

**YOUR BREAST CANCER
RISK ESTIMATE**

5.2%

High 5-Year Risk

31.2%

High Lifetime Risk

**YOUR GENETIC
RISK FACTORS**

Known history of cancer in family

Increased Risk

No Ashkenazi Jewish ancestry

Average Risk

**YOUR LIFESTYLE
RISK FACTORS**

1 Increased Risk

3 Average Risk

0 Not Applicable

***Your risk of breast cancer is high.
Your family history of cancer should be evaluated.***

- Talk to your doctor about what your 5-year and lifetime breast cancer risk estimates mean. Together, determine a breast cancer screening schedule that's right for you.
- A genetic evaluation of your family history of cancer is recommended.
- Lifestyle factors slightly increase your breast cancer risk. If you're ready to change that, your doctor can advise you on how to get started.
- You reported dense breast tissue on mammogram. This is a common and normal finding, but it can make it harder to find cancer using a mammogram. Ask your doctor about other ways to screen for and prevent the development of breast cancer.

Breast Cancer Risk Factors

Inherited genes (DNA) play a role in the risk of breast cancer. But lifestyle, habits, and health history all factor into your breast cancer risk too.

By knowing what factors increase your breast cancer risk, you may be able to:

- Lower the risk of developing the disease by changing your lifestyle or taking medication
- Increase the chance of finding a tumor very early by changing how you're screened

A health care professional can help you understand your options, as well as the risks and benefits of each.

Genetic Risk Factors	Your Risk
Cancer in family	<i>Increased</i>
Ashkenazi Jewish ancestry	<i>Average</i>
Lifestyle Risk Factors	Your Risk
Weight after menopause	<i>Average</i>
Smoking	<i>Average</i>
Weekly exercise	<i>Increased</i>
Alcoholic beverages	<i>Average</i>

Results

Your Breast Cancer Risk

This Profiler determines the 5-year and lifetime risks of developing "invasive breast cancer." Invasive breast cancer is a type of breast cancer that moves into normal breast tissue.

The "Gail model" determines your risk. This model uses your medical history, age, ethnic group, history of giving birth, and history of breast cancer in your mother, sisters, and daughters.

We have grouped risk numbers into categories to help you better understand your risk.

Routine Breast Cancer Screening

Early detection is a key to successfully treating breast cancer. Looking for breast cancer before there are symptoms is called screening. One of the most effective ways to screen for breast cancer is by having regular mammograms.

The age to begin screening may depend on the risk of developing breast cancer. Women at increased risk for breast cancer may need to start screening before the age of 40.

YOUR BREAST CANCER RISK ESTIMATE

5.2%

High 5-Year Risk

31.2%

High Lifetime Risk

Talk to your doctor about what your 5-year and lifetime breast cancer risk estimates mean.

Understand your options for routine imaging tests to look for breast cancer, including mammograms.

Learn about the risks and benefits of treatments that may lower your risk of breast cancer.

The National Cancer Institute predicts that 1 out of every 8 women born today will develop breast cancer sometime in her life.

Five to ten percent of those cases are due to inherited genes.

Results

Your Genetic Risk Factors

Breast cancer is a complex disease. It's due to DNA changes (mutations) in certain genes. These gene changes usually happen by chance and aren't inherited from a parent.

Most women who have a close relative with breast cancer will never develop the disease. But gene changes can run in families and increase breast cancer risk. A history of breast cancer on either her mother's or father's side of the family may increase a woman's breast cancer risk. This is especially true when breast cancer happens before age 40.

Ashkenazi Jews have a higher chance of inheriting a DNA change in two genes known to greatly increase the risk of breast cancer (BRCA1 or BRCA2). In this group, the risk of carrying a mutation is 1 in 40 compared to 1 in 500 in the general US population.

Women with a history of cancer in their family (see table) should talk to a trained health care professional about their genetic risk.

What to Expect in a Genetic Evaluation

Your family history of certain cancers helps determine if you should talk to a trained health care professional about your inherited risk for breast cancer. During a genetic evaluation, you may:

- Review this Results Report with a medical professional
- Explore more of your family health history
- Talk about options for screening/testing, including what the tests might show
- Ask questions to help you decide if gene testing is right for you and your family

YOUR GENETIC RISK FACTORS

Known history of cancer in family

Increased Risk

No Ashkenazi Jewish ancestry

Average Risk

A genetic evaluation of your family history of cancer is recommended. Discover the impact of your genes on your cancer risk.

History of Cancer in Family*	You Reported
Breast cancer in immediate family	Yes
Relative with bilateral breast cancer	No
Relative with breast cancer before age 50	No
Relative with breast AND ovarian cancer	No
Male relative with breast cancer	No
Ovarian cancer in immediate family	No
2 relatives with breast cancer	No
2 relatives with ovarian cancer	No
2 relatives with bowel cancer	No
1 relative with breast cancer and another relative with ovarian cancer	No
1 relative with breast cancer and another relative with bowel cancer	No
Ancestry	You Reported
Ashkenazi Jewish ancestry	None

**Based on the Family History Survey-7 (FHS-7)*

This profiler is only for women who have not had invasive or non-invasive breast cancer, DCIS (ductal carcinoma in situ) or LCIS (lobular carcinoma in situ), who have not received radiation for the treatment of Hodgkin lymphoma, and who have not tested positive for known mutations in BRCA1/BRCA2 genes.

Lifestyle Risk Factors for Breast Cancer

Obese women who don't have menstrual periods (menopausal) have a higher risk of breast cancer. In one study, gaining more than 21 pounds after menopause was related to an increased breast cancer risk. High levels of estrogen in a larger amount of body fat may be the reason for the risk increase.

WEIGHT AFTER MENOPAUSE

Current

190 lbs.

Average Risk

Recommended Goal

220 lbs. or less after menopause

Average Risk

For your height, 190 pounds is considered **OVERWEIGHT**.
Ask your doctor to determine a healthy weight for you.

It's not clear if current smoking is a risk factor for breast cancer.

One large study in the US did show that current smokers had a 16% higher risk of breast cancer.

One thing is clear: not smoking cigarettes and avoiding secondhand smoke has several health benefits.

SMOKING

Current

Quit smoking (more than 1 yr.)

Average Risk

Recommended Goal

Never smoked/Quit (>1 yr.)

Average Risk

Women who don't exercise during their lives have a higher risk of cancer.

Getting 30 minutes of moderate exercise 5 days per week is all that's needed to reach the recommended goal.

WEEKLY EXERCISE

Current

Equal to 40 min. (moderate)*
Increased Risk

Recommended Goal

150 min. or more (moderate)**
Average Risk

*40 moderate + 0 vigorous = 40 min. moderate
(each minute of vigorous exercise equals two minutes of moderate)

**The goal is 150 minutes of moderate exercise or an equivalent mix of moderate and vigorous minutes.

Having two or more drinks per day raises the risk of developing breast cancer by about 25 percent.

A "drink" (alcoholic beverage) equals 12 ounces of regular beer, 5 ounces of wine, or 1.5 ounces of liquor.

ALCOHOLIC BEVERAGES

Current

Fewer than 2 drinks daily
Average Risk

Recommended Goal

Fewer than 2 drinks daily
Average Risk

Personal History Risk Factors for Breast Cancer

Women's ovaries make estrogen and progesterone. These are important sex hormones.

Being exposed to these "natural" hormones for a long time can increase cancer risks. Having a first menstrual period before age 12 (early menarche) and having a last menstrual period after age 55 (late menopause) both slightly increase breast cancer risk.

MENSTRUAL HISTORY

Average menstruation history
Average Risk

The use of birth control (contraceptive) that has hormones can lead to many big health benefits.

But, along with its benefits, using a hormonal birth control may also slightly increase the risk of breast cancer. The details about this slight increase are complex and aren't well understood yet.

Women using a hormonal birth control should talk to their doctor about its risks and benefits.

HORMONAL BIRTH CONTROL

Used hormonal birth control
Increased Risk

Women who had their first full-term pregnancy at age 30 or older are at increased risk of breast cancer.

Women age 30 or older who have never had a full-term pregnancy are also at increased risk.

REPRODUCTIVE HISTORY

First birth before age 30
Average Risk

Hormone therapy can improve the symptoms and treat the physical changes some women have in the months and years following their last menstrual period (post-menopause).

Women who use hormone therapy may have a higher risk of breast cancer. This risk appears to go down 5 years after stopping hormone therapy.

POSTMENOPAUSAL HORMONE THERAPY

No therapy in past 5 years
Average Risk

Personal History Risk Factors for Breast Cancer

The risk of breast cancer increases with age. Most breast cancer develops slowly over time and is diagnosed after age 50.

Looking for breast cancer before there are symptoms (called screening) can improve outcomes in some age groups. Follow your doctor's recommendations for screening.

AGE

Age 50 to 64

Moderate Risk

There is strong evidence that women who breastfeed have a lower risk of breast cancer.

Their risk is lowered 4.3% for every 12 months of breastfeeding, in addition to 7% for each birth.

BREASTFEEDING HISTORY

Have breast-fed a child

Decreased Risk

Women who have had breast biopsies have an increased risk of breast cancer. This risk increases if the results showed "atypical hyperplasia."

Breast biopsies themselves do not cause cancer. The increased risk is due to breast changes that made the biopsies necessary.

BREAST BIOPSY

Breast biopsy (hyperplasia)

High Risk

NOTICE: Health assessments are based on averages from studies of large groups of people.

Your situation may be different. It is important to discuss your personal situation with your health care provider. This assessment is not intended to replace medical advice from your health care provider, but rather help you set health goals and make healthy lifestyle decisions.

DISCLAIMER

THE INFORMATION CONTAINED IN THE RISK ASSESSMENT IS FOR YOUR PERSONAL USE ONLY. THIS RISK ASSESSMENT WILL NOT PROVIDE YOU WITH A MEDICAL SERVICE; IT WILL NOT DIAGNOSE, CURE, MITIGATE, TREAT, OR PREVENT DISEASE OR OTHER CONDITIONS; AND IT IS NOT INTENDED TO PROVIDE A DETERMINATION OR ASSESSMENT OF YOUR STATE OF HEALTH. ALWAYS CONSULT A LICENSED HEALTH CARE PROFESSIONAL SUCH AS YOUR FAMILY PHYSICIAN OR A SPECIALIST TO MAKE HEALTH CARE DECISIONS OR BEFORE STARTING ANY DIET OR EXERCISE PROGRAM. WE MAKE NO WARRANTIES, EXPRESSED OR IMPLIED, IN CONNECTION WITH THE RISK ASSESSMENT OR THE PERFORMANCE OF THE RISK ASSESSMENT, AND NEITHER THE ASSESSMENT PROVIDER, NOR MEDICOM HEALTH INTERACTIVE, WILL BE HELD RESPONSIBLE OR LIABLE FOR ANY COSTS OR DAMAGES RELATED TO USE OF THE RISK ASSESSMENT OR ANY INFORMATION PROVIDED THEREFROM.

Name: _____ mm-dd-yyyy

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To find a primary care doctor, call 1-800-555-5555 and we'll help find a doctor to fit your needs. For more information about our health services, call 1-877-555-0000 or visit www.mtgeneralmemorial.org/services.

Mt. General Memorial Clinic
5431 Lake Drive, Minneapolis MN 55401
1-877-555-0000

OUR HOSPITALS

Mt. General Memorial Hospital
2928 Fifth Ave. SW, Edina, MN 53802
(555) 555-1100

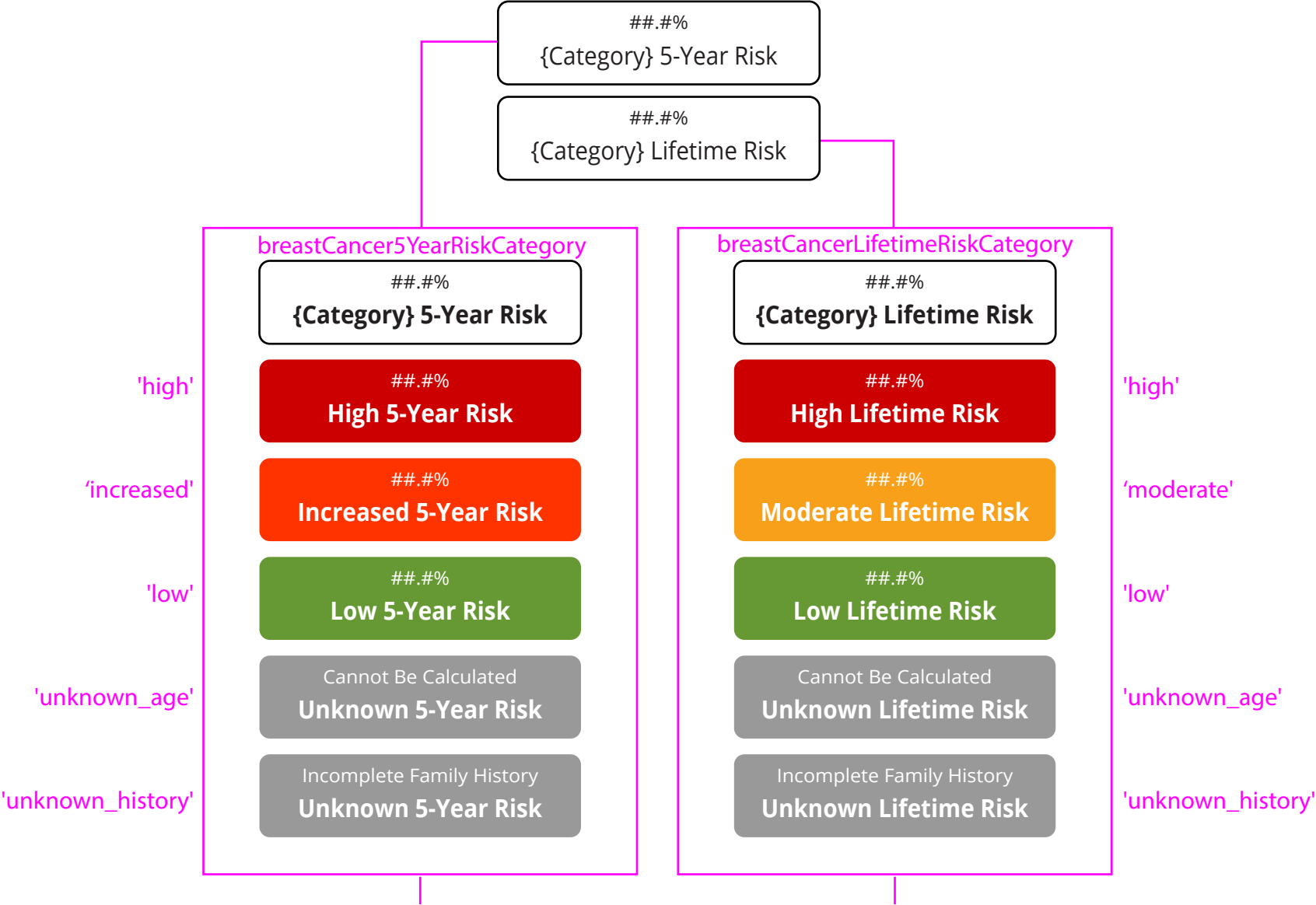
Mt. General Memorial Regional Medical Center
982 West Poplar Drive, St. Paul, MN 50013
(555) 555-2100

Mt. General Memorial Community Hospital
4110 South Virago Parkway, Rush City, MN 59545
(555) 555-3100

Mt. General Memorial North Franklinburg Hospital
890 SE 57th St., Franklinburg, MN 56782
(555) 555-4100

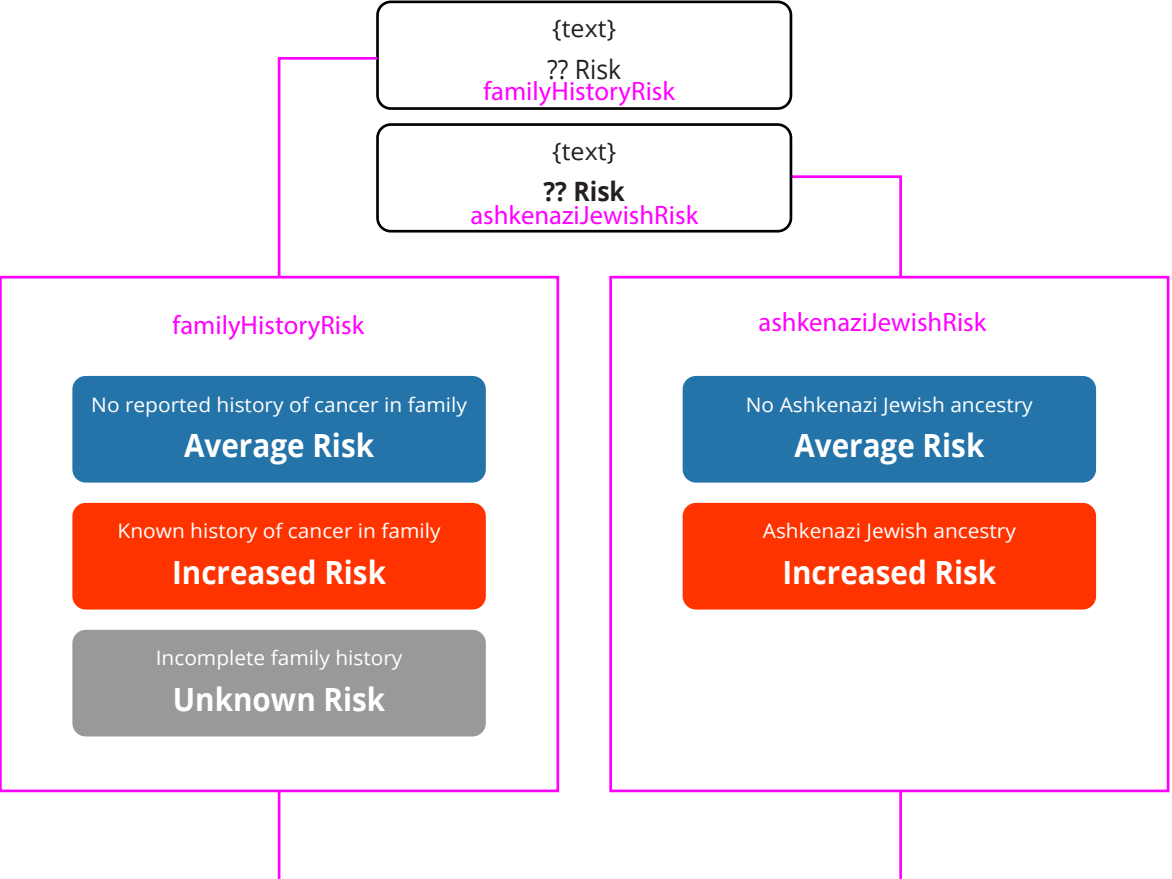
Mt. General Memorial Lakeport Hospital
524 SW Monarch St., Lakeport, MN 57653
(555) 555-5100

YOUR BREAST CANCER RISK ESTIMATES



See LUCIDCHART --> BRCA Results Report Badge Formatter --> Risk Badge Formatter
<https://www.lucidchart.com/documents/edit/df7c46d7-bd74-4f16-b67f-45912f6231f0/0>

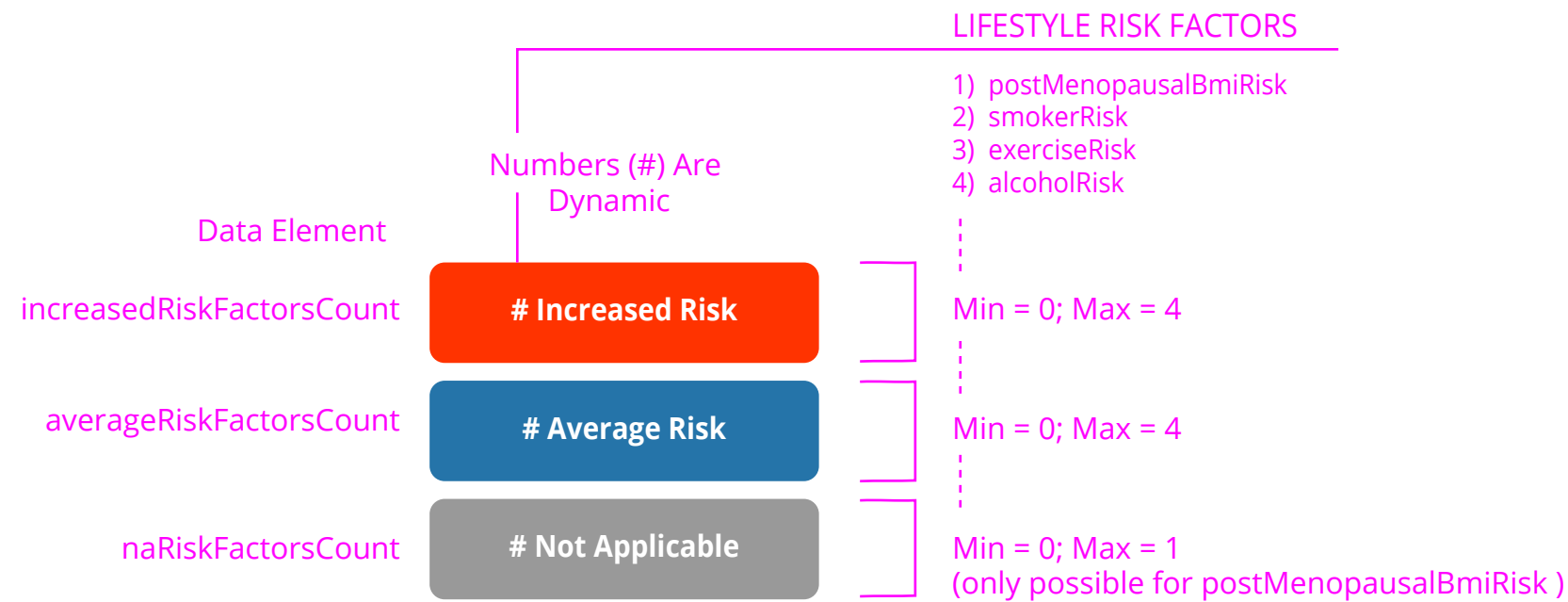
YOUR GENETIC RISK FACTORS



See LUCIDCHART --> BRCA Calculations --> familyHistoryRisk
<https://www.lucidchart.com/documents/edit/8fe3b3e8-3c8d-4d77-a804-c3b109bca41c/0>

See LUCIDCHART --> BRCA Calculations --> ashkenaziJewishRisk
<https://www.lucidchart.com/documents/edit/8fe3b3e8-3c8d-4d77-a804-c3b109bca41c/0>

YOUR LIFESTYLE RISK FACTORS



Result Messaging
Please check Lucidchart for longest version

Primary Message

See LUCIDCHART --> BRCA Messaging --> Primary Message (Report)

<https://www.lucidchart.com/documents/edit/8fe3b3e8-3c8d-4d77-a804-c3b109bca41c/0>

Risk Estimates - Bullet 1

See LUCIDCHART --> BRCA Messaging --> bullet1

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Genetic Factors - Bullet 2

See LUCIDCHART --> BRCA Messaging --> bullet2

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Lifestyle Factors - Bullet 3

See LUCIDCHART --> BRCA Messaging --> bullet3

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Breast Density - Bullet 4

See LUCIDCHART --> BRCA Messaging --> bullet4

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PAGE 1 TABLE

Data Element	Genetic Risk Factors	Your Risk	Outputs
familyHistoryRisk	Cancer in family	Increased	Average Increased Unknown
ashkenaziJewishRisk	Ashkenazi Jewish ancestry	Average	Average Increased
	Lifestyle Risk Factors	Your Risk	
postMenopausalBmiRisk	Weight after menopause	Average	Average Increased Not Applicable
smokerRisk	Smoking	Average	Average Increased
exerciseRisk	Weekly exercise	Increased	Average Increased
alcoholRisk	Alcoholic beverages	Average	Average Increased

See LUCIDCHART --> BRCA Calculations
<https://www.lucidchart.com/documents/edit/ee8b3ef3-1258-4ef5-8879-54e1e06d68f0/0>

PAGE 2 BLUE MESSAGE

See LUCIDCHART --> BRCA Messaging --> Page 2 Blue Message

<https://www.lucidchart.com/documents/edit/8fe3b3e8-3c8d-4d77-a804-c3b109bca41c/0>

Please check Lucidchart for longest version

PAGE 3 TABLE

Data Element

History of Cancer in Family*	You Reported
Breast cancer in immediate family	Yes
Relative with bilateral breast cancer	No
Relative with breast cancer before age 50	No
Relative with breast AND ovarian cancer	No
Male relative with breast cancer	No
Ovarian cancer in immediate family	No
2 relatives with breast cancer	No
2 relatives with ovarian cancer	No
2 relatives with bowel cancer	No
1 relative with breast cancer and another relative with ovarian cancer	No
1 relative with breast cancer and another relative with bowel cancer	No
Ancestry	You Reported
Ashkenazi Jewish ancestry	None

Outputs

Yes (if bcHistory_femaleRelative > 0) / No (if bcHistory_femaleRelative = 0) / Unknown (else)

Yes (if bcHistory_bothBreasts = yes) / No (if bcHistory_bothBreasts = no) / Unknown (else)

Yes (if bcHistory_beforeAge50 = yes) / No (if bcHistory_beforeAge50 = no) / Unknown (else)

Yes (if bcHistory_breastAndOvarian = yes) / No (if bcHistory_breastAndOvarian = no) / Unknown (else)

Yes (if bcHistory_maleRelative = yes) / No (if bcHistory_maleRelative = no) / Unknown (else)

Yes (if bcHistory_ovarianCancer = yes) / No (if bcHistory_ovarianCancer = no) / Unknown (else)

Yes (if bcHistory_twoBreast = 1) / No (if bcHistory_twoBreast = 0)

Yes (if bcHistory_twoOvarian = 1) / No (if bcHistory_twoOvarian = 0)

Yes (if bcHistory_twoBowel = 1) / No (if bcHistory_twoBowel = 0)

Yes (if bcHistory_oneBreastOneOvarian = 1) / No (if bcHistory_twoBowel = 0)

Yes (if bcHistory_twoBowel = 1) / No (if bcHistory_twoBowel = 0)

Yes (if ethnicity_ashkenazi = 1) / None (if ethnicity_ashkenazi = 0)

*Based on the Family History Survey-7 (FHS-7)

PAGE 3 BLUE MESSAGE

See LUCIDCHART --> BRCA Messaging --> Page 3 Blue Messaging
<https://www.lucidchart.com/documents/edit/8fe3b3e8-3c8d-4d77-a804-c3b109bca41c/0>
Please check Lucidchart for longest version

postMenopausalBmiRisk

WEIGHT AFTER MENOPAUSE

Current

Recommended Goal

^{weight}
lbs.

^{recommendedWeight}
lbs. or less after menopause

?? Risk

Average Risk

Outputs for Current

lbs.

Average Risk

lbs.

Increased Risk

lbs.

Not Applicable

CONDITIONAL SUB MESSAGE

Driven by 'bmiCategories' -- NOT badge color!

obese:

^{'weight'}

For your height, ### pounds is considered **OBESITY**.

Ask a health care professional about weight management options.

normal:

^{'weight'}

For your height, ### pounds is considered a **HEALTHY WEIGHT**.

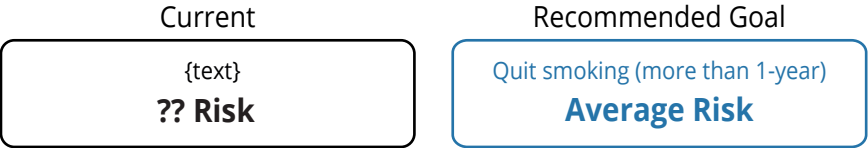
overweight OR underweight:

^{'weight'}

For your height, ### pounds is considered {**OVERWEIGHT/UNDERWEIGHT**}.

Ask your doctor to determine a healthy weight for you.

smokerRisk
SMOKING



Outputs for Current



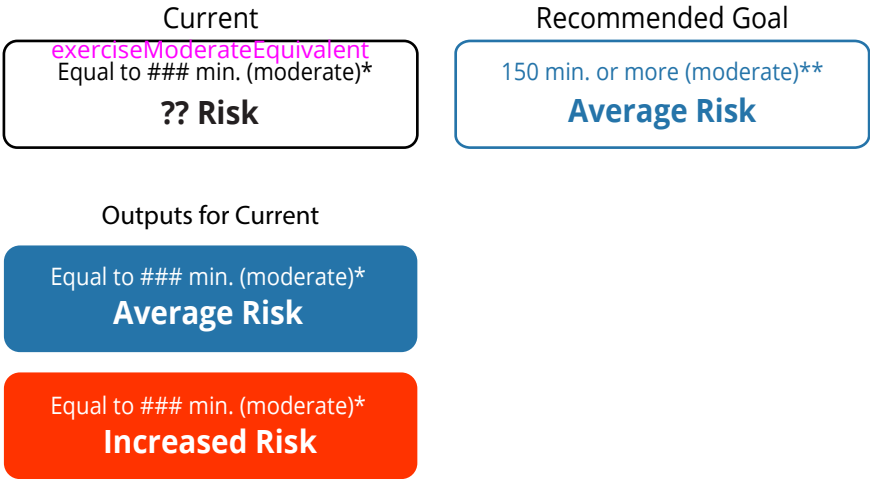
Average Risk:
If smoker = never, show Never smoked
If smoker = former_more, show Quit smoking (more than 1 yr.)
Increased Risk:
If smoker = former_less, show Quit smoking (less than 1 yr.)
If smoker = current, show Smoked within 30 days

CONDITIONAL SUB MESSAGE

smoker=current: Talk to your doctor about programs or services to help you quit smoking.

exerciseRisk

WEEKLY EXERCISE



DYNAMIC SUB MESSAGE

weeklyExercise_moderate weeklyExercise_vigorous exerciseModerateEquivalent
*## moderate + ## vigorous = ## min. moderate
(each minute of vigorous exercise equals two minutes of moderate)

**The goal is 150 minutes of moderate exercise or
an equivalent mix of moderate and vigorous minutes.

alcoholRisk

ALCOHOLIC BEVERAGES

Current

{text}

?? Risk

Recommended Goal

Fewer than 2 drinks daily

Average Risk

Outputs for Current

Fewer than 2 drinks daily

Average Risk

2 or more drinks daily

Increased Risk

ageRisk

AGE

Age 65 or older

High Risk

Age 50 to 64

Moderate Risk

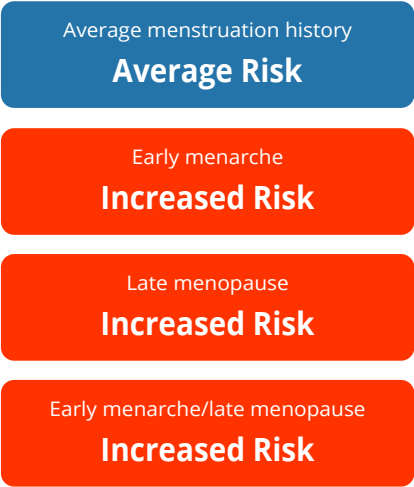
Age 49 or younger

Low Risk

Show this static 'text' - not user's reported age

menstrualHistoryRisk

MENSTRUAL HISTORY



reproductiveHistoryRisk
REPRODUCTIVE HISTORY

First birth before age 30

Average Risk

No births before age 30

Increased Risk

Not yet age 30

Not Applicable

breastFeedingRisk
BREASTFEEDING HISTORY

Have breast-fed a child

Decreased Risk

Note DECREASED

Have not breast-fed a child

Average Risk

breastBiopsyRisk
BREAST BIOPSY

No breast biopsy
Average Risk

Breast biopsy (no hyperplasia)
Increased Risk

Breast biopsy (hyperplasia)
High Risk

hormoneTherapyRisk

POSTMENOPAUSAL HORMONE THERAPY

No therapy in past 5 years

Average Risk

Therapy in past 5 years

Increased Risk

hormonalContraceptiveRisk
HORMONAL BIRTH CONTROL

No hormonal birth control

Average Risk

Used hormonal birth control

Increased Risk