

Nursing analysis of holter ECG - a literature gap

 **Monika Tuzla**^{1*},
 **Ivica Benko**^{2,3},
 **Marija Peremin**⁴,
 **Tomislav Glavak**⁵

¹Institute for Cardiovascular
Prevention and Rehabilitation
Srčana, Zagreb, Croatia

²Dubrava University Hospital,
Zagreb, Croatia

³University of Applied Health
Sciences Zagreb, Croatia

⁴Sinteza Clinic, Zagreb, Croatia

⁵University Hospital Centre
"Sestre milosrdnice", Zagreb,
Croatia

KEYWORDS: holter ECG, nursing analysis, data analysis, patient care.

CITATION: *Cardiol Croat.* 2024;19(11-12):642. | <https://doi.org/10.15836/ccar2024.642>

***ADDRESS FOR CORRESPONDENCE:** Monika Tuzla, Poliklinika za prevenciju kardiovaskularnih bolesti i rehabilitaciju, Draškovićeva 13, HR-10000, Croatia. / Phone: +385-1-4612-346 / E-mail: monikatuzla@gmail.com

ORCID: Monika Tuzla, <https://orcid.org/0000-0002-6809-3093> • Ivica Benko, <https://orcid.org/0000-0002-1878-0880>
Marija Peremin, <https://orcid.org/0000-0002-7785-3488> • Tomislav Glavak, <https://orcid.org/0000-0002-2805-8242>

Over the past decade, the role of nurses in Holter ECG analysis has been under-explored in the scientific literature. While the nursing profession's responsibilities in Holter ECG monitoring, particularly in terms of patient care, electrode placement, and data collection, are well documented, there is limited research on their involvement in the technical analysis of Holter ECG data. Studies in this area mainly focus on the logistical and patient-care aspects of Holter monitoring. Nurses are instrumental in setting up the Holter device, ensuring accurate electrode placement, educating patients on maintaining diaries, and managing potential complications like skin irritation or electrode displacement during monitoring.^{1,2} Additionally, they play a significant role in identifying arrhythmias by correlating patients' symptoms with recorded cardiac events.² However, despite their vital role in managing and conducting these tests, little literature delves into their involvement in interpreting the data itself. Despite the vast amount of research—over 16000 papers published on Holter ECG between 2012 and 2021—very few address the specific role of nurses in analyzing the data itself. Most of the focus has been on technical aspects, and less than 1% of the papers deal with topics like the nurse's involvement in the interpretation of Holter ECG readings.³ This highlights a gap in the available research concerning the more analytical and diagnostic responsibilities nurses could potentially take on with proper training. Recent advancements in Holter ECG technology present opportunities for more comprehensive patient assessments. These developments could potentially expand the role of nurses beyond patient care to data analysis, given the growing complexity of Holter ECG outputs.³ In conclusion, while the nursing role in Holter ECG setup and patient management is well defined, there is a notable gap in literature addressing their involvement in data interpretation. Despite the abundance of general Holter ECG research, less than 1% of these publications focus on nursing analysis. Future research could explore training opportunities for nurses to engage in the analytical side of Holter monitoring, enhancing interdisciplinary collaboration in cardiovascular diagnostics.

RECEIVED:
October 13, 2024

ACCEPTED:
October 31, 2024



LITERATURE

1. Nurseslabs, 2024. Holter Monitoring: Nursing Responsibilities and Care Plan. Available at: <https://nurseslabs.com/holter-monitoring-nursing-responsibilities> (Accessed 10 Oct 2024).
2. Duca ȘT, Tudorancea I, Haba MȘC, Costache AD, Șerban IL, Pavăl DR, et al. Enhancing Comprehensive Assessments in Chronic Heart Failure Caused by Ischemic Heart Disease: The Diagnostic Utility of Holter ECG Parameters. *Medicina (Kaunas)*. 2024 Aug 14;60(8):1315. <https://doi.org/10.3390/medicina60081315>
3. Xu YD, Lin M, Xu ZY, Kang H, Li ZT, Luo ZZ, et al. Holter electrocardiogram research trends and hotspots: bibliometrics and visual analysis. *Eur Rev Med Pharmacol Sci*. 2022 Sep;26(17):6027-6039. https://doi.org/10.26355/eurrev_202209_29617