

BIOIDENTICAL ESTROGEN TREATMENT AND ITS  
EFFECTS ON THE SKIN IN POSTMENOPAUSAL  
WOMEN

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## ABSTRACT

The skin is an organ which is not spared from the effect of cessation of ovarian function in menopause. The changes that occur to the structures in the skin such as collagen, extracellular matrix, elastic fibers, water and blood supply are due to the insufficiency of estrogen in menopause. The benefit of estrogen therapy to skin in post menopausal women is evident. However, the use of conventional estrogen have markedly reduced due to the widely publicized risk factor of developing stroke, breast and endometrial cancer. Bioidentical hormones have been sought by many menopausal women as an alternative treatment. Bioidentical hormones are hormones which are derived from plants, having similar molecular and chemical structure as the hormones produced in the human body. The benefit of estrogen to the skin is well established. However there are not many studies done on bioidentical estrogen treatment and its effects to the skin of post menopausal women. The objective of this study is to know the effective types of bioidentical estrogen treatment, outcome and the side effects of the treatment. With these information, hopefully this paper can provide adequate information on the use of bioidentical estrogen in the treatment of skin problems such as dry skin, wrinkles, poor wound healing and skin laxity in post menopausal women. This article is a structured literature review. The inclusion criteria includes clinical trials, controlled clinical trials, journal article from the year 1990 till 2013, post menopausal woman less than 70 years old and post menopausal woman who have undergone treatment with bioidentical estrogen. The keywords are post menopausal woman, aging skin, wrinkles, estrone, estriol, estradiol and bioidentical estrogen. Pubmed, Cochrane library and EBSCOHOST are used as journal searching tool for this study. Bioidentical estrogen can be compounded in any combination or number of these three types of estrogen. Bioidentical estrogen such as bi-est and tri-est, are as effective and well tolerated as the conventional estrogen therapy. It is available in the form of pills, creams, gels, vaginal tablets and spray. Estrogen therapy can increase the collagen content which in turn increases the skin thickness. Besides that, estrogen can increase the glycosaminoglycan level, leading to restoration of the skin moisture and prevent dry skin. It can also limit the loss of skin elasticity by improving the morphology of elastic fibers. Estrogen also increases the velocity of capillary blood flow which is significantly compromised in post menopausal women. As for wound healing, estrogen increases the Transforming Growth Factor  $\beta$  (TGF- $\beta$ ) which can accelerate wound healing. However, since there are no long term and controlled studies on its use, the full benefits, risks and side effects are still debatable.