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OFFICIAL

Optimised Pre-Surgical Care Framework

LET'S PUT IMAGINATION TO WORK

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Government
of South Australia

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0.1	13/09/22	Draft	Phil Worley and Bianca Wong
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Purpose

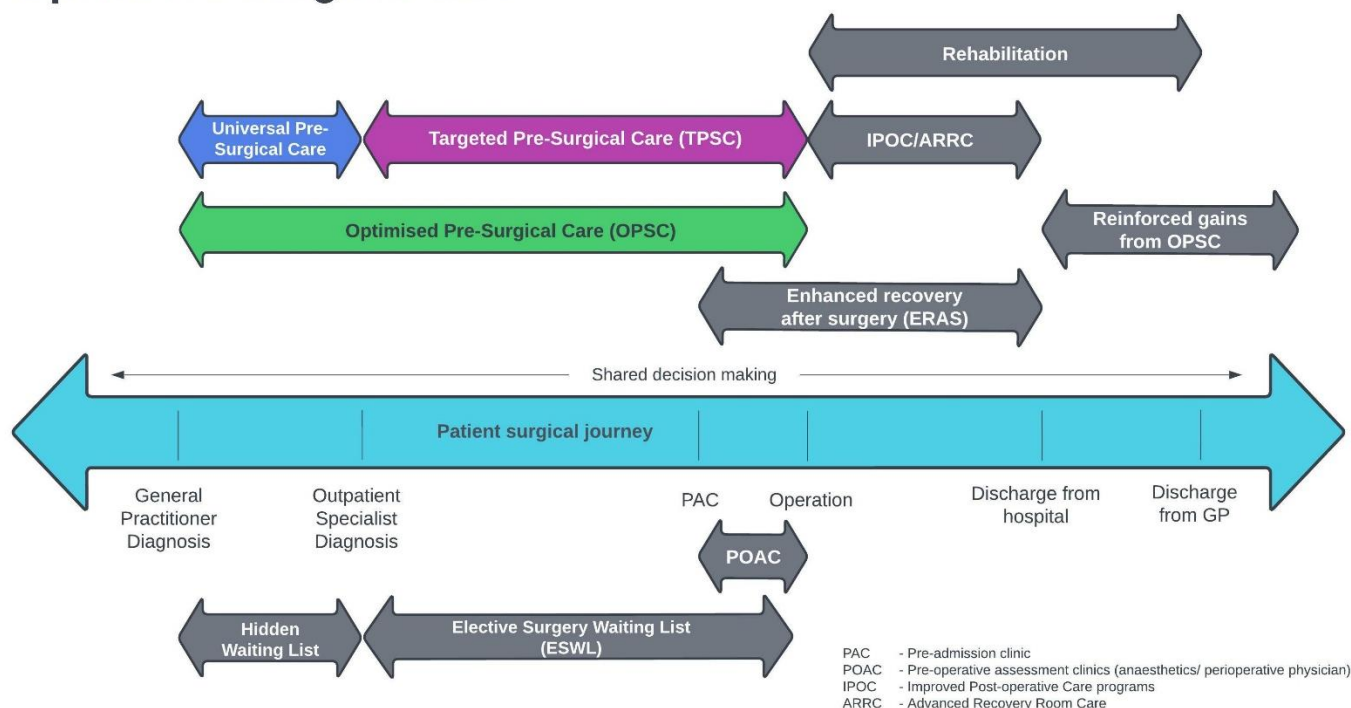
A key strategic priority of the Statewide Surgical and Perioperative Care Clinical Network (SSPCCN) is to optimise pre-surgical care for all patients undergoing an elective surgery procedure across South Australia, with the aim of improving patient outcomes and health care delivery.

The Optimised Pre-Surgical Care (OPSC) project seeks to establish necessary pathways of care to assist patients referred for elective surgical procedures in South Australia to achieve their desired outcomes from surgical intervention.

The purpose of OPSC is to:

- Make surgery safer and improve patients' experience and outcomes
- Make surgery easier for the surgeon
- Decrease the financial burden to the health system

Patient Surgical Journey - Optimised Surgical Care



Optimised Pre-Surgical Care Pathway

Term	Description
GP referral to Surgeon in Outpatients	<ul style="list-style-type: none"> Complete E-referral or written referral, applying Clinical Prioritisation Criteria (CPC) Stage 1 OPSC-the time period from GP diagnosis/referral to OPD, up until Specialist OPD appointment-known as Universal Pre-Surgical Care (UPSC) Advise patient of options for universal pre-surgical care utilising HealthPathways SA and other primary health care resources (such as CALHN prehab portal)
Patient triaged and added to Outpatients Waiting list	<p>Pre-Outpatient opportunity (primary health care options for optimisation)</p> <ul style="list-style-type: none"> GP and patient access interventions and resources to undertake UPSC. Example pathway: GP (and/or other community resources eg. Allied health, PHN etc) coordinates education/community-based resource interventions (based on patient's clinical history) GP to continue utilising HealthPathways SA and other primary health care resources (such as CALHN prehab portal) for UPSC
Outpatients Appointment: Surgery / No Surgery	<p>Specialist, in conjunction with the patient, considers the need for surgery</p> <ul style="list-style-type: none"> No Surgery – discharge back to GP Opportunity to optimise patient and reverse/review the need for surgery Surgery Planned (Waitlisted ESWL): patient enters Targeted Pre-Surgical Care Stage 2 OPSC-the time from Specialist decision that surgical intervention is required up until operation-known as Targeted Pre-Surgical Care (TPSC) TPSC involves calculating a risk score based on patient and operation characteristics and then further sub-dividing patients into three levels of intervention (Universal, Intermediate and Advanced, as per below)

Surgery Risk Score

Surgery risk score 1-5 (based on recommendations below and the treating surgeon's input).

This reflects the risk level associated with the procedure, with an increased likelihood of developing significant complications, including, but not limited to, blood loss and impact on physiological reserve.

Risk Level	Elective Surgery Procedures
Very Low Risk	Cataracts, GI endoscopy, cystoscopy, dental procedures, operative time <30 minutes
Low Risk	Groin hernia repair, ENT procedures without planned flap or neck dissection, operative time 30-60 minutes
Intermediate Risk	Intracranial and spinal surgery, gynecologic and urologic surgery, intra-abdominal surgery (including ventral hernia) without bowel resection, intra-thoracic surgery without lung resection, operative time 60-120 minutes
High Risk	Colorectal surgery with bowel resection, kidney transplant, major joint replacement (shoulder, hip, knee), open radical prostatectomy, cystectomy, major oncologic general surgery, vascular or gynecologic surgery, major oncologic head and neck surgery, operative time >2hrs
Very High Risk	Aortic surgery, cardiac surgery, intra-thoracic procedures with lung or oesophageal resection, major transplant surgery (heart, lung, liver), operative time >4hrs

Patient Risk Score

Risk Level	Description
Very Low Risk	no known medical problems
Low Risk	Hypertension, hyperlipidemia, well-controlled asthma, other mild chronic disease without functional impairment.
Intermediate Risk	<ul style="list-style-type: none"> a) Type 2 diabetes mellitus on oral hypoglycemics, HbA1c 7.5-8.4% b) Chronic kidney disease: mild renal impairment Stage 2 CKD with GFR <60 (use eGFR as a guide) c) Cardiovascular disease: IHD, Atrial fibrillation, NSTEMI/MI >1 year ago d) Respiratory disease: such as Mild COPD, asthma, parenchymal disease e) Chronic liver disease: Child Pugh A liver disease 5-6 f) Neurological: known history of TIA/stroke, Parkinson's disease g) Obesity: BMI high and very high (>30 and <40) h) Nutrition: low BMI/malnutrition (BMI<18), alb <30 i) Haematological: such as anaemia j) Frailty: Clinical Frailty Scale: (age ≥70) 4 (vulnerable)-5 (mild frailty) k) Polypharmacy: 5-9 prescribed medications l) Smoking history: >20 pack year history or active smoking m) Alcohol and recreational drug use: if consumes >10 standard drinks (SD) per week or >4 SD per session n) High dose opioid: 20-40mg morphine equivalent o) Mood disorder: examples of tools screen positive on DASS (Depression Anxiety Stress Scales) or HADS (Hospital Anxiety and Depression Scale) p) Functional assessment: Duke Activity Status Index q) OSA: Intermediate risk (STOP BANG: gender, neck circumference, BMI, symptoms; score 3-4) r) Social vulnerability: Minimal social supports, poor health literacy and literacy s) Communication barriers: culturally and linguistically diverse, intellectual disability, cognitive impairment t) Aboriginal and/or Torres Strait Islander
High Risk	<ul style="list-style-type: none"> a) Insulin-dependent diabetes: HbA1c >8.5% b) Chronic kidney disease: moderate renal impairment GFR <40 c) Cardiovascular disease: chronic heart failure, IHD: stents <1 year, NSTEMI/MI/unstable angina <1 year/AICD d) Respiratory disease: Moderate COPD FEV1 50-70% e) Chronic liver disease: Childs Pugh B (7-9): encephalopathy, ascites, bilirubin, albumin, INR. f) Neurological: History of known cognitive impairment (mild cognitive impairment, dementia) or previous delirium during hospitalisation, Mini-Cog screening <3 g) Obesity: BMI >40 and <50 h) Nutrition-severe, chronic high level immunosuppressant therapy i) Haematological: Recurrent thromboembolic events (PE/DVTs)< 6months, recent Ischemic or haemorrhagic stroke, < 6 months j) Frailty: Clinical Frailty Scale ≥5: Patients with significant functional dependence, requiring assistance for all personal ADL, and/or bed/wheelchair bound k) Hyperpolypharmacy: >10 prescribed medications l) Smoking history: >30 pack year history and active smoking m) Alcohol and recreational drug use-seeking advice on levels n) High dose opioid: >40mg morphine equivalent o) Mental health: Depression or anxiety (not well-controlled), chronic pain p) Functional assessment: DASI (Preop assessment and optimization for adult surgery) q) OSA: High risk: STOP BANG: if score 5-8 r) Previous COVID infection within 4 weeks s) Severe sensory deficits: hearing or visual impairment t) Recurrent hospitalisations: 2 or more in last 12 months (could be suggestive of underlying medical conditions not well managed)
Very High Risk	<ul style="list-style-type: none"> a) Cardiovascular disease: IHD, recent MI/NSTEMI < 3 months b) Chronic kidney disease: end stage renal impairment, eGFR <20 c) Respiratory disease: severe COPD: steroid dependent, FEV1 (% predicted) <50%, on home oxygen, moderate pulmonary hypertension (RVSP >45 mmHg) d) Severe liver disease: Childs Pugh C e) Severe valvular disease f) Obesity: BMI >50 g) Haematological Thromboembolic event: PE/DVT < 3 months h) Frailty: Clinical Frailty Scale 8-9 (very severely frail and terminally ill)

Targeted Pre-Surgical Care Risk Matrix

	Surgery Risk Score	1 Very Low Risk	2 Low Risk	3 Intermediate	4 High Risk	5 Very High Risk
Patient Risk Score	1	UNIVERSAL	UNIVERSAL	UNIVERSAL	INTERMEDIATE	ADVANCED
	2	UNIVERSAL	UNIVERSAL	INTERMEDIATE	ADVANCED	ADVANCED
	3	UNIVERSAL	INTERMEDIATE	INTERMEDIATE	ADVANCED	ADVANCED
	4	INTERMEDIATE	ADVANCED	ADVANCED	ADVANCED	ADVANCED
	5	ADVANCED	ADVANCED	ADVANCED	ADVANCED	ADVANCED

UNIVERSAL - Universal level pre-surgical care (UPSC) based on patient's clinical history with continued input from GP

INTERMEDIATE - Intermediate level targeted pre-surgical care (TPSC), e.g., OPSC team to formulate individual program, as for UPSC and additional interventions

ADVANCED - Advanced level targeted pre-surgical care (TPSC), e.g., OPSC team to formulate individual program, as for Intermediate TPSC, and early referral to high-risk perioperative service - including both perioperative physician and anaesthetics

Risk Assessment	Intervention
Universal Pre-Surgical Care	<ul style="list-style-type: none"> Standardised selection of UPSC interventions Proposed surgery school 3 monthly GP surveillance to reassess risk factors and optimise patient for surgery Ongoing support to encourage successful completion of UPSC
Intermediate Targeted Pre-Surgical Care	<ul style="list-style-type: none"> Proposed MDT: Targeted Pre-Surgical Care Assessment Team. Proposed core members: <ul style="list-style-type: none"> Hospital: Surgeon, anaesthetist, geriatrician, nursing and allied health, psychologist, pain practitioner, perioperative physician) Community: General Practitioner, allied health, community groups, patient and/or carer Plan is discussed with patient and forwarded to OPSC Coordinator (where available), GP and treating healthcare team. Facilitation of community and hospital interventions via GP/OPSC Coordinator 3 monthly GP surveillance to reassess risk factors and optimise patient for surgery Proposed Surgery school
Advanced Targeted Pre-Surgical Care	<ul style="list-style-type: none"> Proposed MDT: Targeted Pre-Surgical Care Assessment Team, as for Intermediate TPSC Plan is discussed with patient and forwarded to OPSC Coordinator (where available), GP and treating healthcare team. Facilitation of community and hospital interventions via GP/OPSC Coordinator 3 monthly GP surveillance to reassess risk factors and optimise patient for surgery Proposed surgery school Early referral to high-risk perioperative clinic (anaesthetic and/or perioperative medicine, perioperative geriatric)

Glossary

Term	Description
ADL	Activities of daily living
AICD	Automated implantable cardioverter-defibrillator
B-TPSC	Basic targeted pre-surgical care
CALHN	Central Adelaide Local Health Network
CKD	Chronic kidney disease
COPD	Chronic obstructive pulmonary disease
COVID	Coronavirus
CPC	Clinical Prioritisation Criteria
DASI	Duke Activity Status Index
DASS	Depression Anxiety Stress Scales
eGFR	Estimated Glomerular Filtration Rate
ENT	Ear nose and throat procedure
ERAS	Enhanced recovery after surgery
ESWL	Elective surgery waiting list
FEV1	Forced expiratory volume in one second
GI	Glycaemic index
GP	General Practitioner
HADS	Hospital Anxiety and Depression Scale
IHD	Ischemic heart disease
I-TPSC	Intermediate targeted pre-surgical care
MDT	Multi-disciplinary team
MI/NSTEMI	Non-ST elevation myocardial infarction
OPD	Outpatient department
OPSC	Optimised pre-surgical care
OSA	Obstructive sleep apnoea
PE/DVT	Pulmonary embolism/deep vein thrombosis
RVSP	Right ventricular systolic pressure
SD	Standard drink
SSPCCN	Statewide Surgical and Perioperative Care Clinical Network
STOP-BANG	Screening tool for OSA
TIA	Transient ischemic attack
TPSC	Targeted pre-surgical care
UPSC	Universal Pre-Surgical Care

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