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A tissue scanner for Psoriasis patients

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A newly developed tissue scanner by a team of researchers from the Technical University of Munich allows looking under the skin of psoriasis patients. This provides clinically relevant information, such as the structure of skin layers and blood vessels, without the need for contrast agents or radiation exposure.

Psoriasis (Psoriasis vulgaris) is an inflammatory skin disease that is characterized by small to palm-sized patches of severely scaling skin. The disease is estimated to affect between ten and fifteen million people in the European Union.

Currently, physicians evaluate the severity of the disease based on visual assessment of features of the skin surface, such as redness or thickness of the flaking skin. Unfortunately, these standards miss all parameters that lie below the surface of the skin, and may be subjective.

In order to provide clinicians with this information, researchers have developed a new technique that gets under the skin. A weak laser pulse excites the tissue of interest, which then absorbs energy and heats up minimally. This causes momentary tissue expansion, which generates ultrasound waves. The scientists measure these ultrasound signals and use this information to reconstruct a high resolution image of what lies under the skin.

The researchers plan to use the same imaging method to assess other diseases such as skin cancer or diabetes in the future.