

Indoor Air

The College recognizes the impact that indoor air quality (IAQ) has in the workplace. In an effort to provide the community with the optimum level of indoor air quality, the Environmental Health and Safety Office has developed an indoor air quality program. The objectives of this program include the following:

- Prevent illness and adverse health symptoms associated with poor indoor air quality
- Respond to indoor quality complaints effectively and to make recommendations for improvement;
- Maintain indoor air quality within acceptable levels according to consensus guidelines.

Overview: The Office of Health and Human Services with the MA Department of Public Health states “indoor air quality problems generally fall into three general categories:

- Heating, ventilating, and air-conditioning (HVAC) operations;
- Indoor microbial growth indoors
- Indoor/outdoor sources of respiratory irritants/vapors/gases/particulates.”

Specific regulations have not been developed for IAQ in the workplace, however, EHS does consider recommendations from the American Conference of Governmental Industrial Hygienists, the American Industrial Hygiene Association and the American Society of Heating, Refrigeration and Air Conditioning. We also use OSHA and EPA regulations and guidelines.

Symptoms that can be associated with poor indoor air quality include irritation of the eyes, nose, and throat; headaches; dizziness; and rashes. Additionally, according to OSHA, poor indoor air can be linked to muscle pain and fatigue, asthma, hypersensitivity and pneumonitis.

IAQ Investigation Early identification is important for addressing indoor air quality. Occupants with IAQ concerns should submit an IAQ Questionnaire. Be sure to notify your supervisor of the situation.

- **Phase I Assessment** The first step in a typical IAQ investigation

is a Phase I or preliminary assessment. Phase I assessments include interviewing occupants using an employee questionnaire and occupant diary and performing a walk-through inspection of the building or area of complaint. The questionnaire is used to obtain information about the nature of the employee complaints and symptoms and also to determine the magnitude of the problem. During the walk-through, building ventilation systems are evaluated and potential sources of contamination are identified. If the immediate cause or source cannot be found, a Phase II assessment is required.

- **Phase II Assessment** During a Phase II assessment, common indoor air quality parameters including temperature, relative humidity, and carbon dioxide levels are measured.
- **Phase III Assessment** A Phase III Assessment is performed when a definitive cause for the symptoms cannot be determined during the Phase II Assessment of the investigation. Phase III Assessments consists of extensive and more specific monitoring and sampling for chemical and/or microbial contaminants. Environmental Health and Safety often contracts Phase III Assessments to Professional Indoor Air Consultants.

IAQ During Construction and Renovation Projects Construction and renovation projects present a variety of situations which may release contaminants and pollutants that can impact the IAQ of a building. They may be transported to other areas via the heating, ventilation and air conditioning system and affect populations beyond the immediate project area. Advance planning by Project Managers, appropriate contract language, material review and selection, and effective control strategies combined with proactive communication can successfully control pollutant levels, allay concerns, and maintain occupant comfort during and after construction activities.

Prevention Many IAQ issues can be avoided. Timely maintenance, building repair and the rapid response to water intrusion into a building can prevent an issue from occurring. Occupants also have a responsibility to report situations and to use buildings as designed. Other ways to maintain a healthy environment include:

- No smoking in College buildings or in close proximity to building ventilation systems (e.g. an air intake).
- Prohibition of hazardous chemical use without proper training,

authorization and equipment.

- Many experts suggest the use of common house plants to remove contaminants from indoor air.

The EHS Office is available to work with building occupants, maintenance and project managers to control and or eliminate contaminants, sources and hazards that may impact IAQ.

For more information contact the EHS Office at x 3882 or at showard@wellesley.edu.

Resources:

American College of Occupational & Environmental Medicine statement on: Adverse Human Health Effects Associated with Molds in the Indoor Environment. October 27, 2002.

Centers for Disease Control & Prevention. Air Pollution and Respiratory Health.

OSHA Safety and Health Topics: Indoor Air Quality

MA Office and Health & Human Services. Indoor Air Quality

Environmental Protection Agency: Indoor Air Quality