

Surface Coatings for Blood Compatibility: Facts, Fictions, Fiascos and Feasibility

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Of all the areas of biomaterials science that have received attention over the past 60 years, blood compatibility remains perhaps the most perplexing. Definitions are vague, testing is not standardized and success has been mixed. This lecture will have four parts: (1) a brief introduction to the biological issues in blood interaction with synthetic surfaces, (2) an overview of the techniques for evaluating the blood compatibility of materials, (3) the concerns with those tests -- also the strong points of some assessment schemes, and (4) how can we use surface coatings to create blood compatible surfaces? As we progress through this lecture, the mistakes (fiascos) that punctuate the field will be highlighted. Finally, some surface-coating concepts on the horizon that may impact medicine will be reviewed