NSQHS Standard 4 Medication Safety
Definitions sheet – Edition 2

Medication Safety Audit Tools Definitions

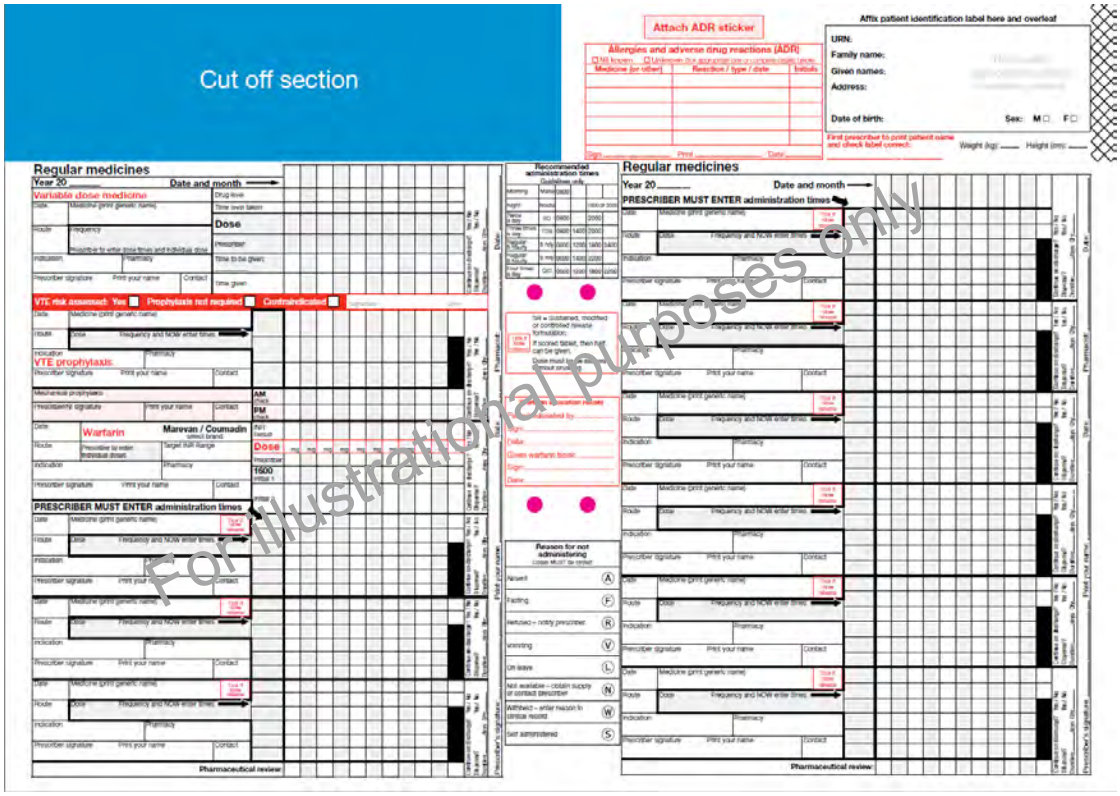
The following definitions and examples apply to the Medication Safety Audit Tools:

1. National Inpatient Medication Chart (NIMC), Paediatric National Inpatient Medication Chart (PNIMC) and Medication Action Plan (MAP)
2. Medication History
3. Allergies and Adverse Drug Reactions (ADR)
4. VTE Risk Assessment
5. Prescribing Intravenous Fluids and Electrolytes for Adults (Version 5) and Prescribing Guidelines for HYPO/HYPER-Electrolyte Disturbances in Adults (Version 5)
6. Guidelines for Anticoagulation using Warfarin - Adult (Version 8)
7. Consumer Medicine Information (CMI)
8. Injectable Line Labelling

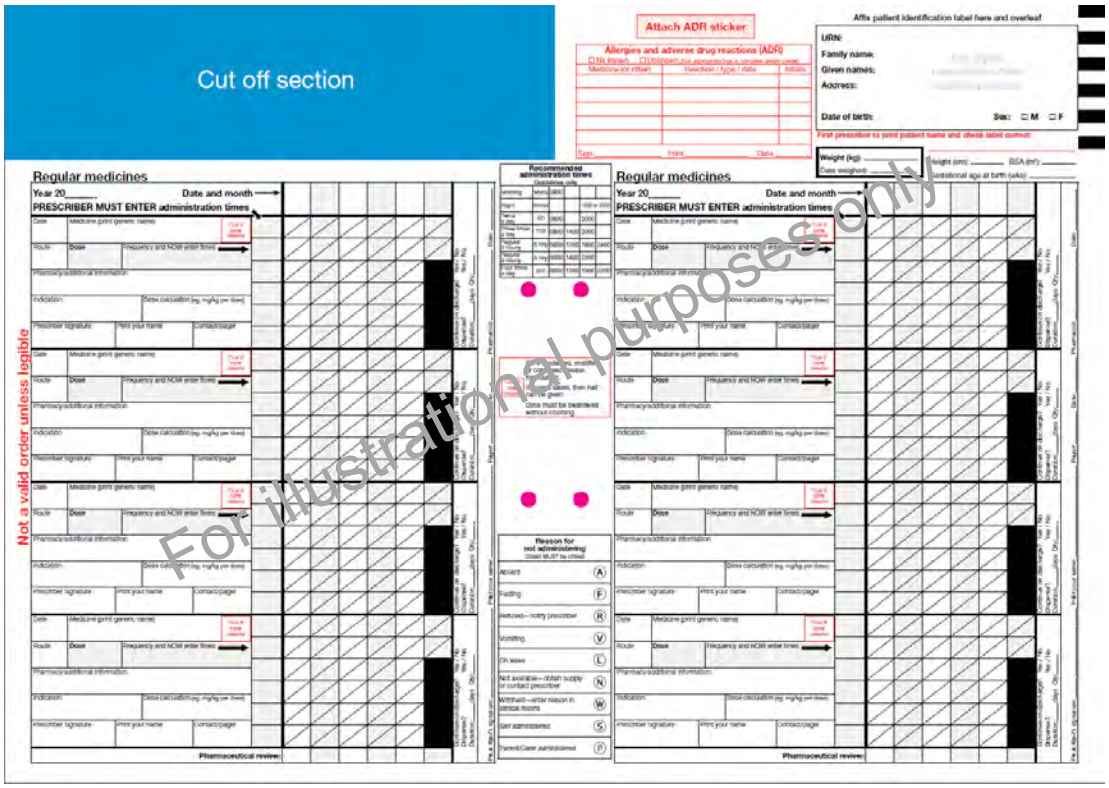
1. National Inpatient Medication Chart (NIMC), Paediatric National Inpatient Medication Chart (PNIMC) and Medication Action Plan (MAP)

There are a number of questions on the audit tools targeted at documented evidence on the NIMC, PNIMC or MAP. Screen shots of each of the three documents are displayed below.

NIMC



PNIMC



MAP

(Affix identification label here)

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Medication Action Plan (MAP)

URN:

Family name:

Given name(s):

Address:

Date of birth: Sex: ☐M ☐F ☐I

Ward / Unit:

First Clinician to Print Patient Name and Check Label Correct:

Medication changes during admission

Comments (e.g. administration, liaison, monitoring and supply notes)

Medication discharge checklist

- ☐ Own medicines checked / re-labelled / returned
- ☐ Permission granted for destruction of drugs no longer prescribed (if applicable)
- ☐ Prescription reconciled on discharge
- ☐ Prescription given to patient (if applicable)
- ☐ Medication supplied
- ☐ Consumer Medicine Information supplied
- ☐ Discharge Medication Record (DMR) given / sent to:
  - ☐ Patient
  - ☐ Pharmacy
  - ☐ General practitioner
  - ☐ Other:

Referral for Home Medicines Review (consider referral for Home Medicines Review if one or more options are ticked)

- ☐ Difficulty managing medicines
- ☐ Taking more than 12 doses per day
- ☐ Suspected non-compliance
- ☐ Significant changes to medication regimen during admission
- ☐ Inability to manage drug related therapeutic devices
- ☐ Medication requiring therapeutic monitoring
- ☐ Taking more than 5 medicines
- ☐ Other:

KEEP WITH ACTIVE MEDICATION CHART - DO NOT REMOVE

DO NOT WRITE IN THIS BINDING MARGIN

DIE CUT - REMOVE THIS SECTION

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Medication Action Plan (MAP)

Facility:

Ward / Unit:

Date of admission: / /

Consultant:

Issues / actions

Date / time:	Issue identified:	Proposed action:	Issue identified by / contact number: Person responsible: ☐ Notified Progress:	Result of action: Date:
Date / time:	Issue identified:	Proposed action:	Issue identified by / contact number: Person responsible: ☐ Notified Progress:	Result of action: Date:
Date / time:	Issue identified:	Proposed action:	Issue identified by / contact number: Person responsible: ☐ Notified Progress:	Result of action: Date:
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Date / time:	Issue identified:	Proposed action:	Issue identified by / contact number: Person responsible: ☐ Notified Progress:	Result of action: Date:

If additional space is needed: a *Medication Action Plan (MAP) Issues / Actions (Additional Page)* is available from the Medication Services Queensland website. Tick a box each time an extra page of issues is added. ☐1 ☐2 ☐3

v5.00 - 09/2012 Mat. No.: 10197092

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MEDICATION ACTION PLAN (MAP)

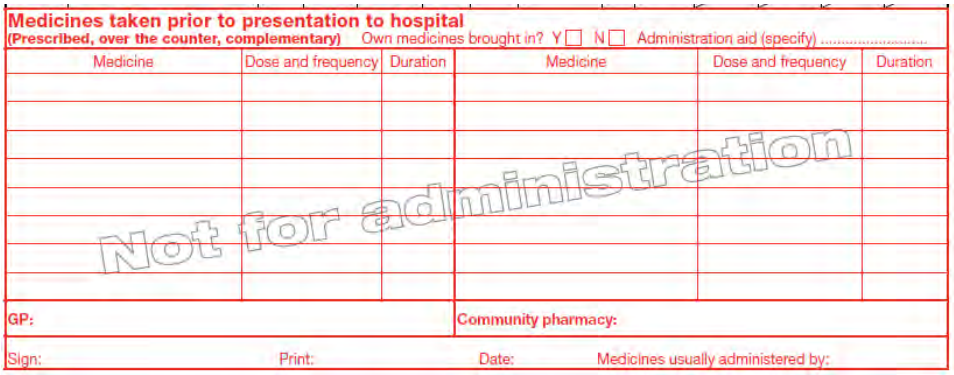
KEEP WITH ACTIVE MEDICATION CHART - DO NOT REMOVE

2. Medication History

Questions 1.0 and 1.1 on the patient collection audit tool require evidence of a medication history.

The Medication History can be documented in the Medicines Prior to Presentation to Hospital section located either at the bottom of the front page of the NIMC or, alternatively, in the MAP form.

NIMC – Medicines Prior to Presentation to Hospital section



Medicines taken prior to presentation to hospital
(Prescribed, over the counter, complementary) Own medicines brought in? Y ☐ N ☐ Administration aid (specify) .....

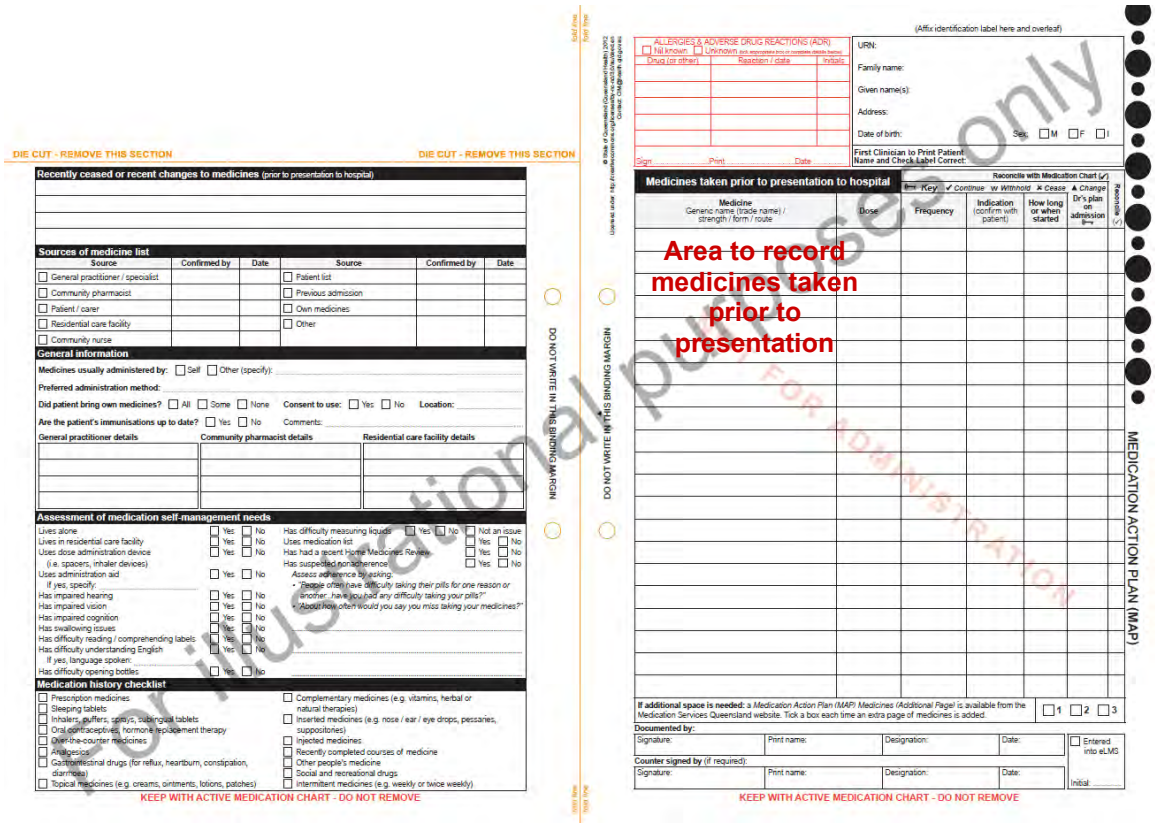
Medicine	Dose and frequency	Duration	Medicine	Dose and frequency	Duration

Not for administration

GP: | Community pharmacy:

Sign: | Print: | Date: | Medicines usually administered by:

MAP - Medicines Prior to Presentation to Hospital section



For the medication history section to be complete, the Medicines Prior to Presentation to Hospital section needs to be recorded on at least one medication chart or MAP form that is in current use.

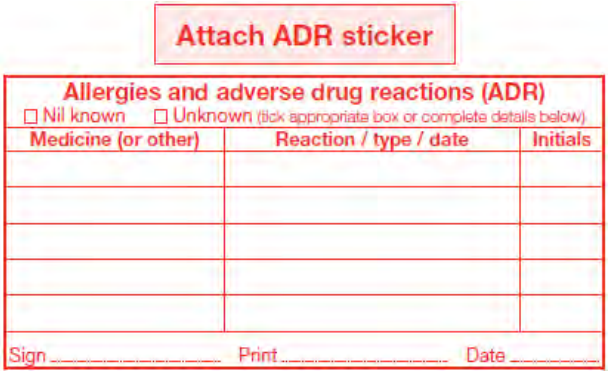
A complete medication history requires:

- drug identification details (generic name, strength and form)
- dose and frequency
- duration of therapy, i.e. when started
- the person documenting the history has signed, printed their name and dated the entry.

3. Allergies and Adverse Drug Reactions (ADR)

Questions 4.0 and 4.1 on the patient collection audit tool require evidence of medication allergies and ADR status.

The allergies and adverse drug reactions section is located in the top left corner of the NIMC.

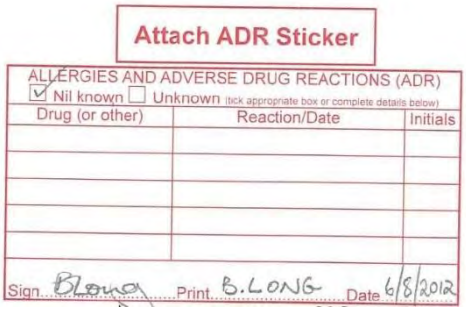

Attach ADR sticker

Allergies and adverse drug reactions (ADR)
☐ Nil known ☐ Unknown (tick appropriate box or complete details below)

Medicine (or other)	Reaction / type / date	Initials

Sign ..... Print ..... Date .....

For this section to be complete, either:


Attach ADR Sticker

ALLERGIES AND ADVERSE DRUG REACTIONS (ADR)
☑ Nil known ☐ Unknown (tick appropriate box or complete details below)

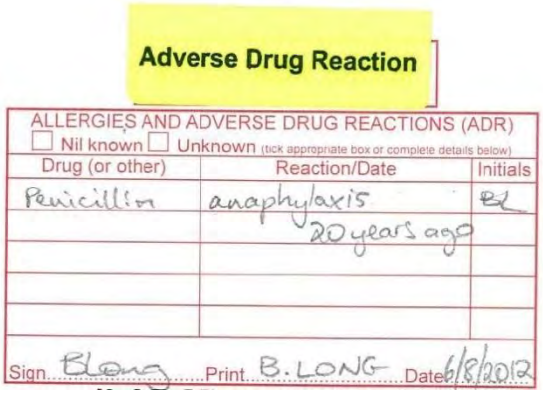
Drug (or other)	Reaction/Date	Initials

Sign Blong Print B.LONG Date 6/8/2012

'Nil Known' box is ticked

OR the 'Unknown' box is ticked

OR the name of the drug/substance, the reaction details (e.g. rash, nausea) **and** the date the reaction occurred or approximate timeframe (e.g. "20 years ago") is documented.



In the case where an adverse reaction is documented, an **ADR alert sticker** must also be attached on the front and back page of the NIMC and the person documenting the ADR status must have signed, printed their name and dated the entry on all NIMCs in use.

4. VTE Risk Assessment

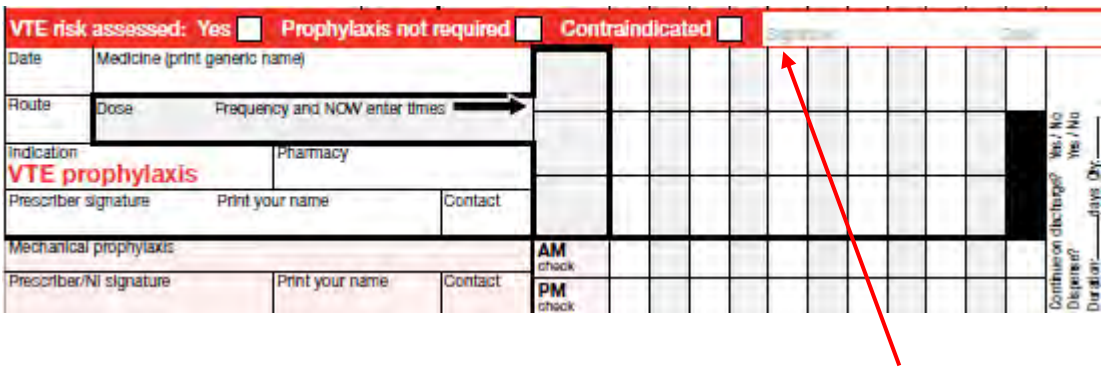
Question 7.0 on the patient collection audit tool require evidence of a Venous Thromboembolism (VTE) risk assessment.

VTE comprises deep vein thrombosis (DVT) and pulmonary embolism (PE). It is a significant problem for medical and surgical patients, leading to an increased risk of morbidity and mortality. Options for thromboprophylaxis include anticoagulants and mechanical prophylaxis.

The NIMC facilitates the prescribing of these prophylaxis methods by providing:

- an area to document that the patient's VTE risk has been assessed and to record contraindications to VTE prophylaxis as relevant
- a designated section for prescribing of anticoagulants for VTE prophylaxis
- a designated section for the prescribing of mechanical prophylaxis such as graduated compression stockings or intermittent pneumatic compression devices.

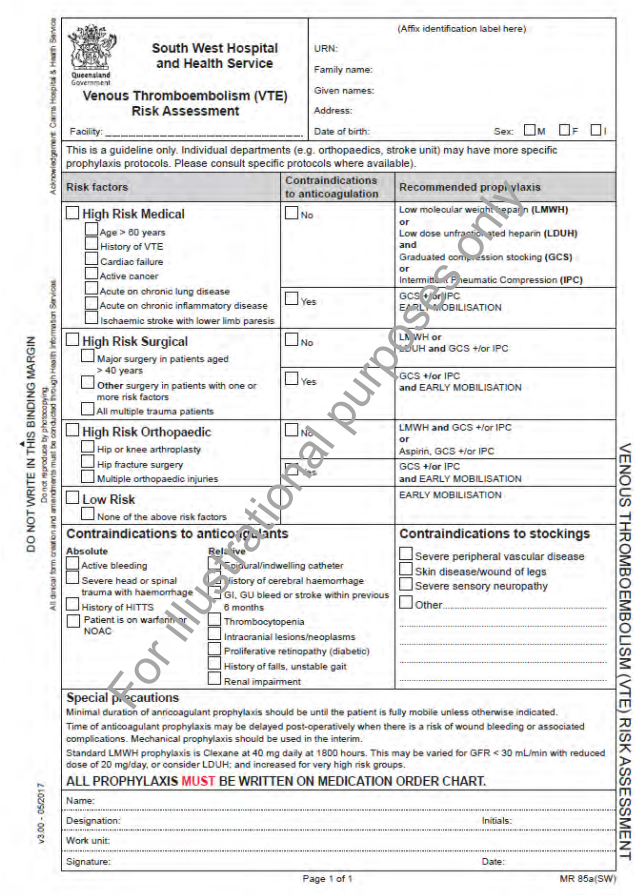
For this section to be complete:



The VTE risk assessed box is signed and dated on the NIMC/medication chart

OR

<u>the VTE risk assessment is clearly documented on a site-specific chart</u>



South West Hospital and Health Service

Venous Thromboembolism (VTE) Risk Assessment

Facility: _____

(Affix identification label here)

URN:
Family name:
Given names:
Address:
Date of birth: Sex: ☐M ☐F ☐I

This is a guideline only. Individual departments (e.g. orthopaedics, stroke unit) may have more specific prophylaxis protocols. Please consult specific protocols where available).

Risk factors	Contraindications to anticoagulation	Recommended prophylaxis
☐ **High Risk Medical** ☐ Age > 60 years ☐ History of VTE ☐ Cardiac failure ☐ Active cancer ☐ Acute on chronic lung disease ☐ Acute on chronic inflammatory disease ☐ Ischaemic stroke with lower limb paresis	☐ No	Low molecular weight heparin **(LMWH)** **or** Low dose unfractionated heparin **(LDUH)** **and** Graduated compression stocking **(GCS)** **or** Intermittent Pneumatic Compression **(IPC)**
	☐ Yes	GCS **+/or** IPC EARLY MOBILISATION
☐ **High Risk Surgical** ☐ Major surgery in patients aged > 40 years ☐ **Other** surgery in patients with one or more risk factors ☐ All multiple trauma patients	☐ No	LMWH **or** LDUH **and** GCS +/or IPC
	☐ Yes	GCS **+/or** IPC **and** EARLY MOBILISATION
☐ **High Risk Orthopaedic** ☐ Hip or knee arthroplasty ☐ Hip fracture surgery ☐ Multiple orthopaedic injuries	☐ No	LMWH **and** GCS +/or IPC **or** Aspirin, GCS +/or IPC
	☐ Yes	GCS **+/or** IPC **and** EARLY MOBILISATION
☐ **Low Risk** ☐ None of the above risk factors		EARLY MOBILISATION

Contraindications to anticoagulants

Absolute	**Relative**
☐ Active bleeding	☐ Epidural/indwelling catheter
☐ Severe head or spinal trauma with haemorrhage	☐ History of cerebral haemorrhage
☐ History of HITTS	☐ GI, GU bleed or stroke within previous 6 months
☐ Patient is on warfarin or NOAC	☐ Thrombocytopenia
	☐ Intracranial lesions/neoplasms
	☐ Proliferative retinopathy (diabetic)
	☐ History of falls, unstable gait
	☐ Renal impairment

Contraindications to stockings

☐ Severe peripheral vascular disease
☐ Skin disease/wound of legs
☐ Severe sensory neuropathy
☐ Other.....

Special precautions

Minimal duration of anticoagulant prophylaxis should be until the patient is fully mobile unless otherwise indicated.
Time of anticoagulant prophylaxis may be delayed post-operatively when there is a risk of wound bleeding or associated complications. Mechanical prophylaxis should be used in the interim.
Standard LMWH prophylaxis is Clexane at 40 mg daily at 1800 hours. This may be varied for GFR < 30 mL/min with reduced dose of 20 mg/day, or consider LDUH; and increased for very high risk groups.

ALL PROPHYLAXIS **MUST** BE WRITTEN ON MEDICATION ORDER CHART.

Name:
Designation: Initials:
Work unit:
Signature: Date:

Page 1 of 1 MR 85a(SW)

DO NOT WRITE IN THIS BINDING MARGIN

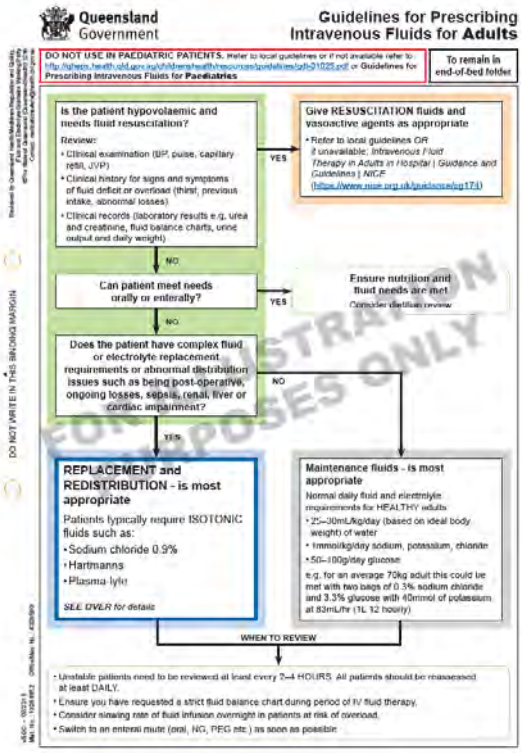
VENOUS THROMBOEMBOLISM (VTE) RISK ASSESSMENT

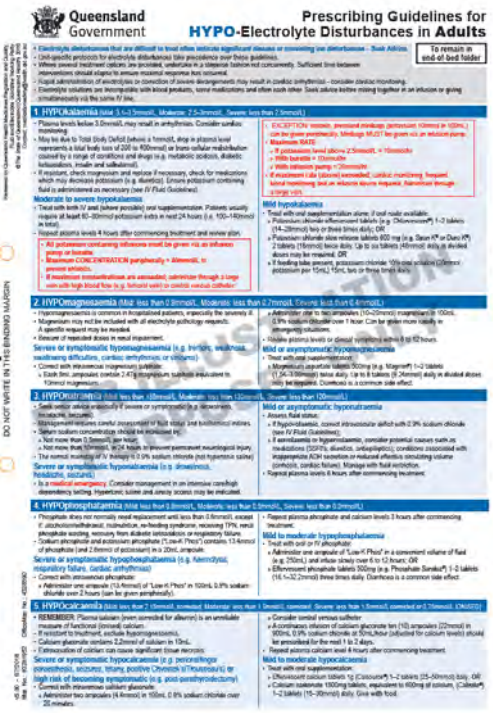
v3.00 - 05/2017

An example of a site-specific chart for documenting VTE risk assessment

5. Guidelines for Prescribing Intravenous Fluids for Adults (Version 5) and Prescribing Guidelines for HYPO/HYPER-Electrolyte Disturbances in Adults (Version 5)

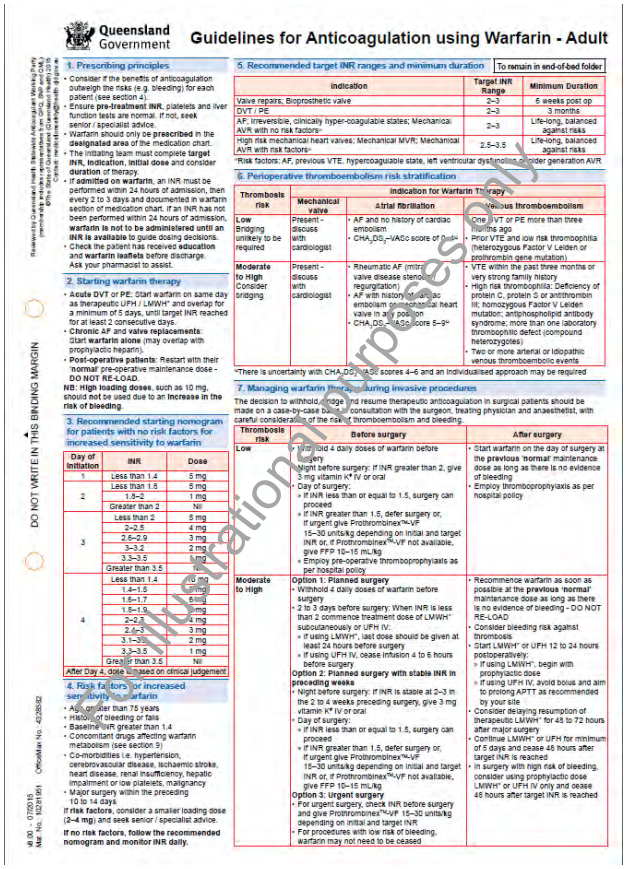
Question 8.0 on the patient collection audit tool requires evidence of the 'Guidelines for Prescribing Intravenous Fluids for Adults' and 'Prescribing Guidelines for HYPO/HYPER-Electrolyte Disturbances in Adults' to be available.





6. Guidelines for Anticoagulation using Warfarin (Version 8)

Question 9.0 on the patient collection audit tool requires the ‘Guidelines for Anticoagulation using Warfarin - Adult’ to be available where applicable.



Queensland Government

Guidelines for Anticoagulation using Warfarin - Adult

Reviewed by Queensland Health Therapeutic Guidelines Working Party (QHTGWP) and Therapeutic Guidelines (Queensland Health) Limited (QHTGL). Status of Guidelines (Queensland Health) 2015

DO NOT WRITE IN THIS BINDING MARGIN

1. Prescribing principles

- Consider if the **benefits** of anticoagulation outweigh the risks (e.g. bleeding) for each patient (see section 4).
- Ensure **pre-treatment INR**, platelets and liver function tests are normal. If not, **seek** senior / specialist advice.
- Warrfarin should only be **prescribed** in the **designated area** of the medication chart.
- The initiating team must complete **target INR, indication, initial dose** and consider **duration** of therapy.
- If **admitted on warfarin**, an INR must be performed within 24 hours of admission, then every 2 to 3 days and documented in warfarin section of medication chart. If an INR has not been performed within 24 hours of admission, **warfarin is not to be administered until an INR is available** to guide dosing decisions.
- Check the patient has received **education** and **warfarin leaflets** before discharge. Ask your pharmacist to assist.

2. Starting warfarin therapy

- **Acute DVT or PE**: Start warfarin on same day as therapeutic UFH / LMWH* and overlap for a minimum of 5 days, until target INR reached for at least 2 consecutive days.
- **Chronic AF** and **valve replacements**: Start **warfarin alone** (may overlap with prophylactic heparin).
- **Post-operative patients**: Restart with their **'normal'** pre-operative maintenance dose - **DO NOT RE-LOAD**.

NB: High loading doses, such as 10 mg, should not be used due to an **increase in the risk of bleeding**.

3. Recommended starting nomogram for patients with no risk factors for increased sensitivity to warfarin

Day of initiation	INR	Dose
1	Less than 1.4	5 mg
	Less than 1.8	5 mg
2	1.8–2	1 mg
	Greater than 2	Nil
	Less than 2	5 mg
	2–2.5	4 mg
	2.6–2.9	3 mg
3	3–3.2	2 mg
	3.3–3.5	1 mg
	Greater than 3.5	Nil
	Less than 1.4	10 mg
	1.4–1.5	5 mg
	1.6–1.7	6 mg
	1.8–1.9	5 mg
	2–2.3	4 mg
4	2.4–3	3 mg
	3.1–3.2	2 mg
	3.3–3.5	1 mg
	Greater than 3.5	Nil

After Day 4, dose based on clinical judgement

4. Risk factors for increased sensitivity to warfarin

- Age greater than 75 years
- History of bleeding or falls
- Baseline INR greater than 1.4
- Concomitant drugs affecting warfarin metabolism (see section 9)
- Co-morbidities i.e. hypertension, cerebrovascular disease, ischaemic stroke, heart disease, renal insufficiency, hepatic impairment or low platelets, malignancy
- Major surgery within the preceding 10 to 14 days

If **risk factors**, consider a smaller loading dose (**2–4 mg**) and **seek** senior / specialist advice.

If no risk factors, follow the recommended nomogram and monitor INR daily.

5. Recommended target INR ranges and minimum duration

To remain in end-of-bed folder

Indication	Target INR Range	Minimum Duration
Valve repairs; Bioprosthetic valve	2–3	6 weeks post op
DVT / PE	2–3	3 months
AF; Irreversible, clinically hyper-coagulable states; Mechanical AVR with no risk factors*	2–3	Life-long, balanced against risks
High risk mechanical heart valves; Mechanical MVR; Mechanical AVR with risk factors*	2.5–3.5	Life-long, balanced against risks

*Risk factors: AF, previous VTE, hypercoagulable state, left ventricular dysfunction, older generation AVR

6. Perioperative thromboembolism risk stratification

Thrombosis risk	Indication for Warfarin Therapy		
	Mechanical valve	Atrial fibrillation	Previous thromboembolism
Low Bridging unlikely to be required	Present - discuss with cardiologist	• AF and no history of cardiac embolism • CHA$_2$DS$_2$–VASc score of 0–1*	One DVT or PE more than three months ago • Prior VTE and low risk thrombophilia (heterozygous Factor V Leiden or prothrombin gene mutation)
Moderate to High Consider bridging	Present - discuss with cardiologist	• Rheumatic AF (mitral valve disease stenosis/ regurgitation) • AF with history of cardiac embolism or mechanical heart valve in any position • CHA$_2$DS$_2$–VASc score 5–9*	• VTE within the past three months or very strong family history • High risk thrombophilia: Deficiency of protein C, protein S or antithrombin III; homozygous Factor V Leiden mutation; antiphospholipid antibody syndrome; more than one laboratory thrombophilic defect (compound heterozygotes) • Two or more arterial or idiopathic venous thromboembolic events

*There is uncertainty with CHA$_2$DS$_2$–VASc scores 4–6 and an individualised approach may be required

7. Managing warfarin therapy during invasive procedures

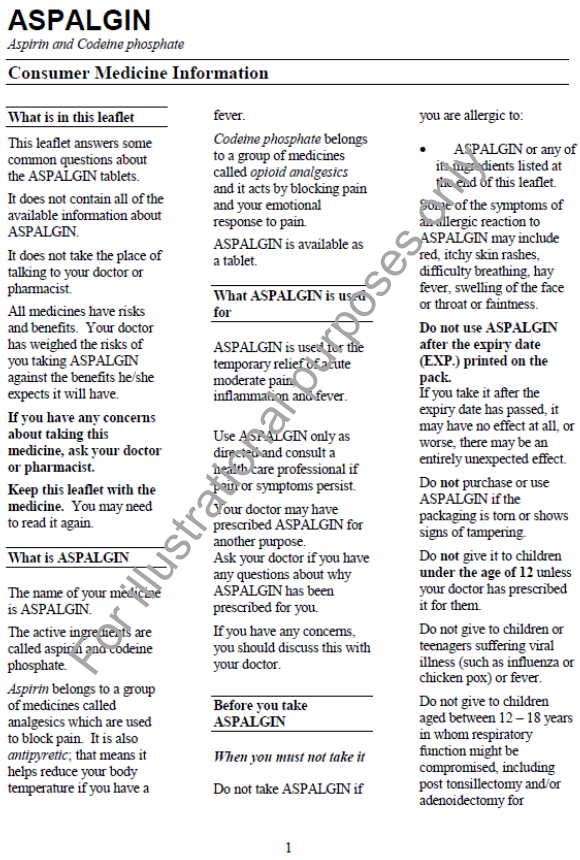
The decision to withhold, bridge and resume therapeutic anticoagulation in surgical patients should be made on a case-by-case basis in consultation with the surgeon, treating physician and anaesthetist, with careful consideration of the risks of thromboembolism and bleeding.

Thrombosis risk	Before surgery	After surgery
Low	• Withhold 4 daily doses of warfarin before surgery Night before surgery: If INR greater than 2, give 5 mg vitamin K* IV or oral • Day of surgery: » If INR less than or equal to 1.5, surgery can proceed » If INR greater than 1.5, defer surgery or, if urgent give Prothrombinex™-VF 15–30 units/kg depending on initial and target INR or, if Prothrombinex™-VF not available, give FFP 10–15 mL/kg • Employ pre-operative thromboprophylaxis as per hospital policy	• Start warfarin on the day of surgery at the **previous 'normal'** maintenance dose as long as there is no evidence of bleeding • Employ thromboprophyaxis as per hospital policy
Moderate to High	**Option 1: Planned surgery** • Withhold 4 daily doses of warfarin before surgery • 2 to 3 days before surgery: When INR is less than 2 commence treatment dose of LMWH* subcutaneously or UFH IV. » If using LMWH*, last dose should be given at least 24 hours before surgery » If using UFH IV, cease infusion 4 to 6 hours before surgery **Option 2: Planned surgery with stable INR in preceding weeks** • Night before surgery: If INR is stable at 2–3 in the 2 to 4 weeks preceding surgery, give 3 mg vitamin K* IV or oral • Day of surgery: » If INR less than or equal to 1.5, surgery can proceed » If INR greater than 1.5, defer surgery or, if urgent give Prothrombinex™-VF 15–30 units/kg depending on initial and target INR or, if Prothrombinex™-VF not available, give FFP 10–15 mL/kg **Option 3: Urgent surgery** • For urgent surgery, check INR before surgery and give Prothrombinex™-VF 15–30 units/kg depending on initial and target INR • For procedures with low risk of bleeding, warfarin may not need to be ceased	• Recommence warfarin as soon as possible at the **previous 'normal'** maintenance dose as long as there is no evidence of bleeding - DO NOT RE-LOAD • Consider bleeding risk against thrombosis • Start LMWH* or UFH 12 to 24 hours postoperatively: » If using LMWH*, begin with prophylactic dose » If using UFH IV, avoid bolus and aim to prolong APTT as recommended by your site • Consider delaying resumption of therapeutic LMWH* for 48 to 72 hours after major surgery • Continue LMWH* or UFH for minimum of 5 days and cease 48 hours after target INR is reached • In surgery with high risk of bleeding, consider using prophylactic dose LMWH* or UFH IV only and cease 48 hours after target INR is reached

ID 20 – 070315
Mat. No. 10291561
OfficeMax No. 4238582

7. Consumer Medicine Information (CMI)

Question 6.0 on the ward/unit collection audit tool and Question 13.0 on the patient collection audit tool are associated with the provision of medicine information leaflets, such as consumer medicine information (CMI). An example of a CMI on Aspalgin is displayed below.



ASPALGIN

Aspirin and Codeine phosphate

Consumer Medicine Information

What is in this leaflet

This leaflet answers some common questions about the ASPALGIN tablets.

It does not contain all of the available information about ASPALGIN.

It does not take the place of talking to your doctor or pharmacist.

All medicines have risks and benefits. Your doctor has weighed the risks of you taking ASPALGIN against the benefits he/she expects it will have.

If you have any concerns about taking this medicine, ask your doctor or pharmacist.

Keep this leaflet with the medicine. You may need to read it again.

What is ASPALGIN

The name of your medicine is ASPALGIN.

The active ingredients are called aspirin and codeine phosphate.

Aspirin belongs to a group of medicines called analgesics which are used to block pain. It is also *antipyretic*; that means it helps reduce your body temperature if you have a fever.

Codeine phosphate belongs to a group of medicines called *opioid analgesics* and it acts by blocking pain and your emotional response to pain.

ASPALGIN is available as a tablet.

What ASPALGIN is used for

ASPALGIN is used for the temporary relief of acute moderate pain, inflammation and fever.

Use ASPALGIN only as directed and consult a health care professional if pain or symptoms persist.

Your doctor may have prescribed ASPALGIN for another purpose.
Ask your doctor if you have any questions about why ASPALGIN has been prescribed for you.

If you have any concerns, you should discuss this with your doctor.

Before you take ASPALGIN

When you must not take it

Do not take ASPALGIN if you are allergic to:

- ASPALGIN or any of its ingredients listed at the end of this leaflet.

Some of the symptoms of an allergic reaction to ASPALGIN may include red, itchy skin rashes, difficulty breathing, hay fever, swelling of the face or throat or faintness.

Do not use ASPALGIN after the expiry date (EXP.) printed on the pack.
If you take it after the expiry date has passed, it may have no effect at all, or worse, there may be an entirely unexpected effect.

Do **not** purchase or use ASPALGIN if the packaging is torn or shows signs of tampering.

Do **not** give it to children **under the age of 12** unless your doctor has prescribed it for them.

Do not give to children or teenagers suffering viral illness (such as influenza or chicken pox) or fever.

Do not give to children aged between 12 – 18 years in whom respiratory function might be compromised, including post tonsillectomy and/or adenoidectomy for

1

8. Injectable Line Labelling

Questions 14.0 and 14.1 on the patient collection audit tool requires the correct line labelling for all injectable lines used for administering medication/fluid.

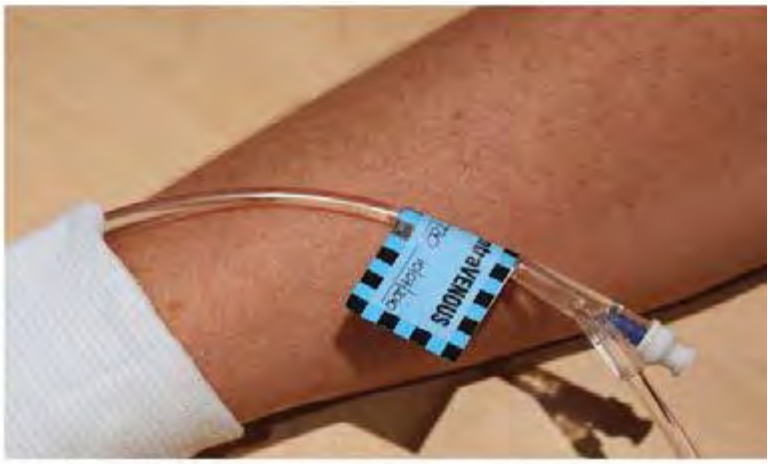
Labelling of injectable medicines and fluids, and the devices used to deliver them, has been identified as a patient safety issue. The ACSQHC has developed National Standard for User-applied Labelling of Injectable Medicines, Fluids and Lines (the Labelling Standard) to improve safety in this important practice area.

Line labels

When auditing, check if the line labels (as pictured below) are applied to all of the patient's injectable line(s).

For each line to be compliant there must be:

- a correct colour-coded **route** label positioned near the line's injection port on the patient side (see photo). The exception to this is where there is a possibility of tampering, e.g. paediatric or confused patient. In these cases the label can be placed further up the line away from the injection port.
- a **date** written on each label – There are currently two date prompts on labels used in Queensland Health facilities, these are:
    1) 'commenced' which is seen on intravenous, central venous, subcutaneous, intra-arterial, miscellaneous and enteral line labels
    2) 'catheter commenced' which is seen on the epidural, intrathecal and regional line labels.



Label near the injection port on the patient side.

The following labels are referenced specifically on the audit tool:

The labels below are not specifically referenced on the audit tool but may be sighted. These would fall into the 'Other' line category on the audit tool:

Further information can be found at:

- Queensland Health Medication Safety Website: https://www.health.qld.gov.au/clinical-practice/guidelines-procedures/medicines/safety
- Australian Commission on Safety and Quality in Health Care Website: https://www.safetyandquality.gov.au/our-work/medication-safety/
- Queensland Health staff can access information on Medication Safety via the Queensland Health intranet: https://qheps.health.qld.gov.au/medicines/services

We recognise and appreciate that there may be gaps in the scope and questions included in these tools, however, as the audit tools are a constant **'Work in Progress'**, future versions will build upon the existing scope and questions, and incorporate staff feedback and suggestions for improvement.

Patient Safety and Quality Improvement Service, Clinical Excellence Queensland, welcomes feedback on the audit tools and the measurement plans, to ensure the tools meet the needs of Queensland Health facilities. We appreciate any feedback you can provide for the next version.

Please email Patient Safety and Quality Improvement Service on mars@health.qld.gov.au for feedback or comments.