

Abstract Submitted
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Potential of Dental CT Imaging in Diagnosis of Osteoporosis

META ZHOU, East Chapel Hill High School — Osteoporosis is a disease in which the bones become increasingly fragile, with low bone mass, deterioration of bone tissue, disruption of bone microarchitecture, and compromised bone strength. It affects 1 in 3 women over the age of 50, and 1 in 5 men. The current standard for clinical diagnosis of osteoporosis is dual X-ray absorptiometry devices. Recommended testing is once every two years. However, most people do not get tested this often. Most people, especially elder people at risk for osteoporosis, visit their dentist on a much more regular basis. Thus, the goal of this project is to determine the potential of dental CT imaging technology in the detection and diagnosis of osteoporosis. I reviewed existing scientific literature on studies using dental X-rays for potentially diagnosing osteoporosis, and their advantages and limitations. Based on this, I identified the requirements for using dental CT to diagnose osteoporosis. There is a limited number of studies on using 2D X-rays and CT to diagnose osteoporosis. Their sensitivity and reliability need improvement in order for this technique to be used.

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