



# Educational content and strategies for teaching local wound assessment: a scoping review protocol

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## ABSTRACT

**Introduction:** Local wound assessment is a core component of evidence-based nursing practice, enabling accurate diagnosis, monitoring of healing progression, early detection of complications, and informed clinical decision-making. Despite its recognized importance and ongoing educational advances, evidence remains inconsistent regarding the most effective content, teaching-learning strategies, and assessment methods to develop competence in local wound assessment.

**Objectives:** To map and synthesize the literature on educational content and teaching-learning strategies used to teach nurses and nursing students about local wound assessment, and to identify procedures and instruments employed to evaluate knowledge and learner satisfaction with these interventions.

**Methodology:** This scoping review will be conducted in accordance with the Joanna Briggs Institute (JBI) methodology and reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews guidelines. The review will address the question: What is the existing evidence on educational content, teaching-learning strategies, and the procedures or instruments used to assess nurses' and nursing students' knowledge of local wound assessment and their satisfaction with the related educational interventions? Comprehensive searches will be conducted across scientific databases and grey literature sources, with no restrictions on language or publication date.

**Conclusion:** This review will systematically map the evidence on how nurses and nursing students are taught to perform local wound assessments. By identifying effective approaches and current gaps in wound care education, the findings are expected to inform curriculum development, support evidence-based teaching practices, and guide future research toward the standardization of wound assessment education in nursing.

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## RESUMO

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**Introdução:** A avaliação local de feridas é essencial para o diagnóstico, monitorização da evolução e deteção precoce de complicações. Apesar da sua importância e dos avanços no ensino de enfermagem, persistem, ainda, inconsistências no conteúdo, nas estratégias de ensino-aprendizagem e nos métodos de avaliação do conhecimento sobre a avaliação local de feridas.

**Objetivos:** Mapear e sintetizar a literatura sobre o conteúdo educativo e as estratégias de ensino-aprendizagem utilizadas para ensinar enfermeiros e estudantes de enfermagem sobre a avaliação local de feridas e identificar os procedimentos e instrumentos utilizados para avaliar o conhecimento e a satisfação dos alunos com as estratégias educativas implementadas.

**Metodologia:** Esta revisão de escopo segue as diretrizes do Joanna Briggs Institute e será relatada conforme as diretrizes do Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews. A revisão responderá à questão: Qual a evidência existente sobre o conteúdo educativo, estratégias de ensino-aprendizagem e procedimentos ou instrumentos utilizados para avaliar o conhecimento de enfermeiros e estudantes de enfermagem sobre a avaliação local de feridas e a sua satisfação com os programas educativos? A pesquisa incluirá várias bases de dados científicas e literatura cinzenta, sem restrições de idioma ou data de publicação.

**Conclusões:** Esta revisão mapeará a evidência sobre o ensino de enfermagem na área da avaliação local de feridas. Ao identificar as estratégias e lacunas existentes, espera-se que os resultados apoiem o desenvolvimento dos currículos de enfermagem, as práticas de ensino e orientem pesquisas futuras com vista à sistematização do ensino nesta área.

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## Introduction

Wound care represents a critical domain of healthcare, encompassing the assessment, management, and treatment of wounds to promote healing and minimize impact on patients' quality of life. However, it remains a significant challenge for healthcare professionals, particularly nurses, who must provide precise, holistic, and systematic care grounded in the best available scientific evidence.<sup>1</sup> Local wound assessment must therefore be systematic and evidence-based, involving a detailed analysis of wound characteristics such as size, tissue type, exudate amount and nature, signs of infection, and condition of the surrounding skin.<sup>1–5</sup>

Local wound assessment constitutes a cornerstone of evidence-based nursing practice, as it enables accurate diagnosis, monitoring of healing trajectories, early detection of complications, and informed decision-making about appropriate therapeutic interventions.<sup>1,6</sup> The assessment process involves systematic observation and documentation of wound parameters, including tissue type and viability, exudate volume and character, periwound skin integrity, wound edges, and clinical signs of infection or inflammation.<sup>7,8</sup>

Within the wound bed preparation (WBP) paradigm, local assessment is integral. Clinicians are guided to identify and remove barriers to healing—such as necrotic tissue,

bioburden, and moisture imbalance—and to optimize the wound environment for repair.<sup>7,8</sup> The WBP framework explicitly links detailed wound assessment to subsequent management strategies, reinforcing the importance of precision in local evaluation. Despite this theoretical foundation, empirical evidence consistently indicates that nurses and nursing students lack sufficient knowledge and confidence in wound assessment. This results in practice variability and poorer patient outcomes.<sup>1,6,9</sup>

Educational programs have attempted to address these gaps through diverse pedagogical strategies designed to foster active learning. In recent years, approaches such as flipped classroom, case-based learning (CBL), problem-based learning (PBL), blended learning, and e-learning have been increasingly adopted alongside traditional lectures and simulation-based training to enhance learners' engagement and competence.<sup>10–16</sup> However, there remains limited consensus regarding which content areas—such as wound bed evaluation, infection recognition, or wound measurement—should be prioritized, and which teaching strategies are most effective in improving learner competencies. Moreover, the assessment instruments used to evaluate educational outcomes in this domain are heterogeneous, often lacking standardization or empirical validation.<sup>1</sup>



Recent literature has begun to explore innovative educational models in wound care. A previous scoping review by our team examined the integration of artificial intelligence (AI) into wound care education. This review identified AI-driven approaches—such as adaptive e-learning platforms, virtual simulations, and generative content creation—that may enhance interactive and personalized learning experiences.<sup>17</sup> While this review mapped technological innovations that could transform educational delivery, it also emphasized the absence of consolidated knowledge about the pedagogical foundations of wound assessment teaching itself, including curricular content and instructional strategies. Building upon those findings, the present review focuses on traditional and emerging educational strategies used specifically for teaching local wound assessment, regardless of technological mediation, to clarify the current educational landscape and inform future curriculum design.

Given these inconsistencies, a comprehensive mapping of the available evidence is warranted. Scoping reviews offer a robust methodological approach to examine the extent, scope, and nature of research activity on a given topic, as well as to identify knowledge gaps and research priorities.<sup>18,19</sup> A preliminary search of key databases (CINAHL, PubMed, Scopus, and Web of Science), as well as registries such as the Open Science Framework (OSF) and PROSPERO, found no ongoing or published reviews addressing educational content or strategies for teaching local wound assessment to nurses or nursing students.

Thus, the authors aim to conduct a scoping review to map and synthesize the existing literature on the educational content, teaching–learning strategies used to teach nurses and nursing students about local wound assessment, as well as the procedures and instruments employed to evaluate knowledge and satisfaction with educational interventions.

Specifically, the present review aims to:

- Identify and describe the content areas included in educational interventions related to local wound assessment;
- Examine the teaching and learning methods reported as most appropriate or effective for training nurses and nursing students in local wound assessment; and,
- Identify the procedures and instruments used to assess nurses' and nursing students' knowledge of local wound assessment and their satisfaction with the related educational interventions.

## Methodology

The proposed scoping review will be conducted in accordance with the Joanna Briggs Institute (JBI) methodology and reported in accordance with the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews) guidelines.<sup>19–25</sup> This review protocol has been prospectively registered on

the Open Science Framework (OSF) under the title “Educational content and strategies for teaching local wound assessment: a scoping review protocol” (Registration DOI: <https://doi.org/10.17605/OSF.IO/82QHV>).

## Review Question

Using the Population, Concept, Context framework recommended by JBI,<sup>19</sup> the following research question was formulated:

- What is the existing evidence on educational content, teaching–learning strategies, and assessment procedures used to develop and evaluate nurses' and nursing students' knowledge of local wound assessment and their satisfaction with educational interventions?

This primary question will be addressed through three specific sub-questions:

- What educational content has been included in training interventions for local wound assessment?
- What teaching–learning methods have been employed?
- What procedures or instruments have been used to assess knowledge outcomes and learner satisfaction?

## Inclusion Criteria

In accordance with JBI methodology, the *Participants, Concept, and Context (PCC)* mnemonic was applied to establish the inclusion criteria for this scoping review.<sup>19</sup>

## Participants

This review will include studies involving nurses from any field of practice (e.g., acute care, community health, long-term care, or education) and studies focusing on nursing students who participate in educational or training activities related to local wound assessment. For this review, the term “nursing students” refers to individuals enrolled in undergraduate or postgraduate nursing programs. Studies focusing exclusively on healthcare professionals other than nurses (e.g., physicians, physiotherapists, podiatrists) will be excluded, unless the findings related to nurses are clearly reported and distinguishable from those of other professionals.

## Concept

Studies will be included if they describe, implement, or evaluate educational interventions, teaching and learning strategies, content, or assessment tools aimed at assessing knowledge of local wound assessment (e.g., wound bed evaluation, exudate assessment, tissue identification, wound measurement, or peri-wound skin observation) and participants' satisfaction with the educational program. For this review, local wound assessment is defined as the systematic observation and description of the wound itself, focusing on its visible characteristics at a specific point in



time. This includes parameters such as wound location, dimensions, tissue type, exudate amount and appearance, wound bed characteristics, and the condition of the surrounding skin.<sup>26,27</sup> Studies that focus exclusively on general wound care education without specific reference to the assessment of local wounds will be excluded.

## *Context*

Studies conducted in academic, clinical training, or continuing professional development settings will be considered, regardless of the educational format (e.g., classroom, simulation, online, or blended learning). No restrictions will be placed on geographic location, cultural setting, or population subgroup. However, studies that focus exclusively on clinical interventions, treatment outcomes, or wound management without an educational or training component related to local wound assessment will be excluded.

## *Type of Sources*

This scoping review will include a broad range of study designs to comprehensively capture existing evidence on teaching approaches for local wound assessment in nursing education. Eligible sources will encompass quantitative, qualitative, and mixed-methods research, as well as descriptive reports, to ensure a comprehensive mapping of the evidence. In addition, gray literature – including conference abstracts, theses, government reports, clinical practice guidelines, and editorial papers – will also be considered. Provided they meet the eligibility criteria, this review may further include other relevant sources such as systematic reviews, theoretical articles, expert opinions, discussion papers, consensus statements, and educational frameworks and curricula.

All sources must explicitly address the teaching, learning, or assessment of nurses' and nursing students' knowledge of local wound assessment and their satisfaction with related educational activities.

## *Search Strategy*

The search strategy aims to identify published and unpublished literature on educational strategies and teaching methods for training nurses and nursing students in local wound assessment, as well as tools or procedures used to evaluate their knowledge and satisfaction.

This strategy was developed using the PCC framework and the reviewers' field expertise to identify relevant keywords and subject headings. In accordance with JBI methodology for scoping reviews, a three-step approach will be employed.<sup>28</sup>

First, a preliminary search was conducted in MEDLINE (via PubMed) and CINAHL (via EBSCOhost) using key terms such as nursing, wound assessment, and education to identify relevant articles and index terms. The titles,

abstracts, and indexing terms of retrieved studies were reviewed to extract controlled vocabulary (e.g., MeSH and CINAHL Subject Headings) and additional keywords. The PCC framework, together with field expertise, was also applied to refine and expand the list of relevant keywords.

Based on these findings, a comprehensive search strategy was collaboratively developed by two reviewers with input from a health sciences librarian, and subsequently peer-reviewed by a third expert reviewer following the PRESS (Peer Review of Electronic Search Strategies) checklist.<sup>29</sup> The complete MEDLINE (via PubMed) search strategy is provided in Appendix A.

The final search strategy, including all identified keywords and indexing terms, will be adapted for each database and source of evidence, including MEDLINE (via PubMed), CINAHL Complete (via EBSCOhost), Scopus (Elsevier), and Web of Science (Clarivate). Electronic searches will also be conducted in the Scientific Open Access Scientific Repositories of Portugal (RCAAP), ProQuest Dissertations and Theses, and Open Dissertations to identify grey literature. Additionally, searches will be conducted on Google Scholar and specific journals such as the International Wound Journal, Skin Research and Technology, Journal of Wound Care, and Wound Repair and Regeneration.

Additionally, websites of relevant professional organizations, including the World Health Organization (WHO), the European Wound Management Association (EWMA), the Wound Healing Society, and the World Union of Wound Healing Societies, will be screened for reports, guidelines, and educational materials. Reference lists of all included studies will also be reviewed, and citation tracking and snowballing techniques will be applied to ensure literature saturation. Corresponding authors of key publications may be contacted to identify unpublished or ongoing studies.

This review will include sources published in any language and with no restrictions on publication date, to ensure a comprehensive mapping of the relevant literature. The review team is fluent in English, Spanish, and Portuguese, allowing for direct evaluation of materials in these languages. For publications written in languages other than English, translations will be obtained as necessary to minimize language bias and enhance inclusivity.

## *Study/Source of evidence selection*

Following the search, all identified citations will be imported into Rayyan QCRI, a web-based platform developed to assist with screening in systematic and scoping reviews. Duplicate records will be automatically detected and manually verified before removal. Subsequently, two reviewers will independently screen the titles and abstracts against the pre-established inclusion criteria, following a calibration phase through pilot testing. In the second phase, potentially relevant records will be obtained in full through institutional access or by emailing authors. The full text of



potentially relevant evidence will be assessed in detail by two independent reviewers to determine eligibility. Any disagreements arising at any stage of the selection process will be resolved by reaching a consensus with a third reviewer until consensus is reached. The final scoping review will document the reasons for excluding studies that do not meet the inclusion criteria.

In accordance with JBI guidance, the methodological quality of the included studies will not be assessed. Unlike systematic reviews, scoping reviews do not require critical appraisal because their purpose is to map the range, nature, and characteristics of existing evidence, rather than to evaluate the effectiveness or quality of individual studies.<sup>19</sup>

The decision not to conduct a formal quality appraisal is deliberate, as it allows the inclusion of diverse types of evidence that may contribute valuable insights into educational strategies and approaches for teaching local wound assessment. This approach supports a comprehensive understanding of the topic while maintaining methodological transparency and alignment with scoping review standards.

The search and selection process will be fully described in the final scoping review using a flow diagram, as recommended by the Preferred Reporting Items for Systematic and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) guidelines.<sup>23,30</sup>

### *Data extraction*

Following the JBI methodology, data will be extracted from included records by two independent reviewers using a data extraction tool created by the review team based on the JBI instrument for extracting study details, characteristics, and results.<sup>19</sup> The authors will develop a pilot test of this form on a small sample of included studies ( $n = 3$  to  $5$ ) to ensure consistency, clarity, and the appropriate capture of all relevant data to the review objectives. Data extraction and management will be conducted using Microsoft Excel, which will facilitate systematic organization, coding, comparison, and synthesis of extracted information across all included sources. This software will enable the review team to maintain consistency in data handling and support the generation of tables and visual representations for the final review. Any differences between reviewers will be resolved through discussion or, if required, by consulting a third reviewer. The data extraction tool may be modified and refined as necessary during the extraction process for each included source. Any modifications made to the tool will be documented and described in the final scoping review, as an appendix, to ensure transparency. If any data relevant to the review questions are missing from the included records, the respective authors will be contacted to request or clarify it.

A draft data extraction form is provided (see Appendix B). Specifically, the following information will be collected from each included study: title, authors, year of publication, country of origin, study design, purpose of the research, participant

characteristics, educational content related to local wound assessment (e.g., wound bed evaluation, exudate characteristics, infection signs, measurement techniques), teaching and learning strategies employed, underlying framework or theoretical model, duration and delivery format of the educational program, and assessment methods or instruments used to evaluate nurses' and nursing students' knowledge of local wound assessment and their satisfaction with the educational interventions.

Additional data will include reported outcomes such as knowledge or skill improvement, as well as challenges, and implications for education or clinical practice.

### *Data analysis and presentation*

The data extracted from the included studies will be analyzed descriptively and systematically mapped to address the objectives and research questions of this scoping review. A descriptive synthesis will summarize the characteristics of each study, the educational focus, teaching and learning strategies, and assessment procedures related to local wound assessment among nurses and nursing students.

Results will be presented through a combination of narrative summaries, tabulated data, and graphical representations (e.g., charts or concept maps) to illustrate the range, frequency, and relationships among key variables such as educational content, pedagogical methods, and assessment tools. Independent tables will be created to correspond to each research question, providing a structured overview of the findings.

Where appropriate, a basic qualitative content analysis will be conducted using an inductive approach to identify and categorize recurring themes related to educational frameworks, perceived challenges, and reported learning outcomes. This inductive analytical approach will allow themes and patterns to emerge organically from the data rather than being constrained by predetermined theoretical frameworks, thereby facilitating the identification of unexpected patterns, knowledge gaps, and emerging trends within the literature.

A narrative synthesis will accompany all tabulated and visual data, directly linking the findings to the review objectives and research questions. This synthesis aims to clarify how existing educational strategies address nurses' and nursing students' knowledge and skills in local wound assessment, highlighting evidence-based practices and the areas that need further research.

If data are unavailable or not reported, this will be indicated as "n/a." The overall presentation will ensure transparency and coherence in mapping the evidence, consistent with JBI scoping review methodology.<sup>19–21</sup>

#### *Ethics and Data Availability*

As this scoping review protocol involves the synthesis of publicly available literature and does not include primary



data collection involving human participants, ethical approval is not required.

**Data availability:** All data extracted during the scoping review will be presented within the published article and its supplementary materials. The complete search strategies, data extraction forms, and PRISMA-ScR flow diagram will be made publicly available upon publication.

## Conclusion

This scoping review will try to comprehensively map existing evidence on educational content, teaching-learning strategies, and assessment procedures related to local wound assessment in nursing education. By applying a rigorous JBI methodology, this review aims to clarify how current educational approaches support the development of the clinical knowledge and skills essential for accurate wound assessment, a cornerstone of effective wound management and patient safety.

Through a comprehensive and systematic exploration of the literature, the review is expected to identify the range and characteristics of teaching practices currently in use, highlight evidence-based strategies that enhance learning outcomes, and reveal inconsistencies or gaps in assessment tools used to evaluate nurses' and nursing students' knowledge of local wound assessment and their satisfaction with the educational interventions. These findings may contribute to a clearer understanding of how educative programs can better prepare nurses and students for competent wound evaluation in clinical settings.

Ultimately, the knowledge generated may inform curriculum design, guide educators in selecting appropriate pedagogical approaches, and support the development of standardized frameworks for assessing wound care competencies. By consolidating evidence, this review seeks to strengthen the educational foundations that underpin high-quality wound assessment and, consequently, improve patient care outcomes.

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