

Strategies to improve theatre efficiency

March 2024

These strategies are being used in NSW public hospitals and other Australian health jurisdictions. Assess whether you can adapt them to your surgical and perioperative care service, after considering local protocols, priorities for improvement, resourcing and readiness for change.

Staff	
Strategy	Outcomes
Establish a floor coordinator role as the single point for daily theatre coordination	
<p>The floor coordinator implements the daily tasks of the operating theatre (OT); providing a single point of contact for resource allocation, case and staff allocation. They consider emergency surgery access and troubleshooting from a nursing perspective.</p> <p>Consider establishing a duty anaesthetist and/or duty surgeon to improve efficiency and team cohesion.</p>	<ul style="list-style-type: none"> Enhanced coordination of activities and communication between stakeholders. Reduced late starts and cancellations due to hospital factors. Improved achievement of emergency surgery targets. Reduced incidence of emergency surgery interruptions to elective surgical lists.
Ensure the right staffing and skill mix	
<p>The staffing and skill mix allocated to each session should meet each session's requirements, including teaching and training requirements.</p> <p>This allows support for new practitioners, appropriate levels of supervision and promotes team cohesiveness.</p>	<ul style="list-style-type: none"> Staff have skills to undertake the required workload. Staff are trained with appropriate skills and knowledge. Staff are supervised and mentored effectively, bringing increased learning and professional development opportunities to the OT team.
Match staffing rosters to theatre activity levels	
<p>Analyse patterns of activity to allow staff rosters to be matched to activity.</p> <p>Roster according to award requirements and safe working hours, while considering training, supervision and meal break requirements.</p> <p>Assess leave patterns to establish business rules for annual leave.</p> <p>Use a pool of casual and part-time staff.</p>	<ul style="list-style-type: none"> Availability and development of clinical leadership because of rostering for seniority. Development of high-performing teams supported by effective workforce management. Management of costs associated with overtime, leave liability and undue reliance on agency staff. Maintenance of appropriate working conditions and safety standards. Ensures duties are performed by the appropriate staff member with an adequate supervision escalation policy in place, if required.
Match tasks to staff with the appropriate skills and training	
<p>Analyse jobs and duties undertaken and match to appropriate category of staff.</p> <p>Assess capacity and capability of support staff, e.g. operations assistants, clerical staff, central sterilising department technicians and stock managers, to manage non-clinical tasks in the OT.</p>	<p>Duties are performed by the appropriate staff member with an adequate supervision escalation policy in place, if required.</p>

Resources	
Strategy	Outcomes
Develop an operating theatre session template	
<ul style="list-style-type: none"> • Uses staff skill mix appropriately. • Allocates resources and equipment effectively. • Optimises the use of instrumentation and equipment. • Optimises patient flow intra and postoperatively. • Assists with meeting emergency and elective demand. 	<ul style="list-style-type: none"> • Elective surgery patients have their surgery in their clinically indicated timeframe. • Emergency surgery patients have prompt access to services. • Local and state-level theatre use and clinically recommended timeframe key performance indicators are met.
Include anaesthesia preparation in session plans and theatre lists	
<p>Consider differences required by individual cases, particularly more time-consuming processes, such as regional anaesthesia, invasive haemodynamic monitoring or brachial plexus blocks.</p>	<ul style="list-style-type: none"> • Improves start times. • Improves accuracy of estimates of the surgical list length.
Establish a person responsible for managing equipment and consumables	
<p>Develop processes for managing stock and non-stock items, including designating a person to manage these items.</p> <p>Establish systems and processes for managing:</p> <ul style="list-style-type: none"> • equipment for repair • equipment renewals • contract management for maintenance and servicing of existing equipment. <p>Establish an approval process for new high-cost consumables and prostheses and agree price thresholds.</p> <p>Include equipment and consumables discussions at local health district meetings to ensure the best price across the district.</p> <p>In smaller hospitals, the role for managing equipment and consumables may not need to be a stand-alone position. This could be combined with other roles such as a floor coordinator.</p>	<ul style="list-style-type: none"> • Threshold pricing is established for stock and loan items, reducing variation in procurement. • Costings data are regularly presented and discussed at the OT committees. • Increases visibility of processes for supply and management of high-cost devices. • Improves oversight of equipment and consumable management.
Implement emergency surgery models of care	
<p>For more information, see NSW Emergency Surgery Guidelines and Principles for Improvement.</p> <ul style="list-style-type: none"> • Ensure balance and equity between elective and emergency cases. • Match sessions to availability of consultants. • Consultant supervision of registrars. • Provide adequate day-time access for emergency surgery to minimise after-hours emergency surgery. • Establish an approval process where elective cases need to be cancelled due to emergency load. 	<ul style="list-style-type: none"> • Access to emergency surgery sessions is based on demand and managed against elective surgery demand. • Elective surgery cancellations are kept to a minimum due to emergency surgery load.

Data	
Strategy	Outcomes
Develop mechanisms to ensure accurate and timely access to information	
<ul style="list-style-type: none"> • Include information about staff allocations. • Floor coordinator can track and monitor progress of each OT in real time. • The OT manager has access to activity data, performance measures, staffing and rostering reports, costing information and cost centre reports. • Use the OT costing template. 	<ul style="list-style-type: none"> • Clinical decisions are based on accurate patient information and communication pathways. • There are adequate information sharing systems to assist in ensuring that patient information at the point of care is current, including accurate patient history and results. • The OT theatre coordinator or strategic operating theatre coordinator has access to the budget position and local health district and statewide performance measures.
Plan and confirm theatre lists ahead of time	
<ul style="list-style-type: none"> • Book operating lists realistically in collaboration with the waitlist manager, using historical data and the surgeon's estimation as a guide. • Identify over- and under-bookings against rostered leave. • Identify special equipment requirements early. • Identify special bed or accommodation requirements early. 	<ul style="list-style-type: none"> • Patients are given timely information about their surgery date. • Lists start and finish on time. • The correct equipment is available and sterilised. • Surgical bed requirements are factored into patient-flow demands.
Prioritise patients on basis of need	
<p>Accurate and real-time data entry in OTs will provide an accurate data base to determine length of case by surgeon.</p> <p>Accurate, clear and regular communication with the waitlist manager will allow effective use of the available operating time while ensuring patients have their operation in their clinically recommended timeframe.</p> <p>Mean case duration can be used to accurately predict surgical list lengths, helping to avoid over- and under-use of OTs and reduce hospital reasons for cancellations.</p>	<ul style="list-style-type: none"> • 100% of patients treated in their clinically recommended timeframe. • Reduction in cancellation due to hospital-factors.
Actively engage patients in their hospital journey by ensuring they have clear and documented information on all aspects of their care	
<p>Provide details of access to the hospital, including public transport and access to the car park.</p> <p>Provide clear directions to relevant departments within the hospital.</p> <p>Instructions should be communicated verbally and in writing to patients.</p>	<ul style="list-style-type: none"> • Patients and their families have a clear understanding of what is expected of them. • Patients can clarify and update details about their admission by telephone or email before admission. • Regular evaluation of the patient experience is performed to ensure patient needs are being met and delays through confusion of process are minimised.

<p>Provide hospital booking office contact details to enable patients to communicate and clarify information about their hospital admission.</p> <p>Consider making literature available in other languages.</p>	
--	--

Run the bookings and admission offices according to the principles of NSW Health Elective Surgery Access Policy Directive PD2022 001

Strategy	Outcomes
<p>Strategies are implemented to ensure that patients are treated within their clinically recommended timeframe.</p> <p>Guiding principles and escalation processes are established for advance review of patients scheduled for elective surgery, closure of elective operating sessions, changes and/or additions to elective session lists and coverage to manage scheduled staff leave.</p> <p>The booking office should use various technologies and platforms to allow seamless retrieval and sharing of information with relevant clinical staff who are involved in the patient's pre- and intra-operative care.</p> <p>Staff are trained appropriately against agreed guidelines and principles.</p>	<ul style="list-style-type: none"> • Optimised and realistic OT lists. • Short notice lists. • Information systems and access to technology. • Patients have clarity around the waiting time process.
Engage regular communication between the booking office and operating theatres	
<p>Establish regular meetings between the surgical booking manager and OT manager to identify unused theatre time, potential over run, equipment requirements, review elective surgery demands requirements and highlight multiple surgery cancellations.</p>	<ul style="list-style-type: none"> • Patients having their surgery in their clinically recommended timeframe. • Theatre use and elective surgery key performance indicators are met. • Overtime is kept to a minimum due to theatre lists being optimised.
Establish and implement pre-admission processes	
<p>For further information please see the ACI's Perioperative Toolkit.</p> <p>All patient health questionnaires should be completed and reviewed by a clinician prior to admission.</p> <p>Use technology to facilitate completion of patient health questionnaires and compilation of patient information.</p> <p>Patients should be triaged for the appropriate level of pre-admission assessment (phone or clinic) against agreed and endorsed guidelines.</p> <p>Appointments are accessible and made in a timely manner.</p>	<ul style="list-style-type: none"> • Patients receive adequate preparation for their elective surgery. • Cancellations and delays due to inadequate patient preparation are reduced.

Establish and implement day-of-surgery admission processes

For further information please refer to ACI's [Perioperative Toolkit](#).

Patients are pre-admitted into the patient administration system and paperwork is pre-assembled.

Establish a single point of admission for elective patients.

Admission times are staggered throughout the day.

Day-only patients receive postoperative telephone calls to promote patient wellbeing by giving them an opportunity to ask questions about their care.

- Patients are admitted and ready for surgery in reasonable time before their expected procedure.
- Delays due to patient preparation in day surgery are minimised.
- Staggered admissions reduce patients waiting extended times for their surgery in the day surgery.
- Patients are satisfied with their care.

Align operating theatre support services with operating theatre management committees, e.g. central sterile supply department, pathology, radiology, ward support services

Strategy

Match ward support services and porters' rosters to activity requirements.

Match sterilising service rosters to activity requirements.

Ensure availability and accessibility of appropriate training for staff to perform their roles effectively.

Implement processes to ensure adequate inventory of sterilising instruments and for loan equipment.

Consider the availability of radiology services when examining the theatre schedule and emergency surgery needs.

Establish clear processes to deliver preoperative pathology test results in a timely manner to facilitate on-time patient procedure starts.

Outcomes

- Ensures appropriate and adequate staffing to meet transfers to and from the OT suite.
- Appropriately trained staff.
- Adequately equipped sterilising unit.
- Regular communication is established with radiology and other allied health units that impact on OT efficiency to ensure resources are available.

Develop processes to monitor and manage surgical and non-surgical demand from other hospital departments, e.g. obstetrics, non-surgical inpatient scopes, peripherally inserted central catheter lines and the emergency department

See [NSW Health Whole of Hospital Program](#) for more information.

Include planned induction times for routine inductions.

Develop systems to access elective caesarean section lists and emergency caesarean sections.

Include paediatrician and obstetrician availability in planning lists.

Include procedures to identify and plan for inpatient medical procedures via early notification and booking.

- High standards of patient care are maintained across the hospital.
- Patients that come through the emergency department follow an established and clearly communicated pathway to the OT, if required.
- Minimise the number of non-surgical procedures performed in the OT.
- The key performance indicators for elective and emergency surgery and the emergency department are met through examining whole-of-surgery recommendations in the scope of considering the whole of hospital program.

<p>Introduce processes for early assessment and recognition of need for surgical consultation.</p> <p>Plan for surgical team availability to review patients in the emergency department 24/7.</p> <p>Develop processes for the emergency department to admit patients into the day-only unit the next day, where appropriate, and/or refer to the surgical outpatient clinics.</p> <p>Involve the surgical team in trauma team on-call processes for specific hospitals, as appropriate.</p> <p>Assess non-surgical demand for the OT and explore the requirement for a procedure room environment outside the OT.</p>	
<p>Establish documented guidelines for access to different accommodation options that support surgical services, e.g. day only, extended-day only, high-volume, short-stay surgery, overnight and close observation unit and intensive care unit beds</p>	
<p>See High volume short stay surgery resources for more information.</p> <p>Assessment of day-only, high-volume, short-stay surgery requirements and opportunities to realise benefits of a formal high-volume, short-stay surgery model.</p> <p>All patients are appropriately assessed, and appropriate accommodation options are selected.</p> <p>Preoperative confirmation processes are in place to confirm booked accommodation and availability for all patients as appropriate.</p> <p>Accommodation for day-only patients is located near the OT and includes a reception area, consultation rooms, change rooms, waiting room, lockers, bathrooms, beds and recliner chairs.</p> <p>Extended day only and high-volume, short-stay surgery patients have:</p> <ul style="list-style-type: none"> • a clear and predictable course of recovery • clear pathways for transfer following surgery • access to accommodation appropriate to an overnight stay, e.g. bathrooms, shower. <p>Early notification of a requirement for postoperative intensive care beds is required along with identification of the type of bed, e.g. ventilated or non-ventilated.</p> <p>There is an agreed process for unplanned intensive care unit patient accommodation and bed demand.</p> <p>The theatre schedule is regularly reviewed to remove wide variations in bed demands from day to day.</p>	<ul style="list-style-type: none"> • Clinical protocols and pathways are used. • Accurate estimation of operation-end time, with capacity to manage in recovery for a short period, if required. • Smooth variation of surgical bed demands through examining the theatre template. • Patient cancellations are reduced due to no postoperative beds being available.

Develop and implement patient flow systems to manage variation	
<p>See NSW Health Patient Flow Systems for more information.</p> <p>Care coordination: navigating patients through the health system to prevent delays.</p> <p>Standardised practice: promote best practice to lock in expected outcomes.</p> <p>Variation management: smoothing the peaks and troughs to distribute the load.</p> <p>Demand escalation: act early to preserve capacity.</p> <p>Demand and capacity planning: organising your service to build capacity.</p> <p>Quality: structuring systems around an expected outcome.</p> <p>Governance: transparent accountable leadership.</p>	<ul style="list-style-type: none"> • Standardised practices and processes to identify and resolve delays, creating capacity and a coordinated approach to delivering healthcare to patients. • Increased level of confidence and awareness of what happens next for staff and patients. • Preserve emergency department capacity for emergency. • Meet performance targets for quality and efficient healthcare. • Provide the right treatment at the right place within an appropriate timeframe. • Maximise surgical capacity to ensure elective patients receive timely treatment. • Improve the quality of care received by patients and reduce adverse events.

Please refer to the [Innovation Exchange](#) to share projects or learn from other sites. The Innovation Exchange is a platform to share and promote innovative and improvement-based projects taking place across NSW Health.

Published March 2024. Next review 2029. ACI/D23/3513, (ACI) 240095, [ACI_9024]

© State of NSW (Agency for Clinical Innovation) CC-ND-BY