

Glove and Gown Use When Administering Antineoplastic Drugs by Pregnant and Non-Pregnant Nurses

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Antineoplastic Drugs



Treatment expanded: Oncology, dermatology, neurology, rheumatology, operating rooms

Antineoplastic Drugs as Carcinogens and Teratogens

International Agency
Research on Cancer

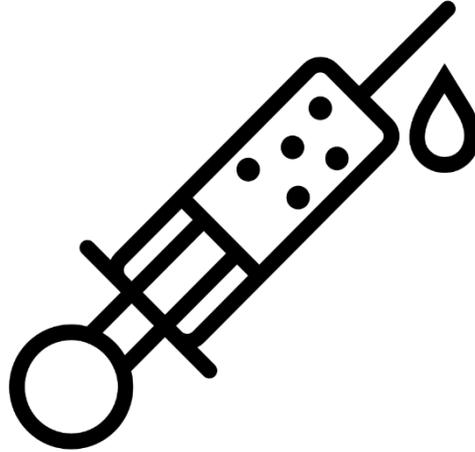


World Health
Organization



Reproductive Epi Studies: Studies of patients versus studies of healthcare workers

Background Literature



Increased Risk: Administration of antineoplastic drugs by pregnant nurses associated with congenital anomalies and miscarriages

Connor TH, Lawson CC, et al. Reproductive health risks associated with occupational exposures to antineoplastic drugs in health care settings: a review of the evidence. *J Occup Environ Med* 2014;56(9):901-10.

NTP Monograph

Developmental Effects
and Pregnancy Outcomes
Associated With Cancer
Chemotherapy Use
During Pregnancy



Conclusions of NTP Monograph:

- Moderate Level of Risk
 - Miscarriage
 - Genetic Toxicity
- Detectible Levels
 - Workers' blood and urine
 - Work environment
- Exposure may be decreasing
 - PPE
 - Safe handling guidelines

Literature: Study Limitations



Data Gap: We need to know the risks for current exposure scenarios

Objectives

- Assess glove and gown use among



- nonpregnant female nurses who had administered antineoplastic drugs within the past month



- pregnant nurses who had administered such drugs during the first 20 weeks of pregnancy

Participants



- U.S. and Canadian nurses and nursing students
- Born January 1, 1965+; ages 18-46 at enrollment
- Open recruitment 2010+
- Registered nurses (RNs), licensed practical/vocational nurses (LPNs/LVNs) and nursing students
- Web-based surveys

Data Collection



Ever/Never administered; frequency and duration

Gloves and gowns: how often in past month worn (always, sometimes, never)

Antineoplastic Drug Administration



**39,124 non-pregnant
nurses**

33.7 mean age

36% ever administered

**27% administered in past
month**

24% 3+ times per week

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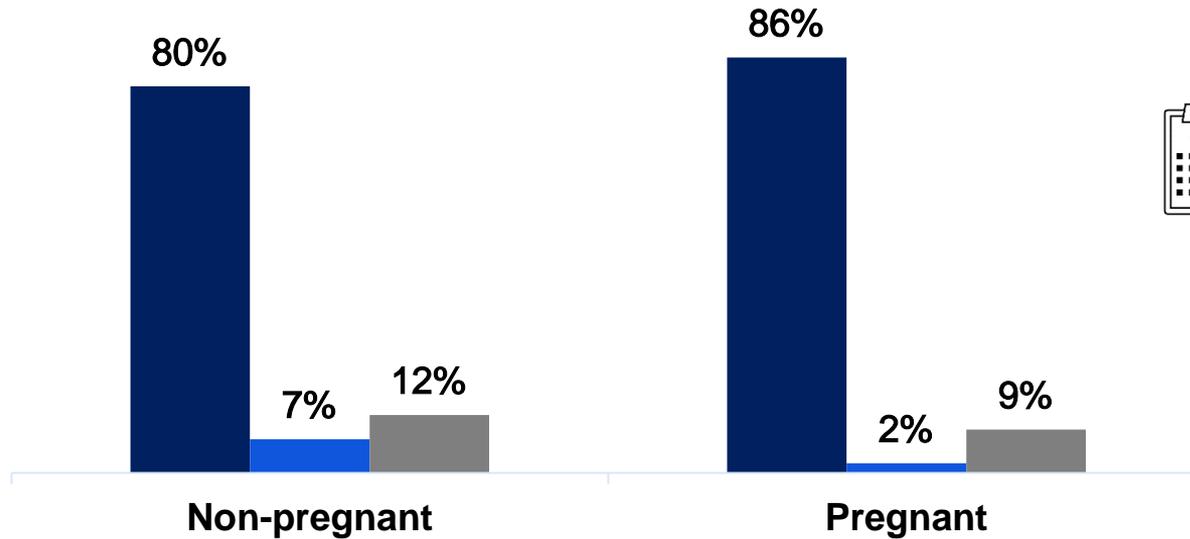
4,269 pregnant nurses

29.5 mean age

**7% administered in first 20
weeks of pregnancy
(n=315)**

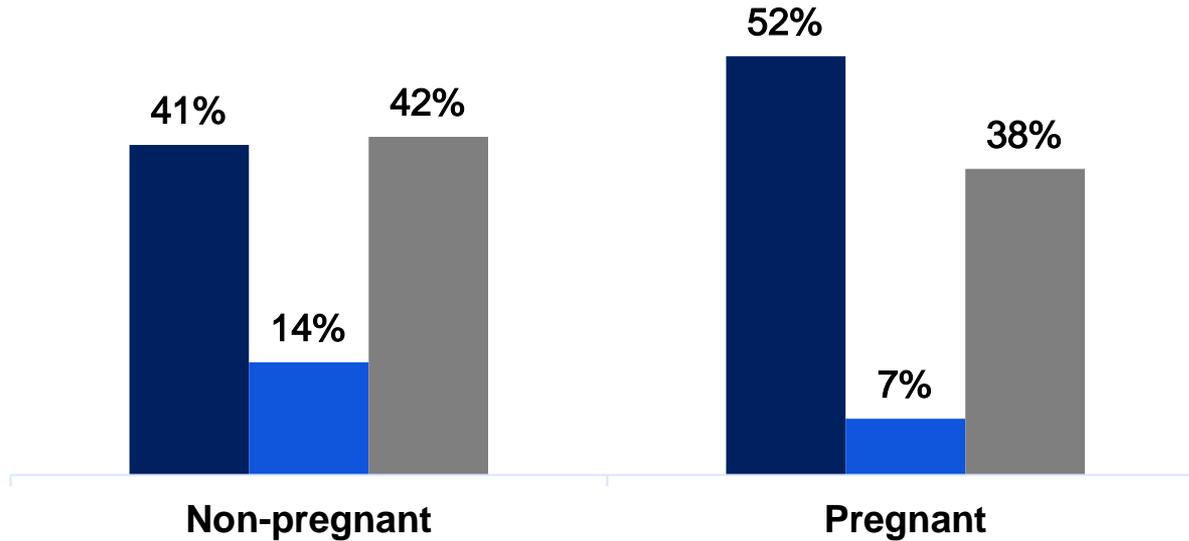
Glove use by pregnancy status

■ Always ■ Sometimes ■ Never

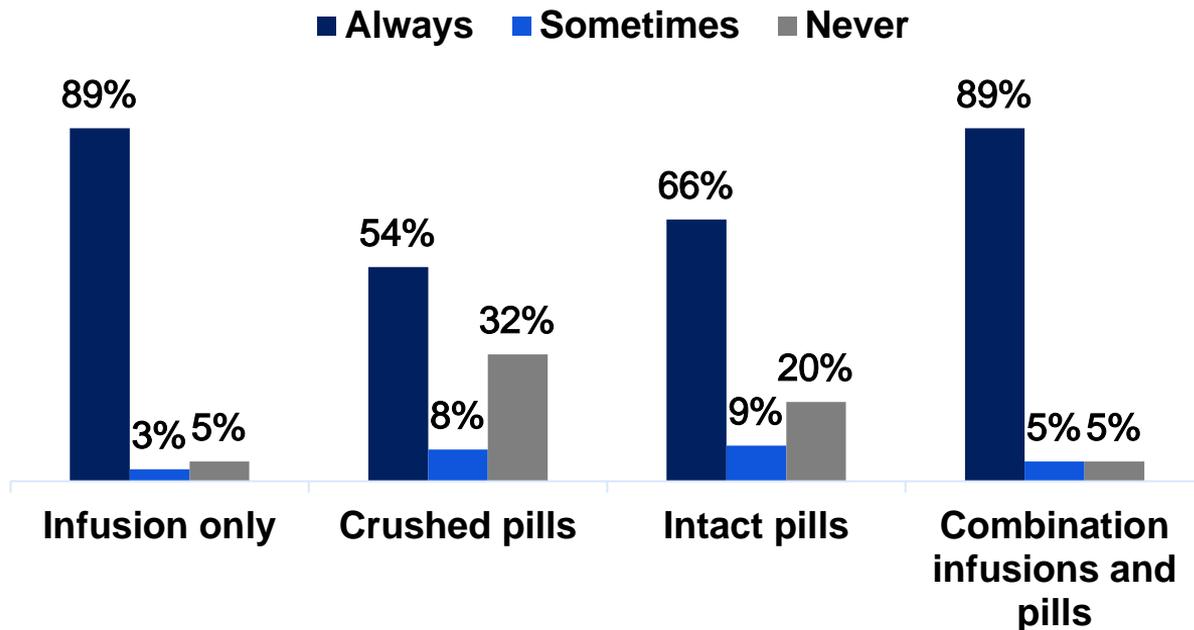


Gown use by pregnancy status

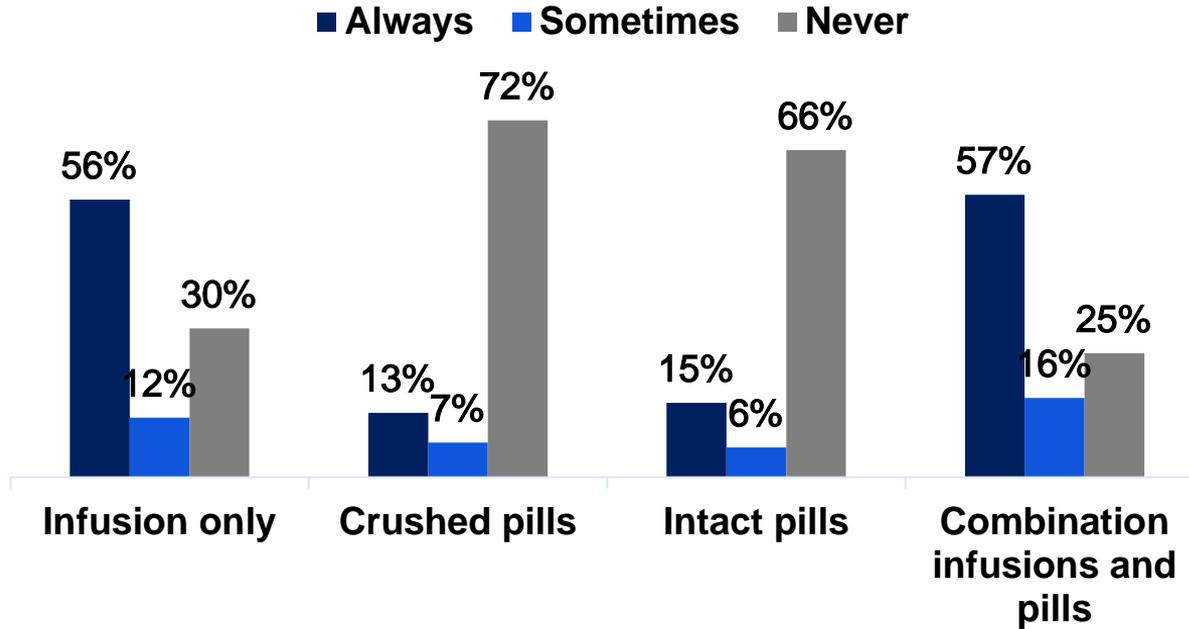
■ Always ■ Sometimes ■ Never



Glove use by type of administration, among 1,492 non-pregnant nurses



Gown use by type of administration, among 1,492 non-pregnant nurses



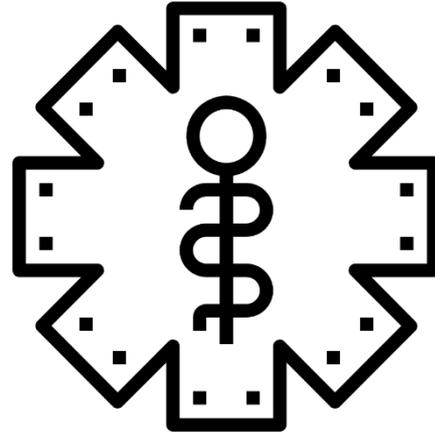
Summary



- **Many nurses did not wear gloves and gowns**
- **Glove and gown use was higher among pregnant than non-pregnant nurses**
- **Glove use was markedly higher when administering infusion compared to pills**

Limitations

- **Lacking information on:**
 - Double Gloves, Training, Barriers for use
 - Nursing specialties not collected
 - Facility type



Discussion



- **Fetal development during first 20 weeks**
- **All nurses in our study were of reproductive age**
- **Many antineoplastic drugs are carcinogenic**

Discussion



Reasons

- **Priorities**
- **Awareness**
- **Training**
- **Availability of PPE**
- **Time concerns**



Acknowledgements

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Lawson CC, Johnson CY, Nassan FL, Connor TH, Boiano JM, Rocheleau CM, Chavarro JE, Rich-Edwards JW. Antineoplastic Drug Administration by Pregnant and Nonpregnant Nurses: An Exploration of the Use of Protective Gloves and Gowns. AJN January 2019 Volume 119 - Issue 1 - p 28–35

Thank you!

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

