



ADVOCATE'S GATEWAY

Occupational Health Clinics for Ontario Workers (OHCOW), Sudbury, Ontario

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INDUSTRIAL HYGIENE SAMPLING

Different industrial hygiene sampling techniques are used to either find out the source of hazards or estimate the personal exposure of a worker to a contaminant. There are many factors which can affect sampling and should be discussed before actually doing it. In an ideal situation these factors should be discussed between management and worker representatives to achieve greater levels of trust on the outcome of the Industrial Hygiene survey or sampling. The same factors could also be used in retrospective exposure assessments to evaluate the appropriateness of the sampling results. So, before sampling one should determine why, when, what, who, and where to sample and how, how many, and how long to sample. This is usually known as the 5 Ws and 3 Hs of Industrial Hygiene sampling.

Why should you sample? It is important to determine why one is doing sampling. It could be done to identify the source of the hazards or in response to workers complaints/symptoms. Sampling can also be done to measure the effectiveness of engineering controls/new processes or for compliance. Industrial Hygiene sampling techniques change with the purpose of the sampling, e.g. an area grab sample or direct reading which is used to check effectiveness of an engineering control can not be used to evaluate workers' exposure.

What to sample? It depends on the preliminary survey. There are different types of samples such as bulk, area, or personal sample which could be obtained by different methods for different durations (short term, whole shift etc.). Moreover, these samples can be taken in different working conditions such as worst case or regular work shift to represent the actual exposure of a worker. The selection of sampling type and the time of sampling relied upon the purpose of sampling. For instance, to check peak exposure of a worker, a short term (STEV) personal sample for 15 minutes should be taken.

Who, When, and Where to sample? Affected or potentially exposed workers should be selected for sampling if the purpose is to find out the source or cause of the complaints, otherwise workers could be selected randomly. Intensity of occupational exposure can vary with working conditions, weather, work practices, and engineering controls, etc. It should be ensured that the samples are taken at times when the workplace variables does not effect the workers' exposure or the exposure is high. All the factors which effect the sampling strategy or reduce or increase the intensity of exposure should be recorded along with the sampling results for more realistic interpretation of the results.

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REDUCING THE HEALTH RISKS OF SNOW SHOVELING

For many Canadians shoveling snow is a regular winter activity that provides the chance to get outside and exercise during the long winter months. However, it can also be extremely strenuous on the body. Each year there is an increased number of fatal heart attacks among individuals shoveling snow after heavy snowfalls, especially at the beginning of winter. There are also many injuries sustained to the back and shoulders from improper lifting techniques, particularly when lifting too much snow.

It is important to avoid caffeine and nicotine before, and during shoveling as they place extra stress on the cardiovascular system. Avoid large meals to decrease the likelihood of cramps and drink water prior to and during shoveling. Dress in multiple layers so that you can remove a layer as your body temperature rises. Proper footwear is also important as it helps to minimize the risk of slips and falls.

Plastic shovels are recommended because they are lighter, and reduce the amount of stress placed on the back and shoulders. Ergonomic style shovels (with the bent shaft) are also a great option since they decrease the amount of forward bending. *When choosing a shovel, ensure that the handle is set at mid chest level.*

While a snow blower seems like a better option, they can place extra strain on the cardiovascular system, shoulders, and back - much like shoveling. Avoid lifting snow blowers, set a safe speed (if self-propelled), do not remove more snow than the machine can handle and avoid uneven ground (can tip the machine, or put extra strain on the operator). *Use your snow blower properly to avoid injuries this winter!*

To help avoid injury, here are some important points to follow while shoveling:

- Warm-up and stretch. For example, walk around the block, walk some stairs, or take a warm shower and then stretch before any shoveling is started.
- Take a 2-3 minute break for every 15 minutes of light shoveling. Know when to stop - if you start experiencing shortness of breath, pain, or discomfort from shoveling take a long break, or get someone else to finish your shoveling.
- Use a large blade shovel (about 20" wide) to push snow and a smaller shovel for lifting (about 12-14" wide). Only half-fill the shovel when lifting. *Wet and compacted snow can become extremely heavy!*
- Never twist when throwing snow and avoid throwing snow too far.
- Do not hold your breath when lifting, breathe out when lifting and throwing.
- Ask for help if there is a large accumulation of snow.
- Give yourself the proper amount of time to remove snow.
- Drink fluids (ie. Water, Gatorade, etc.)
- Have a plan for removing snow this year!

Article written by Ergonomist, Steve MacDonald and Laurentian University 4th Year Kinesiology Student Matthew Felton

INDUSTRIAL HYGIENE SAMPLING—CONT'D

How, how many, and how long to sample? The procedure or method of sampling depends on the type of material or equipment used and the analytical method followed. There are guidelines and analytical methods which specifies the type of equipment to be used to measure a particular type of contaminant. The number of samples depends on the purpose of doing the industrial hygiene survey, for instance, if the sampling is done for comprehensive exposure assessment then 6 samples per exposure group should be collected if possible. In compliance testing workers at potentially high risk should be selected for sampling. There are no regulations which specify the number of samples to be collected in a particular situation. Therefore, the number of samples highly depends on the professional expertise or judgment call of an industrial hygienist.

However, enough samples should be collected to fulfill the purpose of sampling and to also represent the exposed group or population. Duration of sampling depends on the legislative requirements, limit of detection of the analytical instrument, and type of sample (direct reading or full length sample). For analytical purposes, there is a minimum volume of air specified in the sampling guidelines, which must be collected, to do analysis. Samples could be full shift, grab sample, short term (15 mins), and direct readings. Again, selection of any of these sample types depends on the purpose of the sampling. For instance, usually a full shift sample is required for compliance purposes and a 15 mins sample is required to check the peak exposure during a shift.

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INDUSTRIAL HYGIENE SAMPLING—CONT'D

All the above mentioned elements are the main components of an industrial hygiene survey strategy. All these components should be discussed in a Joint Health and Safety Committee meeting before initiating any sampling. Moreover, workers should be involved in this whole process and their input should be regarded since they can provide first hand information about the exposures.

Article written by Occupational Hygienist, Masood Ahmed

HOLD THE DATE—RSI DAY PLUS 2010

The Occupational Health Clinics for Ontario Workers – Sudbury Clinic will host RSI Day Plus 2010.

agenda, including a list of presentations and speakers. Mark your calendars for this day and we hope to see you at the event or attending online.

The 11th annual event will be a half day session on February 26th, 2010 at the Cambrian College e-Dome in Sudbury.

The event will be broadcast over the internet and there are seats available in the audience for those within Sudbury and area.

The event is free to workers, employers, unions, advocates and the general public. Direct your web browser to OHCOW Sudbury's website in January to find out the full

OHCOW FILE REVIEW UPDATES

Did OHCOW provide a report or information (hygiene, ergonomic or medical) for your client? Do you know if the case won or lost? We are always striving to improve our services; therefore, we want to know if OHCOW assisted with a file whether it won or lost. The outcome is very important to OHCOW, you, and the workers you represent. This will allow us to maintain high standards while providing quality reports and information for you and your clients. Please send file updates by email at Sudbury@ohcow.on.ca or via fax (705) 523-2606. To maintain confidentiality, we ask that you leave out the client's name unless you have a signed consent. Thank you for your help.

WHY DO THIS NEWSLETTER....?

In our catchment area, we are hearing from many advocates that they are feeling isolated. In providing this newsletter, OHCOW is striving to reduce this isolation, and enhance communication networks amongst advocates and OHCOW. It is hoped that OHCOW can provide more support to each advocate by providing up-to-date information.

OHCOW — WHO WE ARE? HOW & WHO CAN WE HELP?

OHCOW is a valuable occupational health related resource that is available to your members at no cost. The Occupational Health Clinics for Ontario Workers (OHCOW)

We're on the web!
<http://www.ohcow.on.ca/clinics/sudbury/>

were established in 1989 and are funded by the Workplace Safety and Insurance Board (WSIB). There are clinics in Hamilton, Toronto, Sarnia, Windsor and Sudbury. Staffed by a multi-disciplinary team of specially trained occupational health doc-

tors, occupational health nurses, occupational hygienists, ergonomists, researchers, and administrators, each OHCOW clinic provides comprehensive occupational health services and information. Our mandate is the prevention of occupational illnesses and injuries. We do this through the

identification of the causes which have led to illnesses and injuries. This also provides us with a window into the workplace.

In order to carry out our work we partner with, among others, public health officials; universities; the Ministry of Labour; the Ministry of Health; the Workplace Safety and Insurance Board (WSIB); and organizations such as cancer coalitions. OHCOW works with medical and nursing schools to, provide occupational education to medical and nursing students. We also work with unions holding clinics for workers about illnesses which they think might be work related. In short, we have the experience, the knowledge and the credibility to assist you.

OHCOW SUDBURY WEBSITE

Did you know that OHCOW Sudbury updates its website on a monthly basis? Each month features a new article written by an OHCOW staff member on current issues within occupational health and safety.

studies, research projects, staff biographies, games & tests, past articles on health and safety issues, and information on education seminars that OHCOW offers.

Check it out!!!

The website also contains information regarding past case

<http://www.ohcow.on.ca/clinics/sudbury>

WHAT DO YOU THINK?

We welcome feedback for generating topics that would be of interest to advocates. Please forward any questions or suggested topics to covered in future issues either by e-mail, phone or fax by using the contact information below.

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Occupational Health
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 Workers Inc.

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 des travailleurs (ses)
 de l'Ontario Inc.