

# Oncology

## Ocular Cancer

Tumors of the eye threaten sight and often indicate the presence of extensive disease.

By Bryan Tutt

An ocular cancer may be an isolated tumor, a primary growth that originated in the eye and has metastasized distally, or a metastasis from another site. For each possibility, the therapeutic approach and prognosis can vary widely, and thus patients with eye tumors require a thorough evaluation following the diagnosis.

At The University of Texas M. D. Anderson Cancer Center, treatments for confined ocular cancer may include laser surgery and various types of radiation, with the goal of saving the patient's life first and vision second. Thanks to such treatment options, the 5-year overall survival rate for patients with nonmetastatic ocular tumors is about 80%. Even in patients with metastatic disease, who have lower survival rates, it still may be possible to spare vision or at least the eye itself.

In adults, the most common primary tumor in the eye is uveal melanoma, followed by intraocular lymphoma. Retinoblastoma is the most common primary ocular tumor in children (see sidebar, page 3, for more information on retinoblastoma).

### Uveal melanoma

In cases of primary uveal melanoma in which the tumor is limited to the eye, the prognosis depends largely on three factors: the largest diameter (Continued on page 2)



**Dr. Dan S. Gombos** examines a pediatric patient with a RetCam II (Clarity Medical Systems, Inc., Pleasanton, CA). The high-resolution camera allows ocular tumors such as retinoblastoma (small photo at right) to be visualized. Ocular tumors may represent primary cancers, metastatic disease in the eye, or metastases elsewhere, and early assessment is crucial to treatment.



## Ocular Cancer

(Continued from page 1)

of the primary tumor, the location of the primary tumor, and extraocular invasion.

If the tumor's largest diameter is more than 15 mm, the risk of systemic metastasis increases, as does the chance of local tumor recurrence. For this reason, lesions that are more than 15 mm in diameter are often treated with enucleation of the eye. "If they are less than 15 mm, then localized radiation therapy is effective for controlling the disease," said Agop Y. Bedikian, M.D., a professor in The University of Texas M. D. Anderson Cancer Center's Department of Melanoma Medical Oncology.

In patients with primary uveal melanoma, the location of the tumor often affects the onset of symptoms, which in turn can determine when the tumor is diagnosed. "Lesions located laterally and anteriorly—such as tumors of the iris or ciliary body—unfortunately are usually diagnosed later, so the chance of systemic metastasis is much higher," Dr. Bedikian said. "These tumors are usually treated with enucleation." If the tumor is located posteriorly (i.e., in the choroid), the patient is likely to become symptomatic early and thus be diagnosed when the tumor is very small, which can lead to a better prognosis. Tumors located in the posterior of the eye are likely to be treated with radiation.

Local extraocular involvement can indicate an increased risk of metastasis. "Once the tumor cells cross the sclera, they gain access to blood vessels and spread to other organs," Dr. Bedikian said. Extraocular involvement also means a high chance of tumor recurrence in the eye socket, so enucleation of the eye will give better control of the disease locally. "Otherwise, if you treat with radiation and the tumor recurs in the eye socket, then you need to do more extensive surgery like exenteration of the tissues from the eye socket to prevent additional recurrences."

Treatment of primary uveal melanoma largely depends on whether the tumor has already metastasized to other organs at the time of diagnosis. "Unfortunately, there is no effective treatment once it has metastasized," Dr. Bedikian said. "The liver is involved in more than 85% of these cases, and the tumors do not respond well to systemic treatment."

## Eye Care for Cancer Patients

The Section of Ophthalmology, part of the Department of Head and Neck Surgery at The University of Texas M. D. Anderson Cancer Center, provides treatment of ocular, orbital, and conjunctival and eyelid cancer, as well as comprehensive ophthalmic care for cancer patients.



Dr. Bitia Esmali

Orbital and ocular adnexal tumors are more common than intraocular tumors, said Bitia Esmali, M.D., a professor of ophthalmology who helped establish the Section of Ophthalmology in 1998. "Orbital tumors can be anything from lymphomas to sarcomas to meningiomas," she said. Cutaneous cancers like basal cell carcinoma, squamous cell carcinoma, and melanoma can occur on the eyelid or on the ocular surface layer (conjunctiva)—as Dr. Esmali explained, "Every cancer that happens on the skin happens on the eyelid, too." In addition to treating primary cancers of the eyelid and orbit, the Ophthalmology Section offers services in neuroophthalmology, corneal disease, cataract surgery, vitreoretinal surgery, and periocular reconstructive surgery.

The Ophthalmology Section is also actively involved in research. Studies initiated by doctors in the section include Dr. Esmali's groundbreaking research on sentinel lymph node biopsies to detect early metastasis of eyelid and conjunctival tumors. The section also maintains a bank of uveal melanoma tissue and blood specimens. ●

Patients who have metastatic melanoma limited to the liver may benefit from regional therapy directed to the liver metastasis. These therapies, although not curative, are associated with tumor response more often than is systemic therapy. Dr. Bedikian, who has served as the principal investigator for several clinical trials involving metastatic melanoma, said studies have shown that dacarbazine and other chemotherapy agents that are effective against cutaneous melanoma are not effective for treating uveal melanoma or preventing metastasis.

"The biology that underpins uveal melanomas is distinct from that of cutaneous melanomas," said Scott E. Woodman, M.D., Ph.D., a medical oncology fellow at M. D. Anderson whose research involves the role of genetic mutations in melanoma. He said this could explain why some of the therapies that have traditionally worked on other types of melanoma have not been effective against uveal melanoma. "We call them all melanomas, but they are different not only in their location anatomically—they are different molecularly, from what we can tell," Dr. Woodman said. Up to 50% of uveal melanomas have a mutation of the *GNAQ* gene, a mutation not seen in any other form of melanoma to date. Also, some muta-

tions found in cutaneous melanomas are not found in uveal melanomas. "The drivers of these different types of melanomas are distinct; thus, the therapeutic targets that will evolve in the clinical trial area are going to be distinct," he said.

Because current systemic chemotherapy agents are not effective against uveal melanoma, most patients are treated with either radiation therapy or enucleation. "In view of the fact that it may preserve the vision, obviously radiation is the preferred treatment over enucleation," said Dr. Bedikian.

Dan S. Gombos, M.D., an associate professor in M. D. Anderson's Section of Ophthalmology, Department of Head and Neck Surgery, estimated that about half the uveal melanoma patients he sees are candidates for radiation therapy. He said the most commonly used radiation treatment for uveal melanoma is plaque brachytherapy, in which a radioactive plaque is sewn onto the surface of the eye in the area of the tumor, minimizing the exposure of surrounding tissues to radiation. Dr. Gombos added that within the next year, M. D. Anderson is planning to install equipment for treating ocular tumors in adults with proton beams. M. D. Anderson currently uses proton beams to treat children with

retinoblastoma and to treat primary tumors of orbit, but different equipment is required to treat uveal melanoma patients. “We’re looking to be one of the few centers that offer both plaques and protons, depending on the patient’s situation. Most centers offer one or the other,” he said. “I’m hopeful that with protons we will be able to offer more patients radiation.”

### Metastases to the eye

Tumors presenting inside the eye have commonly metastasized from other sites, particularly the breast and lung. If an intraocular tumor is believed to be a metastasis, the primary tumor site and extent of the metastasis should be determined. “Because of the high association between intraocular disease and metastatic disease in the brain and central nervous system, whenever we see a diagnosis suggestive of intraocular metastasis, we also get imaging of the brain and central nervous system to make sure there is no involvement of those tissues,” said Dr. Gombos.

Treatment for metastases to the eye usually involves radiation therapy, although systemic chemotherapy and laser surgery are used in some cases. Dr. Gombos said that external-beam radiation is the most common treatment option, but occasionally plaque brachytherapy is done. He added that because metastatic tumors in the eye often occur in patients with advanced metastatic disease, such tumors may go untreated or even undiagnosed.

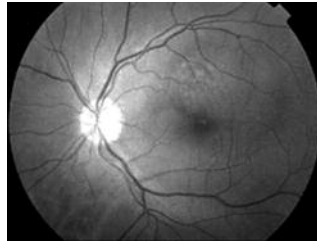
“The location of the tumor in relation to other structures and the inherent radiation sensitivity of the tumor are critical to preserving vision,” said Dr. Gombos. “I once had a patient with very advanced metastatic breast cancer, and she had 15 tumors in her eyes. We were able to preserve 20/20 vision for the next 3 or 4 years until she ultimately died of her breast cancer.”

### Diagnostic issues

Ocular cancer can be difficult to diagnose because there may be no symptoms, although patients sometimes have blurred vision or see flashing lights. Dr. Gombos said that if cancer is suspected, the patient should be referred to an ophthalmologist rather than an optometrist for an examination of the eye itself. “There are many things that can cause

blurry vision, but in a cancer patient, metastatic disease is one,” he said. “If an ophthalmologist sees a metastatic lesion, we would strongly suggest that he or she refer the patient to a comprehensive cancer center as soon as possible,” he said. “Sometimes the ophthalmologist is the first doctor to diagnose recurrent or metastatic disease.”

Doctors can reassure their patients not to panic when ocular lesions are detected. “Among all the patients referred to me as having ocular melanoma, in about half I disagree with the initial diagnosis,” Dr. Gombos said. “These patients have indeterminant lesions or birthmarks. For most of those lesions,



*A uveal melanoma (dark interior region).*

we don’t do anything; we closely and serially observe them. As long as they don’t grow, they don’t reflect a risk to the patient.” However, because the chances of preserving patients’ vision as well as their lives improve with early treatment, patients—especially those with a history of cancer—with lesions in the eyes should be referred to a cancer center. ●

*For more information on M. D. Anderson’s Ophthalmology Section, please call 713-792-6920. To refer a patient, call 713-745-5146.*

## Doctors Team Up to Battle Retinoblastoma

**A**lthough retinoblastoma is the most common primary intraocular tumor in children, only 300–350 children in the United States are diagnosed with the disease each year. “The irony is that there has been so much research on retinoblastoma on the basic science level, but most physicians rarely see a case,” said Dan S. Gombos, M.D., associate professor in the Department of Head and Neck Surgery, Section of Ophthalmology, at M. D. Anderson. Retinoblastoma usually occurs in children 1 or 2 years of age, and both eyes are involved in 30%–40% of patients.

To fight this serious but treatable cancer, the Children’s Cancer Hospital at The University of Texas M. D. Anderson Cancer Center has joined Texas Children’s Cancer Center, Baylor College of Medicine, and The Methodist Hospital Research Institute in a collaborative effort called the Retinoblastoma Center of Houston. “There’s been nothing like the collaboration between these four institutions. They’ve come together in a spectacular way,” said Dr. Gombos, one of the clinical co-directors of the Retinoblastoma Center.

The advantages of this alliance include a shared tumor board that reviews patients from M. D. Anderson and Texas Children’s Cancer Center (which serve as the two clinical sites) and a dedicated ocular pathologist who

specializes in retinoblastoma. The Methodist Hospital houses a shared pathology and tissue bank, and Baylor College of Medicine and M. D. Anderson offer genetic testing and counseling for patients and their families.

“Retinoblastoma often requires the removal of one or both eyes, so our treatment priorities are saving the child’s life, saving the child’s eye, and saving the child’s vision,” Dr. Gombos said. Because radiation therapy confers a risk of developing a second tumor, chemotherapy is usually preferred as the first-line treatment for retinoblastoma and radiation therapy is used as a salvage approach. M. D. Anderson is one of the few centers in the United States that offer proton therapy for retinoblastoma, which exposes the child to less radiation than other radiation therapy modalities because the beam is much more focused.

Although only in its first year of existence, the Retinoblastoma Center is already conducting research and participating in clinical trials, including one involving gene therapy for retinoblastoma. “There are people in the Texas Medical Center who have dedicated their lives to fighting this disease,” Dr. Gombos said, “and this institution brings them together.” ●

*For more information, visit [www.rbhouston.org](http://www.rbhouston.org).*



# Ductal Carcinoma In Situ

## Choosing Treatment for a Common Group of Early, Confined Breast Cancers

### Overview

By definition, ductal carcinoma in situ (DCIS) is a cancer arising from and pathologically confirmed to be confined to the terminal duct lobular units of the breast. It is therefore considered a noninvasive breast cancer. Each year in the United States, about 64,000 women are diagnosed with DCIS, representing 30% of women diagnosed with breast cancer.

Three decades ago, DCIS was found in patients relatively rarely, typically co-existing with invasive cancers in mastectomy specimens. In the even rarer instance in which a patient presented with clinically evident DCIS—a palpable mass or nipple discharge—she was treated with mastectomy.

Today, it is still unusual for DCIS to present symptomatically; approximately 90% of these cancers are discovered as microcalcifications on mammograms. Not coincidentally, the incidence of DCIS has risen dramatically since screening mammography became common. Indeed, finding small, early, and treatable breast cancers is the goal of such screening. “We consider it a bonanza when we find a very tiny breast cancer,” said Wei Yang, M.D., an associate professor in the Department of Diagnostic Radiology at The University of Texas M. D. Anderson Cancer Center. “When breast cancers are larger or symptomatic at diagnosis, the treatment options are different.”

DCIS is not an immediately life-threatening cancer, and by definition it is not an invasive cancer. Experts have even begun to question whether it should be called a carcinoma. Nonetheless, DCIS is almost always treated as if it is an invasive carcinoma: standard treatments include mastectomy or breast-conserving lumpectomy with or without radiation therapy—treatments derived from studies not of DCIS but of invasive cancers.

When DCIS is treated according to current standards, the 10-year overall survival rate is nearly 100%. DCIS is, however, associated with an increased risk of invasive breast cancer. According to Banu Arun, M.D., an associate professor in the Department of Breast Medical Oncology, when a woman is diagnosed with DCIS, her risk of developing invasive breast cancer in either breast increases two to four times.

In addition, DCIS does recur, and some recurrences progress to invasive cancer. Recurrence rates vary according to the aggressiveness of the initial treatment: women treated with lumpectomy have higher recurrence rates than those treated with mastectomy, and women treated with lumpectomy alone have higher recurrence rates than those who receive lumpectomy with radiation.

When DCIS recurs and remains noninvasive, survival rates

are the same as for women who have an initial DCIS occurrence, and DCIS that becomes invasive confers a similar mortality risk as other initial occurrences of invasive cancers. This is because most recurrences are discovered early with proper surveillance.

Just as only some DCIS lesions will progress to invasive cancer, some will remain clinically irrelevant—an estimated 14%-50% would become invasive if left untreated, according to Henry Kuerer, M.D., Ph.D., a professor in the Department of Surgical Oncology. Hence, it is reasonable to postulate that current standards result in overtreatment for some women with DCIS. Currently, all women with DCIS undergo surgical excision of the tumor or the whole breast, followed by radiation therapy for some women.

Is it possible that some DCIS could be left alone or treated with a chemopreventive agent (one that prevents or delays invasive progression) instead of surgery? Given that the goal of cancer screening is to identify early treatable cancers, it is difficult to propose doing nothing when such cancers are found and difficult to mount clinical trials in which women would forego a known curative treatment.

The answer to the question, then, lies in learning more about the biology of DCIS and identifying biologic markers that are predictive of its behavior: will it progress to an invasive cancer, or will it lie indolent for many years as an in situ lesion, or will it perhaps remain forever harmless?

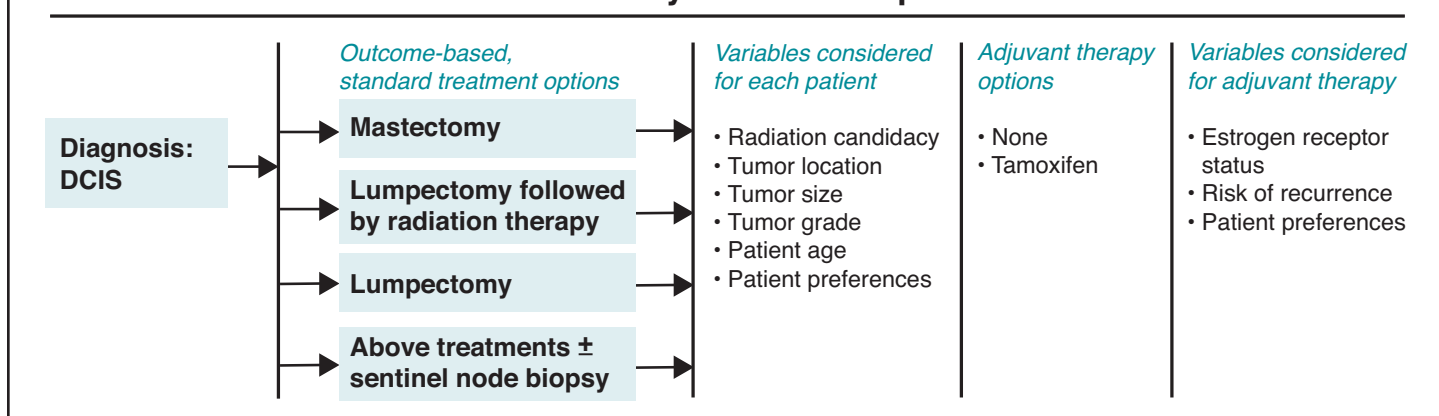
Like invasive breast cancer, DCIS is not one entity but a heterogeneous group of at least four subtypes, and intratumoral heterogeneity (mixed histologies within a lesion) may be observed. Thus, the clinical behavior of DCIS varies. Furthermore, because known DCIS has always been treated, little is actually known about its natural history. Dr. Kuerer believes that the ability to predict which DCIS will progress to invasive cancer is paramount to developing individualized therapies, and current research initiatives are likely to have a significant impact on treatment paradigms for this disease.

### Treatment Approaches

#### Evaluation

When a DCIS lesion is discovered, the next task belongs to the diagnostic radiologist. “Additional imaging is crucial to help the treating physician delineate the extent of disease, optimize treatment, and ultimately reduce the risk of a local recurrence,” Dr. Yang said. “Additional imaging is used to determine whether other possible disease foci are present in either breast, to precisely map their size and location three-

## DCIS: Primary Treatment Options



dimensionally, and to determine their proximity to the nipple-areolar complex and their distance from overlying skin in order to ensure the best surgical outcome.” The size and location of disease foci dictate the area or areas to be biopsied and also have implications for treatment choices. Currently, mammography of both breasts is the imaging method of choice for women diagnosed with DCIS, particularly those who present with mammographic calcifications.

Once the biopsy targets are identified, a close collaboration between the radiologist and breast pathologist begins. During image-guided biopsies, clips may be placed to accurately mark the lesion for subsequent excision. Digital radiographs of removed specimens are annotated to confirm that targeted calcifications have been removed and to provide correlation with the pathologist’s findings.

Constance Albarracin, M.D., an associate professor in the Department of Pathology, said radiologic/pathologic concordance of findings is critical. The pathologist’s goal is to determine histologic makeup and whether the carcinoma is truly in situ or contains any invasive component. Estrogen receptor (ER) status is also noted.

At M. D. Anderson, intraoperative analysis is provided to the surgeon by both the pathologist and the radiologist. Removed tissues—both en bloc and sliced specimens—are examined by the pathologist and also imaged intraoperatively to determine whether an adequate tumor-free margin has been achieved. Intraoperative collaboration between the surgeon, pathologist, and radiologist has been shown to reduce the rate of second surgeries from 50% to below 20%, and it is where Dr. Albarracin feels she has the greatest personal impact on patients’ lives. “It’s not always possible to avoid a second surgery—sometimes we find things on permanent sections, after surgery, that could not be detected during surgery,” she said. “But when we can advise the surgeon that a larger margin is needed during the operation, we spare the patient and her family or caregiver the time, expense, and worry of another operation.”

After surgery, permanent pathologic analysis of removed specimens is performed, and again, concordance between radiologic and pathologic findings is essential.

### **Mastectomy vs. lumpectomy**

Few absolute medical considerations indicate mastectomy over breast-conserving lumpectomy. But the decision may

be influenced by numerous factors, many related to risk or personal preferences:

#### ■ *Tumor size and location*

According to standard guidelines, lumpectomy is usually not advisable when a tumor-free surgical margin is not possible. Adequate margins are considered an important predictor of recurrence risk. Although recommendations about acceptable margins vary, most studies have shown significantly fewer recurrences when the margins are negative.

Lesions that are large in proportion to breast size may leave a significant defect. For DCIS that encompasses more than a quarter of the breast, mastectomy with or without immediate breast reconstruction may be the better choice for cosmetic reasons. Lumpectomy or removal of just a portion of the breast is not feasible in women who have cancer in multiple regions of the breast.

#### ■ *Need for radiation*

Radiation therapy is not required after mastectomy for DCIS, but whole breast irradiation after lumpectomy for DCIS has been shown in numerous studies to reduce recurrence rates by as much as 50%. (Currently, partial breast radiation given only to the breast region where the cancer is located and given over a much shorter 5-day period is being tested in clinical trials as an alternative to whole breast radiation.) However, according to Dr. Kuerer, women who have small, unifocal, low-grade tumors that can be excised with wide margins (at least 10 mm) have a low risk of recurrence and may reasonably forego radiation.

For other patients, the likelihood that radiation would be needed after lumpectomy must be considered before the choice of surgery is made. If radiation is likely to be needed, then women who are unable to undergo radiation therapy for any reason would not be candidates for lumpectomy. This includes women who have had previous radiation to the chest, women who are pregnant during the time radiation would be given, or women who have severe scleroderma or another confirmed severe active connective tissue disorder that may render tissues more sensitive to radiation.

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Further, some women are unable or unwilling to undergo daily radiation treatments for several weeks. If reconstruction will be necessary, it will be best accomplished with autologous tissue, and therefore women for whom implant reconstruction is preferable might opt for mastectomy rather than lumpectomy.

#### ■ *Recurrence risk factors*

Although neither tumor histology nor size represents an absolute indication for mastectomy, higher recurrence rates are associated with tumors that are large, high grade, ER negative, or HER-2/neu positive and those that have comedo-necrosis. No specific architectural pattern or histology has been proven predictive of whether recurrence is more likely to be DCIS or an invasive breast cancer.

Patient age is not a decisive recurrence risk factor but is considered. Young age (< 40 years) has been associated with a higher risk of recurrence in at least two large studies; the findings do not mean that younger women are not candidates for breast-conserving surgery but may suggest that younger women would derive greater benefit from radiation, according to the American College of Radiology.

There is no conclusive evidence that family history predicts for recurrence. However, women who have undergone genetic testing and are found to carry a BRCA mutation are at a significantly higher risk of invasive breast cancers, and many such women who develop DCIS are now opting for bilateral mastectomies.

#### ■ *Patient perceptions and preferences*

Finally, Dr. Kuerer pointed out that the choice of treatment is a very personal one, and numerous psychological factors may contribute—among them, fears about radiation treatment, the desire for minimal disruption of body image, and fear of recurrence—and which of those emerges as the most important varies among individuals. Some patients choose breast conservation because they view it as the least disruptive and invasive option. For others, the choice of mastectomy is based on their perception of risk—they believe that mastectomy provides the best chance of “getting rid of all of it.” However, the perception of risk is something that requires physician-patient counseling: it is important for patients to understand what their risk actually is. “To say that a treatment lowers risk by 50% is not altogether meaningful if that risk was only 2% in the first place,” Dr. Kuerer said. “We need to determine which patients are actually at risk of invasive progression—it may be very few—and which might need no therapy—it may be as high as 30%–40%. This is where our research efforts must focus.”

#### **Sentinel Node Biopsy**

As DCIS is, by definition, confined, sentinel node biopsy

## Toward Tomorrow

Even though DCIS is now diagnosed in 64,000 women a year, little is known about the natural history of the disease. The few clinical trials in DCIS are old and do not account for all the patient risk groups that can be meaningfully stratified with the sophisticated tools available today.

One of the bigger questions about DCIS is which ones will progress to invasive cancer. Treating all DCIS has resulted in a low disease-related mortality rate, yet surely some of those women have been overtreated, said Henry Kuerer, M.D., Ph.D., a professor in the Department of Surgical Oncology at M. D. Anderson. “We currently have what I consider a national epidemic of women requesting bilateral mastectomies—a 4- to 5-fold increase in recent years—when they are diagnosed with breast cancer, including many with DCIS,” Dr. Kuerer said, speaking to the fear that is associated with a cancer diagnosis. “We need to know more about DCIS so we can better counsel and reassure patients about their actual risks.”

Toward that end, several research initiatives targeting DCIS will be part of a new M. D. Anderson collaborative called the DCIS Discovery Enterprise. The mission will be to prevent invasive disease while also reducing unnecessary surgery or radiation.

Among the research initiatives in the Enterprise:

- Genetic expression profiling and study of molecular characteristics that distinguish lesions at high risk of invasive progression from clinically irrelevant lesions.
- Investigation of neoadjuvant (preoperative) treatments that may achieve disease regression, stabilization, or elimination as detected by modern imaging.
- Creation of a multi-institutional DCIS renewable bio-repository that will be linked through information technology with translational science and clinical outcome data. ●

is rarely necessary. However, postoperative pathologic analysis sometimes reveals an invasive component. In patients whose DCIS has an invasive component, lymph node status is very important. “Theoretically, in pure DCIS, no lymph node involvement would be expected,” Dr. Albarracín explained, “but in reality there will be lymph node involvement in a very small percentage of patients.” She believes this is more likely when a DCIS is large or high grade.

Mastectomy renders sentinel node mapping in a subsequent operation impossible if invasive cancer is also identified; in such cases, postoperative staging of the lymph nodes would require axillary dissection, a procedure associated with significant morbidity. Thus, at M. D. Anderson, sentinel node mapping is recommended during initial surgery in patients who have mastectomy.

Pathologic analysis of sentinel nodes is carried out intraoperatively on frozen sections. “If metastatic invasion is verifiable at that time, axillary dissection is carried out. However, if pathologic results are uncertain, we wait for the more reliable postoperative permanent section analysis before pro-

(Continued on page 8)





## Three Targets for New Year's Resolutions

Maybe this is the year you've resolved to get your lifestyle back on a healthy track. Or maybe you've simply never thought much about your well being, but you'd like to. Either way, the new year offers a fresh start for healthy-living resolutions.

Consider this a challenge to improve your lifestyle in three main areas known to affect health: exercise, diet, and stress management. With a clear set of goals and a bit of dedication, you can make positive changes that will reduce your risk of diseases, help you develop better relationships, and help you be happier. Here are a few things to keep in mind:

### Exercise

The benefits of getting the blood pumping are too numerous to list in this article, so we'll stick with the basics. Exercising regularly can:

- Improve your physical capacity
- Maintain your muscle, bone, and joint health
- Lower your risk of obesity
- Decrease your risk of life-threatening illnesses like cardiovascular disease and diabetes
- Lower your blood pressure
- Improve your mental outlook

The amount, intensity, and type of exercise you should do depend on your current health and other considerations. Therefore, you should talk to your doctor to determine what is best for you. However, most people in moderate to good health—and even some people with serious illnesses, like cancer—can enjoy benefits from exercise.

Remember, too, that exercise does not have to involve strenuous activities such as jogging or weightlifting. You could walk to the store rather than



drive, take the stairs instead of the elevator, or work in the garden instead of watching TV. Look for little ways to increase the physical effort it takes to perform daily tasks.

### Diet

It's no secret that the United States and many other developed countries are facing an obesity epidemic and that health problems related to being overweight are on the rise. To avoid being a part of this epidemic, pay attention to what you eat.

Counting calories is important to maintain a healthy weight. According to the American Heart Association, the moderately active man age 31–50 years needs 2,400–2,600 calories per day (women in the same group need only 2,000 calories per day).

In addition, the association recommends a diet rich in vegetables, fruits, and whole grains and low in saturated and trans fats, sodium, and cholesterol. Use balance in choosing foods—for example, for your main course, give priori-

ty to things like lean meats, fish, and poultry over fast-food burgers and pizza.

It should be mentioned here, too, that diet can include anything you choose to put in your body. Limiting your alcohol intake and quitting tobacco can greatly reduce your risk of cancer, heart disease, and other serious illnesses.

### Stress management

Managing stress can be very difficult, given the demands that most of us face day to day. As a first step, experts suggest we become aware of our own stress symptoms. For example, does rush-hour traffic cause you to become overly tired or agitated? By identifying stress triggers, you may be able to make improvements in your routine.

Stress management also relies heavily on changing how we view stressful situations. Instead of seeing a difficult situation as a threat, try to view it as a challenge.

Also, pay attention to your internal thoughts about stressful situations, especially those that are perfectionist, negative, or rigid. Ask, for example, “Why must I do this perfectly?” and try to think more positively about your reactions.

Stress can be lessened by getting plenty of sleep, eating a healthy diet, exercising, and making time for relaxing activities. By targeting stress, you might find that you become not only happier but physically healthier, too. ●

For more information, talk to your physician, or:

- visit [www.mdanderson.org](http://www.mdanderson.org)
- call askMDAnderson at 1-877-632-6789

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## Compass

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ceeding to axillary dissection,” Dr. Albaracin said. Frozen sections can contain artifacts, such as ice crystals, owing to the high water and fat content in the specimen. Permanent specimens are sliced more thinly and analyzed with immunohistochemical staining, which makes it possible to see single cells and arrive at a more definitive judgment.

### Adjuvant therapy options

Since DCIS is, by definition, a localized disease, systemic chemotherapy is not part of the treatment. “However, even if the patient’s disease is treated adequately by surgery and/or radiation, her risk of future breast cancer is higher,” Dr. Arun said. “For some patients, this suggests a role for adjuvant therapy, which is not a treatment but rather a risk-reduction measure.”

Therefore, the possibility of adjuvant therapy with tamoxifen should be discussed with patients whose DCIS has positive ER status. Studies have shown a significant small absolute reduction of recurrence risk within the treated breast associated with tamoxifen as an adjuvant chemopreventive agent for ER-positive DCIS. Tamoxifen can also decrease occurrences of contralateral invasive and noninvasive breast cancer.

Despite such findings, Dr. Arun said that only about half of women with DCIS who are eligible to consider tamoxifen actually opt to take it. “This is likely because

their risk is relatively small, and the drug does have side effects,” Dr. Arun said.

In addition, there are no agents available for the prevention of ER-negative breast cancers. “Therefore, we are studying other agents to address ER-negative cancers and to identify chemopreventive agents with lower toxicity profiles,” Dr. Arun said. Agents under investigation include COX-2 inhibitors, retinoids, tyrosine kinase inhibitors, and statins. ●

For an expanded version of this story, visit [www.mdanderson.org/oncolog](http://www.mdanderson.org/oncolog).

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