Systematic review of topical and systemic tranexamic acid use in ENT vs. other surgical specialties

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**OBJECTIVES**
The role of tranexamic acid in the management of epistaxis remains unclear. There is uncertainty about its safety and about the contra-indications for its use [1]. We performed a systematic review of the use of systemic or topical tranexamic acid in epistaxis, and a comparative review of its use in other specialties.

**METHODS**
We searched PubMed, Medline, Cochrane Library, and Google Scholar. In all, we found two randomised controlled trials (RCTs) of topical tranexamic acid, 1 RCT of systemic tranexamic acid, and several case reports. We then reviewed the literature for other surgical specialties and extracted data on efficacy and safety.

Of the 3 clinical trials of tranexamic acid for spontaneous epistaxis, the largest and most recent trial showed significant benefit. For epistaxis due to arteriovenous malformations, multiple cases of safe effective use of tranexamic acid are reported. Elsewhere, a multinational trauma collaboration (n 20211) found tranexamic acid reduced all-cause mortality, with no increase in thromboembolic events. Tranexamic acid is increasingly used in orthopaedic surgery; Cochrane meta-analyses show both intravenous and topical forms are effective in reducing peri-operative blood loss. We have tabulated all efficacy data, and the available safety data with patient selection criteria used in the larger studies.

Tranexamic acid, as a WHO 'essential medicine', is a powerful, readily available tool, the use of which in ENT has been limited by concerns over its safety profile. This systematic review extrapolates from the wealth of data for other specialties to establish the efficacy and safety of tranexamic acid.

**CONCLUSIONS**
SNOT-22 In CRS: Results of the Chronic Rhinosinusitis Epidemiology Study

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**OBJECTIVES**
This analysis uses data from the Chronic Rhinosinusitis Epidemiology Study (CRES). The overarching aim of CRES is to determine factors which influence the onset and severity of chronic rhinosinusitis (CRS) and included the SNOT-22 questionnaire. This analysis considers variations in SNOT-22 score and its subscales according to CRS diagnosis.

**METHODS**
Study-specific questionnaires including demographic and socioeconomic factors and past medical history as well as SNOT-22 and SF-36 were distributed to patients with CRS attending ENT clinics and to a control population across 30 centres in the United Kingdom. Completed questionnaires were collected from 1470 participants; subgroups comprised CRSsNP (n=552), CRSwNP (n=651), allergic fungal rhinosinusitis (n=46) and controls (n=221). The median and IQR for total SNOT-22 scores were: CONTROLs (2; 1-7), CRSsNP 46 (30-61), CRSwNP 43 (28-59), AFRS 50 (39-66). All CRS subgroups had significantly higher scores for all domains than controls. Those with CRSwNP had significantly higher scores than those without polyps for the nasal domain (p<0.001) but not across the other domains or overall. There were no significant differences in SNOT score between those with CRSwNP and those with AFRS.

SNOT-22 scores were significantly higher amongst smokers regardless of subgroup; mean difference in score for smokers vs non-smokers 7.53 (2.63,12.22) p= 0.002.

**CONCLUSIONS**
SNOT-22 is an important tool for measuring the impact of nasal symptoms and evaluating effectiveness of treatments. Our study has shown that there are variations in the subscales of SNOT-22 for different disease subtypes. Smoking status is important to consider when using SNOT-22 for assessment and research. Our results supports the idea that smoking cessation should help to improve nasal symptoms.

A double blind randomised controlled trial of the effects of sodium citrate on olfactory thresholds

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**OBJECTIVES**
It is well known that calcium plays a key role in the transduction mechanism of olfaction. In hypoxic patients a reduction in mucosal calcium levels can modulate the role of calcium in the olfactory negative feedback mechanism and potentially improve olfaction. We hypothesised that using sodium citrate locally in the nose can improve olfactory thresholds in the hypoxic patient by acting as a buffer to mucosal calcium. The primary objective was to identify if there is a positive influence on an individual's sense of smell with the use of sodium citrate nasal rinses. The secondary objective was to assess the duration of any discernable effect (if present).

**METHODS**
50 Hypoxic patients with non-conductive olfactory loss had baseline olfactory testing with four odours. They were randomised to receive either citrate nasal rinses or sterile water nasal rinses. Candidates were then asked to repeat the smell tests using graded concentrations of the four odours, charting any improvement in olfactory thresholds and the duration of the effect. Any adverse effects were also noted

**RESULTS**
Significant benefit was noted in the treatment arm for two of the odours tested, with a trend to improvement in the remaining two odours. No significant side effects were demonstrated.

**CONCLUSIONS**
Sodium Citrate offers a potential new treatment in the treatment of non-conductive hypoausia. This study should act as a primer to larger scale trials assessing longer-term efficacy.

The Septo-Turbinal Flap (STF) in the frontal sinus drill-out type IIb according to Draf

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**OBJECTIVES**
The unilateral frontal sinus drill-out type IIb according to Draf aims at widening the frontal sinus drainage in a minimally invasive fashion. Nevertheless, the risk of a secondary stenosis must be taken into account. The objective of this study is to present the septo-turbinal flap (STF) technique and its usefulness in type IIb Draf procedures.

**METHODS**
We performed a retrospective study on patients with unilateral frontal sinus disease, submitted to type IIb Draf procedure associated to STF, from March 2007 to December 2014 at Queens Medical Centre, Nottingham. We describe the STF surgical technique, and analyse indications to surgery, anatomical conditions and results.

**RESULTS**
Eighteen patients (age range 20 - 71yrs) were submitted to a Draf IIb procedure with STF, 16 (89%) were male and 2 were female. The indications for surgery included: mucocoele or mucoceles (N=13; 72.2%), chronic rhinosinusitis with nasal polyps (N=2 ; 11%), osteomas (N=1; 5.6%) and inverted papillomas 2 (11.1%). More than 50% of patients had been submitted to previous endoscopic endonasal surgery. Difficult anatomic conditions were encountered in two thirds of patients, none leading to intraoperative failure of STF. During follow-up, 1 case required further surgery, due to the re-stenosis of the frontal sinus drainage pathway. In 2 cases we observed a persistent chronic frontal sinusitis, even though the sinus permeability was perfectly achieved.

**CONCLUSIONS**
Septo-turbinal flap appears to improve significantly the rate of success of frontal sinus drill-out type IIb according to Draf, reducing the rate of re-stenosis.
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