

# **MEDICAL SURVEILLANCE - CHOLINESTERASE**

## **INTRODUCTION**

The Cholinesterase Surveillance Program is a mandatory employee health monitoring program. The objective of this program is to ensure that working with cholinesterase-inhibiting compounds such as organophosphate and carbamate pesticides is not adversely affecting the health of workers, by measuring the cholinesterase levels in blood.

## **SCOPE**

All employees (staff, faculty, post-doctoral scholars) who work with organophosphate or carbamate pesticides are required to have their cholinesterase level determined before assuming their duties. This requirement includes both new employees (staff, faculty, post-doctoral scholars) and employees (staff, faculty, post-doctoral scholars) transferred from other duties which did not previously include working with pesticides.

## **CRITERIA**

Red blood cell (RBC) cholinesterase is measured. Baseline blood samples should be taken annually pre-season (e.g. at a time when the worker has not been working with organophosphate or carbamate pesticides preferably for at least 30 days). The requisition should be clearly marked "baseline".

Repeat RBC cholinesterase testing should be done post-season. The requisition should be clearly marked "post-season"

## **POST-EXPOSURE PROTOCOL**

If a worker reports that s/he was exposed to organophosphate or carbamate pesticide during work, a blood sample should be sent for both serum cholinesterase and RBC cholinesterase testing as soon as possible.

## **METHODS/PROCEDURES**

Supervisors and faculty are required to forward a list of names of employees (staff, faculty, post-doctoral scholars) who work with organophosphate or carbamate pesticides to Occupational Health & Wellness each year pre-season. Requisitions are given to those employees (staff, faculty, post-doctoral scholars) and they must attend at a lab of their choosing to have bloodwork drawn pre-season, post-season and if necessary, post-exposure. The results are forwarded to Occupational Health & Wellness at the University of Guelph, Alexander Hall Bldg. 31, Rm. 179. The Occupational Health & Wellness physician reviews these results so that Occupational Health & Wellness can follow up with employees (staff, faculty, post-doctoral scholars) who have significant changes or abnormalities in their results.

## **RESPONSIBILITIES**

### OCCUPATIONAL HEALTH PHYSICIAN

- Provide medical consultation following University procedures for abnormal results, injury/incident reporting and exposure management as required.

### OCCUPATIONAL HEALTH AND WELLNESS (OHW)

- Communicate with stakeholders/supervisors to obtain pesticide/insecticide product and user list annually.
- Distribute requisitions with instructions for pre-use, post-use and exposure testing
- Review results and provide follow up communication with supervisor and workers when required: Clearance to start use, follow up for unsatisfactory post-use results or exposures.
- Provide restrictions to Supervisor and worker that may arise out of an exposure.
- Receive and maintain records according to standard medical practice.

### SUPERVISORS

- Ensure all personnel whom they supervise and who are going to be using pesticides/insecticides with cholinesterase inhibitors participate in cholinesterase surveillance.

- Prior to conducting any pesticide/insecticide related activities, ensure that personnel have obtained pre-use testing and have communication from OHW indicating that they are clear to begin use.
- Ensure compliance with any restrictions arising from exposure.
- Cover the costs associated with any examinations, clinical testing, etc. that must be outsourced from the University.

### **UNIVERSITY PERSONNEL USING CHOLINESTERASE INHIBITING PRODUCTS**

- Participate in cholinesterase surveillance testing as applicable.
- Notify Occupational Health and Wellness and supervisor of any significant changes in health status that they may attribute to particular pesticide exposure.
- Report any suspected incidents as per University incident reporting procedures.
- Follow any restrictions arising out of the surveillance program for work.

### **INCIDENT MANAGEMENT**

All incidents shall be reported using the University's incident reporting process.

OHW and the Occupational Health Physician are available for consultation for personnel that have had a suspected exposure and/or incident to organophosphate or carbamate pesticides.

### **RECORDS MAINTENANCE**

All personal medical records are maintained confidentially according to accepted medical practice by Occupational Health and Wellness.