Diagnosing of keloids and hypertrophic scars by using
an artificial　intelligence (AI) image recognition system

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Objective: The purpose of this study is to investigate whether artificial intelligence can be used to evaluate the condition of scars.

Methods: The Japan Scar Workshop Scar Scale (JSS) scores scars by assessing five factors: redness, hypertrophy, invasion, itchiness, and pain. We used the JSS 2015 and 680 pictures of scars to help an artificial intelligence system to deep-learn how to evaluate the condition of scars. The resulting artificial intelligence software then evaluated the photographed scars of patients with scars. As a control, plastic surgeons evaluated the same scars. The artificial intelligence software was compared to the plastic surgeons in terms of accuracy.

Results: The artificial intelligence software that was developed by deep learning scored the severity of the scars in patient pictures only slightly differently from the plastic surgeons.

Discussion: This study suggested that artificial intelligence can evaluate the condition of scars.