

Wasping in Michigan Correctional Facilities: Exposures to Correctional Workers and Incarcerated Persons, 2023 and 2025 – Case Reports

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medical treatment, manuscript writing, funding. Individual medical records are not available due to confidentiality and HIPAA considerations. Strengthening the reporting of observational studies in epidemiology STROBE guidelines and CARE guidelines for case reports were followed as applied to this case report study. AI was not utilized in any stages of program development, data collection, data evaluation, or manuscript preparation.

This investigation was determined by both the Michigan Department of Public Health and the Michigan State University Institutional Review Board (IRB) to be non-research public health surveillance and therefore did not require IRB approval.

Waspings in Michigan Correctional Facilities

ABSTRACT

“Wasping” is an emerging trend where pyrethroid-based insecticides are intentionally inhaled. Michigan’s pesticide surveillance program identified events in Michigan wherein correctional officers and incarcerated persons required medical evaluation at local hospitals after “wasping” exposures. Michigan’s pesticide surveillance program reviewed case reports involving acute pesticide exposures. Demographic characteristics, signs and symptoms, and clinical outcomes were evaluated and described for each exposed correctional officer and incarcerated person. Reports identified eleven separate events at eight different Michigan correctional facilities where a total of five correctional officers and nine incarcerated persons experienced illness after being exposed to smoke from incarcerated persons “wasping” in 2023 and 2025. Awareness of the multiple routes of obtaining pyrethroid products for incarcerated persons and tailoring a prevention plan based on facility policies is crucial to protecting the health of incarcerated persons and correctional workers.

Keywords: Wasping, Insecticides, Correctional facility, Occupational health, Case report

Learning Outcomes:

- Identify the various ways incarcerated persons might obtain pyrethroid products.
- Evaluate health and safety policies within correctional facilities in terms of incarcerated persons’ access to pyrethroid products.

INTRODUCTION

News reports have highlighted the emerging trend of “wasping” where pyrethroid-based insecticides are sprayed onto paper or other drugs before being inhaled (1-3). When smoked, there is potential for secondhand exposure. Toxicological effects of ingesting or inhaling pyrethroids include hyperexcitation, a tingling sensation, headache, nausea, vomiting, dizziness, respiratory and digestive tract irritation, coughing, shortness of breath, wheezing, and seizures (4,5). A case report of intentional use mentioned the user claimed to feel a “rush” (6). A study in rural Appalachian Kentucky found people who recently experience homelessness and transportation difficulties were statistically more likely to have engaged in “wasping” compared to other opioid or injection drug users (7).

People who use drugs and are incarcerated might continue to seek drugs and, depending on availability, use alternative substances while incarcerated. Mail in Michigan correctional facilities is inspected for stains, oils, or other unknown substances; however, letters infused with wasp spray might remain undetected by visual inspection. Other sources include the theft of insecticides stored in a correctional facility, obtaining sprayed paper or products from workers who apply insecticides within the facility, and access by incarcerated or detained persons (IDPs) who work outside of the secure facility as part of a correctional work program. Additionally, the Michigan Department of Corrections is aware of drones dropping contraband onto correctional facility property. Michigan’s state acute pesticide-related injury and illness surveillance program has identified two events in 2023 in which a total of 5 correctional officers at the same Michigan correctional facility developed symptoms temporally related to IDPs “wasping”. An additional nine events in 2025 were reported to Michigan’s pesticide surveillance program in which IDPs developed symptoms after “wasping”. In Michigan, correctional facilities have four levels of

security, Level I (least secure), II, IV, and V (most secure), with potential access varying by security level.

METHODS

Michigan Public Health Code requires Michigan medical providers, including the Michigan Poison and Drug Information Center* (poison center), emergency medical services (EMS), Workers' Disability Compensation Agency (WDCA) claims, physicians, hospitals, and emergency departments (EDs) to report cases of pesticide exposure to the state's pesticide surveillance program. Michigan's acute pesticide-related illness and injury surveillance program is operated by the Division of Occupational and Environmental Medicine at Michigan State University as a bona fide agent of Michigan's Department of Health and Human Services. The goal of the program is to track acute pesticide exposures that occurred both at work and at home to help prevent future illness and injury. The reporting requirements and operation of Michigan's acute pesticide-related illness and injury surveillance program was also recently outlined in a Centers for Disease Control and Prevention (CDC) Morbidity and Mortality Weekly Report (MMWR) describing pesticide exposures to solar panel workers during two different agricultural applications (8).

Demographic characteristics, signs and symptoms, and clinical outcomes were evaluated and are described. Information about the nature of the pesticide exposure beyond what was reported in the medical records was not available. The severity of the symptoms/illness for each incident was classified based on the National Institute for Occupational Safety and Health (NIOSH) severity index for use in state-based surveillance of acute pesticide-related illness and injury (9). This investigation was determined by both the Michigan Department of Public Health and the Michigan State University Institutional Review Board (IRB) to be non-research public health

surveillance and therefore did not require IRB approval. Strengthening the reporting of observational studies in epidemiology STROBE guidelines and CARE guidelines for case reports were followed as applied to this case report study (see STROBE checklist, Supplementary File S1, <http://links.lww.com/JOM/C392> and CARE checklist, Supplementary File S2, <http://links.lww.com/JOM/C393>). All ED and EMS medical records were requested and reviewed by a physician board certified in internal medicine and occupational and environmental medicine.

RESULTS

Correctional Officer Exposure Event A

Event A occurred in August 2023 at a male-only state prison with Level II and V securities when a male correctional officer in his 40s confiscated paper that an IDP was attempting to smoke. The correctional officer extinguished the burning paper and brought it to his office where he and a second correctional officer in his 30s noticed a smell and that smoke was filling the room. The officers believe they were exposed to wasp spray on insecticide-soaked paper letters that were sent to IDPs via the mail. These exposures were identified through the WDCA. One of the two officers agreed to be interviewed about the exposure. ED medical records were reviewed for both officers.

One officer developed shortness of breath, a cough, chest tightness, dizziness, a headache, tingling in his hands, nausea, and vomited once. The second officer developed nausea, dizziness, and a headache. Both officers were evaluated in an ED on the day of the exposure. The chest radiographs and electrocardiograms of both officers were normal. Both officers received symptomatic treatment of their headaches and were discharged from the ED the same day after

their symptoms resolved in the ED. Both correctional officers' exposures were classified as having a low severity illness.

Correctional Officer Exposure Event B

Event B occurred in October 2023 at a male-only state prison with Level II and V securities (the same facility as Event A) when a male correctional officer in his 40s and a male and female correctional officer in their 30s observed smoke coming from an IDP "wasping" in his cell. This exposure was reported by the poison center. Two of the three officers exposed agreed to be interviewed about the exposure. ED records were reviewed for all three exposed correctional officers.

The first correctional officer developed lightheadedness and a headache. The second correctional officer developed dizziness, confusion, and a headache. The third correctional officer developed dizziness, nausea, shortness of breath, wheezing, and chest tightness. All three officers sought medical attention in the same ED on the day of the exposure. The ED physician consulted with the poison center. For both the first and second officer, routine blood count and measures of kidney and liver function were normal. The first and second officers' symptoms resolved without treatment, and they were discharged from the ED. The third officer who presented with respiratory symptoms had a history of asthma. The third officer's routine blood count and measures of kidney and liver function, electrocardiogram, and chest radiograph were normal. A bronchodilator and corticosteroid were administered to the third officer. The third officer was discharged from the ED the same day after their symptoms improved. The first correctional officer was classified as having a low severity illness. The second and third correctional officers were each classified as having a moderate severity illness.

Incarcerated Persons Exposure Events

Nine IDPs were treated for suspected “wasping” exposure between March and October 2025 at eight separate Michigan correctional facilities. All nine IDPs required EMS transportation to the ED. Medical records including EMS, ED, and poison center records were reviewed. No attempt was made to interview the IDPs.

The first IDP in his 30’s was found apneic and pulseless in his cell in March 2025 at a male-only state prison consisting of Level I, II, and IV securities. The medical record stated that the IDP had smoked a pyrethroid insecticide and fentanyl, but it is unknown who identified this. He was resuscitated with cardiopulmonary resuscitation, Narcan, and epinephrine in his cell 20 minutes after being discovered. He was intubated at the ED and admitted to the intensive care unit. He never regained consciousness. He had a history of chronic kidney disease, insulin dependent diabetes, and hypertension. After consultation with the family, he was extubated and died on the 6th day of hospitalization. He was classified as having a high severity illness.

The second IDP in his 50’s was found somnolent with drug paraphernalia in June 2025 at a male-only Level II security state prison (same facility as the sixth IDP exposure described below). The nurse at the correctional facility believed the IDP smoked K2 (a synthetic cannabinoid) or a pyrethroid insecticide. He was given one dose of Narcan and became more arousable. He was given three more doses of Narcan and was noted to be confused, short of breath, had dilated pupils, and tachycardia. By the time EMS arrived, his symptoms had resolved. Vital signs were normal in the ED, where the IDP denied using any drugs and refused any treatment. He was classified as having a moderate severity illness.

The third IDP in his 30’s was in his cell combative and then unresponsive in June 2025 at a male-only state prison with Level I and V securities. A blue powder was found in his cell. Some

insecticides and rodenticides contain blue dye to indicate where the product has been applied. He was tachycardic and only responsive to painful stimuli. He was initially noted to be hypoxic. A computed tomography scan showed a pneumomediastinum and a small right and a trace left pleural effusion. He received antibiotics and was hospitalized for five days. He had a history of asthma treated with inhalers. He was classified as having a high severity illness.

The fourth IDP in his 30's went for a medical checkup in the correctional facility, and the nurse found his blood pressure to be low (approximately 60/40 mmHg) in July 2025 at a male-only state prison with Level I, II and IV securities. The IDP stated he had smoked "bug spray paper" the prior night. The IDP denied any symptoms other than a headache. He had a history of having surgery for congenital heart disease. EMS transported the IDP to the ED where he was released after an electrocardiogram was performed, which was consistent with his heart disease and his blood pressure was normal. He was classified as having a moderate severity illness.

The fifth IDP in his 40's had a syncopal episode and was unresponsive with pinpoint pupils in his cell in August 2025 at a male-only state prison with Level II and V securities (same facility as correctional officer exposure Events A and B above). Correctional officers responding to the incident indicated this incident was similar to previous exposures among inmates who smoke wasp spray. The IDP did not respond to five doses of Narcan and was transported to the ED. He was discharged and returned back to the prison after he had normal computed tomography imaging of his head and abdomen and normal spine radiographs. He was classified as having a moderate severity illness.

The sixth IDP in his 30's was found unresponsive and twitching in his cell with a lighter in his hand in August 2025 at a male-only Level II security state prison (same facility as the second IDP exposure described above). After spontaneously regaining consciousness, he admitted to

smoking an unknown substance. The correctional facility staff stated this exposure was similar to previous exposures within the facility where a mixture of a wasp spray, bleach, and fentanyl was being smoked. The IDP was transported to the ED where he admitted to smoking “two pain pills”. He was discharged from the ED after his vital signs and physical were assessed to be normal. He was classified as having a moderate severity illness.

The seventh IDP in his 60’s was found in a housing unit on the floor near his bunk area going in and out of consciousness with a pipe next to him in September 2025 at a male-only Level I security state prison. This correctional facility is intended for IDPs nearing parole or reentry into the community. The IDP admitted to smoking pesticide-soaked paper in the bathroom then walking to his bunk where he was found. The correctional facility nurse determined he had low oxygen saturation and administered oxygen. He was transported to the ED where he admitted to feeling lightheaded before losing consciousness. He initially had an elevated blood pressure. He was released from the ED after electrocardiogram and cardiac monitoring returned normal results. He was classified as having a moderate severity illness.

The eighth IDP in his 30’s was found confused and walking around by correctional officers in September 2025 at a male-only state prison with Level I, II, and IV securities. In the in-facility medical office, he was found to have dilated pupils and a heart rate in the 170s. He admitted to smoking paper laced with K2, methamphetamine, and wasp spray. He was transported to the ED where he was unable to ambulate, notably confused, and had chest pain and rapid eye movements. ED staff consulted with the poison center. Blood tests and an electrocardiogram were normal. Drug testing for amphetamine, barbiturates, fentanyl, opioids, and THC were negative. He was discharged after improvement of his symptoms. He was classified as having a moderate severity illness.

The ninth IDP in his 40's was found rolling on the floor near a bunk in October 2025 at a male-only Level II security state prison. When approached, he became agitated and violent and would not respond to questions regarding substance use or symptoms. Responding correctional officers reported to hospital staff that the IDP and other IDPs have been spraying wasp spray on paper, allowing it to dry, and then smoking it. He was transported to the ED and discharged when his symptoms resolved and computed tomography scan of his head, electrocardiogram, and routine blood tests were normal. He was classified as having a moderate severity illness.

DISCUSSION

Michigan's state acute pesticide-related injury and illness surveillance program identified two events in 2023 in which a total of 5 correctional officers at the same Michigan correctional facility developed symptoms temporally related to IDPs "wasping" and additional nine events in 2025 in which IDPs developed symptoms after reportedly "wasping". IDPs engaging in "wasping" intentionally expose themselves and potentially expose other IDPs and correctional workers to smoke containing pyrethroids. There are three identified methods IDPs might use to obtain pyrethroids or paper soaked in pyrethroids; 1) incoming mail, 2) access to pesticides, and 3) drops from drones. Michigan policy allows incoming mail to be opened and inspected in the facility's mailroom. With the large quantity of incoming mail to sort and inspect, it is a challenge to identify a single piece of paper that has been soaked (and dried) in pyrethroids. Written pest management plans in correctional facilities are required by the State of Michigan. If spray or application of a pesticide/insecticide is performed by a correctional worker, an incarcerated worker, or a contracted worker from a pest control company, close supervision of the application process could reduce the possibility of the pesticide being applied over paper products intentionally left along walls, or in corners of cells. Review of procedures to receive (inbound

shipments), secure, inventory, and control the pesticides used in correctional facilities might identify changes needed to ensure that IDPs cannot gain access to the products. Work details outside of the correctional facility present another possible route for pyrethroids to enter the facility either through access to the product directly or through friends/family members of the IDP dropping the pyrethroid soaked paper or wasp spray at a pre-designated location near the IDP work detail. Searches of IDPs after each shift of a work detail assignment should include searches for papers that might be soaked in insecticides. Finally, a review of drone detection procedures might be useful to understand how contraband is dropped in or near the correctional facility perimeter.

The findings in this report are subject to at least five limitations. First, the exposures to both the correctional officers and the IDPs to pyrethroid insecticides were based on IDP's self-reported use as well as correctional facility staff and their communication with IDPs and knowledge of IDP activities. No testing was conducted to confirm the presence of a pesticide. Second, exposures causing medical symptoms that were evaluated or treated only in the correctional medical facility and did not receive care at a local hospital/ED would not be identified by Michigan's pesticide surveillance program. Third, events involving "wasping" that the medical provider at a hospital does not properly identify as being due to a pesticide and/or does not properly record in the medical records will be missed. Fourth, the hospital/ED might not comply with the state's required reporting requirement; none of the five officers exposed in Event A and Event B were reported by the treating EDs. Thus, some exposure events might not be identified in the state's pesticide surveillance system. Fifth, these results are limited to a single state and might not be generalizable to other states, although previous reports have described "wasping" in Texas and Kentucky (6,7). Despite the limitation noted in identifying cases of adverse effect

from “wasping” as well as the news and journal articles reporting “wasping” since 2014 (1,3,6), the cases identified in Michigan correctional facilities since 2023 indicate that “wasping” is a relatively new form of substance abuse of which prison officials, the medical care community, and those engaged in substance use disorder prevention should be aware.

Smoking as the reported method of use for “wasping” among IDPs indicates the possibility of secondhand exposure. Additionally, drug use among IDPs presents a workplace safety risk for correctional workers. Awareness of the multiple routes of IDP access to pyrethroid products and tailoring a prevention plan based on correctional facility policies is crucial to the health and safety of correctional workers and IDPs. Risk of secondhand inhalation of pyrethroids should be included in job hazard analyses for correctional workers. There are no commercially available blood or urine tests for clinicians to measure pyrethroid levels in a patient. Exposure assessment when clinicians are caring for a patient needs to be done by history. Pesticide regulatory agencies have the capability to measure pyrethroids in environmental samples (e.g., paper, dust); however, these results would not be available at the time of the clinical assessment in the emergency department. This report highlights that clinicians need to consider pyrethroid exposure when evaluating patients presenting with hyperexcitation, tingling of the extremities, headache, nausea, vomiting, dizziness, respiratory and digestive tract irritation, coughing, shortness of breath, wheezing, and seizures. This is particularly true in incarcerated persons and correctional workers at correctional facilities.

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<https://www.poison.med.wayne.edu/>

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“Wasping” in Michigan’s correctional facilities has led to illness among incarcerated persons and correctional officers.

“Wasping” is an emerging trend where pyrethroid-based insecticides are sprayed onto paper or other drugs and then lit and inhaled.



Three methods incarcerated persons might use to obtain pyrethroids or paper soaked in pyrethroids are:

- 1) Incoming mail**
- 2) Access to pesticides**
- 3) Drone drops**



Risk of secondhand inhalation of pyrethroids should be included in job hazard analyses for correctional workers.



Patient exposure assessment by clinicians should consider pyrethroid exposure, particularly among patients presenting from a correctional facility.



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