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Orthognathic audit: are we getting it right?
by David O Morris

As clinicians we all know what a positive impact orthognathic surgery can have on a patient’s wellbeing and quality of life but how can we ‘bottle this feeling’ and demonstrate it to significant non-clinicians such as our paymasters and health commissioners? It may not be as easy as it sounds but one issue is indisputable: as a small nation, we all need to be singing from the same hymn sheet with respect to the type and timing of orthognathic outcomes data being collected.
Orthognathic surgery is performed to change the position of the jaws in order to correct a significant dental malocclusion and so improve the patient’s dentofacial function and facial aesthetics with concomitant psychosocial benefits. Consistent improvement in appearance as well as physical and mental health has been shown in a number of published papers. Close cooperation between the orthodontist and maxillofacial surgeon is essential to achieving high-quality results. The overall success of orthognathic treatment depends not only on the pre- and postoperative management of the patient but also on the intraoperative technique, the experience of the surgeon and orthodontist, and the use of contemporary equipment and materials. There were more than 2,700 orthognathic surgical procedures undertaken in England in 2012. Previous surveys have, however, demonstrated a marked variation in terms of the number of orthognathic operations being carried out in different regions of the UK.

In a similar vein to the 1998 Clinical Standards Advisory Group report, following which cleft lip and palate patient care became centralised, we need to ensure that all orthognathic clinicians involved in this type of care are actually seeing sufficient numbers on an annual basis. A 2009 publication from the North West region of England revealed some worrying data regarding orthognathic patient caseload (131 patients from 13 units during a 17-month period between 1998 and 2000), with an alarming 28% of patients actually failing to complete their course of treatment. This suggests some low-volume operators and poor case selection, which is likely to lead to inferior levels of care and, ultimately, outcomes.

At a time of finite resources, we need to be able to justify the rationale for orthognathic treatment and ensure that we are selecting patients with the greatest need for surgical intervention. The joint British Orthodontic Society (BOS)/British Association of Oral and Maxillofacial Surgery (BAOMS) document Basic Management Principles and Best Practice for the Care of Facial Deformity Patients recommends that an annual minimum of 25 orthognathic patients should ‘pass through’ multidisciplinary clinics for adequate clinical exposure, training, audit and governance issues to be addressed. However, many published audits and surveys have revealed some orthognathic units treating significantly fewer patients than the advised figure. Perhaps this recommendation needs to be ‘tightened up’, with a minimum number of actual treated cases being stated instead?

In an attempt to help with the National Health Service (NHS) commissioning process, the BOS has developed a modified index in terms of the ‘need’ for orthognathic surgery. The index of orthognathic functional treatment need (IOFTN) could potentially be used by dentists to assess a patient’s functional need for orthognathic treatment in an attempt to ensure consistent standards of referral to secondary care. Nevertheless, without universal calibration, the IOFTN is unlikely to be any better used or understood by our ‘gatekeeper’ general dental practitioner colleagues than its predecessor, the index of orthodontic treatment need. This latter index has been a mandatory part of NHS general dental services (GDS) in England and Wales since 2006. However, despite this, its penetration within the GDS is relatively low owing to a combination of poor knowledge and lack of engagement.

Clinical audit is a quality-improvement process that has been with the medical and dental specialties since being introduced formally to the NHS by the 1989 white paper Working for Patients. In its most basic form, it involves improving the quality of patient care by looking at current practice and modifying it where necessary. Nowadays, hospital trusts are expected to participate in national clinical audits so as to advise NHS England and inform the Care Quality Commission (CQC). The remit of clinical audit work is linked to the revalidation of doctors as well as more recent national initiatives such as the Quality, Innovation, Productivity and Prevention (QIPP) programme, the Commissioning for Quality and Innovation scheme (CQUIN), and patient-reported outcome measures (PROMs). The profession has more acronyms than we can shake a stick at!

Clinical audit can be used to monitor the process of care as well as treatment outcome and satisfaction. Examples of possible audit topics in orthognathic surgery include surgical complications such as infection rate, bone plate removal, length of operation/hospital stay/overall treatment time, neurosensory deficit, surgical relapse, internal fixation methods and the need for pre-operative third molar removal. A generally acceptable standard of orthognathic care has been demonstrated in the South West region of England but a number of areas of improvement were also noted.

Orthognathic units should be carrying out regular audits covering all the various benefits and risks of dentofacial surgery. Orthognathic surgery is an operator-sensitive procedure. As a result, outcomes will vary from centre to centre – that is a fact of life. Each centre therefore needs to be able to demonstrate and justify its own outcomes. Audit results will vary as new surgical and orthodontic personnel become incorporated in the orthognathic team over time, and so the audit ‘spiral’ needs to continue.

As orthodontists, we tend to pride ourselves on being the superior dental record collectors but this urban myth has not always been backed up by evidence from published audits. Collecting high-quality audit data on a consistent basis takes great discipline and good organisation. So how can we make auditing our orthognathic patients less arduous and more efficient?

Back in 2006, the joint BOS/BAOMS national minimum orthognathic records dataset was introduced in an attempt to rationalise the timing and number of clinical records collected during the full course of an orthognathic patient’s treatment. Prior to these guidelines, orthognathic record collection was performed in a rather haphazard and incoherent manner, with hospital
The current dataset recommendation of two years following treatment may continue to be a bone of contention in the profession but surely it can only be an improvement on the previous clinical practice of some units performing only lateral cephalography on an annual basis for five or even up to ten years, despite there being no formal analysis or rationale behind this decision!

Compliance with the guidelines is unproven but they seem to be widely recognised and referred to in published audit articles. We must accept that the days of reviewing our patients for five to ten years following completion of active treatment are over. As patients are coming on stream continually to start their treatment at one end of the ‘conveyor belt’ (thanks to the 18-week referral-to-treatment target), only a limited long-term follow-up period for our NHS patients is now possible. We also have to acknowledge that there is a time limit in which patients will return to see us and we cannot afford multiple missed appointments by patients. Consequently, a balance needs to be struck.

Some regions of the UK have set up centralised orthognathic databases. In the Yorkshire and Humber region, such a database has been running for six years and more than 1,000 (active and completed) patients’ details have been entered so far. This has enabled the retrieval of collected data for running prospective and retrospective audit projects much easier and less laborious than in the past.

The Clinical Effectiveness Bulletin of the BOS consistently contains local and regional audits on the topic of orthognathic service provision, treatment duration and outcome measures. However, how widely this information ends up being disseminated to non-orthodontic professionals in the UK is debatable. There has been a shift away from traditional clinician orientated measurements (such as the peer assessment rating of study models and lateral cephalometric analysis), which are meaningless to both patients and commissioners, and a move towards ‘patient-centred’ outcomes.

The need for better qualitative (rather than quantitative) and subjective assessment of orthognathic care delivery from the patient’s own perspective has led to an increased interest in PROMs. There is currently underutilisation of this type of assessment. At a national level, only data from four PROMs (concerning hip replacement, knee replacement, varicose vein surgery and hernia surgery) are being actively recorded and reported. There is no reason that orthognathic surgery should not be included in the near future along with these ‘big boys’.

The use of questionnaires for patient assessment and treatment outcome has become more popular in recent years. One of the more relevant questionnaires available to us (at least in paper form) is the 22-item condition specific orthognathic quality-of-life questionnaire. Furthermore, we already have a nationally agreed and validated orthognathic patient satisfaction questionnaire, which is available on the BOS website, so there is no need for individual orthognathic units to reinvent the wheel (maybe just refine it).

What is suitable for a formal research project is rarely appropriate for routine, long-term clinical use. In Yorkshire, we have been using an edited version of the orthognathic patient satisfaction questionnaire since July 2013. The original questionnaire consisted of 66+ items but we have whittled the number of questions down to 29. Patients are invited to complete the online questionnaire at any time between their first review following debonding and their final two-year retention review.

The questionnaire is hosted on SurveyMonkey® via our trust’s intranet and it can be completed within five minutes. In Leeds alone, more than 80 responses have been secured so far. Interestingly, the initial response rate was 88% when patients were simply emailed details of the weblink to complete the questionnaire. However, since encouraging patients to fill it in online while actually in the department for their review appointment, the completion rate has been 100%. This response rate compares very favourably with earlier efforts. Despite this, clinicians still need to remember to ask patients to complete the questionnaire and this is where our support staff come into play as a form of ‘safety net’. In time, it will become as routine as obtaining other clinical records such as study models and photographs.

It is important that collection of PROMs data forms part of our routine clinical practice. Patient questionnaires, however, need to be less unwieldy than formal research efforts. It is pointless having multiple longwinded...
questionnaires that require a statistician (if you can find one!) to evaluate the data before finally producing the results months later. Like an index, it needs to be kept simple, short, valid and easy to use, with minimal time involvement for both the patient and the clinician. On the other hand, it can afford to be more in-depth than the NHS friends and family test! The number of questions should be limited and concise, and there should be a simple cumulative scoring system that even health commissioners can understand without a statistician.

Paper/postal questionnaires should be consigned literally to the waste bins. We should ‘hang up’ on telephone surveys as well. Both have a poor response rate. Electronic-based PROMs are far superior these days in terms of both response rate and time management compared with ‘pen and paper’ questionnaires. Electronic methods of data collection via computers, tablets, smartphone applications (‘apps’) or even a QR code on waiting room walls will provide higher patient acceptance, lower administrative burden, and a more accurate and complete dataset. There will also be quicker retrieval so that changes in service and provision can be made in a more proactive way.

However, along with this digital move, individual orthognathic units will need to be reassured that their own local data can still be easily extracted and displayed for their prospective patients. They will also be able to compare themselves nationally against other units. Limiting audit data collection for ‘national purposes only’ will adversely affect compliance overall as units will want to retain ownership of their specific outcomes data. The attempt in 2014 by the National Facial, Oral and Oculoplastic Research Centre to obtain patient feed-

back on their jaw surgery experience (http://www.jaw-op.co.uk) through the use of two relatively longwinded questionnaires administered in two different ways (one online, the other paper-based) was poorly received by the profession and resulted in low response rates.

A rethink is now required to make the whole process less tortuous and more ‘user-friendly’ for both the patient and the clinician so that better local and national data are available to inform individual orthognathic units and prospective patients, as well as to aid future discussions with commissioners. Data collection needs to be done at a local level to ensure high compliance but there should still be an overarching coordinated approach at national level. In this way, ‘gold’ standards for satisfaction with orthognathic treatment can be realised, and useful comparisons can be made between units and regions.

Nevertheless, in order to truly help our patients, we need to educate them first. The BOS orthognathic DVD has been a valuable resource for patients over the past few years. There are plans underway for its remake in 2015, with the aim of producing the video clips in shorter, bite-sized chunks for direct patient access via the BOS website. This method of delivering patient education will be more accurate and trustworthy than the vast array of patient ‘experiences’ (mainly from US and Canadian sources, it must be said) that can be found on internet sites such as YouTube™. Both the BOS and BAOMS specialty websites were in the top 7 out of 25 websites assessed by the DISCERN instrument as having the highest-quality information in relation to orthognathic surgery. There is no room for complacency on our part, however, as the remaining websites were of significantly debatable validity. All official healthcare websites need to be kept up to date, and should include subjective patient information and comments. Our role, as clinicians, is to point patients in the direction of useful, validated websites to help inform them and assist with their decision making process. The increasing use of smartphone apps by our patients means that we will have to stay informed so we can advise our patients accordingly as to their validity and accuracy.

Currently, at least on a regional and national basis, orthognathic audit data are being gathered in a rather haphazard, disjointed and reactive way. A more coordinated national approach is required to avoid duplication of efforts. This article has discussed the relevance of previously collected audit material as well as some possible new, innovative methods. Whatever is ultimately decided, auditing our orthognathic patients needs to be carried out on a longitudinal basis and must fit in with our busy NHS clinics while forming part of our routine record collection in the same way as study models, radiographs and photographs have become.

References


