

Basal Cell Carcinoma (Skin Cancer)

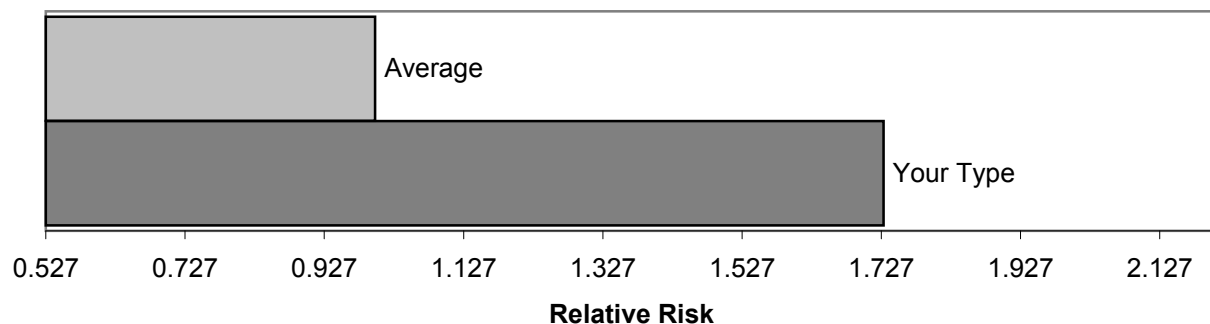
Skin cancer is the most prevalent type of cancer in human beings and occurs in three main forms: melanoma, basal cell carcinoma and squamous cell carcinoma. Basal cell carcinomas are malignant tumors that originate in the basal cells lining the inner part of the epidermis. They are the most common form of skin cancer, accounting for 75% of all diagnosed cases. It is estimated that about one million new cases are diagnosed in the US each year. This type of skin cancer usually appears on areas of the skin most exposed to the sun (head, face, neck, hands and arms).

Regular exposure to the ultraviolet (UV) rays of the sun increases the risk of developing all types of skin cancer, including basal cell carcinoma. Exposure to UV rays from the sun is mainly dependent on how far away from the equator one lives. In the far north (e.g. in places such Iceland, Finland and Alaska) there is relatively little UV radiation from the sun and the risk of too much exposure is low, whereas those living in northern Australia, Florida, India and Ethiopia are much more highly exposed. Exposure to UV radiation on tanning beds also increases the risk of developing basal cell carcinoma.

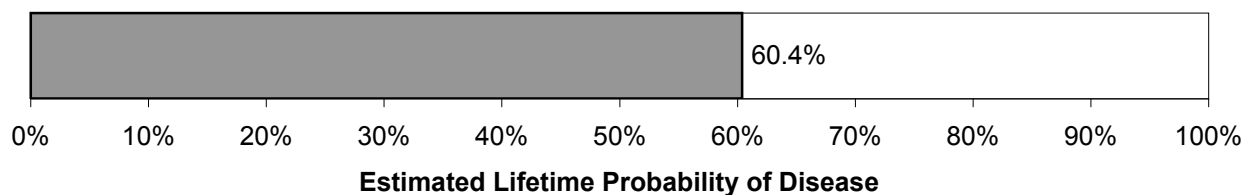
The results below are based on three genetic variants linked to basal cell carcinoma. Two variants are located on chromosome 1, one of them close to the PADI6 and RCC2 genes and the third variant is on chromosome 5 near the TERT gene.

Your Results

Based on the selected literature, the relative risk calculated from your genotype is 1.73.



It is estimated that 60.4% of people with your genotype variants develop this disease in their lifetime. This is 73% more than the average person.



Note that these calculations may not include all risk factors, as described in this report.

As ultraviolet (UV) radiation exposure is such an important environmental risk factor for basal cell carcinoma, it may be assumed that the lifetime risk of developing basal cell carcinoma will vary according to the magnitude of UV exposure where you live. For that reason, your lifetime risk may be higher or lower than that reported here. Unfortunately, the scientific literature does not yet provide reliable information about the differences in the lifetime risk of basal cell carcinoma for people in different places around the world.

Basal Cell Carcinoma (Skin Cancer)

The main risk factors associated with Basal Cell Carcinoma are:

Ultraviolet (UV) radiation: UV exposure is thought to be the major risk factor for basal cell carcinoma and most other skin cancers. This is because UV can damage the DNA carried by skin cells causing them to grow and divide uncontrollably. Sunlight and tanning beds are the main sources of UV radiation. People with excessive and unprotected exposure to light from these sources are at greater risk for all kinds of skin cancers. Studies also suggest that exposure at a young age is an added risk factor.

Complexion: Hair, eye and skin color are determined by the amount and type of melanin produced by cells called melanocytes. Melanin is a special form of pigment that absorbs light and provides protection from the damaging effects of UV radiation. People with fair skin, freckles and red or blonde hair have less light-absorbing melanin in their skin and hence have a higher risk of developing skin cancer.

Gender and age: Men are 50% more likely to develop basal cell carcinoma than women. This is thought to be mainly because men are more exposed to the sun (outdoor labor) less aware of the need for UV protection. Basal cell carcinoma is more common in both sexes after the age of 40.

Family history: Not surprisingly, family history plays a role in the development of skin cancers. This is partly because complexion is largely genetically determined. At the same time, family members also tend to live in the same areas with comparable UV radiation exposure. Genetic variants have been found to increase risk for certain skin cancers, mostly through their effect on lightening skin complexion.

Prevention and treatment

The best known way to lower the risk of any skin cancer is to avoid sun-burn and limit exposure to the sun and other sources of UV radiation, including tanning beds and sun lamps. If detected early, basal cell carcinoma is comparatively easy to treat. However, 5-10% of basal cell carcinoma tumors can be resistant to treatment or can damage the skin around them, sometimes invading bone and cartilage. Fortunately, however, basal cell carcinoma has an extremely low rate of spreading to other parts or organs of the body (metastasis), and although it can result in scarring it is usually not life threatening.

As early detection of basal cell carcinoma is the key to successful treatment, it is important to recognize what basal cell cancer looks like and perform regular self-examinations of your skin, especially if you are at increased risk for developing this type of skin cancer. If you observe any unusual change in your skin such as a bump, a sore that doesn't heal, or an area with different color or texture than the skin around it, consult your physician.

There is no single best method to treat all skin cancers. The method of choice is determined by many factors, including the location, type, size, whether it is a first-time tumor or a recurrent one, and the health and preference of the patient.

Patients who have had one occurrence of basal cell skin cancer have a 40% greater risk of developing new tumors in the next five years. The tumors can recur even when they appear to have been adequately treated. Therefore, even after successful treatment of basal cell carcinoma, patients should perform skin self-examinations routinely and continue to see their physician for regular follow-up visits for several years to make sure that the growth has not recurred and also to check for new skin cancers.