever possible, including Latin abbreviations**
3. **Print all text - especially drug names**
4. **Use generic drug names**

Exception may be made for combination products, but only if the trade name adequately identifies the medication being prescribed. For example, if trade names are used, combination products containing a penicillin (eg Augmentin®, Timentin®) may not be identified as penicillins.

Exception may also be made where significant bioavailability issues exist, for example cyclosporin, amphotericin
5. **Write drug names in full. NEVER abbreviate any drug name**

Some examples of **unacceptable** drug name abbreviations are: G-CSF (use filgrastim or lenograstim or pegfilgrastim), AZT (use zidovudine), 5-FU (use fluorouracil), DTIC (use dacarbazine), EPO (use epoetin), TAC (use triamcinolone)

Exception may be made for modified release products
 For slow release, controlled release, continuous release or other modified release products, the description used in the trade name to denote the release characteristics should be included with the generic drug name, for example tramadol SR, carbamazepine CR

For multi-drug protocols, prescribe each drug in full and do not use acronyms, for example do not prescribe chemotherapy as 'CHOP'. Prescribe each drug separately
6. **Do not use chemical names/symbols**, for example HCl (hydrochloric acid or hydrochloride) may be mistaken for KCl (potassium chloride)

Do not include the salt of the chemical unless it is clinically significant, for example mycophenolate mofetil or mycophenolate sodium. Where a salt is part of the name it should follow the drug name and not precede it
7. **Dose**
 - **Use words or Hindu-Arabic numbers**, ie 1, 2, 3 etc
Do not use Roman numerals, ie do not use ii for two, iii for three, v for five etc
 - **Use metric units**, such as gram or mL
Do not use apothecary units, such as minims or drams
 - **Use a leading zero in front of a decimal point for a dose less than 1**, for example use 0.5 not .5
Do not use trailing zeros, for example use 5 not 5.0
 - **For oral liquid preparations, express dose in weight as well as volume**, for example in the case of morphine oral solution (5mg/mL) prescribe the dose in mg and confirm the volume in brackets: eg 10mg (2mL)
 - **Express dosage frequency unambiguously**, for example use 'three times a week' not 'three times weekly' as the latter could be confused as 'every three weeks'
8. **Avoid fractions**, for example
 - 1/7 could be interpreted as 'for one day', 'once daily', 'for one week' or 'once weekly'
 - 1/2 could be interpreted as 'half' or as 'one to two'
9. **Do not use symbols**
10. **Avoid acronyms or abbreviations for medical terms and procedure names on orders or prescriptions**, for example avoid EBM meaning 'expressed breast milk'

TABLE 2: Acceptable terms and abbreviations

The following table lists the terms and abbreviations that are commonly used and understood and therefore considered acceptable for use. Where there is more than one acceptable term the preferred term is shown first in the right hand column.

| Intended meaning | Acceptable Terms or Abbreviations |
|--|--|
| Dose Frequency or Timing | |
| (in the) morning | morning, mane |
| (at) midday | midday |
| (at) night | night, nocte |
| twice a day | bd |
| three times a day | tds |
| four times a day | qid |
| every 4 hours | every 4 hrs, 4 hourly, 4 hrly |
| every 6 hours | every 6 hrs, 6 hourly, 6 hrly |
| every 8 hours | every 8 hrs, 8 hourly, 8 hrly |
| once a week | once a week and specify the day in full, eg, once a week on Tuesdays |
| three times a week | three times a week and specify the exact days in full, eg three times a week on Mondays, Wednesdays and Saturdays |
| when required | prn |
| immediately | stat |
| before food | before food |
| after food | after food |
| with food | with food |
| Route of administration | |
| epidural | epidural |
| inhale, inhalation | inhale, inhalation |
| intraarticular | intraarticular |
| intramuscular | IM |
| intrathecal | intrathecal |
| intranasal | intranasal |
| intravenous | IV |
| irrigation | irrigation |
| left | left |
| nebulised | NEB |
| naso-gastric | NG |
| oral | PO |
| percutaneous enteral gastrostomy | PEG |
| per vagina | PV |
| per rectum | PR |
| peripherally inserted central catheter | PICC |
| right | right |
| subcutaneous | subcut |
| sublingual | subling |
| topical | topical |

TABLE 2: Acceptable terms and abbreviations (continued)

The following table lists the terms and abbreviations that are commonly used and understood and therefore considered acceptable for use. Where there is more than one acceptable term the preferred term is shown first in the right hand column.

| Intended meaning | Acceptable Terms or Abbreviations |
|---|------------------------------------|
| Units of Measure and Concentration | |
| gram(s) | g |
| International unit(s) | International unit(s) |
| unit(s) | unit(s) |
| litre(s) | L |
| milligram(s) | mg |
| millilitre(s) | mL |
| microgram(s) | microgram, microg |
| percentage | % |
| millimole | mmol |
| Dose Forms | |
| capsule | cap |
| cream | cream |
| ear drops | ear drops |
| ear ointment | ear ointment |
| eye drops | eye drops |
| eye ointment | eye ointment |
| injection | inj |
| metered dose inhaler | metered dose inhaler, inhaler, MDI |
| mixture | mixture |
| ointment | ointment, oint |
| pessary | pess |
| powder | powder |
| suppository | supp |
| tablet | tablet, tab |
| patient controlled analgesia | PCA |

TABLE 3: Error-prone abbreviations, symbols and dose designations to be avoided

(Adapted from the Institute of Safe Medication Practices [ISMP] list of the same name*, with permission from ISMP)

| Error-prone Abbreviation X | Intended Meaning | Why? | What should be used ✓ |
|-------------------------------|---|---|---|
| µg, mcg or ug | microgram | Mistaken as 'mg' | microgram |
| BID or bid | twice daily | Mistaken as 'tid' (three times daily) | bd |
| BT or bt | bedtime | Mistaken as 'BID' (twice daily) | bedtime |
| cc | cubic centimetres | Mistaken as 'u' (units) | mL |
| D/C | discharge or discontinue | Premature discontinuation of medications if discharge intended | 'discharge' or 'discontinue' whichever is intended |
| e or E | ear or eye | Mistaken for 'ear' when 'eye' intended or for 'eye' when 'ear' intended | 'eye' or 'ear' and specify whether 'left', 'right' or 'both' |
| gtt or gutte | drops | Latin abbreviation meaning 'drops', not universally understood. | 'drops' or 'eye drops' whichever is intended |
| HS hs | half-strength at bedtime, hours of sleep | Mistaken as bedtime Mistaken as half-strength | 'half-strength' or 'bedtime' whichever is intended |
| IJ | injection | Mistaken as 'IV' or 'intrajugular' | injection |
| IN | intranasal | Mistaken as 'IM' or 'IV' | intranasal |
| IT | intrathecal | Mistaken as Intravenous | intrathecal |
| IU | International units | Mistaken as 'IV' (Intravenous) or '10' (ten) | International units |
| M | morning | Mistaken for 'n' (night) | morning |
| N | night | Mistaken for 'm' (morning) | night |
| Oc or Occ | eye ointment | Mistaken for eye drops | eye ointment |
| mist | mixture | Latin abbreviation, not universally understood | mixture |
| o.d. or OD | once daily | Mistaken as 'right eye' (OD-oculus dexter), leading to oral liquid medications administered in the eye. Can also be mistaken for BD (twice daily) | 'daily', preferably specifying the time of the day, eg 'morning', 'mid-day', 'at night' |
| OJ | orange juice | Mistaken as 'OD' or 'OS' (right or left eye); drugs meant to be diluted in orange juice may be given in the eye | orange juice |
| OW | once a week | Not universally understood | once a week |
| p/f | per fortnight | Not universally understood | every two weeks, per fortnight |
| qd or QD | every day | Mistaken as 'Qid', especially if the period after the 'q' or the tail of the 'q' is misunderstood as an 'i' | daily |
| pulv | powder | Latin abbreviation, not universally understood | powder |
| Qhs | nightly at bedtime | Mistaken as 'qhr' or every hour | 'night', 'daily at bedtime' |
| Qh | every hour | Not universally understood | 'hourly', 'every hour' |
| qod or QOD | every other day | Mistaken as 'qd' (daily) or 'qid' (four times daily) | 'every second day', 'on alternate days' |
| Q6PM etc | every evening at 6 pm | Mistaken as every six hours | '6pm daily', 'every night at 6pm', 'every day at 6 pm' |

TABLE 3: Error-prone abbreviations, symbols and dose designations to be avoided (continued)

(Adapted from the Institute of Safe Medication Practices [ISMP] list of the same name*, with permission from ISMP)

| Error-prone Abbreviation X | Intended Meaning | Why? | What should be used ✓ |
|-------------------------------|--|---|---|
| SC | subcutaneous | Mistaken as 'SL' (Sublingual) | 'subcut', 'subcutaneous' |
| SL or S/L | sublingual | Mistaken as 'SC' (Subcutaneous) | 'subling', 'under the tongue' |
| Ss | sliding scale (insulin) or half (apothecary) | Mistaken as 'SS' | 'sliding scale' or 'half' whichever is intended |
| SSRI or SSI | sliding scale regular insulin or sliding scale insulin | Mistaken as selective serotonin reuptake inhibitor; Mistaken as Strong Solution of Iodine (Lugols) | sliding scale insulin |
| TID | three times a day | Mistaken as 'bd' | tds |
| TIW | three times a week | Mistaken as 'three times daily' | 'three times a week' and specify exact days in full, for example 'on Mondays, Wednesdays and Saturdays' |
| i/D | one daily | Mistaken as 'tid' | one daily |
| U or u | unit | Mistaken as the numbers '0' or '4', causing a 10-fold overdose or greater (eg 4U seen as '40' or 4u seen as '44'). Mistaken as 'cc' so dose given as a volume instead of units (eg 4u seen as 4 cc) | unit |
| ung | ointment | Latin abbreviation, not universally understood | ointment |

| Error-prone frequency and dosage abbreviations X | Intended Meaning | Why? | What should be used ✓ |
|---|------------------|-------------------------------|---|
| 6/24 | every six hours | Mistaken as 'six times a day' | 'every 6 hrs', '6 hourly', '6 hrly' |
| 1/7 | for one day | Mistaken as 'for one week' | for one day only |
| 1/2 | half | Mistaken as 'one or two' | half |
| i, ii, iii, iv (Roman numerals) | 1, 2, 3, 4 etc | | Hindu-Arabic numbers, 1, 2, 3, 4 etc or words |

TABLE 3: Error-prone abbreviations, symbols and dose designations to be avoided (continued)

(Adapted from the Institute of Safe Medication Practices [ISMP] list of the same name*, with permission from ISMP)

| Error-prone dose designations and other information ✗ | Intended meaning | Why? | What should be used ✓ |
|--|----------------------------|---|---|
| Trailing zero after decimal point (eg 1.0mg) | 1mg | Mistaken as 10mg if the decimal point is not seen | Do not use trailing zeros for doses expressed in whole numbers |
| No leading zero before a decimal point (eg .5mg) | 0.5mg | Mistaken as 5mg if the decimal point is not seen | Use zero before a decimal point when the dose is less than a whole unit |
| Large doses without properly placed commas (eg 100000units, 1000000 units) | 100,000 units 1,000,000 | 100000 has been mistaken as 10,000, or 1,000,000; 1000000 has been mistaken as 100,000 | For figures above 100 use words to express intent eg, one thousand, one million, six million etc. Otherwise use commas for dosing units at or above 1,000 |
| 10 ⁶ etc | one million | Not universally understood | Use one million or 1,000,000 |

| Error-prone symbols ✗ | Intended Meaning | Why? | What should be used ✓ |
|--------------------------|--|--|--|
| X3d | for three days | Mistaken as '3 doses' | for three days |
| > or < | greater than or less than | Mistaken or used as the opposite of intended; '<10' mistaken as '40' | 'greater than' or 'less than' |
| / (slash mark) | separates two doses or indicates 'per' | Mistaken as the number 1 eg '25 units/10units' misread as '25 units and 110 units' | 'per' rather than a slash mark to separate doses |
| @ | at | Mistaken as '2' | at |
| & | and | Mistaken as '2' | and |
| + | plus or and | Mistaken as '4' | and |
| * | hour | Mistaken as a zero (eg q2* seen as q20) | hour |

Appendix B – Guidelines for administering and withholding medicines

The NIMC is a legal document and therefore **must be** written in a clear, legible and unambiguous form.

Every nurse has a responsibility to ensure they can clearly read and understand the order before administering any medicines. For **all** incomplete or unclear orders, the prescriber should be contacted to clarify. **Never** make any assumptions about the prescriber's intent.

Every medication chart **must have** the patient's identification details completed.

Every medication order **must be complete** and include:

- **date**
- **route**
- **generic drug name**
- **dose** ordered in metric units & arabic numerals
- **frequency** (using only accepted abbreviations)
- **times** (must be entered by the medical officer)
- **medical officer's signature**

If the medication chart is full (i.e. there is no appropriate space to sign for administration) then the medication order is not valid. The chart must be re-written as soon as possible.

Withholding medicines

It is appropriate to withhold the medicine if there is a known adverse drug reaction (ADR) to the prescribed medicine.

Generally medicines **should not** be withheld if the patient is **pre-operative** or **nil by mouth (NBM) / fasting** unless specified by the medical officer.

Remember the **five Rs**:

- The **right drug**
- The **right dose**
- The **right route**
- The **right time**
- The **right patient**