

<b>Project Title</b>	<b>Asbestos exposure, autoimmunity and asbestos-related diseases: filling in the knowledge gaps</b>
Recipient	A/Prof Alison Reid
Institution	Curtin University
Research description	<p>This project will examine whether exposure to asbestos causes an autoimmune response and whether that autoimmune response is higher in people with mesothelioma and lung cancer. Mesothelioma has no effective treatment and very poor survival. Many people in Western Australia have been exposed to asbestos and remain at risk of developing mesothelioma for many decades after they were exposed. Australia has among the highest rates of mesothelioma in the world.</p> <p>We will examine the blood of 25 participants with mesothelioma, 25 with lung cancer and 50 who were exposed to asbestos but who do not have a disease. These participants are people who participate in three long term follow up studies of people exposed to asbestos. We have collected their blood annually, from before they developed mesothelioma or lung cancer. We will look for an autoimmune response in the blood sample taken closest to the time that they were diagnosed with either mesothelioma or lung cancer and the most recent sample of those 50 without a disease. We want to determine if the autoimmune response is influenced by the amount of asbestos exposure or if the autoimmune response is higher in people with mesothelioma or lung cancer. Our collaborator in the United States will do all the blood testing and then send us the results. We will use mixed effects regression models to statistically analyse the data to find out if the autoimmune response develops before the onset of mesothelioma or lung cancer.</p> <p>If we find that an autoimmune response is caused by asbestos exposure and is increased in people with mesothelioma then the long term impacts for mesothelioma control and care are considerable. It will provide new areas of research for laboratory scientists to explore to further understand the disease process. New knowledge may lead to new processes or targets for intervention, prevention or treatment. For example, laboratory research could focus on developing methods that modulate or block the autoimmune response so that mesothelioma does not develop. This could make a big difference to the many thousands of Australians, particularly Western Australians, who have been exposed to asbestos but for whom no means of preventing the onset of disease after exposure (secondary prevention) exists.</p>
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