

ATS 2021 Highlights

Respiratory Structure and Function Early Career Professionals

Get to know members of the RSF Assembly



Jack Bozier, PhD

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Is your research clinical, basic science or translational?

Basic Science/Translational

Tell us about your research?

I recently completed my PhD in respiratory cell and molecular biology investigating the effects of emerging tobacco products on primary human lung cells. I have since transitioned into a postdoctoral role investigating aerosol dispersion and viral transmission risk in the clinical setting.

Where do you see yourself in 5 years?

I plan to pursue further studies in medicine, and would like to be involved in both research and clinical practice within the field of respiratory medicine in the future.

What do you find is the major benefit of RSF Assembly Membership?

RSF membership provides access to a community of researchers to discuss novel research, establish research collaborations, and the opportunity to receive feedback from experts on my own research findings.

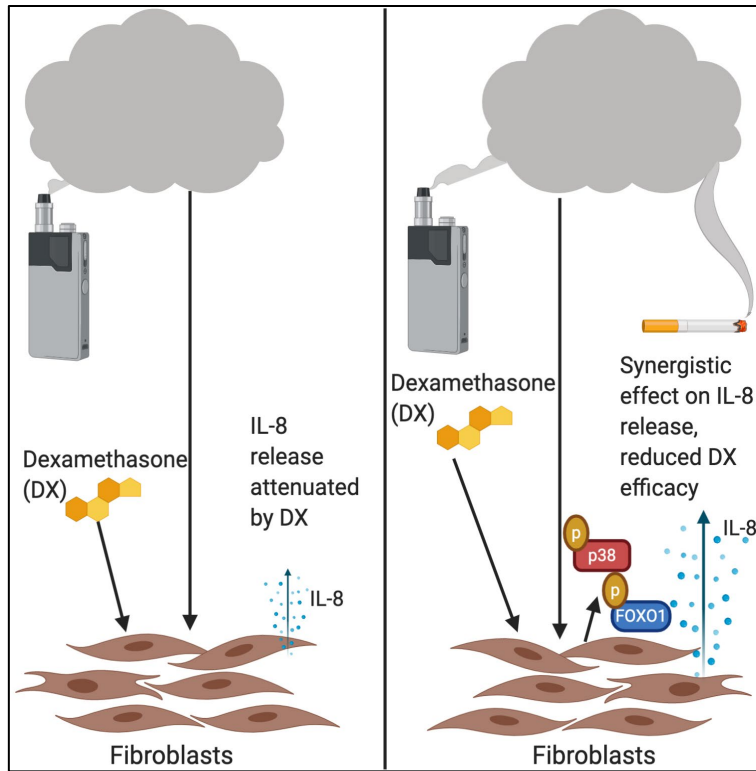


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Abstract Title: Combined E-cigarette and cigarette use reduces efficacy of dexamethasone to attenuate neutrophilic inflammatory markers.

Objective: To determine the inflammatory potential of E-cigarettes and cigarette smoke both alone and in combination; and whether stimulation results in dysregulation of glucocorticoid induced reduction of inflammatory mediators .

Methods: ELISA, RT-qPCR, Western Blot

Results: E-cigarette vapour extract (EVE) and cigarette smoke extract (CSE) increased IL1 α , and CXCL8 gene expression both alone and in combination, an increase was also seen in CXCL8 protein levels. CXCL8 protein production from dual EVE and CSE exposure was not attenuated by the highest concentration of dexamethasone (DEX) pre-treatment. CXCL8 signalling not attenuated by DEX may be associated with FOXO1 or p38 signalling, as both were upregulated in CSE and EVE dual exposure irrespective of DEX pre-treatment in Western Blot.

Conclusion: The findings of this study identify that dual use should be avoided and never considered safe, particularly in COPD patients who are susceptible to exacerbations driven by neutrophilic inflammation and glucocorticoid insensitivity.

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If you or someone you know would like to be featured as an ATS RSF ECP please email Katrina Tonga (katrina.tonga@sydney.edu.au)

