



Q. Osteoporosis is often described as a “silent disease.” Why is that?

A. There are no symptoms to indicate that a person is having bone loss. Patients can have the disease and continue to lose bone for many years without being aware of it until a fracture occurs. The most common osteoporotic fractures occur at the spine, wrist, and hip. Almost 70 percent of fractures at the spine are silent and do not cause pain. When fractures happen at multiple levels of the spine though, the patient will experience loss of height and kyphosis (excessive outward curve of the spine that results in an abnormal hump). In some cases, kyphosis can also cause back pain, fatigue, abdominal protrusion, and reduced lung capacity, hence shortness of breath. You could even say that osteoporosis is a silent killer because one in five persons who suffer a hip fracture dies within one year.

Q. Is osteoporosis a hereditary disease?

A. Our bone mass is built during childhood and puberty. The peak is reached between ages 20 and 30. More than 70 percent of this peak bone mass is predetermined by genetics which means that some people have a genetic risk for osteoporosis because they start with a peak bone mass that is below average. If osteoporosis runs in your family, this increases the likelihood that you will get osteoporosis. If one of your parents had a hip fracture, this increases your risk of having a fracture independent of bone density.

Q. What are the risk factors?

A. There are many. As is the case with other diseases, there are modifiable risk factors (meaning people can take measures to change them) and non-modifiable or fixed risk factors (which people cannot change). Genetics, age, gender, menopausal status, body size, and ethnicity are all non-modifiable factors. Although osteoporosis can affect all races, some ethnic groups are at higher risk than others. For example, Caucasians and Asians are at higher risk than African Americans. Age and gender also play an important role. Women,

particularly after menopause, are at a higher risk than men. Most fractures occur after age 50. People with small body frames also tend to have more fractures because they have lower bone mass.

Modifiable risk factors depend mostly on environmental factors and lifestyle. A sedentary lifestyle, smoking, excessive alcohol intake (defined as more than two units per day), poor nutrition, insufficient calcium intake, and vitamin D deficiency—these are all factors that increase the risk of osteoporosis.

In addition, some diseases and medications are associated with bone loss and increased risk of fractures.

Q. What are the medical conditions associated with osteoporosis?

A. These medical conditions include liver and kidney diseases, cancer, rheumatoid arthritis, lupus, inflammatory bowel diseases (ulcerative colitis and Crohn’s disease), eating disorders (such as anorexia nervosa), malabsorption disorders, and celiac disease (intolerance to



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gluten). Gluten intolerance can cause bone loss even if the patient does not have any gastrointestinal symptoms. Excessive weight loss due to eating disorders or to bariatric surgeries (a variety of procedures performed to reduce weight) also cause bone loss. Endocrine disorders associated with osteoporosis include diabetes mellitus, hyperparathyroidism (excessive production of parathyroid hormone, the hormone responsible for the regulation of calcium levels in the blood), hyperthyroidism (excessive production of thyroid hormone), and Cushing disease (excessive production of cortisol).

Q. Which medications can induce osteoporosis?

A. Glucocorticoids (cortisone) is at the top of the list. In addition to the aromatase inhibitors which are a family of drugs used to treat women with breast cancer and the anti-androgens used for men with prostate cancer. Other medications include anticonvulsant drugs used to treat epilepsy, antacids, and proton pump inhibitors (medications given to treat or prevent excessive stomach acidity).

Q. Is there anything people can do to decrease the risk of osteoporosis?

A. A healthy lifestyle is the key for optimal bone health. To reduce their risk, people should follow a healthy diet and do weight-bearing exercises. They should avoid smoking and excessive alcohol intake. In addition, adequate calcium intake and maintenance of vitamin D levels in the blood are crucial. Healthy measures should be followed throughout one's life. We should

encourage children to play outdoors, limit the time they spend watching TV or playing electronic games, and make sure they get the calcium they need from natural sources.

Q. What, in your experience, are the most common myths or misconceptions about osteoporosis?

A. The biggest misconception is that osteoporosis is a women's disease. A second misconception is that osteoporosis causes bone and joint pain. Many people also believe that taking calcium supplements can increase the risk of coronary calcifications and heart disease. Other misconceptions: that breaking a hip after falling down is a normal sign of aging and not of osteoporosis.

Q. Does calcium intake cause kidney stones?

A. We always encourage patients to get their calcium from a healthy diet and not pills. There is research showing that calcium intake from dairy products prevents kidney stone formation but that calcium supplements may not have this protective effect. One study showed that calcium supplements may actually increase the risk of urinary tract stones. This study, however, was done in the west where the dietary calcium intake and vitamin D levels are higher than in Arab populations, so populations in the west are at higher risk for stone formation.

Q. AUBMC's Calcium Metabolism and Osteoporosis Program (CaMOP) has been very active in various initiatives in Lebanon and the

region to raise awareness about osteoporosis. Can you tell me something about them?

A. There is not enough space to list all of the initiatives. Since it was founded more than 20 years ago, our program really has taken the lead in Lebanon and the Arab world: raising awareness, in the education of physicians and patients, and in research. It has led and/or participated in several multidisciplinary national (in collaboration with the Ministry of Health) and international (in collaboration with the International Osteoporosis Foundation, IOF) task forces and the International Society for Clinical Densitometry (ISCD) for the development of clinical practice guidelines on osteoporosis.

CaMOP has also led the development and validation of the first on-line Fracture Risk Assessment (FRAX) calculator in the region and incorporated it in the national guidelines. We conducted randomized clinical trials on vitamin D supplementation across the lifespan and are currently developing Lebanese guidelines on vitamin D. In addition, we also led several public awareness activities and initiatives within and outside AUB and are developing patient educational materials in collaboration with the Ministry of Health, the Ministry of Social Affairs, and with the IOF. The program's success led to its designation by the WHO in 2010 as a WHO Collaborating Center for Osteoporosis and Metabolic Bone Disorders, the only one in the region.

CKUP

**Dr. Asma Arabi
on Osteoporosis**