Pocket Guide

EPOS

European Position Paper
on Rhinosinusitus and
Nasal Polyps 2012

Reference
Fokkens WJ, Lund VJ, Mullol J, Bachert C, Alobid I, Baroody F, et al. European Position Paper on Rhinosinusitis and Nasal Polyps 2012. Rhinol Suppl. 2012 Mar(23): 1-298.;

www.rhinologyjournal.com; www.ep3os.org.

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Objectives & aims

Rhinosinusitis is a significant and increasing health problem which results in a large financial burden on society. This pocket guide offers evidence-based reccommendations on its diagnosis and treatment.
The full document on which this is based is intended to be a state-of -the-art review for the ENT and non ENT specialist as well as for the primary practitioner:

- to update their knowledge of rhinosinusitis and nasal polyposis
- to provide an evidence-based documented review of the diagnostic methods
- to provide an evidence-based review of the available treatments
- to propose a stepwise approach to the management of the disease
- to propose guidance for definitions and outcome measurements in research in different settings

Category of evidence

Ia evidence form meta-analysis of randomised controlled trials
Ib evidence from at least one randomised controlled trial
IIa evidence from at least one controlled study without randomisation
IIb evidence from at least one other type of quasi-experimental study
III evidence from non-experimental descriptive studies, such as comparative studies, correlation studies, and case-control studies
IV evidence form expert committee reports or opinions or clinical experience of respected authorities, or both

Strength of recommendation

A directly based on category I evidence
B directly based on category II evidence or extrapolated recommendation from category I evidence
C directly based on category III evidence or extrapolated recommendation from category I or II evidence
D directly based on category IV evidence or extrapolated recommendation from category I, II or III evidence

Clinical Definition of Acute and Chronic Rhinosinusitis with and without Nasal Polyps

Rhinosinusitis in adults

Rhinosinusitis in **adults** is defined as:

- inflammation of the nose and the paranasal sinuses characterised by two or more symptoms, one of which should be either nasal blockage/obstruction/congestion or nasal discharge (anterior/posterior nasal drip):
  - ± facial pain/pressure
  - ± reduction or loss of smell

and either

- endoscopic signs of:
  - nasal polyps, and/or
  - mucopurulent discharge primarily from middle meatus and/or
  - oedema/mucosal obstruction primarily in middle meatus

and/or

- CT changes:
  - mucosal changes within the ostiomeatal complex and/or sinuses

Rhinosinusitis in children

Rhinosinusitis in **children** is defined as:

- inflammation of the nose and the paranasal sinuses characterised by two or more symptoms, one of which should be either nasal blockage/obstruction/congestion or nasal discharge (anterior/posterior nasal drip):
  - ± facial pain/pressure
  - **± cough**

and either

- endoscopic signs of:
  - nasal polyps, and/or
  - mucopurulent discharge primarily from middle meatus and/or
  - oedema/mucosal obstruction primarily in middle meatus

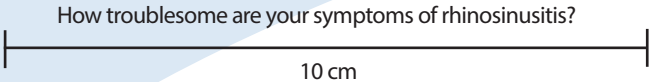
and/or

- CT changes:
  - mucosal changes within the ostiomeatal complex and/or sinuses

Duration of the disease

Acute:	Chronic
< 12 weeks	≥12 weeks symptoms
complete resolution of symptoms.	without complete resolution of symptoms. (may also be subject to exacerbations)

To evaluate the total severity, the patient is asked to indicate on a VAS the answer to the question:



A VAS > 5 affects the patient QOL

Severity of the disease in adults and children

The disease can be divided into MILD, MODERATE and SEVERE based on total severity visual analogue scale (VAS) score (0 - 10 cm):

- MILD = VAS 0-3
- MODERATE = VAS >3-7
- SEVERE = VAS >7-10

Acute rhinosinusitis (ARS) in adults

Acute rhinosinusitis in adults is defined as:
sudden onset of two or more of the symptoms:

- nasal blockage/obstruction/congestion
- or nasal discharge (anterior/posterior nasal drip)
- ± facial pain / pressure
- + reduction or loss of smell

for < 12 weeks;
with symptom free intervals if the problem is recurrent; with validation by telephone or interview.

Acute rhinosinusitis (ARS) in children

Acute rhinosinusitis in children is defined as:
sudden onset of two or more of the symptoms:

- nasal blockage/obstruction/congestion
- or discoloured nasal discharge
- or cough (daytime and night-time)

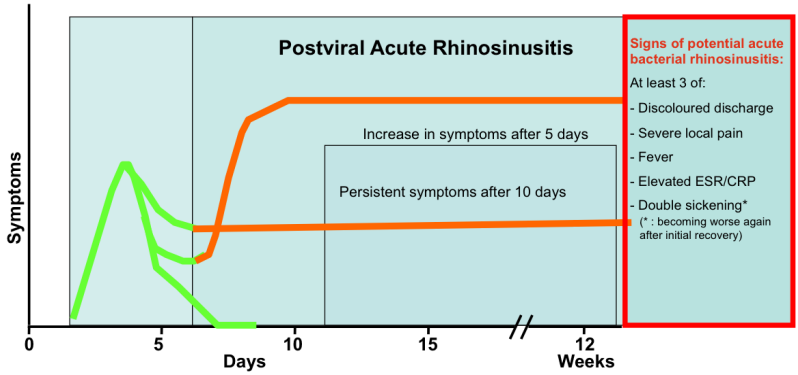
for < 12 weeks;
with symptom free intervals if the problem is recurrent; with validation by telephone or interview.

Questions on allergic symptoms (i.e. sneezing, watery rhinorrhea, nasal itching, and itchy watery eyes) should be included. ARS can occur once or more than once in a defined time period. This is usually expressed as episodes/year but there must be complete resolution of symptoms between episodes for it to constitute genuine recurrent ARS.

Common cold/ acute viral rhinosinusits is defined as: duration of symptoms for less than 10 days.
Acute post-viral rhinosinusitis is defined as: increase of symptoms after 5 days or persistent symptoms after 10 days with less than 12 weeks duration.

Definition of Acute Rhinosinusitis

Increase in symptoms after 5 days or persistent symptoms after 10 days with less than 12 weeks duration



Acute bacterial rhinosinusitis (ABRS)

Acute bacterial rhinosinusitis is suggested by the presence of at least 3 symptoms/signs of

- Discoloured discharge (with unilateral predominance) and purulent secretion in the nasal cavity
- Severe local pain (with unilateral predominance)
- Fever (>38ºC)
- Elevated ESR/CRP
- 'Double sickening' (i.e. a deterioration after an initial milder phase of illness).

Definitions

Chronic Rhinosinusitis (with or without NP) in adults is defined as:

presence of two or more symptoms one of which should be either nasal blockage/obstruction/ congestion or nasal discharge (anterior/posterior nasal drip):
± Facial pain/pressure;
± reduction or loss of smell;
for ≥12 weeks;
with validation by telephone or interview.
Questions on allergic symptoms (i.e. sneezing, watery rhinorrhea, nasal itching, and itchy watery eyes) should be included.

Chronic Rhinosinusitis with nasal polyps (CRSwNP): Chronic rhinosinusitis as defined above and bilateral, endoscopically visualised polyps in middle meatus.
Chronic Rhinosinusitis without nasal polyps (CRSsNP): Chronic Rhinosinusitis as defined above and no visible polyps in middle meatus, if necessary following decongestant.
This definition accepts that there is a spectrum of disease in CRS which includes polypoid change in the sinuses and/or middle meatus but excludes those with polypoid disease presenting in the nasal cavity to avoid overlap.

Treatment evidence and recommendations for adults with acute rhinosinusitis

Therapy	Level	Grade of recommendation	Relevance
antibiotic	Ia	A	yes in ABRS
topical steroid	Ia	A	yes mainly in post viral ARS
addition of topical steroid to antibiotic	Ia	A	yes in ABRS
addition of oral steroid to antibiotic	Ia	A	yes in ABRS
saline irrigation	Ia	A	yes
antihistamine analgesic-decongestant combination	Ia	A	yes in viral ARS
ipratropium bromide	Ia	A	in viral ARS
probiotics	Ia	A	to prevent viral ARS
zinc	Ia	C	no
vitamin C	Ia	C	no
Echinacea	Ia	C	no
herbal medicine (Pelargonium sidoides, Myrtol)	Ib	A	yes, in viral and postviral ARS
aspirin / NSAID's	Ib	A	yes, in viral and postviral ARS
acetaminophen (paracetamol)	Ib	A	yes, in viral and postviral ARS
oral antihistamine added in allergic patients	Ib (1 study)	B	no
steam inhalation	Ia(-)$	A(-)**	no
cromoglycate	Ib(-)*	A(-)	no
decongestant	no data for single use	D	no
mucolytics	no data	D	no

*1b (-): 1b study with negative outcome

$ Ia(-) Ia level of evidence that treatment is not effective.

A(-): grade A recommendation **not to use

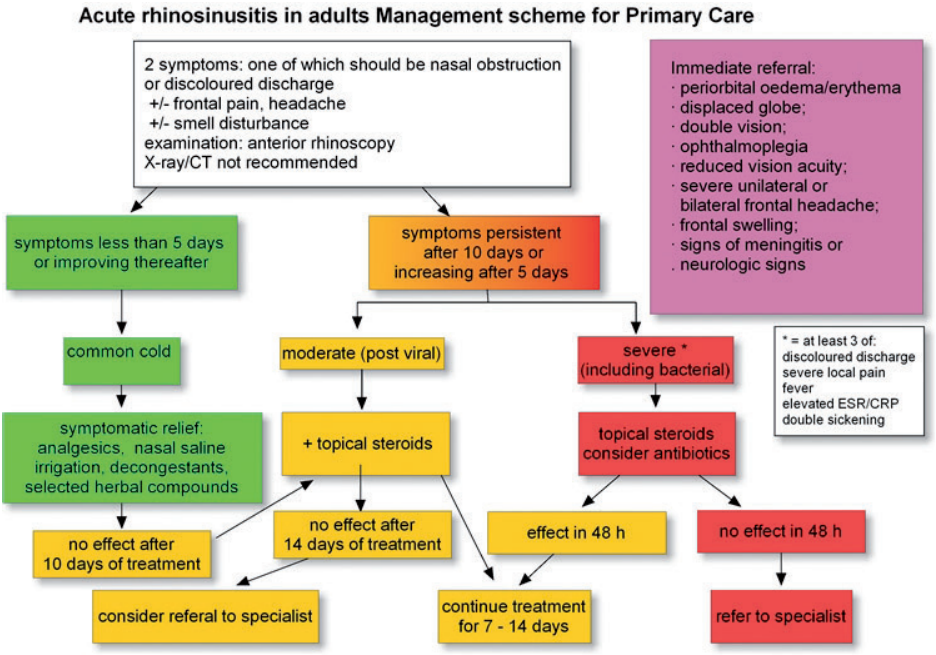
Evidence-based management scheme for adults with acute rhinosinusitis for primary care and non-ENT specialists

Diagnosis
Symptom-based, no need for imaging (plain x-ray not recommended)

Symptoms for less than 12 weeks:
sudden onset of two or more symptoms, one of which should be either nasal blockage/obstruction/congestion or nasal discharge (anterior/posterior nasal drip):
± facial pain/pressure
± reduction/loss of smell

Examination: anterior rhinoscopy: swelling, redness, pus
X-ray/CT-scan not recommended unless additional problems such as:
- very severe diseases,
- Immunocompromised patients;
- signs of complcations

with sympton free intervals if the problem is recurrent
with validtion by telephone or interview asking questions on allergic symptoms, ie, sneezin, watery rhinorrhoea, nasal itching and itchy watery eyes



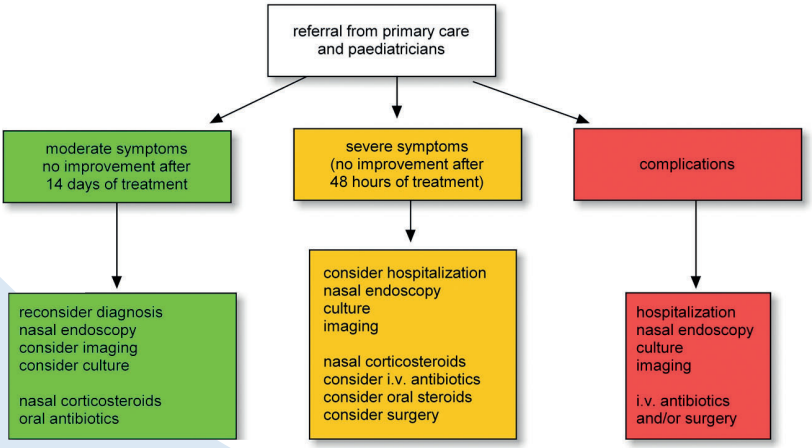
Treatment evidence and recommendations for children with acute rhinosinusitis

Therapy	Level	Grade of recommendation	Relevance
antibiotic	Ia	A	yes in ABRS
topical steroid	Ia	A	yes mainly in post viral ARS studies only done in children 12 years and older
addition of topical steroid to antibiotic	Ia	A	yes in ABRS
mucolytics (erdosteine)	1b (-)*	A(-)**	no
saline irrigation	IV	D	yes
oral antihistamine	IV	D	no
decongestant	IV	D	no

*1b (-): 1b study with negative outcome

A(-): grade A recommendation **not to use

Acute rhinosinusitis in adults and children management scheme for ENT specialist



Evidence-based management scheme for children with acute rhinosinusitis for primary care and non-ENT specialists

Diagnosis

Symptoms

sudden onset of two or more symptoms one of which should be either nasal blockage/ obstruction/congestion or nasal discharge
(anterior/posterior nasal drip):
± facial pain/pressure;
± cough

Signs (if applicable)

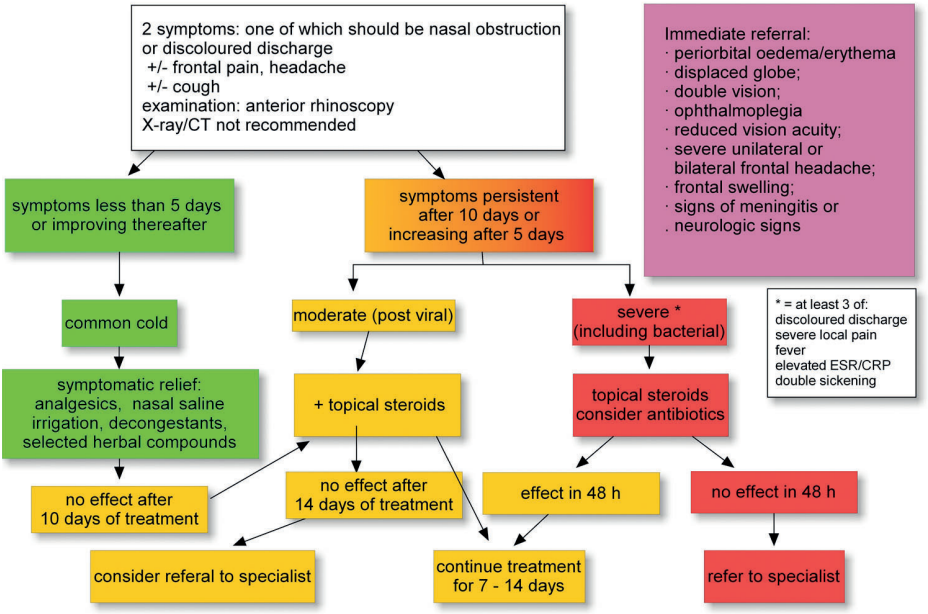
- nasal examination (swelling, redness, pus);
- oral examination: posterior discharge;

exclude dental infection.

Not recommended: plain x-ray.
CT-Scan is also not recommended unless additional problems such as:

- very severe diseases,
- immunocompromised patients;
- signs of complications

Paediatric acute rhinosinusitis management scheme for Primary Care



Treatment evidence and recommendations for adults with chronic rhinosinusitis without nasal polyps *%

Therapy	Level	Grade of recommendation	Relevance
steroid – topical	Ia	A	yes
nasal saline irrigation	Ia	A	yes
bacterial lysates (OM-85 BV)	Ib	A	unclear
oral antibiotic therapy short term < 4 weeks	II	B	during exacerbations
oral antibiotic therapy long term ≥12 weeks**	Ib	C	yes , especially if IgE is not elevated
steroid – oral	IV	C	unclear
mucolytics	III	C	no
proton pump inhibitors	III	D	no
decongestant oral / topical	no data on single use	D	no
allergen avoidance in allergic patients	IV	D	yes
oral antihistamine added in allergic patients	no data	D	no
herbal medicine	no data	D	no
immunotherapy	no data	D	no
probiotics	Ib (-)	A(-)	no
antimycotics – topical	Ib (-)	A(-)	no
antimycotics - systemic	no data	A(-)	no
antibiotics – topical	Ib (-)	A(-)$	no

* Some of these studies also included patients with CRS with nasal polyps

% Acute exacerbations of CRS should be treated like acute rhinosinusitis

Ib (-): Ib study with a negative outcome

$ A(-): grade A recommendation **not** to use

** Level of evidence for macrolides in all patients with CRSsNP is Ib, and strength of recommendation C, because the two double blind placebo controlled studies are contradictory; indication exists for better efficacy in CRSsNP patients with normal IgE so the recommendation is A. No RCTs exist for other antibiotics

Evidence-based management scheme for adults with chronic rhinosinusitis with or without nasal polyps for primary care and non-ENT specialists

Diagnosis

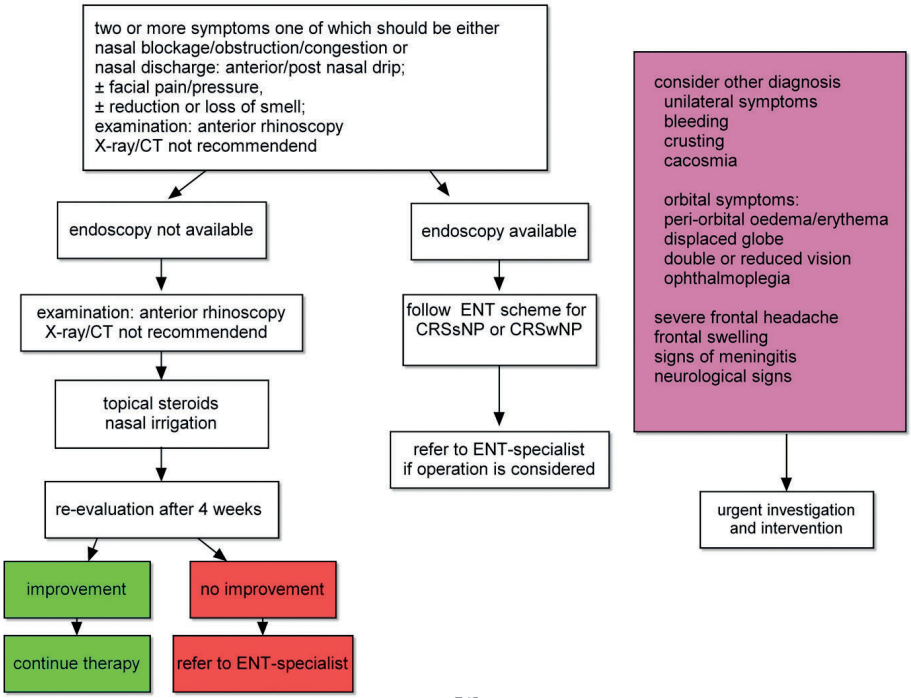
Symptoms present equal or longer than 12 weeks
two or more symptoms one of which should be either nasal blockage/obstruction/congestion or nasal discharge (anterior/posterior nasal drip):
± facial pain/pressure,
± reduction or loss of smell;

Signs (if applicable)
• nasal examination
• oral examination: posterior discharge;
exclude dental infection.

Additional diagnostic information
• questions on allergy should be added and, if positive, allergy testing should be performed.

Not recommended: plain x-ray or CT-scan

CRS in adults management scheme for Primary Care and non-ENT-specialists



Treatment evidence and recommendations postoperative treatment for adults with chronic rhinosinusitis without nasal polyps *

Therapy	Level	Grade of recommendation	Relevance
steroid – topical	Ia	A	yes
nasal saline irrigation	Ia	A	yes
nasal saline irrigation with xylitol	Ib	A	yes
oral antibiotic therapy short term < 4 weeks	II	B	during exacerbations
nasal saline irrigation with sodium hypochlorite	IIb	B	yes
oral antibiotic therapy long term ≥12 weeks**	Ib	C	yes , especially if IgE is not elevated
nasal saline irrigation with babyshampoo	III	C	no
steroid – oral	IV	C	unclear
antibiotics – topical	Ib (-) #	A(-) $	no

Treatment evidence and recommendations postoperative treatment in adults with chronic rhinosinusitis with nasal polyps*

Therapy	Level	Grade of recommendation	Relevance
topical steroids	Ia	A	yes
oral steroids	Ia	A	yes
oral antibiotics short term <4 weeks	Ib	A	yes, small effect
anti-Il-5	Ib	A	yes
oral antibiotics long term > 12 weeks	Ib	C**	yes, only when IgE is not increased
oral antihistamines in allergic patients	Ib	C	unclear
furosemide	III	D	no
nasal saline irrigation	no data	D	unclear
anti leukotrienes	Ib(-)#	A(-)$	no
anti-IgE%	Ib(-)	C	unclear

* Some of these studies also included patients with CRS with nasal polyps

Ib (-): Ib study with a negative outcome

$ A(-): grade A recommendation **not** to use

** Level of evidence for macrolides in all patients with CRSsNP is Ib, and strength of recommendation C, because the two double blind placebo controlled studies are contradictory; indication exist for better efficacy in CRSsNP patients with normal IgE the recommendation A. No RCTs exist for other antibiotics.

EVIDENCE-BASED MANAGEMENT SCHEME FOR ADULTS WITH CHRONIC RHINOSINUSITIS FOR ENT SPECIALISTS

Diagnosis

Symptoms present longer than 12 weeks
Two or more symptoms one of which should be either nasal blockage/obstruction/congestion or nasal discharge (anterior/posterior nasal drip):
± facial pain/pressure,
± reduction or loss of smell;

Signs

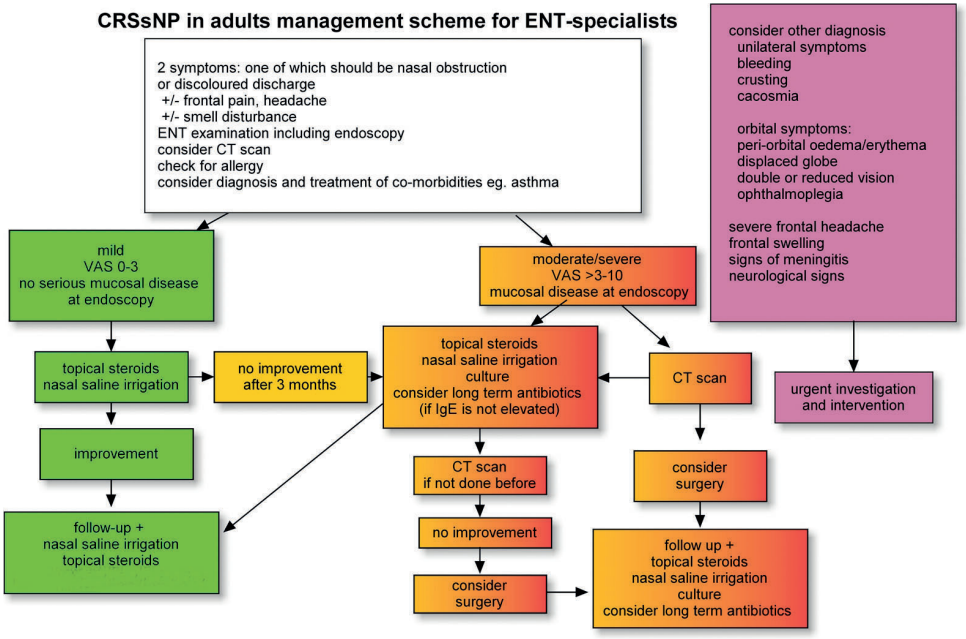
- ENT examination, endoscopy;
- review primary care physician's diagnosis and treatment;
- questionnaire for allergy and if positive, allergy testing if it has not already been done.

Treatment

For treatment evidence and recommendations for CRSsNP.
Treatment should be based on severity of symptoms

- Decide on severity of symptomatology using VAS and endoscope.

Acute exacerbations of CRS should be treated like acute rhinosinusitis.



Treatment evidence and recommendations for adults with chronic rhinosinusitis with nasal polyps*

Therapy	Level	Grade of recommendation	Relevance
topical steroids	Ia	A	yes
oral steroids	Ia	A	yes
oral antibiotics short term <4 weeks	1b and 1b(-)	C%	yes, small effect
oral antibiotic long term ≥ 12 weeks	III	C	yes, especially if IgE is not elevated, small effect
capsaicin	II	C	no
proton pump inhibitors	II	C	no
aspirin desensitisation	II	C	unclear
furosemide	III	D	no
immunosuppressants	IV	D	no
nasal saline irrigation	Ib, no data in single use	D	yes for symptomatic relief
topical antibiotics	no data	D	no
anti-Il5	no data	D	unclear
phytotherapy	no data	D	no
decongestant topical / oral	no data in single use	D	no
mucolytics	no data	D	no
oral antihistamine in allergic patients	no data	D	no
antimycotics – topical	Ia (-) **	A(-)	no
antimycotics – systemic	Ib (-)#	A(-) $	no
anti leukotrienes	Ib (-)	A(-)	no
anti-IgE	Ib (-)	A(-)	no

* Some of these studies also included patients with CRS with nasal polyps

% short term antibiotics shows one positive and one negative study. Therefore recommendation C.

Ib (-): Ib study with a negative outcome

** Ia(-): Ia level of evidence that treatment is **not** effective.

$: A(-): grade A recommendation **not** to use

Evidence-based management scheme for adults with chronic rhinosinusitis with nasal polyps for ENT specialists

Diagnosis

Symptoms present longer than 12 weeks

Two or more symptoms one of which should be either nasal blockage/obstruction/congestion or nasal discharge (anterior/posterior nasal drip):

± facial pain/pressure,

± reduction or loss of smell;

Signs

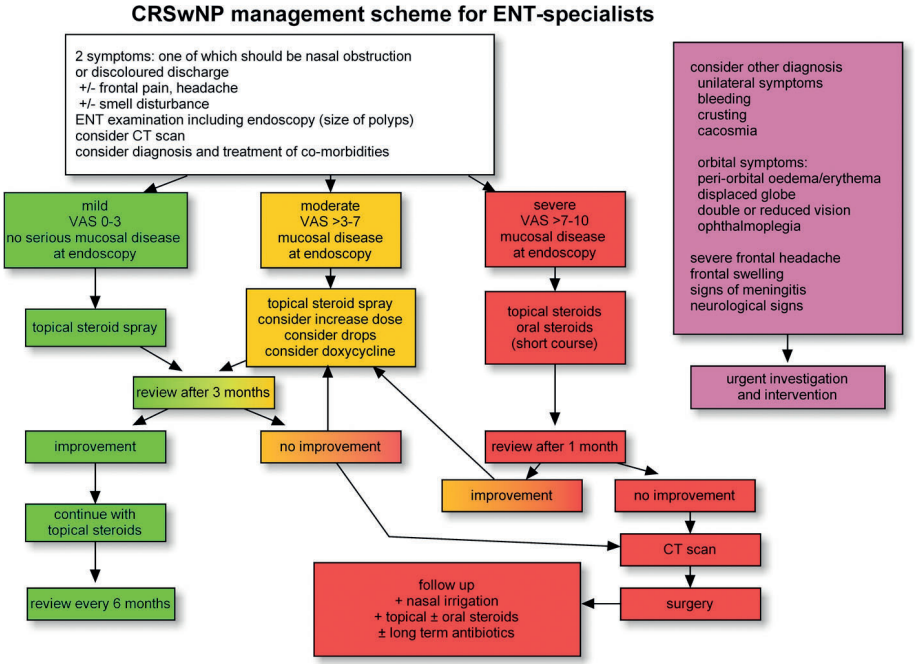
- ENT examination, endoscopy;
- review primary care physician's diagnosis and treatment;
- questionnaire for allergy and if positive, allergy testing if it has not already been done.

Treatment

For treatment evidence and recommendations for CRSwNP.

Treatment should be based on severity of symptoms

- Decide on severity of symptomatology using VAS and endoscope.



Treatment evidence and recommendations for children with chronic rhinosinusitis

Therapy	Level	Grade of recommendation	Relevance
nasal saline irrigation	Ia	A	yes
therapy for gastro-oesophageal reflux	III	C	no
topical corticosteroid	IV	D	yes
oral antibiotic long term	no data	D	unclear
oral antibiotic short term <4 weeks	Ib(-)[#]	A(-)*	no
intravenous antibiotics	III(-)[##]	C(-) **	no

[#] Ib (-): Ib study with a negative outcome

*A(-): grade A recommendation **not** to use

[##]III(-): level III study with a negative outcome

C(-): grade C recommendation **not to use

Evidence-based management scheme for children with chronic rhinosinusitis without nasal polyps for ENT specialists

Diagnosis

Symptoms present equal or longer than 12 weeks
two or more symptoms one of which should be either nasal blockage/obstruction/congestion or nasal discharge (anterior/posterior nasal drip):
± facial pain/pressure;
± cough;
Additional diagnostic information

- questions on allergy should be added and, if positive, allergy testing should be performed.

ENT examination, endoscopy if available;
Not recommended: plain x-ray or CT-scan (unless surgery is considered)

Treatment

For treatment evidence and recommendations for Chronic Rhinosinusitis in children.
This management scheme is for young children. Older children (in the age that adenoids are not considered important) can be treated as adults.

Acute exacerbations of CRS should be treated like acute rhinosinusitis.
Treatment should be based on severity of symptoms.

CRSsNP in young children management scheme for (ENT-) specialists