

## Implant surgery by undergraduate students: preliminary 1-year outcome

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Background: The increasing demand for implant treatment requires that dentists are properly informed and trained. However, there is some concern that introducing implant surgery in the undergraduate program would encourage students to perform implant surgery beyond their level of skill.

Aim: To evaluate benefits and clinical outcome of an educational undergraduate implant program, including surgery and prosthetics.

Methods: All last term undergraduate students received theoretical and preclinical (pig cadaver) courses on the principles of implant surgery. Following careful examination and presurgical/prosthetic planning, the students placed one implant (NanoTite Tapered Certain) with an Encodeo<sup>®</sup> abutment (Biomet 3i, Palm Beach Gardens, FL, USA), by enlarge in a one-stage surgery. After 3–6 months the crown was restored on an individual abutment. Bone loss was measured on peri-apical radiographs, taken at baseline and 1 year. Patients and students scored a questionnaire, to rate their opinion on a Visual Analogue Scale, ranging from 0 (¼very negative) to 100 (¼very positive).

Results: Twenty-one implants were placed (18 maxilla, 3 mandible) in 16 patients (3 male, 13 female), mean age 46 years (range 25–64). Four were light smokers (< 10 cig/day). Four implants were submerged during healing and three were placed into extraction sockets. All implants reached 35–60Ncm stability. Compared with the planned implants, 52.4% of the placed implants had a different dimension. Overall, the students planned for a shorter implant. After 1 year, mean bone loss was 1.33mm (SD 0.50, range 0–2.10) and no failures had occurred.

The patients' reasons for choosing implant treatment were problems with esthetic appearance (13), eating (7), speaking (2) or broken provisional prosthesis (1). They were informed about implants by dentists (7), family or friends (3), the media (4) or the periodontist (2). They reported minimal postoperative pain (80.4/100), would definitely undergo the treatment again (90.4/100) and advise it to others (91.7%). Overall, students were very positive about the project, but realized that more additional training and education is necessary to perform implant surgery independently.

Conclusions and clinical implications: Although the clinical outcome was good, the students realized that implant surgery can be complicated and additional training is needed. The fear for overconfidence seems to be limited. Overall, patients were pleased with the treatment and students thought it was a valuable contribution to their education.

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