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More PPE protects better against Ebola



To the Editor:

We read the article by Dunn et al on Ebola infection among health care staff in Sierra Leone with great interest.¹ Health care staff is at a much greater risk of Ebola infection than the population in general.² It is unclear how they can be best protected against these risks.³ Dunn et al provide valuable information on how well personal protective equipment (PPE) works, but they have not quantified this effect. Even though they present their findings as a case study, they can also be analyzed as a retrospective cohort study of how well various levels of PPE use protect against infection in health care workers. The cohort is formed by 64 health care workers who were, ≥ 1 times, exposed to patients infected with Ebola. They can be divided according to their level of PPE use in no PPE use, gloves only, at least gloves and gowns, or more. Because we know if they became infected or not, we can calculate the relative risks and their 95% confidence intervals (Table 1). We took the total number of exposures as the denominator in calculating the risks as an equivalent of person time. We added 0.5 to prevent cells with zero cases.

As can be seen in Table 1, little PPE, such as gloves only, already protects considerably, but more PPE protects better. This was shown in a similar way during the severe acute respiratory syndrome epidemic.⁴ This is an important message for educating and training health care staff that have to work in circumstances where full-body PPE may not always be available.⁵

Table 1

Relative risk of infection with Ebola for health care staff while wearing at least gloves and gowns, at least gloves, or gloves only compared with no PPE and for wearing at least gloves and gowns compared with no PPE or gloves only (N = 64)

Type of PPE used	No. infected	Exposure person-episodes	RR and (95% confidence interval)
At least gloves and gown	0.5	29	
No PPE	3	5	0.03 (0.00-0.57)
At least gloves	4	71	
No PPE	3	5	0.09 (0.02-0.42)
At least gloves and gown	0.5	29	
No PPE or gloves only	7	47	0.12 (0.01-2.04)
Gloves only	4	42	
No PPE	3	5	0.16 (0.04-0.71)

PPE, personal protective equipment; RR, relative risk.

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Conflicts of Interest: None to report.

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Reply to letter on our article: Lorente L, Lecuona M, Jiménez A, Raja L, Cabrera J, Gonzalez O, et al. Chlorhexidine-silver sulfadiazine- or rifampicinmiconazole-impregnated venous catheters decrease the risk of catheter-related bloodstream infection similarly. *Am J Infect Control*. 2015 Sep 24. pii:S0196-6553(15)00931-1. doi: 10.1016/j.ajic.2015.08.014



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Bacteremia
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Impregnated-catheter

To the Editor:

We read with interest the letter¹ about our recently published article showing that antimicrobial- and antiseptic-impregnated catheters reduce the risk of catheter-related bloodstream infection (CRBSI).

The authors of the letter discuss potential indications for the use of those catheters in the prevention of CRBSI. The guidelines published in 2008 by the Society for Healthcare Epidemiology of America (SHEA) and Infectious Diseases Society of America (IDSA)² recommended using antiseptic- or antimicrobial-impregnated central venous catheters (CVCs) in adult patients in the following circumstances: hospital units or patient populations that despite compliance with basic CRBSI-prevention practices show a CRBSI incidence higher