Skin cancer and melanoma
Prevention, diagnosis and treatment

Skin cancer is the most common form of cancer in Australia, affecting approximately two out of three of us during our lives.

Queenslanders, in particular, have the highest rates of skin cancer in the world.

QIMR Berghofer Medical Research Institute strives to make a difference to this statistic. Our research aims to better understand the genetic and environmental factors that contribute to skin cancer, and develop more effective diagnostics, prevention and treatment options.

The Nambour Study
QIMR has been conducting the world’s longest-running community-based skin cancer study. We have found:

- Thin invasive melanomas have a better survival than thought, 96% survival rate.
- Using sunscreen every day reduces skin photoageing by 20%.
- Applying daily sunscreen reduces the risk of invasive melanoma by 75% and squamous cell carcinoma (SCC) by 40%.
- A diet high in antioxidants halves the risk of developing basal cell carcinoma (BCC) and SCC.
- Eating leafy green vegetables such as spinach and other sources of selenium reduces the risk of SCC.
- Using UV tanning beds under the age of 30 increases the risk of developing melanoma by 75%.
- Regular use of aspirin may protect against SCC and sunspots.
QSkin study

QIMR Berghofer researchers are conducting the world’s largest skin cancer study, QSkin. The study has surveyed over 40,000 Queenslanders. By linking participant’s information to their Medicare records, researchers hope to understand the factors that increase skin cancer risk.

The aim is to develop an assessment tool to be used by doctors to identify and monitor people at high risk of developing skin cancer. For more information, visit qskin.qimrberghofer.edu.au

Skin cancer and melanoma genes identified

- People with many moles (naevi) are at a higher risk of developing melanoma even without high sun exposure.

- Changes in a specific gene associated with dark eye colour and moles increases the risk of developing melanoma by 150% - which is as significant to skin cancer risk as having red hair.

- Genetic changes have been identified which increase melanoma risk– one plays a role in how DNA is repaired following sun damage, another is involved in tumour formation.

D-Health study

QIMR Berghofer researchers are on a mission to understand the truth about vitamin D. Vitamin D comes from sunlight, but with people being more vigilant with sun-safety, our vitamin D levels may suffer.

QIMR Berghofer’s Dr Rachel Neale said, “There is currently insufficient information about how much vitamin D we need. We don’t yet know if increasing vitamin D levels by taking supplements is beneficial.”

The researchers are currently running a study called D-Health. They aim to recruit 560 participants from Queensland, NSW, Victoria and Tasmania to investigate the health benefits of taking a dietary supplement of vitamin D.

Types of skin cancer

- **Squamous cells**
  
  give rise to squamous cell carcinomas (SCCs).
  
  SCCs account for 20% of all skin cancers.
  
  SCCs can slowly spread, but they are not usually life-threatening

- **Basal cells**
  
  give rise to basal cell carcinomas (BCCs),
  
  the most common form of skin cancer. These are the least dangerous skin cancer.

- **Melanocytes**
  
  give rise to melanoma, the most dangerous type of skin cancer.
  
  Australia has the highest rate of melanoma worldwide, with 10,000 cases every year.