Primary Care Management of Acute Transient Ischaemic Attack (TIA)

Medicine > Neurology > Stroke and transient ischaemic attack (TIA)

Published: 16-Jun-2016 Valid until: 30-Jun-2019 Printed on: 12-Jul-2018

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Primary Care Management of Acute Transient Ischaemic Attack (TIA)

1 Background information

Quick info:

Definition:

Transient Ischaemic Attack (TIA) - sudden onset signs and symptoms of focal neurological dysfunction (brain, retina, spinal cord) which have resolved completely by the time of assessment.

Scope: management of transient ischaemic attack and acute stroke in adults, including:

- acute diagnosis and treatments, including referral for thrombolysis or to the stroke unit in the hospital
- secondary prevention
- prevention of complications
- management of carotid artery disease

Out of scope:

- primary prevention of stroke
- rehabilitation
- long term care and support
- detailed recommendations on (neuro)surgical techniques, but the role of surgery is considered
- diagnosis and management of stroke in children
- management of subarachnoid haemorrhage

Specific statistics for Maori in Hawke's Bay [1]:

- Maori premature stroke mortality rates are significantly higher (3.3 times) compared to non Maori and non Pacific

Specific statistics for Pacific People in Hawke's Bay [1]:

- Pacific people have the highest stroke hospitalisation rates in the order of 3.3 times the non Maori and non Pacific rates. Pacific females have the highest rate of all population groups
- Pacific premature stroke mortality rates are 4.9 times the non Maori and non Pacific rates

Incidence and prevalence in Hawke's Bay [1]:

- Hawke's Bay DHB has slightly lower stroke hospitalisation rates than national rates (2011-2013)
- Hawke's Bay males have slightly higher hospitalisation rates 249.3 per 100,000 population compared to females 214.9 per 100,000 (2011-2013)

Risk factors for stroke include:

- increasing age
- hypertension
- diabetes mellitus (DM)
- atrial fibrillation (AF)
- previous history of stroke or ischaemic heart disease
- high cholesterol
- smoking
- carotid stenosis
- excessive alcohol consumption
- obesity
- lack of exercise
- family history
- a diet that is:
  - high in saturated fats
  - high in salt
  - low in fresh fruit and vegetables
- congenital heart disease

References

1. Hawke’s Bay District Health Board. *Chronic Disease: Current Situation Analysis (Prevalence, Morbidity and Mortality)*: 2015

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2. Transient ischaemic attack: shoot first ask questions later. (2011, October). *Best Practice Journal, 39.* Retrieved from http://www.bpac.org.nz/BPJ/2011/october/tia.aspx

3. Hawke's Bay District Health Board. *Acute Stroke Thrombolysis Guideline: Time is brain - call "code stroke."* 2015

2 Information and resources

Quick info:

Recommended resources for people and their carers.

- risk factor control
- people should not drive within 1 month of having a stroke or TIA
- advance care planning(ACP)
- Age Concern and EPOA website
- Ministry Social Development EPOA
- depression and stroke
- stroke foundation resources
- medication advice:
  - aspirin
  - clopidogrel
  - statin

3 Updates to this care map

Quick info:

Date of publication: June 2016

Review date: June 2017

This care map has been developed in line with consideration to evidenced based guidelines. For further information on contributors and references please see the Pathway's Provenance Certificate.

NB: this information appears on each page of this care map

4 Hauora Maori

Quick info:

Maori are a diverse people and whilst there is no single Maori identity, it is vital practitioners offer culturally appropriate care when working with Maori whanau. It is important for practitioners to have a baseline understanding of the issues surrounding Maori health. This knowledge can be actualised by (not in any order of priority):

- considering the importance of introductions ('whanungatanga') - a process that enables the exchange of information to support interaction and meaningful connections between individuals and groups. This means taking a little time to ask where this person is from or to where they have significant connections
- asking Maori people if they would like their whanau or significant others to be involved in assessment and treatment
- asking Maori people about any particular cultural beliefs they or their whanau have that might impact on assessment and treatment of the particular health issues

Maori health services

HBDHB contracts Maori health providers to deliver community based nursing and social support servcies. A referral to one of these providers may assist Maori people to feel more comfortable about receiving these services.

***Central Hawke's Bay**:*

Central Health

Cnr Herbert & Ruataniwha Streets, Waipukurau

Phone: 06 858 9559 Fax: 06 858 9229

Email: reception@centralhealth.co.nz
Referral Form

***Hastings**:*
Te Taiwhenua o Heretaunga
821 Orchard Road, Hastings 4156
Phone: 06 871 5350 Fax: 06 871 535
Email: taiwhenua.heretaunga@ttoh.iwi.nz
Referral Form

Kahungunu Health Services (Choices)
500 Maraekakaho Road, Hastings
Phone: 06 878 7616
Email: kahungunu@paradise.net.nz
Referral Form

***Napier**:*
Te Kupenga Hauora
5 Sale Street, Napier
Phone: 06 835 1840
Email: info@tkh.org.nz
Referral Form

***Wairoa**:*
Kahungunu Executive (no website)
65 Queen Street, Wairoa 4108
Phone: 06 838 6835 Fax: 06 838 7290
Email: kahu-exec@xtra.co.nz

Secondary care Maori HealthServices:
Hawke's Bay DHB - Te Wahanga Hauora Maori Health Services
Phone: 06 878 8109 Ext 5779, 06 878 1654 or 0800 333 671 Email: admin.maorihealth@hawkesbaydhb.govt.nz

Further Information
Practitioners should be versed in the knowledge of:

- historical overview of legislation that impacted on Maori well-being
- Maori models of health, such as Te Whare Tapa Wha and Te Wheke when working with Maori whanau
- national Maori Health Strategies:
- **Mai Maori Health Strategy 2014-2019** - Full file or Summary diagram
- **He Korowai Oranga**: Maori Health Strategy - sets the Government's overarching framework to achieving the best health outcomes for Maori
- local Hawke's Bay health sector's strategies and initiatives for improving Maori health and wellbeing

Cultural Competency Training
Training is available through the Hawke's Bay DHB to assist you to better understand Maori culture and to better engage with Maori people. Contact the coordinator
Email: education@hbdhb.govt.nz to request details of the next courses.

5 Pasifika

Quick info:

Pacific people value their culture, language, families, education and their health and wellbeing. Many Pacific families have a religious affiliation to a local church group.

The Pacific people are a diverse and dynamic population:

- more than 22 nations represented in New Zealand
- each with their own unique culture, language, history, and health status
- share many similarities which we have shared with you in order to help you work with Pacific people more effectively
- for many families language, cost and access to care are barriers

Pacific ethnic groups in Hawke's Bay include Samoa, Cook Islands, Fiji, Tonga, Niue, Tokelau, Kiribati and Tuvalu. Samoan and Cook Island groups are the largest and make up two thirds of the total Pacific population. There is a growing trend of inter-ethnic relationships and New Zealand born Pacific populations.

Acknowledge The FonaFale Model (Pacific model of health) when working with Pacific peoples and families.

General guidelines when working with Pacific peoples and families (information developed by Central PHO, Manawatu):

- Cultural protocols and greetings
- Building relationships with your Pacific people
- Involving family support and religion during assessments and in the hospital
- Home visits

Hawke's Bay-based resources:

- HBDHB interpreting service website **or** phone 06 8788 109 Ext. 5805 (no charge for hospital-based people; charges may apply for community-based translations) **or** contact coordinator at interpreting@hbdhb.govt.nz
- Pacific Navigation Services LTD 027 971 9199
- services to assist Pacific people to access healthcare (SIA)
- Improving the Health of Pacific People in Hawke's Bay - Pacific Health Action Plan

Ministry of Health resources:

- Ala Mo'ui Pathways to Pacific Health and Wellbeing 2014-2018
- Primary Care for Pacific people: a Pacific and health systems approach
- Health education resources in Pacific languages (links to a webpage where you can download resources)

6 Advance care planning

Quick info:

Advance Care Planning

Advance Care Planning is a voluntary process of discussion and shared planning for future health care. It involves the person who is preparing the plan, and usually involves family/whanau and health care professionals.

Advance Care Plan

An Advance Care Plan is the outcome of Advance Care Planning. It is formulated by the person and sets out their views about care towards the end of their life. it may also include views about medical care and a wide range of other matters. An Advance Care Plan may include an Advance Directive.

Advance Directive

An Advance Directive is a statement a person makes about their medical care in the future and becomes effective if a person ceases to be competent to make decisions for themselves. An Advance Directive is legally binding if made in appropriate circumstances.

Competency and Advance Care Planning

Competent people have the right to make autonomous decisions that as medical professionals we may regard as imprudent, and sometimes professionals we may regard as imprudent, and sometimes such decisions are a reflection of the person"s longstanding personality, beliefs or lifestyle. This right is described in the Health and Disability Consumers Rights Acts.

According to ACP - A Guide for the NZ Health Care Workforce - "in the context of ACP, competency relates to an individual's ability to make a decision regarding their own health care (that is, competence at decision-making or decision-capacity). At a minimum, decision making capacity requires the ability to understand and communicate, to reason and deliberate, and the possession of a set of values".

Helpful websites:

- The code of rights
- Advance care planning guide Ministry of Health
- Advance care planning resources

Further information about ACP for **consumers** and **health professionals** may be accessed through HBDHB by email: advancecare.planning@hbdhb.govt.nz

7 Vascular territories of ischaemic symptoms

Quick info:

Anterior circulation (carotid) symptoms include:

- contralateral limb weakness
- numbness
- dysphasia
- hemianopia
- hemineglect
- apraxia

Posterior circulation (vertebro-basilar) symptoms include:

- isolated field cut
- diplopia
- nausea
- vertigo
- ataxia
- dysarthria
- dysphasia
- unilateral limb weakness
- nystagmus
- Horner's syndrome

8 TIA & Stroke clinical presentation

Quick info:

Signs and symptoms of transient ischaemic attack (TIA) portrays stroke signs and symptoms (see below) however apply cardinal clinical rules for TIA (i.e. complete clinical resolution):

- sudden and maximal at onset
- rapid resolution within 30 - 60 minutes
- focal neurological deficit (e.g. not generalised or bilateral)
- absence of symptoms (e.g. not tingling)

Signs and symptoms of stroke develop suddenly, are usually focal, involve loss of function and include:

- unilateral altered sensation - numbness
- unilateral weakness or paralysis - may be confined to face, arm, or leg only
- dysphasia - problems with speech and comprehension
- loss of vision (e.g. in one half or in one quarter of the visual field, or in one eye)

NB: ataxia (disorder of balance or co-ordination), vertigo, dysphasia, dysarthria (slurring of speech) and sensory symptoms to part of one limb or the face may be consistent with TIA if they occur in conjunction with typical symptoms.

9 Symptoms not typical of TIA & Stroke

Quick info:

Symptoms not typical of TIA if occur in isolation (without typical symptoms) include [2]:

- confusion (note - exclude dysphasia)
- impaired consciousness or syncope

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- dizziness or light headedness
- generalised weakness
- bilateral sensory symptoms
- bilateral blurred vision
- incontinence - bladder or bowel
- amnesia

Reference

2. Transient ischaemic attack: shoot first ask questions later. (2011, October). *Best Practice Journal, 39.* Retrieved from http://www.bpac.org.nz/BPJ/2011/october/tia.aspx

10 Exclude hypoglycaemia

Quick info:

Hypoglycaemia (blood glucose < 4mmol/L) can be a stroke mimic.

Exclude hypoglycaemia as the cause of symptoms in people with sudden onset of neurological symptoms.

Suspect hypoglycaemia in people who abuse alcohol or who are being treated for diabetes mellitus (DM), with drugs other than metformin.

Hypoglycaemic symptoms can occur at a higher blood glucose level in those with diabetes.

11 Perform face arm speech time (FAST) test

Quick info:

Use the Face, Arm, Speech Time tool (FAST) to screen for diagnosis of stroke or transient ischaemic attack (TIA). A positive test is finding **any one** of the following:

- face - new onset facial weakness:
  - ask the person to smile or show their teeth
  - the FAST test is **positive** if there is new facial asymmetry, e.g. the mouth or eye droops
- arm - new onset arm weakness:
  - raise the person's arms to 90° if they are sitting or 45° if they are lying
  - ask the person to maintain the position when you let go
  - the FAST test is **positive** if, when you let go, one arm falls or drifts down
- speech problems:
  - assess person's speech and determine whether it is slurred or the person has difficulty finding the name for common place objects, e.g. cup, table, chair, keys, pen
  - if they have difficulty seeing, place the objects in their hand
  - if they have a companion, check whether this is a new problem
  - the FAST test is **positive** if there is a new unexplained speech problem

It is important to remember that some people with significant neurological deficits will not have a positive FAST test. Examples include:

- isolated hemianopias and quadrantanopias
- other focal cognitive deficits such as hemi-neglect
- balance disturbance such as ataxia

12 Symptoms <3 hours = thrombolysis candidate

Quick info:

With onset less than 3 hours person is a potential thrombolysis candidate:

- confirm onset of symptoms or last seen well < 3 hours

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- call ambulance (111) and inform urgent Stat 2 transfer required
- initiate urgent referral
- pre-notification of ED if possible

This can assist with the activation of the HBDHB acute thrombolysis pathway and allow CT brain and coagulation screen on arrival to expedite thrombolysis.

The strongest evidence of benefit is for thrombolysis as soon as possible within 3 hours of stroke onset, although some benefit occurs out to 4.5 hours.

Two million neurons on average are destroyed with each minute of brain ischaemia. Every 90 minute delay halves the benefit and increases the risks of thrombolysis[3].

Outcomes after thrombolysis when < 3 hours of symptom onset [3]:

- 1 in 10 people (10%) may regain independence, 1 in 3 (30%) may benefit to some degree
- most people do not benefit
- 1 in 16 people (6%) may bleed into the brain and half of these (3%) may die
- overall risk of death is not increased with treatment

Reference

3. Hawke's Bay District Health Board. *Acute Stroke Thrombolysis Guideline:Time is brain - call "code stroke." 2*015

13 FAST positive

Quick info:

Determine how long person has been experiencing symptoms:

- < 3 hours
- > 3 hours and < 1 week
- > 1 week

14 FAST negative

Quick info:

Fast negative suggests potential transient ischaemic attack (TIA) and/or non disabling stroke.

15 Suspected TIA or Stroke

Quick info:

Any person who presents with a history of transient neurological symptoms suggestive of a stroke, which resolve, should be considered to have had a transient ischaemic attack (TIA). If symptoms persist manage as suspected stroke.

Diagnose TIA if the person has had transient (lasting less than 24 hours) neurological symptoms that suggest a focal cerebrovascular event, and are otherwise unexplained:

- most second strokes occur within 24 hours of initial ischaemic event
- common causes of early recurrent event are carotid stenosis or atrial fibrillation (AF)

Some people who are asymptomatic when seen may be considered for urgent outpatient investigation and treatment (seek the advice of the stroke team).

16 Urgent referral to ED

Quick info:

Transfer to hospital via ambulance and contact ED Clinical Nurse Co-ordinator 06 878 8109 Ext. 2661 or direct dial 06 878 1619 Ext. 2661

17 Perform ABCD2 Assessment Score

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Quick info:

Definition of ABCD2 score:

Validated assessment tool designed to identify people at high risk of recurrence of stroke within 7 days of initial event. The score estimates the two-day risk of recurrence of stroke. The score has lowered predictive power at both ends of the scale.

ABCD2 is calculated based on:

- A – age over 60 years (1 point)
- B – blood pressure (BP) at presentation – BP equal to or above 140/90mmHg or a history of hypertension (1 point)
- C – clinical features – unilateral weakness (2 points) or problems with speech (1 point)
- D – duration of symptoms lasting longer than10 minutes – symptoms lasting over 1 hour (2 points), and symptoms lasting 10 - 59 minutes (1 point)
- D – presence of diabetes mellitus (DM) (1 point)

The total scores range from 0 (low risk) to 7 (high risk) – if the score is 4 or more then there is a high risk of an early recurrent ischaemic event.

Perform ABCD2 assessment (or option to access BPAC Stroke TIA decision support tool via Medtech).

18 Symptoms < 1 week = urgent hospital referral

Quick info:

This indicates the person may be having an acute stroke and requires urgent review in hospital.

If onset is more than 3 hours person is not a candidate for thrombolysis but still requires immediate hospital assessment via ambulance if necessary.

This allows CT brain, carotid doppler and coagulation screen to be organised through stroke physician.

19 Symptoms > 1 week

Quick info:

This indicates the person may have had an acute stroke and requires review in hospital.

If a delayed presentation e.g. greater than 1 week then either transfer to hospital or consider in hours assessment the following day.
Please discuss with Stroke SMO via hospital switchboard 06 878 8109.

20 Consider differential diagnosis

Quick info:

Differential diagnoses include:

- subdural haematoma
- cerebral vein thrombosis
- intracranial mass, e.g. tumour
- metabolic disorders, e.g. hypoglycaemia
- seizures
- encephalitis
- global ischaemia
- labyrinthine disorders
- temporal arteritis
- migraine
- psychological disorders, e.g .anxiety or panic disorder
- multiple sclerosis (MS)
- disorders of the peripheral nerves
- transient global amnesia
- trauma

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- hyperglycaemia
- decompensation of old deficits (due to infection etc.)
- musculoskeletal problems

21 Refer to ED

Quick info:

Criteria for referral to ED:

- FAST positive BUT outside the thrombolysis window (onset of event > 4.5 hours)
- people require urgent assessment and imaging

NB: p**eople with the following are at high risk of stroke and should be treated as having an ABCD2 score of 4 or more regardless of their actual score:**

- **crescendo stroke (2 or more TIAs in a week)**
- **atrial fibrillation**
- **current anticoagulant medication**

This pathway recognises that some people present late and may not require such urgent assessment, **please discuss with Stroke SMO via hospital switchboard 06 878 8109.**

A referral letter to the medical team with good clinical information and demographics may expedite the person's journey through ED.

22 Risk stratification

Quick info:

The total scores range from 0 (low risk) to 7 (high risk). ABCD2 score 0 - 3 indicates low risk. If the score is 4 or more then there is a high risk of an early recurrent ischaemic event.

NB: people with the following are at high risk of stroke and should be treated as having an ABCD2 score of 4 or more regardless of their actual score:

- **crescendo stroke (2 or more TIAs in a week)**
- **atrial fibrillation**
- **current anticoagulant medication**

23 High risk management

Quick info:

people who are high risk of stroke (i.e. with an ABCD2 score of 4 or above or history of atrial fibrillation or crescendo strokes should have the following antiplatelet medication started immediately (unless already anticoagulated, contraindicated or not tolerated):

- aspirin (300mg loading dose, followed by 100mg daily) with a statin

or

- clopidogrel (300mg loading dose, followed by 75mg daily) with a statin

NB:if person specific factors suggest hospital assessment inappropriate, consider antiplatelet medication (as above) and provide ongoing surveillance and self management information and advice.

24 Low risk management

Quick info:

people who have had a suspected non-disabling stroke or transient ischaemic attack (TIA) with an ABCD2 score 0 - 3 and no other risk factors should have the following antiplatelet medication started immediately (unless already anticoagulated):

- aspirin (300mg loading dose if aspirin naive, followed by 100mg daily) with a statin

or

- clopidogrel (300mg loading dose, followed by 75mg daily) with a statin

If a person has had a single TIA, is not anti-coagulated and presents after 2 weeks, they can be managed as an out-patient (in the absence of any other reasons for admission).

25 Low risk investigations

Quick info:

Check bloods:

- full blood count (FBC)
- HBA1C
- creatinine and electrolytes
- lipid profile
- thyroid-stimulating hormone (TSH)

Check ECG to exclude arrhythmia.

Liaise with stroke or vascular team **as appropriate.** Please discuss with Stroke or Vascular SMO via hospital switchboard 06 878 8109.

26 Criteria for diagnostic imaging

Quick info:

If diagnostic imaging is required please fax to radiology on 06 878 1312 (please send hard copy to radiology via post). Referral information must include the following:

Criteria for CT Scan

- symptoms (including affected side)
- time & date of onset/cessation (and if recovery complete)
- risk factors
- ABCD2 score

Criteria for US Doppler

NB: for anterior circulation TIA's only **AND** if suitable candidate for carotid endarterectomy (refer node Vascular territories of ischaemic symptoms).

- symptoms (including affected side)
- time & date of onset/cessation (and if recovery complete)
- risk factors
- ABCD2 score
- must be within 7 days of event

MRI is usually only useful following specialist assessment and should be discussed with the specialist.

27 Refer to acute medical team on call

Quick info:

Refer person to stroke team via ED. **Please discuss with Stroke SMO via hospital switchboard 06 878 8109.**

A referral letter to the medical team with good clinical information and demographics may expedite the person's journey through ED.

30 Information and advice for self management

Quick info:

Information & advice to people as appropriate:

- risk factor control
- people should not drive within 1 month of having a stroke or TIA

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- advance care planning(ACP)
- Age Concern and EPOA website
- Ministry Social Development EPOA
- stroke foundation resources
- medication advice:
  - aspirin
  - clopidogrel
  - statin

32 Information and advice for self management

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Primary Care management of Acute Transient Ischaemic Attack Provenance Certificate

Overview

This document describes the provenance of Hawke's Bay's District Health Board's Primary Care management of Acute Transient Ischaemic Attack Pathway. It was developed in January 2016 – May 2016 and first published in June 2016. A review of the Pathway is due in June 2017.

The Collaborative Clinical Pathways programme is one initiative stemming from the *Transform and Sustain* agenda. The main aims of CCP are to:

- → Identify opportunities to improve how health and disability care is planned and delivered within the district to improve patient access to a wider range of health services that are both closer to home and reduce avoidable hospital admissions.
- → Provide health professionals throughout the Hawke's Bay district with best practice, evidence-based clinical pathways that are available at the point of care.

Outcomes we expect to achieve include faster access to definitive care, improved health equity and outcomes, better value from publically-funded resources, and better patient experience through clear expectations, improved access and greater health literacy. These outcomes are clearly aligned to the NZ healthcare *Triple Aim* and *Better, Sooner, More Convenient* policy directions.

Editorial methodology

This Pathway was based on high-quality information and known Best Practice guidelines from New Zealand and around the world including Map of Medicine editorial methodology. It was developed by individuals with front-line clinical experience (see Contributors section of this document) and has undergone consultation to gain feedback and input from the wider clinical community.

Map of Medicine Pathways are constantly updated in response to new evidence. Continuous evidence searching means that Pathways can be updated rapidly in response to any change in the information landscape. Indexed and grey literature is monitored for new evidence, and feedback is collected from users year-round. The information is triaged so that important changes to the information landscape are incorporated into the Pathways through the quarterly publication cycle.

An update to this Pathway is scheduled for 12 months after first publication. However, feedback is welcomed at any time, with important updates added at the earliest opportunity within the Map of Medicine publishing schedule (the third Friday of each month).

References

This Pathway has been developed according to the Map of Medicine editorial methodology. Its content is based on high-quality guidelines and practice-based knowledge provided by contributors with front-line clinical experience. Feedback on this Pathway was received from stakeholders during a consultation process.

1.	Hawke's Bay District Health Board. *Chronic Disease: Current Situation Analysis (Prevalence, Morbidity and Mortality)*: 2015
2	Transient ischaemic attack: shoot first ask questions later. (2011, October). *Best Practice Journal, 39.* Retrieved from http://www.bpac.org.nz/BPJ/2011/october/tia.aspx
3.	Hawke's Bay District Health Board. *Acute Stroke Thrombolysis Guideline*: *Time is brain – call "code stroke."* 2015

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Disclaimers

Clinical Pathways Steering Group, Hawke's Bay DHB and Health Hawke's Bay – Te Oranga Hawke's Bay

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