

Avant-garde technologies in the hydrotherapy, thalassotherapy and climatology - review innovations and modern decisions in XXI century

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The report is devoted to the analysis of the development of new, innovative solutions and technologies that marked the end of the 20th and the beginning of the 21st century. The evolvement of new materials and systems in balneology has led to the production of new forms of bathtubs, showers and other hydrotherapeutic installations. Medical acryl, Corian, stainless steel have allowed to create other ergonomic forms of baths. Innovative technologies of water and air pumps have laid the foundation for automatic hydromassage. In 1978, the first baths with automated air, water and mixed massage were set up. Further, the development of automated massage in water went onward and upward, and the creation of electronic systems and automated regulation at the turn of the 21st century made it possible to almost completely automate the processes in balneology today. To date, modern hydrotherapeutic installations have been created (TRAUTWEIN, Germany) that provide ECG monitoring directly in the bath, exposing to micro-currents in water, and a number of additional effects on the principle of “multi-factorial exposure” in one procedure. Currently, the “multifactorial impact” is realized through formation of new therapeutic shower assemblies with electronic automated control (DORNBRACHT, Germany) that facilitate the work of the personnel and increase the efficiency of balneological therapeutic procedures. The progress of aquatherapy and methods of physiotherapy exercise in water significantly expands the possibilities of rehabilitation and recovery in patients with musculoskeletal system disorders. Advances in biochemistry and biology in the analysis and evaluation of algae and seawater have developed and made popular and scientifically based the direction of thalassotherapy as a modern seaside resort.

The elaboration of plastic materials, new electronic control systems has brought the organization of the processes of crenotherapy and inhalation therapy in the resort sphere to a new level. Nowadays, these processes are almost completely automated and make it possible to increasingly use these methods not only in resorts. New solutions in climatic treatment have allowed us to reapply at a new level

to such effective procedures as solar and air baths, sleeping on climatic terraces, as well as to artificially recreate natural climatic zones such as salt caves, zones with controlled aero-therapy and a number of others. The advance in these technologies, along with other factors, is one of the reasons for the renewed interest of mankind in the capabilities of the resort, as a place where the natural resources of health can be restored and the pharmacological dependence can be reduced.