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# A framework for perioperative care in Australia and New Zealand

**An initiative of the Australian and New Zealand College of Anaesthetists (ANZCA), in collaboration with representatives of:**

- Anaesthesia Continuing Education (ACE) Perioperative Medicine Special Interest Group (POM SIG).
- Australian and New Zealand College of Anaesthetists Faculty of Pain Medicine (FPM).
- College of Intensive Care Medicine of Australia and New Zealand (CICM).
- Royal Australasian College of Physicians (RACP).
- Australian and New Zealand Society for Geriatric Medicine.
- Rehabilitation Medicine Society of Australia and New Zealand.
- Internal Medicine Society of Australia and New Zealand (IMSANZ).
- Royal Australasian College of Surgeons (RACS).
- Australian College of Remote and Rural Medicine (ACRRM).
- Royal Australian College of General Practitioners (RACGP).

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# Purpose and background

Perioperative medicine (POM) has experienced significant growth over the past ten years in response to growing demand. As the population ages and the prevalence of multimorbidity increases, the profile of those accessing surgical services has changed, with people at higher risk of perioperative complications being considered for surgical procedures. Concurrently, some surgical procedures have become more technically complex and resource intensive, raising issues of sensible stewardship, while other surgical procedures have become less invasive and can be offered to a broader group of at-risk patients. These less invasive procedures are performed by surgeons but also by other specialities (for example interventional cardiologists, radiologists and endoscopic proceduralists). <sup>1</sup>.

To address this changing landscape and optimise the quality of perioperative care for all patients, the Perioperative Medicine Special Interest Group (POM SIG) was established by the tripartite educational organisation of the Australian and New Zealand College of Anaesthetists (ANZCA), Australian Society of Anaesthetists (ASA) and New Zealand Society of Anaesthetists (NZSA). The POM SIG has membership from multiple stakeholders including primary care doctors, surgeons, anaesthetists, physicians (general and geriatricians) and intensive care physicians.

Following feedback from ANZCA fellows and working groups, the college decided to make POM a strategic priority. In 2018, we identified the need to bring multiple stakeholders in POM together and develop a guiding framework, a training and professional development plan, and resources for clinicians and health care services wishing to develop POM services. Subsequently, the Perioperative Medicine Steering Committee was formed and included broad representation from the relevant specialist colleges and societies. The committee commissioned a Perioperative Care Working Group. This working group brought together representatives from specialist colleges, professional societies, and other leaders in the field of POM with the aims to:

- Form a consensus definition of perioperative care in Australia and New Zealand.
- Develop a guiding framework for perioperative care that encompasses the patient journey from contemplation of surgery through to recovery and their optimal outcome.
- Develop a resource for those wanting to develop perioperative care services.

This document is primarily aimed at equipping medical staff for their role within the perioperative medicine team (see below) and for the interactions with surgeons and primary care doctors. It provides a high-level resource for those creating, leading, and improving perioperative medical teams.

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<sup>1</sup> AIHW reports showing annual increase in emergency and elective surgery in public and private hospitals. See: <https://www.aihw.gov.au/reports/hospitals/hospitals-at-a-glance-2017-18/contents/surgery-in-australias-hospitals>

Implementing this guiding framework will integrate intentional and focused perioperative care into the patient journey. Where multidisciplinary elements of perioperative care already exist, best practice principles to ensure co-ordination of care and effective use of resources for in and out-of-hospital care are provided. Where a multidisciplinary service doesn't currently exist, creation of a governance structure to develop a service is to be encouraged, starting with the appointment of a suitably qualified POM lead. This appointee will function as a key resource to co-ordinate and liaise with all those involved in planning safe, effective, and efficient care for patients for whom surgery is a potential treatment option. In time, this may lead to the development of a comprehensive and integrated multidisciplinary perioperative care team.

It is important to emphasise that leadership and quality improvement activities are essential in the development and implementation of any new model of care, including that of a Perioperative Medicine Service, to ensure not only quality of care delivery but also patient safety.

# Defining perioperative care

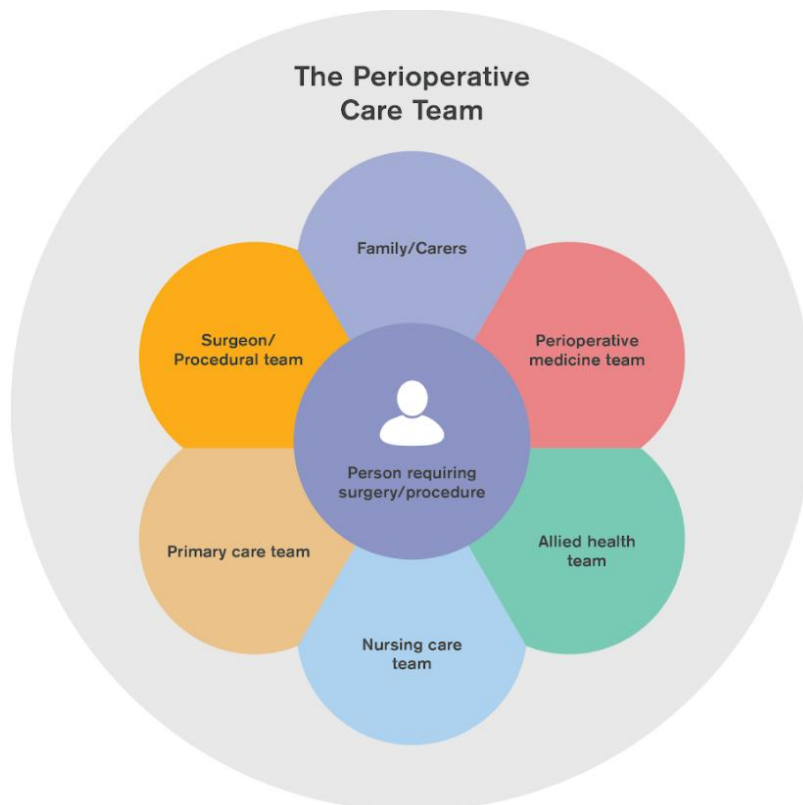
## What is perioperative care?

Perioperative care is the multidisciplinary, individualised, integrated care of patients, from the moment surgery is contemplated through to their optimal outcome. From here the term surgery and procedure will be used interchangeably.

## What is the perioperative care team?

The perioperative care team (POCT) includes all individuals who may be involved in a patient's perioperative journey. This may include doctors, nurses and other health professionals in hospitals or clinics, as well as family members or other carers (Figure 1). To save repetition in the document when using the term patient, from here on it will refer to patient, family and/or carers.

**Figure 1 – The perioperative care team (POCT)**



\*Allied health team – may include where relevant physiotherapists, occupational therapists, dietitians, social workers, Indigenous/First Nations liaison officers, psychologists, pharmacists, speech pathology and other non-medical support workers.

## What is perioperative medicine?

POM is the science and practice of working with patients from the moment surgery is contemplated, to optimise their health and wellbeing, minimise the risk of perioperative complications, and facilitate optimal recovery, underpinned by shared decision making.

## What is the perioperative medicine team?

Led by medically qualified specialists, the perioperative medicine team (POMT) performs risk and needs assessment, co-ordinates preoperative optimisation, helps prevention and management of postoperative medical complications, and supports functional recovery. The POMT complements the decision-making and care delivery and coordination by the surgical and other teams, in the preoperative phase (risk assessment, shared decision-making and optimisation); the operative phase (pre-procedure review, intraoperative care and post-procedure disposition and care); and the postoperative phase (safe recovery, post-acute care and handover to primary care) (Figure 2).

The POMT should be specialist led and may include specialists in anaesthesia, pain medicine, internal medicine, geriatric medicine, general practice, other medical specialities, and intensive care. The POMT works collaboratively with the surgical team and other health disciplines, primary care team, family and carers to support safe, effective and efficient care for patients for whom surgery is a potential treatment option (Figure 1). The leader and members of the team will depend on patient needs, surgical approach, and local resources, and should be individualised to meet the needs of different patient groups. The POMT also works collaboratively with primary care, nursing and allied health professionals along the perioperative journey.

## What is Shared decision-making?

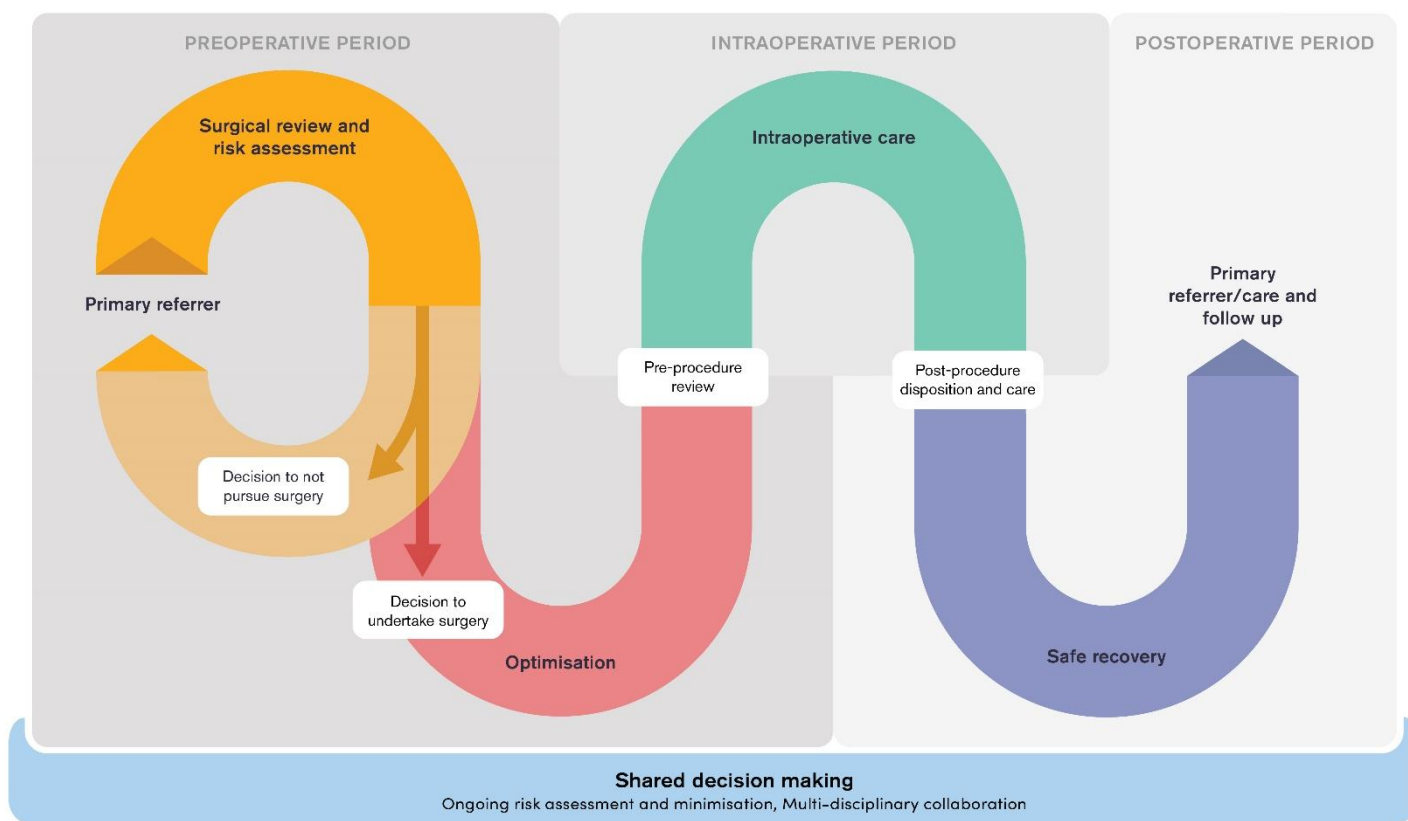
Shared decision-making (SDM) is a collaborative process between patients, carers, and healthcare professionals to combine the patient's values, goals and preferences with the best available evidence about benefits, risks and uncertainties of treatment, in order to reach the most appropriate healthcare decision<sup>2,3</sup>. SDM underpins the entire perioperative care framework as is illustrated by the blue below the framework (Figure 2).

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<sup>2</sup> Australian Commission on Safety and Quality in Healthcare. Shared decision making 2019. Available from: <https://www.safetyandquality.gov.au/our-work/partnering-consumers/shared-decision-making>.

<sup>3</sup> Kupu Taurangi Hauora o Aotearoa. Health Quality & Safety Commission New Zealand. He hoa tiaki Partners in Care. What do clinicians need to know about shared decision making? 2014. Available from: <https://www.hqsc.govt.nz/our-programmes/partners-in-care/>.

**Figure 2 – The perioperative care framework**



The Perioperative Care Working Group collaborated to develop a guiding framework (Figure 2) intended to support POM practitioners working in perioperative care by:

- Identifying key steps in the surgical patient's perioperative care journey.
- Outlining key principles and responsibilities for each step, which could be adapted to different patient groups and contexts.
- Providing recommendations about how these principles might be operationalised in practice.
- Providing examples and resources that support the evidence behind these recommendations and/or their implementation in practice.

The patient's perioperative journey can vary considerably in complexity. The perioperative care framework has been constructed to unpack each component of this journey in timeline format. Broad categories and decision points along the timeline are described, with the aim of assisting perioperative medical services to delineate responsibility lines, goals at each step and handover points.

The Framework is designed to be a practical resource for those leading the development, implementation, improvement and evaluation of POM services, providing some consensus recommendations and current resources. It complements the training within the [ANZCA Course in Perioperative Medicine](#) by encouraging reflection on existing services compared to framework recommendations and identifying opportunities for service development, improvement and research. Recommendations and resources will be updated as the field continues to evolve, in parallel with the course curriculum.



### **Resources for Shared Decision Making:**

- Australian safety and quality shared decision-making support tools, patient decision aids and question prompts.
- NSW consumer enablement guide.
- Agency for Healthcare Research and Quality (AHRQ), The SHARE approach; Putting shared decision making into practice: A user's guide for clinical teams (includes consumer research, patient decision aids and clinician research summary resources).
- Making shared decision-making a reality, The King's Fund.
- Royal College of Surgeons of England, High risk general surgical patient guideline.
- Shared decision making by the Peter MacCallum Cancer Centre.

# Summary of principles in perioperative care

## 1) Primary referrer and referral

- (i) The primary referrer, in consultation with the patient, makes a provisional diagnosis and assesses the level of symptoms and disability caused by the condition. The potential benefits and risks of a procedure are considered in light of the patient's comorbidities and presentation.
- (ii) Where a procedure is considered and estimated risk is elevated, the primary referrer initiates a discussion about advance care planning at the time of surgical referral.

## 2) Surgical review and risk assessment

- (i) The surgical team discusses potential procedural and non-procedural management options in consultation with the patient. Procedural urgency, procedural risk and patient risks are discussed, taking into consideration the patient's cultural and social circumstances, and expected quality of life post-surgery, to assist shared decision-making.
- (ii) Patients with high-risk procedural and/or patient factors are referred to the POMT. The use of referral criteria and clinical judgement can help direct optimal referral to the POMT.
- (iii) The POMT conducts a comprehensive, individualised preoperative risk assessment, integrating patient-specific goals, patient and procedural risk, procedural urgency, and facility resources to inform shared decision-making. Some patients will benefit from additional POCT collaboration and planning.

## 3) The operative decision

### 3a. Decision to not pursue surgery

- (i) The surgical team, supported by the POMT where appropriate, decide collaboratively with the patient to not pursue surgical intervention after considering risks and benefits using a shared decision-making model. The POMT may provide the patient with alternative or additional management options, including palliative and supportive care. This decision-making process is documented and communicated to the patient and the primary referrer including a plan if deterioration takes place.

### 3b. Decision to undertake surgery

- (i) The surgical team, supported by the POMT where appropriate, decide collaboratively with the patient to pursue surgical intervention using a shared decision-making model. (see Shared Decision Making under Defining Perioperative Care p. 6). The surgical team acknowledges the time needed to optimise a patient prior to surgery and this may require discussion with the POMT regarding timing of surgery.

## 4) Optimisation

- (i) The POMT aims to improve immediate and long-term morbidity and mortality by addressing modifiable patient risks in the context of the procedure and available resources.

- (ii) The POMT monitors and co-ordinates the pathway to surgery ensuring optimisation targets are met and unnecessary delays are avoided.

## **5) Pre-procedure review**

- (i) Prior to surgery, a senior member of the perioperative team, or a delegate, provides specific information to prepare the patient for the day of surgery.
- (ii) On the day of surgery, the procedural team reviews the patient's perioperative journey, confirms the procedure and confirms that their postoperative destination is appropriate and available.

## **6) Intraoperative care**

- (i) The anaesthetist and proceduralist are responsible for ensuring appropriate staff, roles, responsibilities, procedural goals, facilities, anticipated complications and contingency plans have been identified and communicated to the intraoperative team.

## **7) Post-procedure disposition and care**

- (i) The anaesthetist, proceduralist and when required intensivist, determine the immediate management after the procedure based on patient risk assessment, intraoperative and institutional factors.
- (ii) Appropriate handover occurs to the relevant team members who may have ongoing input in the postoperative period.

## **8) Safe recovery**

- (i) The POMT including the surgical team and other POCT members, collaborate to prevent, anticipate, detect and respond to clinical deterioration, pain, delirium and other complications in the postoperative period.
- (ii) The POMT supports multidisciplinary discharge planning and early functional rehabilitation to reduce patient complications and improve short and long-term outcomes. Additional restorative care services (in hospital or the community) are accessible for patients who require them.

## **9) Primary referrer/care and follow up**

- (i) Timely and accurate handover includes a comprehensive medical plan which considers the patient's physical, social and functional needs, including their ability to access primary, secondary and tertiary level care.
- (ii) The discharge plan is communicated to the patient, the primary referrer and their primary care team, and includes a clear point of contact for addressing concerns, complications or side-effects.

# Perioperative care principles, recommendations, resources and references

## 1) Primary referrer and referral

- (i) **The primary referrer, in consultation with the patient, makes a provisional diagnosis and assesses the level of symptoms and disability caused by the condition. The potential benefits and risks of a procedure are considered in light of the patient's comorbidities and presentation.**

## Recommendations

- The primary care physician begins the discussion of non-surgical and surgical management options and may refer the patient for surgical review for further diagnosis and discussion of management options.
- Primary care physicians are provided with teaching/training, education materials and communication regarding risk factors for poor perioperative outcomes.
- Tools are made available to primary care providers to assess perioperative risk.
- Referral guidelines and e-referral templates include simple perioperative risk screening tools.
- Where high risk criteria are identified, the primary care physician considers early and/or simultaneous referral for surgical review and POMT comprehensive risk assessment<sup>1</sup>.
- The primary referrer should also have easy access to specialist advice regarding where elevated risk is recognised (i.e., a point of contact within the hospital/health service).

## Resources

### Risk assessment tools

- [ACS NSQIP risk calculator.](#)
- [NZ Risk.](#)
- [Surgical Outcome Risk Tool \(SORT\).](#)

### Frailty tools

- [Clinical Frailty Scale \(CFS\).](#)
- [Edmonton Frailty Scale.](#)

### Guidelines

- [NSW Agency of Clinical Innovation Perioperative Tool Box.](#)
- [RCoA perioperative medicine pathway.](#)

## References

1. Grocott MPW, Plumb JOM, Edwards M, Fecher-Jones I, Levett DZH. Re-designing the pathway to surgery: better care and added value. Perioper Med (Lond). 2017 Jun 20;6:9. Available from: doi: 10.1186/s13741-017-0065-4

- (ii) Where a procedure is considered and estimated risk is elevated, the primary referrer initiates a discussion about advance care planning at the time of surgical referral.**

## **Recommendations**

- Early advance care planning is considered for patients at high risk of perioperative complications<sup>1,2</sup>.
- More complex discussions with the multidisciplinary team (surgeon/proceduralist, anaesthetist, physician or other specialists) may need to take place as it relates to the procedure, but an initiation of this discussion by primary care is to be encouraged.

## **Resources**

- [Health Navigator New Zealand care planning.](#)
- [A conversation guide for older people considering surgery by the NSW Agency for Clinical Innovation.](#)
- [Advance Care Planning Australia.](#)
- [RACGP Advance Care planning practice tools.](#)
- [Advance Care Planning New Zealand.](#)
- [Serious Illness Conversation Guide Aotearoa.](#)

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## **2) Surgical review and risk assessment**

- (i) The surgical team discusses potential procedural and non-procedural management options in consultation with the patient. Procedural urgency, procedural risk and patient risks are discussed, taking into consideration the patient's cultural and social circumstances and expected quality of life post-surgery, to assist shared decision-making.**

## **Recommendations**

- Surgical procedures with high procedural risk and high procedural urgency are identified<sup>1,2</sup>.
- Risk assessment tools are used to broadly risk stratify patients and help identify high-risk surgical patients. Where possible, risk assessment tools should be population specific and validated, e.g., NZRisk<sup>2,5</sup>
- Some high-risk patients may require POMT input prior to the surgical discussion of management options.

- Procedural and non-procedural management options presented to patients are based on individualised risk assessment and discussed using a shared decision-making model.
- Patients with cognitive impairment, psychiatric conditions and those from culturally and linguistically diverse backgrounds should be appropriately assessed for decision making capacity regarding their surgery and may need assistance to participate in the decision or an alternative decision maker should be appointed based on local guidelines (Evaluating Medical Decision-Making Capacity in Practice | AAFP).
- Perioperative risk assessment informs prioritisation of perioperative resources and facilities including postoperative high dependency and intensive care.
- Perioperative risk assessment is routinely documented on procedural booking forms to increase awareness and optimise communication among the POCT.

## Resources

### Surgery specific risk and urgency

- Update to Elective surgery urgency: National Elective Surgery Urgency Categorisation
- Surgery specific risk: 2014 ESC/ESA Guidelines on non-cardiac surgery surgical risk estimate.
- British United Provident Association (BUPA) surgical risk scores.

### Patient risk assessment tools

#### Non-cardiac elective surgery

- ACS NSQIP Risk Calculator.
- NZ Risk.
- Surgical Outcome Risk Tool (SORT).
- Emergency abdominal surgery
- NELA Risk Calculator.
- P-POSSUM.

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1. Findlay GP, Goodwin APL, Protopapa K, Smith NCE, Mason M. Knowing the Risk: a review of the peri-operative care of surgical patients. London: National Confidential Enquiry into Patient Outcome and Death; 2011 Dec. 98 p. Available from: <https://www.ncepod.org.uk/2011poc.html>
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6. <https://cpoc.org.uk/guidelines-resources-guidelines/perioperative-care-people-living-frailty>

**(ii) Patients with high-risk procedural and/or patient factors are referred to the POMT. The use of referral criteria and clinical judgement can help direct optimal referral to the POMT.**

## Recommendations

- Patients who fulfil pre-determined high-risk criteria (high procedural and/or patient risk) are referred early for consultation with the POMT by the surgical team and/or other defined referrers (for example pre-assessment clinic nurse). [1-3]
- Objective risk scores or criteria in conjunction with clinical judgement help identify patients likely to benefit from POMT input [4]. These criteria might include complex comorbidity, frailty, cognitive or functional impairment, obesity, or high-risk medications (for example anticoagulants, insulin, immunosuppressants, and opioid medication).
- The POMT referral pathway is clearly defined and institution specific.
- Clinicians referring to the POMT communicate the role of the POMT to the patient.
- Patients should be offered the support of the hospital chaplains or other spiritual support (karakia/way/clearing/spiritual settling) as a preparation for surgery to assist with spiritual wellbeing of the patient.

## Resources

### High-risk general surgical patient guideline 2018

- Royal College of Surgeons England.

## References

1. Grocott MPW, Plumb JOM, Edwards M, Fecher-Jones I, Levett DZH. Re-designing the pathway to surgery: better care and added value. Perioper Med (Lond). 2017 Jun 20;6:9. Available from: doi: 10.1186/s13741-017-0065-4
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- (iii) **The POMT conducts a comprehensive, individualised preoperative risk assessment, integrating patient-specific goals, patient and procedural risk, procedural urgency and facility resources to inform shared decision-making. Some patients will benefit from additional POCT collaboration and planning.**

## **Recommendations**

- The POMT preoperative risk assessment is targeted towards the specific patient and their perioperative goals, and surgical procedure. [1-4]
- Older, frail and multimorbid surgical patients benefit from a geriatrician-led comprehensive geriatric assessment and management. [3-6]
- Targeted and validated risk assessment tools are incorporated within comprehensive POMT assessment. [6-11]
- The proceduralist and POMT directs planning the patient's perioperative pathway including prioritising facilities and resources, and proactive discharge planning. [1-5]

## **Resources**

- COOPERATE: Queensland Health Collaborative Older Persons' Elective surgery Risk Assessment for Treatment Efficacy – June 2018 Recommendations.

## **Examples of tools which may be utilised during POMT preoperative assessment**

### **Cardiac risk**

- RCRI.

### **COPD**

- Modified MRC breathlessness scale.
- COPD-X severity classification.
- Perioperative risk of PPC

### **OSA**

- STOP-Bang questionnaire.
- Epworth sleepiness scale.

### **Multimorbidity**

- Charlson comorbidity index (CCI).

### **Frailty**

- Frailty phenotype.
- Edmonton frailty scale.
- Clinical Frailty Scale (CFS).

### **Cognitive impairment**

- Screening for early dementia tool
- Montreal cognitive assessment (MoCA) \*users are required to be certified.
- Kimberley Indigenous Cognitive Assessment.



## Functional impairment

- Duke activity status index (DASI).
- Timed up and go test.
- 6-minute walk test

## Anxiety and depression

- Hospital anxiety and depression scale.

## Nutrition

- Malnutrition screening tool - Peter MacCallum Cancer Centre

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1. Minto G. Assessment of the high-risk perioperative patient. Continuing Education in Anaesthesia Critical Care & Pain. 2014 Feb;14(1):12-7. Available from: doi: 10.1093/bjaceaccp/mkt020
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### 3) The operative decision:

#### 3a) Decision to not pursue surgery

- (i) **The surgical team, supported by the POMT where appropriate, decide collaboratively with the patient to not pursue surgical intervention after considering risks and benefits using a shared decision-making model.**

#### Recommendations

- The POMT/surgical team identifies a specific team member to co-ordinate shared decision-making with the patient and the POCT.
- Shared decision-making prioritises the patient's goals and expectations<sup>1-7</sup>.
- The proposed management plan or management options are communicated to the patient using resources (written, verbal, and interpreters as needed) appropriate to their health literacy.

#### Resources

##### Health literacy

- Australian safety and quality health literacy.
- Teach-back techniques.

#### References

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- (ii) **The POMT/surgical team may provide the patient with alternative or additional management options, including palliative and supportive care. This decision-making process is documented and communicated to the patient and the primary referrer including a plan if deterioration takes place.**

## **Recommendations**

- Palliative surgical techniques may be an alternative to definitive surgery. When embarked upon, clear expectations should be discussed and documented.
- Referrals are made to inpatient and/or community (for example home support, community rehabilitation, community palliative care) services to co-ordinate continuing treatment and support.
- Patients are given the opportunity to review and confirm their management plan with the POMT at a future date, allowing time for contemplation and discussion.
- Patients are offered the support of hospital chaplains or other spiritual support (karakia/way/clearing/spiritual settling or prayer) to assist the spiritual/wairua wellbeing of the patient, even if surgery not pursued.
- The management plan is communicated from the POCT to the primary referrer.

## **Resources**

### **Non-surgical management**

- [Quality focused interventions for the relief of symptoms team.](#)
- [NSW Agency for Clinical Innovation osteoarthritis chronic care program model of care 2012.](#)
- [Palliative Care Australia.](#)
- [Palliative Care New Zealand.](#)
- [My Aged Care Australia.](#)
- [Needs Assessment Service Coordination Association New Zealand.](#)
- [Advance Care Planning Australia.](#)
- [Advance Care Planning New Zealand.](#)

## **3b) Decision to undertake surgery**

- (i) **The surgical team, supported by the POMT where appropriate, decide collaboratively with the patient to pursue surgical intervention using a shared decision-making model (see SDM definition). The surgical team acknowledges the time needed to optimise a patient prior to surgery and this may require discussion with the POMT regarding timing of surgery.**

## **Recommendations**

- The proposed surgical intervention is communicated to the patient using resources (written, verbal, and interpreters as needed) appropriate to their health literacy. Risks and benefits of surgery are documented and communicated to the patient and the primary referrer, including a plan in the event of deterioration.
- Clear communication is established between the POMT, surgical team/proceduralist and the patient regarding the optimisation targets that are required and the booking date.

- The patient's decision-making capacity is assessed, and documentation of future wishes is encouraged through appropriate and shared advance care planning documents.
- The date of surgery is communicated to the primary referrer.

#### 4) Optimisation

- (i) **The POMT aims to improve immediate and long-term morbidity and mortality by addressing modifiable patient risks in the context of the procedure and available resources.**

#### Recommendations

- The POMT collaborates with the POCT and patient to achieve optimisation.
- Earliest possible referral to the POMT is essential to ensure sufficient time for optimisation. This is particularly critical for the high-risk patient having major surgery, to allow sufficient time to achieve maximal physical, physiological, and psychological preparation.
- Optimisation should take an individualised bundled approach and involve comorbidity management alongside collaborative behavioural change and psychological, physiological and pharmacological preparation for surgery<sup>3-9</sup>. These may include but are not limited to the following perioperative targets for assessment and optimisation:

• Cardiovascular disease
• Respiratory disease
• Obstructive sleep apnoea
• Diabetes
• Obesity and metabolic disease
• Anaemia
• Frailty
• Cognitive impairment
• Medication reconciliation, management, and rationalisation
• Smoking cessation
• Alcohol and recreational drug use
• Nutrition
• Psychology and readiness for surgery
• Exercise capacity
• Respiratory muscle training

- Early consideration of comprehensive geriatric assessment and management as a part of a perioperative work up in appropriate cases should be considered.
- Pre-operative investigations ordered depend upon the type, complexity and urgency of surgery (elective, semi-elective or emergency), the patient's current physiological status, associated co-morbidities and medications.
- Where resources permit, the implementation of a perioperative pharmacist as part of the POCT is recommended to improve the process of perioperative medication reconciliation, reduce perioperative medication errors and improve communication regarding medication with primary care.

- Utilisation of available institutional and community resources should be targeted to those patients that would benefit most from optimisation and prehabilitation.

**(ii) The POMT monitors and co-ordinates the pathway to surgery ensuring optimisation targets are met and unnecessary delays are avoided.**

## Recommendations

- The POMT collaborates with the POCT and the patient to achieve optimisation targets, while avoiding unnecessary delays to surgery.
- The hospital where surgery will be provided should have a designated POCT leader/clinical co-ordinator and/or POMT lead that:
  - The patient and other members of the POCT can use as the point of contact to update patient progress and present queries or problems.
  - Monitors and co-ordinates a timely pathway to surgery for the patient, ensuring unnecessary delays or miscommunication between multidisciplinary providers are avoided.

## Resources

- [Prehabilitation at Peter MacCallum, Melbourne.](#)
- [NSW Agency for Clinical Innovation \(2016\). \*The Perioperative Toolkit\*.](#)
- [ANZCA policy document on smoking.](#)
- [Smoking cessation guideline and QUITline](#)
- [Australian Diabetes Society perioperative guidelines: Perioperative Diabetes en Hyperglycaemia guidelines Australian Diabetes Society and ANZCA Nov 2022, and](#)
- [National Blood Authority. Preoperative anaemia identification, assessment and management case study 2014.](#)
- [RCoA Centre for Perioperative Care \(June 2020\) Impact of perioperative care on healthcare resource use – rapid research review.](#)
- [Perioperative medication management guideline](#)
- Investigation guidelines:
- <https://www.choosingwisely.org.au/recommendations/anzca>
- <https://www.nice.org.uk/guidance/ng45/evidence/full-guideline-pdf-87258149468>
- Patient resource: Patient information: [RCoA UK \(2019\) – “Fitter, better, sooner.](#)

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## **5) Pre-procedure review**

- (i) Prior to surgery, a senior member of the perioperative team, or a delegate, provides specific information to prepare the patient for the day of surgery.**

### **Recommendations**

- Clearly identify high-risk patients.
- Ensure the facility is appropriate for the patient, procedure and postoperative care.
- Ensure the patient's health and wellbeing and medical conditions are as optimised as possible to undergo the procedure, anaesthesia and recovery in the safest possible way.
- Confirm and clearly communicate with patient the anaesthetic and analgesia plan.

### **Resources**

- ANZCA guideline on pre-anaesthesia consultation and patient preparation.
- ANZCA Safety of Anaesthesia report 2012-2014.
- ANZCA Safety of Anaesthesia report 2009 – 2011.

- (ii) **On the day of surgery, the procedural team reviews the patient's perioperative journey, confirms the procedure and that their postoperative destination is appropriate and available.**

## Recommendations

- Proactive communication approaches ensure that surgical, anaesthetic, nursing and patient concerns are shared with the team.

## Resources

- WHO Surgical Safety Checklist.

## 6) Intraoperative care

- (i) **The anaesthetist and proceduralist are responsible for ensuring appropriate staff, roles, responsibilities, procedural goals, facilities, anticipated complications and contingency plans have been identified and communicated to the intraoperative team.**

## Recommendations

- Policies and procedures are maintained and consistent with evidenced-based guidelines:
  - Anaesthetic and surgical practice in keeping with ANZCA and RACS policies and guidelines are to be used as the standard of care. Aspects of intraoperative care that have been shown to improve outcome include:

• Pain minimisation strategies
• Patient dignity is maintained
• Postoperative nausea and vomiting strategies
• Patient blood management
• Prevention of hypothermia, acidosis and coagulopathy
• Attention to glycaemic control
• Pre-emptive management of physiological deterioration

- Theatre and human resource management:
  - A team time out and a surgical safety checklist must be performed prior to each case<sup>1-2</sup>. The timing of surgery should support safe intraoperative and postoperative care and allow for optimal team performance<sup>3,4</sup>. Human resource management should account for appropriate staffing of specialist clinicians to high-risk procedures<sup>3</sup>.
  - Identification and handover of the intended destination after recovery room care is defined preoperatively, refined intraoperatively as needed, and communicated at handover to recovery room staff. Where feasible, patients who require planned admission to ICU or HDU should be pre-empted and have appropriate beds allocated prior to starting surgery.



## Resources

- [WHO Surgical Safety Checklist.](#)
- [ACORN Standards for Perioperative Nursing in Australia.](#)
- [RCoA Perioperative Medicine pathway.](#)

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## 7) Post-procedure disposition and care

- (i) The anaesthetist, proceduralist and when required intensivist determine the immediate management after the procedure based on patient risk assessment, intraoperative and institutional factors.

### Recommendations

- Use of surgical safety check list to discuss appropriate postoperative disposition.
- On departure from the perioperative precinct a proactive handover to the ward based medical officers should be done and include the procedure completed, type of anaesthesia performed, an analgesia plan, PONV minimisation plan, and degree of risk of complications for the patient who will transition to the ward. Patient risk is reassessed following surgery to determine the most appropriate level of physiological monitoring and to ensure that the allocated postoperative location is still the most appropriate.
- Utilisation of Intensive Care requires careful consideration and should involve patient risk profile and discussion among surgeon/proceduralist, anaesthetist and intensivists. Overutilisation of Intensive Care can be cost inefficient and under triage may contribute to patient harm. Appropriate staffing and defined clinical processes are matched to anticipated clinical risks and needs. Planning should specifically address:
  - Staffing: numbers and skill mix, both current and available.
  - Clinical guidelines and procedures to cover the specific clinical needs identified (for example types of surgery being performed and common emergencies).
- Appropriate postoperative resources required for recovery and the management of complications should be planned prior to surgery (such as pre-arranged access to further specialist care or units within the institution).
- Planned duration of care should be matched to anticipated clinical need to ensure recovery room capacity is sufficient and after-hours transfers are minimised.
- Timely transit of patient through postoperative areas is planned and facilitated to minimise delays to expected postoperative pathways (i.e., no 'bed block' as a cause for delay of recovery or discharge from intensive care to ward)
- Defined processes and escalation pathways are in place to promptly identify criteria-based patient deterioration.
- Legal requirements for recovery room facilities may be defined for different jurisdictions, such as in the relevant Health Act, or equivalent. These may include the physical and operational requirements under specific circumstances.

### Resources

#### Sedation guidelines

- ANZCA guidelines on sedation and/or analgesia for diagnostic and interventional medical, dental or surgical procedures.

## Recovery room

- ANZCA statement on the post-anaesthesia care unit.
- Australasian Clinical Indicator Report Edition 2010-2017: Anaesthesia and Perioperative care, page 29.
- Safety and quality consensus statement on clinical deterioration 2017.
- Electronic observation charts: Between the flags.
- Recognising and responding to clinical deterioration: use of observation charts to identify clinical deterioration.

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**(ii) Appropriate handover occurs to the relevant team members who may have ongoing input in the postoperative period.**

## Recommendations

- Formal admission with medical and nursing handover occurs using a structured approach. This includes:
  - Discussion of intraoperative course
  - Pre-determined anticipated early postoperative risks.
  - Specific clinical needs.
  - Post-recovery room destination.

## Resources

- Safety and quality clinical handover.
- Recognising and responding to acute deterioration Standard.
- Postoperative overnight high-acuity care.
- Association of postoperative undertriage to hospital wards with mortality and morbidity.
- Postoperative overtriage to an intensive care unit is associated with low value of care.

## 8) Safe recovery

- (i) **The POMT, including the surgical team and other POCT members, collaborates to prevent, anticipate, detect and respond to clinical deterioration, pain, delirium and other complications in the postoperative period.**

### Recommendations

- The POMT prioritises patients for regular postoperative review in collaboration with the surgical team.
- There are systems to identify high-risk patients requiring advanced monitoring in a higher care unit (for example advanced/extended stay recovery, close observation units, high dependency care and intensive care unit).
- There are systems to recognise and respond to clinical deterioration in all patients managed in an inpatient setting<sup>1</sup>.
- There are systems for preventing, screening, diagnosing, and managing delirium in high-risk postoperative patients.
- There are systems to support prescribing and monitoring of safe and effective multimodal analgesia for postoperative inpatients.
- Ward co-management by a general physician or geriatrician is considered in high-risk patient groups (for example hip fracture, vascular surgery)<sup>2,3</sup>.
- Clear verbal and written instructions about pain management, follow-up and potential complications are provided for patients at low risk who are not admitted to a clinical setting postoperatively (day case procedures)<sup>4</sup>.

### Resources

- [ANZCA statement on the post-anaesthesia care unit.](#)
- [Safety and quality recognition and management of the deteriorating patient.](#)
- [Postoperative analgesia.](#)
- [Enhanced Recovery After Surgery \(ERAS\) society.](#)
- [Optimal Perioperative Management of the Geriatric Patient: Best Practices Guideline](#)
- [AGS CoCare® | American Geriatrics Society](#)
- [4AT rapid clinical test for delirium.](#)
- [Australian delirium clinical care standards.](#)

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**(ii) The POMT supports multidisciplinary discharge planning and early functional rehabilitation to reduce patient complications and improve short and long-term outcomes. Additional restorative care services (in hospital or the community) are accessible for patients who require them.**

## Recommendations

- Early graded mobility is encouraged and supported in all patients unless there are direct contraindications.
- Oral nutrition and hydration commence as soon as possible.
- Co-ordinated multidisciplinary discharge planning including patient-specific discharge education is commenced early in the admission to reduce readmissions<sup>1</sup>.
- The POMT considers referral for restorative care for patients who have had a decline in their function and/or cognition postoperatively. This can occur as an inpatient or an outpatient.
- Restorative care includes rehabilitation (in-hospital, or in-home), geriatric evaluation and management (GEM) and, in Australia, commonwealth-funded transition care program. Access and selection of the appropriate restorative care will depend on patient needs and preferences as well as local factors.

## Resources

- [Geriatric evaluation and management.](#)
- [Transition care programme.](#)
- [Enhanced Recovery After Surgery \(ERAS\) society.](#)

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## 9) Primary referrer/care and follow up

- (i) **Timely and accurate handover includes a comprehensive medical plan which considers the patient's physical, social and functional needs, including their ability to access primary, secondary and tertiary level care.**

### Recommendations

- Patients are assessed for readiness to return to the care of the primary care provider (PCP) with consideration of the patient's own goals of care.
- There is clear agreement between the surgical and the POMT about their responsibilities for contributing to handover to the PCP.
- An accurate verbal and/or written handover between the hospital and PCP occurs in a timely manner particularly when the PCP is required to follow up the discharged patient.
- Clear pathways exist for two-way communication between the hospital and PCP, including a contact phone number to facilitate access to the most appropriate clinician in the hospital should a complication arise. Some services may have the capacity to provide a GP Liaison service.
- Clear pathways exist to allow a patient to be returned to the care of the POCT if required and these are communicated to the patient and PCP.
- Effective communication at discharge includes written advice provided to patients in appropriate and accessible language. This includes:
  - Diagnosis and procedure.
  - Ongoing analgesic plan, including a plan for postoperative opioid weaning.
  - Ongoing instrumentation and drainage.
  - Rehabilitation needs and plans.
  - Planned support services.
  - Medication changes and supply.
  - Complications to anticipate, how to monitor for them, and when to escalate.
  - How to access help if concerned (PCP or POCT).
- Consent is obtained from patients regarding the sharing of their health record or information with other health care providers including the PCP.
- Requirements for follow-up by a hospital clinician and/or PCP is clearly communicated to the patient. If appropriate, an appointment is arranged, and the details given to the patient.

### Resources

#### Postoperative analgesia

- [The Lancet postoperative pain management and opioids series.](#)
- [Choosing Wisely Using Opioids After Surgery.](#)

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**(ii) The discharge plan is communicated to the patient, the primary referrer and their primary care team, and includes a clear point of contact for addressing concerns, complications or side-effects.**

## Recommendations

### Prior to discharge

- The POMT liaises early (preferably in the preoperative setting) with community care providers for patients with pre-existing services to assist them in proactively planning for changes in care needs postoperatively.
- Prior to discharge the patient's physical, functional and cognitive condition and care needs are assessed, and consideration given to additional services required to ensure a safe and supported transition.
- Prior to handover, the POMT reconciles the prescribed medication regimen, particularly high-risk medications.

### Discharge from hospital and handover to primary care

- Patients are involved in their discharge and handover.
- Handover is undertaken by clinical staff with sufficient experience and direct involvement in the care of the patient to ensure all key information is included.
- The preferred method of communication will depend on the individual patient's context and assessed risk. This may be by phone, email, letter, to a shared electronic health record, or any combination of these.
- When the care of a patient is handed over, there is clearly designated responsibility for follow-up of any outstanding test result or treatment.
- The handover highlights any aspect of the patient's care that requires follow up. This requires clarity about whether, when and why the patient should be seen again by the POMT and when to be seen by the PCP.

### Discharge documentation

- Discharge summary with the treating consultant is provided to all patients and their PCP on day of discharge from acute care. Consider directly contacting the patient's PCP if there are specific follow up requirements. Hospital substitution programs (for example hospital-in-the-home or post-acute discharge services) are considered to enable patients to return home as early as possible.
- Discharge education and documentation should include signs of infection or deterioration that the patient should look out for.

- Discharge letters contain specific details and tasks that the PCP is expected to perform upon review of the patient.

## Resources

- Australian Department of Health home care packages.

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## Conclusion

Perioperative care services are essential to achieve sustainable patient access to essential surgery, with good patient outcomes. Intentional perioperative care is a multi-faceted, increasingly complex process that involves many stakeholders and requires a paradigm shift in approach from healthcare clinical staff and health service funders.

This document provides a framework for those who want to develop perioperative care services with the goal of providing streamlined, co-ordinated care that minimises non-beneficial surgery and improves outcomes.

Adoption of this framework will set a benchmark for excellence in perioperative care and benefit all patients undergoing surgery and other procedures in Australia and New Zealand.

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# APPENDIX 1 – Glossary of terms used in perioperative care

**Advance care planning (ACP):** ACP is the process of contemplating and planning for future health care and end-of-life care. This may involve developing an advance directive or statement of choices and appointing an enduring power of attorney (EPOA) (1, 2).

**Carer:** Carers are people who provide care and support to family members and friends who have disability, mental illness, chronic conditions, terminal illness, an alcohol or other drug issue or who are frail aged (3, 4). In New Zealand, this includes the Māori concept of **Whānau**, which can mean people with a relationship who are connected through a common ancestor or those with a common purpose or goal (5). The term carer excludes people employed by others to care for people, volunteers, and work experience students (6).

**Clinical handover:** The 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 (7). It can be written or verbal.

**Comprehensive geriatric assessment (CGA):** CGA can be defined as a multi-dimensional, interdisciplinary process used to quantify an older individual's medical, psychosocial and functional capabilities. It includes diagnosis, identification of problems, goal setting, and forming a comprehensive management plan for holistic treatment, rehabilitation, support and long-term follow up. It is part of the core skills and knowledge base of specialists in geriatric medicine (8).

**Discharge planning:** When the patient, carer, multi-disciplinary team and primary care provider(s) develop a personalised plan to ensure there is a smooth transition from hospital to home, residential care or somewhere else (9-11).

Discharge disposition (also referred to as separation in Australia and discharge in New Zealand): The person's location and status post-discharge following hospital admission (12).

**Elective surgery:** Defined as surgery for patients whose clinical condition requires a procedure that can be managed by placement on a waiting list (13). In New Zealand, elective surgery may also be termed planned care (14).

**Emergency surgery:** Surgery to treat trauma or acute illness subsequent to an emergency presentation. The patient may require immediate surgery or present for surgery at a later time following this unplanned presentation. This includes where the patient leaves hospital and returns for a subsequent admission. Emergency surgery includes unplanned surgery for admitted patients and unplanned surgery for patients already awaiting an elective surgery procedure (for example, in cases of acute deterioration of an existing condition) (12). Many health services consider emergency surgery is surgery required within 10 days of the decision to operate (15).

**Enduring power of attorney (EPOA/EPA):** EP(O)A is a legal document(s) that allows you to appoint someone you trust to make important decisions on your behalf if you can't make these decisions yourself due to illness or injury (16). In New Zealand, there are two types of EPA: personal and welfare EPA as well as property EPA (16). In Australia, the general principles of an EPOA are the same but the legislation governing the specifics vary state to state (17).

**(Safety) Huddle:** A brief ( $\leq 10$  minutes), focused exchange of information about potential or existing safety risks which may affect patients, staff and any person accessing the healthcare environment (18). They are multidisciplinary and often occur at the start of a workday or procedure (19).

**Multidisciplinary team:** Involves a range of health professionals, from one or more organisations, working together to deliver comprehensive patient care (20). It can include but is not limited to medical, allied health professionals and nursing staff who can be hospital, community based, or a combination of both.

**Optimisation:** Involves improving modifiable aspects of patients' health, such as rationalising medications and addressing anaemia, malnutrition or smoking cessation (21).

**Patient:** The person being considered for surgery.

**Perioperative care:** The multidisciplinary, integrated, personalised care of patients from the moment surgery is contemplated through to an optimal outcome (22).

**Perioperative care team (POCT):** Includes all individuals who may be involved in a patient's perioperative journey. This may include doctors, nurses and other health professionals in hospitals or clinics, as well as family members or other carers (Figure 1).

**Perioperative medical team (POMT):** Led by medically qualified specialists, the POMT performs risk and needs assessment, co-ordinates preoperative optimisation, helps prevention and management of perioperative medical complications, and supports functional recovery.

**Prehabilitation:** Involves a period of working to enhance an individual's functional capacity in preparation for major surgery (23).

**Primary referrer:** Someone requesting specialist review of a patient. It is usually the patient's general practitioner but can also include emergency physicians, another surgical or medical specialist or nurse practitioners.

**Procedural team:** The healthcare team responsible for direct provision of the surgical intervention in the operating theatre. It includes medical practitioners, nurses, allied health staff and technicians (24).

**Post-anaesthesia care unit (also referred to as recovery unit):** A place close to the procedure room where expert care is provided in the early postoperative period, at which time rapid changes in physiology and pathology may still be occurring. Recognition and management of these changes by trained and skilled staff is required until such time that a patient's physiological variables are stable, allowing transfer to the ward or discharge from the facility (25).

**Risk assessment:** The act of identifying possible harm in a systematic manner, calculating how likely that harm is to happen and estimating what effects it might have if it did (26). It should be accompanied by a management plan to mitigate the identified risk. Validated tools are available to assist with risk assessment in the preoperative setting for example American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) surgical risk calculator (27) National Emergency Laparotomy Audit (NELA) risk calculator or NZ risk (28).

**Shared decision-making:** A collaborative process between patients, carers and healthcare professionals to bring together the patient's values, goals and preferences with the best

available evidence about benefits, risks and uncertainties of treatment, in order to reach the most appropriate healthcare decision (29, 30).

**Surgery:** In this document, surgery refers to a procedural intervention performed by proceduralists or surgeons.

**Surgical urgency (also referred to as priority category):** The method used by health systems to assign a priority category to a procedure which is based on patient's clinical status and the consequences of any delay. Different health districts use varying nomenclature; however, the principals are similar. Elective and emergency surgery have different scales of prioritisation (15).

**WHO (World Health Organisation) surgical safety check list:** An internationally recognised and used 19-point checklist which aims to decrease errors and adverse events and increase teamwork and communication in surgery (32).

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