



Keeping Your Workplace Healthy

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Although it is difficult to prove that specific health problems among indoor workers have particular causes, many speculative implications have become real health concerns.

The term '**sick building syndrome**' (**SBS**) is used to describe the situation in which building occupants experience acute health and discomfort issues that appear to be linked to the amount of time spent in a particular building. (And in such denoted cases, no specific illness or cause can be identified.) In contrast, the term '**building related illness**' (**BRI**) is used when symptoms of a diagnosable illness are identified and can be attributed directly to airborne building contaminants.

In 1984 a **World Health Organisation Committee Report** suggested that up to 30% of new and remodelled buildings worldwide may be the subject of excessive complaints related to **indoor air quality (IAQ)**. Often this condition is temporary, but some buildings suffer the long-term effects. These problems are the result of inconsistencies in operating procedures to those originally prescribed - or sometimes indoor air problems evolve as a result of poor building or occupant activities.



Causes of Sick Building Syndrome

The following have been cited causes of, or contributing factors, to **sick building syndrome**:

Inadequate Ventilation.

In the early to mid 1900's, building ventilation standards called for approximately 15 cubic feet per minute (cfm) of outside air for each occupant — primarily to remove and dilute body odours. In 1973 there were calls for a reduction in the amount of outdoor air provided for ventilation to 5 cfm per occupant. This, in many cases, resulted in the reduction of outdoor air ventilation rates — and resulted in inadequate ventilation for maintaining the health and comfort of building occupants. Inadequate ventilation may also occur if **heating, ventilation and air conditioning (HVAC)** systems do not effectively distribute air to people in the building. In an effort to achieve acceptable IAQ standards while minimising energy consumption, the **World Environmental Protection Authority (WEPA)** have revised the legislative standards to provide a minimum of 20 cfm per person in office space and up 60 cfm in some spaces such as smoking lounges.

Chemical Contaminants from Indoor Sources.

Most indoor air pollutants come from sources inside the building; for example adhesives, carpeting, upholstery, manufactured wood products, copy machines, pesticides and cleaning agents may all emit **volatile organic compounds (VOC)** and other respirable particulate matters.

Bacteria, moulds, pollen and viruses are types of biological contaminants. These contaminants may breed in stagnant water that has accumulated in ducts, humidifiers and drain pans, or where water has collected on ceiling tiles, carpeting or insulation.

Sometimes insects or bird droppings can be a source of biological contaminants. Physical symptoms related to biological contaminations include cough, chest tightness, fever, chills, muscle aches and allergic responses such as mucous membrane irritation and upper respiratory congestion. As little as one indoor bacterium or Legionella has caused both **Legionnaire Disease** and **Pontiac Fever**.

These elements may act in combination, and may supplement other complaints as inadequate temperature, humidity or lighting. Even after a building investigation the specific cause of complaints may remain unknown or unrelated.

Effects of Particles.

Particles are categorised into **3 forms**:

Fibres

Silts

Molecules

Fibres.

Fibres are visible, macroscopic filaments, usually man made. They come from clothing, carpeting, upholstery, and paper. One sees Fibres floating in bright shafts of sunlight. They settle in calm air, drift along the floor and tangle into 'dust bunnies' in calm areas, in corners and under beds. Fibres are easily strained out of the air by even coarse filters, but removing them from the air isn't very important because they pose housekeeping, not health problems.

Silts.

Silts are microscopic particles that can stay suspended in calm air for some time. Common silts are airborne soil, smoke particles, allergens (pollens, fungus & mildew spores), bacteria and viruses. They are not individually visible to the naked eye, but in large numbers, are visible as haze or smoke. Silts are pulled out of the air stream and held tightly by the attracting fibres of electrostatic filters. Silts cause allergies and other well-documented health problems.

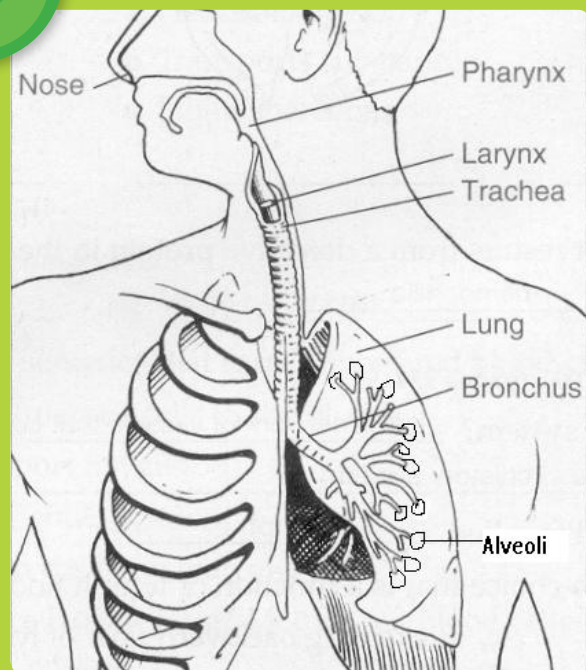
Molecules.

Odours and molecular irritants are sub-microscopic molecules — about 100 times smaller than the smallest silts. Molecular irritants are especially threatening in that they travel into the lungs where they dissolve and enter the bloodstream. They are the only actual pollutants that enter our bodies. Molecules are completely unaffected by particle fibres, but coincide and interact with airborne silts. Fortunately most of the time the body's absorbents efficiently sponge them up. And the above clearly identifies the smaller the particle the harsher the effect on human health.

By reducing the particle contaminants we are preventing potential IAQ problems. All occupants within a building can have a great influence on sustaining a healthy working environment, by becoming aware of the common workplace health issues and contributing positively to reducing their presences.

Respiratory System can be **AFFECTED**

The diagram below shows the make-up of the respiratory system. It can be divided in two systems - the upper airway passages and the lower airway passages. The upper airway passages include the nose, nasal passages, mouth and the pharynx, down to the vocal cords in the larynx (the “voice box” or “Adam’s apple”). The lower airway passages start at the vocal cords, extend down the trachea (“windpipe”) and continue all the way down to the small air sacs, (alveoli) at the end of every branch of the bronchial tree. The bronchial tree includes the trachea, the bronchus (branches of the trachea going to each lobe of the lung), and bronchioles (branches of the bronchi).



Effects of Dust

Dust tangled with Fibres, Silts and Molecules, whether accumulated on surfaces, or airborne, pose a fatal health problem. Although the production or utilisation of chemicals and cleaners is largely automated, diseases of the respiratory system may most times occur if dust control in the working environment is not provided. The accumulation of .004 mm of dust has certain enzymes present (mainly protease's from bacillus subtilis), especially in warehouse and etiological environments, which causes allergic reactions or acute irritations to the respiratory organs.

STUDIES HAVE SHOWN OUTBREAKS OF RHINITIS, LARYNGITIS AND EVEN ASTHMA HAVE BEEN RELATED TO LONG-TERM EXPOSURE OF DUST. ALSO, SOME WORKERS SUFFERING FROM THESE TROUBLES SHOWED POSITIVE REACTION TO ALLERGIC TESTS — AND INHALATION OF LOW CONCENTRATIONS OF ENZYME EXTRACTS PRODUCED IMMEDIATE ASTHMATIC REACTIONS. MORE OFTEN, ACCORDING TO THE OBSERVATORY STUDIES, THESE DISTURBANCES WERE CAUSED BY SURFACE DUST INVADING THE INDOOR AIR QUALITY OF THE WORKING ENVIRONMENT AND EXACERBATING ALLERGIES. AS A METHOD TO REMOVE AIRBORNE DUST EXHAUST VENTILATION SHOULD BE PROVIDED.

How to Keep Your Building Healthy:

Keeping your building and workplace healthy is actually a business asset and studies have shown that employees perform better when they feel good about their working environment. Understand that not having to worry about the cleanliness and maintenance of your building allows you and your firm's staff to focus on the essential operations.

Spree Enterprise believes our extensive knowledge and expertise in related health issues in the workplace gives our service quality, cleaning methodology and pricing structure that competitive edge.

Therefore, once you are in any building, it is vitally important to set up a regular cleaning maintenance program and make sure the workplace remains a smoke free environment. Other important and essential points to bear in mind in your quest to keep **Sick Building Syndrome** at bay are:

1. Ask cleaners to use non-toxic products, minimising their use of strong chemicals. (**Spree Enterprise** minimise and eliminates the usage of all chemicals and where possible use organically manufactured chemicals)
2. Have toilets and washrooms cleaned and disinfected daily.
3. Ensure the kitchen and lunchroom area is kept clean, with no cockroaches or rodents being attracted to food scrapes left lying around.
4. Address problems of damp mould immediately when they appear.
5. Checking vents regularly to see they are clean and working with nothing blocking them.
6. Emptying all rubbish daily.
7. Maintaining clean and disinfected ventilation systems/air filters regularly.
8. See that photocopiers and laser printers are serviced as recommended by the manufactures or authorising personnel.
9. Schedule fumigation when the building is vacant. (The Christmas and New Year breaks are ideal.)

Caring for your office may involve considerable time, effort, and in some cases may become expensive. But workplaces that address the **Indoor Air Quality** and **SBS issues** will be rewarded with productivity increases and reduced absenteeism.

GO CLEAN GO GREEN™ PROGRAM



Over the last 5 years Spree Enterprise has refined the methodology of cleaning to a unique degree. We consider cleaning more than the general perception of a mop, bucket and vacuum cleaner; we see it as an art form. Many problems, which you may not be aware of, may be affecting staff moral, your workplace environment, and your employee's productivity. Yet, despite the lack of public knowledge, there are many companies making a conscious effort to improve the health of their workplace.

It was this growing interest that prompted Spree to develop its **Go Clean Go Green Cleaning Program**. Our transition from conventional cleaning practices to environmentally responsible practices involved not only collaborating with leading chemical & equipment manufacturers, but also implementing cleaning procedures, such as microfibre & suction dusting — which permanently eliminates surface dust from resettling and is more efficient in comparison to a normal feather duster approach. (In microfibre or suction dusting, a component is attached to the end of the vacuum cleaner rod, extracting and completely eradicating dust.)

In normal dusting procedures, dust particles are up lifted from surfaces and allowed to circulate, airborne. During such airtime (which is estimated to range from 1 hour to 12 hours) such very fine molecules, may cause allergic reactions, asthma and cause hypersensitivity if inhaled.

This inevitably becomes a health problem, affecting employee productivity and exposing a business to the risk of an increase in absenteeism. According to the **World Health Organisation** 30 per cent of new and remodelled office buildings exhibit signs of SBS — and between 10 to 30 per cent of occupants are affected.

When someone gets the flu everyone gets the flu. Even when your employees are not actually away from work, the effects of an unhealthy workplace unquestionably reduces their efficiency levels, while long exposure of some particles and pollutants as described earlier may lead to other serious long-term effects.

Without realising, many offices are suffering from an alarming level of indoor dust problems and pollutant contaminants.

Drifting through the air may be 100 to even 600 volatile organic compounds (VOC), which are most commonly found in chemicals used in the workplace. To protect both our clients and staff members, Spree Enterprise minimises the use of hazardous chemicals — and where possible utilises organically-manufactured products.

Other emitted VOC's can come from carpets, partitioning, sealants, glues, paints, varnishes, curtains and furnishings. Some VOC's can also be detected by odour, while others have no smell.

Some of the contaminants, which travel through the air, trigger allergic reactions, including hypersensitivity, pneumonitis, allergic rhinitis and some types of asthma. Infectious illness, such as influenza, measles and chickenpox are transmitted through the passing of air. Moulds and Mildews release diseases causing toxins. Symptoms of Health problems caused by biological VOC's include sneezing, watery eyes, coughing, shortness of breath, dizziness, lethargy, fever and digestive problems.

We must be aware that whatever invades our air also invades our lungs. Lurking in our HVAC systems are many biological contaminants and pollutants and lively colonies of bacteria that can spread infections such as legionnaires disease.

To eliminate the spread of germs and infection, Spree has introduced our **Usage Ratio Policy**. In effect our policy identifies the significance of using each cleaning cloth or item of similarity only duties performed and disposing of it accordingly on the execution of work activity. This enables the continuity of optimum service control and supply.



Please contact
us on
1300 788 080
or by email
info@spree.net.au

SPREE ENTERPRISE PTY LTD

Level 5, 88 Albert Road,
South Melbourne Vic 3205 Australia
p: 1300 788 080
f: 1300 551 124
e: info@spree.net.au
w: www.spree.net.au

CUSTOMER CARE

e: customercare@spree.net.au

CREATING TOMORROW

www.spree.net.au

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