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## What Technologies Can the Nurse Use to Increase the Quality of Life of the Elderly Population with Leg Ulcers? – Systematic Literature Review

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### Abstract

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The purpose of this study was to identify the new technologies that nurses could use to increase the quality of life on an elderly person with leg ulcer.

Methods: it was made a systematic revision of literature with qualitative synthesis and meta-analysis. Results: Elderly persons with chronic leg ulcers frequently experience multiple disabling symptoms and these symptoms are highly related with impairment of quality of life. Nowadays, the technology is prepared to improve diagnosis and treatment of illness. For the leg ulcer, one of the

newest technologies is electrical stimulation on skin with two types: electrical stimulation therapy and electroceutical treatment. These therapies consist on the application of microcurrents of electric energy to replace the current of injury which has become disrupted in chronic wounds. The therapy reduces the wound size, pain and exudate levels. Conclusion: With this recent investigation and with the enforcement of new technologies in association with the usual therapies it is possible to improve the quality of life of the patient, however, it is extremely important to continue the investigation on this area.

## Keywords

**Leg ulcer**    **Quality of life**    **Technology**

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## References

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1. Furtado, K.: Úlceras de perna – Tratamento baseado na evidência. *Nursing* (176), 35–42 (2015)
  2. Saraiva, D., Bandarra, A., Agostinho, E., Pereira, N., Lopes, T.: Qualidade de vida do utente com úlcera venosa crónica. *Referência* (10), 109–118 (2013)
  3. Alves, D., Nunes, I., Marques, M., Novas, M.: Qualidade de vida na pessoa com úlcera de perna, revisão integrativa. *RIASE* 2(1), 454–467 (2016)
-

4. Pereira, C., Pinto, D., Tourinho, F., Santos, V.:  
Tecnologias em Enfermagem e o Impacto na  
Prática Assistencial. *Revista Brasileira de  
Inovação Tecnológica em Saúde* **2**(4), 29–37  
(2013)

---

5. Cruz, M., Baudried, T., Azevedo, F.: Causas  
infrequentes de úlceras de perna e a sua  
abordagem. *Revista da SPDV* **69**(3), 383–394  
(2011)

---

6. Lorenzetti, J., Trindade, L., Pires, D., Ramos, F.:  
Tecnologia, inovação tecnológica e saúde; uma  
reflexão necessária. *Texto Contexto  
Enfermagem* **21**(2), 432–439 (2012)

---

7. PORDATA Base de Dados Portugal  
Contemporâneo.  
<https://www.pordata.pt/Europa/Esperan%C3%A7a+de+vida+%C3%A0+nascen%C3%A7a+total+e+por+sexo-1260>. Accessed 08 Oct 2018

---

8. Melnyk, B., Fineout-Overholt, E., Stetler, C.,  
Allan, J.: Outcomes and implementation  
strategies from the first U.S. evidence-based  
practice leadership summit. *Worldviews Evid.  
Based Nurs.* **2**(3), 113–121 (2005)

---

9. Finlayson, K., et al.: Distinct wound healing and  
quality-of-life outcomes in subgroups of  
patients with venous leg ulcers with different

- symptom cluster experiences. *J. Pain Symptom Manage.* **53**(5), 871–879 (2017)
- 
10. Do, H., Edwards, H., Finlayson, K.: Identifying relationships between symptom clusters and quality of life in adults with chronic mixed venous and arterial leg ulcers. *Int. Wound J.* **13**(5), 903–911 (2016)
- 
11. Edwards, H., Finlayson, K., Skerman, H., Alexander, K., Miaskowski, C., Aouizerat, B., Gibb, M.: Identification of symptom clusters in patients with chronic venous leg ulcers. *J. Pain Symptom Manage.* **47**(5), 867–875 (2014)
- 
12. Ovens, L.: Electrical stimulation therapy and electroceutical treatment for management of venous leg ulcers. *Br. J. Commun. Nurs.* **22**, S28–S36 (2017)
- 
13. Hopman, W., VanDenKerkhof, E., Kuhnke, J., Harrison, M.: Factors associated with health-related quality of life in chronic leg ulceration. *Qual. Life Res.* **23**(6), 1833–1840 (2014)
- 
14. Turner, N., Ovens, L.: The results of a clinical evaluation of Accel-Heal electroceutical treatment in a large NHS Trust. *Wounds UK* **13**(4), 92–99 (2017)
-

15. Finlayson, K., Courtney, M., Gibb, M., O'Brien, J., Parker, C., Edwards, H.: The effectiveness of a four-layer compression bandage system in comparison with Class 3 compression hosiery on healing and quality of life in patients with venous leg ulcers: a randomized controlled trial. *Int. Wound J.* **11**(1), 21–27 (2014)

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