

# ARTIFICIAL INTELLIGENCE IN THE PULMONOLOGY PRACTICE

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*Abstract*

Artificial Intelligence (AI) is a technology that is being actively integrated into various aspects of life, including medicine and pulmonology. The significance of implementing AI and other digital technologies, into routine clinical practice is emphasized in international strategies for respiratory disease management. Digital medicine has been a central theme of several recent European Respiratory Society (ERS) congresses. The use of AI in pulmonology optimizes clinical workflows by assisting in disease diagnosis and clinical decision-making, streamlining medical documentation, and facilitating remote patient management. AI technologies significantly enhance patient education and empower individuals to recognize disease symptoms and exacerbations, thereby fostering personalized treatment approaches. Students of higher medical institutions, interns, and practicing pulmonologists effectively utilize AI in their education, practical skills training, and continuous professional development. Furthermore, AI has proven effective in conducting virtual "in silico" clinical trials for the development and testing of new medications and medical interventions. The versatility of AI applications in pulmonology — provided a critical, deliberate, and integrative approach is maintained — opens powerful prospects for improving diagnostic, therapeutic, and preventive processes. It enhances the implementation of modern, high-quality personalized care for patients with respiratory pathologies, simplifies patient education, advances the professional skills and knowledge of physicians, and introduces cutting-edge technologies into the creation, preclinical, and clinical testing of medications.

**Key words:** artificial intelligence, pulmonology, diagnostics, clinical decision support, self-management.

**Ukr. Pulmonol. J. 2026;34(1):38–45.**

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