

Katie Johnson: Good morning and welcome to Apple A Day, Lake Region Health Care's health and wellness segment. This is Katie Johnson and joining me as my guest today is, Dr. Marge Barnes. She is a Radiation Oncologist at Lake Region Health Care's Cancer Care and Research Center. It's October and breast cancer awareness is really dominating the news, the internet, the professional sports scene, it's really everywhere but, we really wanted to have a discussion here about breast cancer treatment right here close to home at our cancer center. Thank you for having that discussion with us this morning Dr. Barnes.

Dr. Marge Barnes: Oh, you're welcome. You're welcome.

Katie Johnson: Let's talk about breast cancer. First of all, how common is it in the United States?

Dr. Marge Barnes: Here, we're hitting a home run on this one. This is a really large portion of our cancer population are breast cancer patients. As a matter of fact, breast cancer is the most common cancer that occurs in women. Every year in this country 234,190 women will be diagnosed with breast cancer but also, there will be 2,350 men now the number of men is dwarfed by the 200,000 women but, this is a disease that men and women need to be aware of. Of course since most women ultimately as adults are married, your husbands should be aware of breast cancer. In this state alone, Minnesota there were 3,900 cases of breast cancer diagnosed last year. I don't know the number of men but it would probably be pretty insignificant 2 or 3 cases.

Katie Johnson: Sure. With that kind of prevalence nationally and state wide, I imagine it's one of the most common treated here at our cancer center too. Is that accurate?

Dr. Marge Barnes: Yes it is. Yes, and there's a couple reasons why it's treated commonly, because this is one of the few cancers that we have a good screening test and the screening test of course, is the mammogram but, with a mammogram we can actually identify early stage breast cancer patients. Yes, we see a lot of women with breast cancer here.

Katie Johnson: Are genetics a major risk factor for this type of cancer or is genetics not quite as much of a role in this particular type of cancer?

Dr. Marge Barnes: Genetics is a major, major underlying cause of breast cancer and it was one of the first cancers that we saw a familial pattern arising. A lot of women have known that if their mother or grandmother had breast cancer that their risk was slightly higher but, for many, many years we didn't know why that was the case. In the last 15 to 20 years we've learned so much about the genetics of disease in general but, breast cancer has kind of been the favorite of the geneticists in terms of studying cancers again, because it's so common. What they've done so far is we've identified 3 very specific genes that are causative factors in breast cancer. There's one called BRCA, B-R-A-C-A 1, BRCA2, and PAL B, P-A-L-B 2. We now have 3 different genes that we know the women who carry these genes do have a much higher risk of breast

cancer. Those 2,300 fellas that get breast cancer every year, they have a very high risk of being from families that have the one gene, the BRACA2 gene. We do see this genetic predisposition coming out in the news. This is the disease that Angelina Jolie yes, she was from a BRACA1 family and I think we owe her a lot for making her struggle kind of well known and part of the common discussion for breast cancer and other genetic cancers.

These still are pretty rare disorders and only about 14 or 15% of all breast cancer cases come from families with known genetic backgrounds. That means 85% of breast cancers we still don't know why women are getting them, we call those sporadic.

Katie Johnson: That's really interesting if 85% of the cases don't have the genetic history, obviously we don't use that as your only amputus for getting screened.

Dr. Marge Barnes: Absolutely. A lot of women will say, "I didn't get screened because no one in my family has breast cancer." well, boy that's not a good thing. For one reason, in a lot of families people in prior generations died early and they died of heart disease and other things that didn't allow their mothers, or aunts, or grandmothers to get old enough to develop breast cancer. I say old enough, you know breast cancer happens in so many women that we see women from almost every decade of life have some breast cancer risk but, the women who have the highest risk of breast cancer are women in their 50's and older. You could get breast cancer at 32 but, it's pretty rare at that age group.

Katie Johnson: Are we doing a better job of catching cancer in its early stages?

Dr. Marge Barnes: Yeah, this has been one of the real ... I would say marvelous discoveries in the 19th and 20th century. In the 19th century, doctors started talking about ... just talking about it and became more tuned in to checking women for it. In the 20th century, especially after about 1965 mammograms have made such a difference. A mammogram can find a breast cancer when it's about the size of a piece of rice. That is a dramatic improvement over the tumor at you might feel on your own being the size of let's say, a grape. Mammography really can find breast cancer at a very early stage.

Katie Johnson: When we talk about breast cancer, I think there's maybe a misconception that this is one disease, it's breast cancer but, it's really many types of diseases.

Dr. Marge Barnes: That's right, there are so many different types that it would be impossible to cover them all but, just to give you an idea of how doctors think about it. The first 2 types of breast cancer, are the most common type which is called invasive ductile cancer and that grows from the ducts that carry the milk during a woman's pregnancy so, ductile cancer is the most common type. The second most common type is called, lobular. Invasive lobular cancer and the cells that give rise to this are the milk gland cells. Once we go past those 2 big family names, there are so many little subsets. For example, some of the cancers grow from the patients estrogen, her internal

estrogen production. We call those estrogen positive cancers. Other breast cancers don't grow under the stimulation of estrogen and they're called estrogen negative. Some more are progesterone positive and negative cancers, then there's funny little genetic things called HER2NEU, we shouldn't make this protein and if your breast tissue does you probably have a cancer, and that cancer is probably more aggressive so, HER2NEU positive and negative breast cancers. You get an idea now that you can have an invasive ductile, estrogen negative, progesterone positive, HER2NEU negative, breast cancer and it just goes on and on.

Katie Johnson: Similarly then, there are also different stages of breast cancer so, it gets to be really quite complicated when you have a diagnosis to figure out exactly what it is and where in the stage of cancer it is. Can you give us just a brief tutorial on staging?

Dr. Marge Barnes: Staging, the easiest way to think about it is stage 1 is a small tumor only in the breast, it hasn't figured out how to spread. Stage 2 is a little bit bigger, bigger than an inch and it may have figured out how to go to a lymph node under the underarm. Stage 3 are kind of bigger tumors, they're ones that the woman really can feel and you may feel lumps under the armpit. Stage 4 very tragically is cancer that is breaking through involving the skin or the chest wall, or has spread through the body. It luckily, for most forms of breast cancer it takes many years for the cancer to go from stage 1 to even stage 2. That gives us an opportunity to do those mammograms and find it early.

Katie Johnson: Great information. Dr. Marge Barnes, thank you so much for joining us this morning on Apple A Day, talking breast cancer during breast cancer awareness month. Dr. Barnes and Katie Johnson here on Apple A Day today reminding you, there is so much to do here, stay healthy for it. Have a great day.