



Consiliul Județean Covasna
Kovácszna Megye Tanácsa
Covasna County Council



Congress of Physical and Rehabilitation Medicine & Balneology

with international participation
COVASNA, April 23 – 25, 2026



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Romanian Association of Balneology (ARB)



FINAL REPORT - National Congress of Physical Medicine, Rehabilitation, and Balneology

Covasna, 23–25 April 2026

A landmark edition for the unity, scientific maturity, and future of the specialty

Organizers: Romanian Society of Physical Medicine, Rehabilitation and Balneoclimatology;
Romanian Association of Balneology

Venue: Covasna, Covasna Balneal Centre and Căprioara SPA & Wellness Resort

Period: 23–25 April 2026

Associated educational context: Balneology Camp 2026, 20–24 April 2026

Character: national congress with international participation; scientific, academic, and professional meeting

Executive Summary



The National Congress of Physical Medicine, Rehabilitation, and Balneology, held in Covasna between 23 and 25 April 2026, represented one of the most substantial and memorable recent editions of the scientific events dedicated to our specialty. Through its scale, academic quality, professional participation, and collegial-familial atmosphere, the event confirmed that Physical Medicine, Rehabilitation, and Balneology is not merely a therapeutic domain, but a complex architecture of modern medicine: a medicine of function, autonomy, reintegration, dignity, and quality of life.

At a time when healthcare systems are confronted with population ageing, the increasing prevalence of chronic diseases, long-term survival after severe neurological, cardiovascular, oncological, and traumatic conditions, and the need to reduce the burden of disability, the Covasna Congress demonstrated that our specialty has the capacity to provide mature clinical, scientific, and institutional responses. It was not simply an annual meeting. It was a demonstration of professional solidarity, academic continuity, and strategic vision.



The event brought together more than 300 participants, in an atmosphere described by organizers and participants as resembling an extended professional family: a family in which senior colleagues offered landmarks and guidance, young specialists confirmed the potential of a rising generation, residents discovered the strength of a living specialty, and students showed that the future is built through education, presence, involvement, and enthusiasm. The second-year BFKT

students from the Faculty of Medical Bioengineering, UMF Iași, provided an exemplary testimony to the way in which university training, field-based learning, and participation in scientific life can together become the school of the future.

The Congress was structured over three days, with 11 major scientific sessions, poster sessions, ceremonies, general assemblies, and an Awards Gala. The official programme included approximately 22 educational hours, covering highly relevant themes: artificial intelligence and digital twins in post-stroke rehabilitation, neurorehabilitation, modern balneology, hydrogen sulfide and redox mechanisms, cardiovascular rehabilitation, respiratory rehabilitation, paediatric rehabilitation, geriatrics, chronic pain, integrative medicine, lifestyle medicine, robotic technologies, virtual reality, telemedicine, sports rehabilitation, functional management, and public health. The local press publicly acknowledged the landmark character of the event, describing Covasna as becoming, for those days, “the capital of medical rehabilitation”, with specialists from Romania and abroad gathered for innovation, exchange of experience, and networking in healthcare.

A major strength of this edition was the organic link between the Congress and the 2026 Balneology Camp, held between 20 and 24 April 2026, with educational stages in Borsec, Târgu Ocna Salt Mine, Balványos, Saint Anne Lake, and Covasna. This articulation between field-based training, direct contact with natural therapeutic factors, and participation in the Congress created a rare educational model: a bridge between spa resort, university, clinic, research, and community.

The Covasna 2026 edition also had a profound symbolic dimension. The ceremony for awarding the “Tudor Sbenghe” Excellence Award to Prof. Gelu Onose, MD, PhD, transformed professional recognition into an act of institutional memory and academic consecration. The award was not merely a distinction, but the affirmation of a spiritual and intellectual lineage between the memory of one of the great founders of Romanian medical rehabilitation and the work of a leading contemporary personality. Through his clinical, university, scientific, institutional, and moral activity, Prof. Gelu Onose

was defined as a first-rank professor, elite clinician, visionary researcher, school builder, academic conscience, and continuity of excellence.

Through all these dimensions, the National Congress of Physical Medicine, Rehabilitation, and Balneology, Covasna 2026, may be regarded as a moment of identity consolidation for the specialty. It reaffirmed that medical rehabilitation is not an appendix to curative medicine, but one of its superior expressions: the medicine that accompanies the patient after the acute episode, the medicine that transforms survival into function, the medicine that restores autonomy, social reintegration, participation, and dignity.

1. The General Context of the Congress: Covasna as a Space of Science, Tradition, and Community



The choice of Covasna as the venue for the 2026 National Congress of Physical Medicine, Rehabilitation, and Balneology was not merely a logistical decision. It was an option with symbolic and scientific value. Covasna is one of the places where Romanian balneal identity is expressed through tradition, natural resources, clinical experience, healthcare infrastructure, and professional memory. The mofettas, mineral waters, climate, local balneal culture, and long history of using natural therapeutic factors provide an exemplary setting for a specialty which, in Romania, has preserved the unity between medical rehabilitation, physical medicine, and balneology.



In many European countries, balneology and physical medicine have followed partly separate institutional histories. Romania, however, has preserved its own paradigm, of high conceptual value: medical rehabilitation, physical medicine, and balneology are understood as convergent, complementary, and integrated domains. This unity is not a mere terminological inheritance, but a clinical reality. The patient with chronic disease, disability, frailty, functional deficit, or persistent pain requires a multimodal approach. Such a patient needs functional

assessment, physical medicine interventions, physiotherapy, therapeutic education, monitoring, secondary and tertiary prevention, physical reconditioning, social integration, and, when indicated, the rational use of natural therapeutic factors.



The Covasna Congress demonstrated that this Romanian paradigm remains current, but must be reaffirmed through science, not nostalgia. Balneology cannot be defended solely by invoking tradition. It must be consolidated through pathophysiological mechanisms,

biomarkers, clinical studies, standardization, integration into international classifications, correlation with functional objectives, and outcome assessment. Precisely this transition from tradition to rigour was one of the major ideas of the Congress.

The event also had a special community dimension. In the post-congress message transmitted by the organizers, the Congress was described as time spent together “as in a family”, a family of more than



300 members. This image is not only affective; it has institutional relevance. A medical specialty becomes strong when its members recognize one another, when generations communicate, when senior professionals offer models, when young specialists assume responsibilities, when residents see the meaning of the profession, and when students understand that their future is not abstract, but begins through real participation.

The hosts of the event, Turism Covasna SA, Mrs. Narcisa Diaconu, Manager, and the entire staff of the complex played a major role in the success of the Congress. In an event of such magnitude, organizational quality is not a secondary element. It is the framework in which science can be received, communicated, and valued. The space, hospitality, meals served, attention to detail, and availability of the technical and administrative teams all contributed to the feeling that, for several days, the professional “family” of the specialty had a home prepared for celebration.

2. The Academic Structure of the Event: Three Days, Eleven Sessions, More Than Twenty Educational Hours



The Congress programme was rigorously designed, with a balanced distribution between international sessions, clinical sessions, thematic sessions, posters, ceremonies, and institutional moments. The event took place over three days, from 23 to 25 April 2026, with a total of approximately 22 educational hours: six hours on the first day, eight hours on the second day, and eight hours on the third day. This programme density allowed for the coverage of a broad thematic area, corresponding to the real complexity of the specialty.

The first day, Thursday, 23 April 2026, was marked by three major axes: the international STRATIF-AI session, the international Balneology session, and the international PRM session. The choice of these three directions for the opening of the Congress had strategic significance. STRATIF-AI placed the specialty within the field of advanced digital medicine, artificial intelligence, and digital twins. The Balneology session reaffirmed the natural, mechanistic, and therapeutic foundation of the field. The PRM session connected these directions with functional rehabilitation, neurorehabilitation, multidisciplinary interventions, and community models.

The opening ceremony, held on the first day, provided the solemn framework required by a congress of this magnitude. At the same time, the general assemblies of SRMFRB and ARB gave the event a dimension of professional governance. A national congress must not be only a space for scientific communication, but also a space for decision-making, orientation, and institutional responsibility.



The second day, Friday, 24 April 2026, focused on the relationship between rehabilitation and other medical specialties, physical and rehabilitation medicine, pain management, cardiovascular rehabilitation, and respiratory rehabilitation. This day illustrated, in an exemplary manner, the transversal character of the specialty. Medical rehabilitation cannot be limited to a single organ, a single diagnosis, or a single category of interventions. It operates

across neurological, rheumatological, oncological, geriatric, orthopaedic, cardiological, respiratory, metabolic, and psychosomatic pathology. Therefore, the Congress offered not only scientific communications, but a map of complexity.

The third day, Saturday, 25 April 2026, included sessions dedicated to physical and rehabilitation medicine, paediatric rehabilitation, integrative balneology and lifestyle medicine, as well as sports medicine and biomechanical mechanisms. This day was particularly important because of its emphasis on the future: the child with disability, the adolescent with neurological conditions, the frail older patient, the athlete, the patient with chronic pain, the patient with complex functional needs, and the patient who requires objective assessment technologies, virtual reality, monitoring systems, and personalized interventions.

Overall, the 11 sessions of the Congress covered themes that define the international current state of the specialty:

- post-stroke rehabilitation and the integration of artificial intelligence;
- digital twins and continuous patient stratification;
- molecular balneology, hydrogen sulfide, and redox signalling;
- climatotherapy in the context of climate change;
- international standardization of hydrotherapy and balneotherapy;
- neurorehabilitation and stimulation technologies in spinal cord injury;
- community models of rehabilitation;
- rehabilitation in neurosurgery and oncology;
- geriatric rehabilitation and multimorbidity;
- chronic pain, acupressure, shockwave therapy, nanomedicine, and integrative interventions;
- cardiovascular rehabilitation, CPET, and electronic registries;
- respiratory rehabilitation, sarcopenia, and frailty;
- paediatric rehabilitation, Duchenne disease, cerebral palsy, and spasticity;
- integrative balneology, lifestyle medicine, and mental health;

- technology, virtual reality, hand-tracking, smart sensors, and biomechanical assessment;
- sports medicine, post-traumatic rehabilitation, complex syndromes, and education for quality of life.

The poster sessions completed the programme through a significant number of contributions, illustrating the concerns of young researchers and clinical teams for complex cases, intelligent technologies, paediatric rehabilitation, balneotherapy, proprioceptive rehabilitation, functional monitoring, neurological syndromes, pain, and prevention.

This structure demonstrates that the Covasna event was not fragmented, but organic. Each session contributed to a common idea: rehabilitation medicine is the medicine of function, and function is the place where biology, clinic, technology, environment, education, and society meet.

3. Scientific Relevance: From Experience-Based Rehabilitation to Data-, Mechanism-, and Outcome-Based Rehabilitation



One of the strongest conclusions of the Congress is that Physical Medicine, Rehabilitation, and Balneology is currently undergoing a stage of epistemological maturation. The specialty can no longer be defined only by procedures, devices, cures, or general protocols. It must be defined by functional objectives, biological mechanisms, validated assessment, measurable outcomes, data integration, and responsibility toward the patient.

In this respect, the STRATIF-AI session represented one of the most advanced directions of the Congress. The STRATIF-AI project proposes a paradigm shift in post-stroke rehabilitation: the transition from episodic, fragmented, and reactive assessments to continuous stratification

supported by multimodal data, digital twins, artificial intelligence, sensors, functional analyses, and integrated clinical platforms. In post-stroke rehabilitation, the therapeutic window does not end in the acute phase. Rehabilitation is a dynamic process influenced by neuroplasticity, motivation, training intensity, feedback, comorbidities, sleep, cardiovascular status, cognition, family environment, and patient adherence. A digital twin can become an operational model of the patient, capable of integrating these data and supporting clinical decision-making.

From a scientific point of view, this direction is essential. It brings rehabilitation closer to personalized medicine. The patient is no longer included in a generic protocol, but in an adaptive pathway in which

longitudinally collected data can modify objectives, exercise intensity, feedback, task difficulty, and follow-up. For the clinician, this means decision support. For the patient, it means visualization, motivation, and engagement. For the healthcare system, it means the possibility of documenting outcomes and justifying interventions.

Another major direction was mechanistic balneology. The sessions dedicated to hydrogen sulfide, H₂S balneal resources, mineral waters, mofetta therapy, and climatotherapy showed that modern balneology must be understood through biological mechanisms. Hydrogen sulfide is not merely a chemical component of certain therapeutic waters or gases, but a gasotransmitter with roles in redox signalling, mitochondrial function, inflammation, Nrf2 and NF-κB pathways, oxidative stress, and adaptive response. This perspective allows for the development of precision balneology, in which dose, exposure, hydrogeochemical composition, biomarkers, and clinical indications may be rigorously correlated.

The Congress also brought to the forefront the need for international standardization of hydrotherapy and balneotherapy. In a global context in which the World Health Organization seeks coherent classifications for interventions, diseases, and functioning, balneology must clarify its terminology, indications, procedures, mechanisms, and outcomes. Correlation with ICD-11, ICF, and ICHI can transform balneotherapy from a valuable regional practice into an internationally comparable, codifiable, researchable intervention that can be integrated into health policies.

At the clinical level, the Congress demonstrated that medical rehabilitation is indispensable in severe pathologies. Cases of traumatic brain injury, spinal cord injury, tetraplegia, paraplegia, complex post-traumatic syndromes, neuro-oncology, severe burns, fractures in older patients, dementia, multimorbidity, cerebral palsy, Duchenne muscular dystrophy, paediatric spasticity, and chronic pain showed that our specialty works precisely where acute medicine is no longer sufficient. After life has been saved, the fundamental question remains: what kind of life can be reconstructed? Medical rehabilitation answers exactly this question.

Technology was another major line of development. Exoskeletons, assistive robotics, virtual reality, hand-tracking, balance platforms, markerless 3D analysis, smart sensors, kinematic monitoring, FES, TMS, spinal stimulation, brain-computer interfaces, and interactive feedback systems were discussed not as spectacular innovations in themselves, but as instruments for objectifying function and increasing the chances of recovery. The scientific message of the Congress was rightly balanced: technology becomes valuable only when it serves the human being—when it supports verticalization, gait, balance, communication, autonomy, reintegration, and participation.

From an academic perspective, the abstract volume, published under the aegis of the Balneo and PRM Research Journal, provided the Congress contributions with a form of scientific archiving and academic visibility. This is important: a congress must not be only a momentary event, but a documented contribution to the literature of the field. The abstracts offer a radiography of current concerns and create the basis for collaborations, multicentre studies, research projects, and the development of guidelines.

Through all these elements, the Congress conveyed a clear message: our specialty develops along three inseparable axes—clinic, research, and education. Without clinic, science becomes abstract. Without

research, practice risks remaining empirical. Without education, the future becomes fragmented. In Covasna, these three axes were brought together.

4. Balneology as a Modern Science: Tradition, Mechanisms, Resorts, and Public Health

The Covasna Congress had the merit of repositioning balneology at the centre of a mature academic discussion. Balneology was not presented as a relic of the past, but as a domain situated at the intersection of physical medicine, rehabilitation, molecular biology, physiology, climatology, hydrogeochemistry, public health, medical tourism, and prevention.



Romania has an exceptional balneal heritage: mineral waters, mofettas, therapeutic muds, salt lakes, salt mines, bioclimate, natural health-promoting factors, and a consistent professional tradition. But heritage is not sufficient. In order for balneology to remain relevant in the twenty-first century, it must be explained, measured, standardized, and

integrated into clinical pathways. The Congress showed that this transition is possible.

The sessions dedicated to H₂S balneal resources, mofetta therapy, mineral waters, climatotherapy, and hydrotherapy placed emphasis on mechanisms. This is the correct direction. In contemporary medicine, acceptance of an intervention depends on biological plausibility, safety profile, clear indications, measurable outcomes, and cost-effectiveness. Balneology needs studies that evaluate inflammatory response, oxidative stress, endothelial function, peripheral perfusion, autonomic parameters, pain, sleep, quality of life, and functionality. Only in this way can precision balneology be built.

Covasna has a particular significance through its tradition of mofetta therapy and its cardiovascular indications. Mofettas and carbonated waters are associated with effects on peripheral circulation, vascular reactivity, and cardiovascular adaptation. In a society in which cardiovascular diseases remain a major cause of morbidity and disability, the integration of balneal factors into cardiovascular rehabilitation programmes may have strategic relevance, provided that clinical criteria, protocols, and rigorous evaluations are in place.

Balneology also has an important public health dimension. It can contribute to primary, secondary, and tertiary prevention. It can support active ageing, stress control, maintenance of work capacity, physical reconditioning, lifestyle education, and rehabilitation after chronic diseases. In a medical system often centred on the acute episode, balneology can become a space of continuity of care.

At the same time, balneology is linked to the development of spa resorts and to local economic health. Balneal resorts are not merely tourist destinations. They are healthcare infrastructures, therapeutic spaces, training centres, natural laboratories, and platforms for applied research. The Covasna

Congress showed that a resort can become a temporary capital of rehabilitation science when professional societies, universities, balneal operators, authorities, sponsors, and the community collaborate.



In this respect, the 2026 Balneology Camp played an exceptional role. It demonstrated that balneological education cannot be achieved only in the lecture hall. Students must see the springs, resorts, mofettas, salt mines, therapeutic pathways, infrastructure, and patients. They must understand that natural therapeutic factors are not abstract concepts, but biological, geographical, clinical, and social realities. The Camp travelled through representative spaces—Borsec, Târgu

Ocna Salt Mine, Balványos, Saint Anne Lake, and Covasna—and united field-based education with participation in the Congress. This is a rare and valuable form of integrative pedagogy.

Such an experience may become a national model. Romania needs young professionals who know balneology not only from treatises, but from the reality of resorts. It needs bioengineers, physicians, physiotherapists, public health specialists, researchers, managers, and health promoters who see in balneology a field of innovation, not merely a tradition. In this regard, the Balneology Camp may become a formative instrument of strategic importance.



5. Medical Rehabilitation as the Medicine of Function, Autonomy, and Dignity



One of the fundamental ideas of the Congress was that medical rehabilitation represents the medicine of function. In healthcare systems, therapeutic success is often measured by survival, biological stabilization, anatomical healing, or symptom control. Rehabilitation adds an essential dimension: what can the patient do after disease? Can the patient walk? Can the patient communicate? Can the patient eat independently? Can the patient work? Can the patient participate in family life? Can the

patient return to the community? Can the patient live with dignity?

This question is central to all pathologies presented at the Congress. In stroke, the stake is not only the prevention of recurrence, but the recovery of motor function, balance, speech, independence, and participation. In traumatic brain injury, the stake is not only lesion resolution, but cognitive, behavioural, motor, and social reconstruction. In spinal cord injury, the stake is verticalization, transfer, prevention of complications, bladder function, mobility, assistive technologies, and independent living. In paediatric rehabilitation, the stake is development, neuroplasticity, habilitation, family, and the child's future. In geriatrics, the stake is maintaining autonomy in the face of frailty, polymorbidity, and the risk of institutionalization.

In this sense, medical rehabilitation is a profoundly humanistic specialty. It does not treat only diseases; it reconstructs possibilities. It does not limit itself to reducing symptoms; it pursues participation. It does not address only the body, but the person as a whole. For this reason, the use of the ICF classification—with its emphasis on functions, activities, participation, and contextual factors—is essential for the modernization of the specialty.

The Congress illustrated this perspective through numerous complex clinical cases. Cases of severe traumatic brain injury with tetraplegia, dysphagia, major cognitive impairment, and complete dependence showed that rehabilitation requires time, interdisciplinarity, technology, resilience, and monitoring. Improvements in functional scores, postural control, orthostatism, assisted gait, cognition, and partial independence demonstrate that functional prognosis can be modified even in initially very severe situations.

Rehabilitation in severe burns, fractures in older patients, neuro-oncology, paraplegia, rare neurological syndromes, and complex paediatric pathology shows that the specialty must be prepared for polymorbidity and uncertainty. There is no “standard patient” in rehabilitation. Each patient is a biological, psychological, familial, and social system, and the intervention must be adapted accordingly.

Chronic pain was another major theme. Pain is not merely a symptom, but a factor of disability, anxiety, insomnia, functional limitation, and reduced quality of life. Pain management in rehabilitation must be multimodal: education, exercise, physical medicine therapies, integrative interventions, psychological approach, technologies, rational pharmacological treatment, and functional objectives. Communications on acupuncture, shockwave therapy, nanomedicine, post-isometric relaxation, post-stroke musculoskeletal pain, and chronic low back pain confirmed this complexity.

Cardiovascular and respiratory rehabilitation occupied an important place. At a time when patients more frequently survive acute cardiovascular events, cardiopulmonary rehabilitation becomes indispensable. CPET, electronic registries, assessment of autonomic response, heart rate variability, sarcopenia, frailty, and peripheral muscle dysfunction were discussed as instruments of assessment and intervention. This shows that cardiovascular rehabilitation is not a simple exercise programme, but a monitored, stratified, and integrated medical intervention.

Paediatric rehabilitation had a special significance. The child with disability is not a miniature adult. The child is a developing human being, and rehabilitation intervention modifies not only present function, but the trajectory of life. Themes related to Duchenne muscular dystrophy, cerebral palsy, spasticity, gait disorders, hydrocephalus, spinal cord injuries in children, and imaging assessment of vertebral statics show that paediatric rehabilitation is a domain of great professional refinement.

The Congress conveyed an essential public message: medical rehabilitation is not a luxury, not an optional stage, and not a mere appendix after acute treatment. It is a constitutive part of responsible medicine. Without rehabilitation, survival often remains incomplete. Without rehabilitation, the costs of disability increase. Without rehabilitation, the patient risks remaining outside the community.

6. Technology, Digitalization, and the Future of Rehabilitation: From Device to Ecosystem

One of the merits of the Congress was the presentation of technology not as an end in itself, but as an instrument for transforming clinical practice. In rehabilitation, technology has meaning only if it provides better assessment, more personalized treatment, faster feedback, increased motivation, adequate therapeutic intensity, safety, and documentable functional outcomes.

The sponsors' materials and scientific presentations outlined the principles of technology-assisted functional rehabilitation: objective and measurable assessment, intensive and task-specific repetition, real-time feedback, progressive adaptation of difficulty, and motivation through interactivity and visualization. These principles are congruent with neuroplasticity and motor learning. The brain and neuromuscular system change through repetition, intensity, relevant tasks, feedback, and active involvement. Technology can amplify these conditions.

Gait analysis platforms, interactive treadmills, static and dynamic balance systems, asymmetric body-weight support, virtual reality systems, robotic exoskeletons, devices for upper limb rehabilitation, hand-tracking systems, high-intensity laser therapy, inductive therapy, functional electrical stimulation, and multisensory solutions form a technological ecosystem. This ecosystem does not replace the clinician; it provides the clinician with more precise instruments.

At the same time, the Congress showed that technology must be integrated critically. Not every new device is automatically useful. Utility must be demonstrated through clinical indication,

Rehabilitation

Rehabilitation is a complex educational and problem-solving intervention that facilitates spontaneous recovery and learning dependent processes including:

- restoration (restitution of the function of impaired structures)
- substitution (reorganisation of pathways to deliver impaired functions)
- compensation (reducing the disparity between the limited ability of a person and the demands of their environment)



appropriateness to the functional objective, safety, cost-effectiveness, patient acceptability, and outcome measurement. Without these criteria, technology risks becoming spectacle. With these criteria, it becomes medicine.

The STRATIF-AI projects and the communications on markerless 3D analysis illustrated a higher

level of digitalization. Through motion capture without markers, 3D reconstruction, kinematic assessment, digitalized Fugl-Meyer Assessment, and virtual coaching, rehabilitation can become more accessible, more objective, and more scalable. Particularly in post-stroke rehabilitation, assessment of the upper and lower limbs can be completed with quantitative data on amplitude, trajectory, movement segmentation, and motor compensations.

These instruments have major implications for telerehabilitation. Many regions do not have sufficient access to specialized centres. Patients face transport difficulties, costs, family dependence, and geographical limitations. A digital assessment and guidance system can extend the coverage of rehabilitation. Nevertheless, telerehabilitation must be conceived responsibly: not as a universal substitute for the clinical encounter, but as a controlled, adapted, monitored, and integrated extension of care.

Assistive robotics, spinal stimulation, brain-computer interfaces, and EEG-based systems for activating assistive devices were discussed in relation to severe neurological lesions. These technologies open an extraordinary frontier: the possibility of creating functional opportunities where traditional medicine reaches its limits. An exoskeleton, a robotic arm, a stimulation system, or a biomedical interface are not merely devices. They can become training environments, support for verticalization, instruments of participation, and, in some cases, bridges toward autonomy.

It is important to emphasize that the digitalization of rehabilitation must not eliminate the human dimension. On the contrary, the more advanced technology becomes, the greater the clinician's responsibility. Data must be interpreted. Algorithms must be validated. The patient must be understood. Objectives must be negotiated. Motivation must be supported. Rehabilitation remains a medical and human act, even when assisted by artificial intelligence.

The Congress thus conveyed a balanced message: the future of rehabilitation is personalized, digital, and integrated, but remains profoundly clinical and human. Data do not replace medical judgement; they refine it. Technology does not replace the therapist; it multiplies therapeutic efficiency. Artificial intelligence does not replace the therapeutic relationship; it can support better decisions, if used ethically and validated.

7. The International Dimension: Romania in a Global Scientific Dialogue

The Covasna Congress had substantial international participation, reflected both in the composition of the scientific faculty and in the themes addressed. Experts were involved from areas such as international balneology, neurorehabilitation, spinal cord injury, climatotherapy, community rehabilitation, digital medicine, hydrotherapy, and post-stroke rehabilitation.

The presence of personalities such as **Prof. Müfit Zeki Karagülle, Prof. Francisco Maraver, Prof. José Carbajo, Prof. H.S. Chhabra, Prof. Rory O'Connor, Prof. Hitomi Kanayama, Prof. Shiv Lal Yadav, and Dr. Deepa Sundareswaran** made it possible to connect Romanian experience to global themes. This is important because our specialty cannot evolve in isolation. Romania has tradition, resources, and school, but it needs international dialogue, multicentre projects, standardization, and visibility.

The international balneology session showed that natural therapeutic factors are a global theme, although expressed differently in local contexts. H₂S resources in Turkey, Spain, and Romania, sulfurated mechanisms, climatotherapy in Japan, and discussions on hydrotherapy in relation to WHO requirements outline an international agenda. Romania can contribute significantly to this agenda through the richness of its resources and its accumulated clinical experience.

The international PRM session brought into discussion emerging stimulation technologies in spinal cord injury, community rehabilitation models, and interdisciplinary structures. These themes are of major relevance for Romania. Spinal cord injury requires specialized centres, continuity, prevention of complications, care networks, and accessible technologies. Community rehabilitation is essential for patients who live far from university centres. International models can inspire local adaptations.

The international dimension was also present through STRATIF-AI, a project with a European structure involving centres from Romania, Spain, and the United Kingdom. This project shows that Romania is not only a beneficiary of innovation, but an active participant in the development of digital medicine in rehabilitation. The clinical validation of platforms based on digital twins, multimodal data, and artificial intelligence in Romanian centres provides our specialty with important visibility.

Furthermore, the Congress integrated themes compatible with the European rehabilitation agenda: active ageing, frailty, social reintegration, functionality, telemedicine, standards of competence, interdisciplinary education, prevention, and public health. In this way, the specialty connects to current demographic and epidemiological challenges.

Romania has a particular position. On the one hand, it possesses a balneal tradition and exceptional natural resources. On the other hand, it has university centres capable of developing clinical research, neurorehabilitation, assistive technologies, and digital projects. The combination of these two advantages—natural resources and academic capacity—can create a distinct international profile. The Covasna Congress showed that such a profile is possible.

To consolidate this position, several strategic directions are necessary: the development of multicentre studies, the increase in the number of indexed publications, the standardization of balneal protocols, the creation of national rehabilitation registries, the attraction of young researchers, the integration

of bioengineering and technology, collaboration with international societies, and participation in consensus documents. The Congress did not solve all these objectives, but formulated them implicitly as directions for the future.

8. The “Tudor Sbenghe” Excellence Award: Memory, Lineage, and Academic Consecration

One of the moments of highest symbolic intensity of the Congress was the awarding of the “Tudor Sbenghe” Excellence Award to Prof. Gelu Onose, MD, PhD. This ceremony went beyond the usual framework of a professional distinction. It became an act of public recognition, institutional memory, and academic consecration.

The award bearing the name of Professor Tudor Sbenghe refers to one of the fundamental personalities of Romanian medical rehabilitation. To utter the name of Professor Tudor Sbenghe at a congress of the specialty means to invoke a tradition, a school, and a moral and intellectual standard. Medical specialties are not built only through administrative regulations, curricula, or infrastructures. They are built through people who have vision, courage, rigour, and the capacity to form generations.

The “Tudor Sbenghe” Excellence Award does not reward only individual performance. It confirms belonging to a line of continuity, to a genealogy of exacting standards and responsibility. It is an award for an oeuvre, not for a moment. It is an award for lasting contribution, not for transient visibility. It is an award that unites founding memory with ongoing academic excellence.

Prof. Gelu Onose, MD, PhD, was presented as one of the great personalities of contemporary Romanian medicine, with decisive contributions to medical rehabilitation, neurorehabilitation, physical medicine, balneology, and geriatrics. His professional profile brings together multiple high-level identities: university professor, doctoral supervisor, senior physician in Physical Medicine, Rehabilitation and Balneology, senior physician in Geriatrics and Gerontology, first-degree senior scientific researcher, academic leader, clinical coordinator, institutional builder, and promoter of innovation.

His work cannot be reduced to titles or positions. It has clinical, university, scientific, institutional, and moral dimensions. At the “Carol Davila” University of Medicine and Pharmacy in Bucharest, Prof. Gelu Onose contributed to the formation of physicians, doctoral students, and specialists, to the consolidation of the discipline, and to the definition of academic standards. At the “Bagdasar-Arseni” Emergency Clinical Hospital, his clinical activity has been carried out in the field of severe neurological pathology, trauma with major functional impact, and complex cases, where rehabilitation is not a simple procedure, but the reconstruction of life.

In neurorehabilitation, Prof. Gelu Onose represents an authority in the management of spinal cord injuries, traumatic brain injuries, stroke, spasticity, neurogenic bladder, neuroprotection, neurorestoration, and assistive technologies. His contributions lie at the intersection of clinic, neurosciences, technology, and medical humanism. In his vision, neurorehabilitation is not merely an extension of neurology or general rehabilitation, but a complex domain in which the patient’s function, autonomy, and dignity become major objectives.

Institutionally, Prof. Gelu Onose was evoked as founding co-president of the Romanian Society of Neurorehabilitation and of the Romanian Society of Spinal Cord Pathology, Therapy and Rehabilitation, contributing to the consolidation of essential professional platforms. His status within the Romanian Society of Physical Medicine, Rehabilitation and Balneoclimatology expresses recognition of an exceptional professional and moral authority, as well as his role in defending the unity between medical rehabilitation, physical medicine, and balneology.

A remarkable dimension of his work is the articulation of medical rehabilitation with geriatrics and gerontology. In a world marked by demographic ageing, frailty, multimorbidity, and the need to maintain autonomy, this convergence is strategic. Rehabilitation of the older person cannot be separated from the understanding of ageing, functionality, risk of dependence, and quality of life.

In research, the thematic breadth and interdisciplinarity of his activity are remarkable: neurosciences, balneology, geriatrics, biomaterials, medical devices, assistive robotics, mechatronics, brain-computer interfaces, and advanced functional assessment. Projects were evoked that are dedicated to orthostatism and assisted gait through robotic orthotic systems, assistive medical technologies, informatics networks for patients with post-traumatic spinal cord sequelae, and solutions based on EEG signals. The Gold Medal at the International Exhibition of Inventions in Geneva, patents, utility models, and OSIM certificates confirm a contribution that goes beyond descriptive research and enters the field of applied innovation.

Perhaps the most lasting dimension of his work, however, is his capacity to build a school. To create a school means to go beyond one's own biography. It means forming people who will continue to think, research, treat, publish, and defend the field. In academic medicine, this is one of the highest forms of excellence.

The awarding of the "Tudor Sbenghe" Excellence Award to Prof. Gelu Onose therefore affirmed continuity at an academic and moral level. It united the memory of a great predecessor with the work of a great contemporary personality. It publicly formulated a value judgement: the specialty recognizes its landmarks and knows how to honour its academic consciences.

In the ceremonial terms of the laudatio, Prof. Gelu Onose may be defined as:



A first-rank professor.
An elite clinician.
A visionary researcher.
A school builder.
An academic conscience.
A continuity of excellence.

This sequence of the Congress was more than a festive moment. It was a lesson in gratitude, memory, and responsibility. A professional community that honours its models protects its future.

9. Recognition of Excellence and the Role of Models: From Senior Professionals to Future Generations

The Covasna 2026 Congress showed that a mature professional community needs models. Models are not merely admired personalities. They are landmarks of conduct, exigency, courage, perseverance, and institutional construction. In a specialty that works with the vulnerability of the patient, the professional model is essential.

Senior professionals showed in Covasna that they can be pillars of development. They offered not only lectures and interventions, but a symbolic presence. They are the living memory of the specialty. They have passed through difficult periods, defended the identity of the field, trained generations, and built institutions. For young physicians, meeting senior professionals is not merely a protocol occasion. It is a form of professional initiation.

Young specialists, in turn, showed that they rise to the level of expectations. Through the papers presented, the clinical cases, the openness toward technology, and the involvement in research, they demonstrated that the specialty has continuity. This is particularly important at a time when many medical domains face fragmentation, professional migration, burnout, and declining academic attractiveness.

Residents were able to see the strength of the specialty. For a physician in training, a congress can be decisive. It shows that the specialty is not only what is seen on call, on the ward, or in the outpatient clinic. It is a community, a literature, a tradition, an international network, a field of research, and a social mission. The Congress offered residents the complete image of the profession.

The students had a memorable presence. The second-year BFKT students from the Faculty of Medical Bioengineering, UMF Iași, were called, with affection and gratitude, “my grade-10 students”. They showed that the future of the specialty is built with them and for them. Their presence was not

decorative. It was active, formative, and symbolic. They understood that medical rehabilitation and balneology are not merely curricular disciplines, but living domains connected to patients, resorts, technologies, research, and society.

In this context, the Balneology Camp had exceptional importance. It allowed students to see natural therapeutic resources directly, understand the role of resorts, participate in an interdisciplinary educational experience, and connect the field with the Congress. This experience can create vocation. Sometimes, the future of a domain begins in such an encounter: a student sees a mofetta, a salt mine, a patient, a presentation, a professor, a team—and understands that there is a professional path there.

The ceremonial materials dedicated to excellence also evoked the figure of Dr. Liliana Pădure, through an exemplary professional trajectory for Romanian paediatric rehabilitation. Her activity was linked to the training of medical staff in paediatric rehabilitation, the introduction of botulinum toxin in the treatment of spasticity in children, and her decisive contribution to the development of the “Robănescu-Pădure” National Clinical Centre for Neuropsychomotor Rehabilitation in Children.

This dimension of the Congress is essential for public impact. Society needs to see that medical rehabilitation is not only technical, but moral. It protects the vulnerable person. It protects the child with disability. It protects the frail older person. It protects the severe neurological patient. It protects the right to function, participation, and dignity.

Through the recognition of models, the Congress conveyed a clear message: excellence is not an episode, but an intellectual and moral discipline. It is built through years of work, through rigour, through loyalty to the profession, through the formation of others, and through the assumption of responsibilities that go beyond personal interest.

10. Organization, Partnerships, and Support: The Concrete Conditions of Success

A congress of such magnitude is not built only through ideas. It is built through people, logistics, partnerships, hosts, sponsors, technical teams, communication, scheduling, patience, and the capacity to overcome inevitable difficulties. Covasna 2026 was a success precisely because these dimensions functioned together.

The hosts, Turism Covasna SA, Mrs. Narcisa Diaconu, Manager, and the entire staff made a first-rate contribution. In the post-congress message, the organizers expressed gratitude for the extraordinary effort made to have “the home of our family prepared for celebration”. This formulation expresses exactly the role of the hosts: they offered not only a space, but a framework of belonging. In a congress, the hall, meals, breaks, festive dinner, equipment, reception, flow of participants, communication, and hotel services directly influence the quality of the academic experience.

The kitchen staff also deserve explicit recognition. In professional events, the work behind the scenes is often invisible. Yet it contributes to the general well-being of participants and to the affective memory of the event. A successful congress is an ensemble of details.

The sponsors had an important role in supporting the Congress and in creating a space of dialogue between medicine, technology, and industry. The thanks addressed to BTL, Physiomed, Haleon, Reo

Medical, Rompharma, Novakgroup, Borsec, and Carpatina reflect the fact that our specialty needs responsible partnerships. In medical rehabilitation, technology, devices, pharmaceutical solutions, infrastructure, and products associated with care can contribute to the development of the field, if they are integrated transparently and ethically.

The sponsors' materials emphasized technology-assisted functional rehabilitation, objective assessment, real-time feedback, progressive adaptation, motivation, and the integration of digital technologies. This direction is aligned with international trends. At the same time, partnership with industry must remain subordinated to medical and scientific criteria. The clinician's role is to select, validate, and use instruments that bring real benefits to the patient.

The organizing team made a decisive contribution. The thanks addressed to collaborators—Camil, Ela, Ana, Ramona, Teo, Mihai, and Bogdan—are not mere formulas of politeness. They express the reality of a collective effort. An annual congress involves technical coordination, communication with speakers, scheduling, management of materials, adaptation to unforeseen problems, relation with participants, documents, diplomas, online platforms, equipment, sound, projection, photography, social media, and many other elements that become visible only when they fail to function. The fact that the event was perceived as successful shows that this discreet work was effective.

11. The Congress and the Balneology Camp: An Integrated Model of Education, Field Experience, and Research

The link between the National Congress of Physical Medicine, Rehabilitation, and Balneology and the 2026 Balneology Camp represents one of the most original and fertile components of the Covasna edition. The Camp took place between 20 and 24 April 2026 and included educational routes in Borsec, Târgu Ocna Salt Mine, Balvanyos, Saint Anne Lake, the Covasna Congress, and Covasna resort. This succession created a formative experience in which students and participants could move from natural resource to scientific explanation, from field to lecture hall, from observation to congress.

This model deserves in-depth analysis. Modern medical education cannot remain exclusively theoretical. Students must see how medicine is expressed in space, community, and infrastructure. In balneology, this need is even more evident. Natural therapeutic factors cannot be fully understood without direct contact with the place, geology, water, gases, climate, local tradition, and the way in which these are transformed into medical interventions.

Borsec – FONTANA Centre, with its tradition of mineral waters, offers a context for understanding crenotherapy, hydro-mineral resources, and the relationship between health, tourism, and community. Târgu Ocna Salt Mine allows the understanding of speleotherapy, aerosols, the saline microclimate, and respiratory applications. Balvanyos and Saint Anne Lake bring into discussion bioclimate, volcanic resources, the therapeutic landscape, and the relationship between nature and health. Covasna offers the context of mofettas, carbonated waters, cardiovascular rehabilitation, and balneal tradition. The integration of these places into an educational route creates a living map of Romanian balneology.

For BFKT students from Medical Bioengineering, this experience is particularly valuable. Medical bioengineering and balneophysiokinetotherapy lie at the intersection of biology, medicine, technology, devices, data, and systems. Modern balneology needs exactly this intersection. It needs measurements, sensors, models, equipment, functional assessment, databases, standardization, research instruments, and technologies capable of explaining and optimizing the use of natural therapeutic factors. Therefore, the involvement of BFKT students is not accidental. It announces a possible alliance between traditional balneology and contemporary medical engineering.

The Balneology Camp may become a major instrument for vocational recruitment. Young people do not choose a domain only because they read about it in a textbook. They choose it when they see it alive, when they meet dedicated people, when they understand its impact on patients, and when they can imagine their own contribution. The Camp can create precisely this experience.

In addition, the Camp may become a platform for educational research. Observation protocols, student mini-projects, assessments of perceptions regarding balneology, studies on field-based education, digital applications for mapping balneal resources, models of scientific popularization, and collaborations between universities, resorts, and professional societies can be developed.

Through its association with the Congress, the Camp did something essential: it connected generations. Students met professors, clinicians, researchers, residents, specialists, sponsors, and hosts. They saw how a specialty manifests itself in a major event. They understood that science is not only content, but community.

From this perspective, the Covasna 2026 Congress and the 2026 Balneology Camp together form a model of applied academic education. A model in which the resort becomes a campus, the Congress becomes a laboratory of ideas, and the student becomes an active participant in the future of the specialty.

12. Public Impact for Patients, Families, Communities, and the Healthcare System

A medical congress must not be evaluated only by the number of sessions, speakers, or abstracts. It must also be evaluated by its public impact. What does it change in society's perception? What message does it transmit to patients? What signal does it send to authorities? What hope does it offer families? What directions does it create for the healthcare system?

First and foremost, the Covasna Congress communicates that medical rehabilitation is indispensable. In Romania, as in many other countries, there is still a tendency to give exclusive priority to the acute episode. The patient is operated on, stabilized, discharged—and then the real struggle for functionality begins. Without adequate rehabilitation, the patient may remain dependent, the family may become exhausted, and the system pays much higher social and economic costs. Therefore, rehabilitation is not an additional cost, but an investment in autonomy.

Second, the Congress communicates that balneology can be part of modern medicine, if scientifically supported. Romania has important natural therapeutic resources, but these must be valorized through studies, standards, protocols, and integration into health programmes.

Balneal resorts can become centres of prevention, rehabilitation, education, and research. They can contribute to the health of the population and to the development of local communities.

Third, the Congress communicates that technology can facilitate access to rehabilitation. Telerehabilitation, digital assessment, sensors, monitoring platforms, and artificial intelligence can help patients from remote areas, support long-term follow-up, and increase the efficiency of interventions. But this requires policies, infrastructure, and professional training.

Fourth, the Congress communicates that the patient with disability must be regarded with dignity. Whether a child with cerebral palsy, an adult with stroke, a patient with spinal cord injury, a frail older person, or a person with chronic pain, each has the right to assessment, treatment, adaptation, autonomy, and participation. Medical rehabilitation is a form of functional intervention.

Fifth, the Congress communicates that the specialty needs institutional support. In order to function at its full potential, medical rehabilitation requires specialized centres, sufficient personnel, modern equipment, adequate funding, registries, national programmes, interdisciplinary collaboration, quality criteria, and continuity of care.

The public impact of the Congress is amplified by the fact that the event was visible in the local community and online environment. The local press announced the Congress as a landmark event, mentioning the gathering of specialists from Romania and abroad for innovation and exchange of experience. Post-congress messages on social networks transformed academic success into an experience communicable to the wider public. This double visibility—scientific and social—is important. A specialty must be respected by experts, but also understood by society.

The Congress therefore had a major public impact because it told a complete story: about science, people, patients, resorts, technologies, tradition, the future, and gratitude.

13. Academic Conclusions and Strategic Directions for the Future

The National Congress of Physical Medicine, Rehabilitation, and Balneology, Covasna 2026, may be regarded as a landmark for the maturation of the specialty in Romania. It showed that there is a strong professional community, a critical mass of research, an international openness, an involved young generation, a valuable balneal tradition, and a remarkable organizational capacity.

Based on the themes and conclusions of the Congress, several strategic directions for the future may be formulated.

1. Consolidation of the unified identity of the specialty. Medical rehabilitation, physical medicine, and balneology must be defended as a coherent whole. This unity is an advantage of the Romanian school and may become an international mark of identity.

2. Development of precision balneology. Natural therapeutic factors must be studied through biological mechanisms, biomarkers, exposure standardization, protocols, and functional outcomes.

3. Integration of digitalization and artificial intelligence. Projects such as STRATIF-AI must be continued, expanded, and clinically validated, with emphasis on safety, ethics, data protection, and real utility.

4. Creation of national rehabilitation registries. Cardiovascular rehabilitation, neurorehabilitation, post-stroke rehabilitation, spinal cord injury, and balneotherapy can benefit from registries that document outcomes, costs, and care pathways.

5. Development of multicentre research. Romania needs collaborative studies between university centres, resorts, hospitals, and institutes, in order to increase the quality of evidence.

6. Training of young professionals. Residents, students, and young specialists must be constantly involved in congresses, camps, projects, publications, and research activities.

7. Expansion of the Balneology Camp as an educational model. The Camp can become an annual platform for training, applied research, and promotion of Romanian balneology.

8. Increasing public visibility. The specialty must be explained to the wider public: rehabilitation is not optional, balneology is not only tradition, and technology is not a luxury, but a therapeutic instrument.

9. Responsible partnerships with industry. Rehabilitation technologies, devices, and digital solutions must be integrated on the basis of evidence and patient needs.

10. Recognition of models and cultivation of institutional memory. Awards, laudationes, and ceremonies are not mere festive moments. They create continuity, transmit values, and form professional consciousness.

These directions can transform the success of the Congress into a development programme. A successful congress does not end when the sessions close. It continues through the projects it inspires, the collaborations it opens, and the energy it leaves within the community.

14. Final Message to the Community

The National Congress of Physical Medicine, Rehabilitation, and Balneology, Covasna 2026, was more than a scientific event. It was an experience of community for the specialty, an academic affirmation, and a professional celebration. It was proof that when organizers, hosts, participants, sponsors, senior professionals, young specialists, residents, and students work together, an event can be built that remains in memory.

It was time spent together as in a family. A family of more than 300 members. A family in which care for one another was felt in the details, in the words, in the sessions, in the breaks, in the photographs, in the ceremonies, and in the joy of being together.

The second-year BFKT students from the Faculty of Medical Bioengineering, UMF Iași, hold a special place in this story. They demonstrated that the future of the specialty is built with young people who are curious, disciplined, enthusiastic, and capable of seeing the connection between science,

technology, nature, and the patient. For them, the Balneology Camp and the Covasna Congress were not merely educational activities, but an experience of vocation, a roadmap for the future.

Residents were able to see the strength of the specialty. Young specialists showed that they can sustain an event of magnitude. Senior professionals demonstrated that they remain landmarks, pillars, and models. The laureates showed that excellence has memory and that a mature community knows how to honour its values.

Our gratitude goes to our hosts, Turism Covasna SA, Mrs. Narcisa Diaconu, Manager, and the entire staff, for the extraordinary effort made. The home of our professional family was prepared for celebration. Thanks are also due to the kitchen staff, technical teams, collaborators, photographers, and all those who made the details function.

Thanks are due to the sponsors who supported the event and contributed to the space of dialogue between medicine, technology, and innovation: BTL, Physiomed, Haleon, Reo Medical, Rompharma, Novakgroup, Borsec, Carpatina, and all partners involved.

Thanks are due to the organizing team: Camil, Ela, Ana, Ramona, Teo, Mihai, and Bogdan. Without this discreet, technical, intense, and enthusiastic work, the Congress would not have had the same coherence, energy, and elegance.



During the three days in Covasna, we saw what our specialty can be when it gathers its forces. We saw science, tradition, technology, balneology, rehabilitation, neuroplasticity, geriatrics, paediatrics, cardiology, respiration, pain, movement, function, hope, and dignity. We saw how acute medicine continues through the medicine of function. We saw how the patient is not reduced to a diagnosis, but regarded as a person who must be brought

back, as far as possible, to active life.

Covasna 2026 demonstrated that Physical Medicine, Rehabilitation, and Balneology have a solid future. A future in which balneal tradition unites with molecular research. A future in which resorts meet artificial intelligence. A future in which students are trained in the field, residents grow alongside models, and senior professionals transmit not only knowledge, but character.

This Congress was truly the New Year's Eve of our specialty: a moment of assessment, gratitude, renewal, and hope.

We thank all those who participated in the success of this Congress. We thank you for your presence, your ideas, your friendship, your trust, and the joy of building together.

Covasna 2026 remains in our memory as a congress of excellence, of professional family, and of the future.