Condition: Alkaptonuria

Inheritance:

Autosomal recessive.

Genetic etiology:

Mutation in gene *HGD*, which encodes homogentisic acid oxidase.

Frequency:

Variable in different parts of world; approximately 1/250,000 – 1/1,000,000 births in U.S.

Clinical features:

Affected individuals have urine that darkens over time after voiding. Deposition of homogentisic acid in connective tissue similarly leads to darkening. Clinically, arthritis, particularly of the spine, develops beginning in the third decade. Kidney function may be impaired.

Management:

Symptomatic therapy; clinical trials underway testing nitisinone, which is an inhibitor of 4-hydroxylphenylpyruvate dioxygenase, the enzyme that produces homogentisic acid.

Genetic counseling:

Based on autosomal recessive inheritance; genetic testing is available.

Human Genetics and Genomics, Fourth Edition. Bruce R. Korf and Mira B. Irons.