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# Purpose

The Acute Surgical Unit was developed in April 2022 with the purpose of:

* Simplifying admission pathways for emergency surgery patients;
	+ Including priority access to imaging
* Centralising acute surgical patients to Heath Wing 4 (now acute surgical ward)
* Creating continuity of care for patients by minimising rotating medical staff.
* Ensuring timely access to the Operating Theatre
* Ensuring equitable treatment access to patients over the weekend and providing 24/7 emergency surgery coverage.

# Target Audience

* ASU (Acute Surgical Unit) Medical Staff
* ASU Nursing Staff
* Emergency Medical Staff
* Emergency Triage and Nursing Staff
* Patient flow and directorate
* Radiology department

# Definitions

ASU – Acute Surgical Unit, which is based on Heath Wing 4

RACS – Royal Australian College of Surgeons

SET Trainee – Surgical Education and Training registrar (Accredited Post through RACS)

Surgical Unit 4 – This is the acute surgical unit which manages all surgical admissions through the emergency department.

# Surgical 4 Unit Set Up

## Clinical Team

|  |  |
| --- | --- |
| Consultant | 1 |
| Fellow (Equivalent to Fellowship of the Royal Australian College of Surgeons) | 1 |
| SET Registrar (Advanced Trainee) | 1 |
| Pre-SET Registrar | 3Ward RegistrarAdmitting Registrar (ext 51829)Night Registrar (ext 51829) |
| HMO 2+ / Residents | 1  |
| Interns | 2 |

## Rostering

The Surgical Unit 4 roster is designed to maximise continuity of care for the patients and maintaining safe and balanced working hours for medical staff. (entire team with rotate on a week on and week off roster)

The weekly roster is divided into team A and team B with changeovers occurring at 12:30pm on Friday (Figure 1 Rotating on call roster.Figure 1). Handover is to occur Fellow to Fellow in the HW4 ASU Office.



Figure Rotating on call roster.

In order to maintain continuity of care with maximal staff over the weekend, long stay patients admitted under the previous on-call team will be handed over to a specialty unit bed card (surgical unit 1,2 or 3) on Monday at 0730. Handover shall occur face to face between the current on call fellow and the unit registrar in the ASU meeting room at 0730.

## Roles and Responsibilities.

### Consultant:

Key Responsibilities:

1. Clinical decision making for all inpatients and consults. A bedside/discussion review by either the consultant or fellow is required for each inpatient episode within 24 hours of admission.

2. Operative management including specific involvement in decision making around emergency laparotomies in accordance with the ANZELA.

3. Training of Junior Staff.

A Consultant who holds a qualification equivalent to Fellowship in General Surgery will be responsible for the overall care of the patients admitted under Surgical Unit 4 until death, discharge, or transfer of care. The consultant is also responsible for surgical management of patients referred from other teams for a surgical opinion.

Each patient whether operative or non-operative requires a specialist opinion and must be seen by either the Consultant or Fellow during each admission. Complex patients who required a prolonged surgical admission will be transferred to the home unit of the surgical consultant on the Monday following the week on call.

### Fellow

Key Responsibilities:

1. Clinical decision making for all inpatients and consults. A bedside/discussion review by either the consultant or fellow is required for each inpatient episode within 24 hours of admission.

2. Facilitate the efficient running of morning and afternoon handover.

3. Operative management .

4. Training of Junior Staff including supervising formal weekly training sessions, training accredited and unaccredited registrars in procedural skills targeted to their level.

5. Act as the primary supervisor to interns and residents in line with either role as the specialty unit fellows.

6. Attendance and supervision of weekly audit.

The Fellows will rotate from the specialty units as per the on call roster.

The Fellow will be responsible for the day to day decision making for patients in close consultation with the Surgical Unit 4 Consultant. This will include decisions regarding disposition, operative and non-operative management. Each patient admitted to the wards will be seen by a consultant or Fellow during each admission.

### SET Registrar

Key Responsibilities:

1. Am Ward Round on Heath Wing 4 (ASU) starting at 0730

2. Attendance at the 0800 Operating Theatre huddle to coordinate the General Surgery Trauma List

3. Where patients are expected to be discharged day 1 – 2 post op a hand written discharge prescription should be finalised prior to the patient leaving recovery.

4. Operative management under the supervision of the unit Fellow and Consultant

5. Calculating a pre-operative NELA score and frailty score for all patients proceeding to laparotomy. This information should be recorded in the operation note.

6. Support and mentoring for Ward and Admitting Registrar.

7. Training of Junior Staff.

8. Ensuring malignant pathology is handed over to sub-specialty units for discussion at the MDM.

The SET registrar’s position is to provide mentorship and guidance for the Pre-SET Registrars, as well as planning and performing operative management. The Ward and Admitting Registrars shall maintain continuous communication with the SET Registrar throughout the day making sure to address uncertainty and deliver timely investigations and management for all patients. The SET Registrar shall also be the first point of escalation for diagnostic dilemmas / complex evolving patients. Time critical or after hours matters should be escalated directly to the Fellow / Consultant. Although the SET registrar will do ward rounds forASU ward – they should be abreast with all ASU patients on inpatient and consult list. The SET job is NOT A PURE OPERATING JOB.

### Ward Registrar

Key Responsibilities:

1. Daily ward rounding on all inpatients and consults

2. Handover with nursing managers

3. Escalating sick patients to the attention of Fellow / Consultant

4. Ensuring all patients over the age of 65 and have had a laparotomy are referred to a General Medical, rehab or geriatrics specialty unit

5. Training of Junior Staff.

6. Preparation and delivery of Thursday and Six Monthly Audit. Thursday Audit template can be found [here](file:///C%3A%5CUsers%5Ckunderwood%5CDownloads%5CDead%20Link), and occurs every Thursday at 1230pm. Six Monthly Audit template can be found [here](file:///C%3A%5CUsers%5Ckunderwood%5CDownloads%5CDead%20link).

7. Review of Bossnets ‘Surg 4 Results Watch’ to ensure all formal radiology reporting has been signed off.

It is expected that the inpatient team (Ward Registrar + HMOs) round on every patient, every day, unless already seen by the consultant. This includes consults from other teams. The ward registrar shall ensure effective documentation and verbal communication with relevant staff. The ward registrar should ensure that investigation and management occurs in a timely manner using the resources of the inpatient team. Will keep a close contact with the SET registrar and Fellow on ASU on all patients.

### Admitting Registrar

Key Responsibilities:

1. Receiving referrals from the Emergency Department, General Practitioners and outlier hospitals.

2. Resuscitating patients / arranging investigations / organising definitive management

4. Attending Trauma Team ‘[Alerts’ and ‘Activations’](https://prod-prompt-documents.s3.ap-southeast-2.amazonaws.com/126323/126323_v12.0.pdf?X-Amz-Expires=86400&response-content-disposition=inline%3Bfilename%3D%22Trauma%20Team%20Activation.pdf%22&x-amz-security-token=IQoJb3JpZ2luX2VjEOH%2F%2F%2F%2F%2F%2F%2F%2F%2F%2FwEaDmFwLXNvdXRoZWFzdC0yIkcwRQIhAJfQBK10DMiSKuiWZcAwl9a6RE2S2zn71npBxb30zttHAiApKuK78r8tvsjsmnHqEpWb3pBalQGcDUbVBRjb5JvV8SrBBAiq%2F%2F%2F%2F%2F%2F%2F%2F%2F%2F8BEAMaDDc0MjQ5MzU4NTk0MyIM5efOHhLSq0b0z6yxKpUEGforiwen8iuy%2BpxoW8V%2Fip7Rvw26yFk3MdgkovbjulbHXkfpqofqFYp%2Bcp%2BOwtFFz0dofuUPS1YH90jRCzTj8BASlzwILjL1DZcTvEQw4DVXhj5VAle%2BLxFYBvBS0G5l6%2Fz42pz6Cn5gvWu1VzhkHNEw%2FvT0a114JI0f1V9x6f2eFyEoU0qI8EurGymGo7qOJAFBM8pN7oyB7G0cddCUZ4kKXi1ECrQjI2EOxbPt5jSy5G0fQzl4AYGqLAZLnOtKAnXKN%2F74Rmwb%2F1stohKrpKr9Q10DxNTRpnChsTNNUBPghFqlt%2BhXk6p1Lv8Ku85CA%2F2gdqRtI%2Fw%2BNLOTSnViigHlS3o8gK5dGcT1D6QxW%2Fay1y2Nlx0iz0oK%2FkeVUhUf7LfRIrblbNpx7c4QN68o1gLwBHWqCxXm%2B4BWs0H7mMFhFiRcUeUeoSdQ5eegqvWYJNdKRvZJhCmeaaO1IGIzkKVayPZHRbRkSNpuQdmEdBcoM%2F6QaRMXV3CMlUc0vDvmV3EHclI3FKZNaTKbIYWg7qvur5UW1be37UBlUoPodVgDLGJ8YRjKZ0nvUc6nDZVHfyLi5pjPWU5fkmhlGmY%2BwcNi%2FF4cPyOcRUPa8k8W%2FLEmvq5vIh8atLcg59lmKtfRggOrtjwsSbcDbQ9JOH9HwC3gP5%2BxwGMZMtvLzIdp6JGafVERqvczYRnl5OJIqi6aroK%2Bue4w3fDsoAY6pgFvIhiI0vxcsAHtL3lrsBV7%2B6Rt%2BO%2F7YcWqe5bum6BWCp8IIqFtFScY09D9ZMQTIO2FPA4EJSZxEny3Qt7PeLPey5%2F3rSLe5Qibo0iroi6SaUCSR9RLvF448os6guVI8by%2F3mVkNJtraTd8%2BfFOEH4P5trSWl2pqWzWGKOa4tIjfcHYqGqIUMsUNQrCw8S2FSyLisnRdEa2KZlJZ7JiWy8XOgv1bHAc&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=ASIA2ZYARAILWYL5ALFO/20230322/ap-southeast-2/s3/aws4_request&X-Amz-Date=20230322T231709Z&X-Amz-SignedHeaders=host;x-amz-security-token&X-Amz-Signature=1f5d6fb836ee7adccb68bdba5da94b51a94c673b035b0d243e5656702dafbab5) in the emergency department.

5. Ensuring all patients have a current goals of management.

6. Ensuring effective communication, documentation and handover with other team members.

7. Where a the registrar believes a patient can be safely discharged from the emergency department to the community, the following conditions must be met:

a) The case must be discussed with the on call Fellow / Consultant on call within 24 hours;

b) Appropriate safety net advice must be given to the patient, including warning signs of deterioration;

c) Safety for discharge must be agreed by the treating emergency department Consultant or Senior ED Registrar;

d) Follow up should be arranged with the appropriate urgency. If discharging to the care of the GP communication must occur in a timely manner.

e) Safety for discharge should be considered in the context of patient vulnerabilities including rurality, language barriers, Aboriginality, age, socio-economic factors, and social isolation (noting that this is not an exhaustive list).

f) A responsible medical officer must be responsible for following up an actioning any outstanding tests at the time of discharge, in a timely manner.

### Night Registrar

Key Responsibilities

1. Receiving referrals from the Emergency Department, General Practitioners and outlier hospitals.

2. Resuscitating patients / arranging investigations / organising definitive management.

3. Attending Trauma Team [‘Alerts’ and ‘Activations’](https://prod-prompt-documents.s3.ap-southeast-2.amazonaws.com/126323/126323_v12.0.pdf?X-Amz-Expires=86400&response-content-disposition=inline%3Bfilename%3D%22Trauma%20Team%20Activation.pdf%22&x-amz-security-token=IQoJb3JpZ2luX2VjEOH%2F%2F%2F%2F%2F%2F%2F%2F%2F%2FwEaDmFwLXNvdXRoZWFzdC0yIkcwRQIhAJfQBK10DMiSKuiWZcAwl9a6RE2S2zn71npBxb30zttHAiApKuK78r8tvsjsmnHqEpWb3pBalQGcDUbVBRjb5JvV8SrBBAiq%2F%2F%2F%2F%2F%2F%2F%2F%2F%2F8BEAMaDDc0MjQ5MzU4NTk0MyIM5efOHhLSq0b0z6yxKpUEGforiwen8iuy%2BpxoW8V%2Fip7Rvw26yFk3MdgkovbjulbHXkfpqofqFYp%2Bcp%2BOwtFFz0dofuUPS1YH90jRCzTj8BASlzwILjL1DZcTvEQw4DVXhj5VAle%2BLxFYBvBS0G5l6%2Fz42pz6Cn5gvWu1VzhkHNEw%2FvT0a114JI0f1V9x6f2eFyEoU0qI8EurGymGo7qOJAFBM8pN7oyB7G0cddCUZ4kKXi1ECrQjI2EOxbPt5jSy5G0fQzl4AYGqLAZLnOtKAnXKN%2F74Rmwb%2F1stohKrpKr9Q10DxNTRpnChsTNNUBPghFqlt%2BhXk6p1Lv8Ku85CA%2F2gdqRtI%2Fw%2BNLOTSnViigHlS3o8gK5dGcT1D6QxW%2Fay1y2Nlx0iz0oK%2FkeVUhUf7LfRIrblbNpx7c4QN68o1gLwBHWqCxXm%2B4BWs0H7mMFhFiRcUeUeoSdQ5eegqvWYJNdKRvZJhCmeaaO1IGIzkKVayPZHRbRkSNpuQdmEdBcoM%2F6QaRMXV3CMlUc0vDvmV3EHclI3FKZNaTKbIYWg7qvur5UW1be37UBlUoPodVgDLGJ8YRjKZ0nvUc6nDZVHfyLi5pjPWU5fkmhlGmY%2BwcNi%2FF4cPyOcRUPa8k8W%2FLEmvq5vIh8atLcg59lmKtfRggOrtjwsSbcDbQ9JOH9HwC3gP5%2BxwGMZMtvLzIdp6JGafVERqvczYRnl5OJIqi6aroK%2Bue4w3fDsoAY6pgFvIhiI0vxcsAHtL3lrsBV7%2B6Rt%2BO%2F7YcWqe5bum6BWCp8IIqFtFScY09D9ZMQTIO2FPA4EJSZxEny3Qt7PeLPey5%2F3rSLe5Qibo0iroi6SaUCSR9RLvF448os6guVI8by%2F3mVkNJtraTd8%2BfFOEH4P5trSWl2pqWzWGKOa4tIjfcHYqGqIUMsUNQrCw8S2FSyLisnRdEa2KZlJZ7JiWy8XOgv1bHAc&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=ASIA2ZYARAILWYL5ALFO/20230322/ap-southeast-2/s3/aws4_request&X-Amz-Date=20230322T231709Z&X-Amz-SignedHeaders=host;x-amz-security-token&X-Amz-Signature=1f5d6fb836ee7adccb68bdba5da94b51a94c673b035b0d243e5656702dafbab5) in the emergency department.

4. Directly liaising with On-call fellow overnight for urgent matters.

5. Ensuring all patients have a current goals of management

6. Ensuring effective communication, documentation and handover with other team members.

7. Supporting the On-call surgical fellow overnight in the operating theatre.

8. Where the registrar believes a patient can be safely discharged from the emergency department to the community, the following conditions must be met:

a) The case must be discussed with the on call Fellow / Consultant on call within 24 hours;

b) Appropriate safety net advice must be given to the patient, including warning signs of deterioration;

c) Safety for discharge must be agreed by the treating emergency department Consultant or Senior ED Registrar;

d) Follow up should be arranged with the appropriate urgency. If discharging to the care of the GP communication must occur in a timely manner.

e) Safety for discharge should be considered in the context of patient vulnerabilities including rurality, language barriers, Aboriginality, age, socio-economic factors, and social isolation (noting that this is not an exhaustive list).

f) A responsible medical officer must be responsible for following up an actioning any outstanding tests at the time of discharge, in a timely manner.

### Residents and HMOs

Key Responsibilities:

1. Managing ward patients (Figure 3). On weekends and after hours this includes ward management of vascular in-patients.

 - ‘Resident / HMO 2+’ will be assigned to cover HW4, and carry pager XXXX

 - ‘Intern 1’ will be assigned to cover HW5 and Baxter 5, and carry pager, XXXX

 - ‘Intern 2’ will be assigned to cover HW6 and outlying wards including BAX7, CCU (BC5), ANU (HW4), and ICU.

2. Ensuring coding queries have been completed prior to handover on Friday at 1230. These can be found printed in the board room. This will be done on a weekly basis by Intern 1 on at the Coding Office on Thursday at 11am weekly

3. Ensuring discharge summaries are completed within 24 hours of patient discharge. A portion of the Friday changeover team should be allocated to addressing discharge summary backlogcs.

4. The resident on the week will take on a leadership role and report on a daily basis the discharge summary list to the morning handover and a plan on its management with the Fellow/SET registrar

# Day to Day Operations

Figure - Surgical Unit 4 Mornings.

## Morning Handover

* Handover will occur at 0700 each morning with the aim to begin ward round at 0730
* On Mondays from 0730 to 0745 handover will occur between the weekend team and the general surgery specialty units.
* Handover will be attended by the Fellow, Registrars and junior medical staff.

## Ward Round

* At 0730 the SET Registrar will ward round on HW4 with the aim of finalising same day discharges
* The Pre-SET Ward Registrar will ensure all remaining patients are seen.
* All new patients admitted to the ASU will be seen by a Fellow or Consultant on the day of admission and on an as required basis throughout their admission.

## Operating Theatre

* At 0800 the floor coordinator / supervising anaesthetist / surgeons and registrars meet to discuss operating theatre requirements for emergency and non-elective cases. This will include discussion regarding anaesthetic support required off the floor (including MRI / Interventional radiology).
* The first case of day will start at 0830. This patient should be confirmed at the 0700 handover and be called for prior to the morning huddle.
* Special consideration should be given to prioritising ERCP’s as this is a scarce resource. (liasing with the Surgical One fellow) Proceduralists who provide this service at Geelong Hospital work outside the on-call roster, and so accommodations are required to ensure equitable access to theatre.
	+ Where there is no evidence of cholangitis, some of these patients can be discharged for elective ERCP. Consideration should be given to using the [*Tokyo Guidelines for Acute Cholangitis 2018*](https://www.mdcalc.com/calc/10142/tokyo-guidelines-acute-cholangitis-2018)when making this determination. This decision will be made by the Consultant/Fellow on the ASU in liaison with the proceduralist

## Ward Management

Management of patient on the ward must be tailored to their specific needs, however, the below prioritisation is suggested (Figure 3). Many of these tasks can be completed during the ward round. Good ward management involves continuous communication vertically and horizontally within the team.

Figure - junior medical officer morning priorities (example)

HMOs will be assigned a pager that is specific to the area they are responsible for including HW4, HW5, HW6, BAX 6, ICU and outliers.

# Admission Pathways - Surgical Unit 4

## Admission Pathways

Patients are admitted under Surgical Unit 4 primarily via three pathways:

* Referral from the Emergency Department
* Referral from other Hospital Service
* Referral from Community including virtual ED.

All patients requiring General Surgery admission should be referred to the Surgical Unit 4 Registrar on 51829. Patients will be admitted in accordance with the PROMPT Procedure *Admission via Emergency Department – General Surgery.* If agreed, stable patients can be assessed on the ward and sent up on interim orders, with all essential medications charted. Pathway for admission from the Emergency Department is outlined in Figure 4, below.

##

Figure Admission pathways to Acute General Surgery Unit

### Interim Orders

Where appropriate, a patient may be sent to the ward prior to surgical registrar review. This should be considered:

1. When the admitting registrar is not available for review in the emergency department in an appropriate timeframe (within 2 hours); and
2. Where the patient is in a stable condition, meaning:
	1. Disposition is clear (not requiring transfer to another facility)
	2. Pain is controlled
	3. Patient is haemodynamically stable and unlikely to require a MET call within 2 hours of admission.
	4. First line interventions have been performed (e.g. IV fluids, medications, indwelling catheter).

Consideration should be given to the following prior to the following interim plan, in consultation with the unit registrar:

1. Empiric antibiotics should be given within one hour where patients meet the criteria for sepsis in accordance with the Barwon Health ‘[Sepsis Recognition and Management Protocol’](https://prod-prompt-documents.s3.ap-southeast-2.amazonaws.com/125377/125377_v9.0.pdf?X-Amz-Expires=86400&response-content-disposition=inline%3Bfilename%3D%22Sepsis%20Recognition%20and%20Management.pdf%22&x-amz-security-token=IQoJb3JpZ2luX2VjEO%2F%2F%2F%2F%2F%2F%2F%2F%2F%2F%2FwEaDmFwLXNvdXRoZWFzdC0yIkgwRgIhAJbE%2BdrHHGn9kpMBaYEXddZoeaVPNWv3sNFQaL5L6paOAiEA1Wlyh7iGTs1dfd5BKurhcQrCKVPdh7wCe9hViwkdp8wqwQQIyP%2F%2F%2F%2F%2F%2F%2F%2F%2F%2FARADGgw3NDI0OTM1ODU5NDMiDLCJR0G9%2Bd80lZkN8iqVBGtLpCI6SiMw8Tt16T%2BY0Dq3qAZvQm%2B0l03mdOJss3OmwjDFeWGtuv9ZBD4K%2BUrwaARzyLvOHPm2cFrgNkXGxlXVunHi4fTeVaV5hFW1mPf%2FZyw3UXILp%2Bj9GHirz4iVut709lQ9LYg2GszPL8zOksOfG6Y5lRSA7nWL8z5dY9dQU%2F4JX28s2Ua2JCaSYJfWkACROLa1frw8V7x65oZxcFBz0EKj3Vi%2FP5OK4IPqH0yA6GuA1pWsQEMvjx9cKXAYiShhxWmveWzpzYPPsosR7cWt6eacL8RYmWPLsKQaIcHvXLiGxGJZLOroP6mNHIEnq6VT9GRDd94VLziEdT4m7qhYiKHFbeVc6emH83ZqGPeOaUVovbA%2Bn%2BeoJsuDUR2Im4%2Fh753OI%2FsH9tqo9h73ufKh59wKeS7ZVtu1shoYQsmKwOuwC4ULG%2FuKcqZln5B2Zypnqx%2By7Lch3b5J%2FkAksaRVo09G7VgEYvAN5D2xLvlVBQFeJfCeTykdS1JEdMx7nhoGhfQ6bwMMImsFHRbSXsEGjuMN4FjgzWBf1nOBC9LdVqV%2Fvw%2BSnVajpWHRTc4n2OLUsrU1vk0jx6xl4ZQqrZyPF2DqdiJkWz97j7yMjIRF74rM8sXVaf3i5KihoKpSDSwRLJPRpizMAlUU1XsMxdTa40yUQ%2F4BT7qlt5yw23Pb4aW2KJKthUVJtM5dp%2B%2FaQ5fuQSPkMM6PqKEGOqUBn%2FSpUp2fj9G7GrZw9LLaSHdTNtBARACc2aIcCI1dZiN0bBG8PJDmR3h2NmvZt%2Bo9LeF63Md63v8bOk%2FZ1UWZZL%2BiiNWFktUvBYqKC%2BTMJFryhZYe78sZKBF2LnlsdK2H%2FRqpBika1M11eS1HccXbexNNLcTtb5Ah%2FHtsmzsxt6J8hW4G105hT0Xt7BodLyNvs7rXHGmKHBndh15rYXpkW23VTnfM&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=ASIA2ZYARAILRY72UR6K/20230403/ap-southeast-2/s3/aws4_request&X-Amz-Date=20230403T034250Z&X-Amz-SignedHeaders=host;x-amz-security-token&X-Amz-Signature=19ffca8f9d97dc0c49acfb9fc3f02b69109ce0e884dbd0f7ba78aa48d8de4140).
	1. Where there is diagnostic uncertainty and the patient is well, this decision can be delayed.
2. Fasting status: generally surgical patients should be kept nil by mouth until review.
3. Please give all essential medications. Withold any anticoagulation / anti platelet until specialist review unless considered very high risk and discussion made with the fellow on call
4. PRN analgesia / anti – emetic medication should also be charted.
5. DVT prophylaxis should be charted and marked ‘for review’ to ensure this is continually re-addressed.
6. A bedside review has occurred by the ED team consultant (a discussion is not considered sufficient for a patient transfer to the ward on Interims)

ALL INTERIM ORDERS WILL NEED TO BE DISCUSSED WITH THE SURGICAL REGISTRAR ON CALL AND NOT CONSIDERED FULLY REFERRED UNTIL THIS HAS OCCURRED. THE ED TEAM WILL KEEP A LIST OF ALL THESE PATIENTS AND REFER ACCORDINGLY WHEN THE SURG REG IS AVAILABLE.

### One Referral Policy

If an inpatient registrar who is contacted feels that the patient should be referred to another team, they should refer the patient on as per the ‘One Referral’ Policy on Prompt.

If the patient requiring admission is clinically stable and has had initial management commenced, they are likely to be appropriate for admission via Interim Orders. This should be the default for all units. Acceptance to the ward should not be based on waiting for the results of investigations.

### DIFFERENCES OF OPINION BETWEEN ED TEAM AND SURG REG

In the rare circumstance this does occur, there should be an escalation to between the ED Consultant and Surgical Fellow/Consultant . If an interim order is not agreed to by the Surgical Reg, the patient cannot be transferred to the ward unless the Surgical Fellow/Consultant has agreed to this transfer to ward.

# Priority Access to Medical Imaging for Surgical Unit 4

Imagining at Barwon Health is triaged once the request is made either on paper or in person. The physical location of the patient will not affect the timing of their radiological study. It is a principle of the ASU that patients admitted from the community or on interim orders will maintain the same place in the que as those in the emergency department.

## CT:

Waiting for a CT should not preclude the patient being transferred to the ward if a bed is available, in doing so the patient will continue to maintain their place in the CT queue, subject to the clinical urgency determinants that currently exist.

ED are able to access Qdoc and will view the list of patients waiting for CT and will take the patients place in the queue into account before facilitating transfer to the ward.

If a patient is moved to the ward , ED will inform BMI of the patient’s location and the time of the CT will be communicated at point of handover between the ED nurse and the ward nurse. Any outstanding CT’s should be completed ideally by 1000 hours the next day if an overnight CT was deemed not possible.

PSA and nursing resources will be available to assist with transporting patient in ASU to the CT in a timely manner.

## Ultrasound:

A one hour slot between 0800 and 0900 be held for ASU patients. The On Call General Surgery Registrar will determine which patients will require ultrasound during this time period.

## MRI:

MRI is a scarce resource and requests must be discussed with the MRI Radiology Registrar to ensure timely triage. MRI is not available on the weekend, so essential MRIs that will change management should be prioritized.

# Heath Wing 4 – Acute Surgical Unit

A 22 Bed Acute Surgical Unit with specialised nursing staff has been established on HW4. Patients who are likely to required <72 hours are optimal to be managed on this ward.

### Inclusion Criteria HW4

* Abdominal pain not considered to be gynecological, as determined by Senior ED clinician
* Appendicitis
* Biliary colic/ cholecystitis
* Perianal and pilonidal abscess
* Pancreatitis
* Uncomplicated diverticulitis
* Small bowel obstruction
* Trauma requiring tertiary survey

### Exclusion Criteria HW4

* Age less than 16 years
* Nursing mothers requiring infant boarding
* Requires admission to another surgical unit
* Patients who are unstable (possible HDU or ICU admission or requiring CPAP or BiPAP)
* Readmission of patient with post-operative complications – these patients should be admitted under the original unit i.e postop infection, etc

# Transfer to subspecialty units

Table 1, below describes the conditions for transfer to subspecialty units. This is not an exhaustive list, but is proposed to help guide transfers between units for common presentations. Usually this will involve transfer between the Surgical 4 Unit and one of the other general surgery subspecialty units.

Table - Interspecialty unit transfers.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Condition necessitating transfer | Admitting Unit | Transferred to | Timing of transfer | Criteria to be met prior to transfer.  |
| Trauma / falls requiring medical workup, rehab planning, or placement | Surg 4 | Other General Surgery Unit | Monday morning at 0730 | No further requirements for emergency surgery.  |
| Major abdominal surgery requiring specialist hospital management | Surg 4 | Other General Surgery Unit | Monday morning at 0730 | No further requirements for emergency surgery. |
| Necrotising pancreatitis | Surg 4 | Surgical Unit 1 (upper GI) | Mon-Friday in hours. | No immediate surgical coordination or intervention required including interventional radiology.  |
| Breast Abscess | Surg 4 | Surgical Unit 2 (Breast and Endocrine) | Mon-Friday in hours | Consultation should occur early and treatment arranged including ultrasound +- initial aspiration.  |
| Trauma with single systems injury | Surgical Subspecialty (PRS / Max Facs / ENT) | Surg 4 | Any time | Discovery of multi-systems injury requiring complex care coordination or emergency abdominal surgery.  |
| Trauma with single systems injuries | Surg 4 | Surgical Subspecialty (PRS / Max Facs / ENT) | Any time | Where the risk of undetected injury is low based on mechanism / pattern of injury / signs and symptoms / patient factors patients should be managed under the unit where definitive care can be implemented. Where concerns exist regarding undetected injury the patient shall be admitted under Surg 4 for a period of 24 hours until a tertiary survey can be performed and follow up arranged for all injuries and incidental findings.  |
| Inflammatory Bowel Disease | Surg 4 / Gastroenterology | Surgical Unit 3 (colorectal) | Mon-Friday in hours. | Consultations for surgical management of Inflammatory Bowel Disease in patients who have failed medical management should be discussed early with Surgical Unit 3. It is appropriate for patients with an acute abdomen or sepsis to have necessary emergency surgery and remain under the surgical 4 unit.  |
| Necrotising fasciitis / Fournier’s Gangrene | Surg 4 | Other General Surgery Unit | Monday morning at 0730 | Stable patient. No planned take back to surgery.  |
|  | Surg 4 | Plastic and Reconstructive Surgery | Mon-Fri in hours | Stable patient. Clear swabs. Deemed appropriate for definitive wound closure.  |

# List of Suitable Surgical Unit 4 Conditions

All patients with suspected general surgery pathology requiring inpatient admission should be referred to the Surgical 4 Unit Registrar on 51829 for consideration. The following is an example of conditions which can be managed under Surgical Unit 4.

1. Trauma (see Trauma Admissions and Protocols Below).
2. Undifferentiated abdominal pain
3. Pancreatitis
4. Complicated diverticular disease or diverticulitis
5. Appendicitis
6. Acute cholecystitis / cholangitis
7. Small bowel and large bowel obstruction
8. Perianal / Pilonidal Abscess
9. Fourniers Gangrene
10. Necrotising soft tissue infections involving the thorax, abdomen, pelvis or perineum.
11. Gastrointestinal foreign body distal to the ligament of Treitz.
12. Lower gastrointestinal haemorrhage.

Where a patient is suspected to have a short admission, they should be admitted to Heath Wing 4. For a list of suitable conditions for management on Heath Wing 4 see Inclusion Criteria HW4, above.

# Special Treatment Pathways.

## Trauma Admissions and Protocols.

### Trauma ‘Alert’ and ‘Activation’ Guidelines.

SEE Trauma guideline

[Trauma Team Activation (including Alert) – Emergency Medicine](https://prod-prompt-documents.s3.ap-southeast-2.amazonaws.com/126323/126323_v12.0.pdf?X-Amz-Expires=86400&response-content-disposition=inline%3Bfilename%3D%22Trauma%20Team%20Activation.pdf%22&x-amz-security-token=IQoJb3JpZ2luX2VjEOH%2F%2F%2F%2F%2F%2F%2F%2F%2F%2FwEaDmFwLXNvdXRoZWFzdC0yIkcwRQIhAJfQBK10DMiSKuiWZcAwl9a6RE2S2zn71npBxb30zttHAiApKuK78r8tvsjsmnHqEpWb3pBalQGcDUbVBRjb5JvV8SrBBAiq%2F%2F%2F%2F%2F%2F%2F%2F%2F%2F8BEAMaDDc0MjQ5MzU4NTk0MyIM5efOHhLSq0b0z6yxKpUEGforiwen8iuy%2BpxoW8V%2Fip7Rvw26yFk3MdgkovbjulbHXkfpqofqFYp%2Bcp%2BOwtFFz0dofuUPS1YH90jRCzTj8BASlzwILjL1DZcTvEQw4DVXhj5VAle%2BLxFYBvBS0G5l6%2Fz42pz6Cn5gvWu1VzhkHNEw%2FvT0a114JI0f1V9x6f2eFyEoU0qI8EurGymGo7qOJAFBM8pN7oyB7G0cddCUZ4kKXi1ECrQjI2EOxbPt5jSy5G0fQzl4AYGqLAZLnOtKAnXKN%2F74Rmwb%2F1stohKrpKr9Q10DxNTRpnChsTNNUBPghFqlt%2BhXk6p1Lv8Ku85CA%2F2gdqRtI%2Fw%2BNLOTSnViigHlS3o8gK5dGcT1D6QxW%2Fay1y2Nlx0iz0oK%2FkeVUhUf7LfRIrblbNpx7c4QN68o1gLwBHWqCxXm%2B4BWs0H7mMFhFiRcUeUeoSdQ5eegqvWYJNdKRvZJhCmeaaO1IGIzkKVayPZHRbRkSNpuQdmEdBcoM%2F6QaRMXV3CMlUc0vDvmV3EHclI3FKZNaTKbIYWg7qvur5UW1be37UBlUoPodVgDLGJ8YRjKZ0nvUc6nDZVHfyLi5pjPWU5fkmhlGmY%2BwcNi%2FF4cPyOcRUPa8k8W%2FLEmvq5vIh8atLcg59lmKtfRggOrtjwsSbcDbQ9JOH9HwC3gP5%2BxwGMZMtvLzIdp6JGafVERqvczYRnl5OJIqi6aroK%2Bue4w3fDsoAY6pgFvIhiI0vxcsAHtL3lrsBV7%2B6Rt%2BO%2F7YcWqe5bum6BWCp8IIqFtFScY09D9ZMQTIO2FPA4EJSZxEny3Qt7PeLPey5%2F3rSLe5Qibo0iroi6SaUCSR9RLvF448os6guVI8by%2F3mVkNJtraTd8%2BfFOEH4P5trSWl2pqWzWGKOa4tIjfcHYqGqIUMsUNQrCw8S2FSyLisnRdEa2KZlJZ7JiWy8XOgv1bHAc&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=ASIA2ZYARAILWYL5ALFO/20230322/ap-southeast-2/s3/aws4_request&X-Amz-Date=20230322T231709Z&X-Amz-SignedHeaders=host;x-amz-security-token&X-Amz-Signature=1f5d6fb836ee7adccb68bdba5da94b51a94c673b035b0d243e5656702dafbab5)

### Spinal Injury and Neurosurgical Pathways.

Geelong as a Tertiary Trauma Centre does not currently have access to neurosurgical specialties. As such neurosurgical emergencies should be referred to a Neurosurgical unit as soon as practical (day or night). See Figure 5, below. Geelong hospital refers neurosurgical matters to either the Royal Melbourne Hospital or the Alfred Hospital. Patients with non-emergency spinal injuries should be discussed with the Geelong Orthopaedics unit, who may then choose to refer to a quaternary centre.

Acute intracranial and spinal neurosurgical emergencies include

* Open or closed head injuries with evidence of bleeding / swelling / midline shift (e.g. any abnormal trauma related finding);
* Unstable spinal fractures:
* Clinical or radiological spinal cord impingement
* Central or peripheral neurology;
* Clinical suspicion of Cauda equine syndrome.

Non-emergency neurosurgical emergencies include

* Stable spinal fractures

Prior to referring to any outside hospital, the images should be ‘hub and spoked’ to that institution via the PACS team.

Figure - Neurosurgical pathways.

After consultation with a neurosurgical centre, a subset of head trauma may be appropriate to manage at Geelong. It is critical that this is managed in a multidisciplinary way, which should include:

* Ongoing discussion with Neurosurgeons as appropriate;
* Early referral to occupational therapy for ‘post traumatic amnesia’ screening;
* Follow up in accordance with the PROMPT Protocol: [Acquired Brain Injury Rehabilitation Clinic](https://prod-prompt-documents.s3.ap-southeast-2.amazonaws.com/190663/190663_v1.0.pdf?X-Amz-Expires=86400&X-Amz-Security-Token=IQoJb3JpZ2luX2VjEB4aDmFwLXNvdXRoZWFzdC0yIkcwRQIhAJs0Ssm5QrQOs6gsoVGzBsEi7zuo1rD6uDw1FSQg3J6VAiAYB9Mce5aJElYeJ5bQQeBaGizYKnS85i1%2B1j2ZJIALmSrBBAjH%2F%2F%2F%2F%2F%2F%2F%2F%2F%2F8BEAQaDDc0MjQ5MzU4NTk0MyIMixP2uEbqiduWSRM9KpUEj32ICGUftFr7yXehNqziUQTjReVt5IOtbfWEQXaziPtCb%2F1lzajIhbhTPyZ%2F3x0Zv%2F7acqy1JT2Ljeb%2FEACDHLG7mfnly6JOcB%2FPgS6rOj2U%2FW6wLu0q2suA5dcD6WlYgCWNdhCHbIpnoYgC4vvHApL7rvUZ4MdrqU8nIca6wx1ijtnknvGlbaqKaILZ3YTO53TsqVA65GAHZSJEBb%2FtLHaAqvxWn5blzSYm5zoagvGCzeaL63NsyHkfQJ1SzRS2TNbWlDSUW5QheGuxxmdTwNNUm7Fiuyt2SuVahp3IjisCL0l3IpoEjIk47ynx55AW9pYJxFFYbv2bvb%2FyoN%2F7ml3Vs4mCuXoVWb6pJ%2FpzQ9wItT9KmcAENwqGlok7eE9WpxpeUzOpdBdQ7EFkngMsrDN%2FZ5vIAhWUlLbVZUf41TZJR9hewgm%2B4TUYo8iPUlhFtPxdMDYxtxV58Qpa1ye61pSC12WUxM8oERKqI%2BQpEJIspplhf000VrQDie20mBEolOuc%2FZAYj6eIEwgSxxsk7WwlJpbTmrqMvMORfUX47iBFJl5qcAxc%2B0ki1gVCaXalXXh3R6fZelvBiBBiwWBY%2FuKUUznVUk41Rivwn0U3Wm9WopejJyl%2B1DtcO%2BH8bhGnkBmYrdlKPlTFjoMOKRprzGyaZbjIdCleP5tqgOoVPD0UyreMQI%2FNsugNZYLgB%2BvPJPwxpykwp5%2BhrQY6pgHAJ%2BKgfTYgkhOUfLWLGHx%2FxeGFaPA2vHpsTPsHTHIzlc3QCpqAXvv8ZZmy2FEij%2Fzn0eVr9MQfAU2VpTdC86hYfWE%2BhGy%2BZ5krRFwOMT9OG2CkvrwchP9hwJIGsHef0Igy%2BDBkSE3%2BphJBwdgMVnbu%2B6WwExm2Afab5eSgQwSKwtRHPcf3xCRBxWe3AykDKVvG3%2FmBjS40gxmiRLdHvDMctJoDM7dH&response-content-disposition=inline%3Bfilename%3D%22Acquired%20Brain%20Injury%20Rehabilitation%20Clinic.pdf%22&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=ASIA2ZYARAILXYNTXFXK%2F20240117%2Fap-southeast-2%2Fs3%2Faws4_request&X-Amz-Date=20240117T231735Z&X-Amz-SignedHeaders=host&X-Amz-Signature=caeb24df1d0e54202eb28cf184c9a4ef761da5e96ee49542621b659117fa12d0)

### Trauma Admission to the Intensive Care Unit

Patients admitted to the Intensive Care Unit at University Hospital Geelong must be discussed with the Alfred Hospital in Melbourne prior to ensure that the patient would not benefit from care at a quaternary trauma hospital.

In General, the following make patients in-eligible for Geelong ICU

1. Likely to require neurosurgical intervention;
2. Paediatric trauma patients requiring ICU support.
3. Severe multisystem injury

##

## Ascending Cholangitis

Without intervention, the mortality rate of ascending cholangitis is >50%, and remains significant despite optimum treatment. In patients with acute cholangitis, ERCP performed at <24 hours is associated with reduced hospital length of stay, incidence of complications and readmission. Delays in ERCP are frequently impacted by theatre availability and imaging results. Current agreement is that if available, health services should aim to provide ERCP within 24 hours.

All patients requiring ERCP should be discussed with the Surgical Unit 1 (Upper GI) Registrar or Gastroenterology Registrar.

The following should be kept in mind when managing patients with confirmed or suspected cholangitis.

### Imaging:

Geelong has ready access to ultrasound, and limited access to MRCP. MRCP in general is not available at all on weekends or public holidays. Where choledocolithiasis is suspected, an early ultrasound should be arranged to confirm the diagnosis. Ultrasound has limited sensitivity for identifying ductal stones, and as such, MRCP is often required. Especially when coming up to a weekend, ultrasounds should be prioritised to ensure an MRCP can be arranged if the result is equivocal for duct dilatation.

Diagnostic ERCP for choledocolithiasis is not generally practiced at Geelong Hospital.

### Access to Theatre:

Special consideration should be given to prioritising ERCP’s as this is a scarce resource. Proceduralists who provide this service at Geelong Hospital work outside the on-call roster, and so accommodations are required to ensure equitable access to theatre.

Where there is no evidence of cholangitis, some of these patients can be discharged for elective ERCP. Consideration should be given to using the [*Tokyo Guidelines for Acute Cholangitis 2018*](https://www.mdcalc.com/calc/10142/tokyo-guidelines-acute-cholangitis-2018)when making this determination.

# Special Populations

## Paediatrics

The decision to treat paediatric patients at Geelong Hospital is ultimately the decision of the On-Call General Surgery Consultant and in consultation with Supervising Anaesthetist if surgery is deemed necessary. Patients for whom it is deemed appropriate treatment can not be provided at Geelong Hospital will be transferred to the Royal Children Hospital in Melbourne.

# Evaluation

## Audits

Weekly Whole of Surgery Audit

* Takes place 12:30pm on Thursdays
	+ Attended by all units including registrars and consultants.

Six Monthly Audit

* 1st Half year audit will include the dates 1 January to 30 June and will be presented at a nominated meeting in July
* 2nd half year audit will include the dates 1July to December 31 and will be presented in January.

## Performance Measures and Targets

Geelong General Surgery has currently adopted the following standards for audit:

 *ANZ Emergency Laparotomy Audit – Quality Improvement.*

Data is collected on emergency laparotomies performed at 85 participating hospitals, including Barwon Health, on patients presenting with acute abdomen or where surgery is considered futile. The data is used to provide regular feedback to each participating site, allowing them to assess their performace against evidence-based indicators of care, and to drive quality improvement processes across the hospital.

Resources for this audit can be found on the [RACS Website](https://www.surgeons.org/en/research-audit/morbidity-audits/morbidity-audits-managed-by-racs/anz-emergency-laparotomy-audit-quality-improvement).

Key performance indicators for this audit include:

1. Proportion of all emergency laparotomy patients who receive a preoperative CT scan which was reported by a consultant radiologist preoperatively
2. Proportion of patients with risk assessment documented preoperatively (NELA score used at BH)
3. Proportion of patients arriving in theatre within an time appropriate for the urgency of surgery
4. Proportion of patients with a calculated risk of death >5% for whom a consultant surgeon and consultant anaesthetist were present in theatre.
5. Proportion of patients with a Calculated preoperative risk of death >10% (NELA >10%) who were directly admitted to critical care post operatively.
6. Each patient over the age of 65 should have multidisciplinary input that includes early involvement of geriatrician teams.

### Other KPIs

* 40% of General Surgery patients will have and ED Length of stay of <4 hours
* Maintain readmission rate of 4%
* LOS for 50% of ASU beds is 24 hours
* Criteria led discharges with a focus on discharges or transfers to another inpatient unit being determined by 1000 hours
* Numbers of deferred emergency care
* No change in unplanned returns to theatre
* Discharge summary completion and outstanding discharges
* Delayed discharge decision making
	+ Time to OR
	+ CT delays
	+ Ultrasound Delays
	+ Transferred to ASU without CT
	+ Refusal of other units to accept transfer of patients.

# Key Aligned Documents

* Emergency Department Trauma Team Activation
* One Referral Policy
* Admissions via Emergency Department – General Surgery

# Key Legislation, Acts & Standards [Arial 12 bold]

NEAT Targets

# References

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