

## EXPLORING THE RELATIONSHIP BETWEEN DIET AND OSTEOPOROSIS IN MEDIEVAL PORTUGAL USING STABLE ISOTOPE ANALYSIS.

Sharla Luxton

This project investigates the relationship between health and diet in medieval Portugal by combining data on the occurrence of osteoporosis with information on past diet derived from stable isotope ratios. The aim of this project is to identify whether different sources of protein influenced the prevalence of osteoporosis in three populations. Individuals from three different regions of Portugal were previously evaluated for bone mineral density at the University of Coimbra, Portugal, and bone samples from 79 of these individuals underwent stable isotope analysis at the University of Alaska Fairbanks. Collagen suitable for isotopic analysis was extracted from all individuals and indicated a negative correlation between bone mineral density (BMD) and nitrogen isotope values for females at one site and a positive correlation for males at another site. These results, combined with the lack of a clear relationship between BMD and nitrogen values for the other subgroups, suggest a complicated relationship between dietary protein source and the occurrence of osteoporosis. While sample sizes are small, the data indicate that future analysis is warranted, particularly considering the high incidence of osteoporosis and the economic and individual strain of the disease. Luxton, Sharla (Department of Anthropology, UAF).