

# Combating the Threat Prior Approval Poses to Orthognathic Surgery

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## Abstract

**Introduction/Aims:** The future of NHS orthognathic service in the UK is under threat with prior approval. We propose the use of the Index of Functional Orthodontic Treatment Needs (IOFTN) to determine the need for surgery in patients that may be unnecessarily deemed ineligible for NHS orthognathic treatment through the process of prior approval.

**Materials/Methods:** Two hundred sets of consecutive pre-treatment study models of patients who had undergone orthognathic treatment were collected from four district general hospitals in South West England (Bath, Bristol, Dorchester and Taunton). All models were scored using IOFTN.

**Results/Statistics-Statistical:** Analysis was performed using Stata® version 13 (StataCorp, College Station, TX, US) with a predetermined significance level of  $\alpha=0.05$ . Using IOFTN, 93.2% of our sample was classified as having great and very great functional needs, justifying orthognathic surgery performed in these patients without the need for prior approval.

**Conclusion:** Clinical Relevance-IOFTN is a simple and reliable tool to identify patients in need of orthognathic surgery and can be used in resource allocation for patients with highest functional needs without the need for prior approval. We recommend the use of IOFTN to all Orthognathic MDTs to eliminate the threat to their service posed by prior approval.

## Introduction

The future of the NHS orthognathic surgery service in the UK is under threat due to the pressures posed by prior approval. As with many other public services, NHS resources are constantly being constrained. Both national guidelines and the existing evidence base act as the basis for commissioning surgical procedures. Reducing inequalities in terms of access to care is a duty of NHS England; however, despite best attempts to ensure that national standards are implemented consistently nationwide, some patients remain faced with inequalities of gaining access to combined orthognathic treatment [1].

## Aims

We propose the use of the Index of Orthognathic Functional Treatment Need (IOFTN) to determine and justify the eligibility for orthognathic surgery in patients who may otherwise be deemed ineligible for NHS orthognathic treatment, through the process of

prior approval. This will help to reduce inequalities in access to health care and safeguard combined orthognathic treatment for patients who need it.

## Material and Method

IOFTN: Two hundred sets of consecutive pre-treatment study models of patient who had undergone orthognathic treatment were collected from four District General Hospitals (DGH) in South West England - Bath, Bristol, Dorchester and Taunton. All models were scored using IOFTN. All models were scored by a single assessor, subsequent to calibration. The data were analyzed using the Kruskal-Wallis nonparametric one-way analysis of variance, for the four major categories, and the chi-squared test for the subcategories. Statistical analysis was performed using Stata® version 13 (StataCorp, College Station, Tx, US) with a predetermined significance level of  $\alpha = 0.05$  [2].

## Results and Discussion

Orthognathic surgery is a unique, multidisciplinary team under-taking in facial surgery in which a patient’s appearance and occlusal function can be significantly changed and augmented and is likely to have a profound psychological impact for the patient [2]. Using IOFTN, 93.2% of the sample was classified as having a great and very great functional need, therefore justifying eligibility for state funded orthognathic surgery and precluding the need

for prior approval. The kappa scores for the major categories and subcategories were 0.66 (95% confidence intervals [CI]: 0.308-1.000) and 0.80 (95% CI: 0.565-1.000) respectively (i.e substantial agreement). The null hypothesis was that there no significant difference in the distribution of the IOFTN between the four DGH sites; Kruskal-Wallis non-parametric one-way analysis of variance was used to test between the major groupings (Figure 1 & 2). This confirmed there was no significant difference in the major IOFTN categories between the hospital units [3].

<b>5. Very Great Need for Treatment</b>
5.1 Defects of cleft lip and palate and other craniofacial anomalies
5.2 Increased overjet greater than 9 mm
5.3 Reverse overjet ≥ 3 mm
5.4 Open bite ≥ 4 mm
5.5 Complete scissors bite affecting whole buccal segment(s) with signs of functional disturbance and or occlusal trauma
5.6 Sleep apnoea not amenable to other treatments such as MAD or CPAP (as determined by sleep studies)
5.7 Skeletal anomalies with occlusal disturbance as a result of trauma or pathology
<b>4. Great Need for Treatment</b>
4.2 Increased overjet ≥ 6 mm and ≤ 9 mm
4.3 Reverse overjet ≥ 0 mm and < 3 mm with functional difficulties
4.4 Open bite < 4 mm with functional difficulties
4.8 Increased overbite with evidence of dental or soft tissue trauma
4.9 Upper labial segment gingival exposure ≥ 3mm at rest
4.10 Facial asymmetry associated with occlusal disturbance
<b>3. Moderate Need for Treatment</b>
3.3 Reverse overjet ≥ 0 mm and < 3 mm with no functional difficulties
3.4 Open bite < 4 mm with no functional difficulties
3.9 Upper labial segment gingival exposure < 3mm at rest, but with evidence of gingival/periodontal effects
3.10 Facial asymmetry with no occlusal disturbance
<b>2. Mild Need for Treatment</b>
2.8 Increased overbite but no evidence of dental or soft tissue trauma
2.9 Upper labial segment gingival exposure < 3mm at rest with no evidence of gingival/periodontal effects
2.11 Marked occlusal cant with no effect on the occlusion
<b>1. No Need for treatment</b>
1.12 Speech difficulties
1.13 Treatment purely for TMD
1.14 Occlusal features not classified above

Figure 1: Index of Orthognathic Functional Treatment Need (2).

Major Category	Bath	Bath	Bristol	Dorchester	Taunton	Total	Average
2	4%	4%	0%	2%	0%	6%	1.5%
3	2%	2%	2%	4%	12%	20%	5%
4	38%	38%	28%	48%	28%	142%	35.5%
5	56%	56%	70%	46%	60%	232%	58%

Figure 2: Percentages of major index of orthognathic functional treatment need categories in categories 2 to 5 in the four hospitals.

## Conclusion

IOFTN is a simple and reliable tool to identify patients in need of orthognathic surgery and can be used in resource allocation for patients with the highest functional needs, negating the need for prior approval. IOFTN applies to those malocclusions which are not amenable to orthodontic treatment alone, due to skeletal deformity. IOFTN should be used in combination with other indicators i.e psychological and clinical indicators, to avoid patients being unnecessarily deemed ineligible for NHS orthognathic treatment. We recommend the use of IOFTN to all Orthognathic Multi-

Disciplinary Teams to eliminate the threat to their orthognathic surgery service, posed by prior approval [3].

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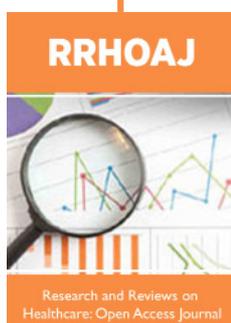
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