Complete Literature Search Strategy

The literature search aimed to identify studies evaluating artificial intelligence (AI), machine learning (ML), and robotic technologies in cardiothoracic surgery. Searches were conducted in five databases: PubMed, Scopus, Web of Science, Cochrane Library, and Google Scholar, covering publications from January 2000 to May 2025.

Search terms were developed using combinations of MeSH terms and free-text keywords, linked with Boolean operators.

Database	Search Query
PubMed	("artificial intelligence"[Title/Abstract] OR "machine learning"[Title/Abstract] OR "deep learning"[Title/Abstract] OR "computer vision"[Title/Abstract]) AND ("cardiothoracic surgery"[Title/Abstract] OR "cardiac surgery"[Title/Abstract] OR "thoracic surgery"[Title/Abstract] OR "coronary artery bypass"[Title/Abstract] OR "CABG"[Title/Abstract])
Scopus	TITLE-ABS-KEY ("artificial intelligence" OR "machine learning" OR "deep learning") AND TITLE-ABS-KEY ("cardiothoracic surgery" OR "cardiac surgery" OR "thoracic surgery" OR "robotic surgery")
Web of Science	TS=("artificial intelligence" OR "machine learning" OR "deep learning") AND TS=("cardiac surgery" OR "thoracic surgery" OR "cardiothoracic surgery" OR "robotic surgery")
Cochrane Library	("artificial intelligence" OR "machine learning") AND ("cardiac surgery" OR "thoracic surgery" OR "cardiothoracic surgery")
Google Scholar	"artificial intelligence" AND "cardiac surgery" OR "robotic cardiothoracic surgery" OR "machine learning cardiac surgery"