



Excellence Award

3M Hutchinson, Minnesota

February 24, 2012



Overview



- More than 35 Divisions, organized into 6 businesses:
 - Consumer and Office*
 - Health Care*
 - Display and Graphics*
 - Industrial and Transportation*
 - Electro and Communications*
 - Safety, Security and Protection Services*
- Operations in more than 65 countries
 - 38 Int'l companies with manufacturing operations*
 - 35 with laboratories*
- 180 plant locations worldwide (28 US) which produce over 50,000 products
- 3M products are manufactured in over 65 countries
- 80,057 employees worldwide (32,955 USA & 47,102, Int'l) and there are approximately 1450 in Hutchinson, MN.
- U.S. patents awarded: 589



3M Hutchinson, Minnesota

Some of the products we manufacture include:

- Command Strips™
- Filtrete™ Filters
- Scotch™ Transparent Tape
- Post-it® Flags
- ScotchBlue™ Painter's Tape





“3M? Everything is handed to you.”

Our battles were not unlike others in the profession:

- Budget

- We didn't have a budget for this newly developed program so it was critical to demonstrate the value of the EARfit Validation System.

- Time and Expense Considerations

- Time and expense associated with EARfit testing had to be justified because our plant budgets are extremely tight



“3M? Everything is handed to you.”

Our battles were not unlike others in the profession:

- Building a Case

- Documented that a good fit went from 55 percent to 98 percent during an initial trial at our plant
- We reasoned that Increasing the population with a good fit should help to reduce the incidence of Standard Threshold Shift cases

- Management Buy In:

- Management wanted a reduction in Standard Threshold Shift cases and based on the trial information, they were convinced EARfit was going to be beneficial

HCP Team Members



**Sue Fisher,
Technologist**

**Dan Westrum,
HCP Manager**

**Jessica Hauge,
IH Consultant**

**Jason Kunz, IH
Consultant**

**Hendra Harapan,
Corporate IH**



**Steve Jensen,
EHS Manager**

**Rise Beckman,
Hutch OHN**

**Beth Dammann,
Hutch OHN**

**Perry Logan,
Manager., Corp IH**

**Carl Johnson, IH
Consultant**

3M Initiative Details

High quality monitoring and rigorous data interpretation

Sustainable exposure controls to provide high level of confidence for employee protection

Noise Measurement & Data Analysis

Noise Exposure Reduction

Hearing Health

Hearing Conservation Excellence

Efficient and effective exposure management to significantly reduce noise induced hearing loss



High quality noise monitoring and rigorous data interpretation

Noise and Data Analysis:

- 266 dosimetry samples were collected CY 2010 and 2011
 - Collected on
 - A minimum of six samples are required for each similar exposure area
 - The IHDA software is used for determining inclusion in our Hearing Conservation Program
- In CY 2010, hearing conservation areas of the plant (47 areas) were noise mapped.





Sustainable exposure controls to provide high level of confidence for employee protection

- Enclosures have helped to reduce exposure adjacent to noisy equipment.
- Buy quiet goal for new equipment and acquisitions is 75 dBA at 1 meter.

Efficient and effective exposure management to significantly reduce noise induced hearing loss



- Initial EARfit testing (n=84) - Approximately 45% were not getting an adequate fit.
- A good fit was achieved with a short training session or by switching to plugs.

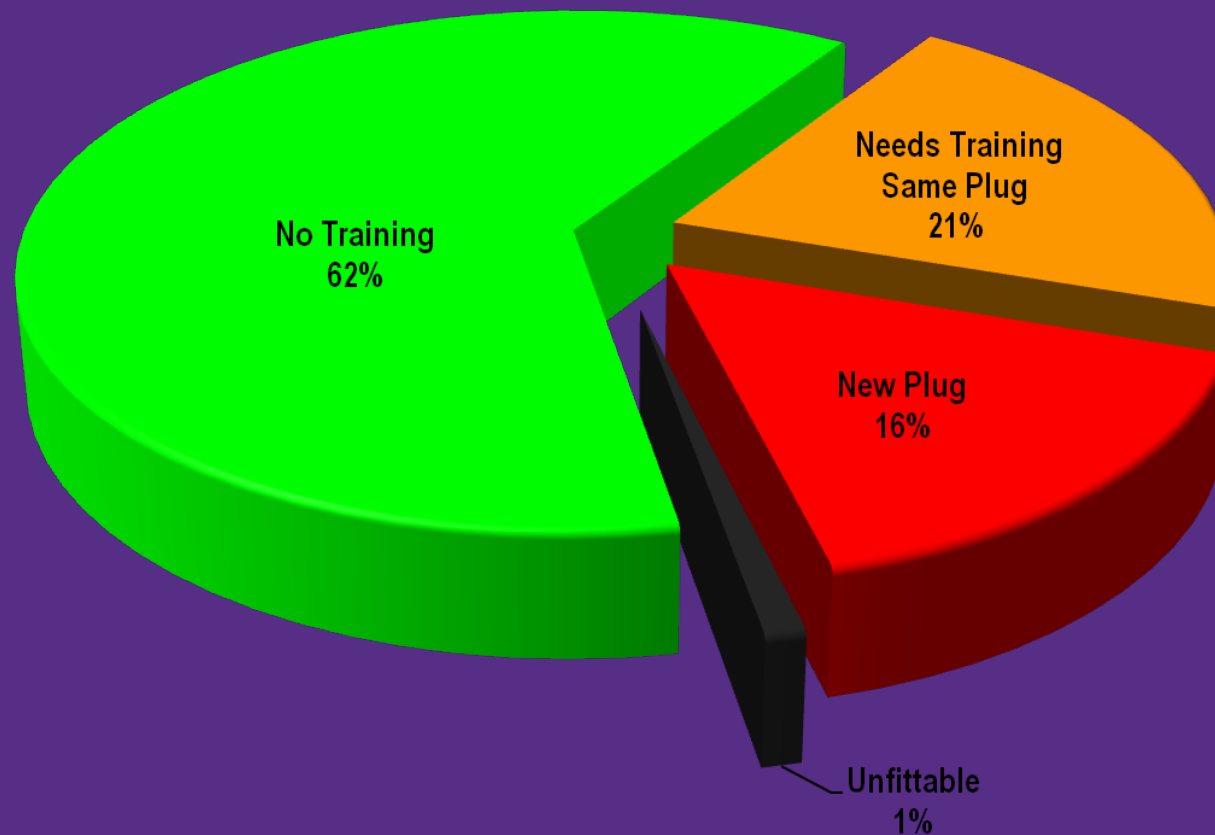


Initial Trial at Hutchinson

Findings from Testing 84 Hutch Employees 12/1/09 and 12/2/09		
Good fit with the plugs they use or plugs closest to what they use or would use	47/84	55%
Good fit achieved after 30 seconds of training	20/84	24%
Those who had to switch plugs and achieved a good fit	15/84	19%
Those who could not be fit with any of the test plug	2/84	2%



Similar results in previous study



“Practical Considerations for Implementing a Hearing Protection Fit Testing Program,” Carl Johnson – Pace Analytical Services, *Presented by* Ted Madison – 3M, NHCA Annual Hearing Conservation Confere



Why perform EARfit validation for entire staff?

- Protect everyone's hearing for on and off-the-job exposures
- Transfer from non-hearing conservation areas into hearing conservation areas.
- Protection for non-occupational exposures
- Better understanding of how hearing protection is supposed to fit better able (in the case of trainers) to explain to others how to wear it.
- Show others how to wear protection
(e.g. parents showing their kids).

Benefits of Individual Fit-Testing

- Direct benefits include better plug protection through:
 - Immediate correction
 - One-on-one training
 - Showing what a good fit feels and sounds like
- Indirectly, a decrease in hearing loss cases.





24-Hour Protection

- EARfit – “...take plugs home...” – we allow and encourage employees to take ear plugs home to protect their hearing if they do anything “noisy”
 - Exposure during noisy activities is discussed during EARfit testing
 - Encouraged to put plugs near their noisy equipment, power toys, tool boxes...as a reminder to use them
 - Why protect hearing only at work? (24-hour safety)

Example of Off-the-Job HPD

- A significant portion of the Hutch employees participate in firearm hunting.
- Most hunters don't wear hearing protection because they want to hear the game.
- We sell Combat Arms ear plugs in our site store. These plugs enable hunters to hear the game; however they filter out the firearm blast, thereby protecting the user's hearing.





HCP Training

- HCP training is required upon hire for plant employees.
- HCP employees receive annual classroom training by our Tech Trainers.
 - HCP employee training is presented in the form of an “articulate” or slide presentation.
- EARfit (one-on-one) training is required initially. It is also required and tracked:
 - Annually for HCP employees
 - Every three-years for non-HCP plant employees



HCP Training

- Tech Trainers are required to go through annual classroom Train-the-Trainer instruction.
- Team Leaders and Team Advisors receive initial training on what their roles and responsibilities are with respect to our Hearing Conservation Program



Audiometric Testing

- On-site Testing is done with a Benson audiometer by our CAOHC-certified nurses.
- Initial data is software reviewed.
- Changes identified with the software are reviewed individually by 3M corporate nurses.





Management Support

- Corporate industrial hygiene provided:
 - Policies that were the framework for the Hutchinson hearing conservation program
 - The technicians and equipment for the 2009 trial runs
 - An industrial hygienist for evaluating noise sources and providing abatement recommendations
- Plant management supported the program from the start:
 - Approved the purchase of EARfit Validation equipment
 - Allowed the time and expense of plant-wide testing blitz of plant staff (~1450)
 - Allowed corporate industrial hygiene technicians to aid with the 2010 testing blitz



Future

How will we sustain the initiative and its benefits in your organization?

- EARfit validation is classified as required training
- A component of new employee orientation
- Required annually for those in Hearing Conservation
- Required every three years if not in Hearing Conservation



Future

- **What are your next steps?**
 - We are undertaking a study to investigate whether EARfit , exposure data, and audiogram data can be used for determining high risk employees for NIHL
- **How will this lead you into more initiatives in the future?**
 - We have some 3M US facilities implementing this now and we intend to undertake a similar programs at additional 3M facilities in the US and then worldwide.

Lessons Learned

- Management support was critical
- Making it required was important in ensuring participation
- Employees valued the training – especially those who had worn plugs for years, but had no idea what a good fit was supposed to feel and sound like
- Appointments are needed – area supervisors scheduled their staff



Lessons Learned

- **What can others learn from the initiative?**
 - Get management buy in
 - Realizing that only about half the population is getting adequate protection from their plugs should be incentive to initiate a program
 - Before we made EARfit validation “required” training, we couldn’t get people to “volunteer” for testing, but after it was “required” the phone was ringing off the hook.



Significance of the Award

- **What does the Award mean for the future of your initiative?**
 - Validates our efforts and provides incentive to continue with our efforts
- **How will your company be encouraged for future initiatives?**
 - Decrease in STS's our true reward and it is the best encouragement for future initiatives
- **What will your team be encouraged to do?**
 - Continue with EARfit validation, continue with noise reduction for existing equipment, and prevent new sources from being introduced to the plant



Contact Information

Dan Westrum, MS, CIH

3M Hutchinson Site Industrial Hygienist

320-234-1588

dwestrum@mmm.com

Hendra Harapan, MS, CIH

3M Corporate Industrial Hygienist

hharapan2@mmm.com