



ARTICLE

## Product Evaluation and Purchasing: PPE

🕒 Yesterday

**3M** Science.  
Applied to Life.™

Rethink your surgical prep.

DISCOVER THE  
TRUTH ABOUT  
SURGICAL PREP  
STERILITY

([http://oascentral.infectioncontroltoday.com/RealMedia/ads/click\\_lx.ads/infectioncontroltoday.com/article/L33/299520872/Top1/VirgoPi](http://oascentral.infectioncontroltoday.com/RealMedia/ads/click_lx.ads/infectioncontroltoday.com/article/L33/299520872/Top1/VirgoPi)  
<http://bit.ly/2tVsfaG>)

ICT invited manufacturers of personal protective equipment (PPE) products to provide instruction on best practices relating to the evaluation of products as well as how to introduce and integrate them into the healthcare environment.

### **ICT: What are the primary considerations decision-makers should keep in mind when evaluating and purchasing your category of PPE-related products/services?**

The selection of personal protective equipment (PPE) should begin with hazard assessment. Once you identify and measure the hazards, you can determine the appropriate controls, including the PPE most appropriate to protect your employees, achieve compliance and be comfortable for the employee. You may also look for products, e.g., N95 particulate respirators, that have been NIOSH approved, as well as FDA cleared as surgical masks for use in the operating room environment. Comfort is a key consideration for the employees who will be wearing the PPE. Of course, cost is also a big factor. And there could well be other considerations based on a variety of factors, such as the environment or company policies. Overall, though, you should seek out options that meet your employee's needs and comfort requirements or else they won't want to wear the PPE.

– Kelly Huppert, technical service specialist, 3M Infection Prevention Division

Establishing a multidisciplinary product evaluation and selection committee is an important step in developing a standardized product selection and implementation process, in addition to product-specific evaluation tools. The committee should obtain information on new or existing products from either professional resources or manufacturers. Both resources have access to information about products that are currently available, while manufacturers can provide both technical and clinical data related to their specific products. When selecting PPE, there are many different factors to be considered by decision-makers, including compliance with federal, state and local regulatory agencies and contractual agreements. In addition, the product selection committee should consider the following:

- The type of anticipated exposure, such as touch, splashes or sprays, or large volumes of blood or body fluids that might penetrate the clothing;
- The durability and appropriateness of the PPE for the task. This will affect, for example, whether a glove needs to be sterile or non-sterile or deemed appropriate for work with chemotherapy agents;
- End-user comfort and effective individual fit.

– Latisha Richardson, MSN, BSN, RN, clinical consultant, Ansell

Purchasing PPE products today is not what it was 10 years ago. The sophistication of the materials and how products are constructed, as well as OSHA/CDC regulations/guidelines play a huge role in ensuring these products are adequate to protect the individuals who use them. Some considerations involved in the choices made should encompass the following key points:

- Does the product adhere to OSHA/CDC guidelines
- Does the product provide adequate barrier protection properties as stated
- Is there an ease of use to enable compliance
- Are instructions for use clear and succinct
- Is the product durable and appropriate for the intended task
- What is the expected/anticipated risk of exposure
  - Splash/spray versus touch
  - Category of isolation precautions
- Is the range of sizes available to adequately fit staff
- What education is available to staff and how is it best delivered
- Is the product/range of products cost effective
- Is the product readily available for delivery to your facility
- *Caroline Ginn, MSN, BSN, RN, CNOR, and Mary Cross, RN, MBA, CWCMS, Cardinal Health*

Determine and ask yourself if it complies with regulatory and/or facility guidelines. Is it single-use or do you need to reprocess it? What type of job are you performing and what kind of protection do you need from contaminants with which you are working in the sterile processing department. Is it covering/protecting your exposed areas?

– *Matthew Smith, marketing manager, Healthmark Industries*

Decision-makers need to be aware of changing regulations and make sure they have the appropriate resources to help them be compliant. Educating themselves is another action. Oftentimes, clinicians, and even leadership, don't understand the different levels of protection (AAMI). Rising exposure to multidrug-resistant TB seen around 2009 taught healthcare a lot about how easy transmittable infectious diseases can be in any setting. Ebola in 2014 continued to heighten our awareness and from that, we knew we had to approach PPE differently. Healthcare organizations must have tools and products readily available for clinicians to do the right thing. For example, visual cuing can help caregivers understand the appropriate level of protection. Healthcare organizations must be in a perpetual state of readiness, so PPE must be part of a leader's strategic plan. They must invest in high quality solutions in order to protect their greatest assets, their employees.

– *Martie Moore, chief nursing officer, Medline*

When it comes to sterile surgical gloves, you must remember that you are not just purchasing gloves, you are purchasing staff and patient protection. Gloves can be very subjective to all glove wearers, especially surgeons. Differences in material, thickness, and grip to maintain tactile sensitivity, are all very important qualities that must be considered. Surgical gloves are not only used to protect patients from potential infections but also to protect staff from exposure to blood borne pathogens, chemicals, and chemotherapeutic agents. Furthermore, gloves can serve as a risk reduction strategy for sharps safety in the prevention of percutaneous injuries in the operating room through double-gloving for all procedures. Does your glove vendor have the right combinations of fit, feel and comfort to support all surgical personnel double-gloving comfortably? If not, your staff protection may be at risk. The stark truth is that glove perforations can occur in up to 61 percent in some specialties.<sup>1</sup> In a study by Laine, it was reported that surgical staff members who wore a single pair of gloves were 13 times more likely to experience glove perforations and contamination than staff members who wore double gloves.<sup>2</sup>

References:

1. McNeilly L. Double-Gloving: Myth Versus Fact. *Infection Control Today*. 2011. <http://www.infectioncontroltoday.com/articles/2011/04/double-gloving-myth-versus-fact.aspx> (<http://www.infectioncontroltoday.com/articles/2011/04/double-gloving-myth-versus-fact.aspx>)
2. Laine T, Aarnio P. How often does glove perforation occur in surgery? Comparison between single gloves and a double-gloving system. *Am J Surg*. 2001;181(6):564-6.

– *Eric J. Davis, MS, BSN, RN, CNOR, surgical senior clinical nurse consultant, Mölnlycke Health Care*

- Protection level required for application: There are generally four key factors to consider when selecting PPE:
    1. Fluid or contaminant exposure levels determining material and barrier protection attributes and fluid resistance
    2. Regulatory standards and protocol for PPE usage at your facility, dictating whether AAMI or certain ASTM testing standards are required
    3. Duration and any special parameters of use for each application to determine durability needed
    4. Maintaining reasonable levels of user comfort and breathability, while ensuring key protective priorities are preserved
  - Product design and features: Selecting products with specific features that ensure proper coverage, secure and ideal fit, and to maximize compliance and facilitate proper donning/doffing procedures. Quality materials and construction ensure reliable, consistent protection and performance with every use. Proper fit helps to ensure minimal restriction of movement and potential stress points that can compromise barrier protection; minimizing bulky fit areas maximizes apparel/gown safety and reduces chance of PPE interfering with the task.
  - Manufacturer and product supply chain integrity: Choosing a supplier and manufacturer with a proven, well-controlled and sophisticated Global Supply Chain system will help to ensure quality and consistency of manufacturing, uninterrupted supply for disposable single-use PPE products, and strong service excellence.
- *Edmund S. Tai, vice president of healthcare, Tronex International Inc.*

**ICT: What are some suggestions for how to effectively introduce and educate on PPE-related products/services to healthcare workers?**

First, having employee buy-in is important. Educating your workers about the hazards and need for PPE, the options available, the features, the benefits, and comfort concerns – all of these are significant, but allowing them to try PPE on a trial basis to see how it feels and performs goes a long way toward getting your staff to adopt new PPE. They need to feel comfortable with the change. PPE is very personal because it is worn by the worker and because of what is at stake. Like most workers, healthcare staff take their health very seriously and want to feel reassured they've been protected throughout the day. A PPE supplier may provide training materials for you on proper use and fit testing, and may also provide ongoing support/training to facilities who use their PPE to help ensure compliance and confidence. This includes considering the Industry Guidelines, including AORN for the operating room environment, CDC for updated pandemic details and OSHA standards for occupational safety information.

– Kelly Huppert, technical service specialist, 3M Infection Prevention Division

While it's important to have the appropriate PPE on hand, ensuring that staff can correctly utilize the equipment is equally important to the safety of the healthcare workers, patients and the community. Healthcare workers should be trained to: recognize the type of PPE necessary for the procedures to be performed; understand the different material options and how this effects protection; and demonstrate the proper usage of the applicable equipment. Regulatory agencies, like the Centers for Disease Control and Prevention (CDC), have educational material, including videos, posters and handouts, available to help facilities train staff regarding the appropriate use of PPE. Further, it's important to utilize a variety on teaching methods to ensure every learning style is addressed. Using interactive teaching methods, like return demonstrations and simulated patient scenarios, allows staff to experience possible outbreak situations, gives staff the ability to practice in a safe environment and brings training sessions out of a two-dimensional learning platform. It also allows educators and trained observers to pinpoint possible ongoing issues with proper PPE usage and correct them before actual clinical use.

– Latisha Richardson, MSN, BSN, RN: clinical consultant, Ansell

Everyone knows Universal Precautions are infection control guidelines designed to protect workers from exposure to diseases spread by blood and certain body fluids. Yet little is known about how healthcare workers use PPE and if they are using it effectively. A study in AJIC, (Vol. 45, (2017) pp.17-23) noted, even with subjects being observed, errors in donning/removal occurred. Compliance and proper use of PPE is the result of effective education surrounding barrier protection, appropriate product selection and proper technique to don/doff. Users need to have a clear understanding of what level of protection is warranted and which protective items are needed for Universal Precautions, i.e. gloves/facial protection/gowns. The best method to learn involve hands-on exercises and return demonstrations. Visual reminders and infographics help reinforce correct selection and proper technique. Everyone wants to be safe, every day, all day. With diligent reinforcement by the infection preventionist and team, and on-going follow up to comply with the institution's guidelines, every healthcare worker can be safe. Benchmarking education and understanding key drivers in learning will aid in forming an effective/cohesive program to educate all of the parties involved who wear PPE products. Stick protocols and frequent checks need to be up into place for an effective program to be successful. Additionally, in the market there are multiple CE programs as well as tool kits provided by the CDC which enable the end users the means to under-stand protocols and precautions. It does have to be said that these methods are only as effective if the end users utilize the PPE products appropriately i.e. correct wearing of the gloves /facial/ gowns protect. Reference: <https://www.cdc.gov/niosh/topics/emres/ppe.html>bility (<https://www.cdc.gov/niosh/topics/emres/ppe.html>bility)

– Caroline Ginn, MSN, BSN, RN, CNOR, and Mary Cross, RN, MBA, CWCMS, Cardinal Health

Survey your working environment and determine was hazardous material that you are handling and/or exposed to. Review OSHA, AAMI and AORN guidelines on handling these types of materials. Read IFUs and SDSs of products before using. Consider worker comfort as well as safety to help maximize use of PPE.

– Matthew Smith, marketing manager, Healthmark Industries

PPE cannot be viewed as just utilitarian. There is a methodology to it. Creating memory muscle where it feels natural to don and doff the proper way is crucial. Leaders should create opportunities for employees to go through the perpetual motions outside of the immediate care situation. When we're actively involved in the situation, we don PPE quickly and don't think about whether we're doing it in the right order to protect ourselves and patients. Simulation is key. For example, set up empty patient rooms with situations that require different PPE approaches, such as norovirus, drug-resistant TB, and influenza. Additionally, we must get in the habit of observing. Employees should observe best practices from others who they don't work with directly. We all develop bad habits and if we observe someone we're close with, it's challenging to see each other's bad habits. As a CNO in a large hospital setting, I brought in outside resources or EVS specialists from other departments within the hospital to assist us in observation and feedback. Part of the training process also includes training the trainer correctly. If that person has learned habits, they will inadvertently teach those. You must think about the unconscious bias and how you're going to address it. Make sure the trainer is aware of changing regulations, and that they participate in simulation and observation as well. Just because they have years of experience, it doesn't mean they have years of doing it right. If you need to look at outside resources for assessing your facility's current PPE practices, Medline offers a PPE assessment program to help facilities make sure they're following current guidelines and that they have the proper tools and products.

– Martie Moore, chief nursing officer, Medline

The most efficient way to educate your staff on surgical gloves is to partner with a vendor that provides local clinical in-servicing and education through either their clinical nurse consultant or local sales representative. These trained representatives are knowledgeable about surgical glove performance characteristics which enables them to match the right glove with the right procedure and accommodate clinician preference. With the right support, you can make sure that your staff protection goals, such as reduction of percutaneous injuries and increase of double-gloving are an integral part of the implementation strategy. Your facility can decide what their goals are regarding the use of latex and/or synthetic gloves and then plan the product assortment accordingly. The education process can begin

with delivery of accredited education on the clinical evidence supporting why using latex-free gloves and/or double-gloving is effective in protecting staff and patients. Through this education and follow-up in-servicing meetings, important data can be discussed and highlighted in posters or hand-out materials. For example, a study showed that double-gloving does not have a substantial impact on manual dexterity or tactile sensitivity when compared with single-gloving.<sup>1</sup> Or, a recent CDC report identified a 364 percent increase in acute Hepatitis C infections in persons 30 years or older from 2006-2012.<sup>2</sup> Staff need to be knowledgeable of the increased risks to them and how they can better protect themselves. Additionally, your vendor partners can conduct “sizing days” to ensure that staff and surgeons are wearing the best combinations of surgical gloves that can encourage the adoption of double-gloving as a sharps safety risk reduction benefit. During this time, a colored indicator glove can be introduced so that staff understand how to effectively use the system to quickly identify glove breaches that will improve their protection. Florman, et al. found that double-gloving with a colored indicator system found not only more surgical glove perforations, but found them quicker.<sup>3</sup> The goal is to maximize the benefit of PPE through education and leverage innovation and new technology designed to optimize surgical glove performance throughout clinical procedures.

References:

1. Fry DE, Harris WE, Kohnke EN, Twomey CL. Influence of double-gloving on manual dexterity and tactile sensation of surgeons. American College of Surgeons. 2010;1-6.
2. Zibbell, JE, Iqbal, K., Patel, RC, Suryaprasad, A, Sanders, KJ, Moore-Moravian, L, Serrecchia, J, Blankenship, S, Ward, JW, Holtzman, D. In-creases in Hepatitis C infection related to injection drug use among persons aged < 30 years-Kentucky, Tennessee, Virginia and West Virginia, 2006-2012. Center for Disease Control and Prevention Morbidity and Mortality Weekly Report. 2015, 64(17); 453-458.
3. Florman S, Burgdorf M, Finigan K, et al. Efficacy of double gloving with an intrinsic indicator system. Surgical Infections. 2005;6(4): 385-395.  
 -- Eric J. Davis, MS, BSN, RN, CNOR, surgical senior clinical nurse consultant, Mölnlycke Health Care

- Initial in-depth review with infection control, end-user leaders and staff, together with supply chain/purchasing, to identify and fully understand the expected tasks and application(s), protection requirements, scope and duration of use of PPE, and feedback on aspects of the current PPE program – what is working and what is not.
- Working closely with all parties to develop and identify the PPE product(s) and program that will best meet all the key protection and program needs of the facility and end-users.
- Initiate the proper scope of product reviews and trials, engaging most or a good sampling of end-users to both ensure all key parameters of protection and function are met, as well as to increase end-users’ familiarity and potential ultimate acceptance of the new products and program. Manufacturer to support on questions on use, protection, fitment, and proper donning/doffing procedures.
- During the program implementation phase, manufacturer to partner closely to support end-user leaders and staff to assist as needed and answer questions.  
 -- Edmund S. Tai, vice president of healthcare, Tronex International Inc.

Like 0 Tweet Share 21 G+ 0

0 Comments Infection Control Today

Login

Recommend Share

Sort by Best

 Start the discussion...

LOG IN WITH

OR SIGN UP WITH DISQUS ?

Name

Be the first to comment.



The image shows the cover of a guidebook titled "Hand Hygiene: A Guidebook Exploring a Key Foundation of Infection Prevention and Control". The cover features the logo for "ICT INFECTION CONTROL TODAY" and is underwritten by "GOJO". A word cloud in the center contains terms related to hygiene and infection control, such as "WASH", "SOAP", "GELS", "FOAM", "RUB", "TOILET", "SNEEZE", "CERMS", "DANGER", "IMPORTANT", "WASHING", "RUB", "HEALTH", "TOILET", "SNEEZE", "CERMS", "DANGER", "IMPORTANT", "WASHING", "RUB". A "DOWNLOAD" button is visible at the bottom right of the word cloud.

([http://oascentral.infectioncontroltoday.com/RealMedia/ads/click\\_lx.ads/infectioncontroltoday.com/article/L33/526313864/Middle1/VirgoPub/ICT\\_Rect\\_Market\\_01](http://oascentral.infectioncontroltoday.com/RealMedia/ads/click_lx.ads/infectioncontroltoday.com/article/L33/526313864/Middle1/VirgoPub/ICT_Rect_Market_01)  
<http://bit.ly/2swKH5f>)



**IMAGE GALLERIES**



Slide Show: Prevent Infections During Pregnancy (</galleries/2017/06/prevent-infections-during-pregnancy.aspx>)

(</galleries/2017/06/prevent-infections-during-pregnancy.aspx>)



Slide Show: Legionnaires' Disease (</galleries/2017/06/legionnaires-disease.aspx>)

(</galleries/2017/06/legionnaires-disease.aspx>)



Slide Show: Fungal Infections (</galleries/2017/06/fungal-infections.aspx>)

(</galleries/2017/06/fungal-infections.aspx>)

[MORE \(/GALLERIES.ASPX\)](/GALLERIES.ASPX)

**POWER** in 1 mi

**NEW!** S

Call on the speed and power of Prime >

([http://oascentral.infectioncontroltoday.com/RealMedia/ads/click\\_lx.ads/infectioncontroltoday.com/article/L33/568238491/Middle2/VirgoPub/ICT\\_Rect\\_PDL\\_0601](http://oascentral.infectioncontroltoday.com/RealMedia/ads/click_lx.ads/infectioncontroltoday.com/article/L33/568238491/Middle2/VirgoPub/ICT_Rect_PDL_0601)  
<http://www.pdihc.com/Prime>)

POPULAR