Surgical Wound Classification for Predicting Infection Risk: Scoping Review

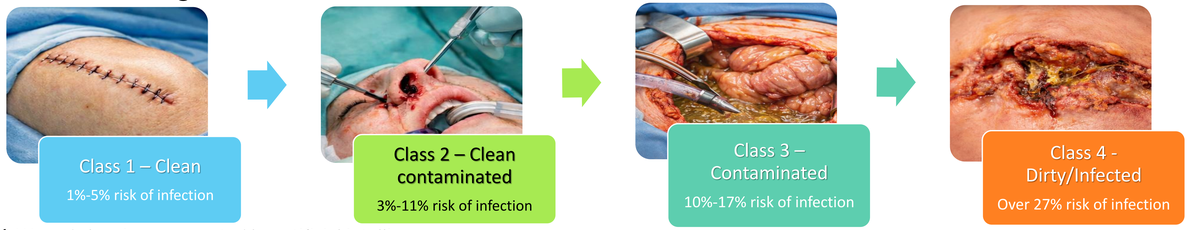
Paula Teixeira[1], PhD(c), MSc, RN; **Paulo Brois**[2], MSN, MSc(c), PG IPC, EUCIC IPC cert.(c), RN, and **Bruno Magalhães**[3], Associate Professor

[1] Faculty of Health Science and Nursing at Universidade Católica Portuguesa, Porto - Portugal; [2] Baixo Alentejo Local Health Unit, Beja - Portugal; [3] University of Trás-os-Montes e Alto Douro (UTAD), Vila Real - Portugal

Study Question and Background Information

¿What scientific literature exists on **surgical wound classification systems** used to **predict infection risk** in patients undergoing elective or emergency surgery?

Altemeier's Surgical Wound Classification (SWC)[1] (Romero L., 2023; Herman T.P. & Bordoni) B., 2024):

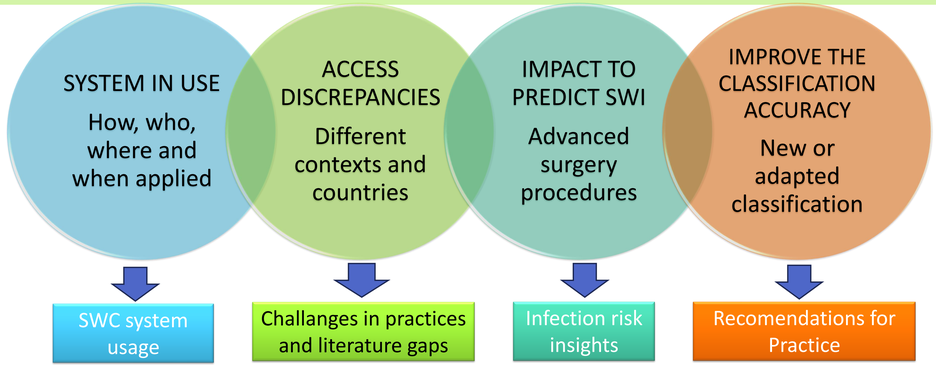


[1] Wound class images created by artificial intelligence.

- First introduced in **1964**, and adapted by the **Center of Disease Prevention and Control (CDC)** in **1982** (Gardner J., 1986);
- Lack of formal validation since **2012** (Ortega G., et al., 2012);
- Surgical techniques evolution for minimal invasive and multiple surgical wound with different risk infection.

Design Description

Scoping review to examine surgical wound classification (SWC) systems and propose more accurate infection risk assessment tools to improve the prediction of surgical wound infection (SWI) and standardize the surgical prevention care.



Methodology

Joanna Briggs Institute (Australia) Method (Peters et al., 2024)

- **Population:** Patients in elective or emergency surgery
- **Concept:** Surgical wound classification (SWC)
- **Context:** Perioperative settings

Strategy Search on 23th March, 2025 (n=1291)

- PubMed (n = 612)
- Scopus (n = 597)
- CINAHL (n = 78)
- Gray Literature (n = 4)

TOTAL SCREENED 923

- Duplicate removed (n = 368)

Screening in Progress

- 2 independente reviewers (PT and PB)
- 3rd reviewer for agreement (BM)
  - **Title and abstract screening** (n = 159)
  - **Full text screening reasons to exclude:**
    - Studies not about SWC
    - Studies with non-surgical wound
    - Studies focus only on SWI, and have no relation to SWC
    - Studies where the primary outcome is not SWI
    - Full-text not available

Next steps: - **Full-text screening** according to predefined inclusion and exclusion criteria;
- **Structured descriptive synthesis** of the variables and themes under analysis;
- **Recalibration of infection risk estimates stratified** by **surgical wound class (SWC)**; and
- Development of a research proposal **to update the SWC system**, incorporating contemporary technological and procedural advances.

References

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- Peters, M., et al. (2024). Scoping Reviews (2020). In E. Aromataris, C. Lockwood, K. Porritt, B. Pilla, & Z. Jordan (Eds.), JBI Manual for Evidence Synthesis. JBI.
- Romero, L. (2023). Surgical Wound Classification. The Operative Review of Surgery, 1, 59–62.