

## **Improving the Indoor Environment of Medical Facilities**

Hospitals are in the business of keeping people healthy. However, and unfortunately, thousands of people still contract nosocomial illnesses each year in North American hospitals. And although nosocomial illnesses have declined in many hospitals, the data is varied, depending on a variety of environmental, maintenance, and medical procedural factors.

In a further attempt to keep these facilities healthy, many are reexamining the materials and products used to build and clean their medical facilities. They are looking for and selecting products that produce less of an impact on the indoor environment and, at the same time, protect the health of building occupants. Some of the areas of greatest concern include hard and soft flooring materials as well as the cleaning products and chemicals used for cleaning and maintenance.

Mike Sawchuk, Vice President and General Manager of Enviro-Solutions, a leading manufacturer of Green Cleaning chemicals, works with medical facilities as well as their distributors, vendors, and suppliers, helping them make the indoor medical environment healthier for patients, visitors, and staff. Here he answers questions regarding some of the issues he most commonly encounters when working with medical locations.

**Q. Are you still dealing with indoor air quality (IAQ) problems healthcare facilities?**

A. IAQ problems have changed over the years but have not gone away. In fact, many facilities are experiencing a sharp increase in IAQ problems. IAQ problems were first identified two decades ago when buildings were made *overly* airtight in an attempt to make them more energy efficient. This limited the amount of fresh air circulating within HVAC systems; resulted in allergies, illness, and absenteeism; and affected overall worker productivity.

Today, IAQ issues have shifted. They now center on problems related to the off-gassing of materials—such as carpets, fabrics, wall coverings, and construction materials—found in facilities as well as the chemicals used for cleaning. And, some traditional cleaning products commonly used in medical facilities release VOCs (volatile organic compounds), gases, fragrances, and other potentially harmful particulates that mar indoor air quality.

**Q. How are medical facility managers addressing these issues?**

A. Many facility managers are beginning to initiate environmental quality programs to identify and prevent the use of products and materials that can harm the indoor environment. They are becoming much more proactive by regularly studying and testing materials before they are used in their facilities and by using more environmentally preferable, effective, and safe cleaning products and

maintenance programs. This also includes elevating custodial training programs and encouraging building occupants to play a greater role in the health of the facilities they work in.

**Q. Floor care issues come up when discussing IAQ and there appears to be some controversy on the subject. Can you explain and clarify what this is all about?**

A. About 20 years ago, studies in some schools indicated that carpeted floors could be detrimental to IAQ, increasing the possibility of allergies and even asthma attacks in children because of the dust that settles on them and because of the materials used in manufacturing them. Additionally, the adhesives used to install carpets release VOCs and other gases that can cause allergic reactions. As a result, many school systems and public facilities, including medical centers, removed carpeting and replaced it with hard-surface floors.

Today we know that as long as carpet is well maintained—vacuumed and extracted regularly using effective cleaning equipment, proper air filtration, and environmentally preferable cleaning chemicals—it is not harmful to the indoor environment. In fact, new studies indicate that carpet actually acts in a positive way as a sponge—trapping contaminants until they can be safely removed through proper cleaning. Additionally, the off-gassing of carpets has been significantly reduced, and adhesive manufacturers now produce

water-based, lower-, or no-VOC adhesives, which have less impact on the environment.

**Q. Please elaborate on the role of cleaning, cleaning chemicals, and flooring.**

A. The goal of all cleaning should be to help keep building occupants healthy. Regrettably, it has become clear that some of the traditional chemicals used in cleaning, although they have served us well, are contributing to an unhealthy indoor environment both by negatively affecting IAQ as well as leaving harmful residue on cleaned surfaces, such as toilet seats, fixtures, desks, etc.. which can be absorbed through the skin.

For instance, in carpet care, spot cleaning with conventional cleaning chemicals can adversely affect the health of some building occupants because of the chemicals and compounds found in these products. The trend today is toward water-based chemicals and Green Seal or ECP (Environmental Choice Program) certified carpet care products. These chemicals are less harmful to use, not only for building occupants but for cleaning professionals as well.

The same is also true for hard-surface floor care. Most hospitals and medical centers install hard-surface floors throughout their facilities, using carpets just in offices and some common areas. To care for these floors, facility managers often turn to strippers, finishes, and floor maintainers/restorers—many of which are some of the most

powerful and potentially harmful chemicals used in cleaning. And, when these chemicals are emptied into drains, especially after refinishing, they enter streams and waterways, harming plants and wildlife and gradually entering the human food chain.

However, just as with carpet care, certified-Green cleaning chemicals, strippers, finishes, and maintainers/restorers are now available that perform as well traditional products but are much more protective of the health and safety of those using the products, the occupants of the buildings (patients, medical and administrative staff, etc.), visitors, as well as the environment.

**Q. Lots of manufacturers are now selling Green Cleaning chemicals and products. How can a facility manager determine what is fact and what is fiction when it comes to Green?**

A. This is an excellent question that is luckily becoming easier to answer. First, look to see if the product, as mentioned previously, has been certified by either Green Seal or ECP. These independent, nonprofit, third-party testing organizations have similar testing programs and, for the most part, honor each others' certifications. They evaluate products as to performance, and, of course, they determine whether the products are made from safer chemicals and compounds.

Once proven Green, either by Green Seal or ECP, or by being verified by an independent lab that the product can meet or exceed

the Green Seal or Environmental Choice criteria), additional questions facility managers should ask their distributors the following questions about their Green product offerings:

- How much recycled content (pre- and post-consumer) does the product packaging contain?
- Is disposal of the product after its useful life harmful to the environment? Will it break down safely in a landfill, or can it be recycled?
- Is it made from rapidly renewable sources?
- Is the product made from water- or oil-based products and compounds?
- Does the product have a long life? If used for floor care, can it diminish refinishing cycles?
- Does the supplier provide a cost-benefit or life-cycle cost analysis?

A facility manager, especially of a healthcare facility, must be a savvy purchaser. This may require rolling up the sleeves and doing a little research. It also may require learning more about Green Cleaning

and Green Cleaning chemicals and all that it entails. It should also include testing products at their facilities for a month or two to evaluate performance, cleaning staff input, and the cost per useable gallon at the dilutions they require. Then the balancing of protection (to people and the environment), performance, price, and place (the value being delivered from the distributor and manufacturer) must be evaluated.

However, the long-term benefits—minimizing the impact of cleaning on the indoor environment, developing more productive workers, creating a healthier working situation, and protecting our planet—are all benefits that can be derived by going certified-Green.

Robert Kravitz is a writer for the cleaning and buildings industries. He may be reached at 773-525-3021.