We’re a group of researchers from the Musculoskeletal Research Programme at the University of Aberdeen. We work together to understand how our bodies maintain our bones, joints and muscles, what we can do to keep them healthy, and how we can treat or prevent diseases that affect the musculoskeletal system, such as osteoporosis or arthritis. Find out more about our research at http://www.abdn.ac.uk/ims/research/musculoskeletal/

OSTEOPOROSIS

The National Osteoporosis Society is the only UK-wide charity dedicated to improving the diagnosis, prevention and treatment of osteoporosis. Their Bones 4 Life website has heaps of fun games and activities on bone health, plus lots of advice for keeping your skeleton in tip-top condition.

OSTEOPOROSIS

www.nos.org.uk                     www.bones4life.org

ARTHRITIS

Osteoporosis is not the only disease that affect the skeleton. Nine million people in the UK suffer from arthritis, a disease that affects the joints and makes movement painful and difficult. At the University of Aberdeen we are researching ways to help treat this disease. Helped by donations from Arthritis Research UK, if you’d like more information on arthritis you can visit the charities below.

ARTHRITIS

www.arthritisresearchuk.org            www.arthritiscare.org.uk

Further Information

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Bone pot-holes

This picture shows a pit dug out by an osteoclast as it works its way across the surface of a bone in our laboratory. Osteoclasts are the diggers in our skeleton, and they use acid to dissolve bone. These holes are filled by the bone builders called the osteoblasts, but in osteoporosis there are too many diggers and not enough builders. This leads to weak bone that can break very easily.

Strong structure, light weight

This picture is from a special x-ray of a bone that allows us to see the structure inside. Bone is made of a hard, outer surface called compact bone which gives bone its shape. Our skeleton would be too heavy if our bone was solid, but too weak if it was completely hollow, so the inside of bone contains this honeycomb looking structure that keeps bone light and very strong – just like a Malteser or a Crunchie bar!

Remember!

Calcium is important for strong bones but it’s not strong enough on its own. Stretchy, flexible collagen is also important. A healthy diet, exercise and sensible amounts of sunlight can help keep your skeleton in good working order.