Artificial Intelligence in Pediatric Occupational Therapy Screening, Evaluation, and Intervention: A Systematic Review

Adelyne Burlas OTS, Hanna Galan OTS, Elenor Nichols OTS, and Lizbeth M. Rodríguez González OTS
Hawai`i Pacific University, Doctor of Occupational Therapy Program, Honolulu, Hawai`i

Research Question

How is artificial intelligence being used for screening, evaluation, and intervention in pediatric occupational therapy?

Introduction

AI technologies have the potential to enhance screening, evaluation, and intervention in pediatric occupational therapy by improving accuracy, efficiency, and personalization of care. Early identification of developmental and functional challenges is critical for positive outcomes. This review examined current evidence on the use of AI in pediatric occupational therapy.

Method

A systematic search of MEDLINE, Academic Search Complete, and PubMed was conducted between May 14-22, 2026, with a follow-up search on May 26, 2026.

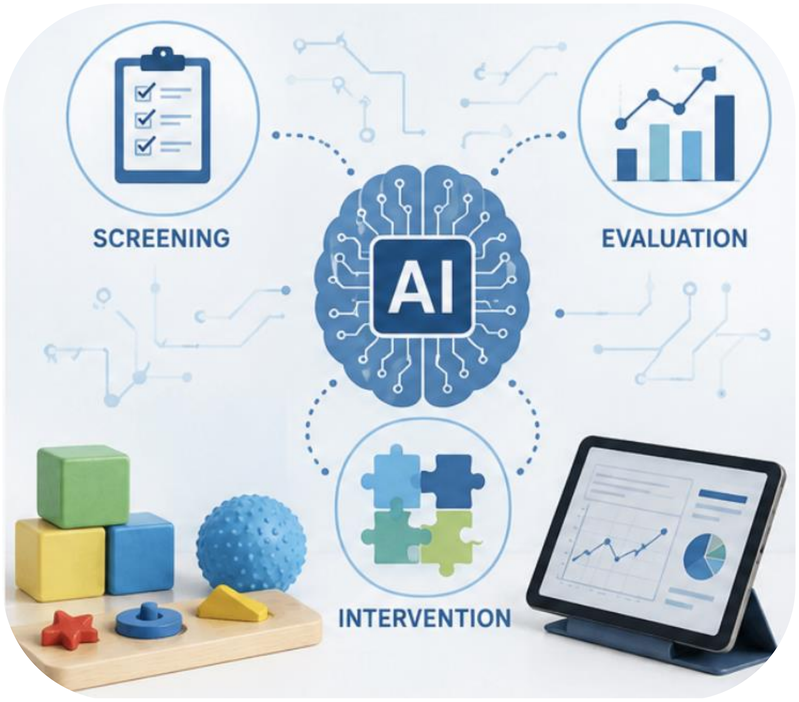
Inclusion criteria: Peer-reviewed articles in English (2021-2026) focused on AI in pediatric occupational therapy screening, evaluation, or intervention, and reporting client outcomes using quantitative, qualitative, or mixed methods design.

Excluded: Scoping and systematic reviews, presentations, editorials, opinion pieces, non-OT-focused studies, and studies without outcome data.

Results

From 108 records, 76 remained after duplicates were removed. After abstract and full-text screening, 5 studies met inclusion criteria (2 Level 1B, 3 Level 3B).

Figure 1: *Visual Representation of the Topic*



Source: Image made by ChatGPT Artificial Intelligence

Screening & Evaluation (3 studies)

AI Models showed promise in identifying developmental delays and visual-motor integration deficits using tasks such as coloring, copying, and origami.

Intervention (2 studies)

AI-assisted programs improved handwriting skills, participation, and quality of life in children.

Key finding: AI shows potential across screening, evaluation, and intervention, but the evidence remains limited.

Discussion

AI has potential to enhance screening, evaluation, and intervention in pediatric occupational therapy. Screening studies demonstrated AI's ability to identify developmental delays and visual-motor integration deficits. Intervention studies showed improvements in handwriting, participation, and quality of life through AI-assisted programs. Despite promising results, limitations include small sample sizes, limited generalizability, and variability in AI approaches. Future research should focus on long-term outcomes, ethical considerations, and diverse pediatric populations.

Conclusion

The evidence suggests AI technologies are promising tools to support pediatric occupational therapy across screening, evaluation, and intervention. Further research is needed to strengthen the evidence base and guide ethical, effective implementation in clinical practice.

Implications for Occupational Therapy

AI may support early identification of developmental and functional challenges and complement traditional evaluation methods. AI-driven interventions can increase engagement and improve functional outcomes. Occupational therapists should critically evaluate evidence, accessibility, privacy, and clinical fit before adopting AI tools.

References

Scan this QR Code to access the complete reference list in APA format.