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Teresa Jahn

CentraCare Health, teresa.jahn@centracare.com

Nicole Hubbard

CentraCare Health, nicole.hubbard@centracare.com

Samantha Pohlmann

CentraCare Health, samantha.pohlmann@centracare.com

Lauren Hoeschen

CentraCare Health, hoeschenl@centracare.com

Shayna Lahr

CentraCare Health, shayna.lahr@centracare.com

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Jahn, Teresa; Hubbard, Nicole; Pohlmann, Samantha; Hoeschen, Lauren; and Lahr, Shayna, "Implementation of Proper Lead Selection Based on ECG Practice Standards in Hospitalized Patients" (2020). *Nursing Posters*. 120.

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Implementation of Proper Lead Selection Based on ECG Practice Standards in Hospitalized Patients

Teresa Jahn APRN, CCNS, CCRN, Valerie Clintsman, BSN, PCCN,
Nicole Hubbard BSN, BC-CV, Lauren Hoeschen BSN, CCRN, Shayna
Lahr BSN, Samantha Pohlmann BSN



Purpose Statement

Ensure adult patients in a 36 bed Telemetry Unit and 14 bed Cardiac Intensive Care Unit (CICU) with the diagnosis of STEMI and NSTEMI are being monitored in the appropriate leads to detect acute or silent ischemia and arrhythmias.

Synthesis of Evidence

Goals of bedside ECG monitoring:

- Advanced Arrhythmia Detection
- QT Monitoring
- Recognition of Ischemia

Class I, Level of Evidence B

Patients with diagnosis of STEMI or NSTEMI:

- Continuous uninterrupted ECG for 48 hours
- Class IIa, Level of Evidence B

Proper skin prep and correct electrode placement

- Is essential to decrease alarms and ensure correct arrhythmia interpretation

Class I, Level of Evidence C

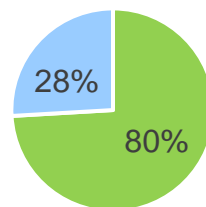
Team Members

Teresa Jahn APRN, CCRN, CCNS
Nicole Hubbard BSN BC-CV
Samantha Pohlmann BSN
Valarie Clintsman BSN, PCCN
Lauren Hoeschen BSN, CCRN
Shayna Lahr BSN
Telemetry and Cardiac Intensive care RNs

Teresa.jahn@centracare.com

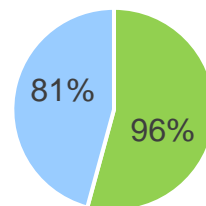
Pre/Post Measures

Pre Practice Change Correct Lead Selection to Detect Ischemia & Arrhythmias N=75



■ Arrhythmia ■ Ischemia

Post Practice Change Correct Lead Selection to Detect Ischemia & Arrhythmias N= 199



■ Arrhythmias ■ Ischemia

Evidence-Based Practice Change

- March 2019:** Audits revealed a gap in knowledge related to lead selection
- May 2019:** During unit meetings, CNS shared the current goals for bedside ECG monitoring and technique for proper skin prep and electrode placement and March audit results. Staff given **laminated cards** displaying appropriate lead selection based on the affected coronary artery.
- June & July 2019:** Staff were provided with just in time training by CNS and RN unit champions to ensure patients were being placed in leads based on their diagnosis or affected coronary artery. Lead selection algorithms were displayed by monitors.
- Fall 2019:** Proper skin prep and electrode placement was reviewed during education days for RNs and Nursing Assistants
- August 2019 – Jan 2020:** Audits were completed. Results were shared during huddles, unit meetings, monthly newsletters and educator's weekly updates
- January 2020:** The default leads on cardiac monitors in Telemetry and CICU were changed to V1 and Lead 3
- March 2020:** Patients on the Telemetry Unit with diagnosis of STEMI or NSTEMI will have continuous uninterrupted ECG monitoring for 48hrs

References

- Sendelbach, S., Sandau, K. E., Smith, L., Kreiger, R., Hanovich, S., Funk, M. (2019). Implementing practice standards for inpatient electrocardiographic monitoring. *American Journal of Critical Care* 28(2):pp 109-115.
- Sandau, K. E., Funk, M., Auerbach, A., Barsness, G., Blum, K., Cvach, M., Lampert, R., May J. L., McDaniel, G. M., Perez, M. V., Sendelbach, S., Sommargren, C. E., & Wang, P. J. (2017). Update to practice standards for electrocardiographic monitoring in hospital setting. *Circulation*. Pp. 273-344.

Evidence-Based Practice Project Poster Title



Your name and credentials

Institution, St. Cloud, Minnesota

Purpose Statement

10-point font size recommended.

Synthesis of Evidence

Include bullet points of your literature findings, include the grading as appropriate.

- Bullet

Team Members

Your email address here

Pre/Post Measures

Use this template if you want to emphasize measurements/outcomes.

Include charts, graphs, policies, orders, Epic screen shots – whatever you can do to show your results.

Your pre- and post-data should be here.



Evidence-Based Practice Change

References

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Forsyth, D. N., Wright, T., Scherb, C., & Gaspar, P. (2010). Disseminating evidence-based practice projects: Poster design and evaluation. *Clinical Scholars Review*, 3(1), 14-21.

Research Study Poster Title

Your name and credentials

Institution, St. Cloud, Minnesota



Introduction

10-point font size recommended.

Research Problem/Question

Methodology

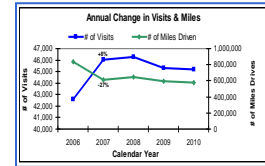
Include bullet points of your literature findings, include the grading as appropriate.

- Bullet

Analysis/Results

Include charts, graphs, policies, orders, Epic screen shots – whatever you can do to show your results.

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Conclusions/Implications

Acknowledgements/Funding

(if appropriate)

References

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Performance Improvement Poster Title

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Plan

10-point font size recommended.
Identify and analyze the problem.

Do

Identify the solution.
• Bullet

Team Members

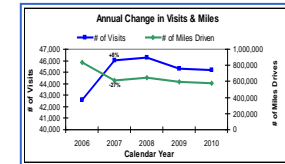
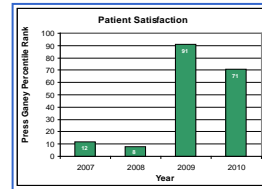
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Study

Gather data and evaluate.

Include charts, graphs, policies, orders, Epic screen shots – whatever you can do to show your results.

Your pre- and post-data should be here.



Act

Standardize the solution – systematic changes and training needs for full implementation

References

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Forsyth, D. N., Wright, T., Scherb, C., & Gaspar, P. (2010). Disseminating evidence-based practice projects: Poster design and evaluation. *Clinical Scholars Review*, 3(1), 14-21.

Education/Innovation Poster Title

Your name and credentials

Institution, St. Cloud, Minnesota



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Insert Your Title Here

Include bullet points of your literature findings, include the grading as appropriate.

- Bullet

Team Members

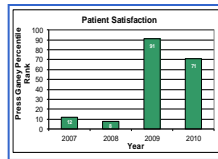
Your email address here

Insert Your Title Here

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Include charts, graphs, policies, orders, Epic screen shots – whatever you can do to show your results.

Your pre- and post-data should be here.



Insert Your Title Here

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