

Frequency of Fit Testing – FY15 (927Z1NU)

Objective

The specific aims of this project are to:

- 1) Determine – for time intervals of 6, 12, 18, 24, 30, and 36 months – the changes in respirator fit,
- 2) Determine – for the same time periods – the number of instances when a subject's fit becomes unacceptable
- 3) Determine the corresponding percentages of test subjects whose respirator penetration changes for different degrees of changes and whose fit becomes unacceptable during the these time intervals
- 4) Assess the extent to which changes in fit are associated with recognizable changes in facial anthropometrics
- 5) Investigate the correlation between respirator fit and subject characteristics at every six month interval

Project Scope

▪ A laboratory study will be conducted to assess causative factors affecting temporal changes in respirator fit. Initially, 229 subjects were enrolled and 134 subjects completed the study. Subjects perform fit testing every 6 months over a three year period. Among the possible causative factors are: weight gain or loss, face size change, 3-D scans, strap length, and nose shape change.

Milestones FY15

- Q1 Completed a manuscript on fit change by fit test frequency and weight change
- Q2 Complete another manuscript on fit characteristics
- Q3 Complete the presentation for AIHce 2015
- Q4 Complete another manuscript on head strap length

Applicable Standards related activities

- 29 CFR 1910.134
- ISO TC94 SC 15

Key Partners

- Tongji Medical College in China
- Frazer Health, BC Canada

Stakeholders

- OSHA, MSHA, ANSI, AIHA, ISO
- Respirator Users
- Cal-OSHA



Outputs

- Manuscripts published or submitted to peer review journals (2)
- Presentations to stakeholders or conferences (8)
- Standards committee meetings & public meetings (0)

Outcomes

- Project data is used by NIOSH, CDC, OSHA, ISO, and ANSI in guidance documents, standards, or regulations
- Employers and safety professionals will be more likely to follow OSHA regulations and conduct fit testing at the appropriate frequency
- Other researchers utilize the project outputs to initiate new research related to fit testing

Updated: 04 Feb 2015