AI and machine learning for clinical pharmacology: A Primer

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Abstract

Artificial intelligence (AI) will impact many aspects of clinical pharmacology including drug discovery and development, clinical trials, personalised medicine, pharmacogenomics, pharmacovigilance and clinical toxicology. The rapid progress of AI in healthcare means clinical pharmacologists should have an understanding of AI and its implementation into clinical practice. As with any new therapy or health technology, it is imperative that AI tools are subject to robust and stringent evaluation to ensure that they enhance clinical practice in a safe and equitable manner. This review serves as an introduction to AI for the clinical pharmacologist, highlighting current applications, aspects of model development and issues surrounding evaluation and deployment. The aim of this article is to empower clinical pharmacologists to embrace and lead on the safe and effective use of AI within healthcare.

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