



Q/ Do any topical agents help prevent or reduce stretch marks?

EVIDENCE-BASED ANSWER

A/ NO TOPICAL AGENT has been proven to prevent or reduce stretch marks. Randomized controlled trials (RCTs) show that cocoa butter doesn't prevent stretch marks (strength of recommendation [SOR]: **A**, 2 RCTs); neither does olive oil (SOR: **B**, 1 small RCT).

A cream containing *Centella asiatica*

extract, vitamin E, and collagen hydrolysates doesn't prevent new stretch marks but might avoid additional stretch marks in women who had already developed them during puberty. Massage with vitamin E ointment alone may reduce the number of stretch marks (SOR: **C**, 2 small RCTs with methodologic flaws).

Evidence summary

Two double-blind RCTs that compared cocoa butter with placebo to prevent stretch marks in pregnant women found no difference. In the first, investigators enrolled 300 Afro-Caribbean women at 12 to 15 weeks' gestation. Women used either 25% cocoa butter cream or a placebo cream comprised of emollients and vitamin E daily. Investigators monitored compliance and assessed stretch marks using a validated scale at 26 weeks, 36 weeks, and after delivery. Cocoa butter cream didn't reduce stretch marks (44% vs 55% for placebo; $P=.09$). Three women (1 using cocoa butter, 2 using placebo) discontinued the cream because of mild self-limiting reactions.¹

In the second RCT, investigators randomized 210 nulliparous women (mainly with intermediate skin color) to use cocoa butter lotion with vitamin E or placebo. Women applied the lotion daily to their abdomen, breasts, and thighs, starting at 12 to 18 weeks' gestation. Investigators assessed the severity of stretch marks either at delivery or postpartum using a validated scale. Cocoa butter lotion didn't prevent stretch marks (45.1% vs 48.8% for placebo; $P=.730$).²

Save the olive oil for cooking

A nonblinded RCT that compared twice-daily

olive oil massage with no treatment in 70 nulliparous women beginning at 18 to 20 weeks' gestation found no reduction in stretch marks (45.7% vs 62.9% without olive oil massage; $P=.115$). The investigators didn't report whether they performed a sample-size analysis to determine if the study was adequately powered to demonstrate no difference.³

Mixed, but mostly negative, results for multi-ingredient cream

A double-blind RCT found that Trofolastin cream containing *Centella asiatica* (also known as Gotu kola, a member of the parsley family), vitamin E, and collagen hydrolysates didn't prevent pregnancy-related stretch marks among 80 women who applied the treatment beginning at 12 weeks' gestation.

When investigators evaluated a subgroup of 18 women who had already developed stretch marks during puberty, they found that fewer of the women acquired additional stretch marks during pregnancy (11% vs 100% with placebo; $P=.0001$). The investigators didn't calculate whether the sample was large enough to prove a significant difference.⁴

Fewer stretch marks with vitamin E in small flawed study

An older systematic review (1996) included a

Jeanne Moore, MD;
Gary Kelsberg, MD
Valley Family Medicine
Residency, Renton, Wash

Sarah Safranek, MLIS
University of Washington
Health Sciences
Libraries, Seattle

ASSISTANT EDITOR
Jon O. Neher, MD
Valley Family Medicine
Residency, Renton, Wash

prospective RCT that randomized 50 women at 20 weeks' gestation to massage their abdomen, thighs, and breasts with vitamin E ointment or perform no massage. The trial found fewer stretch marks with vitamin E ointment massage (odds ratio=0.26; 95% confidence interval, 0.08-0.84). The authors of the review described this RCT as poorly randomized and without blinding; investigators didn't report whether the sample size was adequate to demonstrate a significant effect.⁵

Recommendations

The American Congress of Obstetricians and Gynecologists Web site states that although many creams, lotions, and oils on the market claim to prevent stretch marks, no proof exists that these treatments work. Using a heavy moisturizer may help keep skin soft, but it won't help get rid of stretch marks.⁶

The American Academy of Dermatology Web site also says that a moisturizer can improve the appearance of stretch marks and reduce itchiness; sunless tanning products can hide the marks.⁷

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➤ **No topical agent—including cocoa butter and olive oil—has been proven to prevent or reduce stretch marks.**

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