

# Indoor air quality and health in offices and other non-industrial working environments

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## KEY WORDS

Indoor air; building-related illnesses; sick building syndrome; office work

## SUMMARY

**Background:** *Over the last 30 years, transformation of indoor environments – in particular in office blocks – has been associated with complaints from workers of discomfort, malaise and even diseases termed Building Related Illnesses (BRI) which are classified as specific (e.g. Legionnaire disease, asthma, hypersensitivity pneumonia) or non-specific (e.g. the Sick Building Syndrome). Methods:* A review was made of data from international public health organisations, epidemiological, clinical and experimental studies and congress proceedings from 1990 to 2006 on the topic of indoor air quality and health in modern, non-industrial workplaces. **Results:** *Studies focused on ventilation, temperature and air humidity and specific pollutants such as Volatile Organic Compounds, particules asbestos fibres, environmental tobacco smoke, radon and biological agents. We can now measure microclimate parameters and many indoor air pollutant levels as well as their effects on health; we can also formulate indications of threshold and guideline values for some of these and make a preventive assessment for toxic emissions from construction and furnishing materials. A stepwise, multi-disciplinary approach – with the specialist in occupational medicine playing a major role – is most suitable for dealing with BRI and the effects of poor indoor air quality on health. Conclusions:* Better criteria are needed to study emission of substances into the indoor environment, adequacy of ventilation, additive or synergistic effects of mixtures of chemicals and toxicity of micro-organism decomposition products. Objective clinical tests to assess the effects of indoor pollutants on health and indices for Indoor Environmental Quality in assessing buildings need to be improved.