Briefing:
The Bone Health Centre

The BONE HEALTH CENTRE

Most of us take for granted the health of our bones. Other than a rare break from an accident or over-enthusiastic sports activity, we just expect our bones to hold together and allow us to keep active.

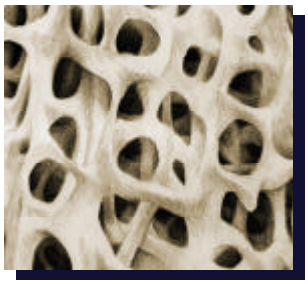
A healthy, active lifestyle will certainly help maintain bone health. Keeping to a varied, balanced diet should deliver all the vitamins and minerals needed for good bone health. In many cases supplements may go some way to ward off any possible bone disorders that might be developing in the early stages.

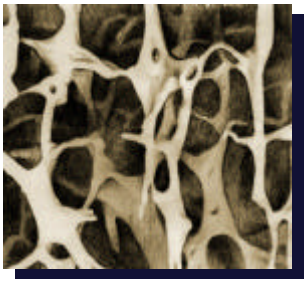
Nevertheless, age, genetics and other unavoidable influences may contribute to eventual bone deterioration.

Bone Strength

Bone strength is determined by its quality and mass. The better quality and the stronger a person's bone mass, the less likely the bones are to break.

Peak bone strength is achieved at the age of 30, after that there is a steady deterioration in bone mass. This decline is partly determined by a person's age and genetic history but there are other important health and lifestyle issues that may be contributing factors.





Figures 1 & 2: ***Bone density scan of ordinary bone mass and Bone density scan of poor bone mass***

Risk factors

The biggest risk factor in developing bone problems is age. So it is important to maintain a healthy diet and to exercise to keep the bones strong.

While arthritis is often closely linked to the age of sufferer, which is frequently in middle-aged and older patients, the disease does appear in younger people.

Osteoporosis is most often seen in women over 60 years old, but men too can suffer. Low calcium intake, smoking and excessive alcohol can be risk factors.

Patients who have had a longstanding illness like rheumatoid arthritis or inflammatory bowel disease may be affected, as are people who have used some prescription drugs for other health conditions, particularly steroids.

Assessment & Diagnosis

A number of assessment options, using x-ray and bone densitometry scanning are available to fully assess any need for treatment, and appropriate treatment options.

Dual energy X-ray absorptiometry scan (DEXA) and the Hologic System are means of measuring bone mineral density and a way to gauge what action, if any, is to be taken. Two X-ray beams are aimed at the bone, soft tissue absorption is subtracted out and the bone mineral density can be determined from the absorption of each beam.

Osteoarthritis

Osteoarthritis is the most common form of arthritis and occurs when cartilage in the joints wears down over time. It can affect any joint in the body, though it most commonly affects joints in the hands, hips, knees and spine. Osteoarthritis typically affects just one joint, however in some cases, such as with finger arthritis, several joints can be affected.

Osteoporosis

Osteoporosis is a skeletal condition characterised by weakness and thinning of bone, which can potentially result in fractures. The risk of the fracture rises with age and most fractures do not occur until later in life. It is estimated that 3.2 million people in the UK have suffered from osteoporosis.

Treatments & Therapies

Treatment and follow-up options available cater for patients both in-hospital and on an outpatient basis. These are developed specifically for each patient and can include:

- Physiotherapy (including hydrotherapy)
- Dietary therapy
- Drug therapies
- Minimally invasive surgery
- Exercise programmes
- Minimally invasive surgery

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THE PRINCESS GRACE HOSPITAL

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Treatments & Therapies

The BONE HEALTH CENTRE

Physiotherapy
Physiotherapy specialists can aid in the management of orthopaedic and musculoskeletal conditions. Assistance with the treatment of post-fracture mobilisation, back and neck pain and sports injuries can ease pain and help train patients to manage their own conditions.

Dietary Therapy
Many outpatients with bone health problems or nutrition related conditions respond well to various types of dietary therapy. Patients are encouraged to develop a clinical and nutritional treatment plan that is followed up and reassessed on a regular basis.

Drug Therapies
A number of different medications available have been shown to reduce the risk of fractures and help manage the pain associated with bone problems.
Prevention and treatment medicines can be applied to stop bone deterioration in its tracks, and stimulate new bone formation.

Exercise Programmes
Exercise has been proven to strengthen the muscles supporting bones and joints, and in some cases alleviate associated pain. Each patient at the centre is provided with a detailed assessment to develop a personalised plan including an individualised exercise programme.

Minimally invasive surgery
Surgery can provide some relief from ongoing painful effects of bone disorders. Revolutionary surgeries for osteoporosis have been applied to relieve pain and can allow for patients to retain a quality of life they might not otherwise be afforded. Vertebroplasty and Kyphoplasty are two types of surgery, involving only minimal invasion and can be applied even after significant bone deterioriation has set in.

Balloon Kyphoplasty
Balloon Kyphoplasty, repairs compression fractures and collapsed bones, is now available at the Bone Health Centre in association with Kyphon Industries. Orthopaedic balloons are used to lift the fractured bone and return it to the correct position. This revolutionary procedure can allow patients a significant reduction in back pain and repair the broken bone of spinal fractures.

Figure 3: ***Procedure of Balloon Kyphoplasty***

The Bone Health Centre
The Bone Health Centre at the Princess Grace Hospital takes a multidisciplinary approach to the diagnosis and management of disorders associated with bone.

Clinicians at the centre such as radiologists, physicians and surgeons work with other health professionals including physiotherapists and nutritionists. A comprehensive range of treatments is available and a variety of skilled staff, are on hand to assist in the management of bone disease and ensure the best in post-operative rehabilitation

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The Princess Grace Hospital is one of London's leading providers of healthcare services to the private sector and provides comprehensive facilities for inpatient and outpatient care.
Located in the heart of London's esteemed medical district, it is just a short distance away from the capital's Harley Street.

The Princess Grace Hospital has several centres of excellence including:

- The London Breast Institute
- Brain and Spine Centre
- Centre for Medical and Surgical Gastroenterology and Hepatology
- Centre for Urological Care
- London Centre for Musculoskeletal Services
- London Lithotripter Centre
- London Prostate Centre
- Snowsports Injuries Centre

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