

UV-B treatment may improve psoriasis and vitamin D levels

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Treatment with narrow-band UV-B rays may increase serum levels of vitamin D in the wintertime while clearing psoriasis, according to a report in the August issue of *Archives of Dermatology*, one of the JAMA/Archives journals.

Psoriasis affects 1.5 percent to 3 percent of the population, according to background information in the article. Abnormalities in [vitamin D](#) metabolism may be partly responsible for the development and worsening of this [skin condition](#). "Most vitamin D is obtained by skin production following exposure to solar UV-B, while less than 15 percent is obtained from dietary sources such as oily fish and fortified foods," the authors write.

Narrowband UV-B treatment has become the standard light therapy for psoriasis. Cairiona Ryan, M.B., B.Ch., B.A.O., then of St. Vincent's University Hospital, Dublin, and now of Baylor Research Institute, Dallas, and colleagues assessed 30 consecutive patients with psoriasis who were treated with narrowband UV-B three times per week until their psoriasis cleared between October 2008 and February 2009. Their serum vitamin D levels—measured before the study, after four weeks of treatment and after completing treatment—were compared with those of 30 control patients who also had psoriasis but did not undergo UV-B therapy. Psoriasis severity and dermatology-related quality of life were also assessed before and after treatment.

Levels of serum 25-hydroxyvitamin D [25(OH)D]—the most accurate

measurement of vitamin D levels in the body—increased significantly among individuals receiving UV-B therapy, from a median (midpoint) of 23 nanograms per milliliter to 59 nanograms per milliliter at the end of treatment. There was no change in the control group. "At the end of the study, all patients in the treatment group were vitamin D sufficient, but 75 percent of the control group had vitamin D insufficiency [serum 25(OH)D level of less than 20 nanograms per milliliter]," the authors write.

In addition, psoriasis severity scores decreased in the UV-B group, from a median of 7.1 at the beginning of the study to 0.5 after treatment. Median scores did not change in the control group.

Among those treated with UV-B, change in vitamin D level was associated with the number of exposures and the cumulative dose of UV-B, but not with whether psoriasis responded to the treatment. "In fact, those who required a greater number of exposures to clear had a significantly higher serum 25(OH)D level, most likely produced by more prolonged exposure to narrowband UV-B," the authors write.

"We cannot conclude, therefore, that narrowband UV-B mediates its therapeutic effects by increasing vitamin D levels. This suggests that the improvement in both vitamin D status and psoriasis are contemporaneous, but unrelated, consequences of narrowband UV-B, or that there is another explanation for the causal relationship."

The results also highlight the significant rate of vitamin D insufficiency in Irish patients with [psoriasis](#) who are not being treated with UV-B, suggesting that additional supplements may be needed to prevent harmful effects of this deficiency, the authors note.

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