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## Biomaterials Science

An Introduction to Materials in Medicine

1996, Pages 37-130

### CHAPTER 2 - Classes of Materials Used in Medicine

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#### Publisher Summary

There is a diverse range of materials and methods available for the immobilization of biomolecules and cells on or within biomaterial supports. This chapter explains various classes of materials used in medicine. Metallic implant materials have a significant economic and clinical impact on the biomaterials field. Apart from orthopedics, there are other markets for metallic implants and devices including (1) oral and maxillofacial surgery, for example, dental implants, craniofacial plates, and screws and (2) cardiovascular surgery, for example, the parts of artificial hearts, pacemakers, balloon catheters, valve replacements, and aneurysm clips. The chapter also introduces the concepts of polymer characterization and property testing as they are applied to the selection of biomaterials. It provides a table that compares some of the biomolecule immobilization techniques—physical and electrostatic adsorption, cross linking, entrapment, and covalent binding.

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