

Indoor Environmental Quality (IEQ) Challenge – Pathology Grossing/Cutting Room Safety

Introduction/Problem

Pathology staff spend a significant amount of time in the Pathology “Grossing/Cutting Room” preparing specimens for patient diagnosis. The universal method for fixing specimens is Formaldehyde which can irritate the eyes and mucous membranes. In addition, when inhaled, it may cause headaches, a burning sensation in the throat, and can trigger or aggravate asthma symptoms. Many of these symptoms were reported by staff especially when spending long and concentrated hours in the room. On-going exposure monitoring demonstrated levels close to maximum safe levels which triggered initial investigation and mitigation efforts.

Scope - Grossing/Cutting Room. All employees and physicians practicing in room

Impact – Actions will create a safer environment for practice

Aim/Goal

Short term- To reduce the Formaldehyde exposure vapors to the lowest possible level in the room.

Long-term to renovate area with optimal engineering to eliminate exposure risk.

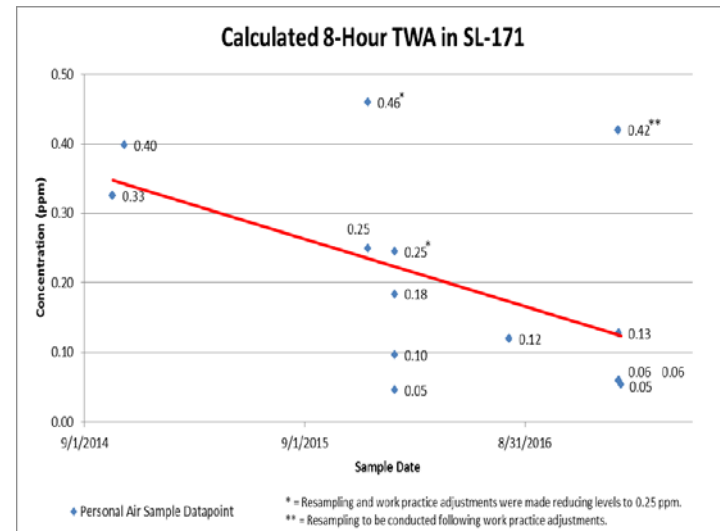
The Team

Environmental Health & Safety (EHS), Maintenance Operations, Environmental Services (EVS), Employee Occupational Health and Safety (EOHS), Pathology Department (Leadership, Staff & Clinicians), Facilities and Engineering, Hospital Senior Management

The Interventions

Evaluation of current HVAC to maximize efficiency.	Replaced existing biohazard hood with more efficient model.
Use of PAPR's for immediate adverse symptom relief.	Provided seals/ lids to reduce vapors when soaking/pouring waste.
Eliminated diluting Formalin (37%) and purchased commercially available at 10%.	Installed wall mounted and central extractor systems to filter and reduce formalin vapors.
Replaced Bouin (10% Formalin fixer) with vinegar for majority of staining. Limited use of Formalin in morgue.	On-going exposure monitoring of occupants to measure effectiveness of interventions.
Activation of Formaldehyde Medical Surveillance program including education, counseling and symptom reporting logs.	Acquisition of additional space to decant cutting room volume.
Review and revision of all operating procedures and trainings.	Allocation of funding to design and build “state of the art” location & team charged to ID design.

Results/Progress to Date



Lessons Learned

- Although exposure levels and symptoms varied, it was important to implement as many engineering and other controls to reduce levels to the lowest possible.
- While the grossing/cutting room was the highest priority, we want to be sure that other areas where formaldehyde/other vaporizing chemicals (e.g. xylene) are being used are also addressed.

Next Steps

- Design and renovation of area underway with completion expected by summer 2017.
- Assess other areas that have similar indoor environmental issues e.g. morgue, histology and tissue processing rooms.
- Continue to monitor exposure levels of staff to make sure interventions are effective.

