

Facts for people and families with a faulty BRCA2 gene

ID: 3427 v.4 Endorsed

This fact sheet contains general information. Each person should be referred to a genetic service for further information and advice about what a faulty BRCA2 gene means for them.

Key Points

- Women with a faulty BRCA2 gene have an increased chance of developing breast and ovarian cancer.
- Men with a faulty BRCA2 gene have an increased chance of developing prostate and breast cancer.
- Both men and women with a faulty BRCA2 gene have an increased chance of developing pancreatic cancer.
- Men and women can be referred to a genetic service where experts can provide information, advice and support about their chance of developing cancer and the option of genetic testing.

What is a faulty BRCA2 gene?

BRCA2 is a 'cancer protection' gene that helps to protect against breast, ovarian, prostate and pancreatic cancer.

Everyone has two BRCA2 genes (one from their mother, and one from their father). If one of the genes is not working, this is known as having a *faulty BRCA2 gene*, or having a *BRCA2 mutation*.

What is the risk of cancer for people with a faulty BRCA2 gene?

- Women with a faulty BRCA2 gene have about a 70% chance of developing breast cancer and about a 15% chance of developing ovarian cancer over their lifetime.
- Men with a faulty BRCA2 gene have about a 30% chance of developing prostate cancer by age 75 years and up to a 60% chance of developing prostate cancer by age 85 years.
- Men with a faulty BRCA2 gene have about a 7% chance of developing breast cancer over their lifetime.
- Both men and women with a faulty BRCA2 gene also have an increased chance of developing pancreatic cancer over their lifetime, but the exact chance is unknown.
- **Not everyone who has a faulty BRCA2 gene will develop cancer.**

How can this increased risk of cancer be managed?

Cancer in women:

- To **find breast cancer early**, women with a faulty BRCA2 gene should have breast cancer screening every year from age 30 years. This involves having a breast MRI (and sometimes a mammogram), plus a breast check by a doctor.
- To **reduce the chance of getting breast cancer**, women with a faulty BRCA2 gene may take medications such as tamoxifen or raloxifene. Some women may consider breast surgery (risk-reducing mastectomy or RRM).
- **There is no reliable method of screening for ovarian cancer.**
- To **reduce the chance of getting ovarian cancer**, women with a faulty BRCA2 gene should have **their ovaries and fallopian tubes removed** (risk reducing salpingo-oophorectomy or RRSO) after they have finished having children, or from age 40 years.

Cancer in men:

- To **find prostate cancer early**, men with a faulty BRCA2 gene should consider having prostate cancer screening every year from age 40 years. This involves having a blood test called a PSA, and a prostate check by a doctor.
- Men should have **any breast lumps or changes** checked by a doctor.

Cancer in men and women:

- **There is no reliable method of screening for pancreatic cancer.**
- **To reduce the chance of getting pancreatic cancer,** people with a faulty BRCA2 gene should not smoke.

What does this mean for family members?

Adult family members of someone with a faulty BRCA2 gene can have genetic testing to check who has the faulty gene and who does not. Their doctor can refer them to a genetic service to find out more about their chance of developing cancer and what genetic testing involves.

If a person **does have** the faulty BRCA2 gene:

- they can pass it on to their children
- each child has a 50% (1 in 2) chance of being born with it. Pregnancy planning options are available to people who want to prevent the faulty gene from being passed on.

If a person **does not have** the faulty BRCA2 gene:

- they have the same chance of developing cancer as the general population (unless there are other factors that increase this risk)
- they cannot pass it on to their children.

People who decide not to have genetic testing should still get advice about managing their chance of developing cancer.

More information and support

- Centre for Genetics Education NSW Health: Contact details for local genetics services – genetics.edu.au/SitePages/Genetic-Services.aspx
- Genetic Alliance Australia – geneticalliance.org.au
- Cancer Australia – canceraustralia.gov.au
- Breast Cancer Network Australia (BCNA) – bcna.org.au
- Facing Our Risk of Cancer Empowered (FORCE) – facingourrisk.org
- Gene Connect – cancervic.org.au/get-support/connect-and-learn/cancer_connect
- Pink Hope – pinkhope.org.au
- COSA - Medications to lower the chance of breast cancer: information for women – cosa.org.au/groups/cancer-genetics/resources/
- Australian Pancreatic Cancer Genome Initiative – pancreaticcancer.net.au

History

Version 4

Date	Summary of changes
30/08/2021	<p>Consumer information sheet reviewed in line with risk management protocol (ID 656). Approved for publication with the following changes made:</p> <ul style="list-style-type: none"> • Key Points <ul style="list-style-type: none"> ◦ 'Both men and women...have a less than 5% chance of developing pancreatic cancer.' changed to 'Both men and women...have an increased chance of developing pancreatic cancer.' • What is the risk of cancer for people with a faulty BRCA2 gene? <ul style="list-style-type: none"> ◦ 'Men...have about a 15% chance of developing prostate cancer...' changed to 'Men...have about a 60% chance

Date	Summary of changes
	<p>of developing prostate cancer...'</p> <ul style="list-style-type: none"> ◦ 'Both men and women...have a less than 5% chance of developing pancreatic cancer over their lifetime.' changed to 'Both men and women...also have an increased chance of developing pancreatic cancer over their lifetime, but the exact chance is unknown.' • How can this increased risk of cancer be managed? <ul style="list-style-type: none"> ◦ '...men with a faulty BRCA2 gene should have prostate cancer screening every year from their early 40s.' changed to '...men with a faulty BRCA2 gene should consider having prostate cancer screening every year from age 40 years.' <p>Version changed to V.4. To be reviewed alongside risk management protocol at next scheduled review.</p>
11/11/2021	<p>Following feedback from RC members the following change was made to the document and approved by the Chairs:</p> <ul style="list-style-type: none"> • What is the risk of cancer for people with a faulty BRCA2 gene? <ul style="list-style-type: none"> ◦ 'Men with a faulty BRCA2 gene have about a 60% chance of developing prostate cancer over their lifetime.' changed to 'Men with a faulty BRCA2 gene have about a 30% chance of developing prostate cancer by age 75 years and up to a 60% chance of developing prostate cancer by age 85 years.' <p>To be reviewed alongside risk management protocol at next scheduled review.</p>

Version 3

Date	Summary of changes
02/09/2020	<p>Updated recommendation to have RRSO in 'How can this increased risk of cancer be managed?' section from "by 45 years of age" to "from 40 years of age" to align with updates in risk management protocol ID 3814.</p> <p>Version increased to V.3. To be reviewed alongside risk management protocol at next major review.</p>
12/05/2021	<p>More information and support: Link to COSA - Medications to lower the chance of breast cancer: information for women inserted</p>

Version 2

Date	Summary of changes
20/07/2018	<p>Updated recommendation to have RRSO in 'How can this increased risk of cancer be managed?' section from 'at around 40 years of age' to 'by 45 years of age' to align with updates in female BRCA2 risk management protocol (ID 162).</p> <p>Version increased to V.2. To be reviewed alongside risk management protocol at next major review.</p>

Version 1

Date	Summary of changes
27/04/2018	<p>Developed in conjunction with consumer information sheet working group and presented at the November 2017 Cancer Genetics meeting. Discussions continued over email and document approved for publication. V.1.</p>

This cancer genetics fact sheet is a guide only and cannot cover every possible situation. The information provided is not intended to replace discussion with a health professional, and should not be interpreted as medical advice. While eviQ endeavours to link to reliable sources that provide accurate information, eviQ and the Cancer Institute NSW do not endorse or accept responsibility for the accuracy, currency, reliability or correctness of the content of linked external information sources. Use of this document is subject to eviQ's disclaimer available at www.eviq.org.au

First approved: 27 April 2018
Last reviewed: 30 August 2021
Review due: 2 July 2022

The currency of this information is guaranteed only up until the date of printing, for any updates please check:

<https://www.eviq.org.au/p/3427>

10 Jun 2022