of 87.3% (79.0–92.7%) and 94.4% (89.0–97.2%) respectively. For the 30.6% and 38.0% of patients identified as high risk by gestalt in each study, specificity was 81.1% (74.6–86.6%) and 70.4% (65.4–75.1%) with positive predictive values of 56.4% (47.5–64.9%) and 39.1% (34.2–44.2%) respectively. A gestalt based rule out strategy incorporating ECG and arrival troponin performed with a sensitivity and NPV of 99.0%.

A significant evidence gap has been identified. At present there is insufficient information to draw meaningful conclusion. The little evidence supporting a gestalt-based diagnostic strategy urgently needs prospective validation.

RCEM Moderated

028 A COMPARISON OF THE MACS-ECG ALGORITHM VERSUS CONTEMPORARY COMPUTER ALGORITHMS
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10.1136/emermed-2019-RCEM.29

Background The Manchester Acute Coronary Syndromes ECG (MACS-ECG) model was derived and validated with the aim of providing an objective measure of ECG ischemia in the setting of suspected non-ST-elevation myocardial infarction. We wanted to produce an objective measure to improve existing clinical decision aids such as TMACS or the HEART score. To establish whether the MACS-ECG model warrants further study we compared the diagnostic performance against existing computer algorithms.

The MACS-ECG model was derived in a single center cohort and combined a nuanced interpretation of repolarization abnormalities with novel signs of ischemia. These variables were selected using backward logistic regression using SPSS with the primary outcome being NSTEMI.

This model was validated in a secondary analysis of the Bedside Evaluation of Sensitive Troponin study (BEST). We recruited patients from 17 Emergency Departments. We included adults with a suspected ACS. We excluded patients with STEMI or obvious non-cardiac cause.

The primary outcome was NSTEMI, using the Fourth universal definition of myocardial infarction.

In the validation study we also coded the ECG machines interpretation as acute ischemia, infarction or no statement.

When the existing ECG algorithms produce an ‘acute ischemia’ statement, the sensitivity (Sn) was 13.3% (8.2–20.0%), specificity (Sp) 93.9% (92.1–95.5%), positive predictive value (PPV) 27.9% (19.1–39.0%) and negative predictive value (NPV) 86.0% (85.2 86.8%).

An ‘infarction’ statement produced Sn 21.0% (14.6–28.6), Sp 88.3% (85.8–90.4%), PPV 24.0% (17.9–31.4%) and NPV 86.3% (85.3–87.3%).

Combining infarction and ischemia produces the following diagnostic characteristics: Sn 34.3% (26.3–42.7%), Sp 82.2% (79.4–84.8%), PPV 25.4% (20.6–30.9%) and NPV 87.6% (86.2–88.9%).

The MACS-ECG model was more specific and sensitive than existing computer algorithms. When it produced an ‘acute ischemia’ statement, the Sn was 22.4% (15.8–30.1%), Sp 95.2% (93.5–96.6%), PPV 45.1% (34.8–55.8%) and NPV 87.4% (86.4–88.4%).

029 AN EXPLORATION OF WHAT HEALTH CARE PROFESSIONALS CONSIDER TO BE GOOD CLINICAL SHOP FLOOR LEADERSHIP
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10.1136/emermed-2019-RCEM.29

Background A successful shop floor leader must perform many tasks, often simultaneously, and hold an array of skills to complete those tasks. They must deliver clinical care, education and teaching and manage flow and performance.
Individuals within an organisation will have differing expectations of the shop floor leader depending on how they are positioned within the organisation. The purpose of this study is to explore what team members within a single organisation, perceive to be good clinical shop floor leadership through semi structured interviews.

Method and results Purposive, convenience sampling was used to find 12 subjects willing to undergo a semi-structured interview. The intention was to interview a cross section of members of the Emergency Department team, regarding what they understand by good shop floor leadership and exploring what are the perceived challenges for shop floor leadership.

A crib of questions was used but this was not strictly adhered to, to allow exploration of themes not predefined by the primary researcher.

The interview audio was transcribed and an iterative thematic analysis was then undertaken, with no predefined coding framework. Each transcript was analysed for themes and emergent patterns of commonality.

Conclusions The theme of clinical leadership was explored, and the breadth of expectation placed on clinical leaders was evident. The importance of role modelling and credibility were highlighted. Clinical leaders described their strategy for shop floor leadership, and those who were led on the shop floor highlighted factors they valued, in particular education and teaching. The tensions between conflicting demands on the shop-floor leaders were demonstrated. The output from the interview enabled recommendations to be made regarding shop floor leadership for the organisation.

Abstracts

ARE STAFF RECORDED PAIN SCORES A 'GOLD STANDARD' FOR ED PAIN RESEARCH?

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Background Relief of pain is a key activity of emergency medicine, however pain is often poorly monitored. As part of the evaluation of an electronic patient pain score recording device we needed to smooth a time series of pain scores in order to minimise 'noise' and false readings. In order to evaluate different methods we used the staff recorded pain score as a reference standard.

Patients used an electronic pain recording device containing buttons set out in the same way as a pain visual analog scale. The button corresponding to the currently level of pain was pressed in response to an audible prompt every 15 minutes. Pain scoring by ED staff continued in the normal way, recorded in the electronic health record.

Smoothing was undertaken using 20 and 30 minute bins, with either the median or the maximum patient recorded score being calculated for each bin. The staff recorded pain score nearest to 2 hours was paired with the patient recorded score in the same time window.

For each smoothing method a Bland-Altman plot was made of the paired results and Spearman’s correlation coefficient calculated.

There was little difference between the smoothing methods (table 1). However the most striking finding was that ED staff overall record a lower pain score (by 1 to 2 points) than is self-reported by patients. There were also very wide limits of