

**3M** Science.  
Applied to Life.™

A photograph of two female nurses in a hospital room. The nurse in the foreground, wearing pink scrubs and blue gloves, is focused on a patient lying in a hospital bed. The patient has medical sensors attached to their chest. The second nurse, in blue scrubs, stands behind her, looking on with a concerned expression. Large windows in the background show a cityscape. The overall tone is professional and clinical.

**Is your (beep) alarm management  
(beep) programme (beep) in place?**

Let 3M help you set up a customized  
Alarms Reduction Initiative Programme  
for your facility.

# Did you know that nurses can hear up to 700 alarms per patient day?<sup>1</sup>



According to ECRI, alarm hazards have been the No1 or No2 health technology hazard since 2008.<sup>2</sup>

No wonder alarm fatigue has become both a work environment and a patient safety issue.

Alarm fatigue is a condition where caregivers become overloaded and desensitised to the constant sound of clinical alarms. From 2005-2008, there were 566 patient deaths related to clinical alarms, according to the Food and Drug Administration (FDA).<sup>3</sup>

As a result, the Joint Commission has required all healthcare facilities to have an alarm management programme in place by January 1, 2016.

At least part of your programme should be a goal to reduce the number of false clinical alarms your nursing staff hears.

3M can help. We can help you look at factors that may help you get the quality trace and ECG reading you're looking for.<sup>4,5</sup>

## 3M's Alarms Reduction Initiative Programme can help you create a custom plan for your facility.

### **Know the effect proper technique can have on alarms.**

Reducing some monitoring alarms may be as simple as improving electrode application technique. 3M can provide information on how to prep the patient's skin, as well as how to apply and remove electrodes.



### **Learn how to troubleshoot commonly seen artifact that can create false alarms.**

Have you seen the trace below in your facility? The most likely culprit is muscle movement. 3M can help you understand what different artifacts mean and give you advice on how to troubleshoot ECG traces. Ask about our FREE 3M™ Red Dot™ Electrodes Troubleshooting Guide.



### **Evaluate your ECG options.**

Do your electrodes cost too much? Are your leadwires popping off at the most inconvenient times? Ask us to evaluate your product options and offer a solution that works best for your facility.





# 3M Alarm Reduction Initiative in action: a case study

Charlene Haley, MHA, MSN, ACCNS-AG, CCRN, Brandy M. Grant, MSN, RN Nurse Manager, Christopher George, Bio Med Engineer, Lancaster General Health, Lancaster, PA.

## Finding the alarm culprit: ECG monitoring.

In 2014, 3M worked with Charlene Haley, Clinical Nurse Specialist at Lancaster General Hospital, to promote proper skin preparation as part of their monitoring alarms reduction initiative.

During baseline alarm data collection, they found that ECG monitoring produced the highest number of alarms.

## Championing change.

Charlene believed that proper skin preparation, including proper electrode application, could significantly reduce the number of alarms and was a strong champion for instituting facility-wide change.

Prior to implementing 3M's Alarm Fatigue product bundle and electrode application practices, the number of ECG monitoring alarms were measured. When implementation day arrived, the nurse educators were trained on the technical details of proper skin preparation and its benefits. Then the real work began.

## Training leads to success.

Every shift on every unit that used ECG monitoring electrodes was in-serviced over a two-day period to insure that all staff had been educated. This included training on proper electrode application technique.

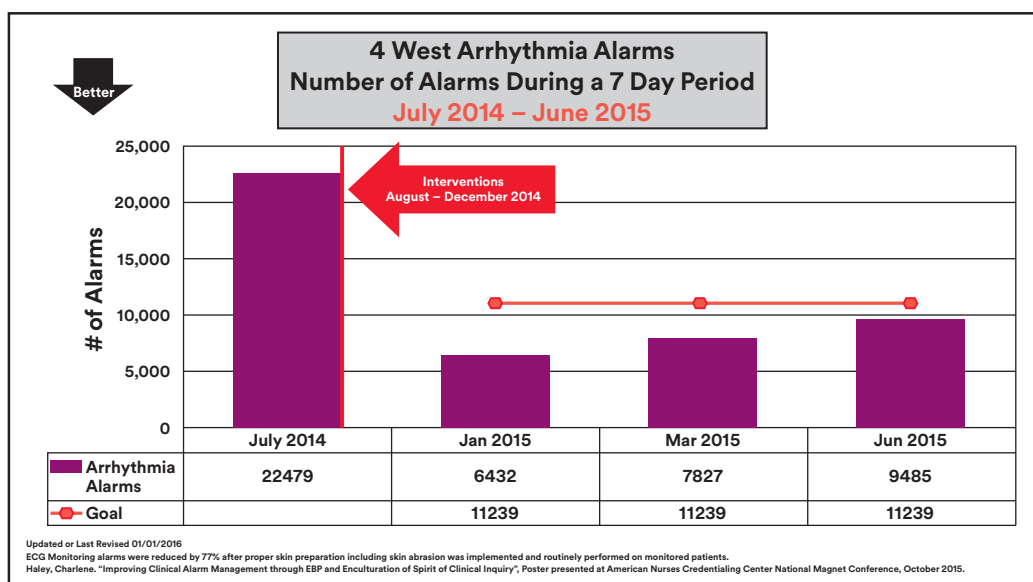
Over the next few days, trainers continued to drive the change by periodically monitoring each unit's adoption of the new policy. The number of monitoring alarms continued to be measured and the initiative's impact was impressive. The number of alarms, in one

of the units that had taken the change to heart, was reduced an astounding 77% in both arrhythmia and parameter alarms and a 67% reduction in technical alarms.




Several months later, one nurse who happened to be pulled to a different department for a shift where the change wasn't taken as seriously was amazed by the difference. In the nurse's words, "My pager wouldn't stop going off the entire time. It was constantly going off. I was truly getting really frustrated with the pager. Then I come back home and realised the difference. Thank you."



3M product bundle used at Lancaster: 2560 (left) and 2236 (right).



## 3M Patient Monitoring Products to Support Your Alarm Fatigue Initiatives

Description	Product No.	Packaging
<b>All Inclusive</b> – Built-in abrader, larger gel well, 5-day wear time		
 <b>3M™ Red Dot™ Foam Monitoring Electrode</b> 1.6 inch × 1.36 inch (4 cm × 3,5 cm) – Radiolucent – Sticky Gel – Built-in Abrader	<b>2570</b>	1000 electrodes/case, 10/strip, 5 strip/bag, 20 bag/case
<b>Foam electrode with 2236 Trace Prep</b> – Large gel well, 5-day wear time		
 <b>3M™ Red Dot™ Foam Monitoring Electrode</b> 1.6 inch × 1.36 inch (4 cm × 3,5 cm) – Sticky Gel <b>Trace Prep</b> .7 inch × 196 inch (18,1 mm × 5 m)	<b>2560</b>	1000 electrodes/case, 10/strip, 5 strip/bag, 20 bag/case
	<b>2236</b>	1 roll, 36 roll/case
<b>Repositionable electrode + 2236 Trace Prep</b> – Conductive hydrogel adhesive, repositionable, removal tab		
 <b>3M™ Red Dot™ Repositionable Monitoring Electrode</b> 1.56 inch × 1.25 inch (4 cm × 3,2 cm) – Radiolucent – Full surface conductive adhesive – Bag of 5 or 3 <b>Trace Prep</b> .7 inch × 196 inch (18,1 mm × 5 m)	<b>2660-5</b>	1000 electrodes/case, 5/strip, 1 strip/bag, 200 bag/case
	<b>2660-3</b>	600 electrodes/case, 3/strip, 1 strip/bag, 200 bag/case
	<b>2236</b>	1 roll, 36 roll/case

### References:

1. Cvach, M., "Monitor Alarm Fatigue: An Integrative Review", *Biomedical Instrumentation & Technology*, July/Aug 2012, 268-2772.
2. Executive Brief. Top 10 Health Technology Hazards for 2016." Adapted from: Health Devices 2015 November. ECRI Institute. [www.ecri.org/2016hazards](http://www.ecri.org/2016hazards).
3. Alarming Monitor Problems: Preventing Medical Errors. *FDA Patient Safety News*, January 2011 available at <http://www.fda.gov/downloads/Safety/FDAPatientSafetyNews/2015>.
4. 3M Data on file.
5. Oster, C. Proper Skin Prep Helps Ensure ECG Trace Quality. *Biomedical Instrumentation and Technology*. Volume 34 No 3, May/June 2000.

### Learn more with these helpful 3M Red Dot electrode links:

[What is Alarm Fatigue?](#)

[How to Apply and Remove ECG Electrodes](#)

[How to Troubleshoot ECG Artifacts](#)

[Sign up for the 3M Alarm Reduction Programme](#)



3M Health Care  
Infection Prevention Division

3M and Red Dot are trademarks of 3M.  
Please recycle. Printed in the UK.  
© 3M 2016. All rights reserved.  
70-9700-0017-3