In this article, we show representative examples of cross-polarized and white-light clinical photos taken 1 minute apart, illustrating the advantages and general pitfalls of cross-polarized photos in visualizing various types of rash in patients with SOC based on our experience at Memorial Sloan Kettering Cancer Center (Figure 1). We also provide practical guidance for use of cross-polarized photography in clinical practice. In our institution, both cross-polarized and white light are now routinely used to capture all patients with inflammatory lesions and those undergoing three-dimensional total-body photography for clinical or research purposes. This is a recent institution-wide practice that was implemented to improve rash visualization, particularly in this patient population.

As mentioned, the major advantage of cross-polarization is the significant reduction in specular reflections, which translates to (i) decrease in glare, (ii) enhancement of erythema and (iii) increased contrast of the lesion to the underlying skin (Figure 1). This is particularly useful for clinical assessments of patients with SOC who heal with hyperpigmentation. Cross-polarized photos allow the viewer to better distinguish between an active lesion and an inactive, healed lesion with postinflammatory hyperpigmentation.

One pitfall is the reduced ability to differentiate lesion morphology (e.g. flat vs. raised) compared with white-light photos. In cases like mycosis fungoides where the lesion morphology (patch vs. plaque) has a clinical prognostic value, a cross-polarized photo alone is insufficient for accurate capture. Another pitfall is the increased amount of shadow in some areas of cross-polarized photos.

Cross-polarized photos can be obtained using a circular polarizer on the DSLR camera lens and a linear polarizer on the flash oriented downwards at 45°, as previously reported by O’Sullivan et al.4 Use of smartphones for mobile and inexpensive cross-polarized capture has also been reported.5 When available, authors recommend use of cross-polarized photos to complement standard clinical photography when documenting erythematous lesions in patients with SOC. The improved visualization and more representative photos obtained via cross-polarized photography can be highly beneficial in various settings: clinical comparison of disease progression (e.g. clinical trial patients, chronic disease), interprofessional communication (photo sharing), scientific publication and education.

In conclusion, cross-polarized lighting improves colour contrast when imaging patients, which is especially helpful in assessing active erythema and inflammation in the population of patients with SOC. Because it decreases surface reflection, it may also decrease the ability to interpret texture and lesion...
The authors recommend use of both white and cross-polarized light for clinical photography when available.

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