

# INPLASY PROTOCOL

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**Support:** None.

**Review Stage at time of this submission:** Formal screening of search results against eligibility criteria.

**Conflicts of interest:**  
None declared.

## The current evidence base surrounding Bobath Concept (NDT) in adult neurorehabilitation: a scoping review update

Marques, S<sup>1</sup>; Vaughan-Graham, J<sup>2</sup>; Figueiredo, D<sup>3</sup>; Costa, R<sup>4</sup>.

**Review question / Objective:** This scoping review aimed to gain a clear understanding of the current evidence base surrounding neurological rehabilitation based on the Bobath Concept (NDT) in adult population, by analyzing the different types of evidence that address and inform practice in this field and the way the research has been conducted. The specific questions, in regards to the available international published and unpublished literature, are: • What types of research are being conducted about the Bobath concept in adult neurorehabilitation? • How Bobath concept in adult neurorehabilitation is being studied, defined, conceptualized and operationalized? • What are the main knowledge gaps about the research involving the Bobath concept in adult neurorehabilitation and the implications for rehabilitation science?

**Condition being studied:** The Bobath Concept approach in adult neurorehabilitation.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 03 November 2021 and was last updated on 03 November 2021 (registration number INPLASY2021110011).

### INTRODUCTION

**Review question / Objective:** This scoping review aimed to gain a clear understanding of the current evidence base surrounding neurological rehabilitation based on the Bobath Concept (NDT) in adult population, by analyzing the different types of evidence that address and inform practice in this

field and the way the research has been conducted. The specific questions, in regards to the available international published and unpublished literature, are: • What types of research are being conducted about the Bobath concept in adult neurorehabilitation? • How Bobath concept in adult neurorehabilitation is being studied, defined, conceptualized and

operationalized? • What are the main knowledge gaps about the research involving the Bobath concept in adult neurorehabilitation and the implications for rehabilitation science?

**Rationale:** The Bobath concept is one of the most widely used approaches by therapists in neurorehabilitation. A previous scoping review that gathered data since 2006 till 2012 has been done in an attempt to construct clearer descriptions of theoretical foundations, to develop key aspects of clinical practice and to check the available intervention studies. However, several non- and peer-review publications have been made since this last scope that deeply detail theoretical and clinical developments frameworks, defining and articulating what the concept is and consists of, and several intervention studies have been created to compare the Bobath effectiveness to other interventions in the neurorehabilitation field.

**Condition being studied:** The Bobath Concept approach in adult neurorehabilitation.

## METHODS

**Search strategy:** (adult NOT (pediatric OR child\*)) AND (Bobath OR Bobath Concept OR Bobath therapy OR Bobath approach OR Bobath method OR Neurodevelopmental treatment) AND (neurological rehabilitation OR neurorehabilitation OR physiotherapy OR physical therapy) AND (randomized controlled trials OR non-randomized controlled trials OR quasi-experimental OR before and after studies OR prospective cohort studies OR retrospective cohort studies OR case-control studies OR analytical cross-sectional studies OR systematic reviews OR scoping reviews OR narrative reviews OR letters to the editor OR editorials OR theoretical papers OR Delphi OR Delphi studies OR surveys OR qualitative studies).

**Participant or population:** The current scoping review will consider studies that include adult (aged 18 years or older)

population with acquired neurological condition, without cognitive impairment.

**Intervention:** Not applicable.

**Comparator:** Not applicable.

**Study designs to be included:** The current scoping review will consider studies with quantitative, qualitative and mixed methods designs, like experimental, observational and epidemiological study designs, including randomized controlled trials, non-randomized controlled trials, quasi-experimental, before and after studies, prospective and retrospective cohort studies, case-control studies, analytical cross-sectional studies and Delphi studies. Gray literature including non-research articles like theoretical papers, editorials, letters to the editor, as well as opinion papers will be also included.

**Eligibility criteria:** The concepts to be explored in this scoping review include mapping the recent studies that describe the current knowledge, conceptualization/theoretical boundaries, assumptions and principles, key aspects of clinical practice and the available intervention research underlying the Bobath concept (NDT) approach in adult population, considering studies that have been conducted in healthcare facilities of any rehabilitation care type including, but not restricted to, hospitals, medical centers and investigation centers. Studies from any geographic setting will be eligible for inclusion.

**Information sources:** The search strategy will aim to find both published and unpublished English, Spanish and Portuguese language studies. An initial limited search of MEDLINE (via PubMed) and CINAHL (via EBSCO) will be undertaken to identify articles on this topic, followed by analysis of the text words contained in the titles and abstracts, and of the index terms used to describe these articles. This will inform the development of a search strategy including identified keywords and index terms that will be tailored for each information source, with

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the assistance and guidance of a library scientist. As the latest scoping review of Bobath concept in adult neurorehabilitation collected studies from 2007 till 2012, an updated literature search will be conducted since 2012 until 2021. The reference lists of all included studies will be screened for additional studies. The databases to be searched will include: MEDLINE via PUBMED, EBSCO Cumulative Index to Nursing and Allied Health Literature (CINAHL), Web of Science (WOS), ScienceDirect, Elsevier SCOPUS and Physiotherapy Evidence Database (PEDro). Additional sources will be used to identify potential unpublished studies using other databases such as Google Scholar or free Internet searches.

**Main outcome(s):** Update of the current knowledge, conceptualization boundaries and intervention studies of Bobath Concept in adult neuro rehabilitation.

**Additional outcome(s):** Mapping the current framework underline the key practice principles of Bobath concept. Recommendations for future intervention studies, in terms of study fidelity, specially the Bobath definition and operationalization.

**Data management:** Following the search, all identified citations will be collated and uploaded into into Rayyan QCRI software and duplicates removed. Following a pilot test, titles and abstracts will then be screened by two or more independent reviewers for assessment against the inclusion criteria for the review. The full text of selected citations will be assessed in detail against the inclusion criteria by two or more independent reviewers. Reasons for exclusion of sources of evidence at full text that do not meet the inclusion criteria will be recorded and reported in the scoping review. Any disagreements that arise between the reviewers at each stage of the selection process will be resolved through discussion, or with an additional reviewer/s. The results of the search and the study inclusion process will be reported in full in the final scoping review and presented in a

Preferred Reporting Items for Systematic Reviews and Meta-analyses extension for scoping review (PRISMA-ScR) flow diagram.

**Strategy of data synthesis:** Data will be extracted by two independent reviewers from papers included in the scoping review using a draft data extraction tool. The data extracted will include specific details about the populations, concept, context and study methods of significance to the scoping review questions and specific objectives. Any disagreements that arise between the reviewers will be resolved through discussion or with a third reviewer. Authors of papers will be contacted to request missing or additional data where required. The draft data extraction tool will be modified and revised as necessary during the process of extracting data from each included study. Additional types of relevant data may be extracted from included studies as determined by the review team during the course of the conduct of the scoping review in line with the Joanna Briggs Institute methodology. Modifications will be detailed in the full scoping review report.

**Subgroup analysis:** The extracted data will be presented in diagrammatic or tabular form in a manner that aligns to the objectives and questions of this scoping review. The tables and/or charts will report on, depending on the type of non- or research articles, information about the Authors, Year of publication, Country/ city of origin/ context, Research approach, Study title, Study objective/aim, Bobath definition, Bobath operationalization, Population, Bobath control, Intervention comparison, Outcomes, Study fidelity, Study results, Discussion and Study limitations, whenever possible. Additional data identified that is relevant to the review objectives will also be presented in diagrammatic or tabular form. A narrative summary will accompany the tabulated and/or charted results and will describe how the results relate to the review's objective and questions.

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**Language:** English, spanish and portuguese.

**Country(ies) involved:** Portugal.

**Keywords:** Bobath concept, Neuro Developmental Treatment (NDT), physiotherapy, neuro rehabilitation, scoping review, qualitative research, intervention studies.

**Contributions of each author:**

**Author 1 - Sofia Marques -** The author drafted the manuscript.

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**Author 2 - Julie Vaughan-Graham -** The author provided conceptual expertise of the Bobath concept because she is an IBITA member and an advanced Bobath instructor, with multiple publications in the topic, inclusive the first scoping review of this subject. The author has been the second reviewer of the data selection.

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