Provincial Rhinosinusitis Primary Care Clinical Pathway

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1. Suspected Acute Rhinosinusitis

Nasal Obstruction or purulent nasal discharge / posterior nasal drainage
PLUS one or more additional PODS:

- **P**- Facial **P**ressure/**P**ain
- **O**- **O**bstruction and/or purulent nasal discharge
- **D**- **D**ischarge: Nasal Purulence / Discolored Posterior Nasal
- **S**- Loss of **S**mell (hyposmia/anosmia)

2. Red Flags

- Altered mental status
- Orbital swelling, redness and/or altered vision
- Neurologic or meningeal findings (e.g., cranial nerve palsy, meningitis)

Refer to Otolaryngology

Call RAAPID for on-call surgeon

Refer to ER or call 911

No Red Flags

Determine duration of symptoms

Less than 7 days

Greater than 7 days

Note: If four (4) or more episodes of acute rhinosinusitis per year requiring treatment, consider referral to Otolaryngology. (CT required for referral)

3. Conservative Management

(Likely viral at this stage)

- NSAIDs
- Consider topical decongestants (3 days maximum to prevent rebound inflammation)
- Saline nasal rinse
- Consider Intranasal corticosteroids

Clinical response after 72 hours?

Yes

No

Continue conservative management as necessary and follow up as required

4. Acute Rhinosinusitis

(Likely evolving into bacterial rhinosinusitis)

Ensure conservative management is initiated (#3). Assess for severity.

Mild/Moderate: Intranasal corticosteroids started?

No

Yes but no clinical response after 72 hours

Initiate intranasal corticosteroids

Clinical response after 72 hours?

Yes

No

Follow up as required

Severe: Intranasal corticosteroids and antibiotics

Clinical response after 72 hours?

Yes

Continue conservative management and follow up as required

No

Initiate second line antibiotics

Clinical response after 72 hours?

Yes

No

Consider specialist advice. Additionally, consider other contributing factors and/or immunosuppression.

If no resolution of symptoms after 6 -12+ weeks of conservative management, move to box 5 Chronic Rhinosinusitis

5. Chronic Rhinosinusitis

(6 -12+ weeks of symptoms)

Assess for and confirm chronic rhinosinusitis by ordering a CT scan (referral within 3 months CT).

N.B. If access to CT >6 months, consider specialist advice.

Confirmed and 12+ weeks of symptoms

Continue conservative management while awaiting referral

7. Refer to Otolaryngology

Not confirmed or results not definitive

6. Consider specialist advice

Alberta Health Services

Call to Action: We need your feedback during this **new** pathway's initial testing phase!

Alberta's Pathway Hub | Patient resources | Background

Updated: June 2024

This primary care pathway was co-developed by primary and specialty care and includes input from multidisciplinary teams from all five zones. It is intended to be used in conjunction with specialty advice services, when required, to support care within the medical home.

EXPANDED DETAILS

Pathway Primer

This clinical pathway offers primary care providers guidance on evidence-based management of suspected rhinosinusitis within a primary healthcare setting.

Rhinosinusitis is a highly prevalent condition affecting approximately 3.5 million Canadians each year [1], however in Alberta research shows that only 2.5% of the population experience the chronic condition [2]. This would suggest that most rhinosinusitis cases resolve in the acute phase which is predominately with conservative management. In certain chronic cases, such as refractory to several weeks of conservative management, referral to Otolaryngology may be necessary for specialist review.

1. Suspected Acute Rhinosinusitis

Entrance into this clinical pathway is supported by the following:

Rhinosinusitis: a patient must have nasal obstruction or purulent nasal discharge/ purulent posterior nasal drainage PLUS at least one other PODS symptom:

P- Facial **P**ressure/**P**ain

O- **O**bstruction and/or purulent nasal discharge

D- **D**ischarge: Nasal Purulence / Discolored Posterior Nasal

S- Loss of **S**mell (hyposmia/anosmia)

The patient may also present with other minor symptoms such as headache, fatigue, cough, ear pain/pressure and halitosis, however these are not required for a diagnosis to be made. The diagnosis of acute rhinosinusitis is based on the patient's history and physical assessment. Obtaining cultures and diagnostic imaging in the acute phase are not indicated [3]. Approximately 90% of acute rhinosinusitis cases are viral in cause, **these do not benefit from antibiotics and management should focus on symptom relief as noted in 3. Conservative Management.**

2. Red Flags

In rare situations, acute and chronic rhinosinusitis can result in periorbital and intracranial and complications [4]. Patients presenting with symptoms suspicious of rhinosinusitis and who have the following red flags should be referred through RAAPID or sent to the ER via 911.

- Altered mental status – this could be related to a systemic infection or meningeal signs
- Orbital swelling, redness and/or altered vision – orbital cellulitis
- Neurologic or meningeal findings (e.g., cranial nerve palsy, meningitis)

3. Acute Rhinosinusitis: Conservative Management (Less than 7 days of symptoms)

As noted above, antibiotics should not be used during this time. It is estimated that over 90% of acute rhinosinusitis is viral in nature which would suggest the most appropriate management to be focused on symptomatic relief [5]. This may include non-steroidal anti-inflammatory drugs (NSAIDs) and saline nasal rinses. The patient and provider may also consider topical decongestants and/or intranasal corticosteroids. Ensure the patient knows how to effectively perform such tasks is important. It is important to educate patient on risk of rebound congestion and that **topical decongestants should not be used for more than 3 consecutive days to avoid rebound congestion**. See patient resources for additional support for the patient.

4. Acute Rhinosinusitis: Bacterial (Greater than 7 days)

Where symptoms of rhinosinusitis persist greater than 7 days, there is a higher likelihood that the cause of infection is bacterial in nature. This section begins with confirmation that conservative management has been initiated, and an escalating conservative management strategy is warranted.

Severity Definitions [3]

Mild – Occasional limited episodes.

Moderate – Steady symptoms but easily tolerated.

Severe – Hard to tolerate and may interfere with activity or sleep.

1st Line Antibiotics	
No allergies	**Amoxicillin** 500 – 1000mg PO TID x 5-7 Days
Penicillin allergy	**Doxycycline** 200mg PO once daily, then 100mg PO twice daily x 5-7 days
β Lactam allergy	**Cefixime** 400mg PO once daily x 5-7 days

Severe Symptoms or 1st Line Antibiotics Ineffective	
No allergies	**Amoxicillin-clavulanate** 875mg PO twice daily x 5-7 Days
Penicillin allergy	**Doxycycline** 200mg PO once daily, then 100mg PO twice daily x 5-7 days
β Lactam allergy (with severe symptoms)	**Levofloxacin** 750mg PO once daily x 5 days

5. **Chronic Rhinosinusitis** (6 – 12 weeks)

NOTE: The authors would like to preface that although 5. Chronic Rhinosinusitis refers to 6-to-12-weeks, this is intended to align with the content and clinical strategies noted based on the patient's own presentation of symptoms. The authors are not intending to suggest that 6-weeks of symptoms would be considered a chronic rhinosinusitis case by definition.

The 6-to-12-week referral window is purposefully wide, which allows for a primary care provider's discretion to decide if/when a referral is needed. Consider initiating a referral and booking a CT scan at six weeks of persistent infection if any of the following are true:

- The patient is presenting with moderate or severe rhinosinusitis that is not responding well to at least six weeks of diligent conservative management.
- The primary care provider suspects that the patient will eventually require surgery given their history of frequent infections or current severity.
- Accessing a CT scan is expected to be longer than 12 weeks. Due to variability in zones, consider when the most appropriate time would be to referring for both a CT scan and for an Otolaryngology consult.

The next escalation step is a review by specialty care. Otolaryngologists rarely consider surgery for patients with persistent symptoms prior to 12 weeks of conservative management. The results of the CT scan will determine the patient's eligibility for further intervention, making a CT scan essential to this referral process. If wait times for a CT scan exceed 6 months, then consider specialist advice.

The standard approach used by Otolaryngology specialists when they encounter patients with seemingly refractory chronic rhinosinusitis prior to 12 weeks is an exploration of concurrent factors. These factors include:

- **Smoking** – Has the patient been successful in reducing smoking or have they achieved smoking cessation? If neither, a more determined smoking cessation approach may be required that includes cessation support medications.
- **Allergies** – Are there environmental components to the rhinosinusitis. If allergies are suspected, has the patient attempted allergy medication including OTC and prescription?
- **Autoimmune Disorders** – Significant associations have been found between chronic rhinosinusitis and autoimmune disorders including the list below [6]: If any of the following are suspected/known, consider further consultation with the appropriate specialty.
    - Granulomatous polyangiitis
    - Churg Strauss
    - Systemic lupus erythematosus
    - Sarcoidosis
    - Sicca syndrome (Sjogren's)

Immunodeficiency – The most common immunodeficiency associated with chronic rhinosinusitis is *humoral immune deficiency* also known as antibody deficiency [7]. If suspected, consider further consultation with the appropriate specialty. Consider ordering serum IgA, IgG, IgM.

Recurrent episodes – If four (4) or more episodes of acute rhinosinusitis per year requiring treatment (Recurrent Acute Rhinosinusitis), consider referral to Otolaryngology. It should be noted however, that a CT scan is required for referral. Additionally, consider investigating for immunodeficiency in patients presenting with Recurrent Acute Rhinosinusitis.

6. Advice Options

For emergency medical attention, call RAAPID for on-call Otolaryngologist or call 911.

Zone	Program	Online Request	Phone Number	Hours of operation	Anticipated Turnaround Time
Urgent Telephone					
All Zones	RAAPID	N/A	**North:** 1-800-282-9911 780-735-0811 **South:** 1-800-661-1700 403-944-4486	**7 days per week** 24 hours	1 hour
Non-Urgent Electronic					
Calgary, Central, Edmonton	eReferral Netcare		N/A	**Mon - Fri**	5 business days
Non-Urgent Telephone					
Edmonton, North (ENT)	ConnectMD	Online Request	1-844-633-2263	**Mon - Fri** 9am – 6pm*	2 business days
Calgary (Surgery > Otolaryngology)	Specialist Link	Online Request	403-910-2551	**Mon - Fri** 8am – 5pm*	1 hour

*There are some exceptions to non-urgent telephone program hours of operation and exclusion.
In addition to where specified in the clinical pathway algorithm, you can request non-urgent advice at any point when uncertain about medications, next steps in treatment, imaging, or resources available.

7. Referral Process

Referral pathways are guidelines to help referring providers know what information, labs and diagnostic imaging are required with their referral to a specialty. These pathways are co-designed with Primary and Specialty Care, AHS Operations, and patients to ensure the right amount of information is included throughout the referral process to triage the patient as quickly as possible. To ensure referring providers have referral information at their fingertips, referral pathways may link to clinical pathways when available. AHS manages referral pathways and extensive work is ongoing as part of the Alberta Surgical Initiative. If you have questions or want to know more about the referral pathway development process, please email access.ereferral@ahs.ca.

- Urgent Referral – Call surgeon on call via RAAPID or call 911.
- Provincial Referral Pathway (when available on Alberta's Pathway Hub).
- Send referral to Otolaryngology; see Alberta Referral Directory for referral information.

BACKGROUND

About this pathway

- This pathway was developed in collaboration with otolaryngology surgeons, primary care physicians, patient and family advisors, and the Alberta Health Services (AHS) Provincial Pathways Unit.
- Condition-specific clinical pathways are intended to offer evidence-based guidance to support primary care providers in caring for patients with a range of clinical conditions.

Authors and conflict of interest declaration

- The authors represent a multi-disciplinary team. Names of the content creators and their conflict-of-interest declarations are available on request by emailing AlbertaPathways@ahs.ca

Pathway review process, timelines

- Primary care pathways undergo scheduled review every two years, or earlier if there is a clinically significant change in knowledge or practice. The next scheduled review is May 2026. However, we welcome feedback at any time. Please send us your feedback here.

Copyright information

DISCLAIMER

This pathway represents evidence-based best practice but does not override the individual responsibility of healthcare professionals to make decisions appropriate to their patients using their own clinical judgment given their patients' specific clinical conditions, in consultation with patients/alternate decision makers. The pathway is not a substitute for clinical judgment or advice of a qualified healthcare professional. It is expected that all users will seek advice of other appropriately qualified and regulated healthcare providers with any issues transcending their specific knowledge, scope of regulated practice or professional competence.

PROVIDER RESOURCES

Resources	Link
Bugs & Drugs	bugsanddrugs.org/0f0ef8a2-452d-4ecf-96fc-5a4352c18b26
Choosing Wisely	Five Tests and treatments to question in Otolaryngology: Rhinology
Canadian Clinical Practice Guidelines for acute & chronic rhinosinusitis	Canadian CPG for acute and chronic rhinosinusitis | Allergy, Asthma & Clinical Immunology (biomedcentral.com)
Canadian guidelines for acute bacterial rhinosinusitis	227.full.pdf (cfp.ca)

PATIENT RESOURCES

Resources	Link
Patient Pathway on MyHealth Alberta > A webpage and two PDF formats are available to allow for easy printing, download, or scanning a QR code with the patient's smart phone for more information at their convenience	https://myhealth.alberta.ca/HealthTopics/sinusitis-pathway/Documents/sinusitis-pathway-summary.pdf
MyHealth Alberta Resources	Sinusitis (alberta.ca) Saline Nasal Washes for Sinusitis (alberta.ca)
HealthLine – How to use a Neti Pot	How to Use a Neti Pot: Step-by-Step Instructions

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