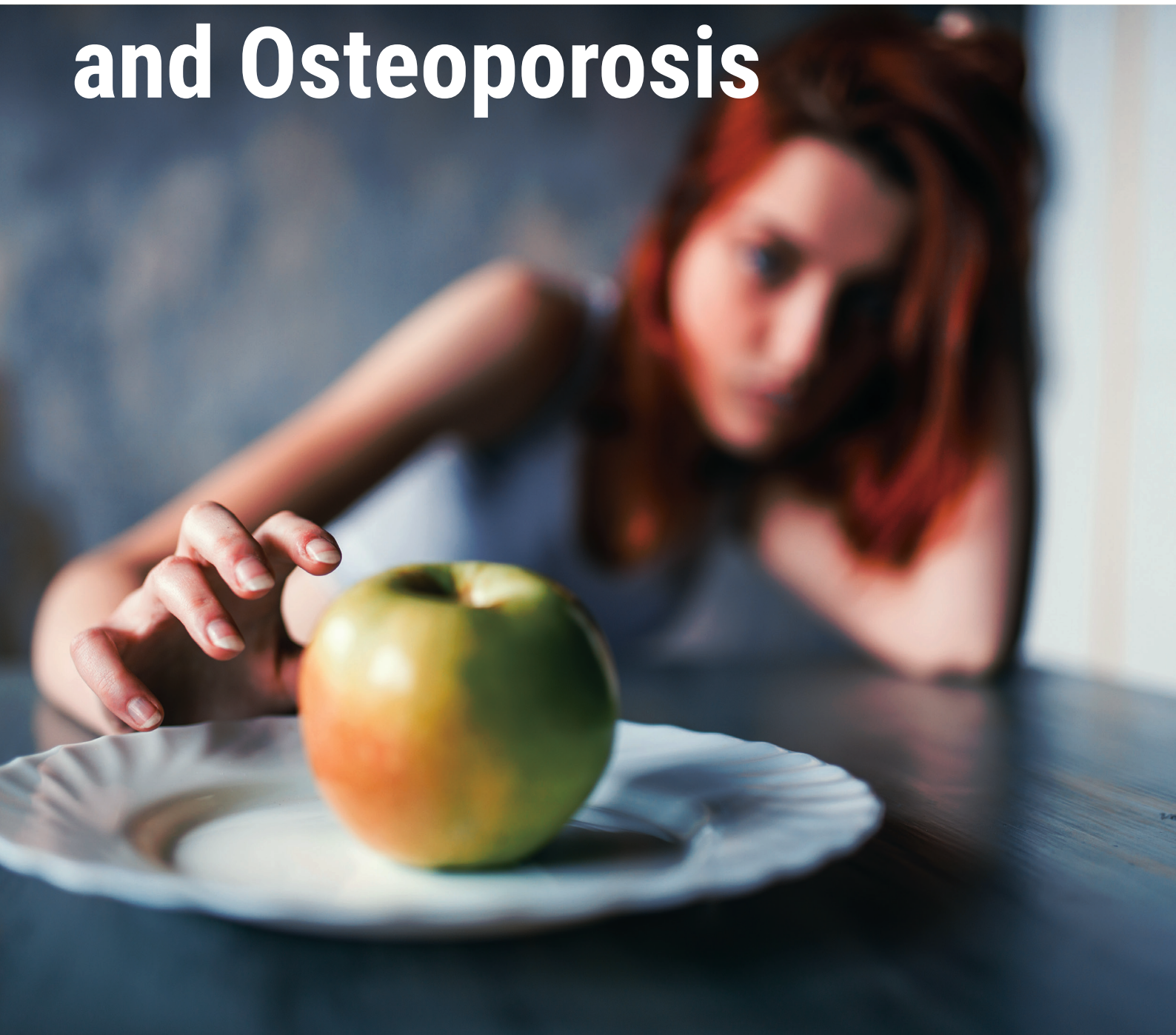
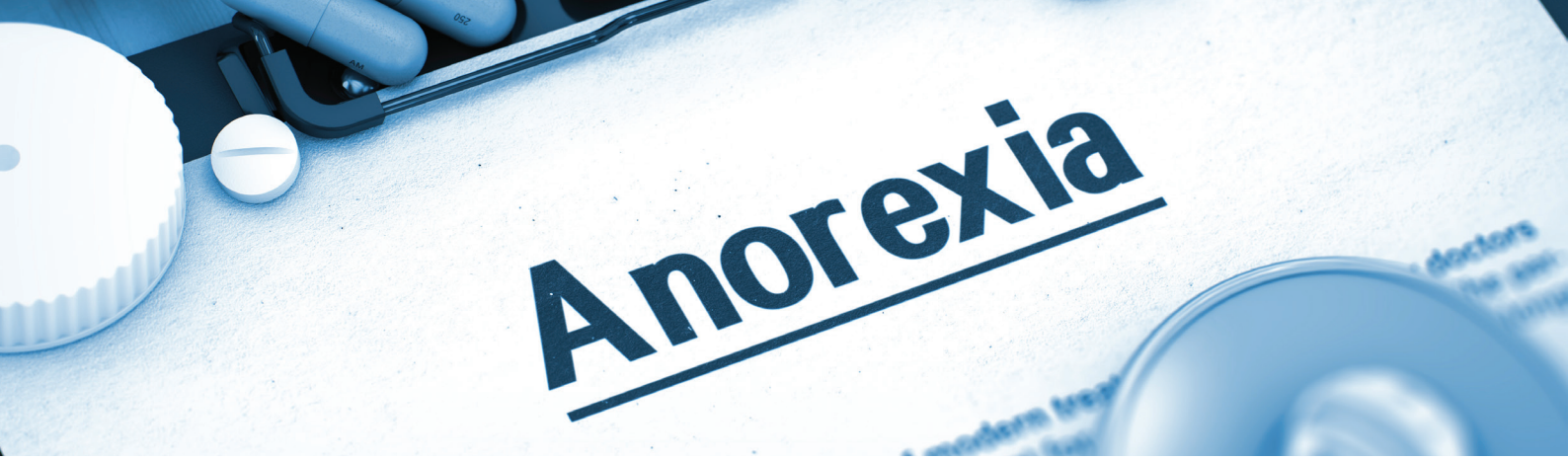
IOF
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Anorexia Nervosa and Osteoporosis





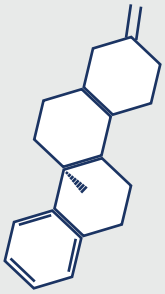
Anorexia nervosa is an eating disorder associated with low body weight and irrational fear of weight gain. People with anorexia continue to restrict eating, and see themselves as over-weight, even though they are in fact underweight. Although anorexia nervosa affects both sexes, the disorder is approximately 10 times less common in en than in women.

Osteoporosis is a disorder which causes bones to become weak and fragile, so they are more likely to break even after a minor bump or fall. Broken bones due to osteoporosis (called fragility fractures) are a major cause of pain, disability and loss of quality of life.

THE LINK BETWEEN ANOREXIA AND OSTEOPOROSIS

Among the many serious physical consequences of anorexia nervosa is low bone mineral density and impaired bone structure and strength. This results in a higher risk of osteoporosis and fragility fractures.

THERE ARE SEVERAL REASONS WHY ANOREXIA PLACES BONE HEALTH AT RISK



HORMONES

The body changes its hormone production in response to low body weight. In girls, oestrogen is a very important hormone for bone growth, particularly in puberty during the growth spurt. The reduction in oestrogen production can lead to infrequent or absent menstrual periods, which negatively affects bone growth and strength. Similarly, in men and boys, low levels of testosterone adversely affect bone health. The levels of other growth-related hormones are also affected by the weight loss in anorexia, with further negative impact on bone health.



LOW BODY WEIGHT

Being underweight has a direct effect on bone health and is a risk factor for osteoporosis and fragility fractures (even in people without anorexia).



POOR NUTRITION

A balanced diet with adequate calcium, protein, vitamin D and other nutrients is needed to maintain strong, healthy bones. Due to their restricted diets, people with anorexia usually do not get enough of these and other essential nutrients for bone health.

IMPACT ON BONE HEALTH

On average, the onset of anorexia nervosa is at around the age of 16 to 17, and the number of younger children affected continues to rise. This is a concern for bone health because childhood and adolescence are critical periods for bone development. The skeleton continues to build up in size and strength until young people reach their 'peak bone mass' in around their mid-twenties.

FAILURE TO ACHIEVE PEAK BONE MASS DURING ADOLESCENCE CAN HAVE LIFE-LONG IMPLICATIONS FOR BONE HEALTH, INCREASING THE RISK OF OSTEOPOROSIS AND RELATED FRACTURES IN LATER LIFE.

The extent of anorexia nervosa's **impact on bone health** depends on many factors, including its **duration**, the **severity of the disease,** and **how early it occurs**.

STUDIES HAVE SHOWN THAT

Adolescents with anorexia nervosa have **lower BMD than normal-weight adolescents** of comparable age and maturity and have lower rates of bone accrual (bone build-up).

Bone mineral density is lower in women who develop anorexia nervosa during adolescence compared to women with disease onset in adulthood, despite a similar duration of illness.

More than 50% of adolescent girls with anorexia nervosa show **significant bone loss less than one year from diagnosis.**

People of any age who have anorexia nervosa (or have suffered from it in the past) are more likely than the general population to have poor bone health. People with a past history of anorexia have a **two to threefold increased risk of bone fracture.**

In adult women, one study found that close to **38% had osteoporosis** in at least one site in the body, and **92% had osteopenia** (low bone mineral density) at one or more sites in the body.

Although BMD increases with recovery from anorexia nervosa, **bone loss may not be completely reversible**, even when weight returns to normal and monthly periods resume.

MANAGEMENT STRATEGIES FOR BONE HEALTH

Because significant bone loss can occur so early in anorexia, even within the first year, **early diagnosis and intervention are critical** and the most important factors affecting future bone health.

- **Restoring weight and hormones to normal** is the cornerstone of treatment for low bone mineral density in anorexia. In young women this goal will help to **restore monthly periods.**
- Dieticians will seek to normalize eating behaviour, with attention to nutritional status. **Calcium and vitamin D** are extremely important for bone development in young people and supplements may be advised to ensure adequate intake.
- A skeletal assessment should include a comprehensive history and **complete physical examination.**
- A **bone density test** may be advised to see whether bone mineral density is normal, lower than average, or in the osteoporosis range. However, interpretation of the results must be done cautiously in growing children and adolescents.
- At present no osteoporosis therapies or hormone treatments have been approved for bone loss in anorexia, although research is ongoing. Hormones are not generally advised for treatment of low bone density in children or adolescents, but in adolescent females the transdermal estradiol patch may be effective in restoring oestrogen levels.
- **Beware over-exercise!** Although exercise is necessary to develop and maintain bone health, the benefits of exercise on bone loss in anorexia is still a topic of debate. The amount of exercise should be monitored to help limit further weight loss.
- Healthy lifestyle habits are important: this includes **enough vitamin D from safe sun exposure, no smoking and no excessive alcohol consumption.**

IF YOU HAVE, OR HAVE HAD, ANOREXIA NERVOSA (OR A RELATED EATING DISORDER LIKE BULIMIA) YOU SHOULD ASK FOR A BONE HEALTH ASSESSMENT AND TAKE APPROPRIATE MEASURES TO STRENGTHEN YOUR BONES.

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