Appendix I: Search Strategy

We have worked with and will continue to work with a medical librarian at the university to alter the search strategy to ensure that relevant articles are found.

We will follow the three-step approach methodology delineated by the Joanna Briggs Institute Scoping Review Guidelines.

Step 1: The preliminary search included two online databases relevant to the topic: PubMed/MEDLINE and Embase.

Example Preliminary Embase Search:

#	Searches	Results
S1	Dementia or (Alzheimer disease)	193,282
S2	(web-based intervention) OR (exergaming) OR (exergame) OR (virtual reality) OR (technology-based intervention) OR telehealth OR telemedicine	46,382
S3	Exercise OR (physical activity)	509, 456
S4	S1 AND S2 AND S3	38

The initial search will be followed by an analysis of words contained in the titles and abstracts of retrieved papers, as well as index terms used to describe the articles.

Step 2: Using identified keywords and index terms, a second search will be undertaken across all selected databases: MEDLINE/PubMed, CINAHL, Web of Science, Embase, Cochrane Library, and PsychInfo.

Example PubMed Search:

#	Search: 7/9/21	Results
S1	(Dementia) OR (Alzheimer) OR (Cognitive impairment) OR (Neurocognitive disorder)	424,743 results

S2	(Online-based intervention) OR (web-based intervention) OR (internet-based intervention) OR (exergaming or exergame) OR (virtual reality) OR (technology-based intervention) OR telehealth OR (remote delivery) OR telemedicine	79,124 results
S3	Exercise OR (physical activity) OR (exercise intervention) OR (exercise therapy)	633,929 results
S4	S1 AND S2 AND S3	241

2a. Search terms and combinations in step 2:

Dementia terms	Technology terms	Exercise terms
Dementia	Online-based intervention	Exercise
Alzheimer	Web-based intervention	Physical activity
Cognitive impairment	Internet-based intervention	Exercise intervention
Neurocognitive disorder	Exergaming	Exercise therapy
	Exergame	
	Virtual reality	
	Technology-based	
	Telehealth	
	Telemedicine	
	Remote delivery	

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2b. Google, Web of Science, and Embase will be used to search grey literature. The Google, Web of Science, and Embase searches will be performed using the following terms: (dementia OR Alzheimer OR cognitive impairment OR neurocognitive disorder) AND (online OR web OR internet OR exergame OR virtual reality OR technology-based OR technology-based OR telehealth OR telemedicine OR remote delivery) AND (exercise OR physical activity OR exercise intervention OR exercise therapy)

Step 3: The reference lists of all included studies and articles will be searched for additional relevant studies. Google Scholar will be used to find published articles and related studies.