Review article
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Sick building syndrome—a wolf in sheep’s clothing

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Objective: Reading this article will acquaint the reader with possible concerns associated with the diagnosis of "sick building syndrome." The definition, epidemiology, and precipitating events of this symptom complex are distinguished from other defined building-related illnesses.

Data sources: The author’s experience with many patients presenting with the diagnostic label and selected studies on indoor pollution and "sick building syndrome" are carefully reviewed.

Study selection: Terminological investigations on "sick building syndrome" and previously published reviews on this and related subjects that met the inclusion objectives were critically reviewed.

Results: "Sick building syndrome," as a previously described concept of nonspecific, transient symptom without proven biologic markers, its application in the clinical setting involves frequent subsequent linkage to either similar vague diagnoses associated with chronic disability and lack of therapeutic intervention.

Conclusion: The reader is encouraged to avoid the use of this term in favor of a simpler, descriptive diagnosis (eg, transient office-related annoyance or anidation) or if this seems inadequate, adoption of the diagnostic label of "discomfort building syndrome."
ECONOMIC REPERCUSSIONS
According to a report by the National Institute of Occupational Safety and Health, 15% of the workforce is estimated to work in buildings that are considered "sick." The economic impact of these buildings is significant, with estimates ranging from $100 billion to $200 billion per year in lost productivity and health care costs.

PREVENTING THE SICK BUILDING SYNDROME
There are several strategies that can be implemented to prevent the sick building syndrome. These include:

1. Regular maintenance and cleaning of buildings to remove mold and other contaminants.
2. Good ventilation to ensure adequate airflow.
3. Regular inspections to identify and address potential issues.
4. Training for building occupants on how to identify and address potential problems.
5. Use of building automation systems to monitor and control indoor air quality.

By implementing these strategies, the incidence of sick building syndrome can be significantly reduced, leading to improved health and productivity for building occupants.
have been observed in persons both inflammatory and non-infectious in origin. In both cases, it is the presence of innate reflex arc responses. These may include the presence of reflexes for mediating similar, reflexive behavior, vocal, and cardiovascular responses. The temporal, location, and magnitude of these responses vary among individuals. The presence of an indeterminate odor is one of the principal characteristics of the syndrome of "sick building syndrome." Frequently, a strong emotional response is experienced by occupants and, often, the complaints may even be directly related to the source of the odor. As well, the emotional response of occupants often stems from a perception of being exposed to the odor. The source of the odor in the building in which the respondents are working may be associated with the "odor" or "disturbing" odor of an indoor environment which represents specific volatile organic compounds.

Inhalation: Although conventional wisdom has attributed the syndrome to the perception of odors, it is now recognized that volatile organic compounds may be a significant contributor to the syndrome. The perception of volatile organic compounds may be associated with the presence of certain volatile organic compounds. In addition, certain volatile organic compounds may be associated with the presence of certain volatile organic compounds. In addition, certain volatile organic compounds may be associated with the presence of certain volatile organic compounds.

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Respiratory infections: Respiratory infections have been associated with the syndrome. The severity of symptoms may vary from mild symptoms to severe symptoms, including nausea, vomiting, headache, dizziness, and other symptoms.

Toxicity: Toxicity results from chemical substances that are hazardous to health. The toxicity is related to the concentration and duration of exposure to these substances. The severity of symptoms may vary from mild symptoms to severe symptoms, including nausea, vomiting, headache, dizziness, and other symptoms.

Conclusions: The syndrome of sick building syndrome is a complex, multifactorial phenomenon that is associated with the presence of certain volatile organic compounds. The severity of symptoms may vary from mild symptoms to severe symptoms, including nausea, vomiting, headache, dizziness, and other symptoms. The syndrome may be associated with a variety of factors, including indoor air quality, building design, and occupant behavior. The severity of symptoms may vary from mild symptoms to severe symptoms, including nausea, vomiting, headache, dizziness, and other symptoms.
In selected patients with "sick building syndrome" or "multiple chemical sensitivity" there is a further peculiarity in association with other ill-defined chronic disorders with overlapping symptoms. These include chronic fatigue syndrome, fibromyalgia, and psychosomatic symptoms. It has been proposed that chronic fatigue syndrome and fibromyalgia are similar, if not identical disorders. Although these conditions share a preponderance of male patients with similar symptoms at presentation, marital status, educational level, employment status, and duration of illness (Fig 3) have also been claimed as justifying the "chemical" basis of "multiple chemical sensitivity" with the exception of paraplegia. The presence of these symptoms has to be carefully observed and measured by physical examination or laboratory studies. Once the diagnosis is established, the patient feels justified in expressing chronic symptoms for which there is little hope of any effective therapeutic intervention. Previous reports of patients with "multiple chemical sensitivity" have observed that 15% to 16% claimed total disability. In selected patients with "sick building syndrome" or "multiple chemical sensitivity", there is a further peculiarity in association with other ill-defined chronic disorders with overlapping symptoms. These include chronic fatigue syndrome and fibromyalgia. It has been proposed that chronic fatigue syndrome and fibromyalgia are similar, if not identical disorders. Although these conditions share a preponderance of male patients with similar symptoms at presentation, marital status, educational level, employment status, and duration of illness (Fig 3) have also been claimed as justifying the "chemical" basis of "multiple chemical sensitivity" with the exception of paraplegia. The presence of these symptoms has to be carefully observed and measured by physical examination or laboratory studies. Once the diagnosis is established, the patient feels justified in expressing chronic symptoms for which there is little hope of any effective therapeutic intervention. Previous reports of patients with "multiple chemical sensitivity" have observed that 15% to 16% claimed total disability.


may be suffering adverse health effects due to poor indoor air quality is:
A. 2 million
B. 5 million
C. 10 million
D. 20 million
E. 50 million

5. All of the following are precipitants of "sick building syndrome" except:
A. Preparation of food or beverages
B. Occupancy of a new building before final completion
C. Renovations of any commercial building during normal workdays
D. Water or moisture exposure
E. True scientific evidence of indoor levels of various organic compounds in commercial buildings before all of the following except:
A. Association with symptoms
B. Emission from paints, carpet, adhesive, pesticides, materials, etc.

C. Are usually well below TLV standards published by the American Conference of Governmental Industrial Hygienists.
D. Are usually less than 1% of any recognized occupational exposure standard
E. Are definite respiratory irritants

7. Obvious mold growth in commercial office buildings is usually associated with all of the following except:
A. Poor maintenance of the heating, ventilation, and air conditioning system
B. Filtration of water
C. Typical "mildew" odor
D. Health concerns among building occupants
E. Respiratory health effects

8. All of the following conditions may impact how a building occupant responds to an undesirable odorous environment except:
A. Allergic rhinitis
B. Chemical sensitivity
C. Fatigue or malaise
D. Carbon monoxide
E. Cough, sore throat

CME Examination
CME Test Questions
1. All the following diagnoses belong in the category of building-related illnesses except:  
A. Hypersensitivity pneumonia
B. Roidminder fever
C. Tuberculosis
D. Q fever
E. Vocal cord dysfunction syndrome

2. A building where smokers have failed to vacate a zone for 111 days, defined symptoms in occupants with resultant fear and eventual evacuation is termed:  
A. Right building
B. Problem building
C. Crisis building
D. Troubled building

3. The estimated number of commercial buildings with malfunctioning heating, ventilation and air conditioning systems is:
A. 10%
B. 25%
C. 50%
D. 75%
E. 65%

4. The approximate number of sick building occupants who

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