The ethics of reusing single-use devices

The topic of reprocessing medical devices labelled as single-use items is something of an ethical quagmire. The only thing clear about this issue, it seems, is that it is complicated and encompasses many areas, including patient safety, fiscal responsibility and environmental stewardship.


Single-use medical items, like any disposable product, are popular because they are convenient. Instead of repairing, cleaning and sterilizing a device, a health care provider could just throw it away and open a new one. Unlike paper plates, however, many disposable medical devices are expensive. A single-use ultrasound catheter, for instance, can cost as much as $5000. Furthermore, some of these devices are robust enough to be used multiple times, despite the labels on their packaging.

So it has become a common practice in many hospitals, in Canada and around the world, to reprocess single-use medical devices (www.cmaj.ca/lookup/doi/10.1503/cmaj.109-3906). Reprocessed items (such as catheters, breast pump kits and ventilator circuits) fall into three categories: opened and not used; opened and placed on a surgical table but not used; and opened and used on a patient.

When a hospital decides to adopt a reuse policy, many ethical issues arise. A big one is patient consent. It could be argued that consent isn’t necessary if a hospital has policies in place to ensure reprocessed items are as safe and effective as new devices. Informing the patient could lead to unwarranted worry.

“They may think they are getting a lower standard of care, even though the items are resterilized,” says Moszczynski.

On the other hand, reusing a single-use device without consent could be viewed as “hidden rationing,” and does not respect the autonomy of the patient. After all, there appears to be no body of evidence suggesting that reprocessed items are as safe as new ones, and common sense dictates that the more times something is used the more likely it is to malfunction. And since no process is perfect, the odds of infection will be higher, if only slightly, when a device is used on more than one patient.

“The healthcare worker and system would be viewed in a positive light by sharing this information with patients rather than seen as exploiting patients in a vulnerable situation,” Moszczynski states in her paper.

Another ethical component of reusing single-use devices pertains to the responsibility of health institutions to be fiscally responsible. From a purely utilitarian stance, it could be viewed as unethical to use an item just once if it can be safely used again. To do so burdens taxpayers, who are paying for those devices, and will only lead to sacrifices in other areas of health care.
It is equally important to remember that the parties that decide which medical items can be used only once are device manufacturers, who obviously stand to profit more if hospitals replace rather than reuse their products. “The stipulation that a SUI [single-use device] never be reused places the healthcare system and society at large in a position of financial hostage to manufacturers,” Moszczynski suggests in her paper. Another study estimated that 10%–20% of single-use devices are actually incorrectly labelled multiple-use devices (IJHEH 2010; 213:302-7).

“The manufacturers will make a statement that the device is single-use only and that it’s in the best interest of patients to throw them out, whereas hospitals may turn around and argue that perhaps the manufacturers’ intentions do not relate to patient safety,” says Julie Polisena, clinical research manager for the Canadian Agency for Drugs and Technologies in Health, who led a survey that found that 28% of Canadian hospitals reprocess single-use devices (www.cadth.ca/en/products/health-technology-assessment/publication/800).

Advocates for reuse estimate that hospitals can save as much as 50% by reprocessing single-use devices instead of buying new ones. For example, a Banner Health hospital in Phoenix, Arizona, saved about US$1.5 million in a year by reprocessing such devices as compression sleeves, catheters and pulse oximeters. Canadian hospitals, however, would not likely experience comparable savings.

“The problem in Canada is that there are no third-party reprocessing companies,” says Moszczynski. “If hospitals got together and tried to send items out and there were third-party reproprocessors, that would save money. We are throwing stuff out or donating it to other countries and there is a lack of education on why we can’t reuse it. It’s an unresolved dilemma at the moment.”

Another argument against seeking fiscal benefits through reprocessing is that going against manufacturer instructions could have substantial legal ramifications if patients suffer harm after being treated with reprocessed devices. Any financial gains could be lost if hospitals are dragged into costly lawsuits.

After patient safety and fiscal concerns, a third ethical consideration is environmental stewardship. According to one study on reprocessing, the US health care sector is second only to the food industry in contributing to landfills, disposing of an estimated four billion pounds of medical waste annually (Acad Med 2010;85:398-400).

“Health care can contribute to creating a livable planet by reducing the substantial amount of waste it produces,” the paper concludes. “Reprocessing is one strategy to accomplish this.”

Perhaps the solution to all these ethical dilemmas is not to reprocess single-use medical devices, suggests Moszczynski, but rather to do away with them altogether. “Instead of saying we are a disposable society, let’s step back and see how we can do it differently,” she says. “How can we design these devices so they can be reused and still meet the needs of patients?” — Roger Collier, CMAJ