

# Combined surgery and tooth-straightening improves life quality, reports HKU Faculty of Dentistry

Treatment of facial deformity by jaw-alignment surgery followed by orthodontic therapy (tooth-straightening via braces) significantly increases people's quality of life, a study from the HKU Faculty of Dentistry has shown.

According to averaged scores from questionnaires completed before and after treatment, the 32 patients in the study demonstrated marked improvements in quality of life related to their mental health, oral health, and appearance. The results were similar for both men and women, and for all types of condition being treated.

The study was performed by Dr Wing-shan Choi, [Professor Colman McGrath](#), and [Professor Nabil Samman](#) from the HKU Faculty of Dentistry, in collaboration with Dr Shermin Lee from the Singapore National Dental Centre.

Noting that combined surgical and orthodontic therapy is accepted “to be safe and predictable”, the researchers wanted to understand more about how this treatment actually affects people's lives. Accordingly, they asked patients with a variety of deformities in their face and teeth to report their quality of life before and during treatment. Patients were excluded from the study if they had previously undergone jaw surgery, if they had any pain or discomfort in the body or any physical disability, or if their condition had been present since birth such as cleft lip and palate.

All patients received double-jaw surgery and then orthodontic therapy 6 months later for at least 6 months. At certain points throughout treatment, the patients completed standard questionnaires on the quality of life related to their [1] general health (the Short Form Health Survey, which covers both physical and mental health), [2] oral health (the Short Form Oral Health Impact Profile), and [3] appearance (the Orthognathic Quality of Life Questionnaire).

Of the 60 patients initially invited, 32 completed the study: 22 women and 10 men (average age, 24 years). At the start of the study, five patients had a protruding upper jaw, 12 had a protruding lower jaw, 11 had asymmetrical features, and 4 had other conditions.

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Compared with averaged questionnaire scores before treatment, those obtained at 6 weeks after surgery indicated a significant reduction in the quality of life related to general physical health. However, this score returned to the pre-study level 6 months after surgery, when orthodontic therapy started, and it remained at this level after orthodontic therapy ended, at least 6 months later. In contrast, quality of life related to general mental health was steady from the start of treatment to 6 months, and then it increased significantly after orthodontic therapy.

Quality of life related to oral health did not change much at 6 weeks after surgery but increased significantly at both 6 months and 1 year or beyond – that is, the negative impact from oral health dropped from an average score of about 21 to a final score of about 7 (out of 56). Appearance-related quality of life rose significantly at 6 weeks and continued rising at 6 months and 1 year or beyond – that is, the negative impact from appearance dropped from an average score of about 45 to a final score of about 21 (out of 88).

Despite the temporary drop in quality of life associated with physical health immediately after surgery, “there was significant improvement” in quality of life up to the end of all treatment, the researchers conclude. The results were not statistically different between male and female patients, and did not differ depending on the type of deformity being treated, they note.

The researchers comment that future studies with many patients are needed to understand how improvements in quality of life after combined surgery and orthodontic therapy translate into implications for clinical practice. In the meantime, they recommend that patients’ quality of life would best be assessed “at least 1 year after all treatment is completed” and that “combined orthodontic-surgical treatment is an appropriate therapy for patients with dentofacial deformity, despite having certain risks and morbidities”.

The study was published in 2010 in the journal *Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Endodontology*.

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**Source:** Choi WS, Lee S, McGrath C, Samman N. Change in quality of life after combined orthodontic-surgical treatment of dentofacial deformities. *Oral Surg Oral Med Oral Pathol Endod* 2010;109:46-51.  
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