

### Patient Matters Manual for Public Health Organisations

### Chapter 24 – Surgical Care

#### Table of Content

Chapter 24 – Surgical Care	PD / IB / GL Number	Amendment
Accountable Items Used in Surgery and Other Procedures	<a href="#">PD2023_002</a>	346 (31/01/23)
Register of Surgical Operations	<a href="#">PD2014_049</a>	231 (18/12/14)
Clinical Procedure Safety	<a href="#">PD2017_032</a>	304 (22/09/17)
Extended Day Only Admission Model	<a href="#">GL2020_023</a>	334 (19/11/20)
The Perioperative Toolkit	<a href="#">GL2018_004</a>	304 (07/02/18)
NSW Emergency Surgery Guidelines and Principles for Improvement	<a href="#">GL2021_007</a>	338 (18/05/21)
Intravascular Access Devices (IVAD) - Infection Prevention & Control	<a href="#">PD2019_040</a>	338 (16/08/19)
High Volume Short Stay Surgical Model Toolkit	<a href="#">GL2012_001</a>	144 (19/01/12)
Patient Identification Bands	<a href="#">PD2021_033</a>	339 (31/08/21)
Work Health and Safety – Controlling Exposure to Surgical Plume	<a href="#">GL2023_018</a>	346 (14/07/23)

#### Note

Where a number appears at the bottom of an amended page [such as 252 (17/09/15) – amendment number, date] an alteration has been made or new section included. Amendment numbers are sequential, the date represents the date the source document was published on the Policy Distribution System (PDS).

Below is a summary of each policy document. To navigate to the complete policy document, click the hyperlink in the Table of Content or under each policy document title.

### Accountable Items used in Surgery and Other Procedures

Document number [PD2023\\_002](#) rescinds PD2013\_054.

#### POLICY STATEMENT

NSW Health requires that health workers, involved in the managing and counting of accountable items used during surgery and other procedures, must ensure accountable items are not unintentionally retained in the patient.

#### SUMMARY OF POLICY REQUIREMENTS

This Policy applies to surgery/ procedures performed in NSW Health settings, including but not limited to, perioperative settings, interventional radiology suites, cardiac catheter laboratory, biopsy clinics and birthing units.

Each NSW Health service in which surgery/ procedures are performed is to have a multidisciplinary perioperative management committee which reviews and oversees compliance with this Policy.

An incident involving the “*unintended retention of a foreign object in a patient after surgery or other invasive procedure resulting in serious harm or death*” is to be managed as an Australian Sentinel Event as per the NSW Health Policy Directive *Incident Management* ([PD2020\\_047](#)).

The instrument nurse/ midwife is responsible for ensuring the count sheet is complete and accurate. The circulating nurse/ midwife is responsible for documenting the count.

The count sheet and documentation of the instrument count must be part of the patient’s medical record.

A minimum of two counts must be performed. When the initial count starts all accountable items and waste must remain in the operating/ procedure room.

A pharyngeal pack is an accountable item. When a pharyngeal pack is used, it must be documented on the count sheet.

Where multiple and complex instrument trays are used, the patient may be transferred from the operating/ procedure room before the final count is complete. The final count must be completed before the patient leaves the post-surgical/ procedural area. The next patient must not enter the operating/ procedure room until the final count is complete.

When an accountable item is intentionally retained in a patient, the accountable item and its location must be documented on the count sheet.

When an instrument tray/ separate instruments/ loan set is considered incorrect post operatively/ post procedure by the Sterilizing Services Department, the Department is to notify the nurse/ midwife in charge of the operating theatre/ procedural area, in a timely manner, who is to initiate an immediate investigation including checking the count sheet and instrument list documentation.

Disposable accountable items involving incorrect packaging and/ or inadequate quality are to be reported to the [Therapeutic Goods Administration](#) (TGA).

346 (31/01/23)

# Patient Matters Manual for Public Health Organisations

## Chapter 24 – Surgical Care

### Register of Surgical Operations

Document number [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.

Additionally requirements for digital record keeping are outlined in *IB2009\_027 NSW Standard on Digital Record Keeping*. [http://www0.health.nsw.gov.au/policies/ib/2009/IB2009\\_027.html](http://www0.health.nsw.gov.au/policies/ib/2009/IB2009_027.html)

Surgical Operations Registers must be retained in accordance with The General Retention and Disposal Authority (GDA17) Section 2.1.8 - Surgical procedures, Operation or Theatre register <http://www.records.nsw.gov.au/recordkeeping/rules/retention-and-disposalauthorities/general-retention-and-disposal-authorities/public-health-services-patientclient-records-gda17/part-1-the-general-retention-and-disposal/2.0.0-patient-clientregistration-and>

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)

### Clinical Procedure Safety

Document number [PD2017\\_032](#) rescinds 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 Standards](#) requirements for correctly matching patients with their intended care.

#### MANDATORY REQUIREMENTS

All staff involved in clinical procedures must adhere to the requirements of this policy directive regardless of the location where the procedure is performed.

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's office.

#### IMPLEMENTATION

##### Chief Executives are responsible for:

- Assigning responsibility for implementing and complying with this policy directive and reporting on the implementation of this policy document as required.

##### Clinicians are responsible for:

- Complying with this policy directive.

##### Clinical Excellence Commission is responsible for:

- Reviewing and ensuring the currency of this policy directive.

304 (22/09/17)

### Extended Day Only Admission Model

Document number [GL2020\\_023](#) rescinds PD2011\_045.

#### GUIDELINE SUMMARY

The Extended Day Only (EDO) admission model for elective surgeries provides Local Health Districts (Districts) and Specialty Health Networks (SHNs) with advice and the specific Diagnosis Related Groups (DRG) that are to be routinely considered for this service model.

All Districts and SHNs are expected to maximise the use of the EDO model to ensure that there is predictable access for surgical patients. The EDO model also supports quality and safety for patients by establishing protocolised care for patients undergoing commonly performed surgical procedures.

#### KEY PRINCIPLES

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

The concept of EDO model is to have a designated service alongside physical resources to ensure elective surgical procedures are undertaken safely and effectively. Where the EDO Unit has historically been a dedicated and uniquely identifiable surgical unit, it more often incorporates dedicated beds within surgical wards in contemporary hospital systems.

The EDO Unit is ideally located close to the operating theatre suite for streamlined access and to minimise transportation.

To enhance predictability of surgery and maintain separation from emergency surgical services, the key elements of the EDO model include:

- *Established clinical protocols* to inform, direct and record the patient's clinical pathway, admission, discharge and post discharge management. These also streamline patient care processes and support quality clinical management of the patient.
- Clear, safety-based inclusion or exclusion *criteria for EDO admission*, including:
  - Identification of procedures from DRG suitable for the EDO model in the facility;
  - Selection of patients with an expected length of stay of less than 24 hours;
  - Selection of patients with a predictable course of recovery for the surgical procedure being undertaken; and
  - Assessment of patient comorbidities to ensure patients who are unsuitable for EDO are more appropriately managed.
- *Compulsory screening* of all admission notifications by the perioperative service for procedures suitable for admission to the EDO unit.
- Staggered admission times dependent on the timing of the patient's surgery.
- Designated beds and staff who are allocated to the EDO service only.
- *Consultant-led procedures* and with trainees under consultant supervision.
- *Escalation pathways* to resolve clinical uncertainty regarding a patient's suitability for Day Only or EDO admission. This may include referral to the relevant local Program Director of Surgery or equivalent.

- *Communication pathways* to handover patient care to their primary care provider or other relevant community services.

### Paediatric patients

The classification of procedures for paediatric patients suitable for EDO 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 EDO admission and the care model is to be routinely considered when requesting and scheduling procedures.

### Selection of Procedures suitable for EDO

The DRG identified in Attachment 2 as suitable for EDO admission are not exhaustive. Other DRG may appropriately be admitted as EDO based on clinical judgement and specific facility care pathways. The DRG identified have been selected on the basis that over 50% of separations were either same-day or single overnight admissions during the 2019 calendar year.

While it is recognised that some DRG 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 must be undertaken to ensure the patient's suitability for EDO Admission. Additionally, if a patient experiences any intra- or post-operative complication(s), they must be reassessed for EDO Admission suitability.

### Key Performance Indicators

Eighty percent of all surgery from the DRG identified in Attachment 2 should be performed through a combination of a Day Only and EDO model, to maximise the utilization of bed occupancy and efficiency of operating theatres, and to provide patients with flexible admission times.

This target is measured for each Districts on a monthly basis and reported to the Surgical Services Taskforce and local Directors of Surgery to enable ongoing monitoring and action where appropriate.

The measurement for EDO patients is up to 28 hours, to accommodate those patients who are unable to be discharged within the 24-hour timeframe.

### USE OF THE GUIDELINE

The implementation checklist and the list of DRG provide direction to NSW Health organisations to implement the EDO model.

For further references;

- NSW Health Guideline *High Volume Short Stay Surgical Model Toolkit* ([GL2012\\_001](#))
- NSW Health Guideline *The Perioperative Toolkit* ([GL2018\\_004](#))

334 (19/11/20)

### The Perioperative Toolkit

Document number [GL2018\\_004](#) rescinds GL2007\_018.

#### GUIDELINE SUMMARY

The Perioperative Toolkit is designed to aid in the continuous quality improvement of perioperative structures, processes and outcomes for patients having a surgery/procedure and anaesthesia. The Perioperative Toolkit applies evidence and clinical reasoning to risk stratification and directing resources to clinical need.

Shared decision making with patients, families and carers and integration with primary care are integral aspects of perioperative care.

The nine elements of perioperative care described in this Toolkit build upon the five in its predecessor – the Pre Procedure Preparation Toolkit (PPPT) (2007).

#### KEY PRINCIPLES

The perioperative team comprises of the patient, their family and carers, general practitioners, surgeons, proceduralists, anaesthetists, nurses, administrative and clerical staff, allied health professionals, primary healthcare providers, Aboriginal health, multicultural and diversity health workers.

The Perioperative Toolkit (2016) builds on the state-wide systems of the PPPT (2007). Significant inroads have been made in addressing elective surgery waiting times by reducing length of hospital stay in healthier patients having less major surgery.

The four new elements are directed towards measuring outcomes for quality improvement, pre-operative pre-habilitation and strengthening intra- and post-operative care for the high-risk complex patient with chronic multisystem disease having moderate to major surgery.

#### Recommendations for prioritising perioperative care

<b>Standard care</b>	<b>Best practice (to be developed further over the next five years)</b>
<b>Elements 1,2,3,4,9</b>	<b>Elements 5,6,7,8</b>

Effective perioperative care is reliant on the following key elements.

1. The perioperative process prepares the patient, family and carer for the whole surgical/procedural journey.
2. All patients require pre admission review using a triage process.
3. Pre procedure preparation (PPP) optimises and supports management of the patient's perioperative risks associated with their planned surgery/procedure and anaesthesia.
4. The multidisciplinary team collects, analyses, integrates and communicates information to optimise patient centred care.
5. Each patient's individual journey should follow a planned standardised perioperative pathway.
6. Measurement for quality improvement, benchmarking and reporting should be embedded in the perioperative process.
7. Integration with primary care optimises the patient's perioperative wellbeing.

8. Partnering with patients, families and carers optimises shared decision making for the whole perioperative journey.
9. Effective clinical and corporate governance underpins the perioperative process.

A range of tools are available on the [Perioperative Toolkit](#) page on the ACI website. These tools can be used and adapted to meet local needs.

### USE OF THE GUIDELINE

To address the economic challenges of safe access to elective surgery each NSW Health facility should have an integrated service in place for perioperative care and invest in strengthening the model of care.

The perioperative service should be supported and led by a clinical champion. Ideally the medical clinical leader or Director, Perioperative Service is an anaesthetist. An anaesthetist's continuing professional development and experience with surgeons and proceduralists at the most critical time of treatment, informs this role.

The medical clinical leader, collaborating closely with the nurse clinical leader, is responsible for:

- facilitating the other's leadership role
- the coordination of integrated perioperative multidisciplinary care
- the identification, communication and management of perioperative patient risk
- the establishment of local guidelines
- measurement, benchmarking and reporting of outcomes.

304 (07/02/18)

# Patient Matters Manual for Public Health Organisations

## Chapter 24 – Surgical Care

### NSW Emergency Surgery Guidelines and Principles for Improvement

Document number [GL2021\\_007](#) rescinds GL2009\_009.

#### GUIDELINE SUMMARY

Emergency surgery is an important and significant component of surgical service provision, accounting for up to 45% of surgery delivered in public hospitals each year. NSW hospitals have a long history of delivering high-quality surgical services, and timely access to emergency care is key to supporting optimal outcomes for patients and communities.

This iteration of the NSW Emergency Surgery Guidelines support hospitals, local health districts (Districts) and specialty health networks (SHNs) to plan their emergency surgery services based on a predictable long-term workload. It aims to ensure capacity is sufficient to meet demand, minimise unwarranted variation in care, and facilitate monitoring for improvement to ultimately provide a supportive work environment for staff and a safe, caring service for patients.

A revised framework for prioritisation of clinical urgency, incorporating obstetric emergencies for the first time, is presented to support clinical decision-making.

Category	Priority	Maximum timeframe
A	Life threatening (including obstetric)	1 hour
B	Highly critical (including organ/limb threatening)	2 hours
C	Critical	4 hours
D	Urgent	8 hours
E	Semi-urgent	24 hours
F	Non-urgent	72 hours

#### KEY PRINCIPLES

The key principles supporting a safe, responsive and high-quality emergency surgical service are further articulated.

1. Hospitals are designated for either elective or emergency surgery, or for specific components of each.
2. Emergency surgical workloads are measured and reviewed regularly to maximise predictability.
3. Emergency surgery capacity is matched to service demand, with consideration of caseload, case mix and balance with elective surgery demand.
4. Where clinically appropriate, emergency surgery is scheduled in standard hours.
5. Emergency surgery cases are scheduled based on clinical need, in line with a statewide urgency prioritisation framework and these guidelines.
6. Emergency surgery models of care are consultant-led.
7. Evidence-based protocols are used for the assessment and treatment of common acute surgical presentations.

8. Local escalation plans are established and agreed to facilitate delivery of best practice patient care, communication and conflict resolution.
9. A standardised set of indicators is applied to emergency surgery to facilitate service monitoring and continuous quality improvement.

### USE OF THE GUIDELINE

The NSW emergency surgery guidelines and principles for improvement are a resource to support this planning across all specialties, allowing appropriate allocation of the necessary operating theatre time and resources to meet the expected demand. For emergency surgery, planning should also include immediate access to operating theatres for the most urgent emergency surgery patients; sufficient staffing and equipment for safe patient care; access to data and information to support planning; and effective leadership to foster high-performing surgical services. Future proofing and planning are required to plan for the predictable annual increase in emergency surgery workload.

These guidelines outline the key principles. The examples provided are drawn from surgical specialties where emergency caseloads are generally high (orthopaedics, general surgery, obstetrics and gynaecology and plastic surgery).

However, the principles are equally applicable to those specialties where emergency caseloads are less (neurosurgery, vascular surgery, oral and maxillofacial surgery) or where caseloads are relatively low (urology, cardiothoracic, ophthalmology and otolaryngology).

The guidelines detail each of these principles more fully, guiding hospitals to better align their services with the principles in order to deliver better, safer emergency surgical care to their communities.

338 (18/05/21)

### Intravascular Access Devices (IVAD) - Infection Prevention & Control

Document number [PD2019\\_040](#) rescinds PD2011\_060 and GL2013\_013.

#### PURPOSE

The purpose of the NSW Health Intravascular Access Device (IVAD) Infection Prevention and Control Policy is to provide guidance to NSW Health Organisations (HO's) including Affiliated Health Organisations on the minimum standards for insertion, management and removal of IVADs, in order to minimise the adverse health impacts on patients and reduce burden of healthcare associated Infections (HAIs). This Policy is to be read in conjunction with NSW Health Infection Prevention and Control Policy.

#### MANDATORY REQUIREMENTS

All clinical staff who insert IVADs or care for a patient with an IVAD must comply with this Policy Directive. For each insertion a record of insertion must be completed.

Every IVAD insertion, management and removal must be documented at the time of care or as soon as possible afterwards.

HO's must have local guidelines or procedures in place to support the technical and procedural aspects for using and managing these devices for clinicians.

HO's must support clinicians to ensure adherence with this Policy Directive.

Aseptic technique must be adhered to during each IVAD insertion, management and removal to reduce the risk of local or systemic infection.

#### IMPLEMENTATION

NSW Health Organisations (HOs) and the governance structure for the implementation of this Policy Directive to reduce the risk of healthcare associated infections (HAIs).

##### Clinical Excellence Commission

- Provides tools to support the implementation, monitoring and evaluation of this Policy.

##### Health Education and Training Institute (HETI)

- Compliance with the existing mandatory education components (Aseptic technique, Hand Hygiene and Infection prevention and Control Practices from HETI online) applies.

##### Chief Executive of Local Health District and Specialty Health Network

- Assigns leadership responsibility, personnel and resources to implement and comply with this Policy.

##### Directors of Clinical Governance

- Ensure that this Policy is communicated to all managers and health workers.
- Ensure local infection prevention and control programs and systems are in place to implement and monitor this Policy.
- Monitor and provide regular reports on the progress and outcomes of infections related to IVADs.
- Monitor, evaluate and address issues with compliance with this Policy.

##### Clinical leaders and senior managers

# Patient Matters Manual for Public Health Organisations

## Chapter 24 – Surgical Care

- Provide resources and equipment necessary for compliance with this Policy.
- Implement and evaluate local infection prevention and control systems.

### **Infection prevention and control professionals**

- Provide leadership in infection prevention and control surveillance and reporting.
- Provide advice on compliance with the insertion, management and removal of IVADs policy within their health organisation.
- Provide leadership in the management of HAIs or other transmission risks and in the communication of these risks to health workers, patients, volunteers, carers and visitors.

### **Clinical Staff Inserting, Caring for, Managing and Removing IVAD Devices**

- Comply with IVAD Infection Prevention and Control, Insertion and Post Insertion Care policy this Policy.
- Are trained, competent and assessed in the insertion, management and removal of an IVAD device in accordance with this Policy Directive.
- Ensure IVAD insertion and care is documented in the patient's health record.
- Assess and document daily the ongoing need for an IVAD device.

338 (16/08/19)

### High Volume Short Stay Surgical Model Toolkit

Document number [GL2012\\_001](#) rescinds GL2005\_076.

#### PURPOSE

The High Volume Short Stay Surgical Model emerged as a model of care from the *Surgery Futures- A Plan for Greater Sydney Project1 (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.

The High Volume Short Stay surgical model builds upon the Surgical Services Taskforce and NSW Health Department's successful Day Only and Extended Day Only (EDO) model. As there are strong linkages between the Extended Day Only (EDO) and HVSSS models this toolkit replaces the *Surgical Services-23 hour Care Unit Toolkit for Implementation (GL2005\_076)*.

#### KEY PRINCIPLES

The aim of this model of care is to concentrate suitable planned surgical cases in dedicated high-volume, short stay surgical units. There is considerable evidence that this model has a number of benefits including improved access to planned surgical services and improved service efficiency in terms of both operating theatre and bed utilisation. It seeks to extend the range of procedures that are suitable for the short stay environment as models of care and medical technologies make early mobilisation and early discharge not only possible but preferable.

The High Volume Short Stay Surgical model can release additional clinical capacity (including beds, staff and other resources) within tertiary/quaternary surgery centres and provide the opportunity for reinvestment of this additional capacity into emergency and complex service needs.

High Volume Short Stay Surgical Units will manage planned surgery/procedures requiring admission up to 72 hours. It includes both Day Only and Extended Day Only surgery and is expected to attract patients from surrounding Local Health Districts as well as locally.

#### USE OF THE GUIDELINE

The Toolkit should be used by Local Health Districts to inform and guide the development and implementation of the HVSSS model at a facility.

Managers who are involved in the implementation of the HVSSS model should use the Toolkit as the framework for implementation.

144 (19/01/12)

### Patient Identification Bands

Document number [PD2021\\_033](#) rescinds PD2014\_024.

#### **POLICY STATEMENT**

This Policy Directive supports health services' compliance with the [National Safety and Quality Health Service Standards](#), second edition in particular [Action 6.5](#) relating to patient identification bands. The use of patient identification bands supports the correct identification of a patient within NSW Health.

#### **SUMMARY OF POLICY REQUIREMENTS**

Patient identification bands are to be white or clear with a white panel/ insert.

Red patient identification bands are to be used where the patient has a documented allergy to a medicine and/ or a documented life-threatening allergy to a food, or a documented adverse reaction to a medicine. These bands are to be red with a white panel/ insert.

As a minimum, the three approved patient identifiers are to be included on the patient identification band.

#### **Patient identification bands**

Health services are to develop local procedures to identify which patients require a patient identification band.

Health services are to develop local procedures consistent with this Policy Directive where technology, such as a patient identifier barcode, is part of, or attached to, the patient identification band.

Patient identification bands are to be destroyed in a way that maintains confidentiality of patient details.

#### **Alert bands**

Coloured alert bands must not be used except for yellow bands for patients who have undergone vitreoretinal surgery involving insertion of an ocular gas.

339 (31/08/21)

### Work Health and Safety - Controlling Exposure to Surgical Plume

Document number [GL2023\\_018](#) rescinds GL2015\_002.

#### GUIDELINE SUMMARY

This Guideline provides direction to NSW Health organisations to meet their duty of care under the *Work Health and Safety Act 2011* (NSW) and *Work Health and Safety Regulation 2017* (NSW) in eliminating and minimising risk associated with surgical plume. Each NSW Health organisation where surgical plume is created must have systems in place to identify hazards associated with surgical plume and to eliminate or minimise the risks through the implementation of appropriate controls.

#### KEY PRINCIPLES

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

Surgical plume is generated during operative or other invasive procedures by energy based surgical devices such as electrosurgical (diathermy), ultrasonic and laser units when cutting, vaporising or coagulating tissue. Surgical plume can contain a mixture of hazardous components including ultrafine particulates, noxious and toxic aerosols, cellular debris, bacteria, viruses, gases, fumes and vapours. Exposure to surgical plume needs to be assessed and controlled as it can cause potential hazards to workers and patients.

Hazard identification and risk assessment, in consultation with workers, must be undertaken to eliminate or minimise the risk of exposure for workers and patients. Surgical plume should be eliminated so far as reasonably practicable.

Plume evacuation systems are the most effective measure to remove plume at the point plume is created. Any plume that cannot be removed using a plume evacuation system should be minimised using additional controls based on the hierarchy of controls.

This risk assessment for worker/ patient exposure to surgical plume must include the physical layout of the area, equipment used for the surgery, surgical procedure being performed (length of surgery, type of tissue disrupted), ventilation of the area, specific risks for the patient and whether a plume evacuation system is installed.

Each NSW Health facility where surgical plume is created must:

- conduct risk assessments in consultation with workers
- implement controls identified through those risk assessments
- review controls at a frequency relative to the level of risk to ensure their ongoing effectiveness.

It is important to identify and procure the most appropriate plume evacuation system for the facility in consultation with workers. The plume evacuation system is to have an appropriate filtration system, alarm monitoring system, capacity to handle plume, and be easy to use without disrupting the surgical view.

The evacuation system must be maintained as per manufacturing guidelines which do not pose additional hazardous manual handling or infection control risks that cannot be controlled. Safe work procedures, checklists and training material must be developed to protect workers and patients based on the risks and controls identified in each facility.

# **Patient Matters Manual for Public Health Organisations**

## **Chapter 24 – Surgical Care**

Workers should be provided with information, instruction, training and supervision for the potential risks associated with surgical plume. This includes their role and responsibilities, safe systems of work and the use of equipment including personal protective equipment.

Control measures must be reviewed regularly, in consultation with workers who may be affected by surgical plume to ensure continuous improvement and ongoing effectiveness.

346 (14/07/23)