SAFE PRESCRIBING

PRACTICE GUIDELINE ©

DOCUMENT SUMMARY/KEY POINTS

- These guidelines outline the use of safe and standardised prescribing practices to minimise medication errors and their impact on patient safety at SCH-Randwick and CHW.

CHANGE SUMMARY

- Replaces 1.A.12:7007-01:00 Safe Prescribing Guidelines – SCH.

READ ACKNOWLEDGEMENT

The following staff are to read and acknowledge this document:

- All staff of SCH-Randwick and CHW who are involved in the provision of medications.
- Department Heads and Nursing Unit Managers at SCH-Randwick and CHW.

This document reflects what is currently regarded as safe practice. However, as in any clinical situation, there may be factors which cannot be covered by a single set of guidelines. This document does not replace the need for the application of clinical judgement to each individual presentation.

Approved by:	SCHN Policy, Procedure and Guideline Committee	
Date Effective:	1st January, 2018	**Review Period**: 3 years
Team Leader:	Director of Nursing	**Area/Dept**: Nursing

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Background

Clear communication of medication orders minimises the risk of medication errors. Prescribers are encouraged to use these simple and standardised safe prescribing guidelines in order to ensure medication orders are clear and that the right drug in the right dose is given to the right patient at the right time, all the time.

This practice guideline makes specific reference to prescribing using a **paper National Inpatient Medication Chart (NIMC)** or the **Electronic Medical Record (eMR – Electronic Medication Management)** where there are differences between the two.

General Safe Prescribing Tips

Gather Information

- Take a comprehensive medication history
- Know the patient's current medication therapy and reason for using each medication
- Ensure the patient's medication history in the medical record is up-to-date and accurately reflects their current therapy
- Assess adherence to current and past medications and reasons for any non-adherence

Decision Making and Communication

- Check potential drug interactions, contraindications and side effects before prescribing a new medication
- Be specific – identify the drug, form, route, dose, frequency and duration of treatment
- When prescribing using paper forms, write legibly in ball point pen (printing in CAPITALS is ideal)
- Indicate the timing of any drug levels required
- Verbal or phone orders should only be used in approved circumstances (see p.11)
- When prescribing using a paper medication chart, minimise the number of active medication charts per patient
    - If there are multiple charts, annotate "1 of 2, 2 of 2…etc" and modify appropriately as therapy changes.
- Communicate decisions to other health care professionals and patients

Monitor and Review

- Review control of symptoms and signs, patient outcomes and drug levels

Medication History

Best Possible Medication History (BPMH)

The BPMH should be initiated by medical, nursing or pharmacy staff as soon as possible in the episode of care to ensure timely and appropriate medication management. BPMH includes:

- A list of medications including recently started, ceased or changed medication (generic and brand name, dose, route, strength and formulation, date of initiation and indication, over the counter and complementary medications)
- The source(s) of the information (at least two sources)
  - E.g. an interview with the patient and/or their carer confirmed using another available source such as the patient's own medication supply

Medication Reconciliation

The process of obtaining, verifying and documenting an accurate list of a patient's current medications on admission and comparing this list to the admission, transfer, and/or discharge medication orders to identify and resolve discrepancies. At the end of the episode of care, the verified information is transferred to the next care provider.

In the electronic medical record (eMR), medication reconciliation tools can be used to convert a medication history into inpatient orders at the point of admission, or to document the medication management plan beyond the inpatient admission at the point of discharge.

Refer to eMM Quickstarts: Medication Reconciliation – Admission and Medication Reconciliation – Discharge for further information on medication reconciliation in the eMR.

For information on BPMH and Medication Reconciliation see Medication Reconciliation Procedure-SCHN.

Inpatient Prescribing

Patient Information

When prescribing using the National Inpatient Medication Chart (NIMC), each medication chart should clearly show:

- Patient's full name and Medical Record Number (MRN)
- Name of Admitting Medical Officer
- Date of birth and gender

If an addressograph sticker is used, the first prescriber **must** print the patient's name on the chart in the space provided.

When prescribing in the eMR, it is important to check that you have the correct patient chart open before starting to prescribe.

Adverse Drug Reactions (ADR)

Verified ADRs, including allergies, must be documented by specifying the medication name, type of reaction and date of occurrence (**Figures 1 and 2**). All patients should have any allergies and adverse drug reactions documented accurately in the eMR (PowerChart).

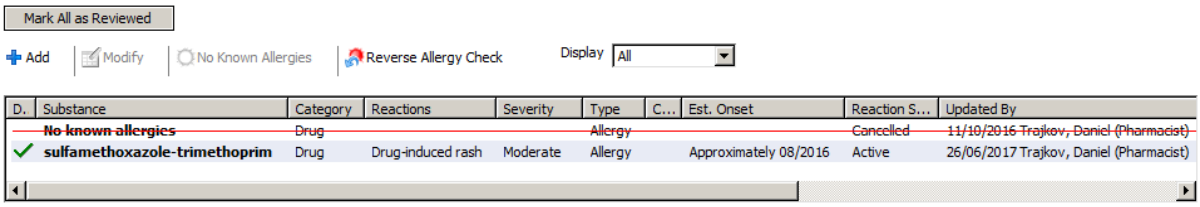

Figure 1. ADR documentation in the eMR (PowerChart)

When prescribing using an NIMC, the **ADR section of the chart must also be completed.**

If ADR status is unknown, or if there are nil known ADRs, this must be documented.

On the paper NIMC:

- Tick Unknown if no information is available about previous reactions (e.g. if the patient is unable to communicate).
- Tick Nil known if the patient/carer is not aware of any previous ADRs or allergies.

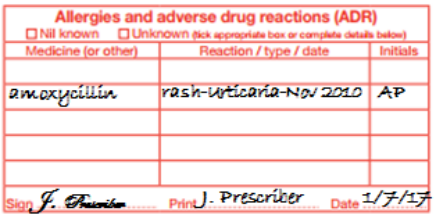

Figure 2. ADR documentation on the NIMC

In the eMR:

- Document the allergy status as 'No known allergies' if the patient/carer is not aware of any previous ADRs or allergies.
- If allergy information is not available, ensure allergy/ADR status is documented as soon as it is available. A prompt will be displayed to document allergy/ADR status prior to prescribing and prior to each subsequent instance of prescribing until this is completed.

Weight and Body Surface Area

On the paper NIMC:

- Document an accurate weight or body surface area (BSA) including the date the weight was measured.
- Weight must also be documented on the back page of the chart where PRN medicines are ordered.

In the eMR:

- Document an accurate dosing weight prior to prescribing. If BSA is required for dose calculation, ensure an accurate height is documented.
- Dosing weight is valid for dose calculations for up to seven days after being documented.
- If an estimated weight is used for dose calculations, ensure a measured weight is obtained and documented as a dosing weight as soon as possible.

If a patient is overweight or odematous, consideration should be given as to whether their actual body weight should be used to calculate medication doses. Different measures can be used including total body weight, ideal body weight or adjusted body weight depending on the particular drug. At Randwick refer to (Drug dosing for overweight and obese patients – SCH practice guideline) Therapeutic drug monitoring should be used, when available, in those patients who have a potential for alterations in volume of distribution or pharmacokinetics as well as with those drugs which exhibit high inter-patient variability

For ideal body weight where the age and height are known:

- Use a stature-for-age growth chart to find the patient's percentile.
- Use the percentile on the weight-for-age chart in eMR together with the age chart to read the "ideal" weight (see Appendix 1 for sample chart).
- If the patient's height is not known or cannot be measured, use the 50th percentile as a rough guide.

For underweight children, drug dosing should be based on the weight measured taking into consideration general nutritional status and precautions regarding possible altered drug clearance e.g. renal and hepatic function.

For information on how to document an alternate weight for dosing when prescribing electronically in the eMR, refer to eMM QuickStart: Dosing Weight and Height (Prescribing).

Gestational Age

- Gestational age at birth should be documented for premature infants under the BSA and height box on the NIMC.
- In the eMR, gestational age is documented using the Paediatric Growth Chart Form – refer to eMR Quickstart: Growth Charts for preterm patients.

Medication Order Requirements:

Date of prescription or amendment

Medication name

- Use generic medication name unless combination product is used e.g. Pentavite®.
- For non-bioequivalent drugs (e.g. warfarin), brand name should also be specified.
- Do NOT use abbreviations for medication names e.g. MTX (prescribe as methotrexate), AZA (prescribe as azathioprine), GCSF (specify filgrastim, lenograstim, pegfilgrastim etc.)
- Chemical names e.g. KCl can be easily confused or misread and should never be used. Chemical names should be specified in full e.g. 'potassium chloride'
- Clarify form and strength (e.g. hydrocortisone 1% cream vs. eye drops)
- To indicate a sustained, modified or controlled release form of an oral medication (*e.g. verapamil SR, Diltiazem CD®, carbamazepine CR*):
    - On the NIMC, tick the '*Tick if Slow Release'* box on the medication order
    - In the eMR, use the '*Modified Release'* order field where available

Route

- Only commonly used and understood abbreviations should be used to indicate the route of administration when prescribing using an NIMC.

Error prone abbreviations associated with routes of administration should NEVER be used
Use 'subcut' OR specify 'subcutaneous' – **DO NOT USE SC**
Use 'subling' OR specify 'sublingual' – **DO NOT USE SL**

- Medication orders should only have a single route of administration. Combination routes (e.g. PO/IV) should not be used.

Indication

- Indication must be specified for all medication orders. It ensures effective communication to other staff and allows the order to be reviewed in the correct context, reducing the risk of misinterpretation.
  - e.g. paracetamol for symptomatic fever > 38.5°C, as opposed to pain
  - OR trimethoprim-sulfamethoxazole for PJP prophylaxis three times per week as opposed to urinary tract infections once daily at night

Dose

- Check doses in a current local guideline or paediatric dosing reference available from the SCHN Clinical Resources page OR CIAP, including:
  - Australian Medicines Handbook Children's Dosing Companion
  - British National Formulary for Children
  - UpToDate©
  - Meds4Kids Dosing Guide may be used at CHW
- Calculate the dose using accurate weight or BSA (up to the maximum adult dose) with consideration of the most appropriate weight (ideal or total body weight). Round doses to allow practical administration, where appropriate. Consider whether it is safer to round to the nearest whole number or fraction of a unit dose (e.g. quarter of a tablet). Contact pharmacy for advice if unsure.
- Include the basis for dose calculation in the dose calculation box (e.g. 15mg/kg/dose) to assist pharmacists, nurses and other doctors in double-checking the dose to ensure that the intended and actual dose is calculated correctly. ***Prescribers must double check their calculations***.
- Adjust dose to account for renal or hepatic impairment and drug interactions, if needed.

Error Prone Prescribing: Dose
NEVER use trailing zeros which can lead to ten-fold errors

ALWAYS use leading zeros

e.g. 0.1 mg NOT .1 mg; 15 mg NOT 15.0 mg

NEVER use 'mcg' or 'µ' or 'ug'

ALWAYS use "microg"

NEVER use 'IU' or 'U'

ALWAYS use "units" specified in full

- Give specific dosage instructions – dose strength, route and frequency
- Express dosage strength in exact units (not mL or number of tablets)
  - e.g. carbamazepine 100 mg, rather than 5 mL or i tablet
- Use words or numbers (1, 2, 5 etc) rather than roman numerals (i, ii, v)

Frequency and administration times

- The prescriber **must** specify a **frequency** and enter the **administration time(s)** when placing a medication order.
- On the NIMC, administration times should be entered using the 24-hour clock (e.g. 18:00)

ALWAYS specify the date and time of the first dose on a new medication order

- 'Once daily' medication times should specified in the prescription e.g. 'morning', 'midday', 'at night' based on patient preference, timing of food and other medications as well as the nature of the medication.

Error Prone Prescribing: Frequency

If 'daily' is used, this should be written out in full. Abbreviations such as OD or QD are ambiguous and must not be used.

Avoid fractions e.g. 1/7 may be understood to mean one seventh, once a day, for one day, once a week or for one week.

When prescribing in the eMR, remember to check that the frequency selected results in appropriate administration times and the right date and time for the first dose e.g. 6 hourly is NOT the same as QID.

Medications which are not given every day

- If a medication is to be given on specific days of the week, the actual day(s) on which it is to be given must be specified on the order e.g. methotrexate, ONCE a week on Monday only.
- When using the paper NIMC, cross out the days when medication is not to be given on the administration record section of the chart (Figure 4).

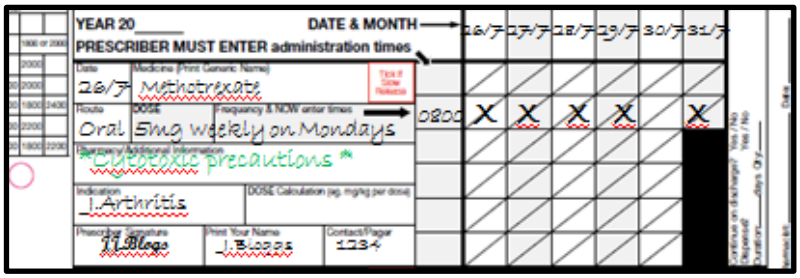

Figure 4. Forcing function for non-administration days on the NIMC

- When prescribing in the eMR, select an appropriate frequency which specifies the day(s) of the week. Ensure the first dose date and time are appropriate.

Refer to eMM Quickstarts: Medication Frequencies and Medication Frequencies List for more detail on how to appropriately use frequencies when prescribing in the eMR.

Duration of therapy

- If the stop date is definitive:
  - Specify the duration intended on the medication order
  - In the eMR, a medication order will automatically cease after the duration has elapsed
  - When prescribing using an NIMC, cross out subsequent days
- If you do not wish to place a definitive stop date/time:
  - Note the time for review on the medication order (Note: all empiric antibiotics should be reviewed at or before 48 hours).
- When prescribing in the eMR, add a special instruction or order comment on the medication order to indicate a date/time for review
- When prescribing using a paper NIMC, annotate the corresponding date for review

Prescriber identification

- When prescribing using a paper NIMC, sign each order separately.
  - **Print** surname and **pager number** next to signature on each page of the medication chart
- When prescribing in the eMR, enter the pager number in the 'Pager' field on the order.

As Required (PRN) Orders

Medication orders which are for administration only when required (PRN) must include:

- Hourly frequency (PRN alone is not sufficient)
- Maximum number of doses in 24 hours
- For some protocols (eg post-operative pain management), the maximum number of doses, or the maximum duration of treatment should also be included
- Indication or reason for giving the medication (e.g. acute wheeze)

Prescribers should carefully check for duplicate medication orders, including other PRN orders or regular orders for the same medication or same therapeutic class

Ceasing and Changing Orders

- Regularly review the patient's current medication orders and discontinue orders which are no longer needed.
- To cease an order **on the paper NIMC** (Figure 5);
  - The original order must not be obliterated
  - draw a single line through the order; and
  - a line across the administration section ensuring that the line does not impinge on other orders; and
  - write the reason for changing the order (e.g. cease, written in error, dose increase etc.) at an appropriate place in the administration record section
  - sign and date this section
- To change an order, cease the first order and prescribe a new order.
- In the eMR, ceased medication orders will appear 'greyed out' and at the bottom of the medication administration record.

Note: The acronym D/C should not be used for ceased orders as this can be confused with discharge. Always use 'cease' or 'ceased'.

Figure 5. Ceased medication order on the NIMC.

Verbal & Emergency Medication Orders

At Sydney Children's Hospital:

At SCH, verbal orders are restricted to two situations:

- Insulin orders prescribed over the phone by the Endocrine team (must be documented on the insulin order chart)
- Emergency resuscitation

- The person who **receives** a telephone order should be a registered nurse.
- Due to the risk of misinterpretation of drug names and doses over the telephone, all orders received by telephone **must be read back to the prescriber** (in figures and words – e.g. 50 mg: fifty milligrams, five zero milligrams).
- As a further check, the prescriber should repeat the order to **a second person**.
- The nurse should make a full **record** of the order, including the prescriber's name, in the patient's medical notes/NIMC.
- The administration of the medication must be recorded.
- When using the paper NIMC, it should be recorded in the Telephone Orders section on the front of the medication chart.
- The prescriber **must confirm** this order by **counter-signing** the nurse's record of administration, as soon as is practicable, and in any case **within 24 hours** of ordering
    - o

At Children's Hospital Westmead:

Phone orders are discouraged as prescribers should be able to access the eMR from anywhere in the hospital and via VPN outside of the hospital.

Safe principles for phone orders are:

- The person who receives the phone order is a registered nurse.
- The order is repeated back to the prescriber (including the drug name and dose – in words and figures - e.g. 50 mg: fifty milligrams, five zero milligrams).
- To verify the phone order, the order must be repeated to a second person.

For guidance on documenting phone orders when prescribing in the eMR, refer to eMM Quickstart: Phone Orders.

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Continuous Infusions in eMR (CHW only)

Intravenous fluid orders (including those containing additives) must be prescribed in accordance with the local practice guidelines:

- Intravenous Fluid Management - **CHW**

Prescribing continuous infusions in the eMR

When prescribing continuous infusions in the eMR, the following principles should be followed in addition to the local practice guidelines above:

- The 'IV Fluids' PowerPlan should be used to prescribe intravenous fluid therapy where possible as it contains standardised fluid orders.
- Continuous infusion orders in the eMR can be prescribed to allow commencement of more than one bag or syringe from a single order, up to a ***maximum of 6 bags or syringes from a single order.*** Indicate this using the 'Order Review After' field.

DO NOT **use 'As per protocol' for the 'Order Review After' order detail unless there is a specific approved protocol, practice guideline or other approved document which outlines limits on the infusion duration and/or number of bags or syringes allowed from a single order.**

- If additional bags or syringes are required, where the fluid and additive ingredients are unchanged, an existing order can be modified (and the 'Order Review After' detail updated) rather than requiring a new order to be placed.

All continuous infusion orders **must** be ceased by a medical officer once the therapy is no longer required. Check for any continuous infusion orders that are no longer required (and cease appropriately) before placing a new one.

Continuous medication infusions

- Where available, use an IV set to prescribe a continuous infusion containing additives (medication or electrolyte infusions). These contain the additive and fluid ingredients as well as useful information in the 'Infusion Instructions' section (e.g. maximum recommended rate). IV sets can be found by searching for the medication name, followed by 'continuous infusion':
    - e.g. midazolam in sodium chloride 0.9% continuous infusion
- When prescribing an infusion with a weight-based rate (e.g. microg/kg/min), ensure that the patient's weight used for the calculation is appropriate.
- When a rate change is required for medication infusions being titrated to clinical effect (and the fluid and additive components of the infusion are unchanged), modify the existing continuous infusion order and adjust the rate as required.

For further information on prescribing and managing continuous infusions in the eMR, refer to eMM Quickstarts:

Continuous Infusions

Complex Continuous Infusions – Prescribing

Complex Continuous Infusions – Modifying

Discharge and Outpatient Prescribing

Refer to Management of Discharge, Gate Pass and Outpatient Medications – SCHN Practice Guideline for information on discharge, gate pass and outpatient prescribing.

References

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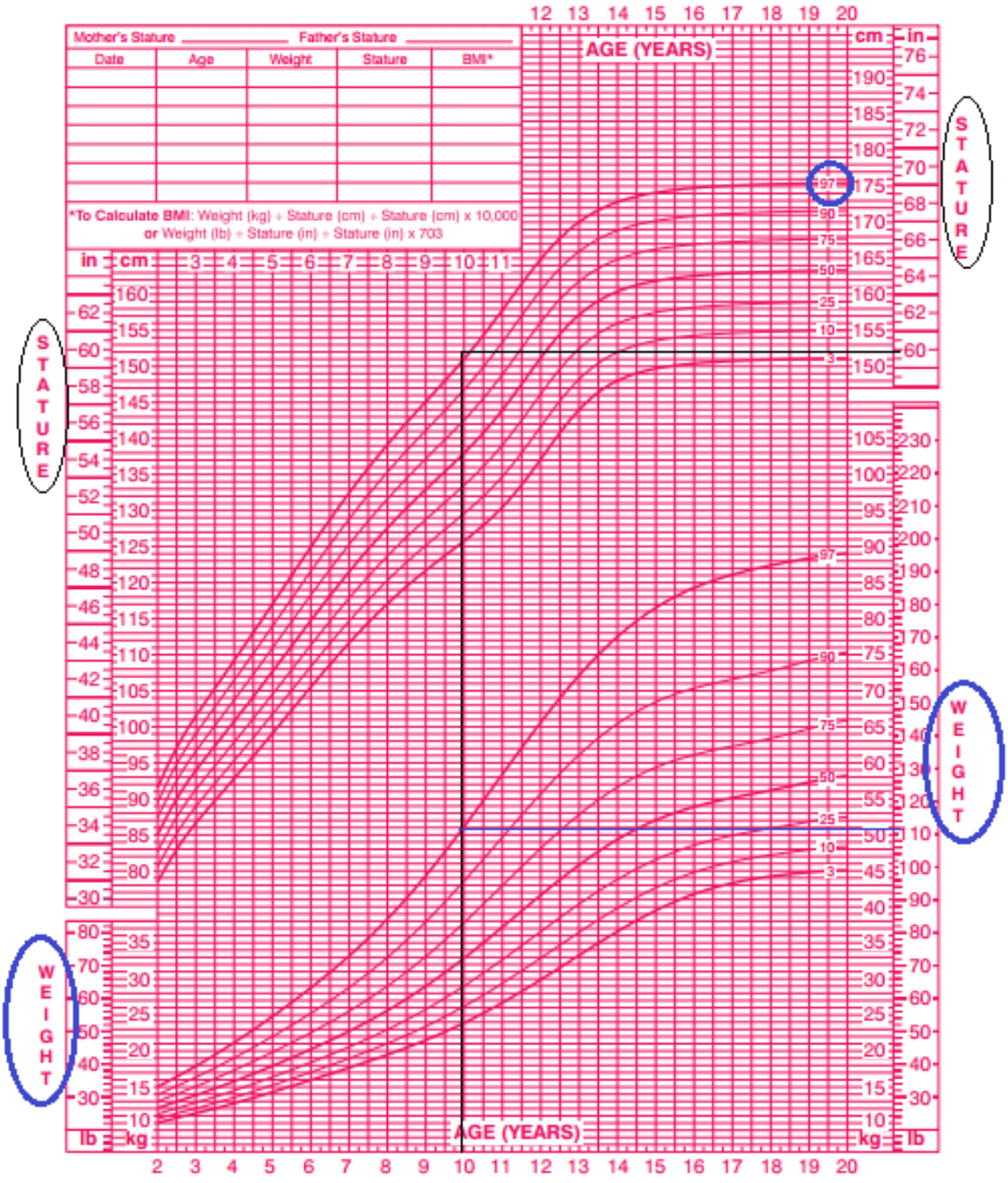
Mother's Stature
Father's Stature
Date
Age
Weight
Stature
BMI*
*To Calculate BMI: Weight (kg) ÷ Stature (cm) ÷ Stature (cm) x 10,000
or Weight (lb) ÷ Stature (in) ÷ Stature (in) x 703
AGE (YEARS)
STATURE
WEIGHT
cm
in
lb
kg
3
97
90
75
50
25
10
3

Appendix 1