BACKGROUND. Zinc is known to have a critical role in overall human physiology, which likely explains many of its therapeutic uses for the last several thousand years. The specific roles zinc plays in skin health and function are less widely known yet are likely just as critical based on the manifestations of dietary zinc deprivation, which include moderate to severe dermatitis.

OBJECTIVE. To provide a critical review of the scientific literature as to the physiologic importance of zinc to skin, the biochemical basis for these effects, and pharmacologic aspects of zinc therapeutics.

RESULTS AND CONCLUSIONS. Skin is in a continual state of renewal, placing a high demand on zinc-based enzymes and proteins that direct this process. The importance of zinc physiologically is especially evident in studies of wound healing and inflammation reduction. During these processes, the high needs for zinc can be supplemented externally, generally increasing the rates of the natural processes. Topical zinc delivery involves the pharmacologic optimization of zinc delivery, often mediated by the solubility of the zinc material and interactions within the product matrix.