

# Preventing blood and body fluid splashes and splatters

By Amber Hogan Mitchell, DrPH, MPH, CPH, and Ginger B. Parker, MBA

*Editor's note: This article is the second in a three-part series brought to you in partnership with the International Safety Center. In September, we published "Preventing needlestick and sharps injuries," available at [www.AmericanNurseToday.com](#). Watch for the final article in the series—use of personal protective equipment—in a future issue.*

## THE EXPOSURE PREVENTION INFORMATION

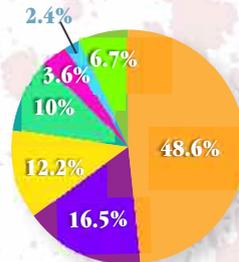
**NETWORK** (EPINet®) is a tool for surveying and measuring occupational exposures to blood and body fluids (BBF). EPINet helps identify where infectious exposures are occurring in U.S. hospitals and allows you to compare them to what's happening in your facility. The International Safety Center distributes EPINet for free to hospitals and other healthcare facilities to measure such exposures, which can cause illness and infection in the working population.

## Nurse exposures from splashes and splatters

Nearly half (49%) of all BBF exposures occurring across all U.S. hospitals happen to nurses. The statistics in the pie charts below come from the most recent EPINet data (the 5-year period from 2009 to 2013).

### Where did the injury occur?

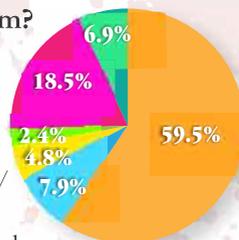
- Patient room/bedside
- Intensive/critical care
- Emergency department
- Operating room/recovery
- Procedure room
- Labor and delivery
- Other\*



\*Includes outpatient, clinic, outside patient room/hallway, and blood bank

### What did the exposure result from?

- Direct patient contact
- IV tubing/bag/pump leaked/broke
- Feeding, ventilator, or other tube separated/leaked/spilled
- Other body fluid container spilled/leaked
- Specimen container spilled/leaked
- Other\*



\*Includes wound irrigation, vacuum extraction, indwelling urinary catheter, umbilical cord, syringe or I.V. catheter splash, broken glove, and combative patient

## Lessons learned from EPINet

### Which body fluids were involved?

Urine	90.2%
Blood or blood products	67.9%
Other	18.6%
Sputum	12.4%
Saliva	8.8%
Vomit	3.2%
Amniotic fluid	2.7%

Responses exceed 100% because 66% of all body fluids were visibly contaminated with blood, with bloody urine the most prevalent exposure.

### What was the exposed part?

Eye (conjunctiva)	62.4%
Intact skin	39.9%
Non-intact skin	13.5%
Mouth (mucosa)	11.0%
Other*	7.1%
Nose (mucosa)	4.9%

\*Includes feet, uniforms/clothes, top of head, etc. Responses exceed 100% because nurses may report exposure of multiple locations; for example, a splash may occur to intact skin of the face, as well as to the eyes, nose, or mouth.

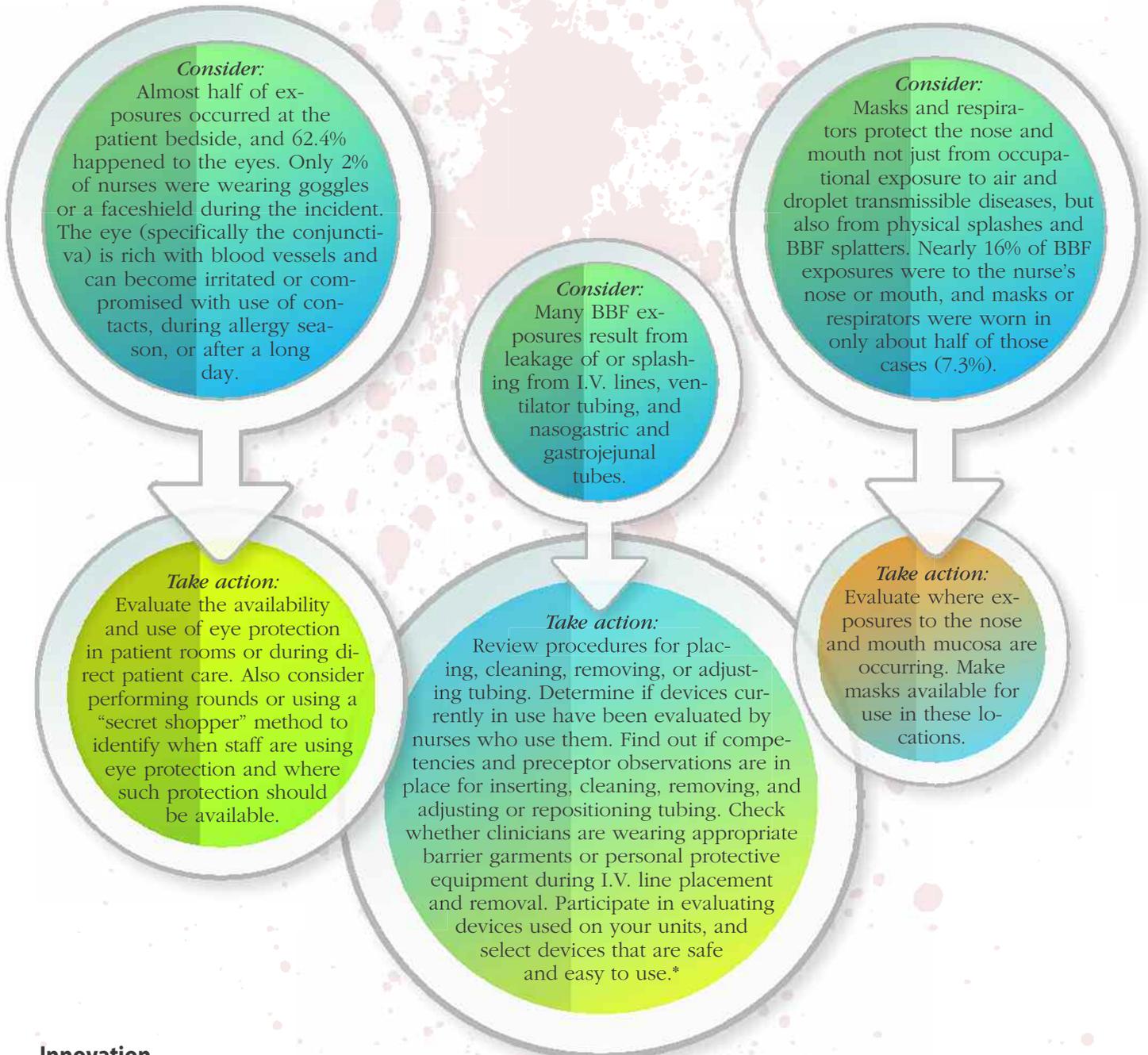
### Which barrier garments were worn at the time of exposure?

Gloves	74.8%
Gown	12.7%
Other*	11.3%
Mask	7.1%
Goggles	1.5%
Faceshield	0.5%
Apron	0.3%

\*Includes respirator, scrubs/uniform, isolation or chemo gown, shoe covers, etc. Responses exceed 100% because multiple barrier garments or multiple types of personal protective equipment are worn at the same time.

## Protecting nurses

Now that you know the facts, you can take steps to help eliminate splashes and splatters and encourage your employer to take action. In May 2015, the National Institute for Occupational Safety and Health (partnering with the Occupational Safety and Health Administration [OSHA] and The Joint Commission) published the Hospital Respiratory Protection Program Toolkit, which you and program administrators may find useful. To access the Hospital Respiratory Protection Program Toolkit, visit [cdc.gov/niosh/docs/2015-117/pdfs/2015-117.pdf](http://cdc.gov/niosh/docs/2015-117/pdfs/2015-117.pdf).



## Innovation

Nurses are creative, resourceful innovators. You can direct and positively affect your own life and the lives of your patients and colleagues. ★

The authors work at the International Safety Center ([InternationalSafetyCenter.org](http://InternationalSafetyCenter.org)). Amber Hogan Mitchell is president and executive director. Ginger B. Parker is vice president and chief information officer.

Visit [AmericanNurseToday.com/?p=21645](http://AmericanNurseToday.com/?p=21645) for a list of references.

\*OSHA requires nurses' involvement in safety device evaluation to prevent not just needlesticks and sharps injuries but also splashes and splatters like those identified here.