

Outcomes in Rhinology

"A visible or practical result, effect or product. The result or effect of treatment e.g. pregnancy is a likely outcome of unreliable birth control"
Shorter Oxford English Dictionary 2003.

Whilst in head and neck oncology, death is the absolute outcome in assessing any therapy, rhinology generally has somewhat softer measures. A large number of investigative tools can be used to quantify aspects of sinonasal function pre- and post-therapy⁽¹⁾, but some remain the preserve of research laboratories or are subject to significant inter- or intra-individual variation. Others, such as scoring of CT scans^(2,3), pose ethical dilemmas if the scans are to be repeated after treatment in patients who are otherwise well, so their value lies more in confirming the presence of disease and providing inclusion criteria for studies.

Notwithstanding this, the politicians and public are taking an increasing interest in the results of treatment perhaps more for financial considerations in the case of the politicians than any altruistic motives. Thus, in the UK, we have seen the emergence of league tables for both hospitals and individual surgeons, led by our cardiovascular colleagues who have been diligently collecting their own data for a number of years. Clearly there are many factors, in particular patient complexity and co-morbidity, which must be factored in, but around the world, clinicians are increasingly being called to account for their actions and rhinologists are no exception.

A critical assessment of one's work is, of course, crucial to good clinical practice, but it is important that the instruments that we choose are readily available, well validated, cheap and easy to utilise, reproducible and translatable into many languages. Claire Hopkins's review article on Patient Reported Outcome Measures (PROMS) gives an interesting assessment of what is available and the arguments for (and against) their use⁽⁴⁾. She is well placed to make this assessment, having been actively involved in one of the largest and longest audits of sinonasal surgery, conducted by the Clinical Effectiveness Unit at the Royal College of Surgeons of England, which recruited a cohort of over 3,000 patients⁽⁵⁾ and whose five-year outcomes are just being analysed. This study has relied on a patient completed questionnaire (SNOT - 22) and it is likely that instruments like this will be used as part of the incipient re-validation and re-licensing process that will take place in the UK.

However, we should not allow the politicians to take credit for this initiative, as can be seen from a number of papers in this issue. The effect of packing after sinonasal surgery is investigated by both Leunig et al.⁽⁶⁾ and McDonald et al.⁽⁷⁾ using visual analogue scores, whilst questionnaires such as the SNOT-20 and Sinusitis Severity Score were utilised by Rollin

et al.⁽⁸⁾ and Bachert and colleagues⁽⁹⁾ in assessing chronic and acute rhinosinusitis respectively. Quality of life (QOL) is also used as an outcome measure in managing hereditary hemorrhagic telangiectasia (HHT) with N-acetylcysteine (de Gussem et al.)⁽¹⁰⁾ and for endoscopic dacryocystorhinostomy (Spielmann et al.)⁽¹¹⁾. The use of QOL has been used with some success in the past in HHT in creating a scale of assessment and in showing nasal closure to be the most effective treatment in this respect^(12,13).

Correlating symptoms with objective measures forms the basis of Thulesius' study⁽¹⁴⁾ on nasal stuffiness, which considers the interesting effects of doing nothing! One should not be surprised to learn that there was no correlation between the subjective symptoms and measures of nasal airway resistance as the evidence in the literature is conflicting. Some studies show good intra-individual correlation between nasal obstruction and rhinomanometry or nasal peak flow in normal controls, patients with structural abnormalities, hyper-reactivity or infective rhinitis⁽¹⁵⁻¹⁹⁾ whereas others have shown a poor or no correlation at all⁽²⁰⁻²²⁾. However, all of these studies help us understand the problem from the patient's perspective which may be very different from our view of their problem and the results of our interventions. After all it is important to remember that patients come to us for relief of their symptoms, irrespective of aetiology, and we should embrace the opportunity to assess the effects of our treatment in making them feel better.

REFERENCES

1. Fokkens W, Lund VJ, Mullol J. et al. Position paper on rhinosinusitis and nasal polyps. EAACI Task Force. 2007; *Rhinology Supplement* 20: pp136.
2. Lund VJ, Mackay IS. Staging in rhinosinusitis. *Rhinology*. 1993; 31: 183-184.
3. Hopkins C, Browne JP, Slack R, Lund VJ, Brown P. The Lund-Mackay staging system for chronic rhinosinusitis: how is it used and what does it predict? *Otolaryngol Head Neck Surg*. 2007; 137: 555-561.
4. Hopkins C, Browne JP, Slack R, van der Meulen J, Lund V, Topham J, Reeves B, Copley L, Brown P. The National Comparative Audit of Surgery for nasal polyposis and chronic rhinosinusitis. *Clin Otolaryngol*. 2006; 31: 1-9.
5. Hopkins C. Patient reported outcome measures in rhinology. *Rhinology*. 2009; 47: 10-17.
6. Leunig A, Betz ChS, Siedek V, Kastl KG. CMC packing in functional endoscopic sinus surgery: does it affect patient comfort? *Rhinology*. 2009; 47: 36-40.
7. McDonald SE, Slater J, Powell R, Khalil HS, Garth RJN. A randomised controlled trial comparing Rapid Rhino Mannheim and Netcell series 5000 packs following routine nasal surgery. *Rhinology*. 2009; 47: 41-44.

8. Rollin M, Seymour K, Hariri M, Harcourt J. Rhinosinusitis, symptomatology & absence of polyposis in children with primary ciliary dyskinesia. *Rhinology*. 2009; 47: 75-78.
9. Bachert C, Schapowal A, Funk P, Kieser M. Treatment of acute rhinosinusitis with the preparation from *Pelargonium sidoides* EPs 7630: A randomized, double-blind, placebo-controlled trial. *Rhinology*. 2009; 47: 51-58.
10. de Gussem EM, Snijder RJ, Disch FJ, Zanen P, Westermann CJJ, Mager JJ. The effect of N-acetylcysteine on epistaxis and quality of life in patients with HHT: a pilot study. *Rhinology*. 2009; 47: 85-88.
11. Spielmann PM, Hathorn I, Ahsan F, Cain AJ, White PS. The impact of endonasal dacryocystorhinostomy (DCR), on patient health status as assessed by the Glasgow benefit inventory. *Rhinology*. 2009; 47: 48-50.
12. Lennox P, Hitchings A, Lund VJ, Howard DJ. The SF 36 health status questionnaire with epistaxis secondary to hereditary haemorrhagic telangiectasia. *Am J Rhinol*. 2005; 19: 71-74.
13. Al-Deen S, Bachmann-Harildstad GA. Grading scale for epistaxis in hereditary haemorrhagic telangiectasia. *Rhinology*. 2008, 46: 281-284.
14. Thulesius HL, Thulesius HO, Jessen M. What happens to patients with nasal stuffiness and pathological rhinomanometry left without surgery? *Rhinology*. 2009; 47: 24-27.
15. Fairley JW, Durham LH, Ell SR. Correlation of subjective sensation of nasal patency with nasal inspiratory peak flow rate. *Clin Otolaryngol*. 1993; 18: 19-22.
16. Sipilä J, Suonpää J, Laippala P. Sensation of nasal obstruction compared to rhinomanometric results in patients referred for septoplasty. *Rhinology*. 1994; 32: 141-144.
17. Simola M, Malmberg H. Sensation of nasal airflow compared with nasal airway resistance in patients with rhinitis. *Clin Otolaryngol*. 1997; 22: 260-262.
18. Hirschberg A, Rezek O. Correlation between objective and subjective assessments of nasal patency. *ORL J Otorhinolaryngol Relat Spec*. 1998; 206-211.
19. Numminen J, Ahtinen M, Huhtala H, Rautiainen M. Comparison of rhinometric measurements methods in intranasal pathology. *Rhinology*. 2003; 41: 65-68.
20. Jones AS, Willatt DJ, Durham LM. Nasal airflow: resistance and sensation. *J Laryngol Otol*. 1989; 103: 909-911.
21. Eccles R, Jones AS. The effect of menthol on nasal resistance to air flow. *J Laryngol Otol*. 1983, 97:705-709.
22. Roithmann R, Cole P, Chapnik J, Barreto SM, Szalai JP, Zamel N. Acoustic rhinometry, rhinomanometry, and the sensation of nasal patency: a correlative study. *J Otolaryngol*. 1994; 23: 454-458.

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