

Keeping health care workers safe from chemotherapy drugs

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Credit: fstop123

Chemotherapy drugs have been used to treat cancer since the 1950s. While the drugs are often lifesaving for cancer patients, they are also linked to reproductive problems, breast cancer and other health issues in

the medical staff who work with the medications. To help protect health care workers, the University of Minnesota School of Public Health conducted a survey to track how chemotherapy drugs are handled in hospitals and identify work surfaces that could be contaminated by them.

The results of the survey, led by Assistant Professor Susan Arnold and Ph.D. student Hannah Kaup, were published in the Journal of Occupational and Environmental Hygiene. The survey is the first step in [ongoing research](#) by Arnold aimed at reducing [medical staff](#) exposure to [chemotherapy drugs](#).

The researchers tracked how pharmacy technicians and nursing staff handled the drugs by visiting two [chemotherapy](#) infusion centers. One center was in a large urban hospital and the other inside a smaller, regional clinic. The researchers chose the clinics to be inclusive of different settings and determine if there were significant differences between how each handled the treatment medications. The researchers focused on identifying surfaces that are frequently touched by staff handling chemotherapy drugs, how long they are touched and by whom.

The survey revealed:

- five surfaces in the pharmacy and six in-patient areas that were frequently contacted while working with chemotherapy drugs;
- a list of surfaces potentially contaminated with chemotherapy drugs that were touched by people who did and did not have gloves on;
- pharmacy technicians were most consistent in how they perform their drug handling tasks;
- nurses were more likely to vary how they handled chemotherapy drugs.

"The nurses work with people who are quite sick and are focused on

providing the best care they can," said Arnold. "They have a lot to keep track of and it's a busy, complicated environment. Plus, nurses may have received different kinds of training from other centers. There can even be conflicting regulations for working with medications and procedures."

The researchers said that, overall, it's important to understand the variability in how chemotherapy drugs are handled because they can help to identify where staff may be exposed to the chemicals. Understanding the variability also reveals whether the exposures are due to staff-to-staff or staff-to-patient interactions, which can provide avenues for enhancing health care worker training.

Arnold is continuing her chemotherapy drug exposure research by partnering with health care organizations to study the handling of chemotherapy drugs more, as well as devise and evaluate practices and training to teach staff to handle the chemicals in safer ways. Arnold is also working on identifying changes in the body that signal chemotherapy [drug](#) exposure, called biomarkers, and understanding the damage that has taken place.

Provided by University of Minnesota

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