



## Innovation, technology transfer and applied scientific research in balneology

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### Abstract

Spa medicine in Romania, through the existing natural therapeutic factors, offers natural remedies for the prophylaxis of some diseases, as well as for the treatment of many chronic disorders. While medical technology, pharmacology and surgery have shown spectacular advances, the results of the use of mineral waters or mofettes as therapeutic agents in certain diseases can be utilized jointly or complementarily. There is growing and increasingly solid published evidence of the benefits of various non-pharmacological strategies in the prevention of inflammatory and infectious pathologies and of their clinical benefits when used therapeutically, but further consolidation of research demonstrating the molecular and cellular basis of the immune mechanisms that support these benefits is required. In this context, there is scientific evidence regarding the effective immunophysiological mechanisms underlying the benefits of two non-pharmacological strategies used on a wide scale in the management of inflammatory and infectious pathologies: physical exercise and balneotherapy. It is important to develop good practice to support research, updated studies and the transfer of innovative solutions to the spa and health prevention sector, as well as to identify models for the improvement of regional and national policies. Also, intelligent specialization, proposed by certain national programs, can be an efficient instrument for the development of spa medicine, placing emphasis on innovation, which can stimulate economic growth, with a beneficial social effect, without negatively influencing the natural environment. With the help of research, new products can be identified and launched by using natural therapeutic factors, as well as health care services and innovative procedures to improve the existing prevention and treatment services.