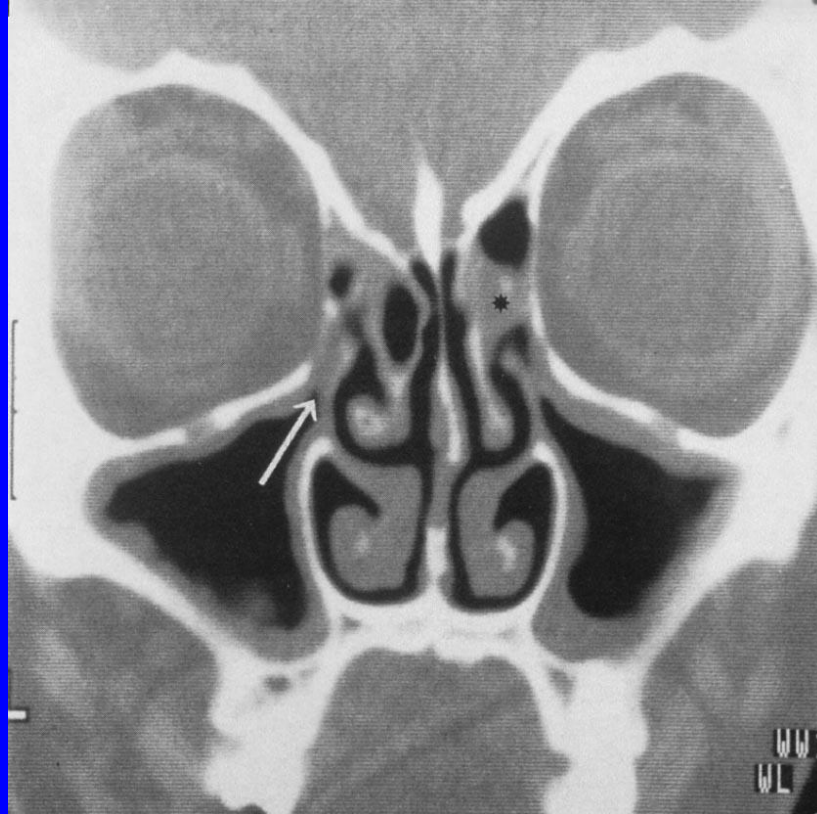


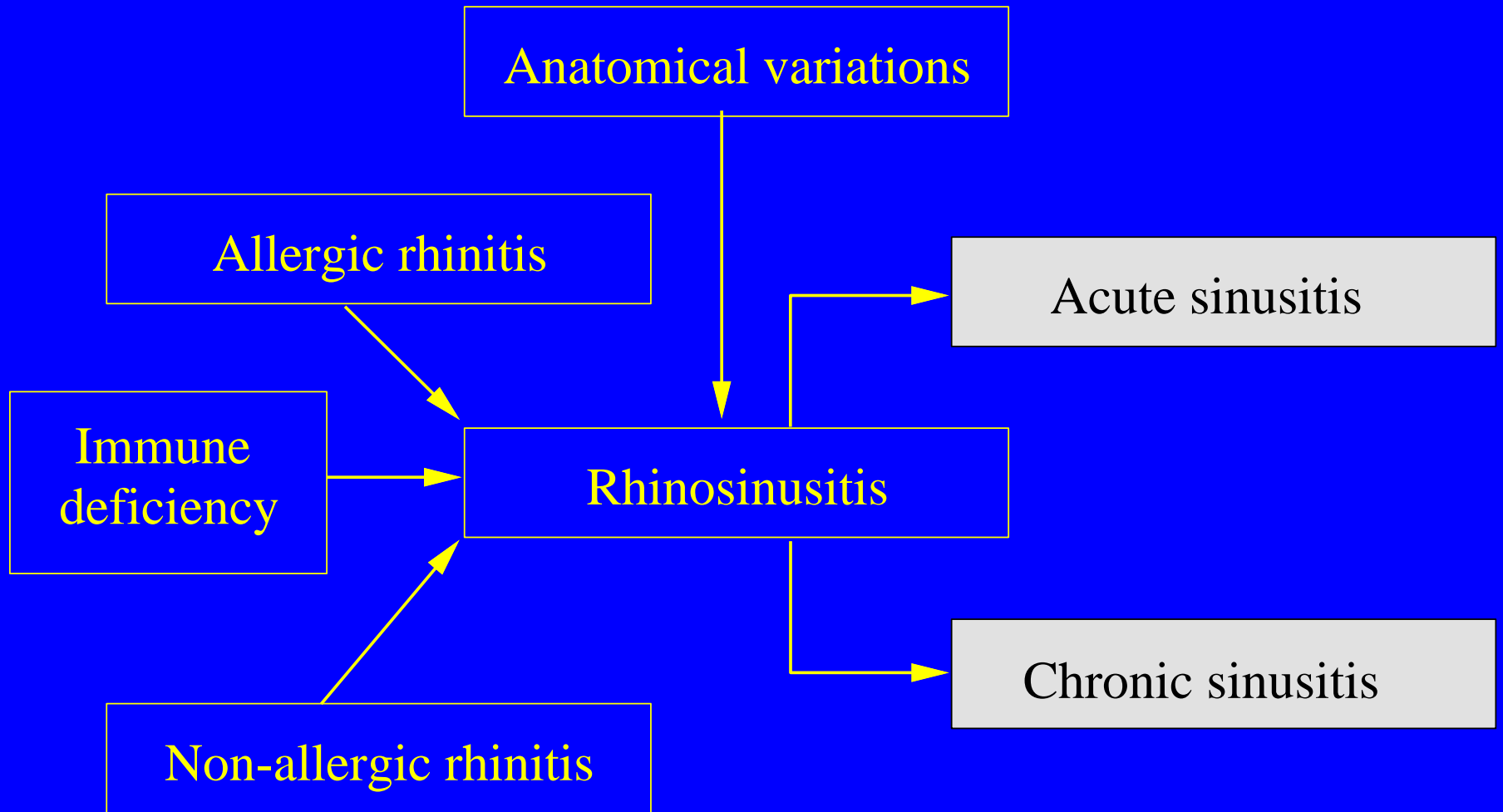
# Chronic Rhinosinusitis-Treatment



**INFLAMMATION**

**INFECTION**

# Predisposing Factors



# SPECIAL PAEDIATRIC CONSIDERATIONS

- Presentation-includes cough
- Prevalence- >adults
- Different causes from those in adults
- Tendency to remit spontaneously at around age 7
- Poor quality evidence for treatment

# CRS without nasal polyps

## evidence & recommendations for treatment

Treatment	Evidence	Recommendation	Relevance
<b>Oral antibiotics</b> long term (12 weeks)	<b>Ib</b>	<b>A</b>	Yes
<b>Topical steroids</b>	<b>Ib</b>	<b>A</b>	Yes
<b>Nasal saline douche</b>	<b>Ib</b>	<b>A</b>	Yes
<b>Antimycotics (topical, oral)</b>	Ib (-)	•D	No
<b>Antileukotrienes</b>	III	C	No

**NO studies / NO evidence for efficacy** : Oral Ab (<2 weeks), topical Ab, oral steroids, decongestants, bacterial lysates, mucolytics, systemic antimycotics, phytotherapy, proton pump inhibitors, immunomodulators, antihistamines.



K. & O. DOUCHE FOR THE APPLICATION OF  
GLYCO-THYMOLINE TO THE NASAL CAVITIES

# GLYCO-THYMOLINE

IS USED FOR CATARRHAL CONDITIONS OF  
MUCOUS MEMBRANE IN ANY PART OF THE BODY

**Nasal, Throat, Stomach, Intestinal  
Rectal and Utero-Vaginal Catarrh**

KRESS & OWEN COMPANY

210 Fulton Street. New York

Sole Agents for Great Britain, Thos. Christy & Co., 4-10. & 12 Old Swan Lane, London, E. C.

## COCHRANE REVIEW

Nasal saline irrigations for the symptoms  
of chronic rhinosinusitis

Harvey R Hannan SA Badia L Scadding G

“saline irrigations .....relieve symptoms,  
help as an adjunct to treatment and are well  
tolerated

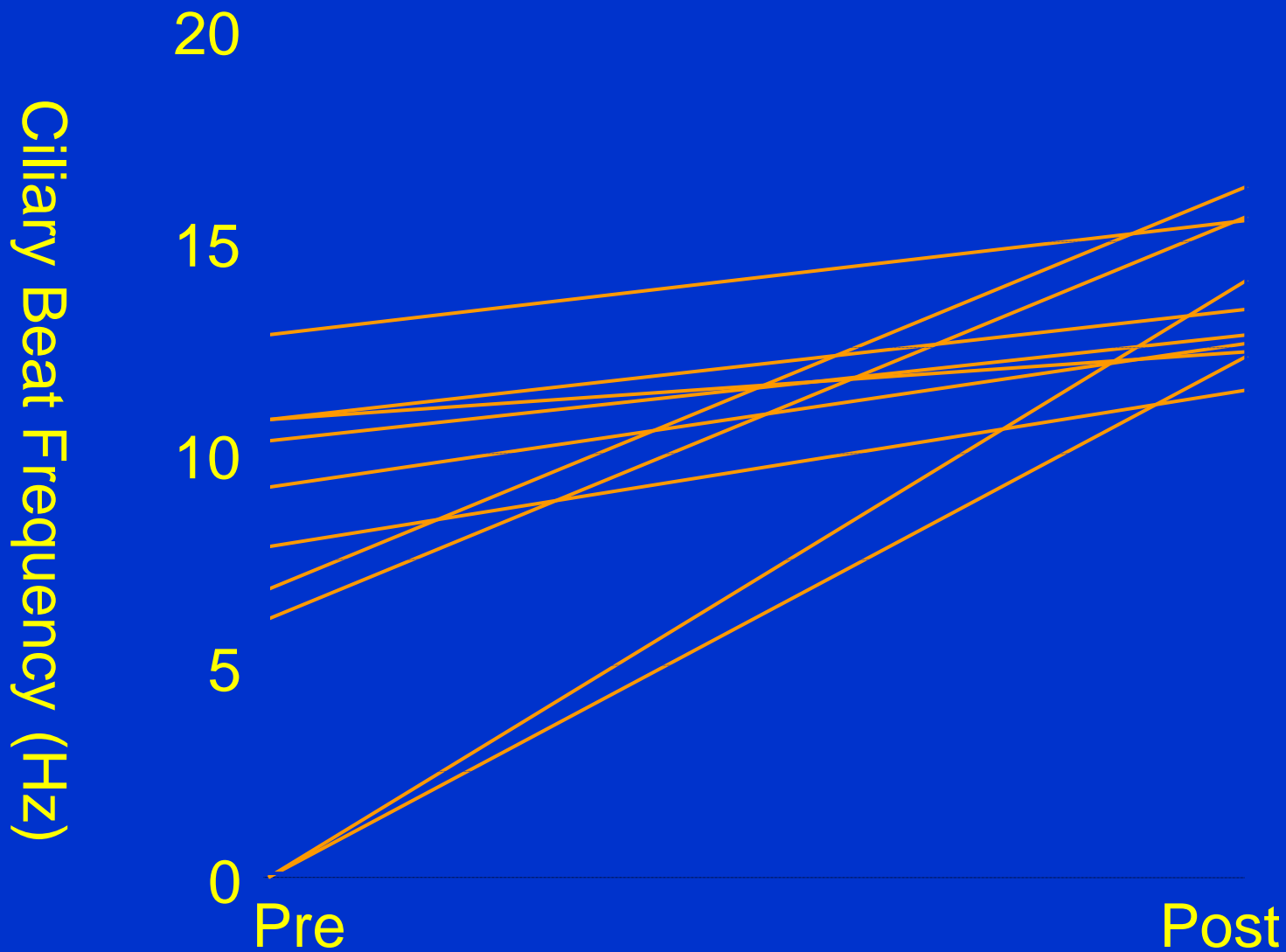
No recommendations can be made  
regarding specific solutions, dosage or  
delivery. There are no significant side-  
effects.”

Nasal lavage with mupirocin for the treatment of  
surgically recalcitrant chronic rhinosinusitis.

Uren B, Psaltis A, Wormald PJ.

Laryngoscope. 2008 Sep;118(9):1677-80.

Twelve of 16 patients noted overall  
symptom improvement



### CRS-Antibiotic Treatment-3 months

Scadding, Lund & Darby (1994) J. Laryngol Otol. 109, 24-26

# Macrolide therapy for CRS

*Cervin & Wallwork*

*Rhinology 45;259-267, 2007*

In vitro ↓

↓ Inhibition of pro-inflammatory cytokines eg 1L8

2 ↓ to inhibition of transcription factor  $\text{NF-}\kappa\text{B}$

Attenuation of neutrophilic inflammation

Inhibit bacterial virulence

Inhibit biofilm production eg by quorum sensing

In vivo ↓ cytokines in nasal lavage & secretion

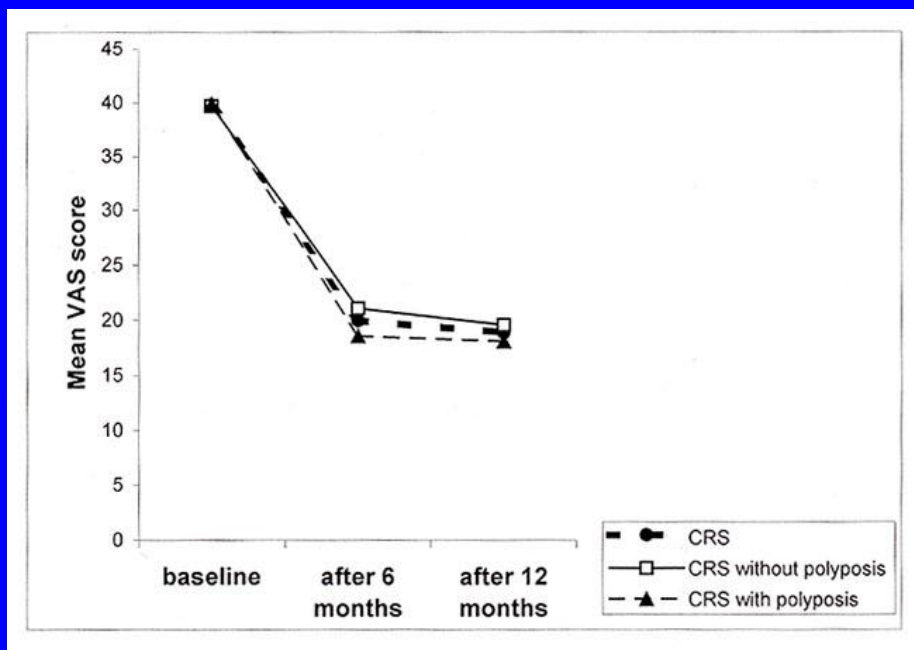
STUDY	DRUG	NUMBER	TIME/DOSE	EFFECT symptoms	Evidence
Hashiba et al. 1996	clarithromycin	45	400mg /d for 8 to 12 weeks	clinical improvement in 71,1%	III
Suzuki et al. 1997	roxithromycin	12	150mg /d	CT-Scan pre- and posttherapy: improvement in the aeration of nasal sinuses	III
Nishi et al. 1995	clarithromycin	32	400mg /d	pre- and posttherapeutical assessment of nasal clearance	III
Gahdhi et al. 1993	Prophylatic antibiosis details not mentioned	26	not mentioned	19/26 decrease of acute exacerbation by 50% 7/26 decrease of acute exacerbation by less than 50%	III
Ichimura et al. 1996	roxithromycin	20	150mg /d for at least 8 weeks	clinical improvement and polyp-shrinking in 52%	III
	roxithromycin and acelastine	20	1mg /d	clinical improvement and polyp-shrinking in 68%	
Wallwork et al 2006	Roxithromycin DBPCT	64	150mg daily 3months	Improved SNOT20,endoscopy,, SCT , IL-8	I



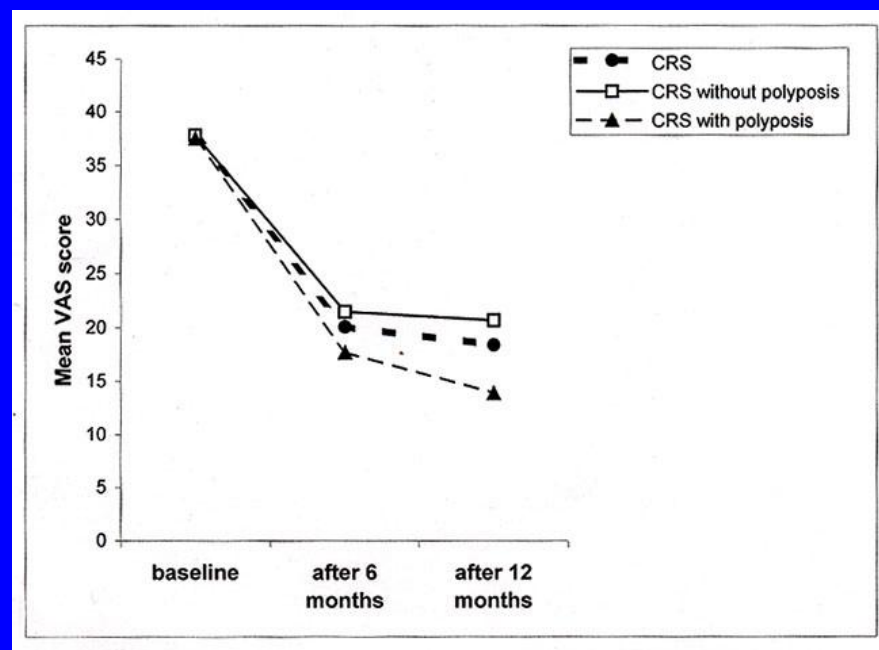
# Evaluation of medical and surgical treatment of chronic rhinosinusitis: A prospective, randomised trial

Ragab SM\*, Lund VJ, Scadding GK *Laryngoscope* 2004, 114; 923-930

Both groups showed overall improvement in total & individual symptom VAS at 6 months which was maintained at 12 months



Changes in the mean VAS scores of the surgical groups



Changes in the mean VAS scores of the medical groups

# Results-Lower Respiratory Tract

Bronchodilator inhalers – sig improvement all groups,  
med=surg Rx, 6 = 12 months

Systemic corticosteroids – sig reduction all groups

Hospitalisations – sig reduction all groups

Asthma control score – sig improvement all groups

FEV1 – sig increase in med Rx

Chest score – trend to improvement for all groups, only stat sig in med Rx CRS

eNO – sig decrease in med Rx

PEF – improvement, sig only for med Rx

Corticosteroid inhalers – no statistical change

# Chronic rhinosinusitis treatment guidelines

## Therapy in “sandwich”

- Optimal drug therapy
- Endoscopic Sinus Surgery (ESS)-  
only if symptoms uncontrolled or  
complication
- Optimal drug therapy

Blomqvist EH. *J Allergy Clin Immunol* 2001

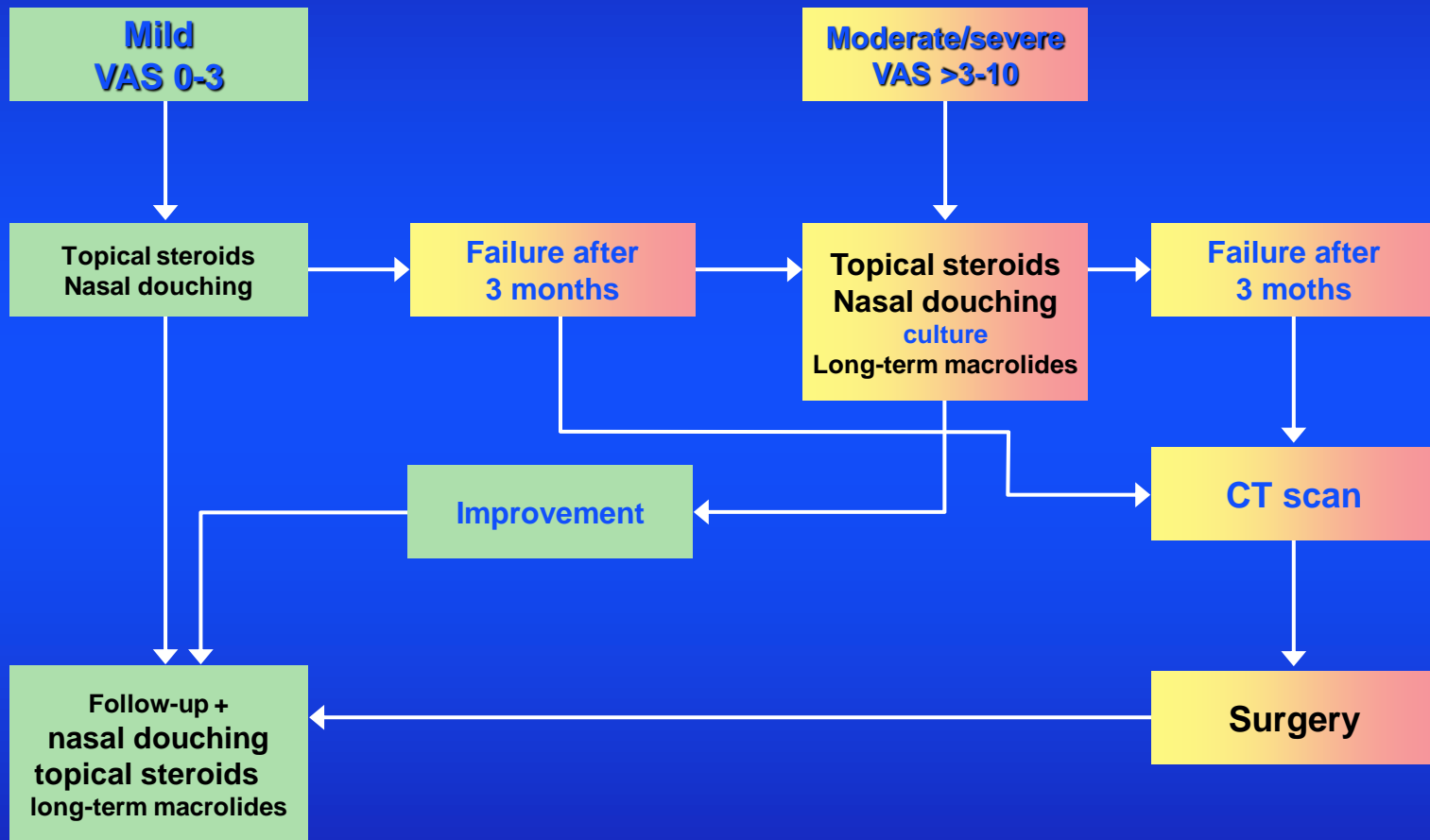
Lavigne et al. *Laryngoscope* 2002

Dijkstra et al. *Clin Exp Allergy* 2004

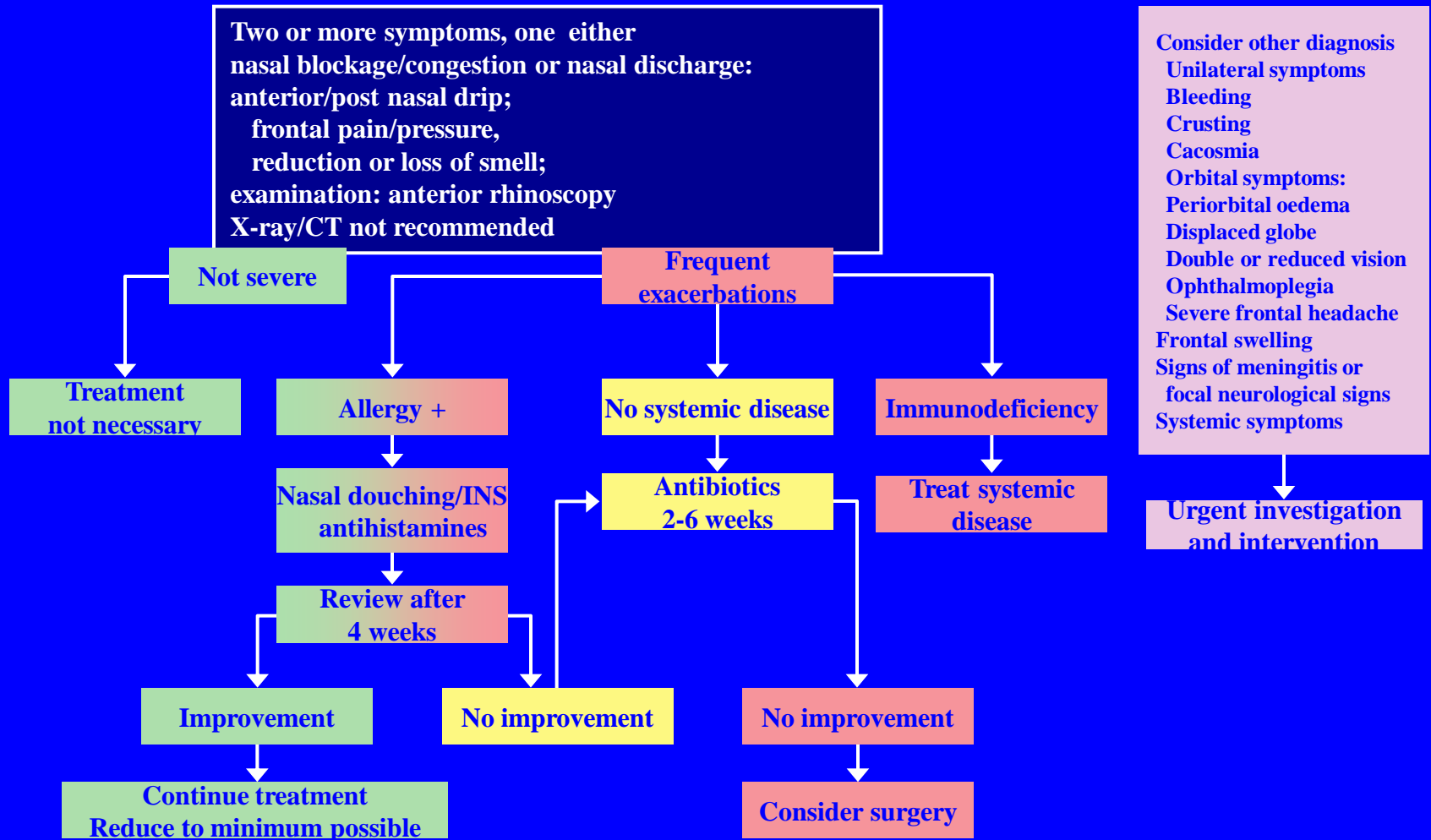
# Anti-fungals

- Ponikau et al suggest CRS/NPs all fungal
- Basis=eos & fungi in mucus
- Fungi in all noses
- Effect of topical Amphotericin B in open studies – (Ricchetti 2002 – 39% polyps gone)
- 3 DBPCT negative-
- Curr Opin Otolaryngol Head Neck Surg. 2009 Feb;17(1):43-9.
  - **Fungus as the cause of chronic rhinosinusitis: the case remains unproven.**
  - Ebbens FA, Georgalas C, Fokkens WJ.

# CRS without nasal polyps scheme management for ENT



# Treatment Scheme for Children With Chronic Rhinosinusitis



# The USA View

- The diagnosis and management of sinusitis:
- A practice parameter update
- Chief Editors: Raymond G. Slavin, MD, Sheldon L. Spector, MD, and I. Leonard Bernstein, MD and the sinusitis working group
- J Allergy Clin Immunol 2005;116:S13-47.

# New Insights in the Treatment of Chronic Rhinosinusitis

- CRS is heterogeneous
- Diagnosis on history and examination-no radiology in primary care
- Inflammation/Infection both relevant
- Medical treatment is as effective as surgery
- Simple measures e g douching plus INS are useful in primary care