The evidence behind Skin Analytics



Clinical Research

2,897 patients with suspicious skin lesions have been included in Skin Analytics clinical research, across the UK, US and Italy, with patients of all Fitzpatrick skin types included in all studies.

Our studies have found that DERM:

- → Can identify melanoma with a similar accuracy to dermatologists¹⁻²
- → Can identify non-melanoma skin cancer (squamous cell carcinoma and basal cell carcinoma) with a similar accuracy to dermatologists¹⁻⁴
- → Has the potential to significantly reduce urgent referral or biopsy requests for non-malignant lesions compared to teledermatologists⁵

- Our studies have found that patients:
- → Find the use of AI in the skin cancer referral decision-making process acceptable⁶
- → Feel confident in computers being used to help their doctor determine their diagnosis and management plan⁶
- → Would rather have their skin assessed by a computer than wait a few weeks to see a dermatologist in person⁶

Real World Evidence

Our NHS pathways have seen **over 70,000 patients** and **identified >7,000 cancers**. In our latest quarterly performance report looking at the latest version of DERM across 7 NHS pathways where there were 21,218 lesions with confirmed outcomes, we found that:



Please see the references for more specific reports on DERM performance at University Hospitals Birmingham, West Suffolk Hospital⁷⁻⁸, University Hospitals Leicester⁹⁻¹⁰ and Chelsea & Westminster Hospital¹¹.

References

- 1. Phillips M, Marsden H, Jaffe W, et al. Assessment of Accuracy of an Artificial Intelligence Algorithm to Detect Melanoma in Images of Skin Lesions. JAMA Netw Open. 2019;2(10):e1913436. <u>doi:10.1001/jamanetworkopen.2019.13436</u>
- Phillips M, Greenhalgh J, Marsden H, Palamaras I. Detection of Malignant Melanoma Using Artificial Intelligence: An Observational Study of Diagnostic Accuracy. Dermatol Pract Concept. 2019 Dec 31;10(1):e2020011. <u>doi:</u> 10.5826/dpc.1001a11.
- Marsden H, Morgan C, Austin S, Degiovanni C, Venzi M, Kemos C, Greenhalgh J, Mullarkey D, Palamaras I. Effectiveness of an image analyzing Al-based Digital Health Technology to identify Non-Melanoma Skin Cancer (NMSC) and other skin lesions: Results of the DERM-003 study. Frontiers in Medicine.;10:1288521.<u>https://doi.org/10.3389/fmed.2023.1288521</u>
- Marsden H, Palamaras I, Kemos P, Greenhalgh J. P63 Effectiveness of an image-analysing artificial intelligence-based digital health technology to diagnose nonmelanoma skin cancer and benign skin lesions, British Journal of Dermatology, Volume 188, Issue Supplement_4, June 2023, Ijad113.091, <u>https://doi.org/10.1093/bjd/ljad113.091</u>
- 5. Marsden H, Kemos P, Venzi M, et al. Accuracy of an Artificial Intelligence as a medical device as part of a UK-based skin cancer teledermatology service. Pending publication
- 6. Kawsar A, Hussain K, Kalsi D, et al. Patient perspectives of artificial intelligence as a medical device in a skin cancer pathway. Pending publication
- Thomas L, Hyde C, Mullarkey D, Greenhalgh J, Kalsi D, Ko J. Real-world post-deployment performance of a novel machine learning-based digital health technology for skin lesion assessment and suggestions for post-market surveillance. Frontiers in Medicine.;10:1264846. <u>doi:10.3389/fmed.2023.1264846</u>
- Jenkins R, Brewer CF, Kalsi D, Mullarkey D. BT09 Clinical performance of an artificial intelligence-based medical device deployed within an urgent suspected skin cancer pathway, British Journal of Dermatology, Volume 188, Issue Supplement_4, June 2023, Ijad113.375, <u>https://doi.org/10.1093/bjd/Ijad113.375</u>
- Case study: Artificial intelligence helping to speed up skin cancer diagnosis in Leicester, Leicestershire, and Rutland integrated care system [cited 25 August 2023] Available from: <u>https://www.england.nhs.uk/long-read/artificial-intelligence-helping-to-speed-up-skin-cancer-diagnosis-in-leicester-leicestershire-and-rutland-integrated-care-system/</u>
- 10. Abu Baker K, Roberts E, Harman K, Mullarkey D, Kalsi D. BT06 Using artificial intelligence to triage skin cancer referrals: outcomes from a pilot study, British Journal of Dermatology, Volume 188, Issue Supplement_4, June 2023, Ijad113.372, https://doi.org/10.1093/bjd/ljad113.372
- 11. CW Innovation four-year anniversary CW+ [Internet]. CW+. 2023 [cited 2023 Oct 19]. Available from: https://www.cwplus.org.uk/news/2023/10/12/cw-innovation-four-year-anniversary/