

# We Got the Beat: Improving CPR Quality with Real-Time Metrics

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## INTRO

- High quality chest compressions have been linked to improved survival from sudden cardiac arrest.
- The 2015 AHA guidelines recommend the following:
  - Rate of compressions between 100-120 CPM
  - Depth of compressions between 2-2.4 inches
  - Allow full recoil between compressions
  - Target CPR fraction at least 60% of the time, ideally 80%
  - Avoid hyperventilation
  - Collect and use data to improve performance
- We set out to show that our clinicians would have a minimum 25% improvement in CPR quality with the use of real-time feedback using the new R series ZOLL defibrillators.

## METHODS

1. 91 clinicians over two days participated
2. Participants provided one minute of chest compressions without feedback
3. Participants were given a 30 second coaching session on new audio/visual feedback on the R series defibrillator
4. Participants provided one minute of chest compressions with feedback
5. Participants were shown their compression quality and areas for improvement; the data was collected.

## RESULTS

- Median CPR performance with feedback was 78% compared to 9% without.
- Mean CPR performance with feedback was 74% compared to 25% without.

## DISCUSSION

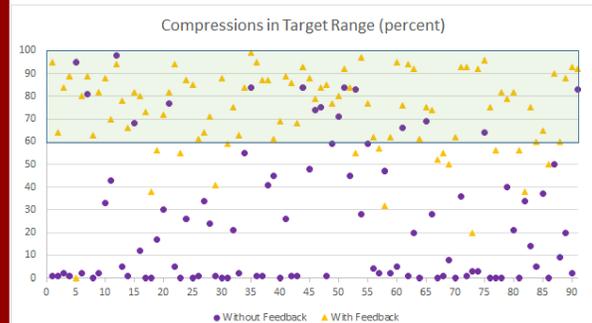
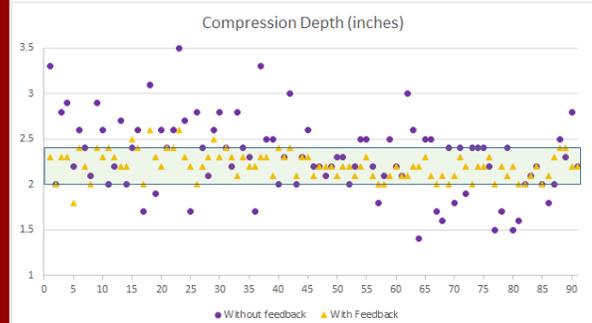
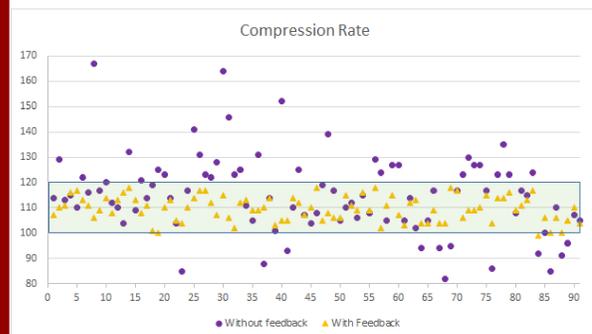
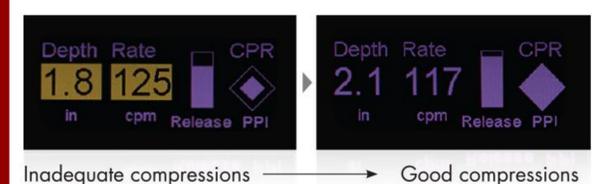
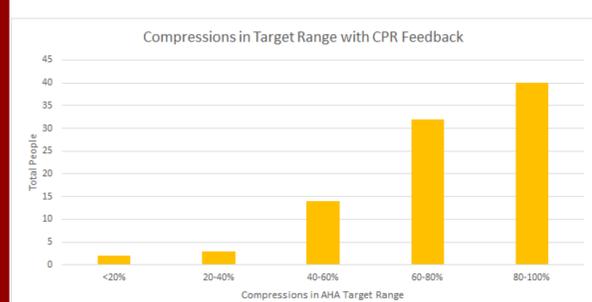
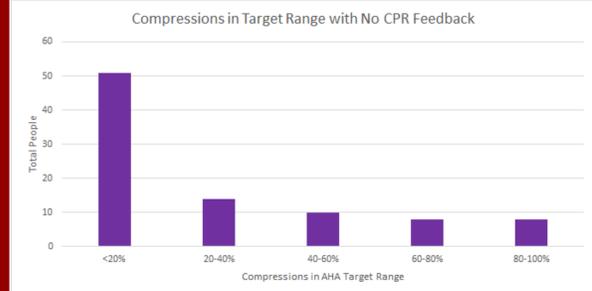
- All but 4 of the 91 participants showed an improvement in CPR quality
- 70 of the 91 participants had improvements greater than our aim of 25%
- **Overall, the mean improvement for our hospital was 48%, well above our aim**
- Data on compressions and other aspects of cardiac arrest resuscitation will be recorded and analyzed by the code blue committee to identify areas for improvement.

# Objective real-time CPR feedback greatly increases chest compression quality.

With the roll out of the ZOLL R series defibrillators, we now have this technology at Jefferson.



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