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A prospective pilot study of the use of navigated implant insertion to examine immediate prosthesis accuracy: an assessment of the clinical outcome

aim CT scanning technology is inherently more precise and accurate than surgery without CT scans, surgeons can decide how to better plan the procedure before an incision is ever made. Additionally, the information derived from the CT scan affords the opportunity to fabricate a master cast using the CT surgical guide with implant analogs matching what was planned in the software. It is on this master cast that an aesthetic, functional, laboratory processed provisional restoration can be prefabricated for immediate seating at the time of implant placement with minimal chair side adjustment. The purpose of this clinical investigation is to investigate immediate prosthesis accuracy and reliability. material&methods A total of seven cases were examined (inclusion criteria: partially edentulous, intermediate gap condition of 2-4 missing teeth). The planning software was SimPlant 12.0 in combination with the Navigator-System™ (Biomet 3i™) using only tooth supported SurgiGuides (Materialise Dental). The surgical approach was flapless implant insertion followed by immediate provisional restoration. The precision of implant insertion compared to implant position on master casts (hence precision of temporary prothesis) was examined. Using the open tray method impressions were taken post-operatively. Implant positions of master models were matched up to post-operative casts. Implant deviations among one another was made measureable with a 3d foto scan providing distances and angulations among implants. results Measurements for this investigation are currently performed and will be presented.