COMMISSIONING GUIDE FOR CHRONIC RHINOSINUSITIS

CONTENTS

Sponsoring Organisation: ENT-UK

Date of Evidence Search:March 2013

Date of publication:

Date of Review:

INTRODUCTION TO COMMISSIONING GUIDE

Rhinosinisitis is defined as inflammation of the nose and paranasal sinuses. In acute sinusitis, there is complete resolution of symptoms within 12 weeks of onset; persistnace of symptoms for more than 12 weeks is categorised as chronic rhino sinusitis. Acute rhinosinusitis usually has an infective aetiology. The aetiology of chronic rhinosinusitis is largely unknown but is likely to be multifactorial, with inflammation, infection and obstruction of sinus ventilation playing a part.

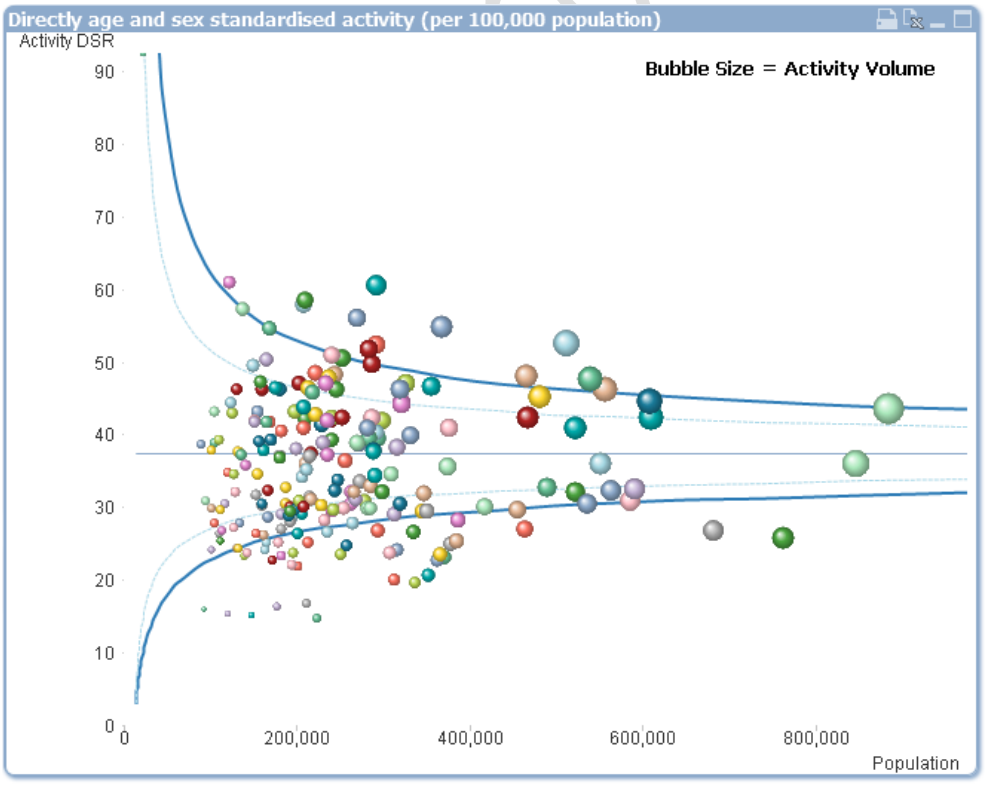
Chronic rhinosinusitis is a highly prevalent condition affecting 10% of the UK adult population. It is associated with significant reduction of quality of life, high health-care utilisation and significant absenteeism/presenteeism.

Diagnosis is made by the presence of two or more persistent symptoms for at least 12 weeks, one of which should be either nasal obstruction and/or nasal discharge, and/or facial pain/pressure or anosmia [1]

Chronic rhinosinusitis is sub-categorised by the presence or absence of nasal polyps (CRSwNP or CRSsNP respectively)

Treatment entails a trial of maximum medical therapy, with surgery reserved for recalcitrant cases, with a diagnosis confirmed by radiology, after an appropriate trial of treatment.

There is over 5 fold variation in procedure rates for sinus surgery per 100,000 population by CCG across England.



email: entuk@entuk.org web: www.entuk.org

GLOSSARY

Term	Definition
VAS	Visual Analogue Scale
2WW	2 week wait
CRS	Chronic Rhinosinusitis
CRSwNP	Chronic Rhinosinusitis with nasal polyps
CRSsNP	Chronic Rhinosinusitis without nasal polyps
ARIA guidelines	Allergic Rhinitis and its impact on Asthma (ARIA) guidelines
INCS	Intranasal corticosteroids
SNOT	Sinonasal Outcome Test
QOL	Quality of Life
PPV	Positive predictive value

1. HIGH VALUE CARE PATHWAY FOR CHRONIC RHINOSINUSITIS IN ADULTS

Primary Care Assessment

History documenting the symptoms included in the diagnostic criteria above;
2 or more persistent symptoms for at least 12 weeks, one of which should be either nasal obstruction and/or nasal discharge, and/or facial pain/pressure or anosmia

Assessment of severity of symptoms using a 10cm Visual Analogue Scale (VAS) to categorise into mild (VAS 0 – 3) or moderate/severe (VAS >3) (2)

Examination by anterior rhinoscopy
Any unilateral findings should raise suspicion of neoplasia
Look for visible nasal polyps (consider turbinate hypertrophy in differential diagnosis)

Consider diagnosis of allergic rhinitis in patients (especially those with family history of atopy) with associated epiphora, itching, sneezing in addition to rhinorrhoea – manage according to ARIA guidelines (3)

Assess for lower airway symptoms and control of asthma (4)

Consider alternate diagnosis in presence of unilateral symptoms, cacosmia, crusting, epistaxis, orbital symptoms (diplopia, reduced visual acuity, globe displacement, peri-orbital oedema) or neurological symptoms (severe frontal headache, signs of symptoms of meningism, neurological signs) – consider urgent/ 2WW referral in these cases

There is no role for plain X-ray in assessment of CRS (plain X-ray, despite low cost and availability, has limited usefulness due to underestimation of bony and soft tissue sinus pathology (5,6)) . Imaging is usually reserved for those who fail medical therapy or have complicated infection/more serious conditions

Offer all patients:

Saline irrigation (7): commercially available positive pressure squeeze bottles or irrigation jugs (Netti pots) available to aid douching. High volume irrigation more effective than saline sprays (Appendix 1)

Intranasal corticosteroids (INCS) (8-10): advise on correct application technique. Bioavailability varies between INCS – negligible with mometasone and fluticasone

We do not recommend routine use of antibiotics for CRS in primary care1, due to limited evidence of efficacy in unselected groups, low specificity of symptomatic diagnosis without endoscopy or imaging, and risks of increasing antibiotic resistance.

If bilateral large nasal polyps visible on anterior rhinoscopy, consider trial of oral prednisolone (0.5mg/kg for 5 – 10 days) followed by topical drops (fluticasone proprionate 400mcg bd or beclomethasone tds) applied in the head upside down position, review after 4 weeks of treatment and refer if no improvement (11)

Reassess symptom control after 3 months

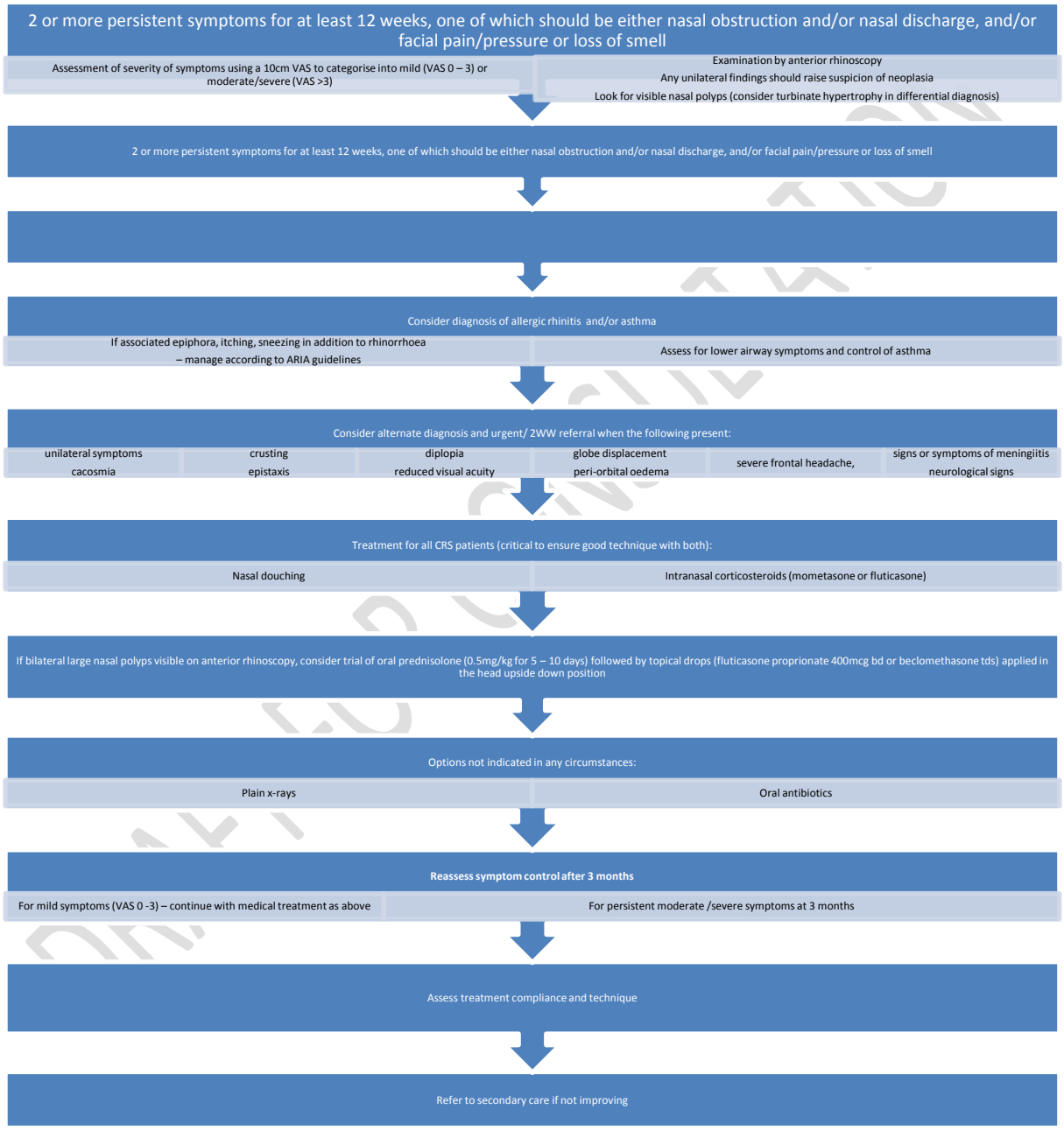
For mild symptoms (VAS 0 -3) – continue with medical treatment as outlined above, emphasise need for compliance

For persistent moderate /severe symptoms at 3 months:

Assess treatment compliance and technique

Refer to specialist community or secondary care provider for nasal endoscopy and further investigation (12 – 15)

Recommended Primary Care Pathway



Secondary care

Assessment (see above) and consider diagnosis and treatment of co-morbidity – Allergy, ASA triad, systemic conditions (vasculitides, Churg-Strauss, sarcoidosis) etc

Endoscopy – nasal purulence, presence of polyps or oedema in middle meatus supportive of diagnosis of CRS

Consider nasal culture – endoscopically guided middle meatal culture

Disease-specific Patient Reported Outcome Measure to assess symptom severity and response to treatment – 22 item Sinonasal Outcome Test (SNOT-22)16

Consider CT where endoscopy findings not supportive and diagnosis is uncertain, or when malignancy or complications of CRS suggested (presence of orbital or neurological signs as above)

<u>For CRSwNP, and moderate/severe symptoms (VAS>3, SNOT-22>)</u>
Continue nasal saline irrigation
Short course oral steroids (0.5mg/kg 5 - 10 days)11
Consider topical drops (fluticasone proprionate 400mcg bd or beclomethasone tds) or continue intranasal corticosteroid spray
Consider doxycycline (100mg od 3 weeks) 17

Review after 3 months for moderate disease, 1 month for severe disease

<u>For CRSsNP, and moderate/severe symptoms (VAS>3, SNOT-22>20)</u>
Continue nasal saline irrigation
Continue intranasal corticosteroid spray
Consider long term macrolide antibiotics (most likely to be effective when IgE levels NOT elevated) 18 Do not use macrolides in patients with significant history of cardiorespiratory disease or those taking statins19.
Review after 3 months

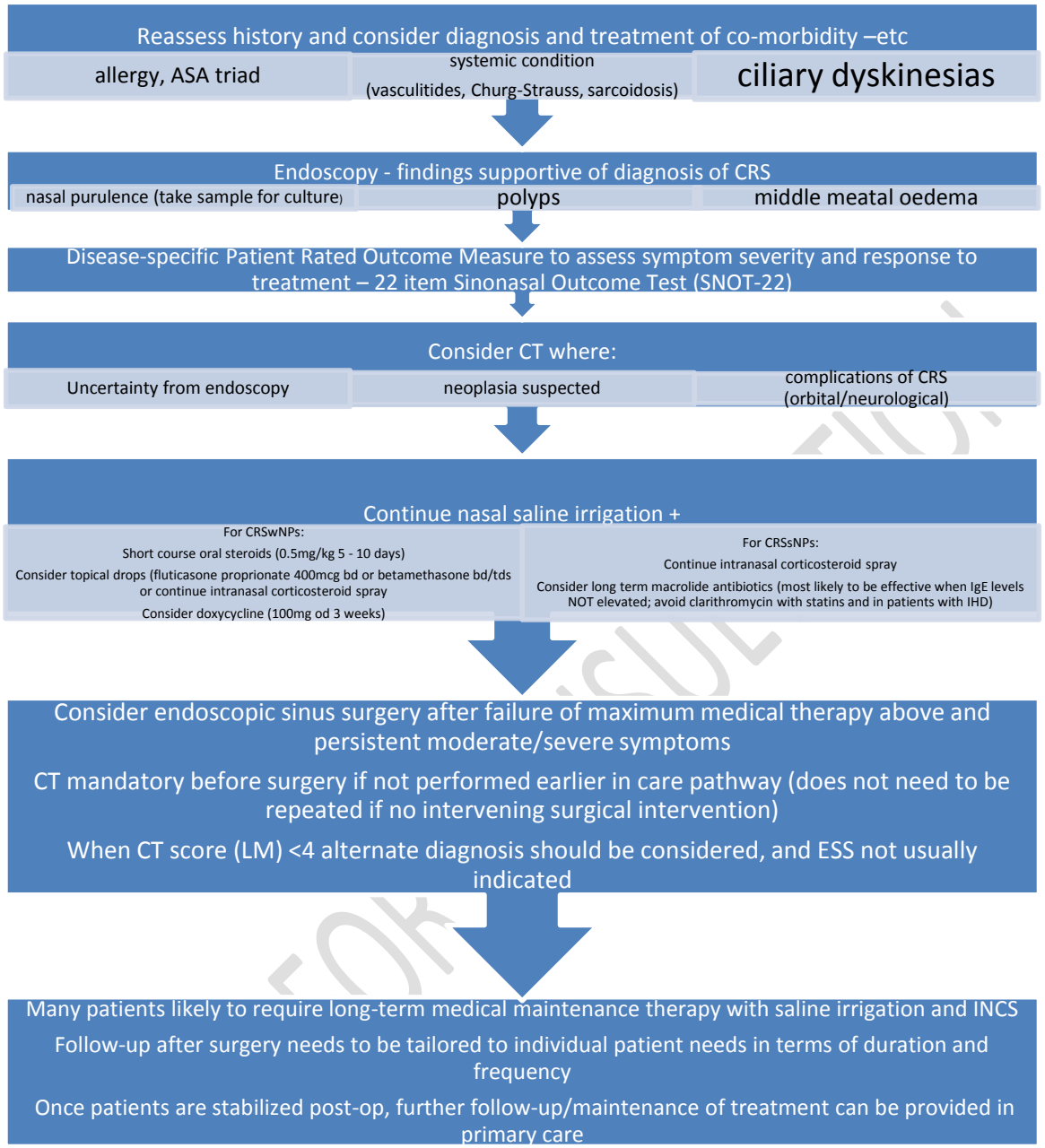
<u>For both CRSwNP and CRSsNP</u>
Consider endoscopic sinus surgery after failure of maximum medical therapy above and persistent moderate/severe symptoms
CT mandatory before surgery if not performed earlier in care pathway (does not need to be repeated if no intervening surgical intervention)
When LM<4 alternate diagnosis should be considered, and ESS not usually indicated.

There is insufficient evidence to inform as to the optimum extent of surgery, instrumentation to be used, or post-operative packing materials.
In suitable patients, endoscopic sinus surgery may be performed in an ambulatory setting.

<u>Post-operative care</u>

Many patients likely to require long-term medical maintenance therapy with saline irrigation and INCS
Use of INCS shown to reduce risk of polyp recurrence20 and is safe for long term use
Surgical intervention does allow enhanced delivery of medical treatment in topical forms (e.g. douching, steroids).
Follow-up after surgery should be tailored to individual patient needs in terms of duration and frequency and may be influenced by other factors such as atopy and co-morbidity.
Once patients are stabilized post-op, further follow-up/maintenance of treatment can be provided in primary care.

Recommended Secondary Care Pathway



2. PROCEDURES EXPLORER FOR RHINOSINUSITIS

Users can access further procedure information based on the data available in the quality dashboard to see how individual providers are performing against the indicators. This will enable CCGs to start a conversation with providers who appear to be 'outliers' from the indicators of quality that have been selected.

The Procedures Explorer Tool is available via the Royal College of Surgeons website.

3. QUALITY DASHBOARD FOR RHINOSINUSITIS

The quality dashboard provides an overview of activity commissioned by CCGs from the relevant pathways, and indicators of the quality of care provided by surgical units

The Quality Dashboard is available via the Royal College of Surgeons website.

4. LEVERS FOR IMPLEMENTATION

4.1 Audit and Peer Review Measures

Audit/Peer Review Measure	Description	Specification
Primary Care Assessment	Use VAS to assess severity and measure response to treatment	Do not offer investigation or treatment to patients not meeting diagnostic criteria Do not use plain X-ray for investigation
Referral	Do not offer referral before a trial of conservative management, or those in whom medical treatment achieve adequate control of symptoms	

4.2 Quality Specification/ CQUIN

Measure	Description	Data Specification (if required)
Length of stay	Provider demonstrates a mean LOS of x days	Data available from HES
Day Case Rates	Provider demonstrates >80% day case rate for x procedure	Data available from HES

5. DIRECTORY

5.1 Patient Information for CHRONIC RHINOSINUSITIS

Title	Published By	Web Link (if available)
Functional Endoscopic Sinus Surgery (FESS)	ENT-UK	https://entuk.org/ent_patients/nose_conditions/fess

Sinusitis	NHS Choices	http://www.nhs.uk/conditions/sinusitis/pages/introduction.aspx
Loss of sense of smell	Fifth Sense	http://www.fifthsense.org.uk/

5.2 Clinician Information for CHRONIC RHINOSINUSITIS

Title	**Published By**	**Web Link (if available)**
ERS/EAACI guidelines for acute and chronic rhinosinusitis with and without nasal polyps based on a systematic review	Rhinology	http://www.rhinologyjournal.com/supplement_23.pdf
Rhinosinusitis – Map of medicine	NHS Choices	http://healthguides.mapofmedicine.com/choices/map/rhinosinusitis1.html
Sinusitis - Clinical Knowledge Summaries	NICE	http://cks.nice.org.uk/sinusitis

6. BENEFITS AND RISKS OF IMPLEMENTING THIS GUIDE

This section descries the benefits/risks of implementing the guidance. Some examples are given below.

Consideration	**Benefit**	**Risk**
Patient outcome	Ensure access to effective treatment	
Patient safety	Reduce chance of missing sinonasal malignancy or complication of CRS	
Patient experience	Improve access to patient information, support groups	
Equity of Access	Improve access to effective treatment	

Resource impact	Reduce unnecessary referral, investigation and intervention	Resource required to provide saline irrigation on prescription

7. FURTHER INFORMATION

7.1 Research Recommendations

- Aetiology of CRS, role of allergy
- Assessment – Better phenotyping of subgroups of CRS, implications for treatment options and outcomes
- Comparative effect of medical versus surgical treatment for both CRSwNp and CRSsNP
- Role of long-term antibiotics in management of both CRSwNP and CRSsNp
- Novel therapies for chronic rhinosinusitis

7.2 Other recommendations

- Improved coding of procedures for endoscopic sinus surgery reflecting developments in surgical technique
- Need for national database to collect epidemiology data, PROMs and operative activity, to further knowledge base and provide individual surgeon outcome data.

7.3 Evidence Base

1 Fokkens W, Lund VJ, Mullol J et al. *European Position Paper on Rhinosiniuitis and Nasal Polyps 2021.* Rhinology 2012 Supp 23: 1 - 298

2 Lim M, Lew-Gor S, Darby Y, Brooked N, Scadding GK, Lund VJ. *The relationship between subjective assessment instruments in chronic rhinosinusitis.* Rhinology 2007; 45(2): 144-147

3 Borzek J, Bousquet J, Baena-Cagnani et al. *ARIA Guidelines 2012 Update.* J Allergy Clin Immunol. 2010; 126: 466 - 476

4 Hens & Hellings. *The nose:gatekeeper and trigger of bronchial disease.* Rhinol 2006; 44,179

5 Goldstein JH, Phillips CD. *Current indications and techniques in evaluating inflammatory disease and neoplasia of the sinonasal cavities.* Curr Probl Diagn Radiol. 1998 Mar-Apr;27(2):41-71

6 Yousem DM. *Imaging of sinonasal inflammatory disease.* Radiology. 1993 Aug;188(2):303-1

7 Harvey R, Hannan SA, Badia L et al. *Nasal saline irrigations for the symptoms of chronic rhinosinusitis.* Cochrane Database of systematic reviews. 2007 (3)

8 Joe SA, Thambi R, Huang J. *A systematic review of the use of intranasal steroids in the treatment of chronic rhinosinusitis.* Otolaryngology – Head and Neck Surgery. 2008; 139 (3): 340 – 7

9 Snidvongs K, Khalish L, Sacks R et al. *Topical steroid for chronic rhinosinusitis without nasal polyps.* Cochrane database of systematic reviews. 2011 (8)

10 Khalish L, Snidvongs K, Sivasubranium R et al. *Topical steroids for nasal polyps.* Cochrane database of systematic reviews. 2012

11 Scadding GK, Durham SR, Mirakian R et al. *BSACI guidelines for the management of rhinosinusitis and nasal polyposis.* Clin Exp Allergy 2007; 38: 260 - 275

12 EPOS – recommends referral after failure of 3 months medical therapy.

13 Smith T, Kern R, Palmer J et al. *Medical versus surgery for chronic rhinosinusitis: a prospective, multi-institutional study with 1-year follow-up.* Int Forum Allergy Rhinol. 2012. Study shows that 34% patients fail medical management within 3 months of treatment. Disease specific QOL then stagnates or worsens until crossover into surgical treatment. Supports referral after 3 months, as non-responders are unlikely to respond at later stage and will suffer deterioration in symptoms.

14 Hopkins C, Milano Masterclass 2013. *Early intervention for Chronic rhinosinusitis.* Patients undergoing surgery within 12 months of onset of symptoms that fail to respond to maximum medical therapy, achieve significantly better measured outcomes in terms on improvements in SNOT-22 than those undergoing surgery at a later stage. Health care utilisation is significantly lower in first 2 years following surgery in patients undergoing surgical intervention compared with those having surgery at a later stage.

15 Confirmation of diagnosis by endoscopy or CT imaging is required according to both EPOS and AAO-HNS definitions of CRS, as symptoms alone have a sensitivity of 89% but a specificity of only 12%, PPV of 49% and NPV of 54%.

Therefore, we are unable to recommend escalation of care pathway without either endoscopy or CT, particularly as this would entail prolonged courses of antibiotics in a significant number of patients unlikely to benefit from such treatment, in the face of increasing antibiotic resistance.

Either a Community Specialist or Secondary Care Specialist may perform endoscopic examination.

CT imaging is normally reserved for patients selected for surgical management in order to minimize risk from exposure to ionizing radiation, and therefore not recommended for use in primary care or at this stage of the treatment pathway. However, up to 40% of patients with symptoms of CRS and normal endoscopy have radiological evidence of CRS (Cain RB, Lal

D. Update on the management of chronic rhinosinusitis. *Infection and Drug resistance 2013: 6: 1 – 14),* and CT is therefore recommended at a later stage if the diagnosis remains uncertain.

16 Hopkins C, Browne J, Slack R, Gillett S, Lund V .*Psychometric validity of the 22 item Sinonasal Outcome Test (SNOT-22).* Clin Otolaryngol 2009; 34 :447-454

17 Van Zele T, Gevaert Pn Holtappels G et al. *Oral Steroids and doxycycline: two different approaches to treat nasalm poyps.* JACI 2010:125;1069-1076

18 Soler ZM, Oyer SL, Kern RC et al. *Antimicrobials and chronic rhinosinusitis with or without polyposis in adults: an evidenced based review with recommendations.* Int Forum Allergy and Rhinol. 2013: 3: 31 – 47. Adelson RT, Adappa ND. What is the proper role of oral antibiotics in the treatment of patients with chronic sinusitis? Curr.OP Otolaryngol Head Neck Surg. 2013; 21: 61 – 8

19 Schembri S, Williamson P, Short P. *Cardiovascular events after clarithromycin use in lower respiratory tract infections.* BMJ, 2013: 346: f1235

20 Rowe-Jones J, Medcalf M, Durham S, Richards D, Mackay I. *Functional Endoscopic Sinus Surgery: 5 year follow up and results of a prospective, randomised, stratified, double-blind, placebo controlled study of postoperative fluticasone propionate aqueous nasal spray.* Rhinology 2005 ;43-1: 2-10,

Evidence identified by Bazian but not incorporated into care pathway;

Krespi YP, Kizhner V. Phototherapy for Chronic rhinosinusitis – n=23 2 treatment arms both show symptomatic benefit, but no control arm, therefore unacceptable risk of bias and needs further evaluation before use can be recommended.

7.4 Guide Development Group for Chronic Rhinosinusitis

A commissioning guide development group was established to review and advise on the content of the commissioning guide. This group met once, with additional interaction taking place via email.

Name	Job Title	Affiliation
Claire Hopkins	Chair, Guidance Development Group, Consultant ENT surgeon	ENT-UK
Andrew McCombe	Consultant ENT surgeon	ENT-UK
Carl Philpott	Honorary Consultant ENT Surgeon,	Norwich Medical School
Jonathan Hern	Consultant ENT Surgeon,	Frimley Park Hospital
June Blythe	Independent patient representative	
Mike Thomas	Professor of Primary Care Research	University of Southampton
Natalie Bohm	Darzi Fellow, Clinical Academic Lecturer ENT,	ENT-UK
Rajiv Bhalla	Consultant ENT surgeon	
Valerie J Lund CBE	Professor of Rhinology,	University College London & Honorary Consultant ENT Surgeon, University College Hospital London
Darryl Veldtman	Independent patient representative	
Andrew Swift	Consultant ENT surgeon and Rhinologist	
Dr Greg Battle	Executive Medical Director, Integrated Care	

7.5 Funding statement

The development of this commissioning guidance has been funded by the following sources:

- DH Right Care funded the costs of the Guide Development Group, literature searches and contributed towards administrative costs.

- The Royal College of Surgeons of England (RCSEng) and ENT-UK provided staff to support the guideline development.

Appendix 1

Saline Irrigation recipe

How to make 1 pint of salt solution

1. You will need:
   salt (sea salt, canning, or pickling salt)
   baking soda
   nasal irrigation pot
   measuring spoon (1 teaspoon, 1/2 tsp)
   pint container
2. Mix the solution:
   Measure 1 tsp of salt and 1/2 tsp of baking soda into the pint container.
   Add one pint of cooled boiled water (lukewarm tap water may be safe in some areas)
   Stir
   From one-pint container of solution, fill nasal pot