

Introduction to our word document on osteoarthritis

Definition of osteoarthritis

Osteoarthritis is a chronic joint disease in which the cartilage that cushions the ends of bones gradually breaks down, causing pain, stiffness, and reduced joint movement

Symptoms of osteoarthritis

1. Joint pain
2. Joint stiffness
3. Swelling around the joint
4. Reduced range of movement
5. Cracking or grinding sounds in the joint
6. Tenderness of the joint
7. Weakness around the affected joint

Reference: <https://www.nhs.uk/conditions/osteoarthritis/>

<https://www.arthritis.org/>

Case study

Amina is a 76-year-old woman who visits the GP for an annual check-up. Her history shows that she smokes 20 cigarettes a day and is a heavy coffee drinker. She has had several fractured bones in the last 5 years that required medical attention. On examination she has lost 2.5cm in height over the past year. She has also lost several kilos in weight but says that she still wears the same size clothes.

1. **(Hameed)** what are the main approaches and strategies that could be used to **measure** the number of individuals with osteoarthritis in the UK?

When considering Amina's case healthcare professionals would use several approaches to measure the number of individuals with osteoporosis in the UK. Amina is 76 years old and has several risk factors for osteoporosis, including her age smoking habit, history of fractures, loss of height and weight loss (NICE, 2017). These factors would make her a likely candidate for further assessment and diagnosis.

One approach is the use of GP records and NHS databases. If Amina were diagnosed with osteoporosis following investigations such as a bone density scan, her diagnosis would be recorded in her medical records. Researchers can analyse these records across the UK to estimate how many people have the condition (NICE, 2017).

Another strategy is the use of hospital and fracture data. Amina has experienced several fractures in the past five years, which may indicate underlying osteoporosis. By examining hospital admissions and fracture clinic records, public health organisations can identify trends and estimate the number of people affected by osteoporosis (NHS England, 2023).

Population health surveys can be used. These surveys collect information about risk factors such as age, smoking, previous fractures, and lifestyle habits. People with characteristics like Amina can be identified as being at higher risk helping researchers estimate the prevalence of osteoporosis within the population (Office for National statistics, 2024).

Healthcare professionals may also use screening programmes and bone density testing data. If large number of people like Amina undergo a bone density scan, the results can provide information on how common osteoporosis is among different age groups and regions of the UK (Royal Osteoporosis Society, 2024).

In Amina's case, her symptoms and risk factors suggest that she may have osteoporosis. By recording and analysing data from patients with similar characteristics, Healthcare professionals can measure how many individuals in the UK are affected by the condition and plan appropriate healthcare services.

- References: National Institute for Health and Care Excellence (NICE) (2017) *Osteoporosis: assessing the risk of fragility fracture (CG146)*. London: NICE.
- NHS England (2023) *Musculoskeletal conditions and osteoporosis services*. Available from: <https://www.england.nhs.uk>
- Office for National Statistics (ONS) (2024) *Health and lifestyle surveys in England*. Available from: <https://www.ons.gov.uk>
- [Royal Osteoporosis Society](#) (2024) *Osteoporosis statistics and prevalence data*.

2. **(Aysha)** what are the main approaches and strategies that could be used to **monitor** the number of individuals with osteoarthritis in the UK?

3. **(Akhifa)** what are the main approaches and strategies that could be used to **control** the number of individuals with osteoarthritis in the UK?

4. Karen Identify some of the factors that may influence Amina's health and wellbeing in relation to her osteoarthritis? What health education information could you give to Amina to help her to manage her condition?

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Factors influencing Amina's health and wellbeing

There are several key factors from Amina's lifestyle and background that affect her health and wellbeing and increase her risk of bone and joint problems like osteoarthritis. Amina smokes 20 cigarettes a day. According to **(NHS ENGLAND 2025)** smoking reduces the blood flow to bones and joints, lowers bone density and speeds up the breakdown of the cartilage that cushions the joints this makes her more likely to experience pain, stiffness and fractures in the future. Her high intake of coffee is another important factor. As explained by **(Arthritis**

UK2025) consuming caffeine in large amounts can interfere with how well the body absorbs calcium as this is an important vitamin for keeping bones strong over time this weakens the structure of the bones and puts extra strain on joints when moving around. Age and gender also play an important role at 76 years old natural changes take place in the body joint cartilage gradually becomes thinner and less flexible, and it does not repair itself as quick as when a person is younger. Being a female also increases the risk as bone density reduces much faster after the menopause compared to men of the same age. Her medical history is also a cause for concern she has had several fractures over the last five years and lost 2.5cm in height these are both common indicators of reduced bone strength although she reports losing weight but still wears the same size clothes this suggests she has lost muscle mass and not body fat. Muscles provide natural protection and support for joints when muscle strength gets less joints must carry more weight and pressure of movement on their own which then speed up wear and tear and increases pain and stiffness daily.

Health education and advice to help Amina manage her condition

According to **(Age UK 2025)** there is clear advice given which can help Amina to slow down the progress of her condition reduce pain and maintain her independence as long as possible. First stopping smoking is one of the most beneficial changes she can make age UK confirms that quitting will improve the blood supply throughout the body this will help protect the remaining bone density slowing down further damage to joints and may even help reduce the level of pain she is feeling free support is also available to help her to achieve this including advice from her GP local pharmacists and stop smoking services it's also recommended she reduces her coffee intake to one or two cups per day and instead have more water or calcium fortified alternatives to improve her calcium absorption. Diet and nutrition also play an important part in Amina's condition as explained by the **(The British dietetic Association 2025)** they advise including a good source of calcium in the diet everyday this comes from milk cheese yogurt green leafy vegetables such as kale broccoli nuts seeds and tinned fish for example sardines and pilchards where the soft bones are eaten also vitamin d is just as important as it helps the body absorb and use calcium effectively as well as this vitamin been made naturally through sunlight it can be obtained from foods like oil fish egg and fortified cereals it is also recommended that people over the age of 65 to take a vitamin d supplement during autumn and winter months when sunlight levels are low. For Amina eating enough protein from sources such as lean meat fish and eggs beans and lentils it important as this will help maintain her muscle strength and prevent further muscle loss. Regular gentle physical activity is another good way for managing her health age UK states that activities such as walking swimming or light gardening helps

strengthen the muscles surrounding the joints without putting on too much pressure this helps reduce stiffness and improves balance and coordination reducing the risk of falls and further injury. Activities such as running or jumping or heavy lifting are best avoided as these can put too much pressure on the joints and cause further damage. Amina should keep in contact with her GP and healthcare team and local pharmacist so medication can be reviewed that she is currently taking and check her bone health if necessary and recommend safe pain relief or simple aids such as supportive shoes to help her stay comfortable and active.