SHAREABLE PDF

# Wouldn't you like to know: are tertiary lymphoid structures necessary for lung defence?

Jeffrey L. Curtis[1,2,3]

**Affiliations**: [1]Medical Service, VA Ann Arbor Healthcare System, Ann Arbor, MI, USA. [2]Graduate Program in Immunology, University of Michigan, Ann Arbor, MI, USA. [3]Dept of Internal Medicine, University of Michigan, Ann Arbor, MI, USA.

**Correspondence**: Jeffrey L. Curtis, Pulmonary and Critical Care Medicine Section (506/111G), VA Ann Arbor Healthcare System, 2215 Fuller Road, Ann Arbor, MI 48105-2303, USA. E-mail: jlcurtis@umich.edu

@ERSpublications
**Organised lung lymphoid tissues are unnecessary to defend against bacteria in a mouse chronic infection model** https://bit.ly/3adwW3Z

**Cite this article as:** Curtis JL. Wouldn't you like to know: are tertiary lymphoid structures necessary for lung defence? *Eur Respir J* 2021; 57: 2004352 [https://doi.org/10.1183/13993003.04352-2020].



A key principle of emergency management is establishing an incident command centre. That's where information is gathered *via* integrated communications, plans are formulated, responsibilities assigned, and resources deployed. The immune system deals with microbial threats by this same approach, using organised lymphoid tissues. At the early stages of infections, conventional dendritic cells (cDCs) transmit intelligence on the nature of the threat to regional lymph nodes, which along with the spleen, tonsils and Peyer's patches, constitute the secondary lymphoid organs. Within lymph nodes, immune responses are optimised as large numbers of effector T cells search for their cognate antigens on the surfaces of cDCs, under the supervision of regulatory T cells. However, widespread and chronic threats require additional command centres closer to the action. "Tertiary lymphoid structures" is one name for these *de novo* frontline assemblages, along with "lymphoid follicles". The process, termed lymphoid neogenesis, occurs within many organs in infectious, autoimmune and inflammatory disorders, and in transplanted organs and malignancies [1]. Because tertiary lymphoid structures (TLSs) develop in multiple lung diseases (table 1), defining their roles in pathogenesis is a crucial unmet goal that experimental models are well-suited to address.