behaviour. This was related to the basic psychological needs, mainly due to a higher of the need for autonomy (p<0.01).

**Conclusion** Need for autonomy important in the motivation to reduce sitting. Presenting different to reduce sitting seems to autonomy. Future studies are warranted to evaluate if more emphasis on the need relatedness by organising e.g. group discussions during the interventions, results in a larger reduction sitting behaviour.

### Allergy and Immunotoxicology

**1053 AUGMENTED PROLIFERATION OF MESOTHELIAL CELLS CAUSED BY SECRETORY FACTORS DERIVED FROM IMMUNE CELLS UPON EXPOSURE TO ASBESTOS**


**Introduction** Our studies have demonstrated suppressive effects on anti-tumour immunity related with malignant mesothelioma. On the other hand, whether there is a potential interaction between immune and mesothelial cells remains to be clear. The present study examined the effect of secretory factors produced by human peripheral blood mononuclear cells (PBMC) upon exposure to chrysotile A (CA) or crocidolite (CR) asbestos on human mesothelial cell line of MeT-5A.

**Methods** PBMC were cultured with antibodies to CD3 and CD28 upon exposure to CA or CR at 5 or 20 μg/ml. After 2 or 7 days, culture supernatants were harvested and stored. MeT-5A cells were cultured with 8-fold diluted culture supernatants for 48 hours. Cell proliferation was assayed by WST-1. Cytokines in the culture supernatants were assayed by luminescence. G-CSF, GM-CSF, IL-1α, IL-1β, IL-3, IL-5, IL-13 and IL-17A were added into the parts of MeT-5A cell cultures.

**Results** In contrast to 2 days, the supernatants of 7 days PBMC cultures with CA or CR at 20 μg/ml significantly increased MeT-5A cell proliferation. The productions of IL-1α, IL-1β, IL-3, IL-5, IL-13 and IL-17A in the culture of PBMC were high upon CA or CR exposure. The supplementation with G-CSF and GM-CSF into the culture did not increase proliferation of MeT-5A, whereas IL-1α, IL-3, IL-5, IL-13 and IL-17A augmented it. In contrast, the combined addition of these cytokines did not change MeT-5A cell proliferation.

**Conclusion** These results indicate that there is an interaction between immune and mesothelial cells, in which secretory factors derived from immune cells exposed to asbestos augmented mesothelial cell proliferation. Actually, asbestos-exposed immune cells showed increased production of cytokines, some of which individually augmented MeT-5A cell proliferation. Those findings suggest that asbestos-exposed immune cells might let mesothelial cells proliferate in an uncontrolled manner, leading to generation of transformed cells.