

SCIENTIFIC PUBLICATION

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**A novel drilling procedure and subsequent bone autograft preparation:
a technical note.**

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ABSTRACT

In this article, a new low-speed drilling system that allows obtaining large quantities of autologous bone was evaluated. We compared the new drilling procedure using drills especially designed for bone harvesting with the conventional procedure. The bone collected from the same 10 patients, using the two systems, was analyzed using optic and electronic microscopy. The histological and ultrastructural analysis demonstrated a preserved structure and presence of live cells in the bone particles of all the samples obtained with low-speed drilling, while the material obtained using the conventional drilling procedure did not exhibit these qualities. The bone collected and mixed with PRGF[®] is then used to fill bone defects. This new drilling process is based on biological criteria. This method reduces the damage in the receptor tissue and obtains a vital bone mass for later use as a graft in combination with plasma rich in growth factors. The results of this study suggest that the benefits derived from this new procedure will contribute to a good diagnosis and improvements in clinical results.