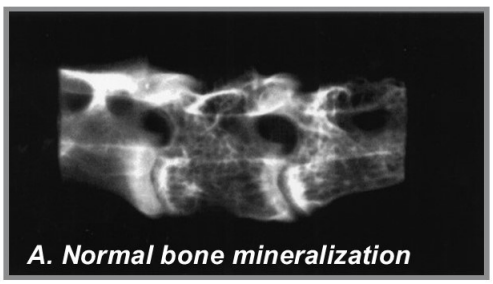
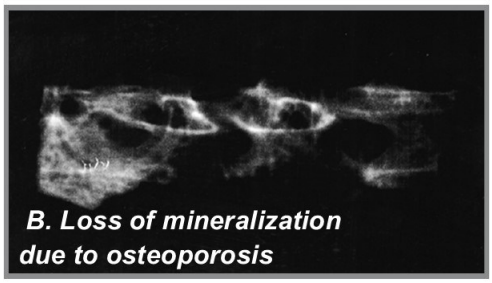
What is Osteoporosis?

Osteoporosis is a skeletal disease characterized by the loss of mineralization in bones.

In 1955, a term "caged layer fatigue" was first used to describe osteoporosis symptoms, including: increases in brittle bones, paralysis, and death in caged laying hens. (Grumbles, 1959)





Radiograph (X-ray) images showing vertebrae with and without osteoporosis.
Source: Whitehead and Fleming

Why Does Osteoporosis Matter?

- Mineralization loss decreases the strength of structural bones.
- Decreased bone strength increases the risk of fractures.

What Does Osteoporosis Look Like

- Osteoporosis is more common in laying hens during the laying period because calcium is used for egg shell development.
- Osteoporosis can lead to bone fractures throughout the skeletal system.
- Birds may be reluctant to walk.
- In very severe cases, paralysis may develop shortly before death.

What Causes Osteoporosis?

- Mature bones are constantly undergoing cellular processes to break down and replace the existing bone tissue.
- If the rate of break down becomes faster than replacement, then osteoporosis develops.

How Do You Prevent Osteoporosis in Your Flock?

- Before "lighting up" (increasing daily light hours to stimulate egg production), supplement pullets with additional calcium in the diet.
- Feeding a well-balanced diet. Nutritional deficiencies may increase the severity of osteoporosis.
- If you suspect osteoporosis in your flock, you can supplement oyster shells along with vitamin D for 3 days to reduce likelihood of mortality.
- Select breeds with lower incidences of osteoporosis.
- Ensure hens have an environment that encourages exercise. Research shows that inactivity is likely to increase the risk of developing osteoporosis.

There is no cure for osteoporosis. Monitoring and prevention is key. These are accomplished with proper nutrition, breed consideration, and housing environments which encourage exercise.

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FS-1179 | Infographic Osteoporosis | By Anna Magnaterra and Shawna Weimer

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