



# Geromedicine: A new journal for the clinical application of geroscience

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Traditionally, medicine has focused primarily on diagnosing and treating diseases, with comparatively limited attention given to the proactive optimization of human health and healthspan. As a result, biomedical research has largely centered on defining, classifying, and managing pathological conditions, while the conceptualization and systematic study of health itself have remained relatively underexplored<sup>[1]</sup>. This imbalance has shaped a healthcare paradigm that prioritizes the remediation of diseases over the preservation and enhancement of the body's intrinsic and vitality throughout the lifespan. Within this framework, aging has typically been viewed as a major and irremediable risk factor for deterioration, decadence, disease, and death, rather than as a window of opportunity for early intervene, reinforcement biological resilience, and extension of the period of life spent in optimal health<sup>[2]</sup>. Emerging fields such as geroscience and geromedicine challenge this traditional perspective by framing aging not as an inevitable decline, but as a modifiable process, thereby opening new avenues for promoting healthy longevity and enhancing quality of life throughout adulthood.

The emerging discipline of geromedicine is dedicated to enhancing health and extending healthspan by targeting the fundamental biological processes of aging, as identified by geroscience, throughout the adult life course, regardless of an individual's current health condition. Rather than focusing solely on older or diseased populations, geromedicine actively encompasses young adults, aiming to initiate interventions well before the onset of age-related diseases. In this framework, the prefix “gero” does not denote the age of the target population, but rather reflects the broader objective of promoting pathways toward healthy aging<sup>[3]</sup>.

In our conceptual framework<sup>[3,4]</sup>, geromedicine is guided by three overarching objectives that distinguish it from traditional medical specialties, which typically focus on treating manifest diseases. These objectives are structured hierarchically across three layers: (i) optimization, (ii) prevention and (iii) interception.

**Optimization.** In individuals who are ostensibly healthy, representing the primary target population, geromedicine should adopt a systems biology approach, integrating gerodiagnostics that encompass biological, clinical, psychological, social, and environmental factors. This approach will model and predict health trajectories, forecast disease onset, and guide the application of gerotherapeutics, thereby enabling proactive strategies to slow, arrest, or even reverse aging-related processes. Within this framework, the primary focus should be on optimizing health and intrinsic capacity rather than merely preventing potential future



diseases.

**Prevention.** Geromedicine focusses on identifying early, subtle disruptions, potential forerunners of disease, within otherwise healthy populations, with the goal of preventing progression to overt pathology. This preventive approach expands beyond the detection of conditions such as pre-diabetes, dyslipidemia, or hypertension, which can be managed with lifestyle interventions or medications like antidiabetics, cholesterol-lowering drugs, and antihypertensive agents. It aims to prevent the onset of all major diseases.

**Interception.** Geromedicine should emphasize the biomarker-based detection of subclinical abnormalities, such as latent infections, indolent malignancies, silent microinfarcts, incipient atheroma, early-stage osteopenia and mild hepatic steatosis, allowing for timely therapeutic interventions that can intercept disease development before it becomes clinically apparent and causes systemic deterioration.

These core objectives of geromedicine must be embedded within the broader conceptual and technological advances that are shaping the emergence of precision medicine<sup>[5]</sup>. Precision geromedicine, therefore, entails the application of personalized, biomarker-driven strategies to optimize health, extend healthspan, prevent age-related diseases, and tailor interventions to an individual's unique genetic, molecular, clinical, social, environmental, and behavioral profile. By integrating multi-omics data, digital health monitoring, and systems biology, precision geromedicine can predict aging trajectories, detect early deviations from healthy ageing, and implement gerotherapeutics that enhance resilience and promote longevity throughout the adult lifespan. In other words, a panoply of gerodiagnostics will guide individualized strategies for health optimization and disease prevention or interception<sup>[3,4]</sup>.

**Geromedicine** is a new journal devoted to advancing the field of precision geromedicine. The journal aims to establish a robust scientific foundation for evidence-based medical diagnostics, interventions, and implementation strategies that promote health and longevity. By publishing state-of-the-art research, *Geromedicine* seeks to drive the integration of gerodiagnostics using biomarkers of ageing, gerotherapeutics, and implementation strategies into clinical practice.

**Geromedicine** welcomes submissions that address the theoretical, fundamental, preclinical, educational, translational, and clinical dimensions of aging and geromedicine. Key research areas include, but are not limited to:

- Aging Biomarkers & Gerodiagnostics
- Gerotherapeutics & Targeted Interventions
- Clinical Trial Design & Outcomes
- Implementation Science
- Education & Training in Geromedicine
- Health Economics & Policy
- Systems Biology & Omics Approaches
- Ethical & Societal Considerations

## Declarations

### Authors contribution

The author contributed solely to the article.

### Conflicts of interest

Guido Kroemer serves as the Editor-in-Chief, and Hans J. Meij and Andrea B. Maier are Deputy Editors of *Geromedicine*. The authors declare no other conflicts of interest.

### Ethical approval

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### Consent to participate

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### Consent for publication

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