HIV AND BONE HEALTH

What you can do to lower your risk of Osteoporosis

HEALTHY EATING: A well-balanced diet, consisting of breads, cereals, fruits and vegetables as well as low-fat dairy products and lean proteins. Plenty of fluids (2 litres) each day, preferably water!

EXERCISE: If possible, see a specialist in bone health who can recommend weight-bearing exercises that are right for you. Walking is a start, but it should vary in intensity and not be the same every day.

CHECK YOUR SURROUNDINGS: If you are at increased risk of osteoporosis you want to avoid falling. Make sure you check your home / workplace to move items that could contribute to falls, such as throw rugs and electrical cords.

CALCIUM AND VITAMIN D SUPPLEMENTS: Check with your doctor to determine what supplements and dosages are right for you.

About the HIV Molecular Research Group (HMRG)

Lead by Dr. Paddy Mallon, the HMRG, based on the Mater Misericordiae University Hospital (MMUH) campus, coordinates international, collaborative, translational research in HIV, focusing on research aimed at maintaining long term health in people with HIV who are on antiretroviral therapy. The group comprises researchers with laboratory, statistical and clinical research expertise and is funded through a number of streams including Science Foundation Ireland, the Health Research Board and several industry supporters.

With special thanks:
Irish Osteoporosis Society
www.irishosteoporosis.ie

HIV UPBEAT STUDY FINDINGS

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UCD HIV Molecular Research Group
What is Osteoporosis and Low Bone Mineral Density?

Osteoporosis is a medical condition that describes weak bones. The bones in your body are made up of living tissue that is constantly being removed and replaced. For bones to remain healthy and strong, you need normal hormone levels, calcium, vitamin D, proteins and weight bearing/strengthening exercise to keep them healthy.

Often Osteoporosis arises because people lose more bone than normal and this causes bone to become fragile and to fracture more easily. The most common bones to fracture associated with osteoporosis are the hip, spine and wrist, but any bone can be affected.

Low Bone Mineral Density (BMD) means that the bone tissue in the skeleton is less dense and therefore potentially weaker. BMD is what is measured to determine if you are at risk for osteoporosis. Testing for low BMD can be done by having a simple and painless DXA scan of certain bones in your body, normally the spine and hips. The results of the test – your ‘T-score’ can help your doctor decide your risk level for osteoporosis and fracture and what treatment plan is right for you.

How is BMD affected by HIV?

Low bone mineral density is common in patients with HIV. While many risk factors, such as smoking, weight loss and poor nutrition, can lead to low BMD, HIV infection itself is thought to cause chronic inflammation, which can affect bones. As more people with HIV live longer with effective therapy, it is important to understand why people with HIV have lower BMD so that we can prevent the unwanted side effects of low BMD, such as fractures.

Also, research shows that starting HIV medications can be associated with reductions in bone density, especially in the first 2 years of treatment. Right now, we do not fully understand whether these reductions are due to the improvement in the immune system affecting bone or a direct effect of medications on bone.

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UPBEAT STUDY

Since 2011, the HIV UPBEAT study has enrolled over 500 HIV positive and HIV negative individuals in the greater Dublin area to follow over a period of 3 years to compare their bone mineral density (BMD) and other tests related to bone health. Once a year, participants complete a questionnaire about their health, receive a DXA scan and laboratory testing. The results so far show that people with HIV have lower bone mineral density and higher bone turnover than those without HIV.

As we continue this important study, we hope to learn more about the connection between HIV and bone health. This information will help healthcare providers better understand how to prevent, test and treat low BMD in people living with HIV so that we can maintain health over the long term.

If you want to know more about the HIV UPBEAT study, please contact us at HIVHMRC@ucd.ie

What makes a person more at risk for Osteoporosis?

There are many factors that contribute to an increased risk for osteoporosis. Chronic illness, as well as long-term treatments can lead to reduced bone health. However, there are other factors, such as smoking, diet and exercise, which are things that we can manage as individuals.

FACTORS THAT CONTRIBUTE TO OSTEOPOROSIS

- Family history of falls / hip fractures
- Eating disorders (anorexia/bulimia)
- Gastrointestinal disorders (such as Crohn’s, Coeliac or Ulcerative Colitis)
- Rheumatoid arthritis (the disease and steroid treatment)
- Endocrine disorders (such as thyroid problems, diabetes and asthma)
- Chemotherapy or radiation
- Smoking / Alcohol / Low body weight
- Diet (low intake of Calcium and Vitamin D)
- Lack of regular, weight-bearing exercise