

A tactile approach to introduce the skin autoimmune disease psoriasis to the general public and the vision impaired community

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September 24, 2023

Abstract

Scientific outreach activities play an important role in disseminating knowledge, connecting the general public to research and breaking down scientific scepticism barriers. However, the vision impaired community is often disadvantaged when the most common audio-visual approach of scientific communication is applied. Here we integrated tactile clues in the scientific communication of immune processes involved in the autoimmune skin disease psoriasis. We encouraged participation of the vision impaired community by engagement with tactile scientific origami art, a haptic poster and wood carved molecular models. Readily accessible science communication that engages a number of senses is a critical step towards making science more inclusive, and engaging for individuals with a wide range of sensory abilities. The Sensory Science approach aligns with the principles of equity, diversity, and inclusion and helps create a more informed and scientifically literate public.

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Figure 1. PEAUrigami® of Medical Art where origamis of skin photographs are folded to mimic psoriasis skin (on the left) and healthy skin (on the right). The difference between diseased and healthy skin can be seen and/or touched.



Figure 2. Tactile poster contrasting non-lesional versus lesional psoriasis skin. The display illustrates skin layers, anatomical structures and main immune cell players.



Figure 3. 3D model of TCR – peptide – MHC I complex. $\alpha\beta$ TCR: alpha beta T cell receptor, CDRs: Complementarity Determining Regions, MHC I: Major Histocompatibility Complex I, β -2-m: beta-2-microglobulin.