An Innovative Vertical Custom Alveolar Ridge Splitting Technique: Concepts and Technique

Thomas Tsoung, Sirajuta Praisonta, Jeffrey Scolnick, Yung Cheng Paul Yu, Stuart Froum, Sang-Choon Cho, Leena Palomo
Ashman Department of Periodontology and Implant Dentistry New York University College of Dentistry

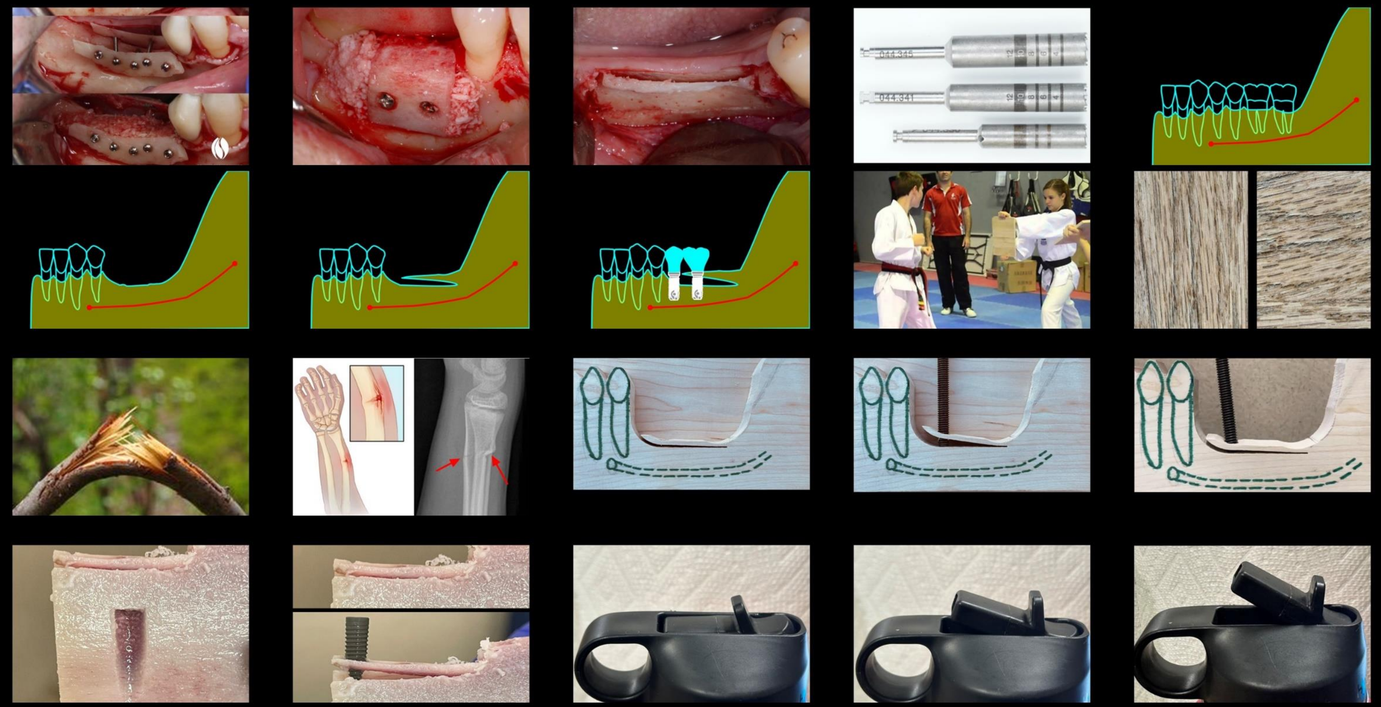
Academy of Osseointegration

This case report presents an innovative approach to vertical alveolar ridge augmentation utilizing a custom alveolar ridge splitting technique in a 50-year-old male patient with missing teeth #30 and #31. The primary objective was to increase vertical height to facilitate the placement of dental implants.

The custom alveolar ridge splitting technique involved careful preoperative planning, including diagnostic imaging and 3D-guided surgical simulation. A meticulous surgical approach was employed to precisely split the atrophic ridge vertically, creating space for the subsequent implant placement.

A 4.1mm x 10mm BLT Straumann implant was successfully placed following the ridge splitting procedure. Post-operative healing proceeded uneventfully, with no major complications reported during the recovery period.

This case report highlights the effectiveness and feasibility of the custom alveolar ridge splitting technique as an innovative solution for addressing vertical bone deficiencies in implant dentistry. The successful implant placement and uneventful healing underscore the potential of this technique to enhance implant treatment outcomes, particularly in cases with limited vertical bone height. Further research and long-term follow-up studies are needed to validate the technique's predictability and long-term stability.



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