NEW GENERATION OF LASER AND LIGHT THERAPIES COULD PROVIDE FUTURE TREATMENT OPTIONS FOR SKIN, HAIR AND NAIL CONDITIONS
More scientific evidence needed to determine if new devices are effective

Information presented at American Academy of Dermatology’s 70th Annual Meeting by Molly Wanner, MD, FAAD, instructor at Harvard Medical School and dermatologist at Massachusetts General Hospital in Boston.

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OVERVIEW:
Lasers and light sources have become a mainstay in dermatology and dermatologists have played a significant role in their development for treating skin conditions and improving aging skin. Now, the latest breakthroughs in laser and light therapies are zeroing in on providing an alternative treatment for hair loss, nail fungus and cellulite. While dermatologists caution that more scientific data is needed before these new treatments can be recommended, these developments could lead to even better treatment options in the future.

LOW-LEVEL LASER THERAPY (LLLT) FOR HAIR GROWTH:

- LLLT uses the principles of low-powered light to target cells.
- In dermatology, LLLT has been evaluated more extensively for wound healing and photoaging, and now it is being studied for fat removal and hair removal.

LLLT for Hair Growth

- Several new devices (in-office procedures and at-home devices) are being touted to reverse hair loss and restore hair growth, but Dr. Wanner cautioned very few of the available devices have been studied in peer-reviewed journals or tested properly to ensure their effectiveness.
- One study showed that one device for reversing hair loss showed an average increase in hair growth of 19.8 hairs per centimeters squared. However, 19.5 hours of treatment were needed to produce these results—making this a very time-intensive procedure. In addition, in evaluation of results, the hair growth was not considered very noticeable by researchers.
- Although two therapies are approved by the U.S. Food and Drug Administration (FDA) for hair loss (minoxidil topical therapy for men and women; and finasteride oral therapy for men), Dr. Wanner explained that in some cases patients might not want to take an oral medication or could have an adverse reaction to applying minoxidil to the scalp. In these instances, LLLT may help some patients reverse hair loss—but Dr. Wanner cautioned that results may be minimal and require a significant amount of time.
- Dr. Wanner recommended that hair loss patients should discuss their treatment options with a dermatologist.
LASERS AND LIGHT THERAPIES TARGET NAIL FUNGUS:

Treatments/Devices being Studied
- Photodynamic Therapy (PDT)
- 1064-nanometer laser
- 870/930-nanometer laser

Study Limitations
- Dr. Wanner explained that studies for each therapy are small and limited.
- Pain in the treatment area may be an issue and needs to be further studied.
- Of the currently available studies, results show 30 to 40 percent of patients may be cured using the techniques – but more information and more studies are needed to validate results.

Why Alternative Therapies are Needed
- While currently available oral therapies for nail fungus have higher cure rates, they also are associated with a number of potential side effects.
- Topical therapies available for nail fungus, while considered safer than oral therapies, have a lower cure rate.
- Dr. Wanner added that there is a role for laser and light treatment of nail fungus, but more studies are needed to further understand the benefits and potential drawbacks of this therapy and to investigate whether more effective wavelengths could hold promise in the future.

LASERS OFFER POTENTIAL NEW APPROACH TO TREATING CELLULITE:

The Challenges of Treating Cellulite
- The lumpy, bumpy skin texture that characterizes cellulite is due to hormonal factors that primarily affect women. Hormones are to blame.
- Fat is held into the body by a connective tissue structure – in men, this network is highly reinforced; in women, it is less reinforced and bulges out more in the overlying skin creating a dimpling effect.
- Diet does little to improve cellulite, and exercise may or may not help. To improve the appearance of cellulite, Dr. Wanner stressed that there needs to be a fundamental change to the structure of the skin. Therefore, a laser treatment might hold potential.

No Gold Standard for Treatment
- There are a number of non-invasive devices marketed to improve cellulite – both in-office procedures and at-home devices – but Dr. Wanner explained that none of these treatments offer significant improvement (only mild to moderate improvement at best).
- Office-based procedures produce an approximately 25 to 50 percent improvement in cellulite, but this improvement may diminish over time and maintenance treatments may be required. Dr. Wanner added that there is minimal evidence available on the effectiveness of at-home devices and these therapies provide less improvement than the office-based procedures.

AMERICAN ACADEMY OF DERMATOLOGY EXPERT ADVICE:

“IT is very important for consumers to understand that there is currently very limited evidence for all of these new laser and light therapies for hair loss, nail fungus and cellulite. It is possible that they could pursue a treatment and see no improvement,” said Dr. Wanner. “Future studies could help pinpoint for which patients these new therapies might work best and may provide the evidence dermatologists need to evaluate these procedures before we can recommend them to our patients.”
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