Most melanoma is not inherited; only 10% of all melanomas are thought to be hereditary. Some cases of hereditary melanomas (approximately 20-57%) are associated with a mutation in the CDKN2 gene (also called p16). 72-81% of families with hereditary melanomas and pancreatic cancer will have a CDKN2 mutation that can be identified. Other as yet unidentified genes account for other hereditary melanoma cases.

The risk for cancer associated with \textit{CDKN2} mutations

- Mutations in the \textit{CDKN2} gene are associated with up to a 76% risk for melanoma by age 80.
- Individuals with a \textit{CDKN2} mutation who have had melanoma have an increased risk for developing a second melanoma.
- \textit{CDKN2} mutations are also associated with an increased risk (up to 17% by age 75) for pancreatic cancer in some families.

The risks to family members

\textit{CDKN2} mutations are inherited in an autosomal dominant fashion. The children, brothers, sisters, and parents of individuals with \textit{CDKN2} mutations have a 50% (1 in 2) risk to have the mutation. Individuals with a \textit{CDKN2} mutation may develop one cancer, more than one cancer, or none at all.

Managing the risk

\textit{Increased Surveillance}
- Regular self-examinations of the skin
- Clinical skin examinations every 6-12 months, beginning in childhood
- Baseline photography of the entire body by a dermatologist

\textit{Preventative surgery}
- Biopsy and/or removal of suspicious moles

\textit{Lifestyle modifications}
- Limit sun exposure and avoid tanning beds
- Wear protective clothing
- Apply sunscreen with SPF of 15 or higher at regular intervals
- Avoid smoking, as smoking significantly increases the risk for pancreatic cancer in individuals with \textit{CDKN2} mutations.