

**Development and Application of
Porous Superelastic TiNi Materials for Medical Implants**

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Research activities of Russian Medical Engineering Center and Institute of Medical Materials of Shape Memory Alloys and Implants are presented as follows:

- The direction of elaboration of porous shape memory alloys for medicine.
- Medical and technical requirements and physical and mechanical criteria of porous shape memory implants elaboration.
- Basic laws of heat-, stress- and strain-induced changes of mechanical properties, shape memory effect and superelasticity in porous TiNi-based alloys.
- Methods of regulation of shape memory effect parameters in porous alloys and methods for controlling the regulation-induced changes of physical and mechanical properties.
- Original technologies of elaboration of porous alloys in various fields of medicine.
- Arrangement of serial production of shape memory porous implants and examples of their medical use.