

SKINCARE IS NOW REALLY DRIVEN BY TEMPERATURE APPLICATIONS.

The cosmetic industry found out the positive effects of warming and cooling.

- **Heat optimizes the absorption of cream and serum**
 - Park JH, Lee JW, Kim YC, Prausnitz MR. The effect of heat on skin permeability. *Int J Pharm.* 2008 Jul 9;359(1-2):94-103. doi: 10.1016/j.ijpharm.2008.03.032. Epub 2008 Mar 29. PMID: 18455889; PMCID: PMC2464624.
 - Szunerits S, Boukherroub R. Heat: A Highly Efficient Skin Enhancer for Transdermal Drug Delivery. *Front Bioeng Biotechnol.* 2018 Feb 15;6:15. doi: 10.3389/fbioe.2018.00015. PMID: 29497609; PMCID: PMC5818408.
 - Shahzad Y, Louw R, Gerber M, du Plessis J. Breaching the skin barrier through temperature modulations. *J Control Release.* 2015 Mar 28;202:1-13. doi: 10.1016/j.jconrel.2015.01.019. Epub 2015 Jan 20. PMID: 25616160.
 - Jung EC, Zhu H, Zou Y, Elmahdy A, Cao Y, Hui X, Maibach HI. Effect of ultrasound and heat on percutaneous absorption of l-ascorbic acid: human in vitro studies on Franz cell and Petri dish systems. *Int J Cosmet Sci.* 2016 Dec;38(6):646-650. doi: 10.1111/ics.12350. Epub 2016 Jul 28. PMID: 27380114.
- **Skin Icing exfoliates the skin and reduces pore size**
 - <https://www.byrdie.com/skin-icing-how-this-chilly-facial-beautifies-skin-2442895>
- **Cooling can slow aging and boosts skin cell turnover**
 - <https://www.cosmopolitan.com/style-beauty/beauty/a8074174/cooling-skin-care-products/>
- **Contrasting temperature boosts circulation**
 - Miyaji A, Hayashi S, Hayashi N. Regional differences in facial skin blood flow responses to thermal stimulation. *Eur J Appl Physiol.* 2019 May;119(5):1195-1201. doi: 10.1007/s00421-019-04109-6. Epub 2019 Feb 28. PMID: 30820660.
- **Cooling calms the skin**
 - Oono Y, Wang K, Atiş ES, Arendt-Nielsen L. Thermal application modulates orofacial somatosensory perception in healthy men and women. *Clin Neurophysiol.* 2013 Mar;124(3):581-8. doi: 10.1016/j.clinph.2012.08.025. Epub 2012 Oct 1. PMID: 23036183.
- **Contact cooling improves skin tightening**
 - Chan HH, Yu CS, Shek S, Yeung CK, Kono T, Wei WI. A prospective, split face, single-blinded study looking at the use of an infrared device with contact cooling in the treatment of skin laxity in Asians. *Lasers Surg Med.* 2008 Feb;40(2):146-52. doi: 10.1002/lsm.20586. PMID: 18306155.
 - <https://stylecaster.com/beauty/how-to-make-pores-smaller/>
- **Cold temperatures on skin can reduce redness of pimples and irritations**
 - <https://www.byrdie.com/skin-icing-how-this-chilly-facial-beautifies-skin-2442895>
- **Ice on skin reduces signs of aging**
 - <https://www.healthshots.com/beauty/natural-cures/a-dermatologist-explains-why-rubbing-ice-on-your-face-daily-can-give-you-flawless-skin/>
- **Cold compresses can reduce dark circles under the eyes**
 - <https://www.healthline.com/health/dark-circle-under-eyes#fa-qs>
- **Reduce Swellings by cooling down the eye area**
 - <https://www.healthline.com/health/swollen-eyes-from-crying#remedies-for-puffy-eyes>

- **Puffiness can be reduced by cooling the eye area**
 - <https://www.healthline.com/health/swollen-eyes-from-crying#remedies-for-puffy-eyes>