Background/Aim A large reservoir of in situ asbestos-containing materials (ACM) remain in residential settings throughout Australia. Tradesmen and householders are at risk of exposure if they work on or near these materials, without knowing they contain asbestos. The aim of this study was to validate ACM Check, a screening tool to identify and assess the condition of potential ACMs located in and around Western Australian homes.

Methods A two-stage cross-sectional study was undertaken: 1) completion of ACM Check by 40 Western Australian householders, and 2) an on-site asbestos inspection by an experienced Environmental Consultant, which included collecting samples of suspect ACM to be tested in a laboratory. Cohen’s kappa coefficient compared the results obtained from ACM Check with those of the Environmental Consultant.

Results 40 houses ranging in date of construction from 1898 through to 1988 with a median year of 1966, were sampled. 38 of the 40 houses (95%) were identified as having one or more ‘possible’ or ‘likely’ asbestos-containing materials present on the property. Overall, there was perfect agreement between ACM Check and the Environmental Consultant’s assessment for any (1 or more) ACM present, $K=1.00$, $p<.005$, perfect agreement for any ACM located outside the house, $K=1.00$, $p<.005$, and moderate agreement for any ACM located inside the house, $K=0.593$, $p<.005$.

Conclusions ACM Check is a reliable screening tool to identify in situ ACMs in Western Australian residential settings. Its method can potentially be modified for implementation in other countries.

Poster Presentation

Chemicals


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The present project focuses on the effects of occupational exposure to oil mists on a panel of exposure and effect biomarkers in an epidemiological study. The assumption is that different health outcomes are caused by reactive particles causing oxidative stress leading to lung inflammation and ultimately cancer or asthma.

Ninety workers from France and Switzerland (30 controls, 30 exposed to straight cutting oil and 30 to soluble cutting oil) will be followed over two days after a non-exposed period of at least two days. The exposure assessment is based on measurements of particles, metals, aldehydes, amines, the intrinsic oxidative potential of aerosols and the cutting oil. Furthermore, exposure biomarkers are measured in exhaled breath condensate (EBC)-metals, ions (nitrite, nitrate...) and urine –metals, metabolites of PAHs-. Finally, exposure determinants will be collected to guide future efforts in exposure prevention.

Effect biomarkers of oxidative stress (malondialdehyde, 8-isoprostane, 8-hydroxy-2-deoxyguanosine) in EBC and urine will be repeatedly measured as well as exhaled nitric oxide (FeNO), an inflammation marker.

Genotoxic effects will be assessed using the buccal micronucleus cytome assay. Finally, the possible chronic effects of oil mist exposure on respiratory health will be explored by standard questionnaires.