## CHAPTER 24 – SURGICAL CARE

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MANAGEMENT OF INSTRUMENTS, ACCOUNTABLE ITEMS & OTHER ITEMS USED FOR SURGERY OR PROCEDURES (PD2013_054)


PURPOSE

The purpose of this Policy Statement is to ensure that any items as defined by this document used during the course of surgery or procedures are removed from the patient unless retained intentionally as part of the surgery or procedure.

MANDATORY REQUIREMENTS

This Policy Statement applies to:

1. All NSW Health Agencies’ perioperative environments where surgery/procedures are carried out.
2. All NSW Health Agencies where surgery/procedures are undertaken outside of the perioperative environment i.e. radiology departments, biopsy clinics and birthing units.

It is expected that all members of the surgical/procedure teams must follow this policy and must cooperate fully with this policy should a discrepancy in the count be reported.

It is recommended that all licensed private facilities take this document into account during the development of their policies.

NSW Health Agencies will be responsible for policies regarding the management of accountable items in settings not covered in and by this document.

IMPLEMENTATION

The Chief Executives of Local Health Districts and Specialty Health Networks are ultimately responsible for the implementation of this policy.

RESPONSIBILITIES

1.1 NSW Ministry of Health

The NSW Ministry of Health will provide the mandatory requirements, standards and tools to support implementation of this policy.

1.2 NSW Health Agency

Each NSW Health Agency in which surgery/procedures and anaesthesia are performed should have a perioperative management multi disciplinary committee which reviews operating procedures, formulates guidelines and ensures this policy is followed.

This policy must be made readily available to all workers employed within the perioperative environment and where surgery or procedures are undertaken outside of the perioperative environment.
1.3 Nurse/Midwife Responsibilities

Nurses/midwives will collaborate with other members of the surgical or procedural team to ensure that all instruments, accountable items and other items used during surgery or procedures are retrieved, accounted for and appropriately documented at the completion of the surgery or procedure.

A Registered Nurse/Registered Midwife must be nominated as “in charge” (nurse/midwife case leader) for each particular surgical or procedural intervention.

Documentation of all nursing activities related to the patient’s perioperative or procedural care is required. Whenever possible the same two nurses/midwives should be present and responsible for all counts during the surgery/procedure to ensure continuity of care.

Any instrument, accountable item or other item intentionally retained at the end of the surgery or procedure should be documented on the patient’s count sheet by the nurse/midwife responsible.

1.4 Surgeon or Proceduralist Responsibilities

Surgeons and proceduralists will collaborate with other members of the surgical or procedural team to ensure that all instruments, accountable items and other items used during surgery or procedures are retrieved, accounted for and appropriately documented at the completion of the surgery or procedure.

Details of any instruments, accountable items or other items intentionally retained at the end of the surgery or procedure must be communicated by the surgeon or proceduralist to the instrument nurse/midwife and documented by the surgeon in the patient’s operation or procedure report.

The surgeon or proceduralist must at all times ensure adequate time is allowed for nurses/midwives to manage accountable items, other items and instrumentation.

1.5 Surgical Assistant Responsibilities

Surgical Assistants will collaborate with other members of the surgical or procedural team to ensure that all instruments, accountable items and other items used during surgery or procedures are retrieved, accounted for and appropriately documented at the completion of the surgery or procedure.

1.6 Anaesthetic Team Responsibilities

Anaesthetists will collaborate with other members of the surgical or procedural team to ensure that all, accountable items used during surgery or procedures are retrieved, accounted for and appropriately documented at the completion of the surgery or procedure.

When a member of the anaesthetic team opens an accountable item for use during surgery or a procedure performed in the operating or procedure room, he/she must inform the instrument nurse/midwife so the item is included in the count and recorded on the count sheet.

The anaesthetist must be responsible to ensure all anaesthetic equipment and instrumentation used during the administration of the anaesthetic are retrieved at the conclusion of anaesthetic or documented on the patient’s anaesthetic record as being left in situ. Note specific management of a pharyngeal packs as an accountable item.
1. BACKGROUND

1.1 About This Document

All reusable instrumentation and disposable items used during surgery or a procedure are at risk of being unintentially retained in a patient. However, due to their nature and usage, some items are of a higher risk of retention than other items.

This document provides a risk management framework to enable perioperative Health Care Workers (HCW) to account for these items, thus ensuring patient safety and minimising the risk of an adverse event.

1.2 Key Definitions

Key definitions are located in the Glossary - Section 8.

2. MANDATORY ACCOUNTABLE ITEMS

A mandatory accountable item is a reusable or disposable item which by its nature is at risk of being retained in the patient. It is therefore subject to mandatory documentation on the count sheet.

Mandatory accountable items include, but are not limited to, the items listed below:

2.1 Absorbent items
- swabs
- sponges
- ‘patties’
- ‘cherries’
- ‘peanuts’
- eye swabs (strolls)
- gauze rolls/strip
- cotton wool balls

2.2 Sharps
- suture needles (ordinary and atraumatic)
- detachable scalpel blades
- diathermy tips

2.3 Vascular items
- vessel loops/ligaloops
- snuggers
- snares
- tapes
- ligareels
- ligaboots/instrument shoes
- clip cartridges
- bulldog clamps
- vascular clamps
- haemostats
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2.4 Retraction devices
- fish hooks
- visceral retractors e.g. ‘fish’

3. OTHER ITEMS

Other items’ are any items which have the potential to be retained at the site of the surgery or procedure and which are not already classified in this Policy Directive as a mandatory accountable item.

‘Other items’ may include but are not limited to: saw blades, hypodermic needles, Raney clips, pins, drill bits and navigation balls, k-wires, corneal protectors, endoscopic retrieval bags.

‘Other items’ must be counted and documented at the discretion of the nurses/midwives performing the count and/or the surgeon/proceduralist or as NSW Health Agency policy dictates.

‘Other items’ must be checked by the instrument nurse/midwife for completeness prior to being handed to the surgeon and again at the completion of the surgery or procedure.

Any item that is divided during the surgery or procedure must be documented on the count sheet.

4. MANAGING THE COUNT

4.1 Principles of the Count

The principles below apply for each and every count performed:
- A minimum of two counts must be performed whenever accountable items are used.
- Where any body cavity is entered, an additional count must be performed on closure of each body cavity, including the closure of a cavity within a cavity. This includes minimally invasive surgical procedures.
- An additional count may also be performed at any time or at the discretion of the nurse/midwife performing the count, taking into consideration any surgery or procedure where there is a possibility of accountable items, instruments or other items being retained.
- At the commencement of the surgery or procedure, the instrument nurse/midwife should only open the minimum amount of accountable items deemed necessary for the surgery or procedure. Additional items can be added to the sterile field as needed and added to the count.
- The count must be carried out by two nurses/midwives, one of whom must be a Registered Nurse/Registered Midwife (RN/RM).
- Both nurses/midwives count aloud, simultaneously, and visualise all accountable items.
- If any interruption occurs during the counting procedure, the count of that item must be recommenced.
- Any item that is divided during the surgery or procedure must be documented on the count sheet.
- All items must be checked by the instrument nurse/midwife for completeness prior to being handed to the surgeon/proceduralist and again at the completion of the surgery or procedure.

4.2 Documentation of the Count

- Accountable items must be documented on a NSW Health approved paper-based system (Count Sheet) for all surgery or procedures performed within the perioperative environment and in all areas where nurses/midwives are involved in surgery or procedures undertaken outside of the perioperative environment.
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- Other items should be counted and documented at the discretion of the nurses/midwives performing the count and/or surgeon or proceduralist or as NSW Health Agency policy dictates.
- The count must be documented chronologically and contemporaneously, as it is a sequential process and documentation must reflect the progression of the surgery or procedure and the accountable items utilised.
- While documentation is primarily completed by the circulating nurse/midwife, the instrument nurse/midwife is ultimately responsible for ensuring the completion and accuracy of all documentation relating to the surgery/procedure. The anaesthetic nurse is responsible for documenting the anaesthetic nursing care provided.
- The count sheet must be signed by all nurses/midwives responsible for the count (i.e. instrument and circulating nurses/midwives) to indicate that the final check of instruments, accountable and other items is correct.
- Any documentation of the count on the count sheet by the circulating nurse/midwife must be visualised by the instrument nurse/midwife.
- Other Health Care Workers (HCW) in the operating or procedure room are not permitted to add any item to the sterile field or count sheet, except as a relieving circulating nurse/midwife. However should this occur in an emergency situation the item must be added to the count sheet and initialled by the HCW, visualised by the instrument nurse/midwife and the circulating nurse/midwife informed as soon as possible.
- If a mistake is made on the count sheet, a single line is placed through the mistake and initialled beside the mistake.
- When a count sheet is used, the surgeon’s or proceduralist’s signature is required to confirm on the count sheet that he/she has been notified by the instrument nurse/midwife of the outcomes of all counts and checks.
- The original count sheet must be included in the patient’s health care record.
- The outcome of the count should be recorded on the Electronic Medical Record (EMR) if functionality permits.

4.3 Using the Count Sheet

The number of all items opened to that point are recorded in the ‘totalling’ column and reflected in the relevant count columns in the case of an accountable item requiring mandatory documentation e.g.

<table>
<thead>
<tr>
<th>Initial COUNT</th>
<th>added</th>
<th>total</th>
<th>COUNT</th>
<th>added</th>
<th>total</th>
<th>COUNT</th>
<th>total</th>
<th>Final COUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>5</td>
<td>10</td>
<td>10</td>
<td>5</td>
<td>15</td>
<td>15</td>
<td>15</td>
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</tr>
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</table>

Examples may include (but are not limited to):

- If a swab attached to a specimen is removed from the operating or procedure room at any time following the initial count, this action must be documented on the count sheet as a point of clarification. This will be reflected in the final count column, e.g. the asterix (*) is used to indicate the location of an item, indicates a notation.

<table>
<thead>
<tr>
<th>Initial COUNT</th>
<th>added</th>
<th>total</th>
<th>COUNT</th>
<th>added</th>
<th>total</th>
<th>COUNT</th>
<th>total</th>
<th>Final COUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>5</td>
<td>10</td>
<td>9*</td>
<td>5</td>
<td>15</td>
<td>13**</td>
<td>15</td>
<td>13**</td>
</tr>
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</table>

* 1 raytec with uterine curettage specimen at (time)
**1 raytec with breast biopsy specimen at (time)
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4.4 Timing/Types of Counts

The initial count must be performed and documented immediately prior to the commencement of the surgery or procedure.

The final count must be performed and documented at the commencement of skin or equivalent closure.

Additional counts must be performed:
- at the commencement of the closure of any body cavity or wound, including the closure of a cavity within a cavity
- when an instrument nurse/midwife relieves another instrument nurse/midwife, e.g. for a changeover/handover during extended cases

Additional counts may be performed at the discretion of the nurses/midwives performing the count or the surgeon/proceduralist.

Additional counts are documented in the “COUNT” columns provided on the count sheet, documenting the reason for the extra count (e.g. cavity, handover).

4.5 Handling of Accountable and Other Items for the Count

- On transfer of items to the sterile field the instrument nurse/midwife must ensure items remain intact in their inner packaging or as originally secured so that they do not become separated prior to counting.
- Once removed from the inner packaging each item must be separated by the instrument nurse/midwife during the counting procedure to ensure both nurses/midwives visualise the completeness of each item, for example, where an accountable item has an x-ray detectable marker, the marker integrity must be checked.
- The audible counting technique is performed in a consistent manner by the instrument and circulating nurses/midwives.
- When multiple like items are being opened and counted at one time the instrument nurse/midwife must count each item individually and as per their original group e.g. 5 or 10. These must not be added to those already counted until verification of the number in each packet. These must be counted separately into different piles, only then may the instrument nurse/midwife add them to those from a previous bundle.
- The instrument nurse/midwife must count items in an ascending order and the circulating nurse/midwife must document them as a total.
- When the instrument nurse/midwife counts multiples of any like group of item the count is continuous, and like items must not be placed with already counted like items until verification of the correct number.
- The instrument nurse/midwife must keep like groups of accountable items together on the sterile field until they can be progressively counted away.
- The instrument nurse/midwife must not place sterile packaging on the surgical field due to the risk of it being retained in the patient.

4.6 Progressive ‘Counting Away’

Progressive ‘counting away’ can be done to assist in the management of large numbers of disposable accountable items. When this occurs the items must be counted by the instrument and circulating nurses/midwives and removed from the sterile field.
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- The technique used must incorporate infection control principles.
- Accountable items must be counted by the instrument and circulating nurses/midwives, then bagged, sealed and labelled with the item name and quantity by the circulating nurse/midwife.
- Items ‘counted away’ must be organised by the circulating nurse/midwife so they are readily visible by both nurses/midwives throughout the entire surgery or procedure and to assist with the count on completion of the procedure.
- All ‘counted away’ items must remain in the operating or procedure room until the completion of the final count.

4.7 Surgeon Notification

On completion of each closure count, a verbal statement must be made to the surgeon or proceduralist by the instrument nurse/midwife to the effect that all accountable items, instruments and other items are accounted for. A verbal acknowledgment must be received from the surgeon or proceduralist in order to avoid any misunderstanding. The instrument nurse must then verify with the circulating nurse/midwife that the surgeon acknowledged the verbal statement.

5. INSTRUMENTS MANAGEMENT

Each NSW Health Agency must have standardised instrument trays and tray lists to assist with the instrument checking process.

5.1 Instrument Tray/s and Tray Lists

The use of an instrument tray list assists in establishing a baseline record for subsequent instrument checks and streamlines the counting and documenting of instruments and their component parts prior to:
- sterilisation
- commencement of surgery or procedure
- completion of surgery or procedure
- decontamination

When a tray is opened for or during the surgery or procedure the tray list from that tray must be utilised by the instrument and circulating nurses/midwives.

5.2 Separate Instruments

Separate instruments will have their contents (including their parts) documented on the outer packaging by a Sterilising Department Technician (SDT) or an authorised person. A NSW Health Agency process must be in place to ensure that these separate instruments are included in the list of instruments which require checking at the beginning and conclusion of any surgery or procedure.

5.3 Instruments On Loan from Medical Companies

Instruments on loan from medical companies must be accompanied on each occasion of usage with two copies of the illustrated tray list provided by the company supplying the loan sets. These tray lists may be used by the SDT or an authorised person and nursing/midwifery staff in lieu of a NSW Health Agency generated tray list providing the principles described in this Policy Directive are maintained.

5.4 Instruments On Loan from Other Hospitals/Facilities

Instruments on loan from other hospitals/facilities must be accompanied on each occasion of usage with a tray list provided by the hospital/facility supplying the loan sets. These may be used by the SDT or an authorised person and nursing/midwifery staff in lieu of a NSW Health Agency generated tray list providing the principles described in this Policy Directive are maintained.

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5.5 Multiple or Complex Instrument Trays

It is recognised that completing post operative tray lists of multiple and/or complex trays by the instrument and circulating nurses/midwives is time consuming and that patient acuity may require the transfer of the patient from the operating or procedure room before this process is complete.

However the principles of tray list management remain mandatory and effective risk management strategies should be developed at the NSW Health Agency level.

Examples of these strategies may include (but are not limited to)

1. The final instrument checks may be completed immediately post procedure and before the next patient enters the operating or procedure room. The final instrument checks must be completed before the patient leaves the Post Anaesthetic Recovery Unit.

2. A post operative x-ray may be used as an additional check.

5.6 Handling of Instruments Prior To and At Completion of the Surgery or Procedure

The instrument and circulating nurses/midwives, one of whom must be a RN/RM, must ensure a tray list is present on each instrument tray used which has been checked and signed off by the authorised person, prior to sterilisation.

The instrument and circulating nurses/midwives, one of whom must be a RN/RM, must utilise the tray list and listed separate instruments to count and document all instruments:

- prior to the commencement of the surgery or procedure;
- at the completion of the surgery or procedure.

All tray lists and separate instruments must be checked audibly by either nurse/midwife, viewed concurrently by the other nurse/midwife and confirmed against the tray list or listed separate instruments by both nurses/midwives.

Instruments with component parts must be counted singly, not as a whole unit, with all component parts listed (e.g. one Balfour, one blade, three screws).

All instruments must be checked by the instrument nurse/midwife for completeness prior to being handed to the surgeon and again at the completion of the surgery or procedure.

When the instrument and circulating nurses/midwives deem an instrument tray or any separate instruments to be incorrect prior to or during the surgery or procedure, this is documented by the nurses/midwives on the tray list and any other appropriate documentation as per NSW Health Agency recommendations. The tray list should be retained to aid investigation.

At the completion of the surgery/procedure, the instrument nurse/midwife’s identification, the date and the patient’s medical record number must be documented on the instrument tray list and/or separate instruments and returned with the instrument tray and/or separate instruments for reprocessing.

5.7 Handling of Instruments Prior to Decontamination

The tray list accompanying the instrument tray and separate instruments must be used to check for completeness by a SDT or an authorised person prior to decontamination or as soon as possible. This assists in the earliest possible identification of any instrumentation discrepancy to assist nurses/midwives and surgeons/proceduralists to investigate, in a timely manner, any subsequent patient investigation.
Once the instrument trays and separate instruments are deemed correct, the tray list will be managed as per NSW Health Agency recommendations.

When an instrument tray is deemed incorrect by the SDT or an authorised person he/she must notify the nurse/midwife in charge of the perioperative environment, who will initiate an immediate investigation. In this circumstance, the instrument tray list must be retained, with due consideration of infection control procedures, to aid the investigation. An IIMS notification (NSW Health Agency) must be completed according to PD2014_004 Incident Management Policy.

6. FURTHER CLARIFICATIONS

6.1 Anaesthetic Procedures (e.g. Insertion of Central Line or Long Line)
- If accountable items are used for a procedure in the anaesthetic bay or other area outside the actual operating room, the anaesthetist is responsible for ensuring that all accountable items are accounted for at the end of the anaesthetic procedure.
- If the patient is subsequently transferred into the operating or procedure room, and an accountable item is required to be retained (e.g. pharyngeal pack), then the anaesthetist must communicate this to the surgeon or proceduralist and the instrument and circulating nurses/midwives. The accountable item is then documented on the count sheet by the circulating nurse/midwife.
- When anaesthetic procedures are performed in the operating room, the anaesthetist must communicate this to the instrument and circulating nurses/midwives. The accountable item must be sighted by both the instrument and circulating nurses/midwives and documented by the circulating nurse/midwife on the count sheet. If the accountable item is a suture needle, it will be secured safely within a rigid container where it can be visualised by the instrument and circulating nurses/midwives for counting purposes.

6.2 Pharyngeal/Throat Packs
- A ‘pharyngeal pack’ (also known as throat pack) is a length of rolled gauze, which must contain an x-ray detectable marker, and is inserted into the pharyngeal area of the oral cavity.
- ‘Pharyngeal packs’ must be managed as an accountable item and documented on the count sheet. When the anaesthetist is responsible for insertion of the pharyngeal pack, it must be communicated to the surgical or procedural team, including the surgeon or proceduralist and nursing staff, when a pharyngeal pack is required for protecting the airway during surgery or a procedure.
- All members of the surgical or procedural team share the responsibility of ensuring that the pharyngeal pack is removed on completion of the surgery or procedure. The count is not correct until the ‘pharyngeal pack’ has been removed.
- The medical officer, who removes the ‘pharyngeal pack’ from the patient, is to show the ‘pharyngeal pack’ to the instrument and circulating nurses/midwives. Once removal is confirmed by this visualisation, this must be documented on the count sheet.

6.3 Removal of Instruments, Accountable or Other Items from the Operating or Procedure Room
- If any accountable items are dropped or contaminated prior to the commencement of the initial count, these items are removed immediately with their packaging, from the operating or procedure room. In this situation these items are not considered to be part of the count.
- Following the initial count all items should remain in the operating or procedure room until the surgery or procedure is completed, and all counts have been performed and deemed correct.

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If an accountable item is removed from the operating or procedure room during the course of the surgery or procedure (e.g. attached to a specimen) its removal must be approved by the instrument nurse/midwife and documented by the circulating nurse/midwife as per example in section 4.3.

If an instrument is removed from the operating or procedure room during the course of the surgery or procedure its removal must be approved by the instrument nurse/midwife and its removal documented by the circulating nurse/midwife on the appropriate tray/separates list.

Instruments and accountable or other items must not be placed into sharps receptacles within the operating or procedure room by a HCW.

All instruments, waste receptacles and accountable and other items must be removed from the operating or procedure room to ensure no accountable items remain in the room at the commencement of the next patient’s surgery or procedure. This waste should not be removed from the operating suite/unit until the tray list/s have been confirmed correct in the decontamination area as per Section 5.7. This will assist in the earliest possible identification of any instrumentation discrepancy to assist nurses/midwives and surgeons/proceduralists to investigate, in a timely manner, any subsequent patient investigation.

6.4 Incorrect Packaging or Inadequate Quality of Disposable Accountable Items

In the event of a newly opened packet which contains an incorrect number of accountable items, e.g. the number of items in the packet is different to what is marked on the packet or the quality of an item is inadequate (e.g. missing an x-ray detectable marker) the following must occur.

The instrument nurse/midwife must:
- count the items and include them in the count;
- once counted and documented they are to be removed from the surgical or procedural field, passing them to the circulating nurse/midwife.

The circulating nurse/midwife must:
- bag them and mark the bag with the name of the items and the actual number of items;
- ensure that the items are not removed from the operating or procedure room while the surgery or procedure is in progress.

Where possible their original packaging is retained by the instrument or circulating nurse/midwife (taking into account infection control precautions), and returned to the manufacturer to initiate quality monitoring.

6.5 Replacement of Nursing/Midwifery Staff Responsible for the Count

Whenever possible the same two nurses/midwives should be present and responsible for all counts during the surgery or procedure to ensure continuity of care.

Surgery or procedures with extended duration have an increased risk of error due to staff fatigue, and these situations for relieving team members should be managed as outlined below:
- When replacing the instrument nurse/midwife during the surgery or procedure, the instrument and circulating nurses/midwives must conduct a complete count prior to handover/changeover. This count must be documented on the count sheet by the circulating nurse/midwife, including the time of the handover/changeover period and signed by the relieving nurses/midwives.
- When any instruments, accountable items or other items are inaccessible or unable to be visualised by the instrument or circulating nurses/midwives this must be documented on the count sheet as per the example in the table in section 4.3.
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• Should it become necessary to replace or relieve any instrument or circulating nurse/midwife temporarily, the names and relief times of all replacement or relieving nurses/midwives must be legibly recorded on the count sheet and/or other intraoperative nursing documentation, e.g. in the Electronic Medical Record.

The surgeon or proceduralist is to be notified when nursing/midwifery staff are to be replaced and a count conducted and this should not occur during a critical point of the operation as determined by the surgeon.

6.6 When a Count is Not Required

• In surgery or procedures where no instruments, accountable or other items are used and therefore no risk of any item being retained, then no count is required (e.g. closed reduction of a fracture). It is the instrument nurse/midwife’s responsibility to document that “no count required” in the patient’s paper based or electronic health care record. The surgeon or proceduralist signature is not required.

• If a count sheet is required for documentation of other nursing care when no count is required, it is the instrument nurse/midwife’s responsibility to mark the count section with “no count required”, and sign as usual. The surgeon or proceduralist signature is not required.

6.7 When a Count is Not Performed Due to Extreme Emergency Situations

In extreme emergency situations normal counting procedures may not be followed due to balancing the risk of the speed and urgency required for the patient’s surgery or procedure. Studies have demonstrated that in such circumstances, the potential risk for the retention of accountable items is increased.

On these occasions the following must occur:

• The instrument nurse/midwife must inform the surgeon or proceduralist, at an appropriate time that a count has not been completed.

• The instrument and circulating nurses/midwives must attempt to complete a count, if and when appropriate, ensuring that this is documented on the count sheet and where appropriate, in the patient’s health care record.

• A post operative x-ray with a captured radiographic image must be ordered by the surgeon or proceduralist and performed as soon as practicable, to assist with ensuring there are no unintentionally retained instruments, accountable items or other items.

• The outcome of the x-ray must be documented in the patient’s paper based or electronic health care record by the surgeon or proceduralist.

• A copy of the captured radiographic image must be made available for formal reporting and the report included in the patient’s paper based or electronic health care record.

• An NSW Health Agency notification must be completed according to PD2014_004 Incident Management Policy.

6.8 Simultaneous or Sequential Surgery or Procedures

Surgery or procedures are at time performed simultaneously or sequentially and more than one surgical/procedural team is involved.

In these situations one count sheet shall be used, with one instrument nurse/midwife responsible for managing all accountable items, other items and instrumentation.

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6.9 Second Count Sheet Required
When any subsequent count sheet is required for the continuation of a count, the next count sheet must be labelled with patient details, ‘COUNT CONTINUED’ written on it, have the pages numbered sequentially and be stapled to the previous count sheet.

6.10 Items Deliberately Left in the Patient
- When accountable items are deliberately left in a patient, the accountable items and their location must be documented on the count sheet by the circulating nurse/midwife. The number documented in the relevant count columns must reflect the number of accountable items visualised at the count as per the example in table in section 4.3.
- When accountable items deliberately left in the patient are removed later, the previous count sheet must be available for the subsequent surgery or procedure. The removed items must be documented by the circulating nurse/midwife on the new count sheet only. The number documented in the relevant count columns will demonstrate the addition of the items that have been removed.
- Non accountable items (which includes instruments and other items - e.g. packing gauze, drains, tubes or catheters) remaining in situ by intention must be documented by the circulating nurse/midwife and the details of any modifications of these items are documented in the patient’s paper based or electronic health care record.

6.11 When a Discrepancy Exists
After the final count is completed, if either nurse/midwife has doubts about the accuracy of instruments, accountable or other items at any time, the following must be initiated:

Initial investigation
- The count is repeated by the instrument and circulating nurses/midwives.
- The discrepancy is reported immediately to the surgeon or proceduralist.
- The instrument nurse/midwife must request the surgeon to ensure a thorough search of the operative site has been attended.
- This search is attended whilst the instrument nurse/midwife checks the sterile field.
- The circulating nurse/midwife must undertake a thorough search of the rubbish, linen and room.
- The circulating nurse/midwife must open all bags of accountable items.
- The circulating and instrument nurses/midwives must recount their contents, ensuring each item is individually visualised by both nurses/midwives.
- If the discrepancy is not resolved, the surgeon or proceduralist, anaesthetist and the nurse/midwife in charge of the Perioperative Environment must be notified.

X-ray detectable missing item
- If an x-ray detectable item is missing a check x-ray with a captured radiographic image must be ordered by the surgeon or proceduralist and performed as soon as practicable and if the item is found, it must be retrieved from the patient if the patient’s condition permits.
- The outcome of the x-ray must be documented by the surgeon or proceduralist in the patient’s paper based or electronic health care record.
- A copy of the captured radiographic image must be made available for formal reporting and the report included in the patient’s paper based or electronic health care record.
- An NSW Health Agency notification must be completed and open disclosure performed as soon as possible according to PD2014_004 Incident Management Policy and PD2014_028 Open Disclosure Policy performed as soon as possible.
24. SURGICAL CARE

24.13

Suture needle missing

- If a suture needle is missing and is not x-ray detectable as determined by the facility in liaison with the radiology department, then performing an x-ray is not appropriate.
- It may be necessary to utilise a microscope and/or magnet to locate the needle within the surgical/procedural field. If the suture needle is not able to be detected by the hospital’s imaging equipment, then performing an x-ray is not appropriate.
- A NSW Health Agency notification must be completed and open disclosure performed as soon as possible according to PD2014_004 Incident Management Policy and PD2014_028 Open Disclosure Policy performed as soon as possible.

Non x-ray detectable missing item

- If a non x-ray detectable item is missing a thorough visual/manual search is required and the search outcome must be documented on the count sheet.
- A NSW Health Agency notification must be completed and open disclosure performed as soon as possible according to PD2014_004 Incident Management Policy and PD2014_028 Open Disclosure Policy performed as soon as possible.

6.12 Damaged Items During Surgery or a Procedure

- If a reusable or disposable item is damaged during use, the instrument nurse/midwife must ensure that all pieces are accounted for at the end of the surgery or procedure and managed as per NSW Health Agency policy.
- In the event that a device fragment (e.g. a broken drill bit) is not retrieved and is deliberately left in the surgical wound, the incident must be managed by nursing and medical staff as per NSW Health Safety Notice 014/09 Retained or Broken Orthopaedic Surgical Equipment in Patients.

7. REPORTING REQUIREMENTS

Any discrepancy in the count, subsequent action and outcome must be reported to the nurse/midwife in charge of the perioperative environment by the nurse/midwife case leader.

Retained instruments or other material after surgery requiring re-operation or further surgical procedure need to be reported in the Incident Information Management System (IIMS) and managed according to PD2014_004 Incident Management Policy.

These incidents are also to be accompanied by the full open disclosure process by the surgeon or proceduralist, according to relevant policy directives PD2014_028 Open Disclosure Policy.

8. GLOSSARY

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accountable</td>
<td>Answerable to self, patient, profession and employer for nursing care given in the perioperative environment.</td>
</tr>
<tr>
<td>Body Cavity</td>
<td>Refers to any space in the human body that:</td>
</tr>
<tr>
<td></td>
<td>- contains internal organs.</td>
</tr>
<tr>
<td></td>
<td>- or is of a size that an instrument, accountable item or other item may be unintentionally retained (e.g: hip joint).</td>
</tr>
<tr>
<td>Captured radiographic image</td>
<td>Any radiographic image that is able to be reproduced when required.</td>
</tr>
</tbody>
</table>
### Circulating nurse/midwife

The nurse/midwife responsible for the management and documentation of all accountable items opened onto the sterile field. She/he supports the instrument nurse/midwife by being alert to the requirements of the surgical team and ensures all supplies are delivered to the surgical field aseptically. The circulating nurse/midwife must perform the surgical count in conjunction with the instrument nurse/midwife. The circulating nurse/midwife must be a Registered Nurse/Midwife (RN/RM) or Enrolled Nurse (EN) who has been deemed competent in the circulating nurse role, as stipulated by NSW Health Agency policy. In the event that an EN is the instrument nurse, the circulating nurse/midwife must be a RN/RM who has been deemed competent in the instrument nurse/midwife role, as stipulated by NSW Health Agency policy.

### Check

To investigate or verify as to correctness e.g. tray lists, separate instruments and all other items are correct.

### Consumables

Disposable items must comply with the relevant Australian Standard/s. The expected number of enclosed like items must be as stated on the manufacturer’s packaging and this number should be used to identify any discrepancy of the actual items.

### Cotton wool

Cotton wool must not be used for skin preparation.

### The ‘count’

To name or list the units of a group or collection one by one in order to determine a total e.g. for accountable items or instruments.

### Count sheet

Common name for a paper based document accountable items relevant to this policy are documented. As a MINIMUM requirement the count sheet is to include:

- Patient medical record number
- Patient name
- Patient date of birth
- Patient address
- Patient location/ward
- Case number (if using eMR)
- Facility location
- Facility operating/procedure room number
- Date of surgery or procedure
- List of accountable items specific to the clinical area
- Space for additional items counted at the nurses/midwives discretion to be added
- Four count columns:
  - initial count,
  - (available space to name type of) count,
  - (available space to name type of) count,
  - final count
- Accountable items intentionally left insitu (type, site, quantity)
- Surgeon or proceduralist informed of count outcome
- Discrepancy in count comments/actions taken e.g.: x-ray taken, incident report completed etc.
- Documentation that the final check that tray lists and all other items are correct.
- Name of surgeon or proceduralist, instrument, circulating and relief nurses/midwives (print & signature).

### Enrolled Nurse (EN)

An enrolled nurse is an associate to the registered nurse who demonstrates competence in the provision of patient-centred care as specified by the registering authority’s licence to practise, educational preparation and context of care.

### Gauze rolls/strips

White absorbent woven gauze folded and supplied in various lengths and widths into which may incorporate an x-ray detectable marker. Gauze rolls used for the packing of wounds or cavities must contain an x-ray detectable marker. Gauze rolls containing an x-ray detectable marker must not be used as dressings on surgical wounds.
<table>
<thead>
<tr>
<th><strong>24. SURGICAL CARE</strong></th>
<th>24.15</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Health Care Workers (HCWs)</strong></th>
<th>Nurses, midwives, surgeons, doctors and other classifications of allied health and ancillary staff that provide holistic patient care.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Incident Information Management System (IIMS)</strong></th>
<th>The IIMS is an electronic reporting system used in NSW Health Agencies. IIMS was established to provide a system for notification of all incidents, including those with corporate consequences.</th>
</tr>
</thead>
</table>

| **Instrument nurse/midwife** | The nurse/midwife who assumes primary responsibility and accountability for all items used during the surgery or procedure.  
The instrument nurse/midwife may be either a RN/RM or an EN who has been deemed competent in the instrument nurse/midwife role, as stipulated by NSW Health Agency policy.  
In the event that an EN is the instrument nurse, the circulating nurse must be a RN who has been deemed competent in the circulating nurse/midwife role, as stipulated by NSW Health Agency policy. |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------|

<table>
<thead>
<tr>
<th><strong>Loan sets</strong></th>
<th>Loan sets are items required for surgery or procedures, which are borrowed from medical companies, or other hospitals, and after use, are returned to the company.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Must</strong></th>
<th>Indicates a mandatory action requiring compliance.</th>
</tr>
</thead>
</table>

| **Needles, suture (atraumatic and ordinary)** | Each suture needle must be visualised to ensure an accurate suture needle count.  
Using empty suture needle packages to investigate a suture needle count discrepancy is not recommended.  
However, retaining the packages may be useful in identifying the suture needle type and size in the event of a discrepancy in the suture needle count.  
Suture needles must be contained in a needle counter or container to avoid misplacement and/or sharps injuries. |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|

<table>
<thead>
<tr>
<th><strong>NSW Health Agency</strong></th>
<th>Entities within the public health system as defined by s.6 of the <em>Health Services Act 1997</em> and the NSW Ministry of Health.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Nurse/Midwife case leader</strong></th>
<th>“Nurse/midwife case leader” indicates the RN/RM taking overall nursing/midwifery responsibility for the case. Whilst each member of the nursing/midwifery staff is accountable for working within their scope of practice and designated role, the nurse/midwife case leader is responsible for overseeing the nursing care of the perioperative patient. This includes safe positioning, placement of diathermy electrodes, direct supervision of orderlies/operations assistants, documentation and follow up of NSW Health Agency and liaison with the nurse/midwife in charge in regard to any issues.</th>
</tr>
</thead>
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<table>
<thead>
<tr>
<th><strong>Operating/Procedure room</strong></th>
<th>A room/area within a facility which is specifically equipped for the performance of surgery or other therapeutic/diagnostic procedures. This includes for example, anaesthetic room, birthing units, out-patient procedure and biopsy clinics, PACU, ICU, ECT, endoscopy etc.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>‘Other’ items</strong></th>
<th>These are any items which have the potential for being retained at the site of the surgery or procedure and are not an accountable item or an instrument.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Perioperative Environment</strong></th>
<th>The service area where the provision of anaesthesia, surgery or other procedures may be undertaken, inclusive of rooms/areas classified as Operating/Procedure rooms in this policy.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Policy</strong></th>
<th>Written directive on a specific health situation determining a course of action, developed, agreed to and adopted by the user group.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Procedure</strong></th>
<th>Is the performance of surgery or other therapeutic/diagnostic procedures, with and without administration of anaesthesia.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Registered Midwife (RM)</strong></th>
<th>A midwife is recognised as a responsible and accountable professional who works in partnership with women to give the necessary support, care and advice during pregnancy, labour and the postpartum period, to conduct births on the midwife’s own responsibility and to provide care for the newborn and the infant. This care includes preventative measures, the promotion of normal birth, the detection of complications in mother and child, the accessing of medical care or other appropriate assistance and the carrying out of emergency measures.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Registered nurse (RN)</strong></th>
<th>A registered nurse demonstrates competence in the provision of nursing care as specified by the registering authority’s licence to practice, educational preparation, relevant legislation, standards and codes, and context of care. The registered nurse practices independently and interdependently assuming accountability and responsibility for their own actions and delegation of care to enrolled nurses and health care workers. Delegation takes into consideration the education and training of enrolled nurses and health care workers and the context of care.</th>
</tr>
</thead>
</table>
### Responsibility

The obligation that an individual assumes when undertaking to carry out planned/delegated functions. The individual who authorises the delegated function retains accountability for evaluating whether the person carrying out the delegated activities maintains relevant standards and that the expected outcomes have been achieved.

### Separates

Are supplementary single unit packed instruments (commonly known as “separates”) that are not included on a tray, but which are opened for use during the surgery or procedure.

### Should

Indicates a recommended action that should be followed unless there are sound reasons for taking a different course of action.

### Small dissecting swabs

Absorbent gauze or synthetic material, which incorporates an x-ray detectable marker fixed securely across the width of the swab.

### Sponges

White absorbent woven gauze or non woven material, or a combination of both materials which is folded into a rectangle or square and sewn or bonded around the open edges. The sponge includes an x-ray detectable marker and complies with the relevant Australian standard.

- Must be radio opaque.
- Must not be used as dressings on surgical wounds.
- Must never be cut.
- Must never be used for wrapping articles prior to sterilisation, under any circumstances.

### Sterilising department

A reprocessing area for cleaning, disinfecting, checking and sterilisation of reusable surgical instruments and equipment.

### Supervision

Incorporates the elements of direction, guidance, oversight and coordination of activities.

- **Direct Supervision** - is provided when the RN is actually present, observes, works with and directs the person who is being supervised.

- **Indirect supervision** - is provided when the RN is easily contactable but does not directly observe the activities.

### Swabs

**With an x-ray detectable marker (‘raytec’ swabs):**

- Are a white gauze material, incorporating an x-ray detectable marker used for surgery or procedures.
- Are used during the course of any surgery or procedure must contain an x-ray detectable marker.
- Must never be cut.
- Must not be used as a dressing.

**Without an x-ray detectable marker (‘plain’ swabs):**

- Are used for other purposes such as dressing material and during anaesthetic procedures. Swabs used in anaesthesia are usually dyed green in colour, so they can be clearly identified from sterile swabs used during surgery.

**General comments**

- Under no circumstances should swabs be used for wrapping articles prior to sterilisation.
- When surgery or a procedure is carried out in the operating or procedure room, any swabs used for skin preparation (including those used for bladder catheterisation) must contain an x-ray detectable marker and be documented on the count sheet.
- However, some swabs (which usually do not contain an x-ray detectable marker) are manufactured specifically for prepping - these are also to be counted and documented on the count sheet.
- Except for the above mentioned exceptions, swabs without an x-ray detectable marker must only be used for dressings. (see sections 6.1 and 6.2)

### Tray

A set of assorted instruments.

### Wound dressings/packs

Gauze not containing an x-ray detectable marker that is to be used for surgical dressings should only be opened immediately prior to application as a dressing, unless clinically indicated e.g. burns dressings.

- Gauze rolls used for the packing of wounds or cavities must contain an x-ray detectable marker.
- Swabs with an x-ray detectable marker should not be used as dressings on surgical wounds.
- White swabs without an x-ray detectable marker should only be used for dressings.
9. BIBLIOGRAPHY

- ACORN Standard S3 Counting of Accountable Items used during surgery. 2010
- NSW Health Operating Theatre. eMR State Base Build Definitions. 2010.
- NSW Health Safety Notice 014/09 Retained or Broken Orthopaedic Surgical Equipment in Patients
- ACORN Count Resource Package. 2008
- Enrolled nurses and medication endorsement. Nursing and Midwifery Board of Australia. 2010.
- Perioperative nursing: An introductory text. Lois Hamlin; Marilyn Richardson-Tench; Menna Davies. 2008.
- Surgical equipment and materials left in patients. James Brown; Donald Feather. British
- AIPP. Swab, instrument and needle count managing the risk. [poster] Harrogate: Association for Perioperative Practice (Incorporating the National Association of Theatre Nurses); 2007.
- PD2014_028 Open Disclosure Policy
- Australian Commission on Safety and Quality in Health Care (ACSQHC)
- September 2011 National Safety and Quality Health Service Standards, ACSQHC, Sydney.
## 10. ATTACHMENTS

**Attachment 1: Implementation checklist**

<table>
<thead>
<tr>
<th>LHD/Facility:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessed by:</td>
<td>Date of Assessment:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IMPLEMENTATION REQUIREMENTS</th>
<th>Not commenced</th>
<th>Partial compliance</th>
<th>Full compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. NSW Ministry of Health will provide the mandatory requirements, standards and tools to support implementation of this policy.</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Notes:</td>
<td></td>
</tr>
<tr>
<td>2. Each NSW Health Agency in which surgery/procedures and anaesthesia are performed should have a perioperative management multi disciplinary committee which reviews operating procedures, formulates guidelines and ensures this policy is followed. This policy must be made readily available to all workers employed within the perioperative environment and where surgery or procedures are undertaken outside of the perioperative environment.</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Notes:</td>
<td></td>
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</tbody>
</table>
REGISTER OF SURGICAL OPERATIONS (PD2014_049)

PD2014_049 rescinds PD2009_078.

PURPOSE

A register of surgical operations is required to be maintained for all surgical operations and procedures performed in operating suites in all public hospitals in NSW.

MANDATORY REQUIREMENTS

The Register of surgical operations can be documented manually or digitally (electronically). The register shall document the following data items:

- Full name of the patient
- Patient’s facility medical record number
- Anaesthetic start and finish time
- Name of the Anaesthetist (if applicable)
- Procedure(s) performed
- Name of the Surgeon
- Name of the Surgical Assistant (if applicable)
- Name of the Registered Nurse in Charge of the surgical operation (case).

Where the register is maintained digitally (electronically) appropriate security arrangements must be in place to ensure that once entered, data must not be altered without the creation of a clear audit trail.


Private Hospitals and Health Care Facilities should maintain a register of surgical operations in accordance with the Private Health Facilities Regulation 2010 Schedule 2, clause 76. For information on suppliers of hard copy Register of Surgical Operations please contact the System Relationship and Performance Branch.

IMPLEMENTATION

- This policy directive is effective immediately and applies to all operating theatre departments at NSW public hospitals.
- Local Health District and Special Health Network Chief Executives are responsible for the implementation of this policy directive.
- Hospital Operating Theatre Managers are responsible for the operationalization of this policy directive and monitoring to ensure compliance.

231(18/12/14)
HAZARDS ASSOCIATED WITH THE USE OF ELECTRO-SURGICAL UNITS (SURGICAL DIATHERMY)

(i) Electrosurgical Units (ESU’s) are a source of ignition for flammable materials.

Their use is therefore contraindicated in the presence of:
- Flammable anaesthetic agents.
- Flammable skin preparations.
- Other flammable gases or vapours.

The Department, therefore, instructs as follows:
- Diathermy shall not be used in the presence of flammable anaesthetic agents.
- Diathermy shall not be used in the presence of flammable skin preparations.

(ii) ESU’s are potent sources of radio-frequency (RF) energy which must leave the body via the dispersive electrode (patient plate) and its return cable to the ESU.

Should the latter be faulty, other connections to the patient (e.g., contact with the operating table) may offer an alternative pathway.

If these connections are small in area, the concentration of energy can generate heat sufficient to cause a serious burn.

The Department, therefore, instructs as follows:
- Contact of the dispersive electrode with the patient must be secure and uniform.
- Connections to the electrode and the ESU must be checked on application.
- Mismatch of electrodes to cables must be avoided (i.e. brand should not be mixed).

Regular maintenance and/or replacement of the ESU and its accessories should be carried out.

Manufacturer’s recommendations concerning lifetime of their products should be strictly observed.

(iii) The function of Cardiac pacemakers may be disrupted by the passage of RF current through the body.

Cardiac action may, as a consequence, be impaired.

The Department, therefore recommends that:
- Inpatients with implanted cardiac pacemakers, surgical diathermy should be avoided unless essential.
- If the procedure demands that diathermy be employed, the dispersive electrode should be so placed that a line between it and the operation site passes as far away from the heart as possible.
- The heart be monitored continuously throughout the procedure.

Draft Australian Standard No. DR80253 (in course of publication) titled;
“A Guide to the Safe Use and Application of Electrically Operated Equipment in Patient Care Areas”, should be available in all operating suites.

This document contains details of Safe Diathermy Practise.
THE USE OF ELECTRICAL SURGICAL EQUIPMENT IN OPERATING THEATRE 
DIATHERMY AND OXYGEN DELIVERY (Information Bulletin 2001/10)

An incident has been reported to NSW Health Department recently that a patient received facial burns when an oxygen delivery system ignited as diathermy was used in its vicinity and near a dry swab.

To diminish the risks of similar injuries, please note that when using diathermy or laser, there remains the risk of ignition of:

- paper drapes
- dry raytec swabs
- alcohol containing skin prep
- polyvinyl tubes (plastic)
- silicon tubes
- rubber tubes, and
- other ignitable items.

This risk is enhanced if an oxygen enriched atmosphere exists, eg if nasal prongs, endotracheal tubes etc. are carrying oxygen and/or nitrous oxide, as these agents support combustion.

Appropriate measures need to be taken to ensure patient safety with relevant oxygen therapy, oxygen delivery systems, airway instrumentation etc. Thereafter, diathermy or laser needs to be used appropriately and carefully, recognising the combustible items in the immediate vicinity.

VASCULAR OCCLUSION OF LIMS (ACUTE) IN PATIENTS (68/PH43)

Attention has been drawn to the fact that acute obstruction of the arterial supply to a limb is not infrequent, especially among the elderly patients in departmental hospitals. The result, without treatment, is usually gangrene of the limb and death of the patient.

Vascular surgery may permit successful treatment, particularly if the condition is due to embolus, but the operation should be performed as early as possible, preferably within six hours of the onset. Experience has shown that cases of this nature are usually referred for surgery too late.

The attention of medical and nursing personnel is to be drawn to the prevalence of acute arterial obstruction of the limbs among elderly patients. The condition particularly affects the lower limbs and the signs and symptoms indicative of blockage are:

1. Pain of sudden onset.
2. Pallor of the limb, later changing to cyanosis.
3. Pulses absent below the obstruction.
4. Paralysis of the limb.
5. Temperature changes. The limb becomes cold.

All members of staff are to be reminded that this condition is one of extreme emergency demanding prompt surgical treatment and a patient showing the above signs and symptoms should be referred to an appropriate surgical unit without delay.
ENDOMETRIAL ABLATION (91/123)

Hysteroscopic endometrial ablation is rapidly gaining popularity as an alternative to hysterectomy for the management of a variety of menstrual bleeding disorders due to non-malignant causes. However, the operation requires surgical skills which initially need to be developed and practised under supervision.

These procedures are now being classified under the heading of minimally invasive surgery, but it must be clearly recognised that this is not minor surgery. A considerable number of very serious complications have been recorded in Australia and other countries, mainly be relatively inexperienced hysteroscopists.

There is a need to provide guidelines for minimum standards of training, practice and equipment. This will be undertaken on a national basis by the newly formed Australian Gynaecological Endoscopy Society and the RACOG. In addition, the RACOG has set up a survey of all gynaecologists undertaking hysteroscopic surgical procedures, and will follow this with a prospective study over 2 years of procedures and outcomes for individual patients.

The attached guidelines have been developed by a group of gynaecologists to assist Area Health Services and District Health Services in ensuring that the introduction of this new technology takes place in an orderly fashion. The guidelines have also been reviewed by a medical defence organisation.

It is recommended that gynaecologists do not perform this procedure unless they have undertaken the training outlined in the guidelines and that the procedure only be performed in hospitals with the equipment described.

In general it is expected that the gynaecologist would be formally accredited to undertake this procedure by an appropriate Hospital or Area Credentials Committee. Hysteroscopic endometrial ablation should not be considered as falling within the broad category or general gynaecological privileges. It should be regarded as a special skill and as such requires specific endorsement by the Credentials Committee.

Should any gynaecologists currently performing this procedure not meet the training requirements it is requested that they be strongly encouraged to undertake further supervised training as soon as possible.

GUIDELINES FOR ENDOMETRIAL ABLATION

Training Requirements

1. Good diagnostic hysteroscopy skills (preferably more than 100 procedures).
2. Attendance at an RACOG approved hysteroscopic surgery workshop, preferably with some hands-on experience; those planning to use laser must have participated in a workshop offering extensive hands-on experience.
3. Further practical experience under supervision. Only simple cases should be tackled first (anteverted uterus under 8cm).
4. The initial learning curve probably depends both on the technique used and the natural ability and caution of the surgeon. At least 5 cases should be observed (may include workshop cases) before starting. The following should be regarded as the minimum experience required in the supervised training phase.

<table>
<thead>
<tr>
<th>Technique</th>
<th>Minimum Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser</td>
<td>20 cases</td>
</tr>
<tr>
<td>Resection</td>
<td>10 cases</td>
</tr>
<tr>
<td>Roller ball</td>
<td>5 cases</td>
</tr>
</tbody>
</table>
The full learning curve is much longer than this and some surgeons never develop the coordination to carry out difficult cases well.

5. Difficult cases should only be attempted when the surgeon is well up the learning curve. These include the markedly retroverted uterus; the large uterus (> 10cms length); presence of submucous or intrauterine myomata; the nulliparous uterus; and the congenitally abnormal uterus.

6. Training of nursing and other members of the operating theatre team is also essential. This is a crucial area which is often overlooked.

7. Training supervisors should have completed at least fifty (50) cases which include technically difficult cases and uterine abnormalities.

8. Gynaecologists training in endometrial ablation should have a nominated supervisor who is well recognised as having adequate experience and skill in the field. At the completion of the training program a written letter should be provided to the trainee acknowledging a satisfactory level of skill and knowledge. This letter should be provided to the relevant Credentials Committee when considering the issuing of hysteroscopic endometrial ablation privileges.

**Equipment Requirements**

1. Hystero-resectoscope with laser fibres, resectoscope loops or roller balls.
2. Nd:YAG laser; or diathermy unit providing accurate mix of coagulating and cutting current.
3. High intensity light source.
4. Video camera and monitor.
5. Fluid inflow and outflow systems (gravity feed from 2L glycine [1.5%] bags through a urological giving set is usually satisfactory, although a number of gynaecologists prefer a controlled inflow/outflow system.
6. Full operating theatre facilities, including equipment and staff necessary for urgent laparotomy and an anaesthetist of sufficient experience to recognise and deal with early signs of fluid overload.

**Indications for Endometrial Ablation**

Generally endometrial ablation is indicated for dysfunctional uterine bleeding where there is no detectable extraterine pathology in women with an average sized uterine cavity and anteverted uterus.

There are a number of relative or absolute contraindications to performing endometrial ablation. These include: large uterus (> 10cms), markedly retroverted uterus, nulliparous or congenitally abnormal uterus, submucous or intrauterine myomata, moderate or severe adenomyosis, endometriosis, post-menopausal uterus, and possible endometrial malignancy.

Hysteroscopists and the hysteroscopy team should be aware of possible serious complications of endometrial ablation:

a) fluid overload
b) uterine perforation
c) haemorrhage

d) damage to other organs - bowel, ureter, common iliac vessels

e) post-operative infection

f) embolism

g) deaths have occurred

**Submucous and Intrauterine Myomata**

These should not be tackled without considerable experience of endometrial ablation in the normal uterus. The risk of uterine perforation, haemorrhage and fluid overload is considerably increased compared with the normal uterus. Submucous myomas should not be resected unless more than 50% of the myoma is visible within the cavity. Initial myoma resections should be carried out under supervision, and should preferably be on myomas of less than 3cm diameter. Surgery should not be attempted on myomas of greater than 5cm.

**Preoperative Counselling**

Counselling should be adequate and realistic. An information sheet should be given preoperatively. True informed consent should be obtained by the surgeon performing the procedure and should not be delegated.

**Quality Assurance**

Recording of operative complications should take place and be reviewed by the relevant QA committee. Prospective auditing including indications for the procedure, immediate and long term outcomes, should also be undertaken.

**Pregnancy Post Endometrial Ablation**

Although thorough endometrial ablation appears to be a reasonably effective method of sterilisation, a small number of pregnancies have occurred.

Therefore a concurrent tubal sterilisation may be indicated with endometrial ablation as there may be an increased incidence of miscarriage, ectopic pregnancy, intrauterine growth retardation and placenta accreta in any subsequent pregnancies.

It should be noted that no actual case reports have been written up of these problems but according to authorities on the matter, could be expected.

### HYSTEROSCOPIC ENDOMETRIAL ABLATION

**GENERAL INFORMATION FOR PATIENTS**

**What is it and who is it suitable for?**

- It involves removal of the uterine lining by resection with an electro-diathermy cutting loop or by ablation with a mini “roller-ball” using electro coagulation.
- In some centres, laser may be used.
- It is suitable for women with menstrual bleeding disturbances due to certain benign causes.
- It can be an alternative to hysterectomy in some situations.
Although it appears to be a reasonably effective type of sterilisation and cannot be used on women who wish to retain their fertility, a small number of pregnancies have been reported elsewhere in the world following these procedures. Contraception such as tubal ligation should be considered.

What does the technique involve?
- It involves a general anaesthetic and lasts 30-60 minutes.
- It is carried out through a small telescope inserted through the uterine cervix via the vagina.
- Sometimes a laparoscopy needs to be carried out at the same time.
- It only requires a day stay or overnight stay in hospital.
- Most patients require pre-treatment with hormones to thin the uterine lining. The hormones which we usually use are danazol or one of the new gonadotrophin releasing hormone analogues.

Advantages
- Short stay and short convalescence compared with hysterectomy.
- The muscular wall and the neck of the womb are left intact. (Regular Pap smears are still needed afterwards.)
- Provides effective permanent contraception for most women, with a very small failure rate (about the same as tubal sterilisation).
- 50% of women stop menstruating completely; 40-45% will have light or very light periods.

Disadvantages
- This is a recent innovation and few long-term studies have yet been published. Overseas data are very encouraging in that no long-term problems have been identified and heavy periods rarely recur later.
- Few centres are currently undertaking this procedure in Australia as yet.
- Approximately 5% of patients will still have moderate or heavy bleeding after the operation and some of these will get a good response with a repeat operation. Occasionally, a hysterectomy will need to be carried out to permanently cure the bleeding problem.
- Serious risks are uncommon or rare. Complications which have been occasionally reported with these procedures include excessive fluid absorption; heavy intra-operative or post operative bleeding; post operative infection; perforation of the uterus during a difficult procedure; anaesthetic problems. Most of these problems can be anticipated and minimised or effectively treated.

Other Aspects
- The operation is almost always carried out with the surgeon looking at a television monitor and using a small medical video camera. Sometimes a record of part of the procedure may be taped for local training purposes.
- The immediate post-operative bleeding pattern is very variable. The bleeding and menstrual discharge following operation usually settles within 1-2 weeks. Many patients will get no further bleeding, but a moderate number will have a moderate bleed around one month later. In most cases, this becomes very light in future periods.
- Sexual intercourse should usually be deferred for 2 weeks or until the bleeding settles. There is no evidence that the operation has any effect on the quality of sexual enjoyment.
- In the long-term, the cavity inside the womb shrinks to a fairly small size. The cavity becomes lined with a thin layer of scar tissue.
- There is no evidence that this procedure causes cancer or other serious medical problems in the long-term.
24. SURGICAL CARE

CLINICAL PROCEDURE SAFETY (PD2014_036)


PURPOSE

The purpose of this policy directive is to address clinical care and patient safety risks associated with clinical procedures, improve matching of the patient to the correct procedure, improve communication within the procedural team and between the patient and the procedural team, and reduce the number of clinical procedure related incidents.

The principles of the World Health Organization (WHO) Surgical Safety Checklist and the Royal Australasian College of Surgeons’ Surgical Safety Checklist have been used in the development of this policy directive.

This policy directive aligns with the National Safety and Quality Health Services Standard 5 – Patient Identification and Procedure Matching.

MANDATORY REQUIREMENTS

- All staff involved in clinical procedures must adhere to the requirements of this policy directive.
- Each health service undertaking clinical procedures must have systems and processes in place to enable compliance with this policy directive. This includes educating and training staff, documenting incidents associated with procedures, monitoring compliance with this policy directive, and reporting outcomes to the appropriate committee/s within the health service and to relevant external agencies such as the NSW Coroner’ office.

IMPLEMENTATION

This policy directive commences six months from the date of publication.

Chief Executives are required to ensure:

- All appropriate staff are made aware of their roles and responsibilities in relation to this policy directive.
- All appropriate staff receive education and training to enable them to carry out their roles and responsibilities in relation to this policy directive.
- The requirements of this policy directive are applied, achieved and maintained.

Clinicians are required to:

- Comply with this policy directive.

Clinical Excellence Commission will:

Review this policy directive at 12 months following the date of publication.

1 BACKGROUND

1.1 Purpose

The purpose of this policy directive is to address clinical care and patient safety risks associated with clinical procedures; improve matching of the patient to the correct procedure; improve communication within the procedural team and between the patient and the procedural team; and reduce the number of clinical procedure related incidents.
1.2 Principles

The following principles apply to clinical procedures.

1. The policy directive applies to the full age range of patients. Where issues are specific to children these are raised by way of exception for children.
2. The manager/departmental head is responsible for ensuring the processes for clinical procedure safety are followed.
3. Every clinician involved in a procedure whether as an individual proceduralist or as a member of a procedural team is responsible for ensuring the processes for clinical procedure safety are followed.
4. Active involvement and effective communication between the proceduralist (and procedural team members where appropriate) and the patient or their person responsible should occur.
5. The proceduralist (and procedural team members where appropriate) is responsible for confirming patient identification, procedure verification and where appropriate the correct site/side/level for the procedure. The proceduralist carries ultimate responsibility for the patient identification and procedure verification.
6. Valid consent must be obtained for the procedure.\(^1\)
7. Patient identification must occur prior to the procedure commencing.
8. To the extent possible involve the patient, or their person responsible, at all points in the patient identification and procedure verification processes, including marking of the procedure site, where appropriate.
9. Site marking is essential where there is the potential for error involving multiple structures (fingers, toes, or lesions), left/right distinction, or levels (spine).
10. Confirm the patient is not allergic/had an adverse reaction to any substance used in the test/procedure.
11. If pre-procedure imaging data are to be used, the data must be available and correctly identified before the patient receives procedural sedation/anaesthesia.
12. If prostheses, implants, sterile equipment, or special equipment are required, they must be available and, where appropriate, confirmed they are functional before the patient receives procedural sedation/anaesthesia.

1.3 Key definitions

<table>
<thead>
<tr>
<th><strong>Anaesthesia and sedation</strong></th>
<th>Refer to definition under Sedation and anaesthesia in this section.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Antibiotic prophylaxis</strong></td>
<td>Antibiotic therapy given prior to the procedure in order to reduce the potential for infection post procedure.</td>
</tr>
<tr>
<td><strong>Assisting clinicians</strong></td>
<td>Staff engaged in assisting the proceduralist as part of the procedure.</td>
</tr>
<tr>
<td><strong>Clinical handover(^2)</strong></td>
<td>The effective transfer of professional responsibility and accountability for some or all aspects of care for a patient, or group of patients, to another person or professional group on a temporary or permanent basis.</td>
</tr>
<tr>
<td><strong>Clinician</strong></td>
<td>A person authorised by a facility to provide clinical care to a patient.</td>
</tr>
<tr>
<td><strong>Clinician airway monitor</strong></td>
<td>A dedicated clinician (who is not the proceduralist) with appropriate competency-based training, whose primary responsibility is to monitor the patient’s level of consciousness and to monitor and provide the initial management of cardio-respiratory status of the patient during the procedure.</td>
</tr>
</tbody>
</table>

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\(^2\) Clinical Handover is defined at [http://www.archi.net.au/resources/safety/clinical/nsw-handover](http://www.archi.net.au/resources/safety/clinical/nsw-handover)
### Incident
Any unplanned event resulting in, or with the potential for, injury, damage or other loss. This includes a near miss.\(^1\)

### Must
Indicates a mandatory action required that must be complied with.

### Patient
A person receiving health care. Also known as consumer or client.

### Patient identification
The active process of identifying a patient through the use of approved patient identifiers to ensure a patient is correctly matched to their planned procedure.\(^4\)

### Person responsible
For the purposes of this policy directive a *person responsible* is a person who can provide consent to a patient’s clinical procedure. (Refer to NSW Health policy directive on consent to medical treatment for further details\(^5\)).

### Proceduralist
A clinician who is performing or assisting in the procedure. There may be more than one proceduralist involved in a procedure. The senior proceduralist takes overall responsibility for the case.

### Procedural Team
Includes all clinicians participating in the delivery of care during the procedure.

### Procedure
For the purposes of interpreting this policy directive *procedure* is defined as follows.

**Level 1 procedure**
- Usually requires a single proceduralist
- Usually does not require written consent
- Does not involve procedural sedation or general/regional anaesthesia
- Usually performed in wards, clinics, departments and radiology units.

**Level 2 procedure**
- Requires a proceduralist, often supported by an assisting proceduralist/s
- Usually requires written consent
- Does not involve procedural sedation or general/regional anaesthesia
- Usually performed in wards, clinics, departments and radiology units.

**Level 3 procedure**
- Requires at least one proceduralist and a procedural team
- Always requires written consent
- Involves procedural sedation or general/regional anaesthesia
- Usually performed in formal procedural suites such as operating theatres, endoscopy suites, radiology units and cardiac catheterisation laboratories.

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### Sedation and anaesthesia

**Procedural sedation** implies that the patient is in a state of drug-induced tolerance of uncomfortable or painful diagnostic or interventional medical, dental or surgical procedures.

- **Conscious sedation** is defined as a drug-induced depression of consciousness during which patients are able to respond purposefully to verbal commands or light tactile stimulation.

- **Deep levels of sedation**, where consciousness is lost and patients only respond to painful stimulation, are associated with loss of the ability to maintain a patent airway, inadequate spontaneous ventilation and/or impaired cardiovascular function. Deep levels of sedation may have similar risks to general anaesthesia, and may require an equivalent level of care.

For the purposes of interpreting this policy directive the use of opioids for analgesia and the use of inhaled nitrous oxide for analgesia are not considered procedural sedation.

**Regional anaesthesia** includes major nerve blocks, epidural blocks and spinal blocks. It involves the injection of local anaesthetic in the vicinity of major nerve bundles supplying body areas. Regional anaesthesia may be used on its own or combined with sedation or general anaesthesia.

**General anaesthesia** is a drug-induced state characterised by absence of purposeful response to any stimulus, loss of protective airway reflexes, depression of respiration and disturbance of circulatory reflexes. General anaesthesia is sometimes indicated during diagnostic or interventional medical or surgical procedures and requires the exclusive attention of an anaesthetist, or other appropriately trained and credentialed medical specialist within his/her scope of practice.

<table>
<thead>
<tr>
<th><strong>Should</strong></th>
<th>Indicates a recommended action that should be followed unless there are sound reasons for taking a different course of action.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sign In</strong></td>
<td>The period <strong>immediately before preparing the patient</strong> for their procedure by the procedural team.</td>
</tr>
<tr>
<td><strong>Sign Out</strong></td>
<td>The period after the procedure and before the patient/procedural team leave the procedural area.</td>
</tr>
<tr>
<td><strong>Team Time Out</strong></td>
<td>The period <strong>immediately before commencing the procedure</strong> to undertake a final verification. Team Time Out applies to Level 2 and Level 3 procedures.</td>
</tr>
<tr>
<td><strong>VTE prophylaxis</strong></td>
<td>Treatment, either mechanical or pharmacological, provided to a patient in order to reduce the risk of <strong>venous thromboembolism</strong> (deep vein thrombosis and pulmonary embolism).</td>
</tr>
</tbody>
</table>

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*ANZCA, P59 – Guidelines on Sedation and/or Analgesia for Diagnostic and Interventional Medical, Dental or Surgical Procedures, 2010 at [http://www.anzca.edu.au/resources/professional-documents](http://www.anzca.edu.au/resources/professional-documents)*
2 LEVEL 1 PROCEDURES

<table>
<thead>
<tr>
<th>Definition</th>
<th>Examples</th>
<th>Requirements</th>
<th>Post procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Single proceduralist</td>
<td>- Insertion IV cannula</td>
<td>STOP and confirm the following before commencing the procedure</td>
<td>- Document procedure in patient’s health care record or Radiology Information System</td>
</tr>
<tr>
<td>- Usually does not require written consent</td>
<td>- Insertion IDC</td>
<td>- Patient identification</td>
<td>- Advice for clinical handover</td>
</tr>
<tr>
<td>- Does not involve procedural sedation or general/regional anaesthesia</td>
<td>- Insertion NGT</td>
<td>- Procedure verification – procedure + site/side/level, where appropriate, matches consent</td>
<td>- Label specimen/images</td>
</tr>
<tr>
<td>- Usually performed in wards, clinics, departments and radiology units</td>
<td>- Taking blood samples</td>
<td>- Allergy/adverse reaction check</td>
<td>- Post procedure tests where clinically relevant</td>
</tr>
<tr>
<td></td>
<td>- Diagnostic Radiology</td>
<td>- Anticipated critical events</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Diagnostic Nuclear Medicine</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Routine dental procedures eg. dental extraction, fillings</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Superficial skin lesions/biopsies</td>
<td></td>
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<tr>
<td></td>
<td>- Non operative obstetrics eg. forceps/scalp electrodes/episiotomy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.1 Pre procedure

For Level 1 procedures the proceduralist, and assisting proceduralist/s, where relevant, must STOP and confirm the following minimum requirements immediately before commencing the procedure. Where two or more staff members are involved they must introduce themselves to each other and the patient, as appropriate, by their preferred names and roles before the procedure commences.

2.1.1 Patient identification
- The patient’s identification must be confirmed before any procedure commences.
- Staff must confirm that they have the correct patient by asking the patient, or their person responsible, to state the patient’s full name and date of birth. Staff should not state the patient’s name or date of birth and then ask the patient, or their person responsible, if this information is correct.
- The response must be confirmed against the details on the request form/referral/treatment plan and patient identification band or other approved patient identification tool (including unique patient identifier), where appropriate.
- Where patient details on the request form/referral/treatment plan are incomplete or there is a discrepancy the patient, or their person responsible, must provide the correct information before commencing the procedure and actions taken documented in the patient’s health care record.
- If the patient is unable to participate in the patient identification step, for example due to physical incapacity, language issues, or is a child, and their person responsible is not present, then the patient’s identification band or other approved patient identification tool (including unique patient identifier) should be used to confirm the patient’s identification.

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7 The examples provided do not cover all possible procedures and the examples may be escalated to a higher level (ie Level 1 procedures may be classified by a health service as Level 2 or Level 3 procedures). Health services should consider development of local lists of examples for Level 1, Level 2 and Level 3 procedures consistent with the requirements of this policy directive.
2.1.2 Procedure verification

- Consent must be obtained for any procedure as required by the NSW Health policy directive on consent to medical treatment.\(^8\)
- Consent must be documented for radiology and nuclear medicine procedures for Diagnostic Imaging Accreditation Scheme accreditation.
- Signed consent forms are not required for minor procedures performed under local anaesthesia, eg. insertion of IV cannula, urethral catheterisation, or suture of minor lacerations.
- Request forms/referrals/treatment plans for procedures must include the patient’s name, date of birth, sex, unique patient identifier (where appropriate), reason for the procedure, details of the test/s required, the date the test/s were ordered, and the exact anatomical location for the test/s including the procedure site, laterality and level.
- The proceduralist must ask the patient, or their person responsible, to state what procedure they understand will be performed and to state the site/side/level for the procedure (where relevant) and verify this matches the planned procedure and consent/request form/referral/treatment plan.\(^9\)
- Where procedure details on the request form/referral/treatment plan are incomplete or there is a discrepancy the requesting clinician or a member of their team must be contacted to clarify the information before commencing the procedure.

2.1.3 Allergy/adverse reaction check

- Ask the patient if they have a known allergy/adverse reaction and if yes, what the allergy/adverse reaction was and what effect they experienced.

2.1.4 Anticipated critical events

- The proceduralist must consider the planned procedure, critical steps, anticipated events and equipment requirements.

2.2 Post procedure

- Document the name of the procedure and outcome/s in the patient’s health care record or Radiology Information System.
- Provide clinical handover advice to the staff caring for the patient or post procedure destination, where relevant, and discuss with the patient where possible.
- Specimens/images must be labelled correctly.
- Arrange post procedure tests where clinically relevant.

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3 LEVEL 2 PROCEDURES

<table>
<thead>
<tr>
<th>Definition</th>
<th>Examples</th>
<th>Requirements Pre-procedure (including Team Time Out)</th>
<th>Post procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Proceduralist often supported by an assisting proceduralist/s</td>
<td>- Lumbar puncture</td>
<td>STOP and confirm the following before commencing the procedure</td>
<td>- Document procedure in patient’s health care record or Radiology Information System</td>
</tr>
<tr>
<td>- Usually requires written consent</td>
<td>- Insertion of chest tube</td>
<td>- Proceduralist/assisting proceduralist/s introductions, where appropriate</td>
<td>- Advice for clinical handover</td>
</tr>
<tr>
<td>- Does not involve procedural sedation or general/regional anaesthesia</td>
<td>- Ascitic tap</td>
<td>- Procedure verification - procedure + site/side/level, where appropriate, matches consent</td>
<td>- Equipment problems/issues</td>
</tr>
<tr>
<td>- Usually performed in wards, clinics, departments and radiology units</td>
<td>- Stress test</td>
<td>- Patient identification</td>
<td>- Specimens/images labelled correctly</td>
</tr>
<tr>
<td></td>
<td>- Nuclear Medicine therapies</td>
<td>- Procedure verification - procedure + site/side/level, where appropriate, matches consent</td>
<td>- Post procedure tests where clinically relevant eg. CXR post insertion of chest tube</td>
</tr>
<tr>
<td></td>
<td>- Biopsies</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- IV or IT administration of chemotherapy</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Centrally inserted central line¹</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.1 Pre procedure (including Team Time Out)

For Level 2 procedures without procedural sedation/anaesthesia the proceduralist, and where present assisting proceduralist/s, must **STOP** and confirm the following minimum requirements immediately before commencing the procedure. Where two or more staff members are involved they must introduce themselves to each other and the patient, where appropriate, by their preferred names and roles before the procedure commences.

3.1.1 Patient identification

- The patient’s identification must be confirmed before any procedure commences.
- Staff must confirm they have the correct patient by asking the patient, or their person responsible, to state the patient’s full name and date of birth. Staff must not state the patient’s name or date of birth and then ask the patient, or their person responsible, if this information is correct.
- The response must be confirmed against the details on the consent form/request form/referral/treatment plan and patient identification band or approved patient identification tool (including unique patient identifier), where appropriate.
- Where patient details on the consent/request form/referral/treatment plan are incomplete or there is a discrepancy the patient, or their person responsible, must provide the correct information before commencing the procedure and actions taken documented in the patient’s health care record.

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¹ The examples provided do not cover all possible procedures and the examples may be escalated to a higher level (ie Level 1 procedures may be classified by health services as Level 2 or Level 3 procedures). Health services should consider development of local lists of examples for Level 1, Level 2 and Level 3 procedures consistent with the requirements of this policy directive.

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- If the patient is unable to participate in the patient identification step, for example due to physical incapacity, language issues, or is a child, and their person responsible is not present, then the patient’s identification band or approved patient identification tool (including unique patient identifier) should be used to confirm their identification.

3.1.2 Procedure verification
- Consent must be obtained for any procedure as required by the NSW Health policy directive on consent to medical treatment.12
- The consent form (where written consent obtained) and request forms/referrals/treatment plans for procedures must include the patient’s name, date of birth, sex and unique patient identifier (if available), and should include the procedure site/side/level, reason for the procedure, details of the examination/test/s required, the date the test/s were ordered, and the exact anatomical location for the test/s.
- Consent must be documented for radiology and nuclear medicine procedures for Diagnostic Imaging Accreditation Scheme accreditation.
- When contrast is used for procedures a combined patient checklist/consent form that is specifically designed for contrast administration must be used.
- The proceduralist must ask the patient, or their person responsible, to state what procedure they understand will be performed and to state the site/side/level for the procedure (where appropriate) and verify this matches the planned procedure and consent/request form/referral/treatment plan.13
- Where procedure details on the consent form/request form/referral/treatment plan are incomplete or there is a discrepancy the requesting clinician or a member of their team must be contacted to clarify the information before commencing the procedure.

3.1.3 Patient position
- The positioning of the patient must be verified as correct for the planned procedure.
- The appropriate equipment for positioning and venous thromboembolism (VTE) prophylaxis must be working and available for use during the procedure.

3.1.4 Essential imaging available
If imaging data are to be used to verify the procedure or site/side/level of the procedure the proceduralist must verify in conjunction with the assisting proceduralist/s, where appropriate, that:
- The patient’s identity, the site of the procedure and the date of the image in relation to the procedure all match.
- The images are for the correct side of the body, oriented correctly, and correctly labelled with the patient’s name and date of birth.

3.1.5 Allergy/adverse reaction check
The proceduralist should:
- Ask the patient if they have a known allergy/adverse reaction and if yes, what the allergy/adverse reaction was and what effect they experienced.
- Check for any other source that may provide further information on allergies/adverse reactions the patient might have eg. treatment plan, progress notes.
- Check that allergies/adverse reactions are noted on the allergy/adverse reaction section of the National Inpatient Medication Chart or other relevant section of the patient’s health care record.

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● Note that when contrast is used for procedures the allergy/adverse reaction check must be included in a combined patient checklist/consent form that is specifically designed for contrast administration.
● Ensure the assisting proceduralist/s is aware of all identified allergies/adverse reactions.

3.1.6 Special medications administered
● The proceduralist should confirm that any special medications required have been administered.

3.1.7 Antibiotics
● Antibiotic prophylaxis may be indicated and should be given in accordance with current antibiotic therapeutic guidelines prior to the procedure commencing except when antibiotics are withheld in order to get specimens for microbial testing.

3.1.8 Anticipated critical events
● The proceduralist must consider, and discuss with the assisting clinician/s, the planned procedure, critical steps, anticipated events and equipment requirements.
● The proceduralist, and the assisting proceduralist/s, must verbally confirm sterility, implants and equipment requirements.

3.2 Post procedure

3.2.1 Name of the procedure recorded
● The proceduralist must confirm exactly what procedure was done, any expected or unexpected adverse events and patient outcomes, and ensure this is documented in the patient’s health care record or Radiology Information System. Where a procedure has varied from that planned the rationale must be documented with reason/s why.

3.2.2 Advice for clinical handover
● Provide clinical handover advice, including the patient’s management plan post procedure, to the post procedure destination and discuss with the patient where possible.
● Document any altered calling criteria on the relevant observation chart.

3.2.3 Equipment problems/issues documented and advised to relevant staff
● Malfunctioning equipment and instruments should be accurately identified to prevent them from being used again until the problems are resolved. Any equipment or instrument problems arising during the procedure must be documented, raised with the relevant staff so they can be resolved as soon as possible and notified in the incident management system.

3.2.4 Specimens/images labelled correctly
● The proceduralist, and assisting proceduralist/s, must verify the correct labelling of any pathology specimen/images obtained during the procedure by reading out loud the patient’s name, specimen/image description and any orienting marks.

3.2.5 Tests required
● Referral for test/s post procedure should be discussed with the patient and arranged, where clinically appropriate.
4 LEVEL 3 PROCEDURES

<table>
<thead>
<tr>
<th>Definition</th>
<th>Examples</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>- At least one proceduralist and a procedural team</td>
<td>- Surgical procedure (OR)</td>
<td>1. Pre-procedure</td>
</tr>
<tr>
<td>- Always requires written consent</td>
<td>- ECT</td>
<td>- Patient identification</td>
</tr>
<tr>
<td>- Involves procedural sedation or general/regional anaesthesia</td>
<td>- Angiography</td>
<td>- Procedure verification – planned procedure + site/side/level, where appropriate, matches consent</td>
</tr>
<tr>
<td>- Usually performed in formal procedural suites such as operating theatres, endoscopy units, radiology units and cardiac catheterisation laboratories</td>
<td>- Stenting</td>
<td>- Site/side/level marking, where appropriate</td>
</tr>
<tr>
<td></td>
<td>- Interventional Neuroradiology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Colonoscopy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Bronchoscopy</td>
<td></td>
</tr>
</tbody>
</table>

2. Sign In

- Patient identification
- Procedure verification – planned procedure + site/side/level, where appropriate, matches consent
- Allergy/adverse reaction check
- Sedation/anaesthetic equipment checked
- Patient sedation risk/anaesthetic assessment
- Significant airway or aspiration risk
- Clinician airway monitor identified
- Clinician skilled to manage airway identified
- Pulse oximeter attached & working
- Risk of major bleeding

SIGN IN ONE
- Patient identification
- Procedure verification – planned procedure + site/side/level, where appropriate, matches consent
- Allergy/adverse reaction check
- Sedation/anaesthetic equipment checked
- Patient sedation risk/anaesthetic assessment
- Significant airway or aspiration risk
- Clinician airway monitor identified
- Clinician skilled to manage airway identified
- Pulse oximeter attached & working
- Risk of major bleeding

SIGN IN TWO
- Essential imaging available
- Site marking (exemptions)
- Implants and special equipment
- Proceduralist available to complete procedure

3. Team Time Out

- Team member introductions
- Patient identification
- Procedure verification – planned procedure + site/side/level, where appropriate, matches consent
- Patient position
- Essential imaging reviewed
- Allergy/adverse reaction check
- Special medication/s administered
- Antibiotics
- VTE prophylaxis
- Anticipated critical events

4. Sign Out

- Name of procedure recorded
- Counts/tray list checks correct
- Specimens/images labelled correctly
- Blood loss documented; ongoing blood loss discussed
- Equipment problems/issues documented/manager advised
- Advice for clinical handover

Level 3 procedures with procedural sedation/anaesthesia are divided into a pre-procedure stage followed by three distinct stages each corresponding to a specific time period in the patient’s procedure.

These three stages are:

**Sign In**

The period **before commencing procedural sedation or general/regional anaesthesia** that is, immediately before the procedural team prepares the patient for their procedure.

**Sign In** is further divided into two parts

- **Sign In One** – Checklist completed/signed by the sedationist/anaesthetist.
- **Sign In Two** – Checklist completed/signed by the proceduralist.

**Team Time Out**

The period **immediately before commencing the procedure** to undertake a final patient identification and procedure verification.

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14 The examples provided do not cover all possible procedures and the examples may be escalated to a higher level (ie Level 1 procedures may be classified by health services as Level 2 or Level 3 procedures). Health services should consider development of local lists of examples for Level 1, Level 2 and Level 3 procedures consistent with the requirements of this policy directive.
Sign Out

The period before the patient/procedural team leave the procedural area.

A checklist that is consistent with the requirements for SIGN IN, TEAM TIME OUT and SIGN OUT must be used for Level 3 procedures.

The checklist is part of the patient’s health care record.

LHD/SHNs may choose to modify the format of state level approved checklists and may add additional items.

LHD/SHNs must not subtract any item contained in the state level approved checklists.


4.1 Pre procedure requirements

The following must be undertaken before the patient is transferred to the procedural suite.

4.1.1 Patient identification

- The patient’s identification must be confirmed before any procedure commences.
- Staff must confirm they have the correct patient by asking the patient, or their person responsible, to state the patient’s full name and date of birth. Staff must not state the patient’s name or date of birth and then ask the patient, or their person responsible, if this information is correct.
- The response must be confirmed against the details on the consent form/request form/referral/treatment plan and patient identification band (including unique patient identifier).
- Where patient details on the consent form/request form/referral/treatment plan are incomplete or there is a discrepancy the patient, or their person responsible, must provide the correct information before commencing the procedure and actions taken documented in the patient’s health care record.
- If the patient is unable to participate in the patient identification step, for example due to physical incapacity, language issues, or is a child, and their person responsible is not present, a member of staff from the preceding location of the patient (eg. ward or emergency department) must act as the patient’s advocate to confirm the patient’s identity.
- Patients undergoing Level 3 procedures must be wearing a patient identification band. Refer to the NSW Health policy directive on patient identification bands.15

4.1.2 Procedure verification

- Consent must be obtained for any procedure as required by the NSW Health policy directive on consent to medical treatment.16
- The consent form, and request forms/referrals/treatment plans, for procedures must include the patient’s name, date of birth, sex and unique patient identifier and should include the procedure site/side/level, reason for the procedure, details of the examination/test/s required, the date the test/s were ordered, and the exact anatomical location for the test/s.

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Staff must ask the patient, or their person responsible, to state what procedure they understand will be performed and to state the site/side/level for the procedure (where appropriate) and verify this matches the planned procedure and consent form/request form/referral/treatment plan.\(^{17}\)

Where procedure details on the consent form/request form/referral/treatment plan are incomplete or there is a discrepancy the requesting clinician or a member of their team must be contacted to amend or complete a new document before the procedure commences and actions taken documented in the patient’s health care record.

Verify x-ray and other imaging data are for the correct patient and are the correct images, where appropriate.

Other relevant clinical information including documentation recorded electronically must be available prior to the planned procedure.

Verification should be documented in the patient’s health care record, including a record of individuals involved in the verification process.

### 4.1.3 Site/side/level marking

**Site/side/level marking**

Site/side/level marking is essential in cases where there is the potential for error involving multiple structures (fingers, toes, or lesions), left/right distinction, or levels (spine). In these cases, where appropriate, the site/side/level should be marked. For certain radiotherapy treatments, the immobilising device may be marked.

The site/side/level must be marked by one of the proceduralists (except for intra-ocular surgery):

- As a minimum, all cases involving multiple structures (fingers, toes or lesions), laterality or levels (spine) must be marked.
- Non-procedure sites/sides/levels must not be marked.
- Marking occurs before the patient enters the procedural room, except in an emergency.
- The method of marking should be consistent throughout the organisation. Initials must not be used in marking.
- Marking takes place with the patient involved, awake and aware, where appropriate. Note some paediatric, psychiatric and intellectually impaired patients may find this distressing and marking may be done after these patients are anaesthetised. For this group of patients it may be appropriate to have a person responsible present.
- The mark should be on or near the incision site or radiotherapy site.
- The mark should be visible and sufficiently permanent so it remains visible following skin preparation and draping.
- The marking must be documented in the patient’s health care record by the person marking the site/side/level.
- Exception: For intra-ocular surgery where pre-operative mydriatic drops have been ordered, the correct side may be marked by a registered nurse, and the marking checked by a second registered nurse before the drops are given, in conjunction with confirmation of the patient’s identity, checking of the consent, and verbal confirmation by the patient, or their person responsible, of the side to have surgery. The mark must be subsequently checked as the correct side for the procedure as required by Sign In One, Sign In Two and Team Time Out.

**Site/side/level marking exemptions**

Site/side/level marking is **not required** in the following circumstances (although it can be used):

- To avoid confusion, eg. if a procedure requires a regional anaesthetic then only the procedure site should be marked.

• For single organ cases, eg. cardiac surgery, caesarean section.
• Where the site of surgical entry is unambiguous, eg. midline incisions, cystoscopies, laparoscopies.
• If the site is obvious, eg. open trauma wound, large tumour.
• For endoscopies.
• For procedures where the catheter/instrument site is not predetermined, eg. cardiac catheterisation, epidural/spinal analgesia/anaesthesia.
• For radiology procedures where marking the site could add to the ambiguity of subsequent procedures.
• For multiple fractions of radiotherapy, where the site is usually only marked before the first fraction and reapplied as necessary, and where markings are applied to the immobilisation device rather than on the patient’s skin.
• Where intra-procedure imaging for localisation, eg. radiological, MRI, stereotaxis, ultrasound, radiation detection will be used.
• Where the procedure site cannot be marked eg teeth, the site/side must be clearly recorded in the patient’s health care record.
• For premature infants, and some oral and maxillofacial surgery, where marking may cause permanent marking of the tissues.
• Where the patient refuses marking. Such refusal must be documented in the patient’s health care record.
• In a life-threatening emergency where the patient enters the procedural room directly. This must be documented in the patient’s health care record.

4.2 Sign In One: Checklist completed/signed by the sedationist/anaesthetist

Sign In One must be completed before commencing procedural sedation or general/regional anaesthesia.

Sign In One is completed by the sedationist/anaesthetist in conjunction with another member of the procedural team eg. anaesthetic nurse/circulating nurse, and then signed by the sedationist/anaesthetist. Where there is no sedationist/anaesthetist then a proceduralist must complete and sign this check.

In procedural suites where a formal, documented verification check is performed prior to entering the procedural suites eg. in an airlock, theatre holding bay or reception area, the Sign In One is an additional step that must occur in a room or area immediately adjacent to the procedural room eg. in the anaesthetic room if available, or in the procedural room.

Sign In One must be completed before the patient enters the procedural room, except in emergency situations, where an anaesthetic room does not exist or where the patient enters the procedural room directly. In these cases Sign In One should be completed inside the procedural room.

4.2.1 Patient identification

• Patient identification must occur before any treatment/intervention is initiated except if a life threatening or emergency situation exists.
• Staff must ask the patient to state their full name and date of birth. Staff must not state the patient’s name or date of birth and then ask the patient if this information is correct.
• The answers to these questions must be confirmed against the details on the patient identification band. If there is a discrepancy between the details, the procedure must not proceed until this is resolved.
If the patient is unable to participate in the final patient identification step prior to the planned procedure/s, for example due to due to physical incapacity, language issues, or is a child, then the patient’s person responsible or the patient’s identification band/s should be used to confirm the patient’s identity.

4.2.2 Planned procedure matches consent
- The consent form is the primary source of information about the patient’s planned procedure. The procedure to be performed must match what has been written on the patient’s signed consent form. Details on the consent form must be clear and correct; and must match the health care record, the request/referral letter, the patient’s understanding of the procedure to be undertaken and imaging data, where appropriate.
- A final consent check with the patient before sedating/anaesthetising them, gives the patient the opportunity to identify any mistakes. If the planned procedure and consent do not match, the proceduralist must resolve the matter before the patient receives procedural sedation/anaesthesia.
- If the planned procedure information on the consent form is incorrect this should be documented in the patient’s health care record.

4.2.3 Site/side/level matches consent
- The relevant team member should ask the patient to state their site/side/level for the planned procedure. The team member must not state the site/side/level for the planned procedure and then ask the patient if this information is correct.
- For some procedures (eg. those that involve ovaries and fallopian tubes), side detection may be unreliable preoperatively.\(^\text{18}\) In these circumstances, side verification is not recommended.

4.2.4 Allergy/adverse reaction check
The relevant team member should:
- Ask the patient if they have a known allergy/adverse reaction and if yes, what the allergy/adverse reaction was and what effect they experienced.
- Check for any other source that may provide further information on allergies/adverse reactions the patient might have eg. treatment plan, progress notes.
- Check that allergies/adverse reactions are noted on the allergy/adverse reaction section of the National Inpatient Medication Chart or other relevant section of the patient’s health care record.
- Note that when contrast is used for procedures the allergy/adverse reaction check must be included in a combined patient checklist/consent form that is specifically designed for contrast administration.
- Ensure all team members are aware of all allergies/adverse reactions identified.

4.2.5 Sedation/anaesthetic equipment checked
- When procedural sedation or anaesthesia is planned a formal check of the necessary sedation/anaesthetic equipment must be completed prior to each procedure to ensure the equipment is available and working. Continuous pulse oximetry and non-invasive blood pressure monitoring must be applied to the patient.

\(^{18}\) Gynaecology surgery for adnexal masses: it is not uncommon for a patient to be consented for a right sided procedure, based on clinical examination or imaging (usually ultrasound) and to find at operation that the pathology is left sided (and vice versa). This is due to the fact that the tubes and ovaries are lateral and posterior to the uterus and fall towards the midline of the pelvis, making it easy to get the wrong side.
4.2.6 Patient sedation risk/anaesthetic assessment done

- When procedural sedation or anaesthesia is planned a medical assessment must be completed prior to commencement of the procedure (except in a life threatening emergency). This must include documentation of the patient’s medical condition/s and their sedation risk/anaesthetic assessment. When a non-anaesthetist plans to give procedural sedation an assessment must be made as to whether an anaesthetist is required to assess and manage the patient. This decision must be documented in the patient’s health care record.

4.2.7 Significant airway or aspiration risk

- When procedural sedation or anaesthesia is planned the sedationist/anaesthetist must formally assess the patient’s airway and document this in the patient’s health care record prior to commencing procedural sedation/anaesthesia. If this assessment indicates a significant airway risk then an anaesthetist must be present before sedation is given.
- The risk of aspiration should also be evaluated and documented. If the patient has symptomatic active reflux or a full stomach, the sedationist/anaesthetist must consider what additional steps might be taken to reduce the increased risk of aspiration.
- When a significant airway or aspiration risk is identified the procedural sedation/anaesthesia must not commence until all required special equipment needed is present and functional, and procedural team members needed are present.
- Functioning and clean suction equipment must always be immediately available when procedural sedation/anaesthesia is given.

4.2.8 Identification of clinician airway monitor and availability of skilled personnel

- When procedural sedation is to be used, and where an anaesthetist is not present to care exclusively for the patient, a clinician airway monitor other than the proceduralist must be nominated whose primary responsibility is to monitor the patient’s level of consciousness and to monitor and provide the initial management of cardio-respiratory status of the patient during the procedure. There must be present a clinician skilled in airway management and cardio-pulmonary resuscitation relevant to the patient’s age.

4.2.9 Risk of major bleeding

Defined as the risk of bleeding more than:

- 500 ml of blood for adults
- 7 ml/kg of blood for children
- >750 ml of blood for maternity patients.

If there is a risk of major bleeding:

- The procedural team should confirm there is a valid group and screening available. If antibodies are present and the blood bank indicates that this may delay the provision of cross-matched blood, then at least two units of compatible cross-matched blood should be available before proceeding.
- The patient should have large bore venous access.
- Intra-procedure blood loss should be measured and the patient monitored for signs of hypovolaemia.

4.3 Sign In Two: Checklist completed/signed by the proceduralist

Sign In Two must be completed before commencing procedural sedation or general/regional anaesthesia.

Sign In Two must be completed and signed by a proceduralist who is required to confirm the following.

4.3.1 Essential imaging available
If imaging data are to be used to verify the site or procedure, a proceduralist must confirm with another member of the procedural team that:

- Images are correct and properly labelled for the correct side of the body, oriented correctly, and labelled with the patient’s name and date of birth.
- Patient’s identity, the site of the procedure and the date of the image, in relation to the procedure, all match.

4.3.2 Site marked
A proceduralist must confirm that the site has been marked or marking is not required (Refer to 4.1.3 Site marking).

4.3.3 Implants and special equipment
- If any implant (type/side/size/power) and/or special equipment is required, its availability and function (where appropriate) must be checked by two team members.
- A proceduralist must be present prior to commencement of procedural sedation/anaesthesia to confirm that sterile instrumentation, implants and/or any special equipment required are present and functional.
- Where an implant is used the product’s label, code reference and serial number should be recorded in the patient’s health care record.

4.3.4 A proceduralist who can complete the procedure is immediately available
- Confirm that a proceduralist, who can complete the procedure, is immediately available before the patient receives procedural sedation/anaesthesia and before moving to the Team Time Out stage.

4.4 Team Time Out – Checklist signed by proceduralist

Team Time Out is the final patient safety check and must occur immediately before the procedure commences in the room where the procedure is to be conducted. Usually this will be after procedural sedation/anaesthesia has commenced. The senior proceduralist present must lead the Team Time Out. The proceduralist, sedationist/anaesthetist and other members of the procedural team must ALL confer and agree on all aspects of the Team Time Out section of the checklist.

Success of Team Time Out is reliant on active communication amongst all members of the procedural team. It is the responsibility of the senior proceduralist present to ensure that Team Time Out is completed. The procedure should not commence until all team members are satisfied that the patient identification and procedure verification processes have been completed and patient identification and procedure verification are correct.

Each and every member of the procedural team is responsible for ensuring Team Time Out occurs and for raising any concerns they may have during Team Time Out.

Where discrepancies are noted or disagreements occur at Team Time Out, the procedure must be delayed until the issues are resolved. Only for reasons of clinical urgency should the procedure commence. The justification for proceeding in the presence of such discrepancies must be documented by the proceduralist in the patient’s health care record as soon as the procedure is completed and an incident report must also be completed.
Where previous identification/verification steps have occurred satisfactorily but a discrepancy in information or disagreement in identification/verification occurs at Team Time Out, an incident report should also be completed even if the issues are resolved satisfactorily.

If disagreement occurs in an extreme emergency situation, the senior member of the procedural team is responsible for the care of the patient and should decide the most appropriate course of action.

The senior proceduralist present is responsible for Team Time Out and must sign this section.

Only after Team Time Out has been completed should the procedure commence.

4.4.1 Procedural team member introductions
- All procedural team members must introduce themselves to each other by their preferred names and roles before the procedure commences. Team members may change frequently and it is important in the effective management that all team members understand who each member is and their role. Teams may adopt local strategies such as documenting the name and role of team members on a whiteboard.
- In situations where multiple patient procedures are undertaken consecutively and there is no change in team members during the list, then this action can occur at the commencement of the list.

4.4.2 Patient identity
- The patient’s identity must be confirmed against approved patient identifiers, including the patient identification band/s, consent and documentation. The identification band used for confirmation must be accessible after positioning and draping.

4.4.3 Planned procedure matches consent
- The consent form is the primary source of information about the patient’s planned procedure. The planned procedure must be matched against the patient’s consent form and imaging data, where appropriate.
- The processes described in this policy directive should not preclude the use of discretion by the treating proceduralist to alter the procedure for reasons of clinical judgement. However, significant changes to the documented procedure must be communicated to all members of the procedural team and must be recorded in the patient’s health care record.

4.4.4 Site/side/level mark matches consent
- The site/side/level mark must be consistent with the site/side/level documented in the consent and imaging.
- For some procedures (eg. those involving ovaries and fallopian tubes), side detection may be unreliable preoperatively. In these circumstances, side confirmation is not recommended (Refer to 4.2.3 Site/side/level matches consent).

4.4.5 Patient position
- The positioning of the patient must be confirmed as correct for the planned procedure and site/side/level.

4.4.6 Essential imaging reviewed
- One of the proceduralists must confirm that the essential imaging is in the procedural area and ready for use during the procedure. If imaging data are used to verify the site or procedure, the person performing the procedure must review and confirm the images are correct and properly labelled. If essential images are not available, the proceduralist must decide if it is safe to proceed and document this decision in the patient’s health care record.
4.4.7 Allergies/adverse reactions
• Confirm any known allergies/adverse reactions. This will raise the team’s awareness of precautions that may need to be taken during the procedure to avoid allergies/adverse reactions.

4.4.8 Special medications administered
• Confirm that any special medications required (e.g., eye drops, steroids, mannitol) have been administered.

4.4.9 Antibiotics
• Antibiotic prophylaxis is considered best practice for a number of complex procedures. Where ordered, antibiotic prophylaxis must be given prior to the procedure (ideally within 60 minutes of the procedure commencing).  
• Antibiotics for caesarean sections may be given prior to the procedure or after the cord is clamped. The senior proceduralist must decide the timing of antibiotic administration for a caesarean section and document this decision in the patient’s health care record.
• An exception is when antibiotics are withheld in order to obtain specimens for microbial testing or to observe the patient.

4.4.10 VTE prophylaxis
• The need for VTE prophylaxis must be assessed on every patient. Where indicated, it should be commenced prior to the procedure. Methods include anticoagulants, compression stockings and foot/calf compressors. Indicators for use are outlined in the NSW Health policy directive on prevention of venous thromboembolism. Note that not all VTE prophylaxis methods will commence pre-procedure e.g., anticoagulants may commence post procedure.

4.4.11 Anticipated critical events
Effective team communication reduces error, prevents major complications and supports efficient teamwork. To ensure the procedural team has a common understanding of the planned procedure and expected outcomes/issues:
• The proceduralist must verbally brief the team on the planned procedure, critical steps, anticipated events and equipment requirements.
• The sedationist/anaesthetist must verbally review any specific patient or procedure concerns they have.
• The nursing/midwifery team must verbally confirm sterility, implants and equipment requirements.

4.5 Sign Out – Checklist signed by the nurse/midwife
Sign Out should occur before the patient/procedural team leave the procedural area.

Sign Out is designed to ensure that all relevant patient documentation is completed and that appropriate clinical handover can be conducted. The nurse/midwife is responsible for Sign Out and should sign this section before the patient/team leave the procedural area. The proceduralist or sedationist/anaesthetist could also complete this section.

The nurse/midwife confirms the following.

4.5.1 Name of the procedure recorded
• The proceduralist must document the procedure that was carried out in the patient’s health care record. Where a procedure has varied from what was planned the rationale must be also noted in the health care record.

4.5.2 Count/tray list checks
- To ensure there are no instruments, accountable items or other items unintentionally retained in the patient, a count/tray list check must be performed as required by the NSW Health policy directive on handling instruments and accountable items.22
- This is usually attended prior to the patient leaving the procedure room. However, for the management of multiple or complex instrument trays, for example, the policy directive says that the final instrument check may be completed immediately post procedure and before the next patient enters the operating or procedural room.

4.5.3 Specimens/images labelled correctly
- The proceduralist and another member of the procedural team must verify the correct labelling of any pathology specimen/images obtained during the procedure by reading out loud the patient’s name, specimen/image description and any orienting marks.

4.5.4 Equipment problems/issues documented and advised to relevant staff
- Malfunctioning equipment and instruments need to be accurately identified to prevent them from being used again until the problem/s is resolved. Any equipment or instrument problem/s arising during the procedure must be documented, raised with the relevant staff so the problem/s can be resolved as soon as possible and notified in the incident management system.

The procedural team confirms the following.

4.5.5 Blood loss documented, ongoing blood loss discussed
- To ensure that early warning signs of blood loss can be assessed, the blood loss (if any) during the procedure should be documented and any anticipated post procedure bleeding discussed. If significant post procedure bleeding is anticipated, blood loss criteria for notifying medical staff must be documented.

4.5.6 Advice for clinical handover
The following advice for clinical handover must be provided to staff at the post procedure destination.
- The procedural team has discussed the patient management plan for recovery, post procedure investigations and communication. This is expected to include any key messages that should be relayed to the patient or their person responsible.
- Any altered calling criteria documented if patient is not being recovered in a Post Anaesthetic Care Unit (PACU) or Recovery.
- Post procedure VTE prophylaxis has been ordered, if required.
- Post procedure care should be discussed with the patient where possible.

5 INCIDENTS

In the event of an incident:
- If the patient’s condition permits, an immediate plan to rectify the error/s should be made by the senior member of the procedural team. Wherever possible, the patient and the person responsible should be involved in the management plan.
- Manage incidents as required by NSW Health policy directives on incident management and open disclosure.23
- Serious incidents must be discussed at appropriate patient safety or clinical review meetings. Local improvement strategies should be developed in response to these serious incidents

22 Management of Instruments, Accountable Items and Other Items used for Surgery or Procedures, PD2013_054
24. SURGICAL CARE

- Report to the Special Committee Investigating Deaths Under Anaesthesia (SCIDUA) even when anaesthesia/sedation did not contribute, regardless of cause of death.

6 AUDITING AND REPORTING

Auditing of compliance with this policy directive must be undertaken by each Local Health District/Specialty Health Network (LHD/SHN).

Performance indicators may be included in quarterly reporting to LHD/SHN clinical councils.

7 ABBREVIATIONS

ECT Electroconvulsive therapy
IDC Indwelling catheter
IV Intravenous
IT Intrathecal
MRI Magnetic resonance imaging
NGT Nasogastric tube
VTE Venous thromboembolism

8 RESOURCES

Resources to support implementation of this policy directive can be found at the following sites:
Clinical Procedure Safety
Safe Sedation

9 REFERENCES

NSW Health policy directives

Central Venous Access Device Insertion and Post Insertion Care, PD2011_060 at
Client Registration Policy, PD2007_094
Client Registration Guideline, GL2007_024
Hand Hygiene Policy, PD2010_058
Incident Management, PD2014_004
Management of Instruments, Accountable Items and Other Items used for Surgery or Procedures, PD2013_054
Open Disclosure Policy, PD2014_028
Patient Identification Bands, PD2014_024

226(23/10/14)
Other references

ANZCA, PS9 – Guidelines on Sedation and/or Analgesia for Diagnostic and Interventional Medical, Dental or Surgical Procedures, 2010 http://www.anzca.edu.au/resources/professional-documents.

Consent for a procedure is referred to in the following national accreditation standards

NSW Health, Safe Clinical Handover Program in NSW http://www.archi.net.au/resources/safety/clinical/nsw-handover
Royal Australasian College of Surgeons (RACS), Surgical Safety Checklist, October 2009 http://www.surgeons.org/member-services/college-resources/#surgicalsafety
EXTENDED DAY ONLY ADMISSION POLICY (PD2011_045)


PURPOSE

This policy outlines the business rules and identifies the surgical procedures that should routinely be undertaken as an Extended Day Only Admission in NSW hospitals.

MANDATORY REQUIREMENTS

All health services are expected to maximise the use of the Extended Day Only model to ensure that there is predictable access for surgical patients. The Extended Day Only Model also supports quality and safety for patients by establishing protocolised care for patients undergoing commonly performed surgical procedures.

IMPLEMENTATION

The Extended Day Only model of care has been widely accepted and utilised by all health services since 2005.

Local Health Districts are responsible for the implementation of the Extended Day Only model of care.

1. BACKGROUND

1.1 About this document

The Extended Day Only model of care policy has been in use in NSW since 2005 and provides Health Service staff with guidance on the types of surgery that can be performed through an Extended Day Only model of care.

1.2 Key definitions

Extended Day Only Admission

Extended Day Only surgery is defined as specified surgical treatments (by Diagnosis Related Groups) requiring admission up to 24 hours for planned surgery and includes Day Only surgery.

2. EXTENDED DAY ONLY ADMISSION

2.1 Introduction

Extended Day Only units have been established in Health Services since June 2005.

The aim of this Extended Day Only policy is to provide direction to Health Services about the Diagnosis Related Groups that should routinely be considered for extended day only admission.

2.2 Selection of Procedures suitable for Extended Day Only

- The Diagnosis Related Groups that have been selected (in Attachment 2) as suitable for Extended Day Only admission are not exclusive. Other Diagnosis Related Groups may appropriately be admitted as Extended Day Only.
The Diagnosis Related Groups selected have been selected on the basis that between 50-100% of separations have a length of stay either day only, 1 day or 2 days. While it is recognised that some Diagnosis Related Groups lack a precise clinical descriptor, they provide the best objective assessment of length of stay for the purpose of selecting procedures. Careful assessment of patients with significant clinical co morbidities should be undertaken to ensure the patient’s suitability for Extended Day Only Admission. Additionally if a patient experiences any intra or post operative complication(s), they should be reassessed for Extended Day Only Admission suitability.

2.3 What is Extended Day Only?

Extended Day Only surgery is defined as specified (by Diagnosis related groups) surgical treatments requiring admission up to 24 hours for planned surgery and includes Day Only surgery. Up to 80% of all surgical patients can be treated as Day Only and Extended Day Only admissions.

The concept of Extended Day Only model is that of a designated service and physical area that provides certainty in the availability of resources to carry out planned surgery.

Key elements of Extended Day Only model include:

- Appropriate patient selection using specific admission criteria including an expected length of stay of less than 24 hours, a predictable course of recovery for the surgical procedure being undertaken and assessment of patient co morbidities to ensure unsuitable patients are more appropriately managed.
- Compulsory screening of all admission notifications by the peri-operative medical service for procedures suitable for admission to the Extended Day Only unit.
- Staggered admission times dependent on the timing of the patient’s surgery.
- Use of clinical protocols to inform, direct and record the patient’s clinical pathway, admission and discharge and post discharge management, including hospital in the home services if required.
- Beds that are designated for surgical services only.
- Routine selection of patients having procedures from specific Diagnosis Related Groups through the Extended Day Only model.
- Where there is clinical uncertainty regarding patient’s suitability for Day Only or Extended Day Only for admission, this may be referred to the relevant local Program Director of Surgery.
- Clinical protocols are a key feature of the Extended Day Only model. They are used to inform, direct and record the patient’s clinical pathway, admission, discharge and post discharge management. Clinical protocols streamline patient care processes and support quality clinical management of the patient.

Paediatric patients

The classification of paediatric procedures suitable for Extended Day Only differs considerably from the adult population. Paediatric patients frequently require a general anaesthetic to perform routine medical procedures, e.g. endoscopy, CT/MRI scans and change of plaster. These may be appropriate for Day Only or Extended Day Only admission.

Key Performance Indicators

80% of all surgery (from the selected Diagnosis Related Groups) should be performed through a combination of a Day Only and Extended Day Only model.

The measurement for Extended Day Only patients is up to 28 hours, which accommodates those patients who are unable to be discharged within the 24 hour timeframe.

2.4 Extended Day Only Design

An Extended Day Only Unit is a dedicated and uniquely identifiable surgical unit. For many Extended Day Only units, this will involve the use of existing hospital facilities (with dedicated ward or beds within a hospital) to create the service. For other sites, it may involve reconfiguration of an existing campus or construction of a new building.

The Extended Day Only Unit is ideally located close to the operating theatre suite for easy access and to minimise transportation.

The major features of the Extended Day Only Unit include:
- defined care protocols from admission to discharge;
- a system of effective communication to handover patient care to their General Practitioner or other relevant community services;
- defined case-mix of procedures and services;
- performed by qualified consultant surgeons and anaesthetists and with trainees under consultant supervision;
- clear and safe inclusion or exclusion criteria for the unit;
- expected length of stay for all cases is no more than 24 hours;
- streamlined pre-admission assessment and preparation;
- designated beds;
- dedicated staff that are allocated to Extended Day Only;
- clearly defined procedures for the management of any unplanned or untoward circumstance;
- enhanced predictability of surgery with no interruptions from emergency surgery.

3. LIST OF ATTACHMENTS
- Implementation Checklist
- Diagnosis Related Groups identified as suitable for Extended Day Only admission
### 3.1 Attachment 1: Implementation checklist

<table>
<thead>
<tr>
<th>IMPLEMENTATION REQUIREMENTS For Extended Day Only/HIGH VOLUME SHORT STAY</th>
<th>Not commenced</th>
<th>Partial compliance</th>
<th>Full compliance</th>
</tr>
</thead>
</table>
| 1. Key elements for seamless admission including:  
  - Clinical screening of patients and triaging for Pre Admission Assessment  
  - Identification of procedures for model | ✧ | ✧ | ✧ |
| 2. Identification of designated beds for model | ✧ | ✧ | ✧ |
| 3. Protocols developed clinicians for high volume procedures (including discharge process) | | | |
| 4. Alignment with Post Acute Care Service and Hospital in the Home services | ✧ | ✧ | ✧ |

**Notes:**
### 3.2 Attachment 2: Diagnosis Related Groups identified as suitable for Extended Day Only Admission

<table>
<thead>
<tr>
<th>an_drg</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A12Z</td>
<td>Insertion of Neurostimulator Device</td>
</tr>
<tr>
<td>B05Z</td>
<td>Carpal Tunnel Release</td>
</tr>
<tr>
<td>B06A</td>
<td>Procs for Cerebral Palsy, Muscular Dystrophy, Neuropathy W CC</td>
</tr>
<tr>
<td>B06B</td>
<td>Procs for Cerebral Palsy, Muscular Dystrophy, Neuropathy W/O CC</td>
</tr>
<tr>
<td>B07B</td>
<td>Peripheral and Cranial Nerve and Other Nervous System Procedures W/O CC</td>
</tr>
<tr>
<td>C01Z</td>
<td>Procedures for Penetrating Eye Injury</td>
</tr>
<tr>
<td>C02Z</td>
<td>Enucleations and Orbital Procedures</td>
</tr>
<tr>
<td>C03Z</td>
<td>Retinal Procedures</td>
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<tr>
<td>C12Z</td>
<td>Other Corneal, Scleral and Conjunctival Procedures</td>
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<td>C13Z</td>
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<td>D01Z</td>
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<td>D02C</td>
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<td>D04A</td>
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<td>D04B</td>
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<td>D06Z</td>
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<td>D10Z</td>
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<tr>
<td>D11Z</td>
<td>Tonsillectomy and/or Adenoidectomy</td>
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<td>D12Z</td>
<td>Other Ear, Nose, Mouth and Throat Procedures</td>
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<td>D14Z</td>
<td>Mouth and Salivary Gland Procedures</td>
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<td>D15Z</td>
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<td>E02B</td>
<td>Other Respiratory System OR Procedures W Severe or Moderate CC</td>
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<td>E02C</td>
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<td>F02Z</td>
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<td>F09C</td>
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<td>F10B</td>
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<td>F12B</td>
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<td>F14B</td>
<td>Vascular Procs Except Major Reconstruction W/O CPB Pump W Sev or Mod CC</td>
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<td>F14C</td>
<td>Vascular Procs Except Major Reconstruction W/O CPB Pump W/O CC</td>
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<td>F15A</td>
<td>Interventional Coronary Procs W/O AMI W Stent Implantation W Cat or Sev CC</td>
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<tr>
<td>F15B</td>
<td>Interventional Coronary Procs W/O AMI W Stent Implantation W/O Cat or Sev CC</td>
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<tr>
<td>F16A</td>
<td>Interventional Coronary Procedures W/O AMI W/O Stent Implantation W CC</td>
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<td>F16B</td>
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<td>G10B</td>
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<td>G12B</td>
<td>Other Digestive System OR Procedures W Severe or Moderate CC</td>
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<tr>
<td>G12C</td>
<td>Other Digestive System OR Procedures W/O CC</td>
</tr>
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H02C  Major Biliary Tract Procedures W/O Catastrophic or Severe CC
H05B  Hepatobiliary Diagnostic Procedures W/O Catastrophic CC
H06B  Other Hepatobiliary and Pancreas OR Procedures W/O Catastrophic CC
H08B  Laparoscopic Cholecystectomy W/O Closed CDE W/O Cat or Sev CC
I02B  Skin Graft W/O Catastrophic or Severe CC, Excluding Hand
I11Z  Limb Lengthening Procedures
I12C  Infect/Inflam of Bone and Joint W Misc Musculoskeletal Procs W/O CC
I13B  Humerus, Tibia, Fibula and Ankle Procedures W/O CC
I16Z  Other Shoulder Procedures
I17A  Maxillo-Facial Surgery W CC
I17B  Maxillo-Facial Surgery W/O CC
I18Z  Other Knee Procedures
I19B  Other Elbow or Forearm Procedures W/O CC
I20Z  Other Foot Procedures
I21Z  Local Excision and Removal of Internal Fixation Devices of Hip and Femur
I23Z  Local Excision and Removal of Internal Fixation Devices Excl Hip and Femur
I24Z  Arthroscopy
I25A  Bone and Joint Diagnostic Procedures Including Biopsy W CC
I25B  Bone and Joint Diagnostic Procedures Including Biopsy W/O CC
I27B  Soft Tissue Procedures W/O CC
I28B  Other Musculoskeletal Procedures W/O CC
I29Z  Knee Reconstruction or Revision
I30Z  Hand Procedures
J06Z  Major Procedures for Breast Conditions
J07Z  Minor Procedures for Breast Conditions
J08A  Other Skin Graft and/or Debridement Procedures W CC
J08B  Other Skin Graft and/or Debridement Procedures W/O CC
J09Z  Perianal and Pilonidal Procedures
J10Z  Skin, Subcutaneous Tissue and Breast Plastic OR Procedures
J11Z  Other Skin, Subcutaneous Tissue and Breast Procedures
J12C  Lower Limb Procs W Ulcer/Cellulitis W/O Cat CC W/O Skin Graft/Flap Repair
J13B  Lower Limb Procs W/O Ulcer/Cellulitis W/O Cat CC W/O (Skin Graft and Sev CC)
K04B  Major Procedures for Obesity W/O CC
K05B  Parathyroid Procedures W/O Catastrophic or Severe CC
K06B  Thyroid Procedures W/O Catastrophic or Severe CC
K08Z  Thyroglossal Procedures
K09C  Other Endocrine, Nutritional and Metabolic OR Procedures W/O CC
L02B  Operative Insertion of Peritoneal Catheter for Dialysis W/O Cat or Sev CC
L04C  Kidney, Ureter & Major Bladder Procedures for Non-Neoplasm W/O Cat or Sev CC
L06B  Minor Bladder Procedures W/O Catastrophic or Severe CC
L07A  Transurethral Procedures Except Prostatectomy W CC
L07B  Transurethral Procedures Except Prostatectomy W/O CC
L08A  Urethral Procedures W CC
L08B  Urethral Procedures W/O CC
L09B  Other Procedures for Kidney and Urinary Tract Disorders W Sev CC
L09C  Other Procedures for Kidney and Urinary Tract Disorders W/O Cat or Sev CC
M03Z  Penis Procedures
M04Z  Testes Procedures
M05Z  Circumcision
M06A  Other Male Reproductive System OR Procedures W CC
M06B  Other Male Reproductive System OR Procedures W/O CC
N05B  Oophorectomies & Complex Fallopian Tube Procs for Non-Malig W/O Cat or Sev CC
N06B  Female Reproductive System Reconstructive Procs W/O Catastrophic or Severe CC
N07Z  Other Uterine and Adnexa Procedures for Non-Malignancy
N08Z  Endoscopic and Laparoscopic Procedures for Female Reproductive System
REFERENCES


PRE-PROCEDURE PREPARATION TOOLKIT (GL2007_018)

Optimal Pre-Procedure Preparation (PPP) is the first vital step for ensuring a successful surgical or procedural patient journey. PPP requires input from a multidisciplinary team: surgeon/proceduralist, anaesthetist, nurse, clerical staff, allied health, the patient’s General Practitioner (GP) and the patients themselves. This toolkit has been developed to assist health facilities in optimising their processes for pre-admission assessment and preparation for patients undergoing procedures or surgery. The document can be found at http://www.health.nsw.gov.au/policies/gl/2007/GL2007_018.html

EMERGENCY SURGERY GUIDELINES (GL2009_009)

These Guidelines have been developed by experienced surgical staff routinely coping with the challenges of emergency surgery. The Guidelines define the principles underpinning the redesign of emergency surgery and are to be referenced by Area Health Services when initiating redesign of emergency surgery practices. The Guidelines can be downloaded at http://www.health.nsw.gov.au/policies/gl/2009/GL2009_009.html
CENTRAL VENOUS ACCESS DEVICE INSERTION AND POST INSERTION CARE
(PD2011_060)

PURPOSE

The purpose of this Policy is to minimise complications from the insertion, management and access of central venous access devices (CVADs) and to reduce central line associated bacteraemia blood stream infections in NSW Health facilities.

MANDATORY REQUIREMENTS

This Policy applies to all percutaneously peripherally and centrally inserted CVADs using the Seldinger technique.

All clinical staff who insert CVADs or care for a patient with a CVAD must comply with this Policy. For each insertion, the CVAD Insertion Record must be completed.

This Policy does not cover the indications for CVAD insertion; the Seldinger technique; the choice of CVAD sites in neonates; CVADs inserted by direct surgical access of veins; or placement, in operating theatres, of closed system non-Seldinger peripheral CVADs for peri-operative pressure monitoring.

IMPLEMENTATION

Department of Health:
• Provides the mandatory requirements, standards and tools for implementation of this Policy.
• Monitors compliance with this Policy.

Clinical Excellence Commission:
• Work with clinical staff and Executive Sponsors to support rapid implementation across NSW.
• Review effectiveness and clinical outcomes of the program and recommend changes as required through the relevant CEC Committee structures.
• To advise the Department on issues affecting implementation.

Chief Executives:
• Assign responsibility and personnel to implement this Policy.
• Provide line managers with support for implementation of this Policy in clinical areas.

Directors of Clinical Governance:
• Promote safe practices for insertion and post insertion care of CVADs.
• Ensure successful implementation of this Policy within the Local Health District/Network.
• Ensure clinical audit includes review of compliance with this Policy.

Hospital, facility, clinical stream and unit managers:
• Ensure that systems and practices prescribed in this Policy are successfully implemented.

24. SURGICAL CARE

- Ensure that clinicians complete a CVAD Insertion Record for every CVAD insertion and that this is part of the Health Care Record.
- Ensure that only experienced clinicians who have been trained and assessed as competent supervise CVAD insertion (refer to definitions).
- Ensure staff caring for patients with CVADs post insertion are trained and assessed as competent to care for patients with CVADs.

Attending Medical Officers:
- Demonstrate leadership in improving clinical practice in relation to CVAD insertion.
- Ensure a CVAD Insertion Record is documented for every CVAD insertion in the health care record policy.
- Ensure compliance with this Policy for every insertion of a CVAD.
- Ensure compliance with this Policy for post insertion care of a CVAD.

Clinical Staff Inserting Devices:
- Comply with this Policy for every insertion of a CVAD.
- Are trained and competent in accordance with this Policy in inserting devices.

Clinical Staff Caring for Devices:
- Comply with this Policy for post insertion care of a CVAD.
- Are trained and competent in accordance with this Policy in the care of CVADs.

All staff undertaking or supervising CVAD insertion, or caring for a CVAD post insertion must comply with this Policy

ASSOCIATED DOCUMENTS/RESOURCES

NSW Health Infection Control Policy (PD2007_036)
NSW Health Policy Locum Medical Officers - Employment and Management (PD2013_022)
NSW Health Recognition and Management of Patients Who are Clinically Deteriorating (PD2013_049)
NSW Health Hand Hygiene Policy (PD2010_058)

1. BACKGROUND

1.1 Introduction

Central venous access device (CVAD) insertion is a complex procedure that has the potential for immediate as well as delayed complications.

CVAD insertion is performed in a variety of clinical settings, for example in emergency departments (ED), intensive care units (ICU), operating theatres (OT), cardiac and interventional radiology suites and inpatient wards by a variety of clinicians including emergency department specialists, anaesthetists, intensivists, radiologists, cardiologists, surgeons, nurses and midwives.

This document is relevant to all clinicians required to insert or manage a CVAD in the scope of their practice and those clinicians caring for patients post insertion.
1.2 Purpose

This Policy sets out the requirements for the safe insertion and post insertion care of CVADs in NSW Health facilities. Except where specified all instances of CVAD insertion must comply with this Policy regardless of the clinical setting. The Policy also sets out to minimise complications from the insertion, management and access of CVADs.

It is recognised that in an emergency, it may not be possible to fully comply with this Policy. CVADs placed when the requirements set out in this Policy are not met should be replaced as soon as practical.

1.3 Key definitions

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute Care Facility</strong></td>
<td>An acute care facility provides immediate care for trauma and injuries, severe or sudden illness, or recovery from surgery. Generally, stays are brief in acute care and patients are sent home, are managed through ambulatory care or are transferred to non-acute facilities.</td>
</tr>
<tr>
<td><strong>Antimicrobial</strong></td>
<td>A substance that is capable of destroying or inhibiting the growth of microorganisms.</td>
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<tr>
<td><strong>Antiseptics</strong></td>
<td>Antimicrobial substances that are applied to the skin to reduce the number of microflora. Examples include topical alcohols, chlorhexidine and iodine.</td>
</tr>
<tr>
<td><strong>Assistant</strong></td>
<td>A trained or experienced clinician who supports or aids a clinician inserting a CVAD.</td>
</tr>
<tr>
<td><strong>Attending Medical Officer</strong></td>
<td>The medical officer primarily responsible for the clinical care of the patient/client for the episode of care. The AMO is responsible for ensuring that adequate standards of medical documentation are maintained for each patient/client under their care.</td>
</tr>
<tr>
<td><strong>Central Venous Access Device (CVAD)</strong></td>
<td>A catheter introduced via a large vein into the superior vena cava or right atrium for the administration of parenteral fluids, medications or for the measurement of central venous pressure. For the purposes of this Policy this includes femoral venous catheters. <em>Centrally</em> inserted central venous catheters have a skin entry point in the neck or trunk. <em>Peripherally</em> inserted central catheters (PICC) have a skin entry point on a limb or the scalp. <em>Non-Tunnelled</em> CVAD - the catheter insertion and exit points are the same <em>Tunneled</em> CVAD - the catheter is inserted through one point and then “tunneled” under the skin to a remote exit point. CVAD is also called a central venous line or central venous catheter.</td>
</tr>
<tr>
<td><strong>CVADABSI</strong></td>
<td>CVAD associated bacteremia bloodstream infection.</td>
</tr>
<tr>
<td><strong>Clinician</strong></td>
<td>For the purpose of this Policy, a clinician is defined as a medical practitioner (including Locum Medical Officers), nurse or midwife.</td>
</tr>
<tr>
<td><strong>Experienced clinician</strong></td>
<td>A clinician: • with a high level of competence in CVAD insertion and a comprehensive understanding of the management of potential complications.</td>
</tr>
<tr>
<td><strong>Escalation</strong></td>
<td>An untrained clinician who fails to cannulate a vein after three passes, or causes an arterial or lung puncture, should make no further attempts at cannulation at that site and seek assistance from a more experienced proceduralist before attempting another site. The number of passes by an experienced clinician should be governed by clinical judgement (taking into account the experience of the clinician). If insertion failure occurs despite multiple passes, the clinician should consider using an alternate site, the use of ultrasound or radiological guidance or a change of proceduralist (including seeking insertion by a Radiologist or Surgeon).</td>
</tr>
</tbody>
</table>
### 24. SURGICAL CARE

<table>
<thead>
<tr>
<th>Insertion failure</th>
<th>Unsuccessful insertion of a CVAD at a particular insertion site.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locum Medical Officer</td>
<td>A suitably qualified, registered and authorised medical practitioner introduced to a Public Health Organisation by a Medical Locum Agency that is listed on the NSW Health Register of Medical Locum Agencies at <a href="http://www.health.nsw.gov.au/aboutus/business/locums">www.health.nsw.gov.au/aboutus/business/locums</a>, and employed in a casual or temporary capacity to provide cover for an absent member of the permanent non-specialist medical staff or when shifts are unable to be filled by overtime or casual medical employees. This document applies to all junior medical staff employed as Locums, including cover for Interns, Residents, Registrars, and Career Medical Officers (NSW Health Policy Locum Medical Officers - Employment and Management (PD2013_022)).</td>
</tr>
<tr>
<td>Maximum sterile protection</td>
<td>Surgical mask, hat (head and facial hair cover), eye protection, sterile gown and sterile gloves.</td>
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<tr>
<td>Multiple pass</td>
<td>More than one pass at the same insertion site.</td>
</tr>
<tr>
<td>Must</td>
<td>Indicates a mandatory action.</td>
</tr>
<tr>
<td>Pass</td>
<td>Each complete insertion of the needle that is intended to cannulate the central vein. This excludes passes with a small gauge seeking needle (e.g., 21g or smaller).</td>
</tr>
</tbody>
</table>
| Public health organisation | For the purpose of this Policy a Public Health Organisation is:  
  - Local Health District  
  - Statutory health corporation that provides inpatient services, or  
  - Affiliated health organisation in respect of its recognised establishments that provide inpatient services. |
| Seldinger Technique | Procedure to obtain access to blood vessels. The desired vessel is punctured with a needle (using ultrasound guidance where appropriate). A guidewire is advanced through the lumen of the needle which is then withdrawn. A dilator is passed over the guidewire into the vessel. The dilator is withdrawn and a catheter passed over the guidewire into the vessel. The guidewire is removed. Indicates an action that ought to be followed unless there are justifiable reasons for taking a different course of action. |
| Should | An experienced clinician (also refer to definition of experienced clinician). |
| Trained clinician | Clinician who has completed a training program consistent with best practice for the insertion of CVADs. |
| Untrained clinician | Clinician who has commenced, but not completed, a training program consistent with best practice for the insertion of CVADs. |

2. REQUIREMENTS FOR THE INSERTION OF CENTRAL VENOUS ACCESS DEVICES

2.1 CVAD insertion should only be conducted:  
- with adequate physical conditions, equipment, monitoring and trained assistance (refer to Appendix 1 – Central Venous Access Device Insertion Steps for Best Practice);
• by trained or supervised clinicians. Untrained clinicians must not insert a CVAD without supervision of an experienced or trained clinician and must complete a training program consistent with best practice. The level of supervision required by a clinician for a particular CVAD insertion should be appropriate for the experience of the operator and the clinical condition of the patient. An escalation procedure should be in place to minimise patient harm when difficulties arise (e.g. multiple passes, complications, patient’s condition deteriorates);

• where there is a clear indication for its use and when the benefits obtained from CVAD access outweigh the risks of insertion. CVADs should be removed as soon as practical;

• using aseptic technique which must be applied during all CVAD insertions to reduce the risk of local or systemic infection;

• where clinicians take steps to minimise the risks of guidewire/stiffening wire embolisation, shearing and tip damage and

• if using a dilator after it has been determined that the vessel is a vein and not an artery.

2.2 Other factors to note:

• Where the CVAD insertion and type of catheter is inserted should be determined on the basis of patient/situational factors and the risks inherent in the sites considered. The number of lumens and the catheter diameter should be minimised;

• All connections/ports attached to the CVAD should be able to be decontaminated prior to injection of fluids/drugs or aspiration of blood (refer to 22.3 Care of administration sets).

• Antibiotic prophylaxis and/or routine replacement of CVADs (ie. weekly changes) should not be used as a means to reduce CVAD associated bacteraemia bloodstream infections (CVADABSI).iii

• Tunnelled CVADs have a lower rate of infection and may be more suitable when long-term (greater than 30 days) access is required.iii

• Appropriate post insertion care is vital to minimise complications. Inexperienced clinicians should be supervised when providing post insertion care and the level of supervision required by a clinician for post insertion care of a CVAD should be appropriate for that clinician.

3. ENVIRONMENTAL, MONITORING AND EMERGENCY REQUIREMENTS

CVAD insertion should only be performed in areas that have:
1. Adequate lighting.
2. Adequate space around the patient for ease of movement.
3. Easy maintenance of aseptic technique.
4. Electrical safety support.
5. Immediate access to cardiac resuscitation equipment and drugs.
6. Skilled staff able to assist.
7. All patients must have electrocardiograph (ECG) monitoring during the procedure. If there is a reduced level of consciousness (e.g. sedation), blood pressure (BP) and pulse oximetry (SpO₂) monitoring must be used. End tidal CO₂ monitoring may also be of value. Supplemental oxygen must be available and administered when there is a reduced level of consciousness.

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4. **NECESSARY EQUIPMENT**

All equipment required to insert the CVAD must be sterile and immediately available, including a variety of catheters, guidewires, capless valves, sterile, drapes, syringes, needles and preparation solutions (refer to Appendix 2 - Suggested equipment for central venous access device insertion).

5. **PATIENT FACTORS**

The following patient factors should be considered before inserting a CVAD:

5.1 **Patient risk factors:**

a) Obesity
b) Coagulopathy (platelets < 50,000/mm³, International Normalised Ratio (INR) > 1.5, activated partial thromboplastin time (APTT) > 50 seconds)
c) Patients on anti-platelet medications especially clopidogrel/ticlopidine
d) Hypotension
e) Previous surgery at or near the same central vein location
f) Previous CVAD insertion at the same site
g) Infection at the insertion site
h) Presence of left bundle branch block (LBBB) on the ECG (pulmonary catheters)
i) Lymph node dissection/removal
j) Previous DVT in limb

4.2 Complications and risks inherent to each insertion site and their particular relevance in a given clinical setting e.g., pneumothorax occurring on mechanical ventilation during surgery (refer to Appendix 3 - Central Venous Access Device site selection).

4.3 Risks related to the transmission of blood borne pathogens, for example, human immunodeficiency virus (HIV), hepatitis B or C.

4.4 Likely duration of CVAD placement.

5.5 Whether or not the CVAD is intended for use by the patient outside an acute care facility.

6. **CATHETER SELECTION**

The following should be considered when selecting a catheter:

6.1 **Lumens:** The number of lumens, connectors and ports and the diameter of the catheter should be minimised.

6.2 **Risk of infection:** The use of antimicrobial catheters should not be standard practice for patients requiring a short-term CVAD. Coated catheters should be considered for immunosuppressed patients (e.g., burns, transplants, haematology, and mechanical cardiac or circulatory support).

6.3 **Multiple Infusions and/or total parenteral nutrition (TPN):** Where multiple infusions or where TPN is being administered, a single lumen must be reserved exclusively for that purpose. Prior to commencing TPN, the lumen should not have been used for any other purpose.
24. SURGICAL CARE

6.4 Likely duration of CVAD placement.

6.5 Whether or not the CVAD is intended for use outside an acute care setting facility.

7. PERSONAL PROTECTIVE EQUIPMENT (PPE)

The clinician inserting the CVAD and assistant/supervisor (if they are entering the sterile field) must use the following personal protective equipment - surgical mask, hat (head and facial hair cover), eye protection, sterile gown and sterile gloves.iii

The following order for donning PPE must be followed:
- routine hand hygiene
- don hat
- don surgical mask and eye protection
- procedural hand hygiene
- don sterile gown
- don gloves.

Other staff involved in insertion of the CVAD must use the following personal protective equipment - surgical mask, hat and eye protection. Additional personal protective equipment may be required (e.g. if transmission based precautions are required for the patient).

All staff must perform hand hygiene consistent with current policy and immediately prior to putting on personal protective equipment.

8. ASEPTIC TECHNIQUE

The clinician performing the insertion, the supervisor or the assistant, must stop the insertion procedure if aseptic technique is not maintained except in an emergency.

Aseptic technique must include:
- Two minute hand hygiene iv
- Full sterile gown and sterile gloves, and surgical mask/hat/eye protection
- Meticulous skin preparation with an antiseptic solution, preferably alcoholic chlorhexidine (unless contraindicated e.g., flammability issues, children under 2 months of age, allergy) and allowing it to dry before insertion. See Appendix 4 - Antiseptic solutions for a list of approved solutions iii
- Sterile drape/s fully covering the patient and their bed (unless this is impractical).
- Hair at the insertion site, which would interfere with the sterile field or adherence of the dressing, should be removed using clippers. Shaving is not recommended.
- Equipment to be used in placing a CVAD should be opened as close to the time of line insertion as practical.

9. LOCAL ANAESTHETIC

Use local anaesthetic if appropriate for the insertion site and adjacent subcutaneous tissues in a conscious patient.
10. **ULTRASOUND**

Ultrasound should always be used if available and the operator trained in the use of the device for CVAD insertions particularly for internal jugular, femoral and PICCs when the peripheral veins are not visible or palpable.\(^v\)

11. **CONFIRMATION OF VENOUS ACCESS**

To reduce the risk of potentially damaging a major artery with the dilator, the clinician inserting the CVAD should confirm that the guidewire is in a vein by:

- running a cannula over the wire removing the wire; attaching a short extension tube to this and holding it vertically to act as a simple manometer; or
- transducing the cannula/needle prior to insertion of guidewire and dilator; or
- visualising intravenous placement using ultrasound; or
- blood gas analysis.

12. **DILATOR INSERTION**

The dilator should only be inserted to a sufficient depth to dilate the subcutaneous tissue track at the puncture site. Insertion beyond this distance does not provide any further advantage and increases risk of vessel intimal damage, guidewire damage and/or vessel perforation.

13. **GUIDEWIRE**

To prevent embolisation of the guidewire into the patient, part of it must remain visible and the clinician must hold or otherwise control it at all times during the insertion and positioning process. The clinician must have control over the distal (external) end of the guidewire before advancing the catheter through the skin.

After the guidewire has been removed, the proceduralist should confirm that the guidewire is complete and the tip has not been damaged and document this on the CVAD Insertion Record. The assistant should confirm this if available.

14. **STIFFENING WIRE (PICCs)**

PICCs sometimes have a stiffening wire to aid advancement. The wire must never be trimmed or the PICC cut while the stiffening wire is in the catheter. Where shortening is unavoidable the manufacturer’s instructions must be followed.\(^vi\)

The wire must be removed after PICC insertion. The proceduralist should confirm that the stiffening wire is complete and the tip has not been damaged and document this on the CVAD Insertion Record. The assistant should confirm this.

15. **CONFIRMATION OF CENTRAL VENOUS ACCESS DEVICE PLACEMENT**

After insertion, a chest x-ray is required to confirm the tip is in the correct position (except for short femoral catheters in adults). The tip of a CVAD (excluding femoral lines in adults) should lie in the superior vena cava, outside the right atrium in order to prevent arrhythmias or atrial perforation. Pneumothorax should also be excluded for neck or subclavian line insertions.

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Prior to this, other methods may be used to confirm venous placement, (e.g., manometry, ultrasound, transduction, image intensifier).

For children:
1. If the CVAD insertion was done under a general anaesthetic then the tip position should be confirmed by x-ray or image intensifier prior to waking the child up.
2. Femoral catheters must be x-rayed.

16. DEPTH OF INSERTION

It is reasonable to expect that a CVC tip should be:
1. in the superior vena cava;
2. above the cephalic limit of the pericardial reflection;
3. at a level corresponding to the carina on a chest radiograph.

17. SWABABLE CAPLESS VALVES

Swabable capless valves should be used on all connections to CVADs as they have a lower rate of infection than capped valves/three way taps and are less prone to accidentally being opened to air. Where there is not a continuous flow of fluid through the lumen of the catheter then a technique to prevent catheter blockage should be used (e.g. positive displacement swabable capless valve, “heparin locking”).

18. ESCALATION PROCEDURE

An untrained clinician who fails to cannulate a vein after three passes, advances catheter or causes an arterial or lung puncture, should make no further attempts at cannulation at that site and seek assistance from a more experienced clinician before attempting another site.

The number of passes by an experienced clinician should be governed by clinical judgement (taking into account the experience of the clinician). If insertion failure continues to occur despite multiple passes, the clinician should consider using an alternate site, the use of ultrasound or radiological guidance or seek assistance of another clinician (including seeking insertion by a radiologist or surgeon).

Any complication should be managed appropriately and reported as required in the Incident Information Management System (IIMS) (refer to Appendix 5 - Complications and suggested management).

19. SECURING AND DRESSING THE CVAD AFTER INSERTION

Following insertion of a CVAD, the site should be cleaned using an acceptable skin antiseptic (refer to Appendix 4 - Antiseptic solutions). The CVAD must be secured at the skin insertion point by catheter clamp or direct suturing and at the anchor point (if present) by suture or sutureless fixation device (to prevent catheter migration).

A catheter that requires repositioning by way of pulling back if in too far should have the existing stabilisation removed, the catheter repositioned and then the stabilisation reapplied in a manner that will prevent the mal-positioning recurring. Aseptic technique must be applied during this procedure.
Adhesive tape alone should not be used to secure the CVAD.

Refer to 22.6 Dressing the CVAD and insertion site.

20. ROUTINE OBSERVATIONS

Refer to section 3 which outlines the monitoring requirements for CVAD insertion. Where a complication has been identified refer to Appendix 5 for suggested management of complications.

21. DOCUMENTATION

A CVAD Insertion Record must be completed by the clinician inserting the CVAD or their assistant for all CVAD insertions, except those inserted by direct surgical means and non-Seldinger peripheral CVAD insertions for peri-operative pressure monitoring.

The Record must be placed in the patient’s health care record.

22. POST INSERTION CARE OF CVADS

22.1 CVAD Change: Daily Review

Hand hygiene must be performed consistent with current policy prior to and after any manipulation of the CVAD or intravenous (IV) administration sets. This includes, but is not limited to:

- assessment of the line;
- safety checks;
- accessing any ports such as administration of drugs or blood sampling.

Inpatient CVAD insertion sites must be examined daily for:

- erythema;
- drainage;
- tenderness;
- pain;
- redness;
- swelling;
- integrity of suture;
- dressing integrity;
- catheter position;
- ongoing need for line.

CVADs should not be changed ‘routinely’ and if there are no signs of the above, lines should not be changed.

The findings must be documented in the patient’s health care record. The daily review should decide whether the CVAD should stay in or be removed. This decision should be based on a risk/benefit analysis. Factors to consider include the clinical benefit from retaining the catheter; the presence and/or severity of signs of local infection, thrombosis or bacteraemia; how difficult or hazardous it might be to re-insert the catheter; and how much longer the CVAD is likely to be needed.

For PICCs, if limb swelling is suspected, compare the mid-upper limb circumference with the initial value recorded on the CVAD Insertion Record to quantify this. If a significant increase in circumference is confirmed, venous thrombosis should be considered and investigated appropriately.
Patients and/or carers should be trained to examine and report signs or symptoms as above if the CVAD is to be used outside the acute care facility and investigated appropriately.

22.2 Administration set changes

IV administration sets include both the IV lines and any additional attachments such as bungs, three-way stopcocks, multi-flow adaptors and extension tubing that may be added.

The frequency for changing IV administration sets will be influenced by:
- type of central venous access device;
- type of infusion fluid;
- patient characteristics.

For patients in intensive care, high dependency and general medical-surgical wards the frequency of change of administration sets is recommended in Table 1:

**Table 1: Recommended Frequency of Line Change**

<table>
<thead>
<tr>
<th>Line Used</th>
<th>Frequency of line changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attached to antimicrobial or antibiotic coated multi-lumen CVCs</td>
<td>Changed at seven days or when the catheter is changed.</td>
</tr>
<tr>
<td>Attached to standard CVCs</td>
<td>Changed at an interval of up to 96 hours or when the catheter is changed.</td>
</tr>
<tr>
<td>Used to infuse blood, blood products or lipid emulsions (including 3-1 parenteral nutrition solutions)</td>
<td>Should be changed when the infusion is complete or at least every 48 hours.</td>
</tr>
<tr>
<td>Used to infuse propofol</td>
<td>Should be changed at a minimum of 12 hours or as per manufacturer’s guidelines.</td>
</tr>
</tbody>
</table>

22.3 Care of administration sets

Care of IV administration sets includes, but is not limited to:

1. Decontaminating all bungs, needleless injection sites and/or sampling ports with an alcohol/chlorhexidine swab **before and after use** to remove any organic substance or drug (particulate matter).
2. Clamping unused CVAD lumens and multi-flow adaptors to prevent air emboli and backflow of blood, protein or lipid solutions.

22.4 Intravenous fluid bag changes

1. Change crystalloid solutions (such as normal saline or 5% dextrose) **without** drug additives only when the administration set or the CVAD is changed OR the infusion is complete.
2. All flasks or bottles of blood or blood products should be infused within four hours or as per infusion service guidelines except for Factor VIII or IX prepared for continuous infusion.

22.5 Antiseptic solutions and cleaning of the skin and CVAD

Refer to **Appendix 4 - Antiseptic solutions**.
22.6 Dressing the CVAD and the insertion site

A sterile, transparent semi-permeable dressing should be used to protect the site from extrinsic contamination, allow continuous observation of the insertion site, and to stabilise and secure the catheter except in the following circumstances:

- where a patient is diaphoretic or has excessive bleeding or oozing from the site, or other contraindications: use sterile gauze secured with a sterile, transparent, semi-permeable dressing over it;
- when a patient has multiple catheters (note: except where the puncture sites are close together, each catheter must be dressed separately);
- in some instances when a commercially available chlorhexidine impregnated sponge dressing may be used.

Regardless of the dressing type it must:

- be positioned so that the CVAD insertion site is in the centre of the dressing;
- cover the CVAD from the insertion site to the hub;
- create a complete seal from the CVAD hub through to the insertion site.

Ongoing care of the dressing involves:

- Changing the transparent dressing every seven days (except in those paediatric patients in whom the risk of dislodging the catheter outweighs the benefit) or sooner if:
  - the dressing is not intact, i.e., there is no longer a seal;
  - there is evidence of inflammation and/or discharge from exit site, or
  - there is excessive accumulation of blood or moisture.

- Sterile gauze and tape dressing should be changed daily, and whenever loose, soiled, or moist.

23. REMOVAL OF CVAD

A CVAD may only be removed by trained or supervised clinicians.

- Removal of a CVAD will be undertaken using an aseptic technique (refer to Section 8 Aseptic Technique) that will minimise the risk of infection.
- The patient is to be positioned supine with head slightly down (if tolerated) during CVAD removal. This is to increase the pressure in the large veins to above that of atmospheric pressure, which reduces the risk of aspirating air into the venous circulation.
- Following CVAD removal, the site must be sealed with an airtight dressing which remains in situ for at least 24 hours to reduce the risk of late air embolism.
- The patient must remain in supine position (or Semi-Fowlers if supine not tolerated) for between 30 and 60 minutes following CVAD removal. At least one set of observations should be done during this period, as well as immediately prior to retrieving the patient to the upright position.
- The removal of a CVAD and the presence of the intact tip must be noted in the patient’s health record.
- If a blood stream infection is suspected as the result of a CVAD, blood cultures must be attended and the CVAD tip sent for culture following removal (note: tips should not be sent for culture routinely).
- Following removal, the CVAD site will need daily review and dressing until healed.
- Routine observations are to be conducted after the removal of the CVAD.
24. REPORTING NON-INFECTIVE COMPLICATIONS

Non-infective complications must be reported in the Incident Information Management System (IIMS) under the incident type “clinical management” and classified according to current policy.

Non-infective complications associated with the insertion of a CVAD include arterial puncture, bleeding, pneumothorax, haemopneumothorax, air embolus, thrombus, vascular foreign body, vascular damage and malposition.

Malposition leading to adverse events and requiring catheter removal must be reported in the IIMS under the incident type “clinical management”. Minor adjustments to reposition the catheter prior to use do not need to be reported.
## APPENDIX 1 - CVAD INSERTION STEPS FOR BEST PRACTICE

<table>
<thead>
<tr>
<th>Steps for CVAD insertion</th>
<th>Relevant section in policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Consider whether or not a CVAD is indicated and the most appropriate site.</td>
<td>2 Requirements For The Insertion Of CVADs 5 Patient Factors</td>
</tr>
<tr>
<td>2. Choose the type, size, length and number of lumens of the catheter and check that it is suitable for intended therapy and duration.</td>
<td>6 Catheter Selection</td>
</tr>
<tr>
<td>3. Seek procedural support from an assistant and/or supervisor.</td>
<td>2 Requirements For The Insertion Of CVADs</td>
</tr>
<tr>
<td>4. Move the patient to an area suitable for CVAD insertion.</td>
<td>3 Environmental, monitoring and emergency</td>
</tr>
<tr>
<td>5. Perform hand hygiene before patient contact.</td>
<td>7 Personal protective equipment</td>
</tr>
<tr>
<td>6. Clip hair at the insertion site, if required.</td>
<td>8 Aseptic Technique</td>
</tr>
<tr>
<td>7. Perform hand hygiene again if a peripheral venous access device needs to be inserted.</td>
<td>8 Aseptic Technique</td>
</tr>
<tr>
<td>8. Establish ECG, pulse oximetry, end-tidal carbon dioxide (ETCO₂) and blood pressure (BP) monitoring (as appropriate) if this has not been done already.</td>
<td>3 Environmental, monitoring and emergency</td>
</tr>
<tr>
<td>9. Consider the use of sedation in the conscious patient (making sure of compliance with sedation standards).</td>
<td>3 Environmental, monitoring and emergency</td>
</tr>
<tr>
<td>10. Give supplemental oxygen if sedation is used or there is a decreased level of consciousness.</td>
<td>3 Environmental, monitoring and emergency</td>
</tr>
<tr>
<td>11. Position the patient head down to distend the veins (internal jugular/subclavian line insertion). The degree to which this can be done will depend on the patient’s condition (e.g. head injuries, congestive cardiac failure) and whether or not they are conscious. The assistant may do this after skin antiseptic preparation, if appropriate. Use a venous tourniquet for PICCs.</td>
<td>5 Patient Factors</td>
</tr>
<tr>
<td>12. Put on surgical mask, hat (head and facial hair) and eye protection.</td>
<td>7 Personal protective equipment</td>
</tr>
<tr>
<td>13. Perform a two-minute hand hygiene with an antiseptic handwash.</td>
<td>8 Aseptic Technique</td>
</tr>
<tr>
<td>14. Put on sterile gown and sterile gloves.</td>
<td>7 Personal protective equipment</td>
</tr>
<tr>
<td>15. Inspect, open and check the CVAD kit and ensure that all necessary sterile items are present.</td>
<td>4 Necessary Equipment</td>
</tr>
<tr>
<td>16. Perform meticulous skin preparation with an antiseptic solution preferably alcoholic chlorhexidine (unless contraindicated e.g., flammability issues, children under 2 months of age, allergy) and allow it to dry before insertion. See Appendix 4 - Antiseptic solutions for a list of approved solutions.</td>
<td>8 Aseptic Technique</td>
</tr>
<tr>
<td>17. Fully cover the patient and their bed with sterile drape/s (unless this is impractical).</td>
<td>8 Aseptic Technique</td>
</tr>
<tr>
<td>18. Maintain asepsis throughout the procedure. Insertion must stop if asepsis is breached.</td>
<td>8 Aseptic Technique</td>
</tr>
<tr>
<td>19. Always use local anaesthetic for the insertion site and adjacent subcutaneous tissues in a conscious patient.</td>
<td>9 Local Anaesthetic</td>
</tr>
<tr>
<td>20. Ultrasound should always be used if available when inserting a CVAD.</td>
<td>10 Ultrasound</td>
</tr>
<tr>
<td>21. Cannulate the vein with an introducing cannula/needle. If a wire through needle technique is used, insert the wire and remove the needle, maintaining control of the guidewire at all times.</td>
<td>11 Confirmation of Venous Access 13 Guide Wire</td>
</tr>
<tr>
<td></td>
<td>24. SURGICAL CARE</td>
</tr>
<tr>
<td>---</td>
<td>-------------------</td>
</tr>
<tr>
<td>22.</td>
<td>Confirm venous (not arterial) placement (e.g., manometry, ultrasound, transduce catheter, contrast injection).</td>
</tr>
<tr>
<td>23.</td>
<td>Maintain control of the guidewire at all times.</td>
</tr>
<tr>
<td>24.</td>
<td>Insert dilator only to a depth sufficient to dilate the vein puncture site.</td>
</tr>
<tr>
<td>25.</td>
<td>Remove the guidewire.</td>
</tr>
<tr>
<td>26.</td>
<td>Insert the catheter (PICCs may have a stiffening wire).</td>
</tr>
<tr>
<td>27.</td>
<td>Remove stiffening wire if used (PICCs).</td>
</tr>
<tr>
<td>28.</td>
<td>After the guidewire/stiffening wire has been removed, confirm that it is complete and the tip has not been damaged.</td>
</tr>
<tr>
<td>29.</td>
<td>Secure and dress the CVAD.</td>
</tr>
<tr>
<td>30.</td>
<td>Confirm CVAD position before use.</td>
</tr>
<tr>
<td>31.</td>
<td>Dispose of all sharps in sharps bin and perform hand hygiene.</td>
</tr>
<tr>
<td>32.</td>
<td>Complete a CVAD Insertion Record.</td>
</tr>
<tr>
<td>33.</td>
<td>Perform and check chest x-ray to confirm the tip is in the correct position (excluding femoral lines in adults).</td>
</tr>
</tbody>
</table>
APPENDIX 2 - SUGGESTED EQUIPMENT FOR CVAD INSERTION

- Necessary PPE including sterile gown and gloves.
- Selection of catheters.
- Antiseptic handwash and running water.
- Antiseptic solution for skin preparation (refer to Appendix 4 - Antiseptic solutions).
- 0.9% sodium chloride solution.
- Large trolley drapes.
- Sterile procedure trays.
- Gauze squares.
- Sterile sheet/s to ensure adequate draping of the procedure site.
- Local anaesthetic.
- Needles and syringes.
- Suture equipment.
- Small sterile container to isolate used sharps on the sterile field.
- Swabable capless valves or similar for each lumen. Positive displacement swabable capless valve for when a lumen will be clamped.
- Heparin for “heparin locking” catheter lumen.
- Transducers, blood gas syringes.
- Electrocardiograph (ECG) monitor.
- Blood pressure monitor.
- Pulse oximeter (where necessary).
- Capnography (where necessary).
- Ultrasound machine.
- Appropriate dressings.
- Sharps bin/trolley.

If the equipment needed to place a CVAD is not usually available at the location where the insertion will take place, a trolley that includes all necessary equipment for inserting or re-wiring a CVAD should be dedicated for this purpose. This may include a sterile procedure pack with necessary equipment included.

Ensure items have not expired.

If used, the trolley should be set up for the insertion in a manner consistent with operating theatre sterile technique. The trolley should be set up as close to the time of the CVAD placement as practical.
## APPENDIX 3 – CVAD SITE SELECTION

<table>
<thead>
<tr>
<th>Site</th>
<th>Selection Criteria</th>
</tr>
</thead>
</table>
| **Infraclavicular Subclavian** | • Suitable long-term site.  
• When considering infection risk only, the subclavian vein has lowest rates of infection compared with other CVAD sites.  
• Should be avoided for dialysis catheter insertion due to risk of subclavian vein stenosis.  
• If arterial puncture should occur, the site has the least ability to control bleeding.  
• Least suitable insertion site for patients with potentially severe lung pathology due to the risk of pneumothorax.  
• Least suitable insertion site for patients with uncorrected coagulopathy, as it is associated with the greatest risk of uncontrollable haemorrhage.  
• Right infraclavicular subclavian is more likely to result in satisfactory catheter location than the left. |
| **Internal Jugular**        | • Convenient site for short-term CVAD access.  
• Preferred site for intraoperative access.  
• Route with the least acute complications (after PICC) especially if ultrasound guidance is used.  
• Preferred site for pulmonary artery catheter insertion.  
• Suitable site for dialysis catheter insertion.  
• More suitable for patients at special risk of pneumothorax or haemorrhage.  
• Right internal jugular approach is more likely to result in satisfactory catheter location. |
| **External Jugular**        | • Insertion can be technically difficult due to the presence of valves, however if the guidewire can be passed then placement of the line is usually possible. It is not suitable for dialysis catheter insertion due to the catheter size and rigidity.  
• May be a useful alternative particularly in coagulopathic patients.  
• May be a site for surgically inserted, tunnelled CVADs (e.g., Portacaths). |
| **Femoral**                 | • Increased risk of infection at this site compared with other sites.  
• Another useful site when internal jugular or subclavian sites are not appropriate or in coagulopathic patients.  
• Suitable site for short-term dialysis catheter insertion.  
• Arterial puncture, if it occurs is easily compressed.  
• Patient does not need to be tilted head down.  
• May be unsuitable in restless or ambulatory patients. |
| **Arm Veins (PICC)**        | • Low risk of serious complications.  
• Recommended for long-term, low flow rate access.  
• Not recommended when more than two lumens or high flow rate infusions required.  
• Not recommended for dialysis insertion.  
• Can be used for pulmonary artery catheter insertion if other sites not available. |
| **Arm Veins**               | Primarily used for perioperative pressure monitoring.  
If the clinical need for a CVAD persists past this period, a CVAD should be inserted at another site. |
| **Closed system, non-Seldinger peripheral CVADs** | |
APPENDIX 4 - ANTISEPTIC SOLUTIONS

Based on available evidence alcohol-containing antiseptics, particularly with chlorhexidine, are recommended for preparation of the for CVAD insertion. Their use is associated with a significantly lower risk of intravenous line-associated (and surgical site) infections compared with the use of aqueous solutions.

The drying time of alcohol-based antiseptic increases with the increase in alcohol content as does the risk of fire in theatre. However, any risk of fire from alcoholic solutions is negligible if the solutions are used with care and as recommended (i.e. not in the presence of free oxygen, diathermy or laser instruments) and allowed to dry.

The risk of fire is minimized by following the FDA approved use of applicators: Do not use 26-ml applicator for head and neck surgery, do not use on an area smaller than 21.3cm × 21.3cm, use a smaller applicator instead. Do not drape or use ignition source until solution is completely dry (minimum of 3 minutes on hairless skin, up to 1 hour in hair). Do not allow solution to pool; remove wet materials from prep area.

The following solutions are available:
1. Topical chlorhexidine 2% in 70-80% alcohol (lower concentrations of chlorhexidine (0.5-1%) may also be used (e.g. for infants).
2. Topical povidone Iodine 10% in 70% alcohol.

Other antiseptic alternatives for use on keratinized skin are inferior to the above products but include:
3. Topical chlorhexidine 1-2% in water.
4. Topical povidone Iodine 10% in water.

Notes:
1. All solutions must be allowed area to dry before beginning CVAD insertion. Alcoholic solutions will dry more rapidly.
2. Alcoholic chlorhexidine solutions now contain colour to allow easier identification.
3. Sterile saline or water solutions alone are not acceptable antiseptic solutions and should only be used to clean the skin of gross contaminants prior to applying antiseptic solution.
## APPENDIX 5 – COMPLICATIONS AND SUGGESTED MANAGEMENT

<table>
<thead>
<tr>
<th>Complication</th>
<th>Suggested Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vein entered but unable to pass guidewire</td>
<td>Remove needle and guidewire together to avoid mediastinal injury or shearing off the guidewire inside the patient.</td>
</tr>
<tr>
<td>Arterial puncture with needle or transducing cannula (16 gauge or smaller)</td>
<td>Generally this can be managed by removal of the needle/cannula with local pressure until haemostasis is secured (at least 5 minutes). If a significant haematoma has occurred another site should be considered. Ultrasound may assist further attempts at the same site. With subclavian arterial puncture, keep in mind the possibility of occult bleeding leading to delayed cardiovascular compromise. Haemothorax or mediastinal widening (aortic dissection) must be looked for in the post-procedure chest X-ray. These patients should have hourly observations for at least four hours after the procedure. Immediate vascular consultation should be sought if there is any suspicion that either of these complications has occurred. With carotid puncture the patient should be observed for any neurological changes after pressure is applied. If local pressure cannot establish haemostasis or a carotid arterial haematoma leads to the airway being compromised, then immediate vascular consultation should be sought.</td>
</tr>
<tr>
<td>Arterial puncture with large bore catheter or dilator</td>
<td>Complications are much more likely the bigger the catheter inserted into the artery. Unless you are able to repair the artery yourself do NOT remove the catheter or dilator. Consult the vascular surgical team for further management. If the patient is going to be heparinised intraoperatively, consider leaving the catheter or dilator in until the heparin has been reversed. Acute airway obstruction may occur after removal of a dilator or large bore catheter from the carotid artery. If the line was placed prior to the induction of an anaesthetic, the airway should be secured before the dilator or catheter is removed.</td>
</tr>
<tr>
<td>Guidewire lost inside patient</td>
<td>Consult an interventional radiologist who can attempt removal.</td>
</tr>
<tr>
<td>Pneumothorax</td>
<td>A surgical (ideally cardiothoracic) consultation must be sought. Usually a small (10-20% pneumothorax) is managed conservatively with follow up serial chest x-rays. A larger pneumothorax may require a chest tube and underwater drain. If the patient is mechanically ventilated, consider inserting a drain regardless of the size of the pneumothorax to prevent a tension pneumothorax occurring. This is particularly important if the surgical positioning would make inserting an urgent chest drain difficult (e.g., prone neurosurgical operations). If a drain is not inserted, this complication must be strongly considered if subsequent hypotension occurs.</td>
</tr>
</tbody>
</table>
APPENDIX 6 - IMPLEMENTATION PLANNER

**ACTION PLANNER FOR:**
Chief Executives, Health Service Executives, Managers, Directors of Clinical Governance

**DATE:**

<table>
<thead>
<tr>
<th>No education and training of clinicians undertaking CVAD insertion.</th>
<th>Comments/Actions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinicians do not follow any established guidelines for CVAD insertion.</td>
<td>Comments/Actions:</td>
</tr>
<tr>
<td>Clinicians do not record CVAD insertions.</td>
<td>Comments/Actions:</td>
</tr>
</tbody>
</table>

### IMPLEMENTATION STANDARD

<table>
<thead>
<tr>
<th>Current compliance status</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
</tr>
<tr>
<td>Not Started</td>
</tr>
<tr>
<td>Partially Completed</td>
</tr>
<tr>
<td>Completed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Actions Required</th>
<th>Assigned to</th>
<th>Target Completion Date</th>
</tr>
</thead>
</table>

- Adequate stocks of “necessary equipment”, “skin preparation”, personal protective equipment and appropriate catheters available
- CVAD Insertion Record used for every CVAD insertion
- Clinicians, including LMOs (undertaking or supervising CVAD insertion) have completed a training program consistent with best practice for the insertion of CVADs.
- Monitoring of CVAD associated bloodstream infections (CVADABSI)

### COMPLIANCE STANDARD

- Local monitoring of clinician CVAD insertion practices.
- Only trained/experienced clinicians undertake or supervise CVAD insertion
- All reportable CVADABSI events are reviewed at the facility on a case by case basis to identify potential opportunity for clinical practice improvement

### LEADERSHIP STANDARD

- Facility wide monitoring of clinician CVAD insertion practices as per NSW Department of Health compliance program
- Diagnosis and treatment of CVADABSI is contemporaneous and multidisciplinary
- 100% compliance with this Policy Statement and Policy Standard achieved facility-wide

*Note: This action planner is NOT mandatory – it is a tool for public health organisations to use to monitor implementation of this Policy.*
The High Volume Short Stay Surgical Model emerged as a model of care from the Surgery Futures - A Plan for Greater Sydney Project (released January 2011). The toolkit provides Local Health Districts with information about the key features of the model, processes for service delivery, staff roles, diagnosis related groups suitable for HVSSS, key success factors, benefits and the steps for implementation of the model.

PATIENT IDENTIFICATION BANDS (PD2014_024)

PURPOSE

The purpose of this policy directive is to describe the specifications for, and use of, patient identification bands.


MANDATORY REQUIREMENTS

1. Where patient identification bands are used they must comply with the specifications set out in this policy directive.
2. The patient must be correctly identified immediately before the identification band is placed on the patient.

IMPLEMENTATION

Chief Executives, Health Service Executives, Managers are required to:
• Assign responsibility, personnel and resources to implement this policy directive.
• Ensure local procedures are in place in each health care setting to support implementation.

Directors of Clinical Governance are required to:
• Ensure regular auditing of patient identification bands for compliance with this policy directive and reporting of audit outcomes within the health service.

All staff are required to:
• Comply with this policy directive.

1. BACKGROUND

1.1 Introduction

Correct identification of a patient promotes patient safety and prevents complications including wrong procedures, medication errors, transfusion errors and diagnostic testing errors.

The primary purpose of a patient identification band is to identify the patient wearing the band. Identification bands are a critical tool to prevent errors associated with mismatching patients and their care. Identification bands contain important information about the patient and are essential for establishing and checking identity of the patient throughout the care process.

Health services should have local procedures in place to identify which patients require a patient identification band.

This policy directive should be read in conjunction with the NSW Health policy directive and guideline on client registration.25

219(17/07/14)

1.2 Key definitions

<table>
<thead>
<tr>
<th>Care</th>
<th>For the purposes of this policy directive, is clinical care provided to a patient and includes procedures, treatments, investigations and general care eg. providing nutrition.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Must</td>
<td>“Must” means that the requirements stated in this policy directive are mandatory and are required to be carried out.</td>
</tr>
<tr>
<td>Should</td>
<td>Refers to recommended best practice, but allows a degree of flexibility when applied in the Local Health Districts/Specialty Health Networks (LHD/SHN).</td>
</tr>
</tbody>
</table>

2. SPECIFICATIONS FOR PATIENT IDENTIFICATION BANDS

The following describes the specifications for patient identification bands. The application of these specifications to identification bands should be done in a way that is relevant to the specific circumstances of the patient and the health care setting.

2.1 Number of bands

- Patients are to wear one identification band, either a white/clear band or a red band (Refer to 2.2 Colour).

**Exception: Patients undergoing procedures**
- A patient identification band may be removed during a procedure where the band interferes with the procedure.
- Two or more patient identification bands should be placed on a patient undergoing a procedure, such as a surgical procedure, where it is likely that a band may be removed or become inaccessible to staff during the procedure.26
- One patient identification band should be visible and accessible to staff throughout the procedure without unstrapping the patient’s arm from the table, without disturbing the procedural drapes and without asking the proceduralist to pause, move or adjust equipment.

**Exception: Newborns**
Newborns should have patient identification bands placed on each ankle as soon as practicable after birth.27

2.2 Colour

- A white identification band or a clear identification band with a white insert must be used with black text to record patient identifiers on the white background.

**Exception:** Where a patient has a documented allergy and/or adverse reaction to a medicine the white/clear patient identification band should be replaced with a red patient identification band with a white panel. The red identification band must have black text to record patient identifiers on the white panel.


27 Babies should be labelled with two bands as the bands come off easily and the two bands should be applied to the lower limbs to prevent facial scratching. At birth the baby should be “labelled” before being separated from the mother. In the event of a baby requiring resuscitation, the baby should be labelled while on the resuscitator, and must be labelled before leaving the birthing room or operating theatre.
The allergy and/or adverse reaction to a medicine must not be recorded on the identification band. Staff should refer to the patient’s health care record for details of the allergy and/or adverse reaction to a medicine.\footnote{28 “Health care record” is defined in Health Care Records – Documentation and Management, PD2012_069 at http://www.health.nsw.gov.au/policies/pd/2012/PD2012_069.html.}

The red identification band must not be used to signify or act as an alert for any other patient condition.

Refer to 4 Coloured Alert Bands for further information.

2.3 **Size**

- Identification bands must be available in a variety of sizes to fit patients from the smallest newborn through to the largest adult and to accommodate recording of patient identifiers (Refer to 2.7 Patient Identifiers).
- Identification bands should be small enough to be comfortable and secure for newborns, babies and children.
- Identification bands should be long enough to accommodate, for example, obese patients, patients with lymphoedema, and patients with intravenous lines and bandages.

2.4 **Comfort**

Identification bands must comply with the following.

- Shape - No sharp corners, profiling or edges that can irritate or rub the patient’s skin.
- Edges and ends – Soft and smooth to ensure patient comfort over a prolonged time. Care must be taken not to leave any rough or sharp edges if the band is cut to size.
- Fastenings – Fastenings that do not press into the patient’s skin.
- Material – Flexible, smooth, waterproof, cleanable, breathable and non-allergenic (for example latex free bands for patients with a known latex allergy).
- Configuration - Band should not catch on clothing, equipment or devices including intravenous lines.

2.5 **Usable by patients**

Identification bands must be:

- Designed to allow patients to wash.
- Waterproof and resistant to fluids (eg. soaps, detergents, gels, sprays, rubs, alcohol cleaning products, blood and other bodily fluids).
- Easy to clean if soiled.
- Secure and sized correctly.

2.6 **Usable by staff**

Identification bands must be easy to:

- Store and remove from storage.
- Complete patient identifier information.
- Place on patients (including selecting the correct size or adjusting to correct length).
- Read and check information.
- Change or update information.
- Remove.
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2.7 Patient identifiers

The following three core patient identifiers must be recorded on the patient identification band.

- Name (family and given names).
- Date of birth.
- Medical Record Number (MRN).²⁹

If a red patient identification band is used the allergy and/or adverse reaction to a medicine must not be recorded on the identification band (Refer to 2.2 Colour).

Inclusion of additional patient identifiers on the patient identification band should be described in local procedures.

**Exception: Newborns**

The following three core patient identifiers must be recorded on the identification band.

- Family name of mother in UPPERCASE, followed by "baby of (given name of mother)" eg. SMITH, baby of Jane.
- Date of birth.
- Time of birth (this will also distinguish between multiple births as time of birth will be different for each baby).

The baby’s identification band should be replaced with a new band which includes the baby’s own MRN when the MRN is available.

Compliance with these requirements should minimise the risk of a baby/mother mismatching incident especially in the case of an urgent separation, such as the baby requiring admission to a special care nursery/neonatal intensive care unit.

2.8 Method for recording patient identifiers

- Pre-printed labels should fit the available space on the identification band.
- Inserts should be sealed to ensure they are durable, waterproof, secure and tamperproof.
- Where possible labels should be printed directly from the client registration database, such as the Patient Administration System (PAS).
- Write-on identification bands should only be used where a printed band/label/insert is not available.
- Write-on identification bands should be durable so that information cannot wear off.
- Write-on identification bands should not require special pens.

2.9 Presentation of patient identifiers

- Space on the identification band should be adequate for the three core patient identifiers to be recorded clearly and unambiguously.
- Layout, order of information and information style should be standardised across the health service. Pre-defined spaces for each patient identifier or a pre-printed format can encourage standardisation. If pre-defined spaces are not used, pre-printed lines can be used to help make information easy to record and to read. This is useful for handwritten identification bands.
- Family name should appear first using UPPERCASE letters followed by given names in TITLE case, for example SMITH, John Paul.

²⁹ Includes medical record number, unique identifier, unique patient identifier and unit record number.
24. SURGICAL CARE

- There should be enough space to include long names, multiple names and hyphenated names.
- Date of birth should be recorded in a standardised way across the health service, eg. DD/MM/YYYY (26/06/1983), DD-MM-YYYY (26-06-1983), DDMMYYYYY (26Jun1983).
- Identifiers should be in a style and a font size that is easy to read. Handwritten labels must be clearly printed in a size which is easy to read. Italic, simulated handwriting and ornate fonts must not be used.

3. USE OF PATIENT IDENTIFICATION BANDS

3.1 Patient identification

The patient must be correctly identified at the time of placing an identification band on the patient to reduce the risk of patient misidentification. Refer to local procedures, which are consistent with the NSW Health policy directive and guideline on client registration, for identification of a patient.\(^{30}\)

3.2 Placement of identification bands

The band should be placed on the patient in such a way that it is safe for the patient, and visible and accessible to staff providing care. Consider the following when placing an identification band on a patient.

- Avoid placing the identification band on a limb with an intravenous access, an arteriovenous fistula or graft; a limb to be operated on; or a limb with bandages or compression stockings in place.
- Ensure peripheral circulation is not restricted, eg. for an adult patient two fingers fit comfortably under the band.
- If limbs are not available then attach to the patient’s skin using see through plastic adhesive dressing/film (first checking for allergies/adverse reactions to the adhesive dressing/film). The skin integrity should be checked for the occurrence of a pressure injury. Alternatively attach the band to the patient’s clothing using a method that is safe for the patient and in an area that is visible and accessible to staff. The band must be re-attached when clothing is changed.

3.3 Ongoing verification of identification bands

- Procedure/s must be in place to verify the patient is wearing an identification band and the information on the patient’s identification band is correct.
- The frequency of verification should be appropriate for the health care setting.

3.4 Patients with missing or incorrect identification bands

Any staff member removing an identification band from a patient, discovering a band is missing, or noticing a band contains inaccurate/unreadable information must assume responsibility or must actively transfer responsibility for the following.

- Verification of the patient’s identity and replacement of the missing/incorrect identification band.
- Destruction of the incorrect identification band (Refer to 3.5 Disposal of identification bands).

3.5 Disposal of identification bands

- Identification bands should be removed and replaced if contaminated with blood or body fluids and/or if the text becomes unreadable.
- Identification bands should be removed on patient discharge.
- Where identification bands are retained by the health service they must be destroyed in a way that maintains confidentiality of patient details eg. cutting or shredding the band.

4. COLOURED ALERT BANDS

- Coloured alert bands, apart from the red patient identification band to signify an allergy and/or adverse reaction to a medicine, must not be used as patient identification bands for the identification of patients.
- Coloured alert bands have been used to signify patients with specific conditions such as patients with lymphoedema, patients at risk of falls and patients who are not for cardiopulmonary resuscitation.
- The use of coloured alert bands will be addressed in revisions to this policy directive or in related policy directives and/or guidelines.
- In the interim refer to the Australian Commission for Safety and Quality in Health Care (ACSQHC) website for guidance on the use of coloured bands to signify patient alerts.31

5. MONITORING COMPLIANCE

Health services should monitor compliance with this policy through regular audits.

WORK HEALTH AND SAFETY – CONTROLLING EXPOSURE TO SURGICAL PLUME
(GL2015_002)

PURPOSE

To provide guidance to NSW Health Organisations in meeting their duty of care under the Work Health and Safety Act 2011 (WHS Act) and Work Health and Safety Regulation 2011 (WHS Regulation) in eliminating risk, and if not reasonably practicable, to minimise risk associated with surgical plume.

This guideline applies to all NSW Health Organisations and all other bodies and organisations under the control and direction of the Minister for Health or the Secretary of the NSW Ministry of Health where facilities under their control create surgical plume, such as in: operating theatres; dental clinics; morgues during autopsy; laboratories/research and testing facilities.

KEY PRINCIPLES

Each facility where surgical plume is created should:
• Conduct risk assessments in consultation with workers
• Implement controls identified through the risk assessments
• Review controls at a frequency relative to the level of risk to ensure their ongoing effectiveness.

USE OF THE GUIDELINE

Each NSW Health Organisation where surgical plume is created should have systems in place to identify hazards associated with surgical plume and to eliminate or minimise the risk through implementing the appropriate controls.