



You're thinking about  
your patients.  
We're thinking about you.

Detect surface contamination in **less than 10 minutes**  
with the **BD® HD Check system\***

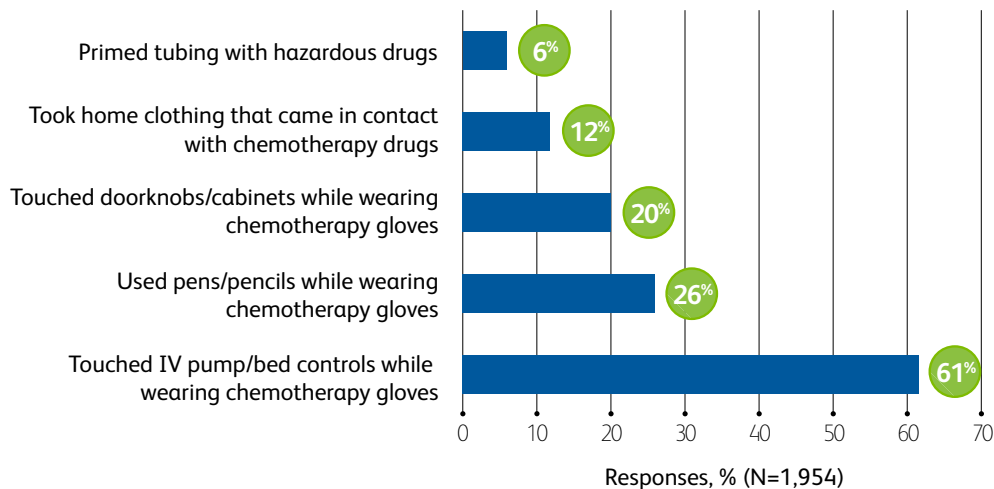
\*For select hazardous drugs



# Hazardous drug contamination may be surprisingly widespread

- ✓ Surface contamination with hazardous drugs still occurs frequently, despite well-established safety guidelines and standards from USP, NIOSH, OSHA and others.<sup>1,2</sup>

## Work practices with potential for exposure (NIOSH survey\*)<sup>3</sup>



## Inadvertent spread of contamination can put hospital personnel at risk<sup>4</sup>

Contamination may be present and easily spread around your institution:

- ✓ Nurses' station
- ✓ IV bag storage areas
- ✓ Countertops
- ✓ Computer keyboard/mouse
- ✓ Floor of patient room
- ✓ Floor of restroom

## Repeated exposure to hazardous drugs can cause harmful health complications<sup>5</sup>

Reported health complications include:

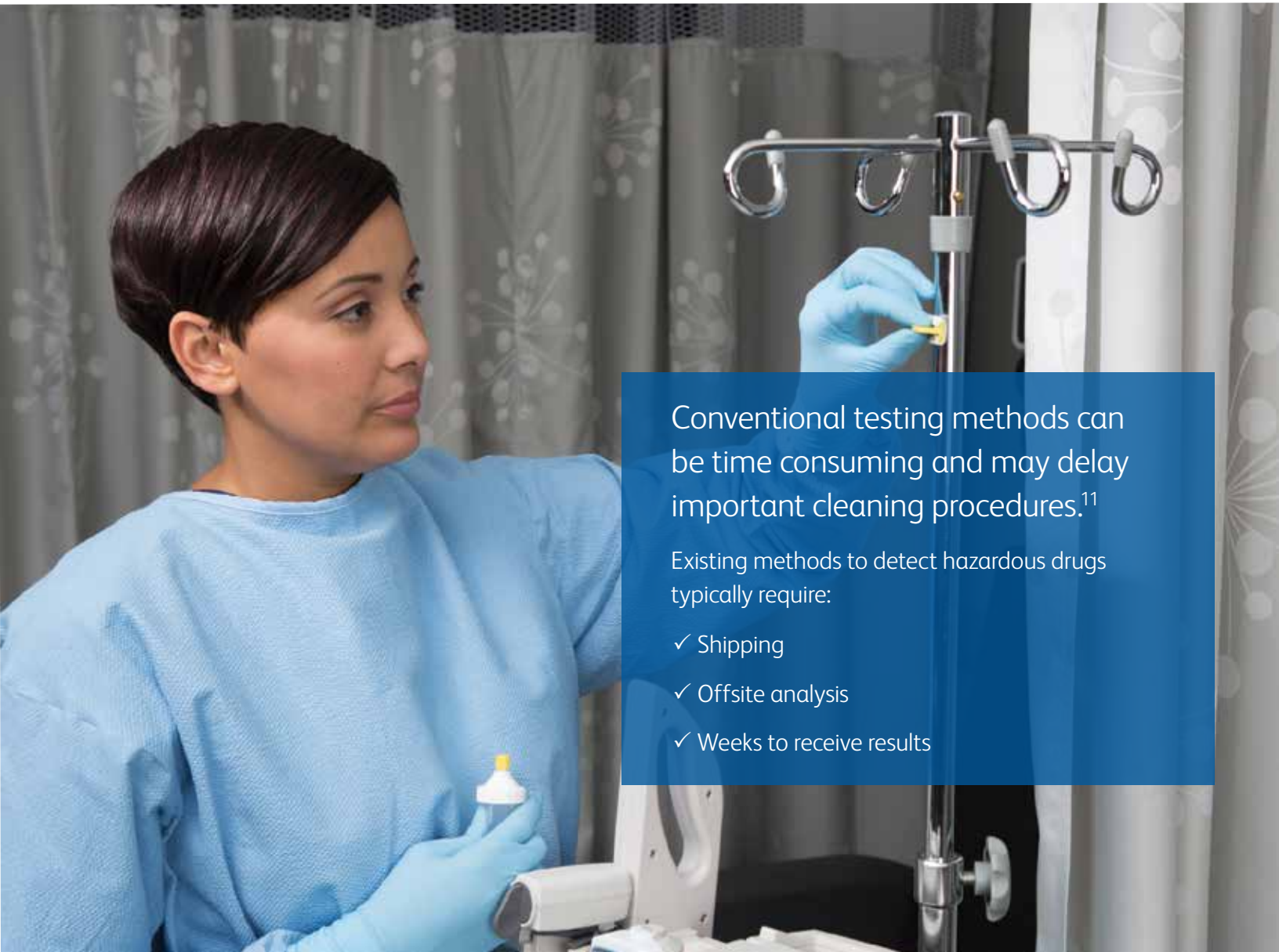
- ✎ Detrimental effect on DNA and RNA<sup>6</sup>
- ✎ Increased risk of cancer<sup>7</sup>
- ✎ Reproductive issues<sup>8,9</sup>
- ✎ Damage to internal organs<sup>10</sup>

There are no available standards on the acceptable limits for hazardous drug contamination, despite the damage these drugs may cause.

# Routine monitoring is recommended to help reduce contamination<sup>1</sup>

## Conducting frequent surface wipe analysis may reduce exposure<sup>1</sup>

- ✓ According to current standards, recommendations and guidelines, conducting surface wipe analysis as part of a comprehensive safe handling program can help minimize hazardous drug exposure.<sup>1,11</sup>
- ✓ Current USP <797>, new USP <800> standards and other safe handling guidelines recommend routine testing to check for hazardous residue on various surfaces and verify containment.<sup>12</sup>
- ✓ A surface wipe sample study (N=1,269) demonstrated a **56% decrease** in contamination levels when monitoring occurred at regular intervals. Approximately 75% of the monitoring group introduced cleaning protocol changes as a result of monitoring.<sup>1</sup>



Conventional testing methods can be time consuming and may delay important cleaning procedures.<sup>11</sup>

Existing methods to detect hazardous drugs typically require:

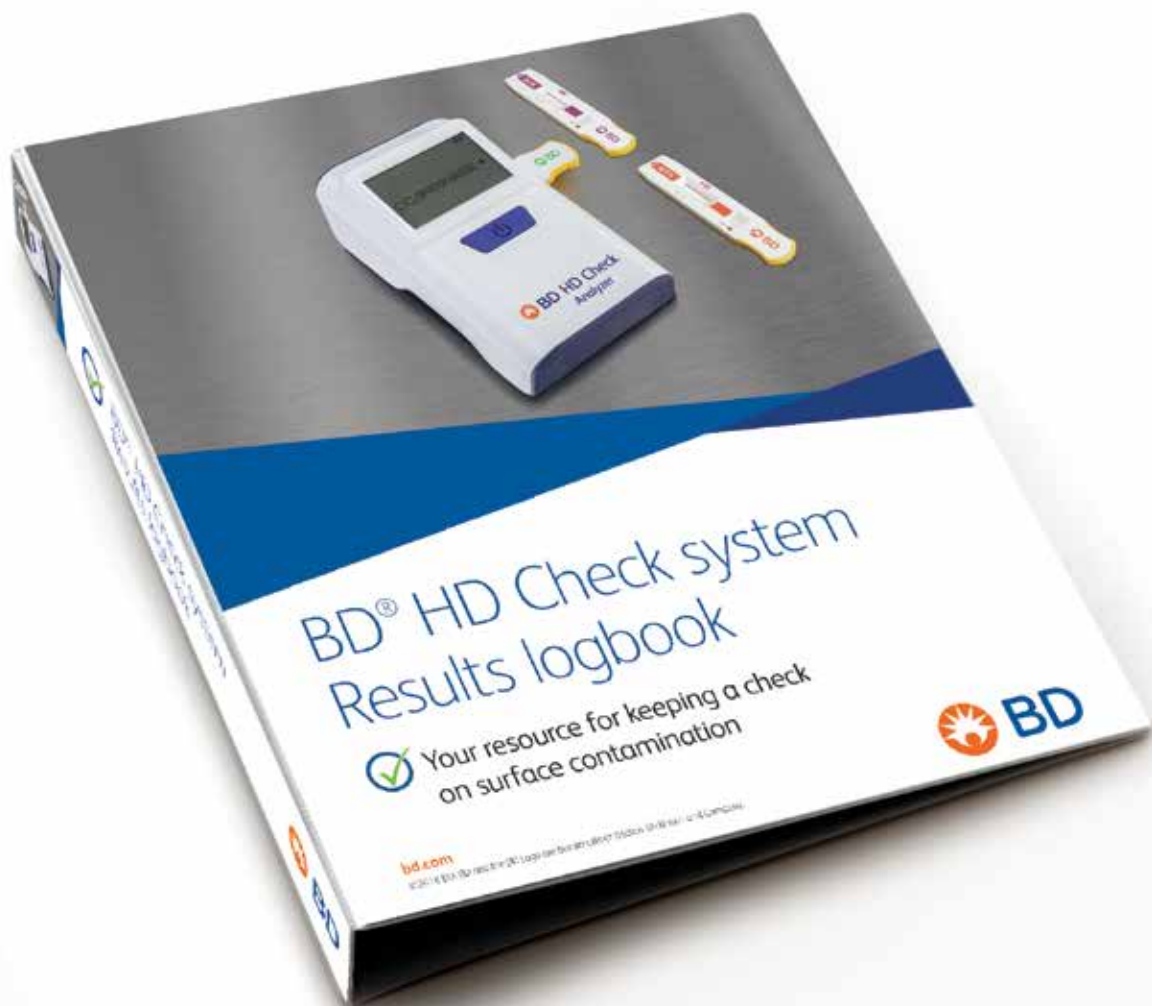
- ✓ Shipping
- ✓ Offsite analysis
- ✓ Weeks to receive results

# Detect contamination on-site in less than 10 minutes with the BD HD Check system

Introducing the **first and only** rapid detection test for hazardous drugs


- ✓ Quickly and reliably provides easy-to-read results, enabling immediate corrective action to be taken.
- ✓ Handheld design makes routine testing easy and convenient.
- ✓ Tests for select commonly used antineoplastic agents.
- ✓ Helps evaluate effectiveness of safe handling processes.

Enables you to track contamination levels over time with the BD HD Check system results logbook.



# The BD HD Check system can be integrated easily into your daily routine

The components of the BD HD Check system are easy to use and provide results quickly

- 
- ① Collection kit
  - ② Methotrexate assay cartridges
  - ③ Doxorubicin assay cartridges
  - ④ Cyclophosphamide assay cartridges
  - ⑤ Analyzer
  - ⑥ Surface area template

Order the BD HD Check system today

Part no.	Product	Case
515020	Analyzer	1
515033	Collection kit	20
515024	Surface area templates	20
515025	Doxorubicin assay cartridges	20
515026	Doxorubicin assay cartridges	40
515029	Methotrexate assay cartridges	20
515030	Methotrexate assay cartridges	40
515031	Cyclophosphamide assay cartridges	20
515032	Cyclophosphamide assay cartridges	40



# Detect harmful contamination in just eight easy steps

How to use the BD HD Check system\*

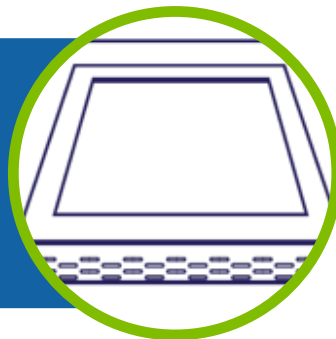
1

For each sample location, gather a collection kit, assay cartridges and a template.



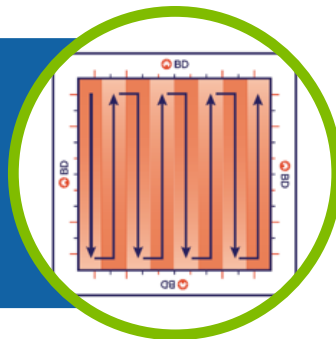
2

Establish test area and place a template, if using one, over the intended location. When ready, open the collection kit packaging and then the swab packaging to carefully remove the swab.



3

With slow and firm strokes, swab entire test area with the pre-moistened swab.



4

Insert the swab into the transfer vial, firmly close and fully invert for five cycles.



\*Surface testing only. Not intended for human use.

5

Leaving the swab inside, remove the dripper cap and squeeze four drops into the sample well on each assay cartridge.

4



6

Using a timer, from the point of adding your sample allow five minutes for test development.



7

Turn the analyzer on and insert your first assay cartridge when prompted.



8

The analyzer will process the assay cartridge and display the tested drug's result. Record and proceed as applicable.



# Together let's keep hazardous drug contamination in check

## The BD HD Check system: a revolution in hazardous drug detection

- ✓ Risks associated with hazardous drug exposure are well documented.
- ✓ Contamination occurs frequently and is widespread, despite well-established safety measures.<sup>1</sup>
- ✓ Current USP <797>, USP <800> standards and other safe handling guidelines recommend routine environmental monitoring to help improve environmental quality and control.<sup>1,11</sup>
- ✓ Conventional contamination testing methods are time consuming.<sup>11</sup>
- ✓ The BD HD Check system can help facilitate routine monitoring, enabling immediate corrective action to be taken.
- ✓ Technology licensed from NIOSH.

**References:** **1.** Kiffmeyer TK, Tuerk J, Hahn M, et al. Application and assessment of regular environmental monitoring of the antineoplastic drug contamination level in pharmacies—the MEWIP project. *Ann Occup Hyg.* 2013;57(4):444-455. **2.** Connor TH, Massoomi F. Environmental monitoring and medical surveillance of health care workers who handle hazardous drugs (HDs). In: Mansur J, ed. *Improving Safe Handling Practices for Hazardous Drugs*. Oak Brook, IL: Joint Commission Resources; 2016:139-167. **3.** Boiano JM, Steege AL, Sweeney MH. Adherence to safe handling guidelines by health care workers who administer antineoplastic drugs. *J Occup Environ Hyg.* 2014;11(11):728-740. **4.** Connor TH, Zock MD, Snow AH. Surface wipe sampling for antineoplastic (chemotherapy) and other hazardous drug residue in healthcare settings: methodology and recommendations. *J Occup Environ Hyg.* 2016;13(9):658-667. **5.** Connor TH, McDiarmid MA. Preventing occupational exposures to antineoplastic drugs in healthcare settings. *CA Cancer J Clin.* 2006;56(6):354-365. **6.** Cavallo D, Ursini CL, Perniconi B, et al. Evaluation of genotoxic effects induced by exposure to antineoplastic drugs in lymphocytes and exfoliated buccal cells of oncology nurses and pharmacy employees. *Mutat Res.* 2005;587(1-2): 45-51. **7.** Hansen J, Olsen JH. Cancer morbidity among Danish female pharmacy technicians. *Scand J Work Environ Health.* 1994;20(1):22-26. **8.** Lawson CC, Rocheleau CM, Whelan EA, et al. Occupational exposures among nurses and risk of spontaneous abortion. *Am J Obstet Gynecol.* 2012;206(4):327.e1-8. **9.** Hemminki K, Kyrönen P, Lindbohm ML. Spontaneous abortions and malformations in the offspring of nurses exposed to anaesthetic gases, cytostatic drugs, and other potential hazards in hospitals, based on registered information of outcome. *J Epidemiol Community Health.* 1985;39(2):141-147. **10.** Sotaniemi EA, Sutinen S, Arranto AJ, et al. Liver damage in nurses handling cytostatic agents. *Acta Med Scand.* 1983;214(3):181-189. **11.** Connor TH, Smith JP. New approaches to wipe sampling methods for antineoplastic and other hazardous drugs in healthcare settings. *Pharm Technol Hosp Pharm.* 2016;1(3):107-114. **12.** The United States Pharmacopeial Convention. USP 39–NF 34 Physical tests: <800> Hazardous drugs handling in healthcare settings. Chapter to become official December 2019.

To learn more about the BD HD Check system, visit [bd.com/HDCheck](http://bd.com/HDCheck).