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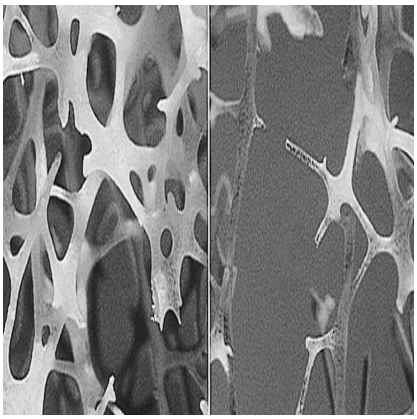
New Tool to Prevent Osteoporotic Fractures



A new cutting-edge technology, developed by scientists from the University of Manchester (UK), can locate and analyse bones - specifically spine fractures - in medical images. The tool will be useful in detecting early signs of osteoporosis, which occurs when a person has too little bone and is more prone to suffering fractures in the spine, wrists and hips. The automated system can be integrated with radiography equipment used in hospitals.

Osteoporosis affects one in two women and one in five men over 50, and the treatment of hip fractures is estimated to cost £2 billion in the United Kingdom by 2020.

The scientists will work with Optasia Medical (Cheadle, UK) and Central Manchester University Hospitals NHS [National Health Service] Foundation Trust (CMFT) to develop the specialist computer software to run the system. The system will be piloted at CMFT and, if successful, it will be made available worldwide.

Funds for this research project amounting to £660,000 came from the UK Department of Health and the Wellcome Trust through the Health Innovation Challenge Fund.

'Early Sign of Osteoporosis'

“Vertebral fractures are an early sign of osteoporosis and indicate a patient is at significantly increased risk of future fractures and should be treated," said Prof. Judith Adams, a radiologist and one of the world’s leading specialists on osteoporosis based at CMFT and the University of Manchester. However, more than half of these spine fractures go unnoticed by patients for two reasons: there are no symptoms and often the fractures are under-diagnosed on medical images.

If the spine fractures are identified much earlier, a radiologist can then refer patients for further evaluation and treatment for osteoporosis. In this way, Prof. Adams noted, the number of future fractures "including potentially fatal hip fractures” can be reduced.

“An osteoporotic vertebral fracture doubles the risk of future hip fracture, and yet they are hugely under-diagnosed and under-reported," said Optasia Medical CEO Dr. Anthony Holmes. Optasia is excited to be working with world-leading clinical and academic partners in addressing this major problem, Dr. Holmes added. The company develops and markets software tools for use on x-rays to help with the effective management of patients suffering from musculoskeletal diseases. Optasia's objective is to improve quality of patient care through innovation in medical image understanding.

Raising Awareness on Osteoporosis

84-year-old Knotsford (Cheshire) resident Nancy Mottram, who has sustained five vertebral fractures in her spine due to osteoporosis, welcomed the research project. She thinks more money should be spent to increase awareness about osteoporosis and reduce its effects.

Mottram narrated that while in her 50s, she had enjoyed physical activities such as running, swimming, scuba-diving and wind-surfing. "I'd never even heard of osteoporosis until my fractures in my 70s. Since then I have gone from 5' 5" to 4' 11" and my middle has gone much larger," the octogenarian said. "If someone could have warned me or detected I was at risk earlier in my life I could have maybe changed my lifestyle and done more to help prevent my present situation."

Source: The University of Manchester
Image Credit: Wikimedia Commons

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