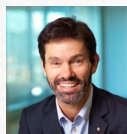


Welcome to the fourteenth edition of the QSKIN News

It takes a community... 2020 has been – it still is – a very challenging year. So it is a very special pleasure that we're still able to celebrate the achievements of the QSkin study, which this year celebrates its 10th Anniversary! We would like to take this opportunity to thank all of you for your dedication and commitment to skin cancer research over the past decade.

This 14th edition of QSkin News provides an update on the activities and achievements of the study and the QSkin Team, including new findings published in the scientific literature, our new recruitment drive, grant funding success and some brief snippets of our plans for 2020 and beyond. We hope you find the update informative. Thank you again for your ongoing support of the study, and remember, we are always happy to answer your questions or provide more information on our activities.



Professor David Whiteman and Associate Professor Catherine Olsen for the QSkin Team

QSKIN II progress – a new wave of recruitment

As you know, the QSkin study began in 2010 and is documenting the skin cancer experience of nearly 45,000 people, making it the largest study of skin cancer in the world. A key objective of the study is to find the genes that increase or decrease a person's risk of getting skin cancer. Genetic studies require very large numbers of participants to have enough statistical power to find the important genes. We therefore conducted a new wave of recruitment into the study, inviting thousands more to take part. Over 7,000 new participants have joined the study by completing the baseline survey and providing a saliva sample.



QIMR Berghofer
Medical Research Institute



D-Health Participants invited to join QSkin

The D-Health Trial, led by QSkin investigator Professor Rachel Neale, is a large, community-based prevention trial, which is testing whether taking monthly tablets of vitamin D for up to 5 years can improve health and help people to live longer. The last participants enrolled in D-Health took their final tablet in February 2020. Since then, Professor Neale has invited D-Health participants to join QSkin Genetics. We are delighted that 1812 people have accepted the invitation.

We would like to extend a very warm welcome to all new QSkin participants from the D-Health trial!

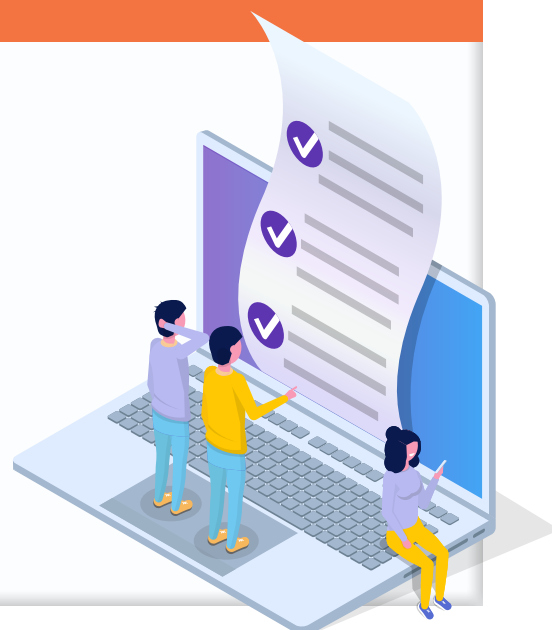


New funding from the NHMRC

Early in 2019, we applied for funding from the National Health and Medical Research Council of Australia (NHMRC) to support the ongoing research activities of the QSkin study. Waiting for grant applications to be reviewed and announced can be nerve-wracking, so we were delighted to learn that our application was successful. The Health Minister announced that QSkin had been awarded \$2.9 million to pursue this goal, and to support the next five years of research activities in the QSkin cohort.

Plans for 2020

Throughout 2020, we will be planning a follow-up survey, which will be sent to all QSkin participants in 2021. We will continue our data linkage activities to identify new cases of skin cancer in the cohort, as well as analyse our genetic data, update our melanoma risk prediction tool, and complete an evaluation of the keratinocyte risk prediction tool. We are also in the process of contacting pathology laboratories to request tissue samples from QSkin participants who developed a melanoma during the course of the study. QSkin health economist Associate Professor Louisa Gordon will evaluate the cost-effectiveness of risk-stratified screening for melanoma and the role of genetic testing. We will also continue to measure the costs of detection, diagnosis and treatment of skin cancer (including recurrence).



How much sunshine causes melanoma? It's in your genes.

While genetics is clearly important, lifestyle factors (like sun exposure) are just as important. QSkin researchers have also started to analyse information collected from QSkin participants to investigate how our genes interact with lifestyle factors to alter risk for skin cancer.

Newly published research from QSkin has shown that 22 different genes help to determine how much sun exposure a person needs to receive before developing melanoma.

For people at high genetic risk, sun exposure in childhood is a strong contributing factor while people at low genetic risk develop melanoma only after a lifetime of exposure to sunlight.

The study findings suggest that people with genes that predispose them to skin cancer only need modest levels of exposure to Australia's sunny climate to develop the disease. The research confirms that sun damage up to the age of about 20 is particularly dangerous for people with a higher genetic risk because it is enough to trigger melanomas and they don't need long, cumulative exposure as well.

The research was published in the British Journal of Dermatology:
<https://www.ncbi.nlm.nih.gov/pubmed/31747047>

Olsen CM, Pandeya N, Law MH, MacGregor S, Iles MM, Thompson BS, Green AC, Neale RE, Whiteman DC; QSkin Study. Does polygenic risk influence associations between sun exposure and melanoma?: a prospective cohort analysis. *Br J Dermatol* 2019 Nov 20.



Australian researchers find 45 new genetic causes of non-melanoma skin cancers

A study using data from the QSkin cohort has discovered 45 new genetic variants that put people at a greater risk of developing the most common form of skin cancers, basal cell carcinoma (BCC) and squamous cell carcinoma (SCC), more than doubling the genetic information available on these cancers.

Study senior author and the head of QIMR Berghofer's Statistical Genetics group, Associate Professor Stuart MacGregor, said the study examined data from 48,000 people who were treated for BCCs and/or SCCs in Australia, the United Kingdom and the United States.

While solar ultraviolet radiation exposure is the biggest risk factor for developing skin cancers, the study shows there are important inherited contributions underlying BCCs and SCCs.

Lead researcher, Dr Upekha Liyanage, said the discovery of new genetic variants may help to explain why some people developed these skin cancers, while others who may have similar features, such as pale skin or freckles, did not.

The study findings are published in Human Molecular Genetics:
<https://www.ncbi.nlm.nih.gov/pubmed/31174203>

Liyanage UE, Law MH, Han X, An J, Ong JS, Gharahkhani P, Gordon S, Neale RE, Olsen CM; 23andMe Research Team, MacGregor S, Whiteman DC. Combined analysis of keratinocyte cancers identifies novel genome-wide loci. *Hum Mol Genet.* 2019 Sep 15;28(18):3148-3160.

Could height or body weight be linked to melanoma risk?

Dr Jean Claude Dusingize, who was recently awarded his PhD after completing a program of research in the QSkin study, used genetic data to show convincingly that people who are genetically-predisposed to be tall have higher risks of melanoma. More research is needed to understand which genetic pathways influence both height and melanoma risk.

The research was published in the International Journal of Epidemiology:
<https://pubmed.ncbi.nlm.nih.gov/32068838>

Dusingize JC, Olsen CM, An J, Pandeya N, Law MH, Thompson BS, Goldstein AM, Iles MM, Webb PM, Neale RE, Ong JS, MacGregor S, Whiteman DC. Body mass index and height and risk of cutaneous melanoma: Mendelian randomization. *Int J Epidemiol.* 2020 Feb 18;dyaa009.



Take the QSkin COVID-19 survey

If we have a current email address for you, you will have recently received an invitation to complete a short online survey about your experiences of COVID-19 and lifestyle changes as a result of the pandemic. Your answers will help the global research effort to understand the impact of COVID-19 on people's health and wellbeing. If you have not received an invitation please contact us on the study helpline (1800 222 600) or by email (QIMR.QSkin@qimrberghofer.edu.au) and we will send you a link to the online survey.

Other new QSkin scientific papers

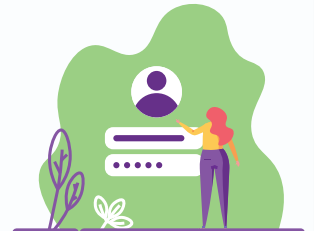
Thompson BS, Pandeya N, Olsen CM, Dusingize JC, Green AC, Neale RE, Whiteman DC. Keratinocyte cancer excisions in Australia: Who performs them and associated costs. *Australas J Dermatol.* 2019 Nov;60(4):294-300.
<https://www.ncbi.nlm.nih.gov/pubmed/31012087>

Pandeya N, Olsen CM, Thompson BS, Dusingize JC, Neale RE, Green AC, Whiteman DC; QSkin Study. Aspirin and nonsteroidal anti-inflammatory drug use and keratinocyte cancers: a large population-based cohort study of skin cancer in Australia. *Br J Dermatol.* 2019 Oct;181(4):749-760.
<https://www.ncbi.nlm.nih.gov/pubmed/30920641>



Medicare consent

In the second half of 2020, we will be contacting all QSkin participants who joined the study in 2011 and who consented to link to their administrative claims data from Medicare (MBS and PBS data). If you are one of those people, you have given consent up until 30 September 2020. We are now seeking to extend the consent period to 30 September 2030, so that we can continue to monitor occurrences of skin cancer treatment in the cohort. We will contact you in the coming months to invite you to consent for the extended period of data linkage.



Feedback?

If you have any comments or updated information (e.g. change of address), please contact us:



1800 222 600



qskin@qimrberghofer.edu.au



www.qimrberghofer.edu.au