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Bio-Implant Interface

Improving Biomaterials and Tissue Reactions

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University of Oslo, Norway

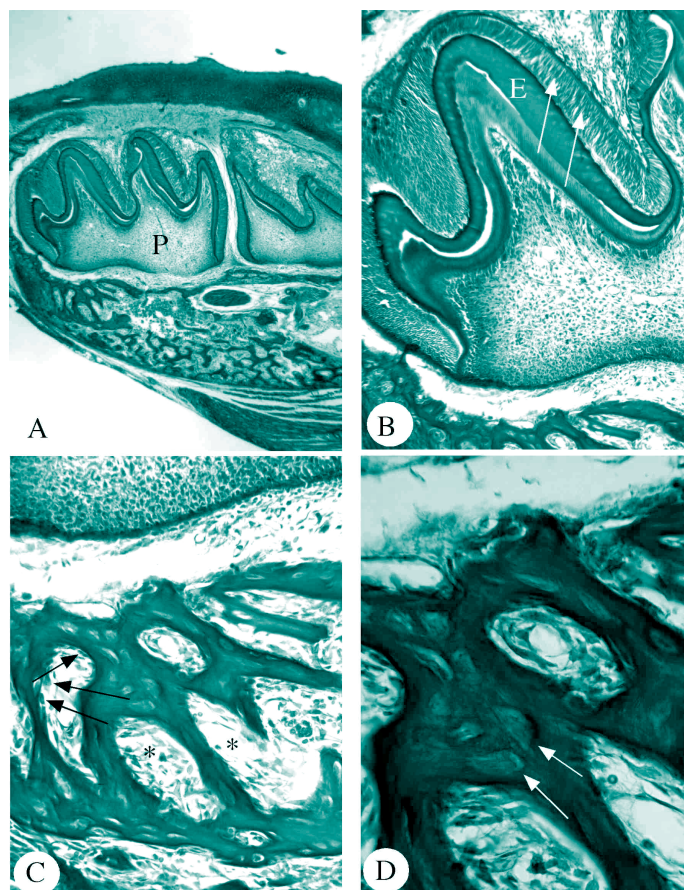


Where biomaterials meet living tissue—what happens, why it happens, and how to use that information

Achieving good clinical outcomes with implanted biomaterials depends upon achieving optimal function, both mechanical and biological, which in turn depends upon integrating advances realized in biological science, material science, and tissue engineering. As these advances push back the frontiers of biomaterial medicine, the control and patterning of bio-implant interface reactions will have a tremendous impact on future design and prospects of implant treatments.

Bio-Implant Interface: Improving Biomaterials and Tissue Reactions brings together a remarkable panel of scientists to present the state of the art in our understanding of interactions at the interface between biomaterials and living tissue. Much of the focus is on the importance of the implant surface's topography and chemistry to its interaction with the biological environment. Biomineralization along with the biological content of the interface and its role in directing cellular response along desired pathways also receive particular attention.

The pursuit of new and better designs for improved biocompatibility and patient response to implants continues to challenge clinicians and scientists alike. This book offers a unique opportunity to bring yourself up to date on recent advances in the field and on new strategies for controlling the bio-implant interface.



The developing cancellous from the mandible of a 5-day postnatal mouse.

FEATURES

- Describes the state of the art in our understanding of the interface between implants and tissue
- Presents chapters contributed by a stellar panel of scientists from leading academic and research institutions around the world
- Provides a unique and important focus on the biological information in the interface that directs cells along advantageous pathways
- Includes a section that explores the potential of advances on the horizons of current research
- Incorporates more than 175 illustrations—some in full color



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