

Sectioning macerated bone with Rowiak TissueSurgeon: Embedding dispensable

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Introduction

Conventional sectioning of non-decalcified, macerated bone for histological research usually needs time consuming sample preparation, namely embedding and grinding or sectioning with a microtome. Grinding and/or sectioning interfere with tissue structure and conventional sectioning without embedding is impossible. Bone samples, especially spongy bone, are too instable for conventional grinding or sectioning without embedding. Rowiak TissueSurgeon offers a new application for sectioning bone without embedding.

Material and Methods

The desired part of a left macerated hemimandible of sheep was cut into adequate samples with a low speed saw equipped with a diamond blade (Buehler Isomet 1000, Düsseldorf, Germany). The cut surfaces were mounted on a microscope slide with Epo-Tec (Polytec, Waldbronn, Germany) without any further preparation. After curing process, samples were sectioned with Rowiak TissueSurgeon at 70 µm thicknesses and cover slipped with Epo-Tec. The samples were documented with Zeiss Axioscope in transmitted light, phase contrast and polarized light.

Results

Sections are comparable to conventional ground sections (Figs. 1-3). Structure of bone is preserved during section without embedding.

Conclusion

For the first time it is possible to prepare **contact free sections of not embedded** bone samples with Rowiak TissueSurgeon. Quality of sections is equal to conventional ground sections.

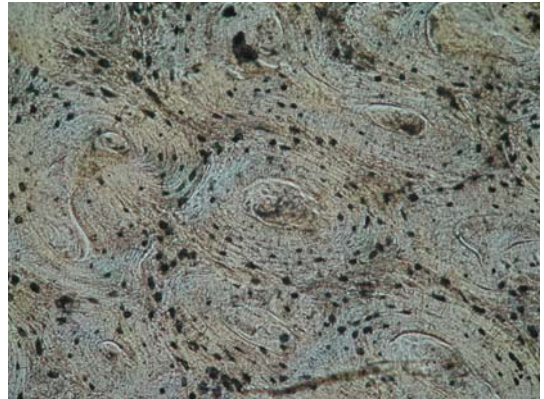


Fig. 1: Section of bone, prepared with TissueSurgeon, transmitted light

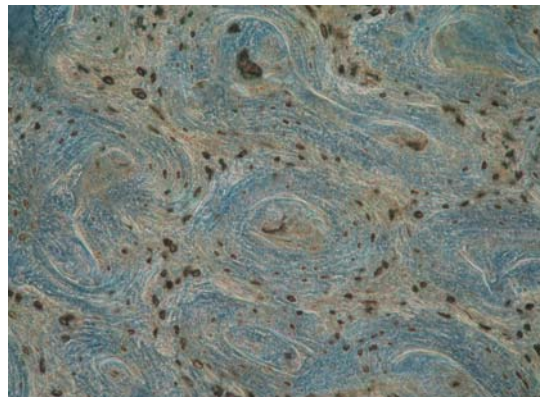


Fig. 2: Section of bone, prepared with TissueSurgeon, phase contrast

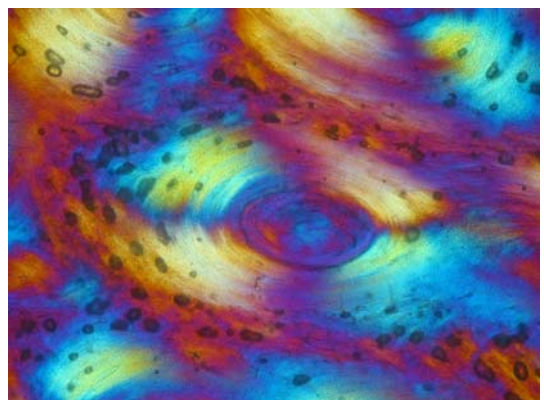


Fig. 3: Detail of Osteon prepared with TissueSurgeon, polarized light