

# Correct Lead Placement and Bundle Branch Blocks

Project Coordinators: Sonshine Ayers, BSN, RN. Danielle Frank, ASN, RN. Ashley Jones, BSN, RN. Kylie Key, ASN, RN. Unit Manager: Sara Ivester, MSN, RN, PCCN. Units: Progressive Cardiovascular Care Unit (PCCU)

Northeast Georgia Medical Center

### **PICOT Question**

Does auditing telemetry lead placement for 10 weeks on a cardiology unit improve the accuracy of capturing bundle branch blocks compared to patients with telemetry not receiving lead placement auditing?

# **Evidence Summary**

Recognizing bundle branch blocks is important because a bundle branch block can mask the signs of ischemia. A bundle branch block and ST elevation, indicating ischemia, can appear similar, especially if leads are placed incorrectly (ECG & Echo Waves, 2019). Incorrect lead placement is a common problem that can be addressed and remedied by continued education (Medani et al., 2017). The most common issue with placement is the leads are off by 2-3cm (Kania et al., 2013). Correct lead placement ensures that the patient receives proper interventions and care. Incorrect readings can lead to unnecessary interventions and can also lead to the correct interventions not being utilized (Brady et al., 2019).

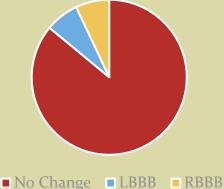
# **Description of Change**

A 30-patient sample size was utilized for this project. Audits were performed regarding telemetry lead placement and presence of bundle branch blocks. Patients had a mixture of various cardiac monitoring devices. Audits on lead placement were performed by registered nurses. licensed practical nurses, and patient care technicians at three points throughout the shift: Transfers, new admissions, and the beginning of the shift.

#### Results

86% of audits resulted in correct lead placement requiring no change in lead location. 14% of audits found incorrect lead placement. Once leads were moved to the proper place(s) all 14% displayed cardiac dysrhythmias. Half of the dysrhythmias were left bundle branch blocks and the other half were right bundle branch blocks.

# Telemetry Results



#### Recommendation

Audits on telemetry leads should be implemented long-term in order to increase early detection of harmful cardiac rhythms.

#### References

Brady, Harrigan, & Chan. (2019). Roberts and Hedges' Clinical Procedures in Emergency Medicine and Acute Care (7th ed.). Elsevier. https://www.clinicalkey.com/#!/content/book/3-s2.0-B9780323354783000142?scrollTo=%23hl0000376

ECG & Echo Waves. (2019, October 12). Left bundle branch block (LBBB) in acute myocardial infarction: the Sgarbossa criteria -. ECG & ECHO. https://ecgwaves.com/topic/left-bundle-branch-block-acutecoronary-syndromes-sgarbossa/

Kania, M., Rix, H., Fereniec, M., Zavala-Fernandez, H., Janusek, D., Mroczka, T., Stix, G., & Maniewski, R. (2013). The effect of precordial lead displacement on ECG morphology. Medical & Amp; Biological Engineering & Amp; Computing, 52(2), 109-119. https://doi.org/10.1007/s11517-013-1115-9

Medani, MBBS, Hensey, MBBCh, BAO, Caples, & Owens, MD. (2017). Journal of Electrocardiology (Vol. 51). Elsevier. https://www.clinicalkey.com/#!/content/playContent/1s2.0-S0022073617301218?returnurl=null&referrer=null