Current and emerging technologies in melanoma diagnosis: the state of the art.


ABSTRACT
Relative to other specialties, dermatologists have been slow to adopt advanced technologic diagnostic aids. Most skin disease can be diagnosed by simple visual inspection, and the skin is readily accessible for a diagnostic biopsy. Diagnostic aids, such as total body photography and dermoscopy, improve the clinician's ability to diagnose melanoma beyond unaided visual inspection, however, and are now considered mainstream methods for early detection. Emerging technologies such as in vivo reflectance confocal microscopy are currently being investigated to determine their utility for noninvasive diagnosis of melanoma. This review summarizes the currently available cutaneous imaging devices and new frontiers in noninvasive diagnosis of skin disease. We anticipate that multimodal systems that combine different imaging technologies will further improve our ability to detect, at the bedside, melanoma at an earlier stage.