Welcome to Yale Cancer Answers with your host doctor Anees Chagpar.

Yale Cancer Answers features the latest information on cancer care by welcoming oncologists and specialists who are in the forefront of the battle to fight cancer. This week, it’s a conversation about breast cancer surgery with Doctor Melanie Lynch.

Doctor Lynch is an assistant professor and doctor Chagpar is a professor of surgical oncology at the Yale School of Medicine.

Melanie, maybe we could start off by you telling us a little bit about yourself and about what you do. I have just moved to Connecticut and joined the team at Yale from Northeast Ohio where I have been a surgeon and surgical oncologist for 20 years. My background is all based in Ohio. I graduated from the Ohio State Program Medical Scientist program where my research interest was in molecular biology and signal transduction in breast and ovarian cancer.
and then in my third year of medical school I found that surgery was my calling. I did my training in general surgery and surgical oncology at Case Western Reserve in Cleveland and have built a practice in Northeast Ohio where I was most recently the director of the Breast program in the Summa Health System. In that role we helped build a team where we were able to develop comprehensive services for women with breast cancer, including same day, next day consultations, a multidisciplinary clinic, a high risk program, clinical program based on survivorship care and an oncoplastic surgery program to ensure that women had the option for the best long-term outcomes from their breast cancer surgery. Maybe we can talk a little bit about all of those issues that you kind of mentioned that you had developed in your practice in Ohio and presumably will carry on here, so I want to start at the beginning of the breast cancer journey when people don’t even know that they have breast cancer.
This is one of the areas that I think a lot of people have questions about in terms of who should get screened when, how frequently and with what. That’s an excellent question, and I think those of us who have been working in the field for quite awhile also have those same questions. The data is evolving. We have thought about cancer screening as age based that at a certain age women would begin to get mammograms and we would choose that age to begin screening based upon the best epidemiological data or the data of what we know about the population. Incidence of cancer as a whole. Overtime, we’ve really come to understand that screening should be risk based that some women are at increased risk for breast cancer and that increased risk may put them at risk at even younger ages than other women, and so developing guidelines that take risk into account is complex. So we have competing guidelines that say, well, maybe some women should be screened starting at age 40 or 45 or 50, but we really should take all the other components of risk into account.
including family history, estrogen exposure, obesity, all of these other components of risk to help define the best age to start screening and then the best tools to use for screening. So as we move towards risk based screening, an important component of that is understanding family history and hereditary risk for cancer. So tell us more about that, if you have a relative, maybe your mother was diagnosed when she was 74 years old, but nobody else in the family has breast cancer is that the same as if somebody’s you paternal aunt was diagnosed at 35, how do you kind of wrap your head around familial risk and how do you advise patients on when an individual should get screened and with what modality that should happen? That’s an excellent way to frame the question because we know breast cancer is a very common disease, so we expect one in eight women in the United States will develop breast cancer in their lifetime, so it’s in most families, there will be a relative who’s had breast cancer.
It’s when there are multiple relatives in the family with breast cancer or ovarian cancer, and when those relatives are diagnosed at a relatively young age less than age 50 that we begin to have a suspicion that there may be a hereditary risk for cancer in those families. A good rule of thumb is what I teach my residence, the 3-2-1 rule. If there are three or more relatives with breast or ovarian cancer, if there are two primary relatives, mother, sister, daughter with breast cancer, or if there is one relative with breast cancer at a young age, cancer in both breasts, or breast and ovarian cancer, that’s kind of a quick sketch of what a high risk family might look like, and so most of us have had patients who’ve come to our office that might have a mother with breast cancer, but she was the only relative and she was diagnosed after menopause and that would be kind of the baseline risk of cancer that we see in the population as a whole. And we know 75% of breast cancer cases are unrelated to family history, it’s the 10% of breast cancer cases
that are related to hereditary risk that we can help identify by taking a detailed family history and that women themselves can begin to sort out as they talk to their relatives and figure out what their extended family looks like.

So, let’s breakdown those two groups then. So for the people who are at baseline or average risk, maybe there’s nobody in their family who has history of breast or ovarian cancer, maybe their mother was diagnosed post menopause, what do you recommend for them in terms of screening? When should they start screening? How frequently should they screen and with what modality?

The American Cancer Society guidelines tend to be a good balance between the competing guidelines from different professional societies and the American Cancer Society says to consider screening starting at age 40, but certainly start screening by the age of 45. That mammography is the best screening modality that women should be screened of average risk to be screened every other year.
And with the consideration for screening every year for women who might have increased risk or have dense breast tissue, so those guidelines seem to be the best. And when should people stop screening? I mean should people continue to screen well into their 80s and 90s or is there a point at which you say you no longer need to get that annual or every two year mammogram? Very interesting question, because the general guideline is to stop screening within the last 10 years of life and for the average woman in the United States, the life expectancy is at 84. So we would say stop screening somewhere in your mid 70s. It’s hard to predict what the last 10 years of life are though, so that’s often a discussion that a woman should have with her primary care physician. And what about clinical breast exam and self breast exam? Do you recommend that to your patients or has that fallen out of favor? I do recommend that to patients.
because many breast cancers are identified by women themselves on their self exam and the large trials that have been done looking at self breast exam and clinical breast exam have not been able to show a benefit in overall survival by using those as screening tools, but we know that they do have value in that women will often identify cancers on their self exam. So I recommend patients continue to do self breast exam to be familiar with their breasts and changes in their breast and that women who are at increased risk for breast cancer have a clinical breast exam every six months. And so let’s talk about that population who are at increased risk aside from the clinical risk aside from the clinical breast exam every six months. Two questions. First, when should those clinical breast exams start and second, what other modalities do you use in that high risk population to screen for breast cancer? So the women who are at increased risk for breast cancer will often have a family history of cancer. They may have a history of radiation
to their chest at a young age for the treatment of another disease. Or they may have other risk factors like obesity. Those all increase your risk of breast cancer, and by using statistical models, if we think that their lifetime risk might be greater than 20%, those are the women that we would recommend high risk follow-up, which would include this clinical breast exam every six months and screening both with mammogram and possibly with breast MRI as well. And so for my patients that fall into that category, I often see them twice a year, or I’ll alternate that clinical exam with their primary care physician and then screen with both mammogram and MRI. We will recommend starting high risk screening at an age that seems to be either reflected in their family history. For example, if they have a number of relatives who develop breast cancer in their 40s, well, then we should begin screening at 10 years younger or begin screening in their 30s.
So the age at which we would start this high risk screening is really based upon a family history can give us some clues as the best time to start. Great, so moving on to think about patients who have gone through screening. And let’s say they’ve been diagnosed with breast cancer. The other thing that you had mentioned at the top of this show was this move towards oncoplastic surgery. Can you define that term for us? Oncoplastic surgery is using the best surgical techniques, including techniques that are borrowed from our plastic surgery colleagues to achieve a complete resection of a tumor and then to achieve an optimal cosmetic outcome for the breast. So how do you do that exactly? I mean, is this for people who are undergoing partial mastectomy or lumpectomy? Or are we really talking about reconstruction after mastectomy? Both techniques, and so we know that most women with breast cancer are going to survive. This is a very curable disease, and so as we plan our operations we want to achieve two things.
we want to achieve cure of course, but we also want to achieve a good functional and cosmetic outcome for our patients and so these operations include both breast conservation, where we're doing a lumpectomy and only removing the area where the tumor is and approaches to mastectomy with reconstruction. An example of an operation we might do for someone who is undergoing breast conservation or a lumpectomy would be an operation where we remove the area where the tumor is, and we reshape and maybe we reduce the size of the breast. We make sure that the nipple areolar complex is in the middle of the breast if we've removed a certain quadrant then that will give a better outcome in a better shape to the breast and also make sure that the tumor is removed completely. Terrific, we're going to pick up and learn a lot more about all of the different techniques that you use in oncoplastic surgery right after we take a short break for a medical minute.
Support for Yale Cancer Answers comes from AstraZeneca, working to eliminate cancer as a cause of death. Learn more at astrazeneca-us.com.

This is a medical minute about survivorship.

Completing treatment for cancer is a very exciting milestone, but cancer and its treatment can be a life changing experience for cancer survivors.

The return to normal activities and relationships can be difficult and some survivors face long-term side effects resulting from their treatment, including heart problems, osteoporosis, fertility issues, and an increased risk of 2nd cancers.

Resources are available to help keep cancer survivors well and focused on healthy living. More information is available at yalecancercenter.org.

You’re listening to Connecticut Public Radio.
a conversation on oncoplastic surgery,
which you had told us was really
combining oncologic principles and how we can get breast cancer out of
people with clean margins and so on,
and combining it with the best
practices from plastic surgery to provide
a wonderful cosmetic outcome.
And you started by telling us
that these techniques are
things that you can use in breast
conservation as well as in mastectomy.
So in the last example that you were
talking about right before the break
you were mentioning that you could do
this by making the breast smaller,
it is great
for women who may have large breasts and
who may have wanted a breast reduction,
but I’m sure that a lot of our
listeners may be wondering well
what happens to the other breast.
Nobody wants to be lopsided.
Exactly, so these techniques can be
used for women who have large breasts
to reduce the breast and reshape
the breast with a procedure for the
opposite breast to provide symmetry.
And again, symmetry is one of the
principles of a good outcome from
one of these operations.
For women who have a size and shape of breasts that they like and would like to maintain that we have ways of performing a lumpectomy where we can reshape the breast. Make sure the nipple and the areola stays in the middle of the breast and also provide a good cosmetic outcome. And for women where the amount of tissue that we need to remove from the breast in order to remove the cancer with a clear margin may create a deformity, a loss of volume, we can often provide other techniques to help restore some of that volume, whether it’s using a small flap from the side of their chest wall or using something called fat grafting to help fill in that defect to restore the volume to that breast to create a better cosmetic outcome so we can address all three possibilities using these oncoplastic techniques. So the concept of fat grafting sounds really interesting and I’m sure a lot of our listeners are thinking, I’ve got plenty of fat to move around. How exactly does that work so that the fat grafting is a technique that uses fat tissue that’s harvested
0:17:47.161 → 0:17:49.218 from another area of the body,
0:17:49.22 → 0:17:51.06 just like in a liposuction.
0:17:51.06 → 0:17:53.601 That issue is then processed to remove
0:17:53.601 → 0:17:56.586 all of the other debris and to enrich
0:17:56.586 → 0:17:59.67 it for those fat cells that are viable.
0:17:59.67 → 0:18:02.904 That can act as a tissue graft.
0:18:02.91 → 0:18:04.53 The lumpectomy is performed,
0:18:04.53 → 0:18:07.79 and we’ll leave clips to mark the cavity,
0:18:07.79 → 0:18:10.639 so we know where the tumor was.
0:18:10.64 → 0:18:12.268 We will mobilize the breast
0:18:12.268 → 0:18:14.303 tissue to close that defect,
0:18:14.31 → 0:18:19.764 and so the area where the cancer was,
0:18:19.77 → 0:18:22.262 the integrity of that space is maintained
0:18:22.262 → 0:18:25.28 for the focus for the radiation oncologist.
0:18:25.28 → 0:18:27.476 The fat graft is then added
0:18:27.476 → 0:18:28.94 to an area nearby,
0:18:28.94 → 0:18:30.448 not in that cavity,
0:18:30.448 → 0:18:33.127 but in the other surrounding tissue to
0:18:33.127 → 0:18:35.528 help restore the volume in that area
0:18:35.53 → 0:18:38.458 to create a good contour to the breast.
0:18:40.57 → 0:18:43.978 And is that done before or after radiation?
0:18:43.98 → 0:18:46.808 Because many of our listeners who may
0:18:46.808 → 0:18:49.649 have gone through this experience or know
0:18:49.649 → 0:18:52.529 somebody who has questions
0:18:52.529 → 0:18:55.819 about how the radiation can really affect
0:18:55.819 → 0:18:58.89 the cosmetic outcome of the breast itself.
0:18:59.52 → 0:19:01.168 That’s an excellent question.
0:19:01.168 → 0:19:03.228 After partial mastectomy or lumpectomy,
0:19:03.23 → 0:19:05.594 radiation is usually part of the
0:19:05.594 → 0:19:07.67 treatment plan to help reduce
0:19:07.67 → 0:19:09.815 the risk of local recurrence.
Radiation itself will shrink the breast by 10 to 15%. It can also make the breast be more uplifted, again creating a problem of symmetry with the other side. The initial studies that looked at fat grafting as a way of adding volume to the lumpectomy site and providing symmetry for the breast were often done after radiation therapy. Newer studies have suggested that it’s both effective and safe to do fat grafting at the time of partial mastectomy, and that the cancer outcomes are still quite good. Again, we need long-term data but the most studies with five year follow up data suggests that that’s a very safe way to help provide symmetry that can come from removing that much volume in a breast. The other question that people may ask is liposuction for many people’s insurance is considered a cosmetic procedure. And while people may say you know what, I’ve got plenty of fat that you can take off my hips and my thighs and my belly and use that for your fat grafting,
in fact, you can take a little bit more.

Many may be asking the question is that covered by insurance? This is always something that we want to address before we do our operation, and many of these techniques we have pre-certified we sent to the insurance company ahead of time to make sure that it will be covered under patients insurance. So this is a reconstructive technique like any other technique, is a reconstruction technique and those are covered by most insurance plans, so it’s something that we always want to make sure is covered by insurance before we go to the operating room so that people don’t have any surprise bills, because that’s certainly something that we want to avoid.

The other technique that you had mentioned was that oncoplastics can also be used after mastectomy in terms of reconstruction. So tell us a little bit more about that. Well, the thought of oncoplastics and mastectomy is that we want to have options for reconstruction after that procedure and initial reconstruction options included implant based reconstruction or tissue based reconstruction where we use the patients
own tissue like from their abdominal wall to recreate a new breast.
And so our techniques have developed both in terms of how we do our initial mastectomy and how those reconstructions are done to make sure that women get the best possible outcome. One of the newer innovations in this area is nipple sparing mastectomy, where instead of removing the skin and the nipple areolar complex at the time that we do the mastectomy, we preserve the entire skin pocket, including the nipple. This technique developed in the early 2000s and we really used it mostly for preventive surgeries and then started to use it for cancer patients who had small cancers that were not near the nipple. We now will use these for many mastectomies. We now will use these for many mastectomies. About half of the mastectomies that I do now nipple sparing because we have found that it’s safe, and we’re able to very carefully remove the breast tissue all the way up into the nipple while preserving the blood supply to the nipple to make this be a very effective way to perform mastectomy and to give the
With regards to the reconstruction, we now have better ways of placing implants. One example is placing the implant on top of the muscle of the chest wall, as opposed to putting it behind the muscle on the chest wall. And new types of tissue reconstruction that create tissue flaps to remake a breast that don’t require us to mobilize any muscle and the outcomes from those are much better for patients. With less disability after surgery.

So let’s let’s dig a little bit deeper into that. So are there patients for whom nipple mastectomy, nipple sparing mastectomy is not a good option? Yes, the extent of cancer really tells us if we are able to preserve the nipple or not. So anyone who has a very large tumor, a tumor that extends close to the nipple or is associated with nipple discharge, these are not patients who would be a candidate for nipple sparing mastectomy. Certainly patients who have a very aggressive form of cancer called inflammatory breast cancer, these patients would not be a candidate.
0:24:25.023 –> 0:24:26.8 for nipple sparing mastectomy.
0:24:26.8 –> 0:24:28.72 The other group of patients
0:24:28.72 –> 0:24:31.6 we have to think about are patients who might
0:24:31.6 –> 0:24:34.1 require radiation therapy after mastectomy.
0:24:34.1 –> 0:24:36.02 These are patients who will
0:24:36.02 –> 0:24:38.384 have either very large tumors or
0:24:38.384 –> 0:24:40.239 who have positive lymph nodes,
0:24:40.24 –> 0:24:42.935 meaning that there is cancer that is
0:24:42.935 –> 0:24:45.896 found in their axillary lymph nodes either
0:24:45.896 –> 0:24:49.39 before surgery or at the time of surgery.
0:24:49.39 –> 0:24:51.862 We know that those women will
0:24:51.862 –> 0:24:53.51 be offered radiation therapy.
0:24:53.51 –> 0:24:56.303 And we often don’t want to perform
0:24:56.303 –> 0:24:58.05 an immediate reconstruction and
0:24:58.05 –> 0:24:59.958 then radiate that reconstruction.
0:24:59.96 –> 0:25:02.784 So it’s a complex set of criteria for
0:25:02.784 –> 0:25:05.775 those women who would be a candidate
0:25:05.775 –> 0:25:07.539 for nipple sparing mastectomy.
0:25:07.54 –> 0:25:10.347 These are often women with early stage
0:25:10.347 –> 0:25:13.114 disease with tumors that are small and
0:25:13.114 –> 0:25:15.352 not near the nipple areolar complex
0:25:15.428 –> 0:25:18.284 who will most likely not need radiation
0:25:18.284 –> 0:25:19.908 therapy after their mastectomy.
0:25:19.908 –> 0:25:22.296 Those are the best candidates for
0:25:22.296 –> 0:25:23.092 the operation.
0:25:23.82 –> 0:25:25.404 And what about
0:25:25.404 –> 0:25:29.098 the size of the breast as well?
0:25:29.1 –> 0:25:31.7 I mean when we were
0:25:31.7 –> 0:25:33.347 talking about breast conserving
0:25:33.347 –> 0:25:36.125 surgery that for some patients they
So in a patient who chooses to have a mastectomy, but wants the breast to be smaller or lifted, are those patients ideal candidates for nipple sparing, mastectomy or are there other techniques that you use in that population? That's a great question. The initial use of nipple sparing mastectomy was for women with relatively small breasts, A-C Cup or smaller who didn't have a lot of droop to the breast. We know that the nipple areolar complex was kind of in the middle of the breast. We know that the important component for healing from this surgery is to make sure that there is good blood supply to the nipple areolar complex and that blood supply comes from the top of the breast, so the farther the nipple is away from the collarbone, we know the longer distance the blood has to move to get to the nipple, so the bigger the breast and the more droop to the breast, the more risky that procedure is. And so there are things that can be done to help address that. For women who have large breasts or
for women who have droop to their breasts and that includes things like using a wise pattern incision, which is an incision that will often use for a breast reduction and then performing a free nipple graft. Taking the nipple and moving it back to a better spot that can be used in the setting of a mastectomy. So there are a number of other techniques that can be used to help reduce the size of the skin pocket. Make the breast smaller and move the nipple areolar complex back to the center of the breast. So, that sounds like a number of tools in the toolbox to really help women to maintain the cosmetic look of the breast the way that they would like it to be either the way that it is now that they are happy with or even better than it is currently. But one question that people may ask is, if you save the nipple, will it still function? Or is it really more for cosmetics? That’s an excellent question because it’s hard to describe to patients ahead of time what this operation is going to feel like afterwards,
so the loss of sensation in the nipple areolar complex is expected about 10%
based on the surgical technique used, about 10% of women 10 to 15% will have
sensation in the nipple after the operation. Most women will not have sensation
in the nipple. But the appearance of the breast is more like their own breast,
and so that is often the real benefit to this operation. It feels more like their breast,
so even though they may not have sensation in the nipple, they have appreciation that the breast
looks like their breast.
Doctor Melanie Lynch is an assistant professor of surgical oncology at the Yale School of Medicine.
If you have questions, the address is canceranswers@yale.edu and past editions of the program are available in audio and written form at yalecancercenter.org.
We hope you’ll join us next week to learn more about the fight against cancer here on Connecticut Public Radio.