

The Limits of Traditional Assessment

Dermatology is shifting, driven by the emergence of targeted therapies in inflammatory diseases and the rise of immunotherapy / neoadjuvant oncology protocols. **To enable precision medicine, integrating objective biomarkers is now essential for patient stratification** by disease severity, predicting treatment response, and ensuring continuous monitoring.

Yet, clinical practice still relies on subjective, time-consuming clinical scores (e.g., PASI, EASI, AK grading). Biopsies provide molecular insights but their invasive nature limits repeatability and suffers from sampling bias. Emerging genomic techniques are promising but are costly and have significant turnaround times, often failing to deliver the immediate, actionable data required at the point-of-care.

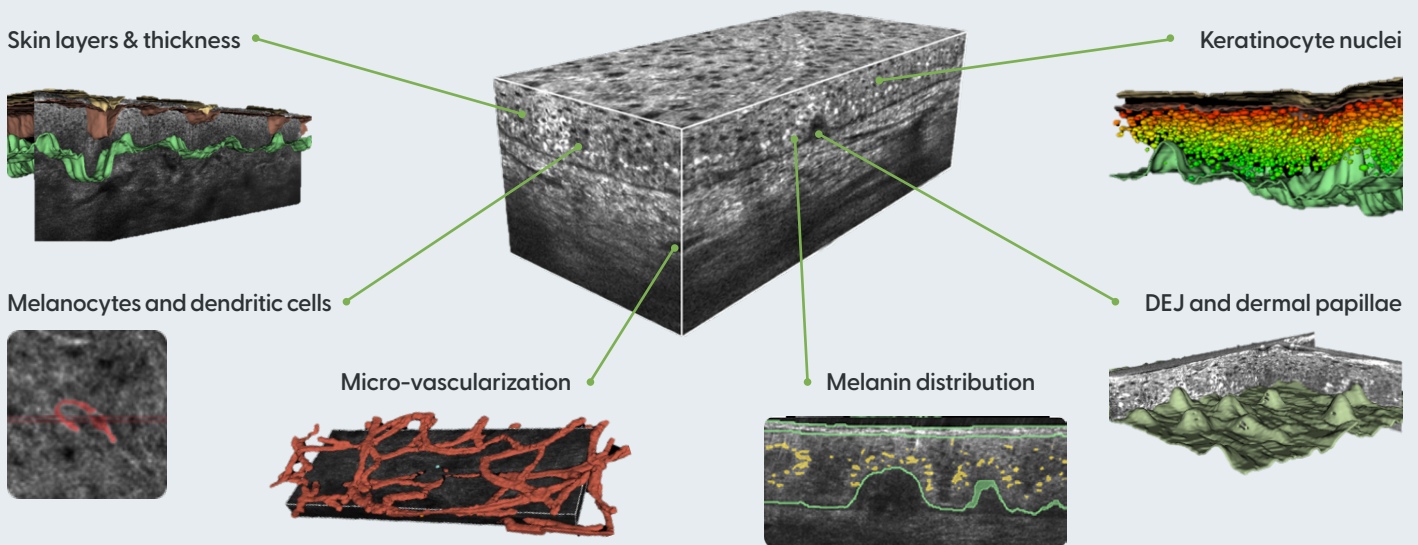
Clinical Utility of LC-OCT

LC-OCT (Line-Field Confocal Optical Coherence Tomography) **provides digital 3D biopsies with cellular-level resolution, comparable to traditional histology.** Increasingly used in clinical routine, it supports non-invasive diagnosis of equivocal lesions, therapy monitoring, and precise surgical margin mapping.

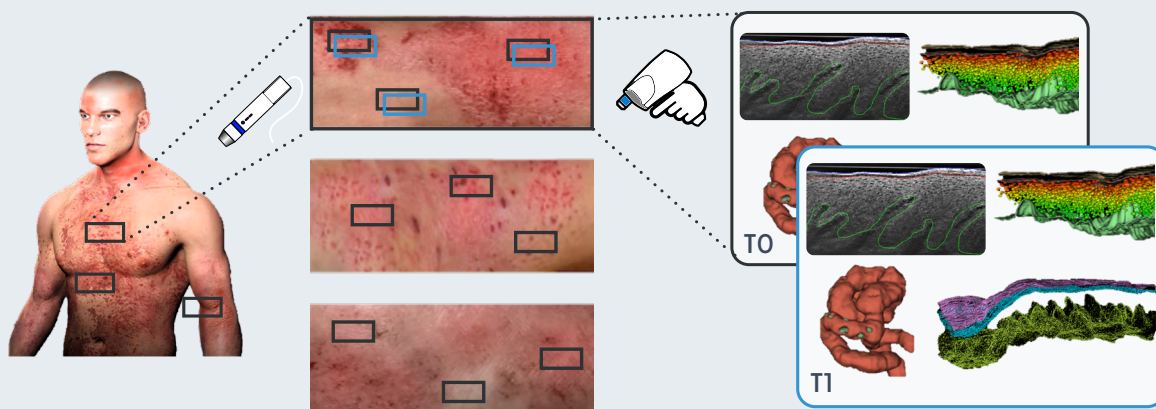
As a rapid point-of-care solution, LC-OCT is well suited for routine clinical practice.

Its advanced dermoscopy-based repositioning system allows tracking of multiple lesions over time, while high-resolution 3D imaging combined with AI (trained on 1M+ images) generates digital skin features **that act as objective biomarkers across inflammatory and oncologic dermatology.**

AI-Powered Skin Biomarkers from LC-OCT 3D Imaging



Multi-Scale & Spatiotemporal Approach to Digital Skin Biomarkers



LC-OCT Key Benefits

Non-invasive, Rapid
& Repeatable

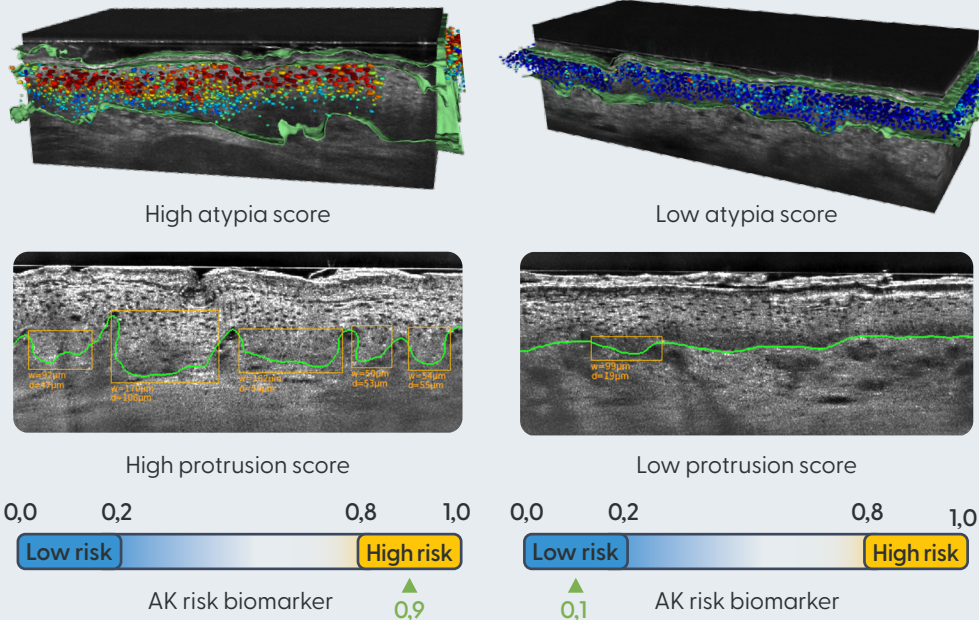
Objective &
Immediate
Results

Cellular-Level
Insights

Actinic Keratosis Management

LC-OCT provides non-invasive, point-of-care biomarkers based on **cellular atypia** and **epidermal protrusions quantification**, key indicators of **lesion severity** and **SCC progression risk**. This biomarker enables to risk-stratify lesions and guide patient management.

The technology helps identify **AKs at high risk of progression to SCC**. Particularly valuable in patients with multiple lesions and in managing AKs resistant to first-line non-invasive therapies. Within a field of cancerization, it guides the need for field-directed therapy before clinical resistance develops.



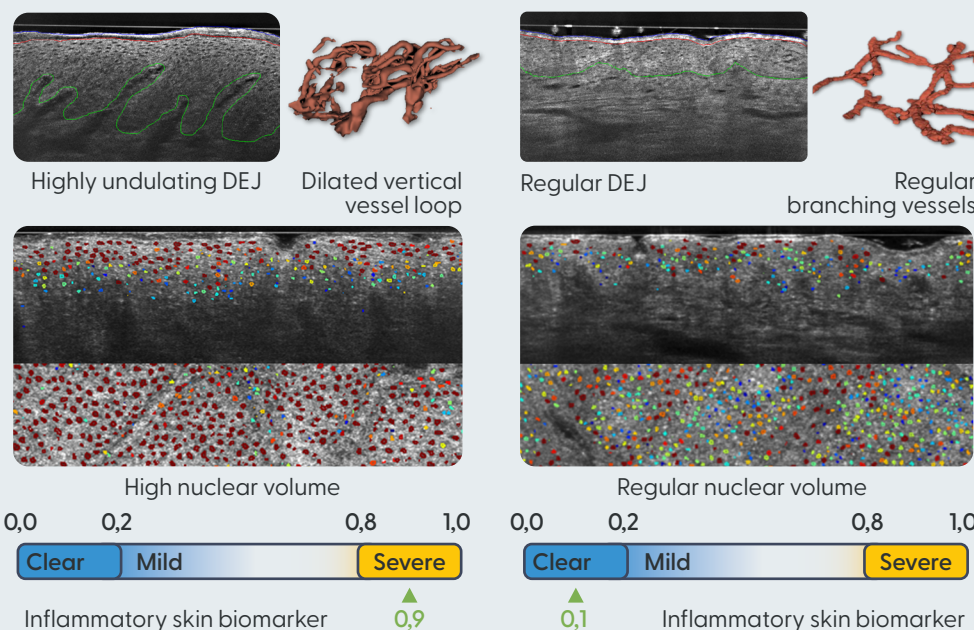
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Inflammatory Skin Diseases Management

LC-OCT delivers non-invasive, point-of-care biomarkers that goes beyond visual scoring. By quantifying **keratinocyte maturation defects**, **skin barrier impairment**, and the **inflammatory process**, via **analysis of dermal papillae and micro-vasculature**, it provides an objective assessment of lesion severity.

With the growing range of targeted therapies for psoriasis and atopic dermatitis, this biomarker could play a role in **selecting the most effective treatment and monitoring therapeutic response over time**, supporting objective decisions to continue, adjust, or discontinue therapy.



References

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