

44

### National case registration of temporomandibular joint replacement: preliminary outcome data report

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**Background:** Total replacement of the temporomandibular joint (TMJ) has been performed in the UK since 1987. In England and Scotland there are currently 14 oral and maxillofacial surgeons undertaking this procedure. The purpose of the register is to establish a standardised central database that will assess the validity of the procedure and objectively measure operative success. It will provide a benchmark for revalidation of individual TMJ replacement surgeons. The British Association of Temporomandibular Joint Surgeons (B.A.T.S.) aims to produce a national annual report of activity via this tool.

**Method:** In early 2011 a national case registration was established. Data entry was coordinated using an online Snap Survey on an individual surgeon basis. The initial retrospective data capture included all patients undergoing joint replacement since 1994 in England and Scotland. Subsequently prospective data will be entered at the following intervals: baseline, 6 weeks, and then yearly for 5 years in the first instance. This preliminary report includes all cases entered into the online survey until 1st January 2012.

**Results:** A total of 215 cases (21% male, 79% female) have baseline data entered for the 17-year period. Of the data entered on aetiology osteoarthritis was the most common (71%). The TMJ Concepts system was the most frequently used prosthesis (74% of joints replaced).

**Conclusions:** Collection of standardised data for TMJ replacement will enable individual surgeons to demonstrate a commitment to revalidation. In addition it will provide a framework to assess the ongoing success rates of the procedure.

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45

### Osteomyelitis of the head and neck

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**Introduction:** Today, osteomyelitis of the head and neck is an uncommon condition due to the ready availability of antibiotics. However when present it can have devastating consequences, impacting function and aesthetics. Management can be complex and individual clinicians are unlikely to gain significant experience of these cases during their practice due to their rarity. The aim of this case series is to identify the number of patients diagnosed with osteomyelitis and

treated by the maxillofacial team at King's College Hospital, London, since 2003. The data collected was analysed and used to identify risk factors, treatment outcomes and make suggestions for management.

**Methods:** Patients were identified and the case notes were obtained. Data was collected retrospectively and entered onto a data collection proforma to aid analysis.

**Results:** 63 patients were identified who had been treated for histologically proven osteomyelitis since 2003. The most common site affected was the mandible, followed by the frontal bone, maxilla and skull base. Odontogenic infections and trauma were the most common risk factors. Microbiological results were analysed and isolated pathogens were recorded. The mainstay of treatment was a prolonged course of antibiotic therapy and surgical debridement.

**Conclusions:** If osteomyelitis is suspected then there should be a low threshold for commencing antibiotic therapy immediately, prior to histopathological and microbiological investigations. Antibiotic therapy alone was effective in acute cases and antibiotic guidelines are discussed. For chronic cases a surgical approach in addition to antibiotic therapy was required.

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46

### The TMJ MDT clinic—the King's experience

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**Introduction:** Management of TMJDS can be complex. At King's College Hospital, an innovative TMJ MDT clinic has been established. This clinic is attended by an oral and maxillofacial surgeon, consultant in oral medicine, liaison psychiatrist with an interest in facial pain, maxillofacial prosthetist and a physiotherapist. Each patient is concurrently assessed by all specialists and a combined approach adopted to management. The efficacy of management in this clinic is superior to that on a general maxillofacial clinic and we would propose that all patients with TMJDS refractory to initial management are assessed using this MDT approach.

**Methods:** We present the preliminary results of 25 patients who have been reviewed on the clinic over a 1 year period. Pain scores and QOL questionnaires completed by all patients have been analysed before and after attendance. Data was collected using a standard proforma recording basic demographic details, diagnosis, pain scores, incisal opening and outcomes following attendance.

**Results:** 94% of patients report an improvement in pain and quality of life scores as a result of attending this clinic.

**Conclusions:** The management of patients with TMJDS who are refractory to non-surgical treatment is improved

by input from MDT colleagues. We propose that a similar model of care be extended to other units with a special interest in the management of these patients, as this is seen to be beneficial and cost effective. The use of pain scores and quality of life questionnaires facilitates the measurement of outcome measures for both the patient and MDT clinician.

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47

### Clinical determinants of malignant transformation in oral dysplasia

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**Introduction:** Oral dysplasia affects 2.5–5/1000 of the general population. These premalignant lesions have reported malignant transformation rates of 6–36%.

**Methods:** Clinical records review of 120 patients: Liverpool Regional Oral Dysplasia Clinic, to assess clinical factors which were important determinants in malignant transformation to oral cancer. Primary inclusion criteria: biopsy confirmed oral dysplasia.

**Results:** 98 patients had biopsy confirmed dysplasia (first appointment between 11-May-1984 to 16-March-2011). 22 patients excluded: 12 biopsy confirmed SCC and 10 non-dysplastic biopsy.

Mean age 57 years (SD 12 years, median 57 years IQR 50–65 years).

Males 51% (50), Females 49% (48).

Smoking habit – never 21% (21), <5 pack years 2% (2), 5–20 pack years 31% (30), >20 pack years 46% (45).

Sites – floor of mouth 41% (40), buccal 19% (19), lateral tongue 15% (15), others 24% (24). Appearance – homogeneous white 71% (70), non-homogenous 29% (28).

Diagnosis – mild dysplasia 34% (33), moderate dysplasia 27% (26), severe dysplasia 19% (19), other 20% (2).

Endpoint – 27% (26) had transformed into SCC, 6% (6) had progression of the severity of dysplasia and 67% (66) were in remission.

Median follow-up 49 months, IQR 19–95 months.

Factors which significantly influenced the malignant transformation rate: tumour site-lateral tongue ( $p=0.005$ ;  $\chi^2=13.0$ ), non-homogenous appearance ( $p=0.003$ ;  $\chi^2=8.9$ ) and non-smokers ( $p<0.001$ ;  $\chi^2=15.7$ ). Clinically significant factors include larger area (200+ mm<sup>2</sup>) of dysplasia ( $p=0.05$ ;  $\chi^2=3.9$ ) and severity of dysplasia on initial biopsy ( $p=0.05$ ;  $\chi^2=7.7$ ).

**Conclusion:** The severity of dysplasia, non-homogenous appearance, size of lesion and site of (lateral tongue) lesions were important predictive factors for malignant transformation. The finding that non-smokers have a very highly

significant increased rate of malignant transformation would be an addition to the body of knowledge in the literature.

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48

### Medium term outcomes following total TMJ replacement. Propective 3 and 5-year outcome analysis

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**Background:** Total joint replacement is the gold standard management of the collapsed, irreparably damaged or ankylosed TMJ. TMJ concepts is a custom-made prosthesis with titanium body and cobalt-chrome condylar head on high molecular weight polyethylene fossa articulating surfaces. US studies have shown good outcomes, but the UK has little long-term experience. NICE guidance (2009) suggests research is needed to ensure that UK outcomes match those in the US. This prospective review analyses the 3 and 5-year outcomes from 2004 onwards for total TMJ replacements performed by a single surgeon in a UK Maxillofacial Unit.

#### Results:

3 years: 32 patients (45 joints – 26 left, 19 right)

5 years: 15 patients (24 joints – 14 left, 10 right)

Age 22–71 (mean 46); female 42, male 5

#### Main diagnoses:

- degenerative disease 13
- post multiple surgery 10
- post-trauma 9
- ankylosis 6
- rheumatoid 6
- psoriatic 3
- revision cases 11

	Pain (10 cm analogue)	Opening (mm)	Dietary scores (10 cm analogue liquid to solid)
Pre-operatively	75 (6–100)	23 (3–44)	38 (1–100)
6 weeks post-op	26 (0–100)	27 (15–41)	–
6 months post-op	16 (0–80)	33 (15–43)	–
1 year post-op	9 (0–70)	34 (15–45)	92 (25–100)
3 years post-op	12 (0–80)	34 (17–54)	92 (25–100)
5 years post-op	12 (0–62)	34 (23–42)	96 (60–100)

Pain, dietary scores and reduced opening improved in all patients.

#### Revisions:

No revisions after 6 weeks.

**Conclusion:** TMJ replacement provides an excellent mode of reconstruction of the irreparably damaged TMJ.

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