

Psychiatric Disorders and Work-Related Asthma

The diagnosis of work-related asthma, particularly documenting changes in breathing test results in relationship to work, can be challenging.

An article in the May 1, 2013 edition of the American Journal of Respiratory and Critical Care Medicine highlights an additional complication, the presence of psychiatric disease and/or hypochondriasis in patients with suspected work-related asthma (1). The investigators used Primary Care Evaluation of Mental Disorders (PRIME-MD) to classify individuals for mood and anxiety disorders and the Whitney Index to assess levels of hypochondriasis. These questionnaires were administered to 195 patients who were being evaluated with specific antigen challenge testing for work-related asthma in Quebec. Thirty four percent of the patients met the criteria for mood, anxiety and/or hypochondriasis. This prevalence was greater than the prevalence of psychiatric disorders in the general population but it was not greater than the prevalence among individuals with non work-related asthma. Individuals who ended up without a diagnosis of confirmed work-related asthma had a higher prevalence of mood disorder, anxiety disorder and hypochondriasis although only the prevalence of hypochondriasis was significantly greater (Table 1). The authors concluded that psychiatric conditions should be added to the differential of conditions, such as vocal cord dysfunction and rhinitis, to be considered when evaluating patients with work-related asthma.

Table I. Prevalence of Psychiatric Disorders Among Patients With and Without a Respiratory Disease Who were Evaluated for Work-Related Asthma

Variable	Received at Least One Respiratory Diagnosis		P Value
	Yes	No	
Any disorder	47 (31%)	20 (45%)	0.079
Any mood disorder	42 (28%)	15 (34%)	0.423
Any anxiety disorder	33 (22%)	13 (30%)	0.293
Hypochondriasis	6 (5%)	6 (16%)	0.018

(Adapted Lavoie et al, 2013)

Silicosis from Synthetic Countertops

Synthetic quartz-containing bathroom and kitchen countertops were first introduced in 1987. These artificial stone countertops are composed of a mixture of synthetic polymer resin with natural quartz aggregates, and have a silica content ranging from 85-93%. In contrast, the average silica content of pure granite countertops is 60-70%. Synthetic countertops with high silica content are manufactured under different brand names such as CaesarStone®, Silestone®, and Zodiaq®. The synthetic countertops have attained increased popularity because of their strength, water resistance and pigment options in comparison to pure granite.

Silestone® is manufactured in Spain with its US corporate headquarters in Texas. Zodiaq® is a Dupont product manufactured at a facility in Canada. CaesarStone® has two manufacturing sites in Israel with its US corporate headquarters in Southern California. CaesarStone® is currently building a US manufacturing facility.

These synthetic countertops are typically custom-finished by small businesses employing ten or fewer workers. Once the consumer picks out a counter top in a kitchen and bath store, the finishing work is contracted out to the fabrication shop. During the finishing work the counter tops are sawed, ground and polished. Silica is released during this finishing process, and the amount depends on the adequacy of ventilation and how much of the work is done using dry rather than wet methods. Wet fabrication methods significantly reduce the silica dust in the air.

Nine patients with silicosis, age range 26-37 with periods of exposure of 5-17 years working in these shops have been reported from Spain (2, 3) and 25 patients with silicosis were reported from Israel, age range 46-59 with 10-40 years of exposure (4). The patients from Israel had been identified after having been referred for a possible lung transplant (10 had lung transplants performed) and had more severe disease than the cases reported in Spain. No cases from the United States have been reported, although silica air sampling results from four fabricating shops in Oklahoma and 18 facilities in Washington were generally above the allowable OSHA silica standard (5, 6).

Workers are at risk in facilities preparing both granite and synthetic countertops. Although the silica content of granite is lower than in the synthetic countertops, there is more dry cutting used in granite countertop fabrication and air levels of silica are as high in shops preparing granite as in shops with synthetic stone countertop fabrication (7). Dry cutting occurred in 80% of the granite countertop shops surveyed in the three largest metropolitan areas in Oklahoma (7).

We do not have information on the number of *fabricating shops* in Michigan. However, we do know that there are 36 *distributors* of Zodiaq®, 65 *distributors* of CaesarStone® and 994 *distributors* of Silestone® countertops in Michigan. These facilities are located across the state. It is likely that many of the countertop distributors across the state would use the same fabricating shops. The cutting occurs in the fabricating shops and this is where the workers are at risk of being exposed to silica.

We are interested in hearing if you have patients with respiratory problems who do work fabricating either granite or synthetic countertops, please contact Kenneth Rosenman, M.D. at 1-800-446-7805.



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An updated and revised version of **Asthma in the Workplace, Fourth Edition**

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News

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In this issue: v24n3: *Psychiatric Disorders & Work-Related Asthma*
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*PS Remember to report all cases of occupational disease!

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