

Survey of the provision of crowns by dentists in Ireland

Précis

This survey shows that there is a high use of aesthetic crowns and new materials by Irish dentists, but there is scope for improvement in areas of impression technique, shade taking and laboratory communication.

Abstract

Statement of the problem: The literature is limited on the detailed description of the practice of Irish general dentists in the provision of crowns.

Purpose of the study: To review the provision of crowns by dentists in Ireland and identify opportunities for improving current clinical practices.

Materials and methods: A questionnaire was posted to 500 general dentists selected randomly from the Irish Dental Register and 150 responded. Twenty-three laboratories used by these dentists were subsequently surveyed.

Results: The Vita Shade Guide was the most commonly used shade guide. Crowns were mainly fabricated using porcelain bonded to metal (51%) followed by all-ceramic (42%) and gold (5%). Plastic Solo trays were the preferred tray for impressions and the laboratory prescription form was the primary means of dentist-technician communication. Dentists and technicians have different preferences for impression trays, impression materials and bite registration, while a significant percentage of dentists (18%) admitted to not disinfecting impressions. Resin or resin-based cements are the preferred means of crown cementation.

Conclusions: This study suggests that the accuracy of restorations could be improved by: adopting a multi-technique approach to shade taking; replacing Solo trays with metal or custom trays for impression-taking; upgrading of the putty-wash technique by using a custom tray with a 2mm spacer and a heavy-bodied/light-bodied silicone; and, using a two-cord retraction technique, perhaps in combination with electrosurgery or soft tissue laser, to improve marginal accuracy where indicated.

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Fresh-frozen bone: case series of a new grafting material for sinus lift and immediate implants

Précis

Use of fresh-frozen bone permits effective bone-adding surgery and immediate implant insertion under local anaesthesia, decreasing both chair time and patient discomfort.

Abstract

Statement of the problem: Although autologous bone is considered to be the gold standard grafting material, it needs to be harvested from patients, a process that can be off-putting and can lead to donor site morbidity. For this reason, homologous fresh-frozen bone (FFB) was used in the current study as an alternative graft material.

Purpose of the study: The aim of this study was to evaluate the effectiveness of FFB as a grafting material in complex maxillary sinus lift with immediate implant insertion.

Methods: FFB was obtained from the Veneto Tissue Bank and preserved at -80°C . Twenty-one patients were surgically treated with FFB block grafts in 26 maxillary sinus rehabilitations, with 47 immediate implant insertions, with a reopening phase after six months. All patients underwent orthopantomographic X-rays and CT scans before, immediately after and four months (X-ray only) post surgery. Bone biopsies were performed in order to evaluate the volume and density of the bone grafts, which all showed optimal adherence without complications.

Results: Four months post surgery, 64% of grafts showed no evidence of bone resorption or resizing. In all other cases resorption was slight. All implants were clinically osseointegrated, with only one implant failure during the provisional prosthetic loading stage (97.8% success rate). Histological studies confirmed these results, showing the presence of new bone and sparse osteoclastic activity four months post implantation, with 80% mature bone material observed after 12 months.

Conclusions: Use of FFB permits effective bone-adding surgery and immediate implant insertion under local anaesthesia, decreasing both chair time and patient discomfort.

Key words: Fresh-frozen bone; sinus lift; bone block grafts; jaw atrophy; implants.

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