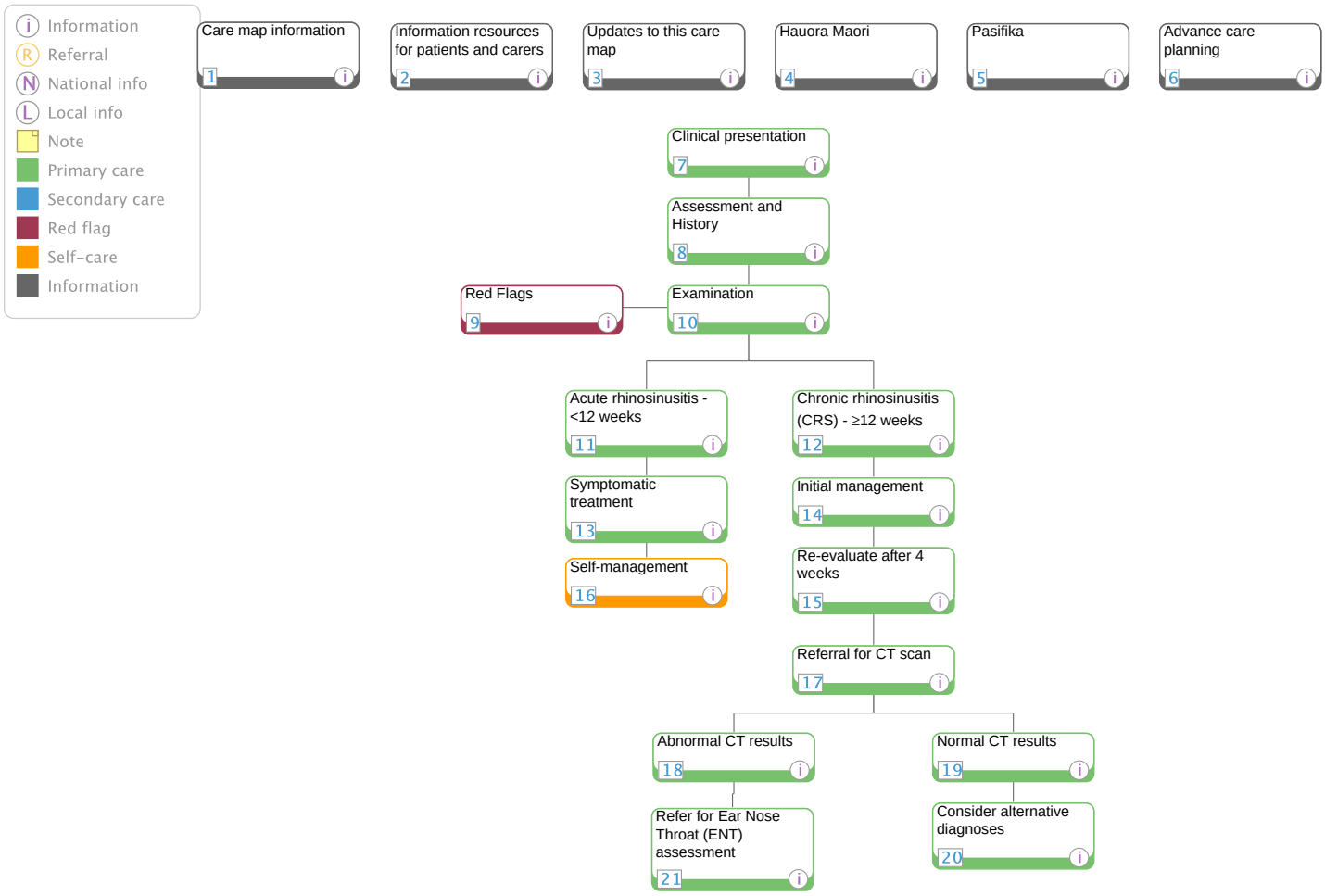
Rhinosinusitis - Suspected

Surgery > Ear, nose and throat > Rhinosinusitis



Published: 16-Nov-2017 Valid until: 30-Jun-2019 Printed on: 02-Aug-2018

This care map was published by Hawkes Bay District. A printed version of this document is not controlled so may not be up-to-date with the latest clinical information.

Rhinosinusitis - Suspected

1 Care map information

Quick info:

This Pathway covers the diagnosis and management of acute and chronic rhinosinusitis. Common causes include bacterial and viral infections; a number of other conditions contribute to this problem including allergy, cigarette smoking and genetic factors - these are also in the scope of this Pathway.

Out of scope: children 14 years and younger.

Abbreviations used in the Pathway:

- ARS: acute rhinosinusitis
- BNF: British National Formulary
- BSAC: British Society for Allery and Clinical Immunology
- CRS: chronic rhinosinusitis
- CT: computed tomography
- ENT: ear nose throat
- FSA: first specialist appointment
- ORL: otorhinolaryngology
- TDS: ter die sumedum (three times per day)

2 Information resources for patients and carers

Quick info:

Information for patients:

- Acute sinusitis- Health Navigator website
- Acute sinusitis - patient leaflet - patient.co.uk
- Chronic sinusitis- Health Navigator website
- Chronic sinusitis - patient leaflet - patient.co.uk
- Treating sinusitis- NHS Choices
- Common cold- Health Navigator website
- Allergic rhinitis (hayfever) - Health Navigator website
- What is allergic rhinitis? - Allergy New Zealand
- Decongestants - condition leaflet - patient.co.uk

Language translation assistance:

HBDHB Interpreting Service. To make an appointment (charges may apply):

- phone 06 878 8109 ext.. 5805 or
- email interpreting@hawkesbaydhb.govt.nz

These websites may help with simple words and phrases:

- Babelfish
- Google translate

Language Line. Professional interpreters are available, free of charge, for telephone-based sessions (44 languages are supported):

- Phone 0800 656 656
- Monday - Friday 9am - 6pm
- Saturday 9am - 2pm

Bookings are not usually necessary. For longer consultations (for example, a nurse consultation for a newly diagnosed person) it is best to make a booking at least 24 hours in advance by calling the above number or emailing language.line@dia.govt.nz and providing your contact details and a summary of the service you require (time and date of the meeting, language, approximate length of the appointment, gender of interpreter (if relevant).

3 Updates to this care map

Quick info:

Date of first publication: July 2015

Date of review and republication: November 2017

Next review due: November 2019

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 ('whanaungatanga') - 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 services. Practitioners should discuss, where appropriate, information about relevant Maori health services. A referral to one of these providers may assist Maori people to feel more comfortable about receiving services following discussions.

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 Health Services:
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
- Medical Council of New Zealand competency standards

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 people and families.
General guidelines when working with Pacific people 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 the hospital; charges may apply for community-based translations) **or** contact coordinator at interpreting@hbdhb.govt.nz

Published: 16-Nov-2017 Valid until: 30-Jun-2019 Printed on: 02-Aug-2018

- Pacific Navigation Services Ltd Phone: 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 web page 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 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

7 Clinical presentation

Quick info:

Symptom duration:

- acute rhinosinusitis [1]:
  - acute viral rhinosinusitis (common cold) – symptoms less than 10 days
  - acute post viral rhinosinusitis – worsening symptoms after 5 days or without improvement after 10 days
  - a small percentage of patients with acute post-viral rhinosinusitis will have bacterial rhinosinusitis
- chronic rhinosinusitis:
  - symptoms for over 12 weeks

Major symptoms include [1,2]:

- nasal blockage
- nasal discharge – may be purulent
- facial pain
- reduction or loss of smell

Other symptoms may include [1]:

- fever
- nasal, pharyngeal, laryngeal, and tracheal irritation
- cough
- dysphonia
- drowsiness
- malaise
- sleep disturbance
- headache

References:
[1] Fokkens WJ, Lund VJ, Mullol J et al. European position paper on rhinosinusitis and nasal polyps 2012: ERS/EAACI guidelines for acute and chronic rhinosinusitis with and without nasal polyps, based on systematic review. Rhinol Suppl 2012; 3-298. Available from: http://ep3os.org/EPOS2012.pdf

[2] Royal College of Surgeons (RCS). RCS commissioning guide: rhinosinusitis. London: RCS; 2013. Available from: https://www.rcseng.ac.uk/library-and-publications/college-publications/docs/rhinosinusitis-commissioning-guide/

8 Assessment and History

Quick info:

Assessment:

- the diagnosis of acute or chronic rhinosinusitis is based on symptoms
- check for allergic symptoms (allergic rhinitis), e.g. sneezing, watery nasal discharge, nasal itching, itchy watery eyes
- consider other causes of facial pain
  - mid-sigmental facial pain
  - trigeminal neuralgia
  - migraine and other vascular headache
  - temporo-mandibular dysfunction
  - other causes of headache
  - dental pain
- examination is of limited use, but it is important to exclude red flags and other causes

Investigations are not usually required; plain sinus x-rays are no longer used.

Duration:

- less than 12 weeks duration is acute rhinosinusitis
- 12 weeks or longer is chronic rhinosinusitis

9 Red Flags

Quick info:

Consider complications of acute infection (ie intracranial, orbital and/or bony sepsis), tumours, or systemic disease presenting in the upper respiratory tract, eg vasculitis [1,2].

Rarely, rhinosinusitis spreads to the orbit or into the cerebral veins resulting in cavernous sinus thrombosis, brain abscess, or meningitis.

Consider immediate referral/hospitalisation if patient has any of the following [1,2]:

- orbital symptoms:
  - diplopia

- reduced visual acuity
- globe displacement
- peri-orbital oedema or erythema

- neurological symptoms or signs including:
  - severe frontal headache
  - frontal swelling
  - signs and symptoms of meningism
  - focal neurological signs

Immediately transfer to hospital and phone on call ENT specialist via switchboard on 06 8788109.

References:
[1] Fokkens WJ, Lund VJ, Mullol J et al. European position paper on rhinosinusitis and nasal polyps 2012: ERS/EAACI guidelines for acute and chronic rhinosinusitis with and without nasal polyps, based on systematic review. Rhinol Suppl 2012; 3-298. Available from: http://ep3os.org/EPOS2012.pdf

[2] Royal College of Surgeons (RCS). RCS commissioning guide: rhinosinusitis. London: RCS; 2013. Available from: https://www.rcseng.ac.uk/library-and-publications/college-publications/docs/rhinosinusitis-commissioning-guide/

10 Examination

Quick info:

Examination:

- anterior rhinoscopy – use largest speculum of otoscope or a head-light and nasal speculum:
  - swelling, redness, discoloured discharge, crusting
  - visible nasal polyps – features to distinguish polyps from inferior turbinate:
    - yellow-grey colour
    - lack of sensitivity to painful stimuli
    - can be compressed with a cotton wool bud
  - anatomical abnormalities, eg septal deviation
  - any unilateral findings should raise suspicion of neoplasia
- eyes:
  - vision
  - periorbital oedema
  - globe displacement
- oral examination:
  - posterior discharge
  - exclude dental infection
- ears:
  - acute otitis media or otitis media with effusion – suggesting associated eustachian tube dysfunction
- lungs:
  - possible signs of associated asthma – wheezing or prolonged expiratory phase
- consider examining the skin for signs of atopic dermatitis
- check for a raised temperature – more than 38°C

Swelling and tenderness on palpation of the maxillofacial area are commonly interpreted as more severe disease, needing antibiotics, however the sensitivity and specificity of this in identifying acute bacterial rhinosinusitis is not established.

11 Acute rhinosinusitis - <12 weeks

Published: 16-Nov-2017 Valid until: 30-Jun-2019 Printed on: 02-Aug-2018

Quick info:

Characterised by:

- pain over cheek and radiating to frontal region or teeth, increasing with straining or bending down
- redness of nose, cheeks, or eyelids
- tenderness to pressure over the floor of the frontal sinus immediately above the inner canthus
- referred pain to the vertex, temple or occiput
- postnasal discharge
- blocked nose
- persistent coughing or pharyngeal irritation
- facial pain
- hyposmia

12 Chronic rhinosinusitis (CRS) - ≥12 weeks

Quick info:

Patients with chronic rhinosinusitis may present with the following symptoms:

- nasal obstruction, blockage, congestion, stuffiness
- nasal discharge (of any character from thin to thick and from clear to purulent)
- postnasal drip
- facial fullness, discomfort, pain and headache (more with nasal polyposis)
- chronic unproductive cough (primarily in children)
- hyposmia or anosmia (more with nasal polyposis)
- sore throat / fetid breath
- malaise / easily fatigability
- anorexia
- exacerbation of asthma
- dental pain (upper teeth)
- visual disturbances
- sneezing
- stuffy ears
- unpleasant taste
- fever of unknown origin

13 Symptomatic treatment

Quick info:

Mild acute rhinosinusitis (ARS) lasting less than 5 days:

- provide symptomatic relief e.g. analgesics, nasal saline irrigation, nasal decongestants
- there is no evidence of benefit from oral decongestants, antihistamines, or steam inhalation

Intranasal decongestants:

- are of limited value as they can give rise to rebound congestion on withdrawal [3]
- are not recommended for acute rhinosinusitis based on European Position Statement 2012 group [1]
- the British Society for Allergy and Clinical Immunology (BSACI) advises short-term use of less than 10 days to avoid a rebound effect [4], and the British National Formulary (BNF) states that they should be used for a maximum of 7 days [3]

Post-viral ARS, where symptoms persist for greater than 10 days **OR** increase after 5 days of mild ARS:

- treat as above, plus

- start topical nasal steroids and use until the symptoms resolve
- consider whether there may be a bacterial cause

Bacterial ARS

- provide symptomatic relief e.g. analgesics, nasal saline irrigation, nasal decongestants
- start topical nasal steroids and use until symptoms resolve
- start antibiotics
- oral steroids are generally not indicated unless known pre-existing chronic rhinosinusitis with polyps, but can be used in patients with significant pain

If poor response to antibiotics, treatment failure or recurrent infections, review diagnosis and consider a change in antibiotics or a longer antibiotic course.

Suitable antibiotics for first line treatment[5]:

- amoxycillin 500 mg three times a day (TDS) for 7-10 days
- erythromycin 400 mg TDS for 7-10 days (for people with penicillin allergy)
- doxycycline 100 mg, 2 immediately then one dose per day, 10 days

Avoid the use of augmentin in first-line treatment [6]

References:

[1] Fokkens WJ, Lund VJ, Mullol J et al. European position paper on rhinosinusitis and nasal polyps 2012: ERS/EAACI guidelines for acute and chronic rhinosinusitis with and without nasal polyps, based on systematic review. Rhinol Suppl 2012; 3-298. Available from: http://ep3os.org/EPOS2012.pdf

[3] British National Formulary (BNF). BNF March 2014. London: BMJ Group and RPS Publishing;2014. Available from: http://bnf.org/bnf/ (requires log in)

[4] Scadding, G.K., Durham, S.R., Mirakian, R., Jones, N.S., Drake-Lee, A.B., Ryan, D., Dixon, T.A., Huber, P.A., Nasser, S.M. *BSACI guidelines for the management of rhinosinusitis and nasal polyposis*, Clinical and Experimental Allergy, Issue 38, pp260-275, Blackwell Publishing: 2007 Available at: http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2222.2007.02889.x/pdf

[5] bpac^{NZ} *Antibiotics: choices for common infections*: 2007. Available at: http://bpac.org.nz/antibiotics/guide.aspx#sinusitis

[6] bpac^{NZ} Appropriate use of amoxicillin clavulanate Best Practice Journal, Issue 38: 2011. Available at: http://www.bpac.org.nz/BPJ/2011/september/amoxicillin.aspx

14 Initial management

Quick info:

Management of chronic rhinosinusitis (CRS):

- reduce any risk factors
  - cigarette smoke (smoking and passive smoking)
  - exposure to allergens
- educate patient about CRS, which is important for compliance

Medical management:

- use nasal saline irrigation long term
- start topical nasal steriods long term. Ensure correct use of nasal steroid delivery

Intranasal decongestants:

- are of limited value as they can give rise to rebound congestion on withdrawal [3]
- are not recommended for chronic rhinosinusitis based on European Position Statement 2012 group [1]

- the British Society for Allergy and Clinical Immunology (BSACI) advises short-term use of less than 10 days to avoid a rebound effect [4], and the British National Formulary (BNF) states that they should be used for a maximum of 7 days [3]

References:

[1] Fokkens WJ, Lund VJ, Mullol J et al. European position paper on rhinosinusitis and nasal polyps 2012: ERS/EAACI guidelines for acute and chronic rhinosinusitis with and without nasal polyps, based on systematic review. Rhinol Suppl 2012; 3-298. Available from: http://ep3os.org/EPOS2012.pdf

[3] British National Formulary (BNF). BNF March 2014. London: BMJ Group and RPS Publishing;2014. Available from: http://bnf.org/bnf/ (requires sign in)

[4] Scadding, G.K., Durham, S.R., Mirakian, R., Jones, N.S., Drake-Lee, A.B., Ryan, D., Dixon, T.A., Huber, P.A., Nasser, S.M. *BSACI guidelines for the management of rhinosinusitis and nasal polyposis*, Clinical and Experimental Allergy, Issue 38, pp260-275, Blackwell Publishing: 2007 Available at: http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2222.2007.02889.x/pdf

15 Re-evaluate after 4 weeks

Quick info:

If improved, continue with treatment.

If no improvement:

- start long course of antibiotics
  - roxithromycin 150 mg per day for 3 months
- consider a short course of oral steroids. There is generally only evidence of benefit in patients with polyps
- consider a CT scan

16 Self-management

Quick info:

Advise patient about managing symptoms at home:

- expert opinion suggests the following comfort measures [3]:
  - maintain adequate hydration
  - apply warm facial packs for 5-10 minutes, 3 or more times a day – may provide localised relief [2]
  - use simple analgesia for localised pain and tenderness
  - have a steamy shower or increase humidity in the home
- use saline irrigation with nasal drops or spray to relieve congestion and nasal discharge [2]

Steam inhalation is not recommended, because of a risk of burns, unless from a hot bathtub or shower [3].

References:

[2] Royal College of Surgeons (RCS). RCS commissioning guide: rhinosinusitis. London: RCS; 2013. Available from: https://www.rcseng.ac.uk/library-and-publications/college-publications/docs/rhinosinusitis-commissioning-guide/

[3] British National Formulary (BNF). BNF March 2014. London: BMJ Group and RPS Publishing;2014. Available from: http://bnf.org/bnf/ (requires sign in)

17 Referral for CT scan

Quick info:

A sinus CT is indicated if medical treatment (as outlined in this Pathway) has not resulted in improvements to the patient's symptoms[7]

Use the radiology referral form in Medtech or My Practice:

- specifiy a sinus CT is required
- select **hospital radiology** as the provider

Published: 16-Nov-2017 Valid until: 30-Jun-2019 Printed on: 02-Aug-2018

- Confirm in the **clincial details** section that medical treatment of the patient, as specified in this Clinical Pathway, has not resulted in an improvement of the symptoms

References:

[7] Ministry of Health. *National Criteria for Access to Community Radiology*. Wellington: Ministry of Health; 2015.

18 Abnormal CT results

Quick info:

GP will receive a scanned report from radiology highlighting any obvious abnormality and whether they recommend referral to ENT.

19 Normal CT results

Quick info:

If CT results are normal and the patient still has symptoms**,** consider if symptoms are due to other conditions such as migraine or atypical facial pain. A normal scan excludes rhinosinusitis.

20 Consider alternative diagnoses

Quick info:

Consider any alternative diagnoses [8]:

- migraine
- allergic rhinitis
- turbinate hypertrophy

References:

[8] BMJ Best Practice *Chronic Sinusitis - Diagnosis Differential* : 2017 . Available from: http://bestpractice.bmj.com/best-practice/monograph/15/diagnosis/differential.html . Accessed 17 August 2017.

21 Refer for Ear Nose Throat (ENT) assessment

Quick info:

Consider ENT/ORL assessment when the symptoms have a major impact on quality of life and if:

- recurrent acute rhinosinusitis where there are greater than 4 episodes in one year, or 2-3 episodes per year over 3 years, and failure of medical magagement
- chronic rhinosinusitis where 3 months of medical management has been trialled and failed
- difficulty making a diagnosis when a patient has a chronic nasal, sinus or forehead symptoms

Refer to ENT via e-referral in your PMS.

Include in the referral:

- treatment to date
- the condition's impact on patient's quality of life
- CT results
- smoking history

Published: 16-Nov-2017 Valid until: 30-Jun-2019 Printed on: 02-Aug-2018

Rhinosinusitis Provenance Certificate – review and republish

Overview

This document describes the provenance of Hawke's Bay's District Health Board's Rhinosinusitis Pathway. It was developed in April 2015 and first published in July 2015. A review of this pathway was completed by the clinical leads in August 2017 and was re-published in October 2017. A further review of the Pathway is due in October 2019.

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	Fokkens WJ, Lund VJ, Mullol J et al. European position paper on rhinosinusitis and nasal polyps 2012: ERS/EAACI guidelines for acute and chronic rhinosinusitis with and without nasal polyps, based on systematic review. Rhinol Suppl 2012; 3-298. Available from: http://ep3os.org/EPOS2012.pdf
2	Royal College of Surgeons (RCS). RCS commissioning guide: rhinosinusitis. London: RCS; 2013. Available from: https://www.rcseng.ac.uk/library-and-publications/college-publications/docs/rhinosinusitis-commissioning-guide/
3	British National Formulary (BNF). BNF March 2014. London: BMJ Group and RPS Publishing; 2014. Available from: http://bnf.org/bnf/ (requires log in)
4	Scadding, G.K., Durham, S.R., Mirakian, R., Jones, N.S., Drake-Lee, A.B., Ryan, D., Dixon, T.A., Huber, P.A., Nasser, S.M. BSACI guidelines for the management of rhinosinusitis and nasal polyposis, Clinical and Experimental Allergy, Issue 38, pp260-275, Blackwell Publishing: 2007 Available at: http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2222.2007.02889.x/pdf
5	bpac^{NZ} Antibiotics: choices for common infections: 2007. Available at: http://bpac.org.nz/antibiotics/guide.aspx#sinusitis
6	bpac^{NZ} Appropriate use of amoxicillin clavulanate Best Practice Journal, Issue 38: 2011. Available at: http://www.bpac.org.nz/BPJ/2011/september/amoxicillin.aspx
7	Ministry of Health. National Criteria for Access to Community Radiology. Wellington: Ministry of Health; 2015.
8	BMJ Best Practice *Chronic Sinusitis - Diagnosis Differential* : 2017 . Available from: http://bestpractice.bmj.com/best-practice/monograph/15/diagnosis/differential.html . Accessed 17 August 2017.

Contributors

The following individuals contributed to this Pathway:

- Alan Wright, General Practitioner (Primary Lead)
- Paul Mason, Otorhinolaryngologist (Secondary Lead)
- Liz Dixon, Pharmacist, Gilmours Pharmacy

Review completed by:

- Alan Wright, General Practitioner (Primary Lead)
- Paul Mason, Otorhinolaryngologist (Secondary Lead)

Map editing and facilitation

- Belinda Sleight (original pathway)
- Louise Pattison (review)

Disclaimers

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

It is not the function of the Clinical Pathways Steering Group, Hawke's Bay DHB and Health Hawke's Bay – Te Oranga Hawke's Bay to substitute for the role of the clinician, but to support the clinician in enabling access to know-how and knowledge. Users of the Map of Medicine are therefore urged to use their own professional judgement to ensure that the patient receives the best possible care. Whilst reasonable efforts have been made to ensure the accuracy of the information on this online clinical knowledge resource, we cannot guarantee its correctness and completeness. The information on the Map of Medicine is subject to change and we cannot guarantee that it is up-to-date.