

No small feat for IAQ Pioneer

"Irritable husband syndrome" led Bruce Small to a healthy home crusade that began 27 years ago

For years Bruce Small has been a voice in the wilderness, calling out warnings about the air quality in our homes. Now, he says, people are starting to hear him – and even listen.

Small is one of Canada's leading advocates for creating healthy homes and buildings. For 27 years he has been warning that indoor air quality (IAQ) in our homes is a lot worse than the air we inhale out on the street.

Envirodesic, a company he launched with partner Howard Rubin, does extensive research on the products and building techniques that help improve the air quality in our homes.

Small, a 56-year-old engineer, says his years of warnings, his years of advising and his years of searching for solutions has helped drag in-home air quality into the public eye. Many architects, builders, engineers, scientists and product manufacturers are now singing from the same hymnbook Small has been using for years. Finally, they too are making indoor air quality a high priority in designing and building homes. So, Small is thinking of taking on another unhealthy boogiemanager – the hectic lifestyles of today's baby boomers.

"Our populations are gradually losing personal, physical, emotional, interactive and cognitive skills. We are becoming fat, immobile, inflexible, two-dimensional creatures who enjoy life only at a safer distance," says Small.

He says the thrill of "being back in the arena of life, rather than watching it on the Jumbotron, will be the rediscovery of the twenty-first

century."

He admits to sounding like a grumpy boomer, but it was his bout as a grumpy husband in 1976 that led to his crusade to improve the air quality in our homes.



Bruce Small

Small jokingly said his "irritable husband syndrome" was the most obvious symptom of his chemical sensitivity to the everyday toxins in our homes, offices, cars, clothes and food.

Although he places himself in the 15% of humanity he says are "super sensitive" to everyday toxins, he also believes most general public ailments can be traced to the quality of the air we breathe, particularly in our homes.

"It may be that 15% of the population becomes incapacitated by the poor air quality in our homes, but when you spread that 15% around among families, it means 41% of all households are seriously affected by this plague."

"When I first started talking publicly about this problem most people considered me a crackpot and a renegade. Now the stage is getting pretty crowded with

professionals who recognize the problem and are recommending, or at least looking for, solutions to it."

Through his research firm, Envirodesic, Small has studied a wide variety of approaches to creating a healthy home with good air quality. He said the "building envelope" is a crucial component of a healthy home.

"Building an air-tight home where you can control the flow of air into and out of the home is the best way of preventing mould. And mould is the biggest consistent health hazard in our homes," said Small.

He recommends Icynene insulation, a soft foam that is sprayed on walls, ceilings and floors. It expands within seconds to create an air barrier that fills those nooks and crannies that let moisture-laden air leak in. The foam adheres to all surfaces, so it can be used on wood or metal. The Icynene Insulation System is an Ontario-based firm that has been in operation for 15 years and now has clients throughout North America.

Small has been consultant to several large builders and government agencies in Mexico, which he said will soon be facing a major invasion of mould into the average Mexican home in urban centres.

With an improving economy and higher standard of living for Mexicans, many families are now able to afford air conditioning in their homes, but their homes were not built with air conditioning in mind.

"When the warm moist air hits those now cool walls of the home, the condensation will form inside the walls and trickle

down into ideal conditions to create mould. It'll become a huge health problem."

Small is pleased with the way the architectural profession has jumped on the healthy home bandwagon. He says that lawsuits in the southern United States over mouldy homes have been one stimulus to get architects' attention.

"The architect is often the only firm still operating under the same name when mould is discovered 10 years after the home is built, so the architect becomes an obvious target in lawsuits. Architects are learning all they can these days about air quality, as much for protection of themselves as it is for advocating a healthy home."

Small said he wishes the medical profession would take the same attitude. "The medical profession for years has been aware of the problems caused by bad air in our homes, but the doctors have been one of the least responsive bodies about speaking out about this outrage."

Small said creating an airtight home with a heat recovery/air exchange system is a good first step. "We build a good home, but then we fill it with crap to negate all the good we've done with the building envelope. Our cleaning products, furniture, floor coverings, cupboards are all giving off toxic gases."

Another product his firm promotes for keeping a healthy home clean is Ecogent (www.ecogent.ca) an all-natural cleaning solution with no volatiles or perfumes. So far it is sold only in one-gallon containers and aimed at the commercial market, said Small.



Improving your indoor air quality: Tips No. 2, 3, 4

2) Keep the house clean. Dust can aggravate allergies and cause respiratory irritations. Sweep floors regularly, dust and wash the bedsheets.

3) Buy a hygrometre. They cost \$25 - \$50 at the hardware store and they monitor your humidity just like a thermometer measures temperature. Make sure levels stay below 60% in summer and 30% to 50% in winter. Habits that keep humidity down are running bathroom and kitchen fans or opening windows to expel moisture.

Often you need to run a de-humidifier in the basement. Prolonged exposure to humidity is one of the most common triggers for asthma and allergies.

4) Clean your heating and cooling systems. Without proper maintenance, these systems can become breeding grounds for all manner of mould and bacteria which then get blown through your house. Read all maintenance manuals for your air conditioner, humidifier, furnace, gas fireplace and follow accordingly.