Scientists from the Lift research center in Moscow together with colleagues from other institutions created an innovative biomaterial for the treatment of complex wounds. The development is based on a polymeric microcamer system that contain medicinal substances and gradually release them into damaged tissues.

The material is a biodegradable polymer with streamlined massifs of a microcamer. In them, various bioactive compounds can be placed in them, such as tanny acid to reduce inflammation or sodium percarbonate to stimulate blood vessels and combat bacteria.

The peculiarity of the technology lies in the possibility of controlled release of drugs at the right time. As the developers explain, this works on the principle of Russian dumplings – each “filling” can be different and released in a certain period of treatment.

The surface of the material consists of a thin film of hydrogel based on gelatin, glycerol and aminocapronic acid. Such a combination provides hemostatic properties, elasticity and good adhesion to living fabrics.

Development can be used not only for the treatment of wounds, but also to cover implants, medical stents and catheter. This allows you to create optimal chemical micro -infection to stimulate cell processes.

The study was conducted with the support of the Russian Scientific Fund with the participation of specialists from Skoltekh, Sechenov University and the Saratov State Medical University.