

Pesticide Poisoning

1. DISEASE REPORTING

A. Purpose of Reporting and Surveillance

- To identify high-risk pesticides and use practices
- To identify targets for intervention and prevention activities
- To inform the policy and prevention efforts at state, local and federal levels
- To provide education and support for physicians and other health care providers

B. Reporting Requirements: hospitalized, fatal, or cluster

- Health care providers: **immediately** notify DOH Pesticide Program
- Hospitals: **immediately** notify DOH Pesticide Program
- Laboratories: no requirements for reporting
- Local health jurisdictions: educate health care providers regarding reporting requirements to the State

C. Reporting requirements: all other pesticide poisoning illnesses

- Health care providers: notify DOH Pesticide Program within 3 working days
- Hospitals: notify DOH Pesticide Program within 3 working days
- Laboratories: no requirements for reporting
- Local health jurisdictions: educate health care providers regarding reporting requirements to the State

DOH Pesticide Program Reporting Information

Telephone: 800-222-1222 (Poison Center, by agreement for 24-hour access)
877-485-7316 (DOH Mon.-Fri. 8-5)

2. THE DISEASE

A: Etiologic Agents

A pesticide is any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest; and any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant and any nitrogen stabilizer. Pesticides include herbicides, insecticides, rodenticides, fungicides, wood treatment products, and antimicrobials (disinfectants and sanitizers). Pesticide products contain both “active” and “inert” ingredients. An active ingredient prevents, destroys, repels, or mitigates a pest, or is a plant regulator defoliant, desiccant, or nitrogen stabilizer. All other ingredients are called inert ingredients by federal law. They are important for product performance and usability. Legally, pesticides used in Washington State must be registered by the U.S. Environmental Protection Agency (U.S. EPA) and the Washington State Department of Agriculture. Registration includes labeling requirements and descriptions of allowable uses.

B: Identification

Pesticide related illnesses often have clinical manifestations similar to other common medical conditions (influenza, cold). An exposure and occupational history are critical for diagnostic, therapeutic,

rehabilitative, and public health reasons. An adequate history is needed to determine an environmental or occupational exposure that could cause the illness or exacerbate an existing medical condition. It is also very important to obtain information on pesticide products to which the patient may have been exposed. It is also recommended that the following be obtained:

- Pesticides labels are required by the Environmental Protection Agency. The label provides the Registration Number that is very helpful when contacting the Poison Control Center (1-800-222-1222) or the National Pesticide Telecommunications Network hotline (1-800-858-7378) for assistance. Contact with the Poison Control Center also fulfills the health care provider's responsibility to report to DOH.
- Material Safety Data Sheet (MSDS) all manufacturers are required to provide an MSDS for any chemicals they produce or import. Employers are required to keep copies of MSDS. They will contain material identification, ingredients and occupational exposure limits, and data on the following characteristics: physical fire and explosion, reactivity, health hazards, special protection as well as spill, leak, and disposal procedures, and special precautions and comments.

General management of acute pesticide poisonings must consider decontamination of skin concurrent to resuscitative and antidotal measures that are indicated. Caregivers should avoid direct contacts with contaminated clothing and vomitus. Rubber gloves are recommended over other types of gloves.

Pesticide exposure can be acute or chronic.

- Acute disease
 - Effects vary, depending upon the class of chemical
 - The latency period varies with the product and dose. The acute effects of pesticide exposure may occur within seconds or up to 12 hours after an acute exposure.
- Chronic disease
 - Low-level chronic exposure to pesticides may manifest only after days, weeks, or years of exposure. The latency period for chronic health effects associated with pesticide exposure varies with the specific chemical and the effect.
 - Investigation of chronic health problems resulting from pesticide exposures is outside the scope of WADOH's current pesticide surveillance program.

C: Sources and Routes of Exposure

In general, pesticide exposure is through ingestion, inhalation, skin absorption, injection (very rarely) or ocular contact, depending on the product's chemistry, physical form, and method of application. Many exposures involve multiple routes of exposure.

- Exposure can result from spills or not having the right protective gear while mixing, loading or applying pesticides.
- Drift from aerial application or air-blast spraying to nearby workers or bystanders is also common, as these application methods are difficult to control.
- Touching residue or inhaling pesticides remaining in the air after an application can lead to an exposure. Intentional and accidental ingestion in the home environment is a common route of exposure. Eating fruit or vegetables inappropriately treated with pesticides also causes outbreaks of illness.

D: Pesticide-related Illness in Washington State

Washington is one of several states that actively tracks and investigates pesticide-related illnesses. From 2018-2022, DOH investigated 573 cases of pesticides illness in the agricultural environment and 987

cases in the non-agricultural environment. Approximately 33% of all identified cases occurred among workers in agricultural settings

3. CASE DEFINITIONS

Case Definitions for Surveillance

For reporting purposes, “pesticide poisoning” includes any suspected or confirmed illness or condition related to pesticide exposure. Pesticide poisoning" means the disturbance of function, damage to structure, or illness in humans resulting from the inhalation, absorption, ingestion of, or contact with any pesticide.

- Concern about a possible human exposure
- Documented or suspected human cases of pesticide poisonings
- Suspected pesticide poisoning of animals that may relate to human illness
- Potentially moderate/high severity illness
- Emergencies relating to pesticides that represent an imminent and/or future hazard to the public and/or labor force due to the toxicity of the material, quantities involved, or the environment in which the event occurs

Cases are classified consistent with the guidelines established by the National Institute Pesticide Poisoning for Occupational Safety and Health (NIOSH). Such cases have a reasonable link between the reported or proven exposure and the symptoms experienced.

Evaluation of each pesticide case hinges on documentation of exposure, documentation of health effects and evaluation of a causal relationship between the exposure and the health effects

4. METHODS OF CONTROL

Preventive Measures

- Use of personal protective equipment (PPE) such as respirators, goggles, rubber boots, and gloves with emphasis on maintenance of equipment
- Use of appropriate clothing to minimize for both occupational and non-occupational exposures
- Decontamination of patient and laundry clothing prior to contact with family members and others
- Education about safe use of pesticides with emphasis on reading the label, secure storage, and importance of not allowing children to have contact with pesticides
- Compliance with Restricted-Entry Intervals (REIs)

5. Update Log

December 2022: For 2023 WAC revision combined provider and facility reporting requirements. Updates to sections: 1. The Disease, 2. The Disease, and 3. Case Definitions.

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