

World Congress on Osteoporosis, Osteoarthritis and Musculoskeletal Diseases (WCO-IOF-ESCEO 2021): ISGE-ESCEO Symposium Abstracts

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ISGE-ESCEO1 HORMONAL CONTRACEPTION VERSUS HORMONE REPLACEMENT THERAPY: MAJOR ISSUES FOR BONE HEALTH

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Most MD's believe that hormonal contraception (HC) is unconditionally safe for bone health. However, this is not the case for some subgroups of HC user. Strong evidence shows that:

- In post-adolescent women > 30 years of age and in perimenopausal women, preparations containing 15–20 and 30–35 µg EE/day are both capable of maintaining BMD and to guarantee bone protection. Combined oral contraception (COC) may prevent the physiological bone loss that occurs in women > 40 years of age and possibly increase BMD in the perimenopause.
- In contrast, in adolescents (≤ 18–20 years), the strongly anti-gonadotropic progestins in COCs containing 15–20 µg EE suppress the hypothalamic-pituitary-ovarian axis and reduce endogenous E2 production. 15–20 µg EE do not guarantee the necessary oestrogen activity for the acquirement of a normal peak bone mass (PMB) as do 30 µg EE COCs.
- in adolescents, depot-medroxyprogesterone acetate (DMPA) administration may reduce PMB for the same reason, particularly when given early after menarche.
- there is strong evidence from longitudinal data that DMPA affects significantly BMD in adult current users. The BMD decrease appears to be at least partially reversible in adult and in adolescent women.

This evidence allows to formulate the following recommendations:

In adolescents, 30–35 µg EE COCs are safe for the acquisition of a PMB. 15–20 µg EE COCs should not be used in young women until stable ovulatory cycles are reached.

DMPA should be avoided in adolescents before PMB is acquired. Initiation of DMPA within the first 3 years after menarche is of particular concern. DMPA should remain a reserve medication where no alternative is possible.

For all other HC methods, good evidence is missing and it is not known if their use in adolescent girls is safe.

In contrast to HC, correctly administered hormone replacement therapy (HRT) is safe for bone health in women of all ages. In adolescents, HRT guarantees the acquisition on a normal PMB.

ISGE-ESCEO2 HRT AND FRACTURE PREVENTION: MORE THAN JUST BONE

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Ageing leads to loss of bone and also loss of muscle mass and muscle function. In women, menopause has an additional deleterious effect on these. This will increase the risk of sustaining osteoporotic fractures. Loss of ovarian function at the menopause leads to bone loss. This loss is greatest in the early years following the menopause but can persist into old age. Whilst numerically the greatest number of fractures is seen in women with osteopenia, the greatest risk of fracture is seen in those with the lowest bone density, namely those with osteoporosis. Thus prevention of bone loss and any restoration of bone mass will reduce the risk of fractures. But menopause is also associated with loss of muscle mass, strength and power which will increase the risk of falls and fractures. Loss of ovarian function is also associated with loss of collagen, not only in skin but also in intervertebral disks. The intervertebral disks act as shock absorbers for the spine, and loss of disk height is associated with an increase in vertebral fractures. Hormone replacement therapy (HRT) has been shown to prevent or reduce bone loss in postmenopausal women at all the sites of classical osteoporotic fracture. It has been shown to reduce fractures both in normal and in osteoporotic women. Physical exercise has small beneficial effects on bone density but these are quickly lost on cessation of the exercise. There is only weak evidence that exercise alone will reduce fracture risk, but the improvements in muscle strength and power seen with HRT will contribute to overall musculoskeletal benefit. HRT has also been shown to increase intervertebral disk height in a dose-dependent manner which will help to reduce vertebral fracture risk. These non-osseous benefits of HRT are not seen with alternative bone treatments. For postmenopausal women, HRT is a most effective and safe treatment for the prevention of osteoporosis and its attendant fractures.