GLOBAL INDOOR HEALTH NETWORK

WORKING TOGETHER FOR HEALTHY INDOOR ENVIRONMENTS
IN OUR HOMES, SCHOOLS AND BUSINESSES



June 7, 2017

Inside This Issue

New Video on "Cumulative Organic Chemical Hyper-Toxicity"

Dr. Michael Gray has released a new video that describes the clinical health condition "Cumulative Organic Chemical Hyper-Toxicity," what it is, who is affected, and how he and his medical colleagues in his toxicology clinic at Progressive Healthcare Group help people with this condition remove toxins from their system and promote systemic healing.

Two new books that may be of interest:

Through the Shadowlands by Julie Rehmeyer. Website.

Poisoned by Alan Bell. Website.

Climate Change is Making Us Sick -- Report from 400,000 U.S. Doctors

From increases in deadly diseases to choking air pollution and onslaughts of violent weather, man-made climate change is making Americans sicker, according to a report released Wednesday by 11 of the nation's top medical societies.

The report was prepared by the Medical Society Consortium on Climate and Health, a new group that represents more than 400,000 doctors, who make up more than half of all U.S. physicians.

"Doctors in every part of our country see that climate change is making Americans sicker," said Mona Sarfaty, the director of the new consortium and a professor at George Mason University in Fairfax, Virginia.

The burning of fossil fuels — gas, oil and coal — to power our world releases greenhouse gases such as carbon dioxide and methane into the Earth's atmosphere, warming the planet to levels that cannot be explained by natural climate cycles.

Scientists have warned for years of the potential impacts of climate change on human health. The federal National Climate Assessment released in 2014 said: "Climate change threatens human health and well-being in many ways, including impacts from increased extreme weather events, wildfire, decreased air quality, and illnesses transmitted by food, water and diseases carriers such as mosquitoes and ticks."

And the World Health Organization estimated climate change will be responsible for about 240,000 deaths per year by 2030.

To read the article, click here.

See *World No Tobacco Day* page 2

World No Tobacco Day 2017: For Health, Prosperity, the Environment and National Development

Action to stamp out tobacco use can help countries prevent millions of people falling ill and dying from tobacco-related disease, combat poverty and, according to a first-ever WHO report, reduce large-scale environmental degradation.

On World No Tobacco Day 2017, WHO is highlighting how tobacco threatens the development of nations worldwide, and is calling on governments to implement strong tobacco control measures. These include banning marketing and advertising of tobacco, promoting plain packaging of tobacco products, raising excise taxes, and making indoor public places and workplaces smoke-free.

Tobacco use kills more than 7 million people every year and costs households and governments over US$ 1.4 trillion through healthcare expenditure and lost productivity.

"Tobacco threatens us all," says WHO Director-General Dr. Margaret Chan. "Tobacco exacerbates poverty, reduces economic productivity, contributes to poor household food choices, and pollutes indoor air."

Measures, governments can safeguard their countries' futures by protecting tobacco users and non-users from these deadly products, generating revenues to fund health and other social services, and saving their environments from the ravages tobacco causes."

All countries have committed to the 2030 Agenda for Sustainable Development, which aims to strengthen universal peace and eradicate poverty. Key elements of this agenda include implementing the WHO Framework Convention on Tobacco Control, and by 2030 reducing by one third premature death from non-communicable diseases (NCDs), including heart and lung diseases, cancer, and diabetes, for which tobacco use is a key risk factor.

The first-ever WHO report, Tobacco and its environmental impact: an overview, also shows the impact of this product on nature, including: Tobacco waste contains over 7000 toxic chemicals that poison the environment, including human carcinogens.

"Tobacco threatens us all," says WHO Director-General Dr. Margaret Chan. "Tobacco exacerbates poverty, reduces economic productivity, contributes to poor household food choices, and pollutes indoor air."

Tobacco use kills more than 7 million people every year and costs households and governments over US$ 1.4 trillion through healthcare expenditure and lost productivity.

World No Tobacco Day 2017: For Health, Prosperity, the Environment and National Development (cont'd)

Tobacco smoke emissions contribute thousands of tons of human carcinogens, toxicants, and greenhouse gases to the environment. And tobacco waste is the largest type of litter by count globally.

Up to 10 billion of the 15 billion cigarettes sold daily are disposed in the environment. Cigarette butts account for 30–40% of all items collected in coastal and urban clean-ups.

Tobacco threatens all people, and national and regional development.

"Many governments are taking action against tobacco, from banning advertising and marketing, to introducing plain packaging for tobacco products, and smoke-free work and public places," says Dr. Oleg Chestnov, WHO's Assistant Director-General for NCDs and Mental Health. "One of the least used, but most effective, tobacco control measures to help countries address development needs is through increasing tobacco tax and prices."

"Tobacco is a major barrier to development globally;" says Dr. Douglas Bettcher, Director of WHO's Department for the Prevention on NCDs. "Tobacco-related death and illness are drivers of poverty, leaving households without breadwinners, diverting limited household resources to purchase tobacco products rather than food and school materials, and forcing many people to pay for medical expenses."

To read the article, click here.

See *One in Six Europeans...mouldy buildings* on page 3

One in Six Europeans Live in a Damp or Mouldy Building (Europe)

One in six Europeans – equivalent to the entire population of Germany – live in a damp or mouldy building, which increases their chances of getting illnesses such as asthma, according to a new study.

Europeans living in an "unhealthy" building – with a leaking roof, walls or foundations – are significantly more likely to report poor health, according to the 2017 edition of the Healthy Homes Barometer, to be unveiled on Wednesday (31 May).

People living in unhealthy buildings are also more likely to suffer from asthma, found the report, which will be officially published on Healthy Buildings Day in the European Parliament.

Unhealthy buildings are not just a matter of concern for poor people unlucky enough to live in damp or mouldy houses. It is also a public health concern, which is weighing heavily on the European economy.

The study looked at the overall health costs associated with asthma and chronic obstructive pulmonary disease, including public health costs and sick days where employees fail to show up at work.

The total cost of asthma in Europe is estimated at €17.7 billion per year, with productivity losses alone making up €9.8 billion, according to the World Health Organisation (WHO).

EU Commission sees "alarming" trend

The healthy homes barometer is published every year by Velux, a Danish company that specialises in roof windows and skylights. It was produced by consultancy firm Ecofys, German public research firm Fraunhofer, and Copenhagen Economics, a consultancy.

"It is alarming to read that one out of six Europeans reports living in an unhealthy building," said Vice-President for the Energy Union, Commissioner Maroš Šefčovič.

One in six Europeans – equivalent to the entire population of Germany – live in a damp or mouldy building, which increases their chances of getting illnesses such as asthma.

One in Six Europeans Live in a Damp or Mouldy Building (Europe)—continued

"The Barometer also shows that improvement of the building stock through renovation can have a major impact on our health and well-being, and it offers solutions to some of our most important societal and climate issues," Šefčovič stated.

Air pollution is a major cause of health problems linked to fossil fuel combustion, according the International Energy Agency (IEA). The WHO estimates that indoor and outdoor air pollution causes around 7 million deaths each year.

But there is also growing awareness about the poor quality of indoor air, which can be exacerbated by bad heating and insulation. Ensuring homes – but also factories and offices – are properly ventilated is seen as key to tackling health risks linked to indoor air pollution.

Buildings with a good indoor environment can reduce healthcare costs and are a way to tackle energy poverty," Šefčovič said, adding this was recognised in the Commission's proposal for a revision of the Energy Performance of Buildings Directive.

"This further reaffirms the importance of tackling energy poverty through building renovations," Šefčovič added.

"So the health factor there is a huge issue," Pedersen told EURACTIV.com, saying energy efficiency "is becoming recognised as the solution for much bigger issues".

To read the article, click here.

See *Indoor Air Quality…EU Buildings* on page 4

Indoor Air Quality Sneaks into EU Buildings Law Review (Europe)

A last-minute push by energy activists has convinced the European Commission to include indoor air quality considerations into the revised Energy Performance of Buildings Directive (EPBD). Making it happen on the ground could prove a bigger challenge, however.

European countries will be required to take indoor air quality into consideration when buildings undergo renovation work, under draft legislation currently debated by EU lawmakers.

The proposed revision of the Energy Performance of Buildings Directive (EPBD) – which still needs final approval – acknowledges the health dimension of building renovation, saying "Improvements to the indoor climate will significantly reduce mortality, morbidity, and health care costs".

"Better performing buildings…improve health by reducing mortality and morbidity from a poor indoor climate," reads the revised EPBD proposal, tabled last November.

"Adequately heated and ventilated dwellings alleviate negative health impacts caused by dampness, particularly amongst vulnerable groups such as children and the elderly and those with pre-existing illnesses," it adds.

This was not a foregone conclusion.

Energy efficiency campaigners say it took a concerted push with three EU commissioners – in charge of climate, health and regional policy – to get the health dimension into the picture.

"It is proven that cold homes are directly linked to premature deaths in Europe," said Clémence Hutin from Friends of the Earth, an environmental pressure group.

"Acting ambitiously on energy efficiency reconciles environmental, health and social policy," she told EURACTIV.com.

European countries will be required to take indoor air quality into consideration when buildings undergo renovation work, under draft legislation currently debated by EU lawmakers.

Indoor Air Quality Sneaks into EU Buildings Law Review (Europe)--continued

Research published earlier this week shows that one in six Europeans live in a damp our mouldy building, which doubles their chances of respiratory illnesses [see page 3 in this newsletter].

People living in unhealthy buildings are also 40% more likely to suffer from asthma, according to the 2017 edition of the Healthy Homes Barometer, unveiled on Wednesday (31 May).

Commission Vice-President Maroš Šefčovič, in charge of the Energy Union, said he was "alarmed" at the findings of the 2017 Healthy Homes Barometer, pointing to chronic respiratory diseases such as asthma, which are exacerbated by poor insulation and ventilation.

"Buildings with a good indoor environment can reduce healthcare costs and are a way to tackle energy poverty," Šefčovič underlined, saying this was "recognised" in the Commission's proposal for a revision of the Energy Performance of Buildings Directive.

An impact assessment study of the revised EPBD evaluated the theoretical healthcare and morbidity cost savings related to the 25 billion square meters of buildings in the EU. In total, these were estimated at €139bn, or an average of €5.6 in cost savings per square meter, according to the Commission's calculations.

To read the article, click here.

See *New research--Mold and sinusitis* on page 5

New Research Papers on Mold and Sinusitis

Surgical and Medical Management of Sinus Mucosal and Systemic Mycotoxicosis

Authors: Donald Dennis and Jack D. Thrasher

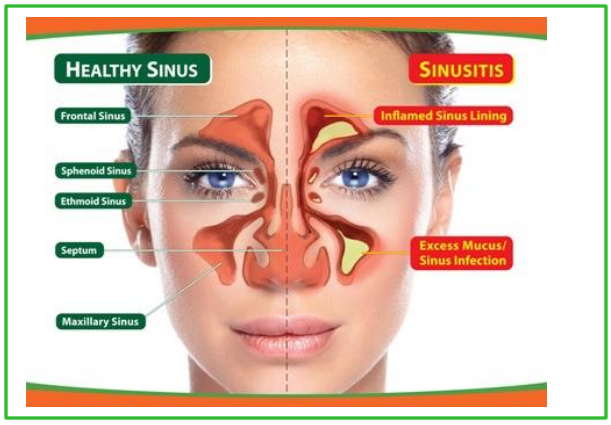
Abstract:

Two women, ages 53 and 26, exposed to fungi in their water-damaged homes, presented with sinus and neurological symptoms. Sinus CT scans revealed bilateral fungal ethmoid sinusitis in both patients. The older patient also had a brain MRI that indicated probable microvascular inflammation in the grey and white matter junction.

After maximal medical therapy, with no improvement in sinus or neurological symptoms, endoscopic sinusotomies were performed on both patients to remove polypoid sinus mucosa and possible mucosal mycotoxins. Samples of the extracted mucosa were then cultured on SDA agar plates. The cultured tissue was also tested for mycotoxins. The tissue from the 52-year-old woman was positive for mycotoxins as follows: Ochratoxin A (> 10 ppb), Macrocyclic trichothecenes (> 10 ppb), and Gliotoxin (> 10 ppb). The 26-year-old woman's extracted and cultured ethmoid mucosa was also positive for mycotoxins as follows: Gliotoxin (0.35 ppb). Gliotoxin, which was present in both tissue samples, is a mycotoxin consistent with Aspergillosis of the ethmoid sinuses.

These findings are discussed with respect to sinus mucosal fungal mycotoxin presence, and translocation of toxins and fungal spores via accepted avenues, as well as through the olfactory nerve into the hypothalamus/pituitary axis. These findings give laboratory and case study proof of the following conjecture: Toxic mold exposure that results in chronic sinusitis and other systemic symptoms, and which fails to respond to maximum medical treatment, may require functional endoscopic sinus surgery (FESS) to remove sinus mucosal mycotoxins, as well as intraoperative Amphotericin-B irrigation to improve systemic symptoms.

Click here to read the paper.



New Research Papers on Mold and Sinusitis (continued)

Invasive Fungal Sinusitis in the Pediatric Population: Systematic review with quantitative synthesis of the literature

Authors: Smith A, Thimmappa V, Shepherd B, Ray M, Sheyn A, Thompson J

Abstract:

Invasive fungal sinusitis (IFS) in adults is predominantly an infection seen in immunocompromised patients undergoing treatment for malignancies but also frequently associated with diabetes in adults. For a good prognosis, diagnosis must be swift and treatment aggressive with surgical debridement and antifungal therapy.

Presenting symptoms that were positively associated with mortality were fever, orbital involvement, edema, rhinorrhea, congestion and headaches. Only facial pain was negatively associated with overall mortality, possibly because it is often an early sign of infection.

Aspergillus was the predominant fungal pathogen (47%) amongst the study group that had a media age of 11 years old. The authors noted that almost half of patients had nasal involvement as well as sinus infection, in fact nasal infection often preceded sinus involvement.

Consequently, they propose that this disease is renamed Fungal Invasive Rhinosinus Disease (FIRD).

Click here to read the abstract.

See *Schools Work to Prevent Mold* on page 6

Schools Work to Prevent Mold Over Summer Break (Pennsylvania)

GIHN Note: *Every summer, we see numerous articles about mold problems in schools (mainly caused by lack of maintenance and because many schools turn off or turn down the air conditioning during the summer months). Here's an article about some schools taking a proactive approach.*

Midstate school districts have plans in place to avoid mold growth in their buildings during the summer break.

At the start of this past school year, many school districts had to shut down buildings due to mold issues from over the summer.

East Pennsboro School Districts was one of them.

"Stressful," Superintendent Jay Burkhart said. "I think that's a word you can use to describe it."

Burkhart recalls a month of mold at the district in August and September.

"We had to shut the high school down in order to remediate the mold and restore air quality to acceptable levels to bring the kids back," he said.

There are no standard regulations for air quality or mold particle levels for schools, according to the Environmental Protection Agency. Tests in East Pennsboro revealed humidity and rain caused the mold buildup.

Allergist Dr. Robert Zuckerman in Harrisburg says mold can cause sickness in about 20 percent of kids.

"Those allergic reactions could be related to their skin, which could be itchy," Zuckerman said. "It could be related to their eyes; itchy, red and runny."

He says kids and adults with asthma could have more severe reactions.

So how are schools like East Penn learning from last year? "

Schools Work to Prevent Mold Over Summer Break (Pennsylvania)—cont'd

"We are installing an outside air system in one elementary school to help control the humidity," Burkhart said, adding that the installation will occur this summer.

He added that maintenance workers will monitor the buildings frequently for mold and water leaks that cause it. The district will also keep its air conditioning on throughout the summer.

Lowering those temperatures so that the air flow through the building continues," Burkhart said.

West Shore School District Superintendent Todd Stoltz said his district will do many of the same things, including frequent monitoring. He added that maintenance workers are putting dehumidifiers in trouble spots and keeping the air conditioning on in more places around the buildings.

Workers are replacing a boiler at Cedar Cliff High School this summer, which was always the plan; but Stoltz believes this will remedy some of the mold issues, as well.

"It's not unexpected for schools to have mold problems," Zuckerman said. "It's a large building with a lot of people in it, and where mold is coming from is humidity."

District officials say they now know what to look for and how to fix it before kids get back on the bus.

To read the article, click here.

See *Leaky Buildings and Toxic Mould* on page 7

Leaky Buildings and Toxic Mould (New Zealand)

Litigation over leaky buildings is on the rise over the last 12 months, particularly in Melbourne and Canberra. Be it leaky balconies, leaky planter boxes or leaks emanating from common property, a trend is emerging and it does not bode well.

Leaky building claims are very costly as water damage and water penetration can be very destructive. Water invasiveness has little respect for the integrity of the as-built product.

Water damage corrupts most construction elements, regardless of whether it is wood, joinery, electrical interface or fabric. If it impacts upon the integrity of joinery or balconies, key elements of the building can fail. Rust on external balconies or concrete flaking can culminate in balcony collapse, which, needless to say, poses a public danger.

Moreover, it is so often incredibly difficult to identify the specific source and the remedy, hence the exorbitant costs of both rectification and litigation.

The leaky building syndrome in New Zealand

Australia has not experienced the maelstrom that was and is the leaky building syndrome that has devastated the New Zealand construction landscape for nearly two decades. **Leaky buildings in New Zealand, euphemistically called "Leakies" since 1994, have culminated in many billions of dollars' worth of damage to New Zealand buildings.**

The magnitude of the leaky building crisis culminated in the establishment of a bespoke tribunal, the "Weathertight Homes Tribunal" that was established to deal exclusively with leaky homes claims.

A Price Waterhouse Coopers report released in December 2009 revealed that 42,000 dwellings in New Zealand built between 1992 and 2008 were potentially implicated in the leaky building web. Furthermore, the same report stated that the remediation costs in 2008 NZ Dollars was some $11.3 billion.

Leaky buildings in New Zealand, euphemistically called "Leakies" since 1994, have culminated in many billions of dollars' worth of damage to New Zealand buildings.

Leaky Buildings and Toxic Mould (New Zealand)—cont'd

Labyrinthine body corporate litigation

There is unfortunately a proliferation of cases where extensive water penetration is adversely affecting multi-unit apartment blocks. Ordinarily this involves the intervention of bodies corporate as water malaise cases tend to be of both a common property and individual unit title derivation. This leads to very complex and labyrinthine litigation as the body corporate invariably has to 'hunt in packs', as it were, with a cluster of unit holders.

The law of nuisance and how apartment owners can be on the hook

Equally problematic in the multi-unit setting is the application of the law of nuisance. Regardless of whether the cause of water ingress migration is of the defective workmanship or burst pipe derivation, if water migrates from one apartment to another, then the owner of the source apartment can be found liable for causing and alternatively not arresting the nuisance. Hence, if you own an apartment and you have a burst pipe, and water seeps into the apartment below or next door causing damage, then you will be liable for the damages that flow from that nuisance. Unfair? Yes, but that is the law.

The dangers of toxic mould

The most sinister aspect of water damage cases, however, is not the immense cost regarding diagnosis and protracted litigation; it is the potential for there to be an environment that is conducive to the growth and proliferation of toxic mould. **Illness that emanates from toxic mould can, to reiterate, be life-threatening** and can take a case into the public liability realm.

To read the article, click here.

See *Flight Attendant…aerotoxic syndrome* on page 8

Flight Attendant Says Flying Wrecked Her Health (Aerotoxic syndrome)

She says she loved the life, the travel, and the pay, but the work atmosphere was, in a very literal sense, poisonous.

Angel began to feel ill, and could not understand why. She was forced to resign due to ill health.

She now lives in Mid Wales and is a campaigner, describing herself as a protagonist.

"I don't want anybody to go through what I'm going through. It will dismantle your whole life," she says.

"I want to inform as many people as possible about the dangers of flying. I'm seeking recognition of aerotoxic syndrome. I want it to be registered as an environmental and occupational hazard."

Based in Bahrain in the Middle East, she was on a two-year contract with Gulf Air, and was quickly promoted to First Class, flying all over the world.

"I loved it. Who wouldn't? I found the work stimulating. I enjoyed meeting all the different nationalities. I was born to fly.

"But then I started to experience a major change in my health. We used to get these really strong pungent smells in the aircraft cabins. It smelt like a wet dog, or really smelly socks, with smoke filling the aircraft.

"I would cough. I couldn't breathe properly and started to shake violently and have really horrible headaches. I started to get a lot of gastric problems, which was very unusual for me. I couldn't eat anything. It got worse and worse. I started to oversleep."

She was dating an airline captain and once he went away to work for two days and kissed her goodbye, only to come back to find her still in bed in exactly the same position, having not moved.

"He thought I was in a coma."

Her problems were variously put down to the food poisoning, overworking, tiredness, or jet lag.

The air you are breathing while in flight is coming directly from the jet engines. It is all recycled. A fume event occurs when this bleed air used for cabin pressurisation and air conditioning is contaminated by chemicals - it could be jet fuel, engine oil, hydraulic fluid, de-icing fluid, as well as other hazardous chemicals.

Flight Attendant Says Flying Wrecked Her Health (Aerotoxic syndrome)—cont'd

Then she started bleeding and lost weight. She suffered two miscarriages. Ultimately she lost her job. Her health problems continued, with her weight falling from eight and a half stones to six and a half.

"No-one could tell me what was going wrong. I spent two years crawling around the floor because I couldn't stand up. Those are what I call the hell years.

"In order to protect myself, I moved to the middle of nowhere and completely detoxed my whole life 14 years ago when I was on death's door."

"Then in 2007, I read a newspaper article about 'fume events' and it talked about toxic cabin air. Bingo - this is what I've been trying to tell everybody."

"It had taken me from 1996 to 2007 to find out the truth of what had happened to me."

Since then she has been a campaigner, spreading awareness to cabin crew and passengers about "fume events." Angel is featured in a documentary film Unfiltered Breathed In - The Truth About Aerotoxic Syndrome.

She said: "The air you are breathing while in flight is coming directly from the jet engines. It is all recycled. A fume event occurs when this bleed air used for cabin pressurisation and air conditioning is contaminated by chemicals - it could be jet fuel, engine oil, hydraulic fluid, de-icing fluid, as well as other hazardous chemicals."

To read the article, click here.

See *New report calls for immediate action* on page 9

New Report Calls for Immediate Action on Indoor Air Pollution (U.K.)

Poor indoor air quality in UK homes is at a scale and magnitude that needs immediate national-level attention and action, according to a new report from built environment and medical professionals.

With contributions from the Royal College of Physicians, the Royal College of Paediatrics and Child Health, BRE and the ARCC network, the report was published following a workshop event where built environment and medical professionals came together to identify the key issues and challenges at the heart of the problem which contributes to approximately 40,000 fatalities in the UK every year.

A critical challenge identified in the report is the lack of robust, longitudinal, shared Indoor Air Quality (IAQ) profiles, associated health consequences and datasets across the national housing stock.

Recommendations include revising building regulations and reducing pollutant emissions from construction materials and home improvement products.

Professor Stephen Holgate, special advisor on air quality to the Royal College of Physicians, said:

"There is a growing body of evidence that suggests volatile organic compounds (VOCs), are also being produced by synthetic building and furnishing materials. At the same time, insulating homes without adequate ventilation can trap a potentially toxic cloud coming from everyday household products such as air fresheners and cleaning products."

"We need to strike a balance between talking to technologists to develop solutions for those able to improve the situation within their own means and ensuring effort is going into 'making normal better'."

The report also calls for nationwide monitoring and pooling of data required for outdoor and indoor air pollution including encouraging widespread installation of real time sensors that detect indoor pollutants.

Poor indoor air quality in UK homes is at a scale and magnitude that needs immediate national-level attention and action.

Recommendations include revising building regulations and reducing pollutant emissions from construction materials and home improvement products...and several other steps.

New Report Calls for Immediate Action on Indoor Air Pollution (U.K.)--continued

Professor Jonathan Grigg, Royal College of Paediatrics and Child Health, said: "Air pollution is already considered one of the leading dangers to children's health, and is known to effect people chronically over the life-course. It is therefore imperative that we strengthen the understanding of the relationship between indoor air pollution, exposure and health impacts and to be able to define the economic impact of poor indoor air quality and the health benefits of healthy homes."

Other recommendations included:

- incentivising and stimulating production of indoor air quality enhancing materials with energy efficiency benefits
- creating public health campaigns for greater public awareness that are easy to understand, educational and encourage behavioural change
- changes in market products including home insurance and mortgage products.

Dr. Peter Bonfield, CEO of BRE, added: "It is important to think carefully about air quality when considering energy efficiency improvements in housing and other buildings, so that the health and wellbeing, especially those more vulnerable across our society are properly protected and informed to avoid the potential negative health impacts of poor air quality."

To read the article, click here.

See *Analyzing Carbon Dioxide Content* on page 10

Analyzing Carbon Dioxide Content Inside The Home Using Scientific Metabolic Computations

The air people exhale will improve the quality of the air they breathe in. As researchers claim in their study of scientific metabolic calculation in determining the content of carbon dioxide inside the home, the air people breath inside their abodes is not as safe as it seems. There are contaminants inside a house like gasses and particles in circulation.

The data of indoor pollution can be a basis for improvement for the ventilation system. Sufficient ventilation will also clean the air inside a home or a building and reduces the need for cooling and heating which saves energy, according to the National Institute of Standards and Technology (NIST).

However, the standard measurement that was based on reports regarding CO2 calculations are obsolete since it is data back in the 80s, says NIST Mechanical Engineer Andrew Persily and George Mason University Nutrition Professor Lilian de Jonge. The data for metabolic computations and CO2 emissions of occupants in a building could be off by 25 percent in today's calculations.

Scientific studies and computations of Persily and Mason are now on solid and presently established data on human metabolism physiology relative to CO2 emission capacity, body weight and composition, physical activity, and diet. Results of the latest study done by Persily and Jonge are more accurate in analyzing carbon dioxide inside of homes. The duo reported their work in the Indoor Air Journal. They ran through four decades of information regarding CO2 generation by indoor occupants and applied the analysis of CO2 using scientific metabolic computations.

A recent Chinese investigation confirmed Persily and Jonge's studies. The Chinese study using the currently used formula over calculated the amount of CO2 generated by women at 25 percent and 16 percent in men.

To read the article, click here.

Employees at Boulder's Arapahoe Campus File Workers' Comp Claims

Staff members at Boulder's Arapahoe Campus have filed workers' compensation claims citing health concerns that they say were caused by poor air quality at the school.

The air quality issues, including sewer and paint odors, likely were caused by open sewer vents and non-working ventilation systems.

Several teachers said they're concerned about the health effects of long-term chemical exposure, including potential exposure to the solvent xylene, even if the current air quality issues have been resolved through repairs.

In an email to Superintendent Bruce Messinger in March, Miers urged Messinger to "get on this fast, we have evidence of very sick people there. That building also houses pregnant teens and young babies that could be severely impacted by the air contaminants."

To read the article, click here.

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