

**Prosthesis and implants having liposomes bound thereto and methods of preparation** (*UMDNJ and Rutgers, US Patent Number 5.577.788*) Medical Device

**Background**

Implants and prostheses are widely used and will become increasingly common as the population ages. Often, however, they need to be removed or replaced due to infection, blockage, or the accretion of biological material on surfaces exposed to biological fluids.

**Description of the Technology**

Prostheses and implants are provided which have bound liposomes which are freeze-thaw and dehydration stable and which resist infection and thrombosis development in the body. The liposomes may contain one or more pharmaceuticals and are bound to the surface of the prostheses or implants by treating the surfaces first with an amphiphilic agent or by using liposomes having available functional groups that result in binding to those surfaces. Stabilizing agents are used, including saccharide stabilizing agents. Prosthesis and implant kits are provided which have long shelf stability. Processes for making the prostheses and implants of the invention and for preparing the prostheses and implants for liposome binding are provided.

**Advantages**

This Patent describes methods and compositions to prepare stable coatings on the surfaces of implants or prostheses. These coatings consist of bound liposomes that may contain pharmaceuticals, antibiotics, or enzymes. Mixture of drugs can also be introduced by using mixtures of liposomes during the coating process.

**Applications**

The methods and compositions described in this Patent can be applied to preparing coated prostheses and implants for a wide range of applications including vascular prostheses, heart valves, hip and knee replacements, ventricular and peritoneovenous shunts, penile prostheses, intraocular prostheses, catheters of various types, pacemakers, diffusion pumps and other devices.

**Patent Status**

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