Breathing easier in apartment buildings
These kinds of headlines have been appearing with increasing regularity over the past few years. Canadians have long known that outdoor air can make us ill and affect our quality of life. Only recently has the general public started to recognize that the air inside our homes can also make us sick, and that it can actually be significantly worse than what we breathe outside. The US Environmental Protection Agency has even included indoor air quality among its top five risks to public health.

Typically, talk of residential indoor air quality has focused on private homes. But apartment buildings need to be part of this discussion. In fact, multi-unit residential buildings have characteristics that make them particularly susceptible to indoor air problems: large numbers of people sharing a common space and limited ventilation options.

Creating a clean indoor environment does not have to be overwhelming – and it will lead to healthier and happier residents and staff, and a more desirable building. But before this is possible, building operators need to understand the sources of indoor air pollution and options for its prevention and removal.

Volatile Organic Compounds (VOCs) are a large part of the problem. VOCs are substances released as gas from a large variety of products commonly used in building construction, repair and maintenance. Many are toxic. Common sources include paints, stains, floor waxes, cleaning products, composite wood products such as plywood and particle board, rubber and vinyl furniture, air fresheners, carpeting and vinyl flooring, and personal care products used by residents and staff.

Ten years ago, there weren’t many options for reducing VOCs in buildings. This is no longer the case. Low or no-VOC building and maintenance products are now readily available. While there is typically a price premium for these products, even this is becoming less of an issue as more and more companies enter the market.

Paint is one of the easier products to ‘clean up,’ with most major companies, such as Benjamin Moore and Olympic Paints, having a low or no-VOC line. It is important, however, to remember the tints. The benefits of a healthier paint will be lost if the tint added releases VOCs. Less toxic cleaning products are also readily available, with Nature Clean, AFM SafeChoice, Eco Mist, MASS Environmental Services and ECOgent offering a...
range of cleaning solutions that are low odour and low VOC.

Carpeting can be a major source of air quality problems. Besides the VOCs that are released from the fibres, underpadding, latex binding and treatments, carpets trap dust and release pollen, pesticides, pet dander and other pollutants into the air. The best alternatives are solid materials such as ceramic tile, hardwood, polished concrete or brick. Where this is not an option, housing providers can use carpets made from low emission materials that are tacked or nailed rather than glued. Frequent cleaning with a High Energy Particulate Arrestor (HEPA) vacuum will also be necessary.

Rather than installing particle board or plywood cabinetry (which releases formaldehyde into the air), building managers should consider using hardwood, glass or metal wherever possible. Formaldehyde-free composite wood is also now available. If regular particleboard or plywood is the only option, it is possible to reduce the air quality impact by sealing any of the exposed wood with a low-VOC sealer.

In addition to switching to less toxic building and maintenance products, indoor air quality can be improved by putting in place appropriate safeguards when renovating or doing repairs. Residents should not walk into their lobby to see contractors working in the open on the walls or floor. Instead, they should see a plastic dust barrier surrounding the work area with an exhaust system venting fumes outside. Too often, opening a window is the preferred way to flush out the air around a work site. This will rarely do the job, and can actually blow contaminants into public areas. A better option is to use a HEPA air scrubber or a large vacuum that is exhausting out a sealed window.

These options described above are all relatively simple to put in place. The biggest challenge involves ventilation. Properly working HVAC systems are critical to indoor air quality in apartment buildings, but are expensive to repair and upgrade, and can be compromised by problems with the building envelope. Low-impact approaches to improving ventilation include ensuring that kitchen and bathroom exhaust fans are working properly, and sealing plumbing and electrical wall penetrations, exhaust fans and other openings in individual units.

Improving air quality is not ‘all or nothing.’ Whether taken as a whole or individually, these strategies will help residents and staff of apartment buildings breathe easier.

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