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Dear clinicians,

Contained within this folder are the alternative care pathways available within your district. Please make yourself familiar with each pathway and its supporting information.

Alternative care pathways are important in ensuring that we are delivering the right care at the right time to low acuity patients. Due to an ageing and bulging population and an increase in chronic illness, the vast majority (81%) of our patients are classified as minor or moderate (status 3 and 4) and thus developing efficient and effective ways of managing patients in the community (where appropriate) is crucial.

Clinical pathways are also vital in ensuring we provide appropriate care for high acuity patients with STEMI, stroke, major trauma, spinal cord injury and other life-threatening conditions.

If you have questions relating to any pathways, or wish to suggest a new pathway, please speak with your line manager and/or Territory Manager.

Thank you for everything you do for our patients.

Yours sincerely,

Dion Rosario  
District Operations Manager  
Canterbury District  
South Island Region

Curt Ward  
Clinical Practice Manager  
South Island Region

Rachel Nicolson-Hitt  
Clinical Development Manager  
South Island Region
CDHB stroke pathway

Perform FAST assessment as per comprehensive CPG, Section 6.4.

- Look for new onset of unilateral **facial** weakness
- Look for new onset of unilateral **arm** or leg weakness
- Look for new onset of abnormal **speech**
- Note the **time** of onset of symptoms*.
  Can the patient be delivered to a hospital with **CT** and thrombolysis capability within **3.5 hours** of onset of symptoms?

* This is defined as the time that the patient was last seen to be normal.

Patients with new onset of abnormalities as detected by the FAST assessment are having a stroke until proven otherwise.
FAST positive?

NO

Able to arrive at hospital within 3.5 hours of symptom onset?

NO

YES

Does the receiving hospital have thrombolysis and CT capabilities?

NO

YES

STATUS 2

- Treat as per CPGs
- Consider transport under lights
- Transmit R-40 at earliest opportunity
- Advise FAST positive and pass on the following info: age, sex, status, chief complaint, time of onset, NHI (if known).

STATUS 3

- Treat as per CPGs
- Transport at normal road speed.
Revising stroke

 Stroke is characterised by the sudden loss of circulation to an area of the brain, resulting in a corresponding loss of neurological function. Strokes are classified as either ischaemic or haemorrhagic, of which approximately 87% are ischaemic.

 An ischaemic stroke refers to stroke caused by thrombosis or embolism occluding cerebral blood flow resulting in cell death. Haemorrhagic stroke is caused when a cerebral blood vessel ruptures, which reduces cerebral blood flow and causes bleeding into brain tissue. This rupture may be caused by aneurysm (abnormal ballooning of blood vessel wall), congenital weakness of the blood vessel or hypertension.

 Signs and symptoms

 Ischaemic stroke

 Patients with an ischaemic stroke have signs and symptoms that relate to the part of the brain that has lost its blood supply. Most commonly, these include a new onset of any combination of the following:

 - unilateral face weakness or
 - unilateral arm weakness or
 - unilateral leg weakness or
 - speech disturbance or
 - visual disturbance.

 Patients with an ischaemic stroke are usually able to obey commands on their ‘good side’. If they cannot, it is unlikely they have had an ischaemic stroke.

 Haemorrhagic stroke

 Patients with a haemorrhagic stroke typically present with sudden onset of headache with signs and symptoms – including all of those listed above – that relate to the part of the brain in which the bleed has occurred. Patients with a haemorrhagic stroke are less likely to be able to obey commands than a patient with an ischaemic stroke.

 It is not possible to clinically distinguish between an ischaemic stroke and a haemorrhagic stroke with a high degree of confidence without a CT scan.

 FAST assessment

 Perform a FAST assessment on all conscious patients with suspected stroke. Patients with new onset of abnormalities, as detected by the FAST assessment, are having a stroke until proven otherwise.
| **Face** | Look for new onset of unilateral facial weakness. Ask the patient to smile and show all of their teeth/gums. |
|**Arms** | Look for new onset of unilateral arm or leg weakness:  
- Ask the patient to raise their arms (to 90 degrees from the body) with their palms facing upward. Then ask them to close their eyes and hold their arms there for 5 seconds while you count aloud. Look for one arm that drifts downwards.  
- Ask the patient to walk. Look for abnormal gait. |
|**Speech** | Look for new onset of abnormal speech:  
- Ask the patient to repeat a sentence. Look for slurring of words.  
- Show the patient several common objects and ask them to name them. Look for difficulty or inability to name objects. |
|**Time** | Note the time of onset of symptoms. This is defined as the time that the patient was last seen to be normal. If the patient has woken up with the signs or symptoms, then the time of onset of symptoms is the time that the patient went to sleep. |

**Referral**

Patients with an ischaemic stroke who can be transported to a hospital with a CT scanner and thrombolysis capabilities within 3.5 hours of symptom onset are potential candidates for treatment with thrombolysis and are classified as status 2. The earlier patients are thrombolysed, the better the outcome. Hospitals in Canterbury District equipped with a CT scanner and thrombolysis facilities include Christchurch Hospital and Ashburton Hospital.

Transport patients to hospital in accordance with the CPGs (Section 10.5), noting that transport should usually be by road.

**Consider helicopter transport if:**

- patients are independent and without severe co-morbidities and
- patients have severe weakness and
- patients can reach an appropriate hospital (one with a CT scanner and thrombolysis capabilities) within 2 hours of the onset of symptoms and
- helicopter transport will save 30 minutes (or more) compared with road transport.

Advice regarding transport (helicopter vs. road) can be obtained from the Clinical Support Officer on the Clinical Desk within the Clinical Control Centre.

**Transient ischaemic attack (TIA)**

TIA is defined as stroke signs or symptoms that completely resolve within 24 hours. Patients who have had a TIA are at increased risk of subsequently suffering a stroke.

The ABCD2 score is used to determine the level of risk associated with a specific TIA. This table is contained within Section 10.5 of the CPGs. Patients with TIA should usually be transported to an ED. However, transport may be to a GP (or community hospital) if:

- they have had a TIA that is low risk and
- transport to an ED is likely to be prolonged and
- the GP can see them without significant delay.
Ambulance COPD risk stratification

<table>
<thead>
<tr>
<th></th>
<th>Mild</th>
<th>Moderate (ANY OF)</th>
<th>Emergency (ANY OF)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GCS</strong></td>
<td></td>
<td></td>
<td>&lt; 14, Drowsy/confused/comatose</td>
</tr>
<tr>
<td><strong>Talking</strong></td>
<td>Sentences or phrases</td>
<td>Phrases</td>
<td>Words or respiratory arrest</td>
</tr>
<tr>
<td><strong>Temperature</strong></td>
<td>Afebrile</td>
<td>Afebrile or low grade (&lt;38)</td>
<td>Febrile (&gt;38)</td>
</tr>
<tr>
<td><strong>Respiratory Rate</strong></td>
<td>&lt; 20</td>
<td>21-30</td>
<td>&gt;30 or respiratory arrest</td>
</tr>
<tr>
<td><strong>Oxygen Saturations</strong></td>
<td>Within 5% of known O₂ sats when stable AND above 88%</td>
<td>5% below known stable O₂ sats OR below 88%</td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>Examination consistent with COPD, with no other concerning features</td>
<td>Any feature not consistent with COPD</td>
<td>Hyposensitive/shocked/BP &lt;100 systolic</td>
</tr>
<tr>
<td><strong>Pathway Recommendation</strong></td>
<td>Aim to manage at home</td>
<td></td>
<td>Transport to 24hr Surgery (Please phone ahead to confirm suitability)</td>
</tr>
<tr>
<td></td>
<td>Link with GP in first instance</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Referral to ADMS for RN visit within 4 hours</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Patient advise: If unwell before RN visit to call 111</td>
<td></td>
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<td></td>
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<td></td>
<td>Transport to ED</td>
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Canterbury COPD pathway

What is COPD?

Pathophysiology

Chronic Obstructive Pulmonary Disease (COPD), also known as Chronic Obstructive Respiratory Disease (CORD) is a blanket term used to encompass chronic inflammatory and destructive diseases within the lung, including chronic bronchitis and emphysema.

Inhaled irritants cause progressive and irreversible tissue damage including fibrosis, scar-tissue formation and airway remodelling which limits airflow and gas exchange. A loss of elasticity within the lung causes small airway collapse, air trapping and reduced lung capacity. Enlargement and multiplication of mucous glands leads to increased mucous secretion that the lung cannot effectively clear, worsening airflow.

Tobacco smoke is the greatest risk factor for COPD, causing approximately 85% of cases. Other causes include occupational dusts and chemicals, air pollution, genetic abnormalities and chronic asthma.

Clinical presentation

COPD is characterised by a chronic cough (often with sputum production) and breathlessness that is worse on exertion and worsens over time. In advanced COPD, patients usually feel short of breath all of the time and are rarely symptom free between attacks. Breathlessness is associated with wheezing and decreased breath sounds on auscultation.

Due to systemic complications of COPD, patients with advanced disease often present with muscle wasting, a ‘barrel chest’, pedal oedema, distended jugular veins and finger-clubbing.

Acute COPD exacerbations

Some causes of acute exacerbations include:

› chest infection
› chest wall pain
› environmental pollution
› temperature changes
› medication non-compliance.
› emotions / stress.

Acute exacerbations may present with an increase in sputum production or change in sputum colour, increased breathlessness and work of breathing, cyanosis, crackles on auscultation and anxiety.

Partly due to shared risk factors such as tobacco smoking, COPD patients commonly suffer from other co-morbidities including ischaemic heart disease, diabetes, heart failure, anxiety disorder, depression, lung cancer and hypertension. It is therefore important to conduct a thorough clinical assessment and consider other causes of the patient’s presentation.
Why have a COPD pathway?

- The incidence of COPD is increasing. The World Health Organisation (WHO) estimates that approximately 15% of people over 45 years have COPD.
- In Canterbury, COPD is the 3rd leading cause of mortality (death) in patients over 65 years.
- In Canterbury, there are approximately 1,256 hospital admissions for COPD each year (approximately 3.5 per day).
- Approximately 80% of patients who present to ED with COPD in Canterbury are transported by ambulance.
- New Zealand has the 2nd highest admission rate for COPD in the OECD. Other countries have demonstrated that the majority of mild and moderate COPD can be safely managed in the community.
- Approximately 25% of patients hospitalised for COPD will be re-admitted within 28 days of discharge.

What does the COPD pathway involve?

1. **Assess patient and treat as per CPGs**
   - Conduct a thorough clinical assessment, considering differential diagnoses
   - Administer appropriate treatment as per CPGs including salbutamol via MDI, nebulised medicines, supplemental oxygen (if indicated) and prednisone
   - Assist the patient to self-administer any prescribed medicines as per their Action Plan Card (if available)

2. **Determine patient’s severity using the Risk Stratification Framework**
   - Use patient’s Action Plan Card (if available) and input from their GP to establish the patient’s ‘normal’ baseline
   - Classify the exacerbation as mild, moderate or emergency (severe)
   - If the patient’s condition changes, re-assess using the Risk Stratification Framework. Most patients with mild or moderate COPD respond well to treatment

3. **Transport/refer the patient for appropriate ongoing care**

   - **Mild: Transport/refer patient to their GP**
     - Phone the patient’s GP or practice nurse (if GP is unavailable) to discuss the patient’s presentation and arrange an urgent GP appointment
     - Arrange transport for the patient - either by ambulance, DHB-funded taxi or private car (whichever is most appropriate). To book a taxi, see the instruction card accompanying taxi vouchers
     - Provide the patient with a voucher to cover treatment costs

   - **Moderate: Transport patient to A&M clinic**
     - Phone A&M clinic to discuss the case and provide verbal handover
     - Transport the patient to after-hours clinic by ambulance
     - Provide the patient with a voucher to cover treatment costs

   - **Emergency (severe): Transport to Emergency Department**
     - Transport to Christchurch ED or Ashburton AAU without delay
Note:

- It is important to use clinical judgement in conjunction with the Risk Stratification Framework. For example, if the patient’s normal GP is unavailable (e.g., GP practice is closed or unable to see the patient), consider transport to another GP or an after-hours clinic if available in your area. If this is not possible, transport the patient to ED.
- If there is doubt regarding where the patient should be transported/referred to, discuss the case with the patient’s GP (if available) or the Clinical Support Officer on the Clinical Desk.

Additional information

Action Plan Card (Blue Card)

A Blue Card has been provided to all patients with diagnosed COPD and is designed to be stored on the patient’s fridge. The Blue Card contains advice for patients to follow in the event of an exacerbation and provides basic clinical information to help health professionals establish a patient’s ‘normal’ baseline when treating an exacerbation.

If you are treating a patient with COPD that does not have a Blue Card, advise them to speak with their GP about having one completed.

Consultation vouchers

Whenever possible, patients with mild or moderate COPD exacerbations that are referred to a GP practice or after-hours clinic should be provided with a voucher to cover consultation/treatment costs. Vouchers are funded by CDHB to ensure the patient’s care is cost neutral. Vouchers are one-use, valid for 24 hours only and the patient’s details must be completed by ambulance staff.

Frequently asked questions (FAQs)

Q: This pathway contains instructions that differ from the CPGs. Is this OK?
A: Yes. The Clinical Procedures and Guidelines allow for treatment to be provided that differs from the CPGs when taking part in an alternative care pathway that has been formally introduced by St John.

Q: What if my patient does not clearly fit into one category on the Risk Stratification Framework?
A: Apply clinical judgement and contact the patient’s GP (if available) to discuss the case. Also have a very low threshold for contacting the Clinical Support Officer on the Clinical Desk.

Q: Why do I need to phone the patient’s GP or A&M clinic prior to transport?
A: Discussing the patient’s case with their GP or medical/nursing staff from an after-hours clinic ensures that the receiving facility has the capacity to manage the patient and that the referral decision is appropriate.

Q: What if the patient’s GP or an A&M clinic will not accept the patient?
A: This will happen from time to time. In this circumstance, consider transporting the patient to another GP or A&M clinic. If this fails, transport the patient to ED.
Canterbury falls referral pathway

Patient has fallen (including slip, trip or stumble) and meets the following criteria:

- Lives independently in their own home or retirement village and
- Is aged 65 years or over and
- Does not require transport to hospital (note: patients transported to A&M Clinics and GP practices can still be referred)

Ask the patient for permission to refer them to the Falls Prevention Service at Canterbury District Health Board (DHB)

This includes consent for the ACS to be sent to the DHB and for the DHB to do a background check of the patient’s medical history

Note in ePRF that patient does not consent to falls referral

Notify the patient that they will be contacted via phone by the Falls Prevention Service to arrange a home based falls and mobility assessment

Complete ePRF, including as much additional info as possible including past falls, trip hazards, social history, use of walking aids, etc.

Non-transport

1. Tick “Treat and Refer” box
2. Select “Falls Service” in Referral Pathway drop down box

Transport (code 505)

1. In disposition notes, write “Referral@Falls”

Once the ePRF has been submitted, the referral will be sent to the Falls Prevention Service by the Clinical Administrators.
Canterbury falls referral pathway

Falls in the elderly population can result in injuries such as fractured neck of femur (NOF) which have huge consequences on their quality of life, as well as large financial cost to the health system.

Most older people who sustain a fractured NOF go on to experience a large reduction in mobility and independence which may require the person to shift from independent living to rest home care. The financial cost of repairing a fractured NOF is $47,000, comprising surgical, inpatient care and treatment costs (excluding residential care). The number of falls related injuries is increasing across New Zealand as the population ages.

Older people are disproportionately affected by falls, with nearly 5% of emergency ambulance workload in Canterbury due to falls in people aged over 65 years. Other people across the age spectrum who suffer from day-to-day, chronic and acute health issues (such as stroke, muscular dystrophy, urinary tract infections, excessive alcohol use etc.) are at greater risk of falls.

In just about every case, an older person has multiple minor falls before they fall and sustain a fractured NOF. This is why early intervention for people who suffer a non-injury fall is so important.

Who should be referred?

Somebody who:
- has fallen (including a slip, trip or stumble) and
- lives independently in their own home or retirement village (rest home patients are excluded) and
- is aged 65 years or older and
- is not being transported to hospital.

Note: patients being transported to a GP practice or A&M Clinic (code 505) can still be referred).

The importance of extra information in the referral

Because initial contact between the Falls Prevention Service and the patient is by phone, it is important that ambulance staff include as much additional information as possible (including social history, past falls, trip hazards, family support, etc.) on the PRF/ACS. This helps the Falls Prevention Community Physiotherapy Service to arrange the most appropriate support for the patient.

What will happen following referral?

The Falls Prevention Clinical Coordinator at CDHB will conduct a background check of the patient’s medical history. The Falls Coordinator will then phone the patient to conduct a falls screen and determine what support the patient may require.

A falls prevention referral will result in an assessment of the individual’s lifestyle, social situation and medical needs. This may lead to a combination of interventions such as educational information on avoiding falls, referral to a physiotherapist, occupational therapist or GP/pharmacist for a medication review. The Falls Prevention Coordinator may also recommended that the client attends group strength building sessions and review whether the patient requires additional home help.

Other information

Before considering a falls referral, it is important that the patient is safe to stay at home. The falls referral pathway must not be used to determine whether transport to a medical facility is required.
Caring Caller referrals

Assess and treat patient as per CPGS

Is today’s problem primarily due to loneliness or social isolation?

YES

Seek patient’s permission to refer them to St John Caring Caller

NO

Note on PRF that patient does not wish to be contacted

YES

▷ Inform patient they will be contacted by a member of the Caring Caller team to discuss arrangements
▷ Document referral plan on ePRF

Once back on station, complete the following

▷ Email: CommunityProgrammesSlregion@stjohn.org.nz
▷ Enter ‘Caring Caller Referral’ in the subject line
▷ Advise patient’s full name, age, address, phone number and any special considerations, e.g. loneliness, family support, etc. *

* Because Caring Caller is a non-clinical service, a copy of the ePRF/ACS is not required as part of the referral.

Please note: St John Caring Caller is not suitable for patients with severe mental health issues. Caring Callers provide a friendship service only and are not trained counsellors.
Caring Caller referrals fact sheet

Sometimes living alone or being house-bound means that people miss out on daily human contact, someone to chat to, laugh with and share news with. People become lonely and isolated as friends and family move on or have passed away, or physical disabilities prevent them from getting out and about.

It is often said that loneliness is a silent and unnoticed epidemic that runs through our communities. Recognising that loneliness is a real issue in our communities, St John established the Caring Caller service. This is a free telephone friendship service that aims to reduce the loneliness experienced by some people, by providing them with contact and companionship via telephone on a regular basis.

This is not a help line; it is a free friendship service both parties enjoy. Many clients and Callers report genuine telephone friendships forming, some lasting many years.

The philosophy of the St John Caring Caller service is to:

› provide high quality, client-focused, telephone friendship on a regular basis using caring volunteers who are friendly, reliable, and good listeners

› respect and appreciate the value and worth of the volunteers who so freely give their time to assist St John and their local community through our service

› seek further support or assistance using other agencies when it is discovered that one of our clients needs help, and that these needs are beyond what our service is able to provide.

The benefits of the Caring Caller service

Both parties benefit from this new friendship. For the Caring Caller, it is very rewarding to be helping someone in need, even if that means just talking to them. For the client, it is a break from the social isolation, a new-found friend, regular contact, and knowledge that someone ‘out there’ cares about them.

The service plays an active role, we believe, in helping many people remain in their own homes rather than going into residential care. In times of crisis, the regular phone call can be extremely reassuring for some of the clients. They know that if they fail to answer the telephone the Caring Caller will become concerned. The Caller will then advise Caring Caller management, and a family member, a neighbour, or someone from St John will be asked check on them. In some cases an ambulance may be dispatched if necessary.

Matching clients with a Caring Caller

When people join the Caring Caller service as clients we ask several questions to ascertain their interests and preferences. Such things as when they would like to be called, what hobbies they have and so forth. We then use this information to match the client with an appropriate Caring Caller.

Telephone conversations

Caring Callers usually call the client 2-3 times per week, for an approximate duration of 5-15 minutes (although some pairs chat a lot longer than this once they get to know each other). A range of things are discussed – anything from what they have been doing, family, TV programmes, weather, news items to what’s happening in the community. Caring Callers do not offer professional help but may suggest the client goes to their doctor, solicitor etc.
Anonymity

Caring Callers are volunteers, carefully selected for their kindness and care for people. They are all ages and from all walks of life, and all enjoy the company of others. They also go through training to make sure they understand their role and know what to do if any issues arise.

There is a high level of anonymity imposed by the service. Caring Callers are only provided with the first name, age, telephone number, and a short personal profile of their client. When the Caring Caller telephones the client, it is the policy of the service that they do not disclose their surname, address, or telephone number to the client. This prevents the Caring Caller from ever being inadvertently harassed by their client, who is in most cases quite lonely throughout the day. As it is the Caring Caller who has the client’s telephone number, and not vice versa, the Caring Caller can mentally prepare him or herself before they ring the client. This allows the Caring Caller to make sure they are available for the whole of the agreed time and they are being an active listener.

Policy on meeting or visiting a client

The Caring Caller service is a telephone friendship service only. There is a no-meeting and no-visiting policy.

Neither Caller nor client is given the personal details of each other. Their personal information is held in a secure database. When joining the service both Callers and clients are made aware of the no-meeting and no-visiting policy and that they are not to share this level of information.

There is a complaints process in place to manage any concerns raised by either clients or Callers.

How to refer someone to the St John Caring Caller service

To refer someone to this service, please email CommunityProgrammesSIRegion@stjohn.org.nz, and CC Canterbury.Pathways@stjohn.org.nz with ‘Caring Caller Referral’ in the subject line. In the body of the email provide the patient’s full name, age, address, phone number and any special considerations, e.g. loneliness, level of family support, etc. The Caring Caller team will then get in touch with the client.
St John Medical Alarm referrals

Assess and treat patient as per CPGs

Patient meets clinical indications for a St John medical alarm?

YES

Patient currently has a medical alarm with St John or another provider?

YES

Not eligible to be referred

NO

Patient consents to medical alarm referral

YES

> Inform patient they will be contacted by a member of the St John Medical Alarms team to discuss arrangements
> Document referral plan on PRF

Once back on station, complete the following

> Email enquiries@stjohn.org.nz
> Enter ‘Medical Alarm Referral’ in the subject line
> Advise patient’s full name, address, phone number & reason for referral
St John Medical Alarm referrals

Introduction

St John Medical Alarms are designed to allow the elderly and people with disabilities to live independently for longer. In an emergency, when help is delayed, there is a higher risk of mortality, longer stays in hospital and potentially avoidable on-going medical care. A St John medical alarm allows our patients to contact emergency assistance and receive help quickly.

A St John Medical alarm can be worn when in the garden as well as in the home and there is a wide range of alarms available. Because there is a cost associated with a medical alarm, St John offers a free no obligation trial for up to one month to allow patients to see if a medical alarm is right for them. Some patients may also be eligible for medical alarm funding through the Ministry of Social Development, ACC or other agencies.

As well as increasing the client’s chances of quickly receiving emergency help at home when they need it, the cost of a medical alarm covers the ambulance call out fee.

Why a St John Medical Alarm?

The St John medical alarm philosophy is “independent living – providing families with piece of mind”. Medical alarms help the elderly and people with disabilities maintain a high quality of life for longer, allowing them to feel safer in the home with more confidence to perform daily activities and reduced anxiety for the client and their family alike.

Clinical indications for a St John Medical Alarm

The St John medical alarm is ideal for anybody living at home with an increased risk of falling or requiring emergency medical assistance. Potential candidates include, but are not limited to:

- elderly patients, particularly those who are frail and/or live alone
- people with a physical disability
- people with impaired vision, balance or hearing
- people with multiple co-morbidities (medical problems)
- people who are on multiple medications
- people whose home has obstacles (e.g. stairs) that may pose a falls risk.

What is a St John Medical Alarm and how does it work?

The St John Medical Alarm is a 2 piece set (base and pendant) that is continuously monitored by St John. If at any stage a medical alarm client suddenly feels unwell, falls, or otherwise requires emergency medical assistance, they push the button on the medical alarms pendant and St John will automatically call the client back through the loud-speaker on the alarms base.

From here St John will assess the client’s condition and arrange the most appropriate assistance. This could include an ambulance, a paramedic in an alternative vehicle (e.g. Sierra unit), another emergency service or expert advice. Where appropriate, a preferred carer or a family member may be notified.
Ethical practice and our medical alarm service

It is crucial that we maintain a professional image with our patients at all times. When discussing the option of a medical alarm with a patient, it is important we do not devalue other medical alarm providers or encourage the patient to switch providers to St John.

Other key principles

› Never give the patient false or misleading information about the product.
› If you don't have the answer, be honest and refer the patient's question to the St John Medical Alarms team.
› Do not be pushy - your patient has the right to say no to a medical alarm referral. Respect their decision and document this accordingly.

How to refer someone for a St John Medical Alarm

To refer someone for a St John medical alarm, discuss the option with your patient (if this is not appropriate you may discuss with a relative), gain their consent and document the referral plan on the PRF.

If the patient consents to a medical alarms referral, email enquiries@stjohn.org.nz and CC canterbury.pathways@stjohn.org.nz with 'Medical Alarm Referral' in the subject line. In the body of the email provide the patient's name, address and phone number (a copy of the PRF is not required). Inform the patient that a St John medical alarms representative will contact them to organise a no obligation consultation and a free trial.

Want to know more?

If you have any questions, or would like any more information, feel free to contact us at canterbury.pathways@stjohn.org.nz or see a member of the Canterbury District Management Team.
Hospice transfers

Patients requiring end-of-life care or symptom management may be transported to the Nurse Maude Hospice provided the patient is under care of the hospice.

Transfer may be pre-arranged by the patient’s GP or palliative care nurse, or ambulance assistance may be requested directly by the patient.

The patient’s advanced care plan will outline the patient’s wishes in regard to resuscitation, treatment and transport. Please also refer to the principles contained within the ‘End of Life Care’ section of the St John Clinical Procedures and Guidelines as required.

When transporting a patient to the hospice:

› ring the Palliative Care Nurses on (03) 375 4274 (24/7) to discuss admission
› if there is no answer, leave a message and your call will be returned within 30 minutes
› if there is no space available, you may be requested to transport the patient to ED.

Other:

› Patients whose primary problem is unrelated to end-of-life care should be treated and referred as per the appropriate section of the CPGs.
› Patients requiring end-of-life care or symptom management who are not under care of the hospice should be transported to ED.
Accident & Medical (A&M) clinic referrals

A&M Clinics situated throughout Christchurch are capable of effectively managing a range of low-acuity health problems:

› Pegasus 24hr Surgery, Cnr Bealey Ave & Colombo St, 03 365 7777 or Obs Unit 021 835 327
› Riccarton Clinic, 6 Yaldhurst Rd: open 0800 – 2000 hrs 7 days, 03 343 3661
› Moorhouse Medical, 3 Pilgrim Place: open 0800 – 2000 hrs 7 days, 03 365 7900

<table>
<thead>
<tr>
<th>Examples of appropriate cases</th>
<th>Examples of inappropriate cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>› Soft tissue injuries</td>
<td>› Long bone fractures</td>
</tr>
<tr>
<td>› Wounds requiring suturing or dermaplast glue</td>
<td>› Dislocations that cannot be reduced prehospitaly</td>
</tr>
<tr>
<td>› Dehydration (not hypovolaemic shock) requiring IV fluid</td>
<td>› Any form of shock</td>
</tr>
<tr>
<td>› Mild/localised cellulitis</td>
<td>› Severe sepsis</td>
</tr>
<tr>
<td>› Respiratory infections without severe respiratory distress</td>
<td>› Myocardial ischaemia</td>
</tr>
<tr>
<td>› Mild to moderate asthma or COPD</td>
<td>› Severe shortness of breath</td>
</tr>
<tr>
<td>› Lower UTI with mild symptoms and normal vital signs</td>
<td>› Abdominal pain requiring IV analgesia</td>
</tr>
<tr>
<td>› Abdominal pain with green or orange flags</td>
<td>› UTI with flank/loin pain and/or dehydration requiring IV fluid</td>
</tr>
<tr>
<td>› Headache with green or orange flags</td>
<td></td>
</tr>
<tr>
<td>› Back pain with green or orange flags</td>
<td></td>
</tr>
<tr>
<td>› Concussion without loss of consciousness, abnormal GCS or seizure following the injury</td>
<td></td>
</tr>
<tr>
<td>› Minor allergy without signs of systemic involvement</td>
<td></td>
</tr>
<tr>
<td>› Isolated simple fractures not involving a long bone (e.g. hand, foot, digits, forearm)</td>
<td></td>
</tr>
</tbody>
</table>

Please note this is not an exhaustive list and clinical judgment is required. Consult the ‘referral’ sections of the CPGs or contact the Clinical Support Officer on the Clinical Desk for further guidance.

Referral process

› Ring the relevant A&M Clinic to discuss the case and provide a verbal handover. Phone numbers for all GPs and A&M Clinics are loaded into ambulance cell phones.
› Arrange appropriate transport for the patient by ambulance, private car or Acute Demand taxi.
› Provide the patient with a voucher to cover consultation/treatment costs if required.
Acute Demand referrals

Overview

The Acute Demand Management Service (ADMS) is a community health initiative overseen by the Canterbury Clinical Network. The aim of ADMS is to provide the most appropriate urgent care options for the patients at any given time, while reducing demand on hospitals and saving the emergency department for emergencies. The ADMS Coordination Centre is staffed by a Registered Nurse (RN) from 0700-2300 7 days per week to assist ambulance staff and other health professionals in linking patients with the right care.

Who is eligible?

Patients are eligible to be treated under ADMS if they are considered unwell enough to require Emergency Department attendance or hospital admission but can be safely and appropriately treated in the community and are likely to require no more than five days of treatment. Please note ACC cases are excluded, unless the patient is being referred for:

› observation after a minor traumatic brain injury
› antibiotics for cellulitis caused by a bite or wound
› community based assessment for an older person after a fall.

People who have lived in New Zealand for less than two years are not eligible for ADMS and will need to pay for any services provided.

Examples of cases commonly referred to ADMS

<table>
<thead>
<tr>
<th>Examples of cases commonly referred to ADMS</th>
<th>Examples of inappropriate cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>› Deep vein thrombosis (DVT)</td>
<td>Patients that cannot be safely or appropriately managed in the community, for example:</td>
</tr>
<tr>
<td>› Dehydration (not hypovolaemic shock)</td>
<td>› Long bone fractures</td>
</tr>
<tr>
<td>requiring IV fluid</td>
<td>› Any form of shock</td>
</tr>
<tr>
<td>› Mild/localised cellulitis</td>
<td>› Severe sepsis</td>
</tr>
<tr>
<td>› Respiratory infections without severe</td>
<td>› Chest pain with signs of</td>
</tr>
<tr>
<td>respiratory distress</td>
<td>myocardial ischaemia or STEMI</td>
</tr>
<tr>
<td>› Mild to moderate asthma or COPD</td>
<td>on 12-lead ECG</td>
</tr>
<tr>
<td>› Lower UTI with mild symptoms and normal</td>
<td>› Severe shortness of breath</td>
</tr>
<tr>
<td>vital signs</td>
<td>› Abdominal pain requiring IV</td>
</tr>
<tr>
<td>› Abdominal pain with green or orange flags</td>
<td>analgesia</td>
</tr>
<tr>
<td>› Headache/migraine with green or orange</td>
<td>› UTI with flank/loin pain and/or dehydration requiring IV fluid</td>
</tr>
<tr>
<td>flags</td>
<td></td>
</tr>
<tr>
<td>› Concussion without loss of consciousness,</td>
<td></td>
</tr>
<tr>
<td>abnormal GCS or seizure following the</td>
<td></td>
</tr>
<tr>
<td>injury</td>
<td></td>
</tr>
<tr>
<td>› Minor allergy without signs of systemic</td>
<td></td>
</tr>
<tr>
<td>involvement</td>
<td></td>
</tr>
<tr>
<td>› Abscess without signs of sepsis</td>
<td></td>
</tr>
<tr>
<td>› Chest pain without signs of myocardial</td>
<td></td>
</tr>
<tr>
<td>ischaemia or STEMI on 12-lead ECG</td>
<td></td>
</tr>
<tr>
<td>› Non-injury/minor injury falls requiring</td>
<td></td>
</tr>
<tr>
<td>home-based assessment</td>
<td></td>
</tr>
</tbody>
</table>
Please note this is not an exhaustive list and clinical judgment is required. To refer someone for treatment via ADMS, it is important that they can be safely treated and supported in the community. If you are in doubt as to whether it is appropriate to refer a patient to ADMS, ring Acute Demand or consult the Clinical Support Officer on the Clinical Desk for guidance.

**What services can ADMS arrange?**

- Mobile nursing service
- Home IV therapy
- Logistical support for patients (taxis for medical appointments, etc.)
- Extended care management
- Urgent tests and investigations, e.g. blood tests, ultrasound, x-ray
- Home doctor visits
- Home support

**Referral process**

- Conduct a thorough assessment and complete ePRF.
- Ring Acute Demand Coordination Service on **0800 111 900** to discuss the case and provide a handover.
- The Acute Demand Coordinator will recommend and arrange appropriate services for the patient.
# Ambulance heart failure risk stratification

For patients with known heart failure and an action plan  
*Patients with known COPD please follow the COPD Pathway*

<table>
<thead>
<tr>
<th></th>
<th>Mild – Moderate</th>
<th>Emergency (any one of, at any time)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GCS</strong></td>
<td>15</td>
<td>&lt; 14</td>
</tr>
<tr>
<td><strong>Talking</strong></td>
<td>Sentences of Phrases</td>
<td>Words only</td>
</tr>
<tr>
<td><strong>Temp (°c)</strong></td>
<td>&lt; 38</td>
<td>≥ 38</td>
</tr>
<tr>
<td><strong>RR (min⁻¹)</strong></td>
<td>&lt; 24</td>
<td>≥ 24</td>
</tr>
<tr>
<td><strong>SpO₂ (%)</strong></td>
<td>≥ 92 or within 5% of usual known O₂ Sats</td>
<td>&lt; 92</td>
</tr>
</tbody>
</table>
| **HR (bpm)**        | < 110 Atrial Fibrillation  
< 100 Normal Sinus Rhythm | > 110 Atrial Fibrillation  
> 100 Normal Sinus Rhythm |
| **Systolic BP (mmHg)** | 100 – 180     | < 100 or > 180                     |
| **Other**           |                | Chest pain / angina not relieved by GTN |

**PATHWAY RECOMMENDATION**

- **CALL GP AND/OR TRANSPORT TO 24 HOUR SURGERY**  
- **TRANSPORT TO EMERGENCY DEPARTMENT**
Canterbury heart failure pathway

What is heart failure?

Pathophysiology
Heart failure is a general term to describe failure of the heart to pump sufficient blood to peripheral tissues at the right pressure and generally occurs when the myocardium has become too weak or stiff to pump effectively.

There are numerous causes of heart failure including ventricular dysfunction from myocardial infarction (where healthy tissue has been replaced with scar tissue), cardiac rhythm and conduction disturbances, valvular stenosis, congenital heart defects and fibrosis.

Because myocardial contraction is impaired, fluid backs up through pulmonary veins and is forced into the lungs due to increased hydrostatic pressure. Because cardiac output and blood flow is reduced, chemoreceptors and baroreceptors are stimulated, which activates the renin-angiotensin aldosterone system, causing the release of catecholamines (such as adrenaline), water and sodium retention, vasoconstriction and increased heart rate and contractility. As the heart is too weak to pump effectively, more fluid backs up into the lungs and the vicious cycle continues.

Clinical presentation
Exacerbations of heart failure can present with a combination of breathlessness (especially on exertion), coughing or wheezing (especially when lying down), pulmonary oedema, ankle, leg and feet swelling, chest pain, confusion (from cerebral hypoxia), tiredness and weight gain. If the cause of exacerbation is gradual, e.g. increased fluid intake, heart failure becomes worse over a number of days. If the cause is sudden, e.g. myocardial infarction or ischaemia, the exacerbation will be acute.

Acute exacerbations of heart failure
Some causes of exacerbations of heart failure are:
- chest infection
- myocardial ischaemia / infarction
- increased fluid and/or salt intake
- medication non-compliance
- increased exercise
- excessive alcohol intake.

Partly due to shared risk factors such as tobacco smoking, patients with heart failure commonly suffer from other co-morbidities including COPD, ischaemic heart disease, diabetes and hypertension. It is therefore important to conduct a thorough clinical assessment and consider differential diagnoses.

Why have a heart failure pathway?
- While mortality (death) from heart failure is decreasing, the overall incidence of heart failure is increasing.
- Heart failure is a leading and increasing cause of morbidity in Canterbury. There are approximately 250 admissions every month with primary or secondary diagnosis of heart failure.
- Approximately 25% of patients hospitalised for heart failure are re-admitted within 30 days.
Cardiovascular disease (encompassing heart failure) is New Zealand’s leading cause of death.

What does the heart failure pathway involve?

1 **Assess patient and treat as per CPGs**
   - Conduct a thorough clinical assessment including 12-lead ECG. Considering differential diagnoses
   - Administer appropriate treatment as per CPGs including GTN and supplemental oxygen (if indicated)
   - Assist the patient to self-administer any prescribed medicines as per their Red Card (if available)

2 **Determine patient’s severity using the Risk Stratification Framework**
   - Use patient’s Red Card (if available) and input from their GP to establish the patient’s ‘normal’ baseline
   - Classify the exacerbation as mild/moderate or emergency (severe)
   - If the patient’s condition changes, re-assess using the Risk Stratification Framework

3 **Transport/refer the patient for appropriate ongoing care**
   - **Mild/moderate: Transport/refer patient to their GP**
     - Phone the patient’s GP or practice nurse (if GP is unavailable) to discuss the patient’s presentation and arrange an urgent GP appointment
     - If patient’s GP is unavailable, phone an A&M Clinic and provide verbal handover
     - Arrange transport for the patient - either by ambulance, Acute Demand funded taxi or private car (whichever is most appropriate). To book a taxi, ring Acute Demand on 0800 900 111 between 0700 and 2300
     - Provide the patient with a voucher to cover treatment costs
   - **Emergency (severe): Transport to Emergency Department**
     - Transport to Christchurch ED or Ashburton AAU without delay

Additional information

**Red Card**

A Red Card (action plan card) has been provided to all patients with diagnosed heart failure and is designed to be stored on the patient’s fridge. The Red Card contains advice for patients to follow in the event of an exacerbation and provides basic clinical information to help health professionals establish a patient’s ‘normal’ baseline when treating an exacerbation.

If you are treating a patient with heart failure that does not have a Red Card, re-consider diagnosis and have a very low threshold for seeking advice from the patient’s GP and/or the Clinical Support Officer on the Clinical Desk.

**Consultation vouchers**

Whenever possible, patients with mild/moderate heart failure exacerbations that are referred to a GP practice or A&M clinic should be provided with a voucher to cover consultation/treatment costs. Vouchers are funded by CDHB to ensure the patient’s care is cost neutral. Vouchers are one-use, valid for 24 hours only and the patient’s details must be completed by ambulance staff.
Frequently asked questions (FAQs)

Q: This pathway contains instructions that differ from the CPGs. Is this OK?
A: Yes. The Clinical Procedures and Guidelines allow for treatment to be provided that differs from the CPGs when taking part in an alternative care pathway that has been formally introduced by St John.

Q: What if my patient does not clearly fit into one category on the Risk Stratification Framework?
A: Apply clinical judgement and contact the patient’s GP (if available) to discuss the case. Also have a very low threshold for contacting the Clinical Support Officer on the Clinical Desk.

Q: Why do I need to phone the patient’s GP or A&M clinic prior to transport?
A: Discussing the patient’s case with their GP or medical/nursing staff from an A&M clinic ensures that the receiving facility has the capacity to manage the patient and that the referral decision is appropriate.

Q: What if the patient’s GP or an A&M clinic will not accept the patient?
A: This will happen from time to time. In this circumstance, consider transporting the patient to another GP or A&M clinic. If this fails, transport the patient to ED.
Spinal cord injury destination policy

Flowchart for prehospital personnel

Does the patient have acute spinal cord injury with signs of paraplegia or quadriplegia?

**NO**
This policy does not apply. See the District Destination Policy.

**YES**
Does the patient have signs of major trauma in addition to spinal cord injury?

**NO**
Does the patient have inadequate breathing or shock?

**NO**
Is it feasible to transport the patient directly to a SCI centre* by road?

**NO**
Transport the patient to the most appropriate major trauma hospital

**YES**
Is it feasible to transport the patient directly to a SCI centre* by road?

**NO**
Is it feasible to fly the patient directly to a SCI centre*?

**NO**
Transport the patient to the most appropriate major trauma hospital

**YES**
Fly the patient directly to the most appropriate SCI centre*

*Spinal Cord Impairment (SCI) centres*
- Middlemore Hospital (adults)
- Christchurch Hospital (adults and children)
- Starship Children's Hospital (children)
Spinal cord injury destination policy

Additional information

Introduction
This information complements the spinal cord injury destination policy flowchart for prehospital personnel and should be read in conjunction with it. This policy describes the process for prehospital personnel to determine which hospital patients with spinal cord injury should be transported to.

One of the main principles within the National Spinal Cord Impairment Action Plan is that patients with spinal cord impairment (SCI) following trauma should be treated in a designated SCI centre as soon as possible after their injury. Patient outcomes are optimised when surgery (if indicated) to decompress the spinal cord is performed urgently and this is usually only feasible when patients are transported directly to a designated SCI centre. From a prehospital perspective this means that:

- Patients with spinal cord injury and no other signs of major trauma will be transported directly from the scene to a SCI centre, whenever this is feasible. This means that even in a metropolitan setting that is close to another major hospital, patients will be transported directly to a SCI centre even if that SCI centre is a significant distance away.
- Patients with other signs of major trauma in addition to spinal cord injury will be transported to the most appropriate major trauma hospital and then secondarily referred to a SCI centre when clinically appropriate.

Patients not covered by this policy
- Patients with non-traumatic spinal cord impairment are not covered by this policy. They will be transported to the most appropriate hospital and then secondarily referred to a SCI centre when clinically appropriate.
- Inter-hospital referrals and inter-hospital transfers are not covered by this policy.

Defining spinal cord injury in the prehospital setting
- For the purposes of this policy, signs of spinal cord injury require the patient to have signs of paralysis with either paraplegia or quadriplegia.
- Altered sensation and/or weakness (without paralysis) are not sufficient because it is relatively common for patients in the prehospital setting to have these symptoms in the absence of spinal cord injury. Transporting such patients directly to a SCI centre risks large numbers of patients being inappropriately transported to a SCI centre that do not require it.

Mechanism of injury
- The decision to transport a patient directly to a SCI centre is not affected by the mechanism of injury.
- However, if the mechanism involves high velocity (for example a high speed road crash) and another major trauma hospital is significantly closer to the scene than a SCI centre, it is vital to exclude other signs of major trauma prior to making a decision to transport the patient directly to a SCI centre.
Other signs of major trauma in addition to spinal cord injury

- The patient must be transported to the most appropriate major trauma hospital (and then secondarily referred to a SCI centre when clinically appropriate) if there are any signs of major trauma in addition to that of spinal cord injury.
- Personnel must seek clinical advice if they are uncertain.
- All of the SCI centres are within hospitals that are also designated as major trauma hospitals and thus patients with additional injuries will receive appropriate treatment at the SCI centres.
- See the major trauma destination policy for further details.

The adequacy of breathing

- If breathing is clinically inadequate the patient must be transported to the most appropriate major trauma hospital and then secondarily referred to a SCI centre when clinically appropriate.
- Clinically inadequate breathing is uncommon in the prehospital setting following spinal cord injury and usually only occurs with a high cervical cord injury.
- Most patients with diaphragmatic breathing following spinal cord injury have clinically adequate breathing but an inadequate cough. In this setting the patient should be transported directly to a SCI centre provided this is feasible, the patient has adequate oxygenation with supplemental oxygen and their breathing is not deteriorating.

Shock

- If shock is present the patient should be transported to the most appropriate major trauma hospital (and then secondarily referred to a SCI centre when clinically appropriate) because the patient should be presumed to have hypovolaemic shock until proven otherwise.
- Loss of sympathetic outflow from the spinal cord following spinal cord injury can cause shock and in this setting the patient is usually vasodilated below the site of injury. It is appropriate to consider transporting the patient directly to a SCI centre if personnel are confident the patient has spinal shock (particularly if the mechanism of injury involved low velocity) and the patient is clearly not deteriorating, but personnel must seek clinical advice in this setting.

Transport to a SCI centre by road

- It is usually only feasible to transport a patient directly to a SCI centre by road when the patient is injured in, or around the fringes of, the Auckland district and the Canterbury district.
- In the Auckland district:
  - adults should be transported to Middlemore Hospital unless there is a compelling clinical reason to transport them to Auckland City Hospital instead.
  - children should be transported to Starship Hospital unless there is a compelling clinical reason to transport them to Middlemore Hospital instead.
- On the fringes of the Auckland district (for example the southern area of Northland and the northern area of Waikato and Hauraki), if helicopter transport is not indicated (or is not available), it is preferable to transport the patient directly to a SCI centre by road, rather than transporting to Whangarei Hospital or Waikato Hospital. This is because a secondary transfer incurs a clinically significant delay that may worsen the patient’s outcome.
- In the Canterbury district the only hospital suitable for patients with major trauma is Christchurch Hospital and all patients should be transported there directly.
Transport to a SCI centre by helicopter

- If it is not feasible to transport a patient directly to a SCI centre by road, the patient should be transported directly to a SCI centre by helicopter, provided a helicopter is available and it is feasible to do so. This will occur even if another major hospital is substantially closer. In many metropolitan areas of New Zealand this will involve the patient being driven to a helicopter base (or rendezvous point) that may be very close to (or onsite at), a major hospital and then flying the patient directly to a SCI centre, without the patient entering that major hospital. Provided a helicopter is available and it is feasible to fly to the SCI centre, this is preferable to the patient being transported to that major hospital and then secondarily transferred. This is because such a secondary transfer incurs a clinically significant delay that may worsen the patient’s outcome.

- If the flight involves the patient ‘overflying’ another major trauma hospital, it is essential that helicopter personnel re-evaluate the patient prior to flight, in order to ensure that there are no other signs of major trauma in addition to spinal cord injury. Personnel must have a very low threshold for seeking clinical advice if they are uncertain.

- If a helicopter is not available within a suitable time frame, or it is not feasible (for example due to weather) to fly to a SCI centre, the patient will be transported to the most appropriate major trauma hospital and then secondarily referred to a SCI centre when clinically appropriate. A ‘suitable time frame’ cannot be tightly defined and requires clinical judgement. If a helicopter is not immediately available personnel should seek clinical advice regarding the options for transport and the destination.

- Refueling may be required en route to a SCI centre. This is preferable to flying to another major trauma hospital and the patient being secondarily transferred.

- It is not usually feasible to transport a patient by fixed wing aircraft. In very unusual circumstances a fixed wing aircraft may be used, but in this setting personnel must seek clinical advice.

- The patient must be removed from extrication devices (such as a spine board, scoop stretcher or combi-carrier) and transported directly on the stretcher, unless the total time on the extrication device is going to be less than thirty minutes.

- Additional care must be taken to ensure the patient is kept warm.

- Urinary catheterisation is not required.

Seeking clinical advice

- Personnel requiring advice will contact the doctor on call for the ambulance service via the Clinical Desk within the Ambulance Clinical Control Centre.

- In the event that further advice is required, the doctor on call for the ambulance service will contact the on call spinal consultant within the appropriate SCI centre.

Communication with receiving hospital staff

- No specific additional communication is required with receiving hospital staff other than the usual notification process for a patient with major trauma, however this notification should occur with as much advance warning as possible.
SCI centre catchment areas and transport destination

New Zealand has three designated SCI centres and each has an associated catchment area. They are:

- **Middlemore Hospital** for adults (15 years or older) from the upper two thirds of the North Island (the area marked with stripes on the map on the next page).
- **Christchurch Hospital** for adults (15 years or older) from the lower third of the North Island (the area marked in grey on the map on the next page) and all of the South Island.
- **Starship Hospital** for children (younger than 15 years) from all areas of New Zealand.

Patients will be preferably transported to the catchment area SCI centre, provided it is feasible to do so. This means that some patients will be flown to a SCI centre that is not the closest SCI centre to the scene, particularly when the scene is in the upper part of the area marked in grey on the map. This is preferable to always flying to the closest SCI because it is important to balance the patient load between the SCI centres and this reduces secondary inter-hospital transfers.

It will not always be feasible to fly the patient to the catchment area SCI centre. In particular, it is not always feasible to fly an adult from the lower third of the North Island to Christchurch Hospital and it is rarely feasible to fly a child from the South Island directly to Starship Hospital. Thus, for the purposes of prehospital decision making, the patient will be transported to the most appropriate SCI centre and then referred (if required) to the catchment area SCI centre. The following will be taken into account when determining which SCI centre the patient is transported to:

- the catchment area boundaries and the location of the scene
- the location and availability of helicopters
- the weather
- where the patient lives.

Examples:

- An adult in the orange area will usually be flown to Middlemore Hospital.
- An adult in the gold area will usually be flown to Christchurch Hospital.
- An adult in the South Island will usually be flown to Christchurch Hospital.
- A child in the North Island will usually be flown to Starship Hospital.
- A child in the South Island will usually be flown to Christchurch Hospital and then secondarily referred to Starship Hospital when clinically appropriate. This is because Christchurch Hospital is a SCI centre with the staff and facilities to provide urgent decompressive surgery if required.

Personnel must seek clinical advice if they are uncertain which SCI centre the patient should be transported to.
Spinal cord injury destination policy

Catchment area boundaries

Key
- Middlemore Hospital
- Christchurch Hospital
- Starship Hospital (all of NZ)