The Problem
A delay in diagnosis for patients with cardiac events. A patient was having an active MI and an EKG was ordered to confirm the diagnosis. Three different machines were used to try to obtain a reading without success. Finally, after much delay, a new, unopened package of electrodes was obtained and a 12-lead EKG was successfully recorded. After the event, clinical engineering found the machines to be in good working condition. What we found was lack of standardized practice around the use of EKG electrodes:
- Different electrodes and tabs were being used on different units
- Staff were dissatisfied with the EKG tabs due to a lack of adherence to patients skin, leading to the use of monitoring electrodes
- Expired packs of electrodes were found in use - All electrodes and tabs are recommended to be used for 30 days after opening
- Staff were unaware that telemetry monitoring electrodes have an 80% rate of working accurately

Aim/Goal
To involve front-line staff in the evaluation of EKG tabs, trial and select the best product, standardize practice, and ensure all EKG machines are stocked with the correct tabs for a 12-lead EKG. In addition, to reinvigorate the education of staff for obtaining EKGs with clear standardized terms and definitions machines.

The Team
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Med Surg CQVA Committee
Leadership and staff of trial units: Emergency Department, Farr 3, Farr 5, and 12 Reisman
Telemetry Taskforce
Clinical Engineering & Materials and Logistics Staff

The Interventions
- Staff feedback was obtained to trial the optimal EKG electrodes.
- Vernacular was clarified that monitoring electrodes should only be used for telemetry and EKG tabs should be used for obtaining EKGs,
- Standard language was used in all education materials, practice alerts, and announcements
- Two products were trialed: one which could be used for both 12-lead EKGs and Telemetry monitoring, and one for 12-lead EKGs only.
- A Practice Alert was sent to staff: an announcement about the new EKG leads was placed on each unit reinforcing the tabs that are to be used, the need to date opened packages, and some other trouble shooting tips.
- An EKG tab placement placard was placed on each EKG machine for immediate access to education and for a quick reference.

The Results/Progress to Date
The first set of EKG tabs trialed, while more expensive, had 100% negative responses form staff due to lack of adherence to patients skin. The second set of tabs was able to adhere better to patients' skin, and received an overall much higher positive response rating from staff. This product was selected.

Lessons Learned
- Staff input into product selection is integral, and their feedback from trials is necessary to obtain the optimal products for use.
- The new product announcement is an ideal way to standardize practice and re-educate best practices.
- Through the process of learning current “workarounds” we were able to target education and supply staff with troubleshooting tips to prevent the need for workarounds

Next Steps/What Should Happen Next
- Review RL-6 and/or complaints around ability to obtain EKGs
- Reassess practice of dating tabs and using nest practice 6 and 12 months after release of the new product to reeducate and troubleshoot as necessary.

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