

“Our last two killers are not related to cancer, heart disease, or infection. One likes women, the other prefers men.”



Chapter 21

Finishing Off Some Killers

Welcome to the home stretch. We’ve covered the high-volume cancer killers. Now let’s touch on some less common but equally lethal tumors and a few non-malignant threats.

Unfortunately, for some forms of cancer there is nothing useful to be shared about prevention or screening. Diseases like pancreatic cancer or malignant brain tumors just materialize and kill. Some cancer battles can only be fought, often unsuccessfully, after the disease has declared itself and already has an upper hand.

Someday we may have the sophisticated technology for whole-body cancer detection and cures for currently hopeless tumors. We aren’t there yet. Worrying in advance about such things makes no sense. You’ll either get them, unlikely, or you won’t. We have no control at all, and chronic worry itself will create other health problems.

But the other cancers we’ll review here deserve your attention, because they can be found early. In some cases, it is not yet clear if aggressive screening makes a difference in survival. This is *not* the case, however, with the beauty mark from hell.

Malignant Melanoma

Malignant melanoma uses a killing strategy just the opposite of the colon cancer tortoise. This cancer hits the ground running and moves like a locomotive. Colon cancer requires us to thread fancy

cameras into unwelcoming places to find it. Melanoma hides in plain sight.

It is a cancer of pigment-producing cells found mostly in the skin, but also in the eyes, ears, and even in our gut and brain. To call it a skin cancer is not exactly accurate, because its cells are actually of nerve origin. But the skin and other visible areas of our bodies are the only locations where we are likely to identify these tumors in time to stop them. Fortunately, the skin is also the most likely crime scene.

Unlike other skin cancers, melanoma doesn't rely on accumulated sun exposure to set it off. It can occur where the sun never shines. If malignant melanoma was *simply* a sun cancer, we would expect it to be mainly on the face and hands, the areas most exposed to the sun. Indeed, another much more common but far less dangerous skin cancer, basal cell carcinoma, is found almost exclusively in these areas.

For reasons unknown, melanoma seems to favor the back and legs. I've also found these lesions on the bottom of the feet and other parts of the body normally covered at least by a bathing suit.

There is, however, a direct link between high sun exposure in childhood and malignant melanoma later in life. The incidence of this cancer is increasing steadily in America, but even more so in Australia and New Zealand where ozone depletion has opened the sky to more ultraviolet radiation.

The attack rate of melanoma in these countries is almost four times higher than in the U.S. So sun does matter. Do not let your children sunburn. At the same time, shade dwellers get it, too. One theory is that more infrequently exposed skin suffers more damage when it gets an "occasional burn," which could explain melanoma's favorite sites and its blessedly higher prevalence on the skin than in hidden, internal tissues.

Malignant melanoma can occur at *any* age, from early childhood to late in a long life. It favors Caucasians, especially men. And, while it represents only 4 percent of U.S. skin cancers, it's responsible for the vast majority of skin cancer deaths, close to 8,000 in 2005. We record almost 60,000 new cases each year, so the good news is that the cure rate is pretty solid in America—about 91 percent. And the cure rate continues to rise because of early detection, more awareness of a mole's danger signs, and less sunburn in the younger generations. The one group that lags behind in survival are middle-age and older white men.

The qualities known to raise a person's risk are:

- ▶ **a fair complexion, excessive childhood sun exposure (especially blistering childhood sunburns)**
- ▶ **an increased number of common and dysplastic moles (known as Dysplastic Nevus Syndrome)**
- ▶ **a family history of melanoma**
- ▶ **male gender and older age.**

People at high risk, especially with Dysplastic Nevus Syndrome or a prior history of any skin cancer, should be under the ongoing surveillance of a dermatologist. Sometimes photographic studies of the skin can be employed to help detect new or changing moles against a busy background.

Know the melanoma. Its irregular shape, ragged borders and non-uniform color deserves immediate attention.



Malignant melanoma is most commonly characterized as a darkish brown or black lesion, initially flat. The lesions are more “seen” than “felt” at first. In many ways, they resemble an ink-blot where one side does not match the other. As they grow, they appear to spread *under* the surface of the skin. They are irregular in shape with notched or ragged borders. They can also be irregular in color, sometimes displaying shades of tan, brown, black, red or blue. (See the ABCDE criteria in Appendix 9.)

Most importantly, they grow and change. It can be possible to tell the difference in size in the course of just weeks in one of these lesions. Although they can arise in existing moles, at least 60 percent show up as new dark spots.

There are also variations from the common *Superficial Spreading Melanoma* described above.

Nodular Melanoma is also usually dark but not flat. It's raised and grows very fast, and it accounts for about 20 percent of all melanomas.

A really sneaky type, the Amelanotic Melanoma doesn't make the dark pigment we rely on for detection but is, thankfully, rare.

If caught early, melanoma is easy to remove, and the risk of spreading (metastases) and death is very remote. On the other hand, if allowed to grow unchecked, they quickly tunnel into deeper tissues, into the lymphatic system and from there, all over the body.

For this reason, *any* suspicious mole, flat or otherwise, that appears to have changed or appears to be new, or simply to have become more prominent or is developing less regular edges, should be evaluated by a physician at the earliest possible time.

I have referred several patients to dermatologists for lesions that did not seem to be all that abnormal, only to rejoice for being overly-cautious when the results were malignant melanoma.

Pay attention to your body. Check your skin all over on a regular basis. Have someone else check hard-to-see areas like your back. For couples, take literally the expression, "You watch my back, I'll watch yours."

Do not think your annual doctor's visit is enough. Malignant melanoma must be detected within months of its appearance for safe, complete removal. With a 91 percent cure rate, thanks to public awareness and proactive patients, neglecting a new, strange, fascinating beauty mark is another stupid reason for dying.

Esophageal Cancer

Here is another cancer that is not very common, but it does kill its victims. And the incidence of esophageal cancer is on the rise, increasing at an average rate of over 40 percent a decade.

There are many proposed reasons for this alarming trend. The most convincing ones point to acid reflux, which stems from factors such as obesity and hiatal hernias, problems generally on the rise. Other major risk factors include tobacco and excessive exposure to alcohol.

The most common approach to disease of the esophagus has been to wait for people to report symptoms of heartburn or reflux of stomach contents into the esophagus, gastroesophageal reflux disease or GERD, and then treat them with acid-reducing medications such as Zantac or Nexium.

More recently, we have been performing a procedure called endoscopy in patients with heartburn to visually examine the lining of the

esophagus with a miniature scope. But what most people (and too many physicians) don't realize, is that about half of all people who are destined to develop cancer of the esophagus actually have *no* symptoms of heartburn or reflux until the opportunity for a cure has left the building.

In light of all this, there is medical debate whether people over 50, even those with no symptoms, should consider undergoing endoscopic screening of the esophagus every 4 to 5 years. As with colonoscopy, a camera on a hose is passed down the throat into the esophagus, stomach, and then upper intestine. I suppose you're not surprised that it's expensive. It's also somewhat invasive and requires intravenous sedation. All in all, you wouldn't consider it a good time.

The FDA recently approved a new technology, the PillCam®, for use in the U.S. As the name suggests, it is a camera the size of a large vitamin that's swallowed like a pill. As it travels down the esophagus, it rapidly flashes light, snapping 14 pictures per second, which are transmitted to a receiver outside the patient's body. The entire procedure takes a few minutes. The PillCam® exits in a bowel movement.

Since we don't know if the procedure leads to better survival from esophageal cancer, I recommend it *electively* to men and women over 50 who have *no significant symptoms* of heartburn or reflux, especially if they have been a smoker or heavy drinker or if they are obese.

I do not recommend it for patients *with* any symptoms of heartburn or reflux; they need endoscopy, the gold standard. Anyone who has had a normal endoscopy examination in the last 5 years is not likely to benefit from this test, and those who've had abnormal endoscopies should get *repeat* endoscopies.

It is important to realize that the PillCam® is only a screening tool, used to look for abnormal tissue in the esophagus. Any suspicious finding will require a followup endoscopy to biopsy the area. Like the EBT HeartScan, the PillCam® is not likely to be covered by insurance any time soon. Currently, the cost of the procedure runs between \$1200 and \$1500.

This is a very new field, and at least two things will surely change. The cost will drop over time, and the recommendations for who should and should not have this screening will become clearer. For now, your best bet is to stay away from tobacco and excessive drinking, and report any symptoms of heartburn or reflux to you physician.

Bladder Cancer

This cancer is more common than you may realize, responsible for about 50,000 new cases a year and 11,000 deaths.

Currently, the most we do to detect it is check urine samples once a year for blood that may not be visible to the naked eye. The experts with The United States Preventive Services Task Force (USPSTF) don't even recommend that much, since there is not yet evidence that it leads to saving lives.

Microscopic levels of blood in the urine are pretty common and usually don't mean cancer of the bladder (or kidney). Small amounts of blood can come from other things like bladder or prostate infection, kidney stones, toxic medications, heavy exercise, menstruation, sexual activity, and the list goes on. On top of that, urine screening can easily miss cancers that aren't bleeding on the day of our physical.

I once gave a clean bill of bladder-health to a patient and colleague based on a normal urine test. Six months later he was urinating blood. He had an aggressive bladder cancer not recognized by the urine test. You can bet I reviewed his chart to make sure we hadn't missed anything.

I'm happy to say he's fine now after taking decisive, aggressive action. Had he failed to notice the blood in his urine, his cancer could have spread like wildfire. If his annual physical six months earlier had been performed a day before or after, it's possible the urine test would have detected blood. It's a roll of the dice because these tumors bleed *intermittently*.

There is more we can do to identify bladder cancer beyond the basic urine test. Cytology testing requires submitting that same urine sample to an expert, a pathologist, who can detect both bladder and kidney cancer cells in urine samples. We know we can discover both bladder and kidney cancer earlier this way.

The catch is that while cancer cells in the urine clearly means there is a problem, the *absence* of cancer cells does not. A single annual cytology test can still miss some tumors. Since there's little downside to cytology screening (false-positive results are extremely rare), I currently offer it as part of an annual screening to my patients. I tell them what I just told you—the proof of a benefit from earlier detection doesn't exist yet. I also let them know they'll probably have to pay the \$45 out-of-pocket cost.

On the horizon, there is excitement about a substance called *telomerase*, found in certain cancer cells, as a tool for detecting tumor cells in the urine. A chemical test of the urine for this protein is yielding some very promising results.

Ovarian Cancer

Cancer of the ovary made headlines when it deprived the world of two beloved comedic actresses, Gilda Radner and Madeline Kahn.

It's a relatively rare disease, attacking only 17 out of 100,000 women. But it makes up for this by its stealth and aggression, usually spreading beyond the ovary before it's discovered. It takes the life of over 16,000 American women each year.

A common blood test, CA-125, will mistakenly read high in 1 out of 50 women tested, yielding hundreds of false-positive results for every correct diagnosis.

Transvaginal ultrasound of the ovaries can help find the cancer earlier but, like the blood test, is not definitive; it will often see things that are questionable.

The ovaries are exasperating when it comes to capturing their image. They are naturally lumpy and irregular from the monthly gyrations of growing and reabsorbing egg follicles, as well as forming cysts of all shapes and sizes. This plagues the search for ovarian cancer with all the problems in screening discussed in Chapter 11. Uncertain results about such a scary cancer naturally creates anxiety and leads to more testing procedures, some of which are invasive.

Unlike the colon, the breast, and even the prostate, the ovaries are *not* in an easily accessed location. A biopsy is a big deal, requiring major surgery. So, for this fairly rare tumor, it must be considered that the risk of testing may outweigh the benefits.

Screening for ovarian cancer needs to improve. At this point, there are encouraging studies indicating that a group of 4 blood protein tests, taken together, demonstrate much greater sensitivity and specificity in identifying ovarian cancer. More time is needed to know if these tumor markers will consistently prove accurate and useful. In the meantime, we must make good selective use of the screening available.

Ovarian cancer runs in families. A single first-degree relative with ovarian cancer increases a woman's risk to five percent and two such relatives raises it to seven percent. Screening makes sense for these women. Even tests with a high false-positive rate start to become useful in a high-risk population.

As always, a well thought out plan between you and your doctor is needed *before* undertaking such screening to avoid "panic testing" followed by needless surgeries based on uncertain screening results.

The USPSTF recommends against routine screening for ovarian cancer.

However, with all the considerations mentioned, I do offer transvaginal ultrasound to patients but discourage CA-125 testing for women who do not have a family history of the disease. Real progress in ovarian cancer screening seems to be around the corner and will be closely followed on our website.

Testicular Cancer

Ready for a refreshing change? Here's a cancer where screening is *almost* superfluous. Made famous by cycling hero Lance Armstrong and his "live strong" yellow wrist bands, this rare tumor is now 95 percent curable. About 7,000 teens and young men get the disease annually, but less than 350 die as a result. Twenty-five years ago, the death rate was ten times higher. With modern chemotherapy, the cure rate of even widely metastasized tumors approaches 80 percent. Of course, we want a 100 percent cure rate, so the earlier the cancer is found the better.

Though it accounts for less than 1 percent of U.S. cancers, it ranks as the most common in this young male population. For unknown reasons, it's four times more common in white men than African Americans.

When discovered, testicular cancer may be anywhere from the size of a pea to the size of an egg. Most often, the patient finds the tumor himself either by careful self examination, yes, probably a rare event, or by noticing a symptom such as swelling, or occasional pain in a single testicle. Other findings include a full feeling or a fluid buildup in the scrotum. The patient might also have generalized symptoms such as fatigue, something that is not common in boys and men between 15 and 34 years of age.

On the other hand, there is a very long list of perfectly benign reasons for swelling in the scrotum. This is why any abnormal finding must be brought to the doctor's attention as soon as it's discovered to be further evaluated. This is often done with the aid of ultrasound.

Besides being male, Caucasian, and in the physical prime of life, the risk for testicular cancer goes up five to ten times if a brother or father had it or if the patient was born with an undescended testicle, even if it was repositioned with surgery. HIV infection may also raise the risk. The causes for this cancer are unknown, so there's no good advice on how to avoid it.

Advisors at the USPSTF do not recommend *any* routine screening, not even on the part of the physician at check-up. They don't encourage self-examination either. It's not that they don't care about

the lives of young men. Their job is to identify and encourage only those screening practices that show evidence of saving lives. With the low incidence and high cure rates of this cancer in America, they are concerned about the harm of increasing anxiety and the cost of unnecessary testing.

Of course, *you* won't overreact, right? So self-exam is optional. I recommend it with the proviso that patients keep the *dangers of screening* in mind. We are likely to find many more masses that are not cancerous, and time is not the fierce enemy here that it can be with other types of cancer. Therefore, in most cases, watchful waiting makes the most sense.

The good news is that while early detection is preferable, this is a situation that doesn't scream for immediate intervention.

Cervical Cancer

Let's wrap up all this talk of cancer with some good news.

Our assault on cervical cancer during the last century is one of humanity's great victories over cancer. While today 3,700 American women do die each year from cervical cancer, in 1955 it was closer to 15,000.

Pap Smear testing is credited with cutting the death rate from this awful disease by 75 percent. And that number is about to get even better.

As with breast cancer, this is another area where a better-than-average adherence to common screening guidelines is paying off. Women know they should get checked, and most show up reluctantly for their regular exam. Unlike breast cancer, more like colon cancer, cervical cancer grows slowly in the beginning. It can be developing for years before it becomes incurable. So, even a few missed annual screenings are not likely to give this cancer free rein. *Please, do not take that as permission to skip your annual Pap Smear.* Cervical cancer screening guidelines, as of this writing, can be found in Appendix 10.

In addition to our ability to find cervical cancer increasing with every improved variation of the Pap Smear test, brilliant scientists have uncovered the cause of almost all cervical cancer, Human Papilloma Virus (HPV), and have just provided us with the first vaccine to protect women from this invisible, cancer-causing infection.

Merck, the pharmaceutical company so recently vilified for Vioxx, just released Gardasil, which involves a series of three injections a few months apart. Gardasil initially showed 100 percent protection

against the cause(s) of cervical cancer. Other companies are slated to release similar HPV vaccines soon. Vaccination is currently recommended for girls and women between the ages of 9 and 26, preferably before onset of sexual activity.

As with all new state-of-the-art technology in medicine, we're faced with the same obstacles. Initially, not every insurance plan will jump to cover it. It costs about \$360 for the whole series, so some women will refuse to foot the bill. Concern about as-yet-unknown side-effects will also delay its use in some families and some doctor's offices. But in this case, there's the potential for another obstacle.

Some groups are gearing up to oppose vaccination, despite a survey showing that 80 percent of parents favor vaccinating their daughters. "Abstinence is the best way to prevent HPV," said a member of a leading Christian lobby group. The groups claim that giving the HPV vaccine to young women could be interpreted as a license to engage in premarital sex.

Arguments like the one above, even if they sound reasonable to some parents, simply make no sense. None. There is no evidence whatsoever that sexual activity in teenagers and young adults has anything at all to do with a knowledge of HPV. Half of all sexually-active women between 18 and 22 in the U.S. are already infected, which can cause cancer decades later. To bank on the fantasy that "your" child will never join that group but will only marry another virgin, is simply unrealistic about 95 percent of the time.

We have long been vaccinating our kids against Hepatitis B, a potentially lethal disease spread by sex and drug use. There is no evidence that this immunity encourages sexual activity or drug use.

By their logic, we should also ban condoms and other forms of birth control, things that certainly *do* relate to sexual activity. I cannot imagine a 15-year-old girl, getting vaccinated for a cancer she never heard of, thinking, "Oh wow! *Now* I can have sex!" Sadly, some groups that oppose life-saving advancements for fear they will encourage young people to become sexually active clearly do not understand how kids think or what leads them to make decisions that are not in their best interest.

Consider this: 80 percent of cervical cancer deaths occur in developing countries, where cultural and religious taboos will make the battle for acceptance of the vaccine harder than in the U.S. Young women become victims of their own cultures. While it's frustrating that time and lives will be wasted before the full benefits of this vaccine will be realized, it is one of a number of vaccines still being

developed that have the potential to be among western medicine's greatest gifts to humanity.

What a pleasant thing to put the discussion of cancer behind us, at least for now. I'll ask you to bring it out of the closet only about once a year to refresh and update your own screening plans.

We've only considered here those cancers that are big-ticket killers, smaller killers but easy to detect, or which seem on the verge of new breakthroughs in screening that could save lives. But we didn't scratch the surface of cancer treatment. That would take a book on each specific type. My goal here has been to encourage you to take a role in finding cancer and other killers sooner rather than later, and to do so safely, rationally, and aggressively as an informed patient.

HIV

Once the kiss of death, now "treatable" in so many ways. And early treatment matters. It provides the best chance of halting the progression from HIV infection to the fatal AIDS syndrome.

My screening recommendations are no different here than those of the United States Preventive Services Task Force (USPSTF). We should look for this infection in those at high risk of having it, and treat aggressively when it's found.

Who's at high risk?

Men who have had sex with men, and all people with a background that includes one or more of the following:

- ▶ **intravenous drug use**
- ▶ **blood transfusion received between 1978 to 1985**
- ▶ **unprotected sex with multiple partners**
- ▶ **sex in exchange for money or drugs**
- ▶ **sex with someone who exchanged sex for money or drugs**
- ▶ **past or present sexual relations with HIV-positive partners or high-risk partners**
- ▶ **a history of other sexually transmitted diseases**
- ▶ **exposure to possible HIV contamination through direct needle stick or other accident in a high-risk setting**

Research also shows that people who request HIV testing, despite reporting none of these risk factors, are at increased risk for

HIV infection, probably because they have risk factors that they do not want to report.

The blood tests used to diagnose HIV infection are highly accurate. Early diagnosis increases the benefits of treatments that prevent opportunistic infections that complicate HIV. Close monitoring identifies the first signs that indicate treatment is needed. In pregnant women, early diagnosis allows treatment for preventing the spread of infection from mother to infant.

Those without any high-risk behaviors or experiences have a remarkably low chance of being infected.

Our last two killers are not related to cancer, heart disease, or infection. One likes women, the other prefers men. Neither comes with the sickening punch of a diagnosis of cancer, but they kill all the same. Both are also easier to treat.

Osteoporosis

Thin bones. Who dies from thin bones? Sadly, millions do. The risk of being dead within one year of a hip fracture is at least 20 percent! And there are over 700,000 hip fractures every year in this country. Do the math. This killer is right up there with the worst cancers.

The problems emerge like this: Fracture leads to falling, occasionally deadly. Repair of the break requires surgery, also dangerous in this older population. Reduced activity during recovery increases the chance for dangerous blood clots in the legs and pelvis that can break free and kill. An immobile patient is more isolated and vulnerable to depression, fear, anxiety, stress about finances, and whatever might be ahead, all guaranteed to shave time off their lifespan.

Osteoporosis is usually a disease of older people, and old people don't recover well from fractures and immobility. Any reader who has cared for an elderly person with a fracture knows what I'm talking about. Of all patients with hip fracture, about 20 percent require long-term nursing care, and 50 percent lose some or all of their ability to live independently.

Compression fractures of the vertebrae, common in osteoporosis, shorten a person's life expectancy not only because it places them into a statistical group where another major break is more likely, but also by causing intractable and immobilizing pain. Again, causing a general decline in health and deforming the chest and spine, which leads to lung and heart problems.

In many cases, a fall is not the cause of a broken hip; osteoporosis is the cause of the fall. The patient may believe she fell off the front step and broke her hip when, in fact, her hip fractured while walking, causing her to fall.

These are some very frail bones. Although we may notice a loved one is shrinking or stooped over, clear signs of osteoporosis, the problem in many people remains invisible. Too often, the first sign of osteoporosis is a fracture that shortens life and robs it of quality in the process.

Bones thin with age, especially in women after menopause. Bones remain very much alive and active throughout our entire lives, constantly remodeling themselves. There's an ongoing balancing act between two types of bone cells—those that reabsorb bone, and those that lay it down. When the balance is upset by conditions that slow the bone-growing cells *or* stimulate the bone reabsorbing cells, the result is osteoporosis.

Our bodies lay down increasing bone only during the first 30 years of life. Failure to do so during this 30-year opportunity can lead to lifelong osteoporosis as well. This is a serious problem in girls and young women who become overly thin and/or exercise excessively.

Our cultural obsessions with thinness and sports are life-threatening by themselves. The female ballet dancer or runner who stops menstruating because of weight loss or extreme exercise is actually destroying her body, and the destruction is permanent.

Estrogen in women and testosterone in men are important for more than sexual development. They ensure our bones keep up with growth. Since all women stop producing all but a tiny amount of estrogen after age 50 or so, it's no wonder sweet old ladies with broken hips are filling emergency rooms everywhere.

Many men also develop osteoporosis, and they do even worse than women at surviving their fractures. They're just as susceptible to the other diseases and medications that thin the bones. And it's now recognized that men gradually lose testosterone with age.

Half of all women and a quarter of all men over 50 will suffer an osteoporosis-related fracture in their lifetime. There are 44 million Americans, including 14 million men, with low bone mass (osteopenia), or the more severe osteoporosis. The difference is a matter of degree.

Overall, low bone density affects one in two adults. Many, if not most, don't know they have a problem, because despite all we know about osteoporosis, it continues to be under-evaluated and under-treated.

This is tragic, considering medical science now has a solid grip on treatment. Many new and established therapies can prevent and even reverse bone loss.

In the past, estrogen replacement has been used in older women as a strategy for slowing bone loss. That has declined in response to concern about estrogen's role as a risk factor for breast cancer and other problems with its use. Chapter 20 will refresh your memory. Fortunately, newer, more effective medications are now available, some of which have the added benefit of decreasing breast cancer risk up to 80 percent. Other agents go beyond just slowing bone loss and actually re-grow bone.

Can we prevent osteoporosis? Sure, to some degree. This is one of those situations where our traditional "use as little as possible," conservative approach to medication may be getting in our way. We react to osteoporosis, or its milder form, osteopenia, only after the damage is done.

Prevention with adequate intake of calcium, 1200 to 1500 mg per day, and Vitamin D along with exercise to keep bone remodeling active, is widely taught.

In my experience, many women walk away with this information thinking calcium supplements and being active are enough. Yet, every new study that's come out shows that supplements and exercise are much more ineffective than originally thought. Calcium and Vitamin D are certainly important raw materials, but just as in building a home, raw materials aren't much use without blueprints, workers, and tools to put them into use. Osteoporosis is seldom a lack of building blocks; it's because the bone-growing machinery isn't adequately engaged.

Real prevention in the future will likely include the elective use of bone-sparing medications after menopause but *before* development of osteoporosis.

The medication raloxifene (Evista), is known to both prevent bone loss *and* breast cancer at the same time. In a perfect world, we would be able to predict which women will lose bone mineral density before it starts.

For now, the trick is to identify the person with the problem. There are plenty of clues that a patient may have thin bones: a history of fracture; loss of body height; diseases such as overactive thyroid or rheumatoid arthritis; lactose intolerance and celiac sprue; alcoholism; low blood levels of Vitamin D; and the use of certain drugs like prednisone, lithium, phenytoin, and some chemotherapy agents, to name just a few.

However, the smart approach, once again, is to know for sure by testing individuals. The risk of a fracture is most closely associated with the bone density itself. The best test for this is the bone DEXA scan (dual energy x-ray absorptiometry.) It's a painless fancy x-ray procedure that accurately measures bone density in several places, usually the hip, the spine and the arm. These results offer a baseline for comparison from one year to the next, which enables us to track bone loss and monitor the success or failure of treatment.

Who should get a DEXA? I recommend the first one for any woman beginning at 50, sooner if she is at higher risk for osteoporosis. Followup testing is spaced out according to the results of prior scans. Bone loss is typically a downward spiral, and intercepting and slowing it early makes a huge difference in the quality and length of one's life.

For men, I recommend it to those who demonstrate hypogonadism, low testosterone production, or who have other risk factors such as cortisone use or thyroid disease. I have recently begun recommending at least a one-time DEXA for all men at age 60 or older, and, as of this writing, Medicare is also considering paying for a one-time test in men. The cost is not high, a few hundred dollars, and the risks of the test are negligible – a tiny bit of radiation.

Despite the very real dangers of osteoporosis, the inherent fear of impending death does not plague the discovery of thin bones the way it does with cancer. This has made the management of bone density “bad news” easier. Doctors and patients don't get crazy with fear or an urge to overreact. When a problem is found, a few simple blood tests are needed to see if some untreated, underlying disease is responsible. If so, it can be addressed separately, and effective treatment to rebuild bone can begin.

Obstructive Sleep Apnea

Breaking News: Sleep is Dangerous!

Is nothing sacred? Obstructive Sleep Apnea (Apnea means “not breathing”) is the mechanical restriction of our airway when throat muscles go slack during deep sleep. The result is often loud snoring with periods of no air movement at all into the lungs. First the uvula and soft palate (the soft part of the roof of the mouth) collapse back against the upper airway followed by a limp tongue, which adds its mass. This forms a one-way blockage that allows air to leave but not enter the lungs.

The effort of trying to inhale only causes the blockage to seal more tightly. The brain will not tolerate this nonsense for more than

about a minute. It freaks out when blood oxygen drops and carbon dioxide increases, stimulating the ever-increasing urgency for air.

In deep sleep, most muscles relax to the point of paralysis, refreshing themselves for the demands of the coming day. But air is more important than high-quality sleep. The brain quickly abandons the deep sleep state and moves to a much lighter zone. This brings all the muscles back on line to cough, choke, snort, turn over, or do whatever is needed to re-open that airway. Thanks brain!

For the most part, a sleeper remembers none of this, even though it may happen several hundred times every night. They wake with the vague impression of having had a busy, busy night. It's no wonder these people can remain tired after ten hours of sleep and will stumble through the day wondering what on earth is wrong with them.

For most people with obstructive sleep apnea, treatment usually translates into a vastly improved *quality* of life, not necessarily a longer one. It is by no means a high-volume killer, but it is a killer. It earned its place on the Stupid Reasons People Die list, because it is so darn easy to identify and treat.

As many as 25 million Americans have this disorder, yet only about 1 million of them know it. About 15 percent of American males and 4 percent of females are affected. It is likely to strike men in middle age, and hits both elderly men and women. It can also affect children.

The danger is in several areas. One common symptom of sleep apnea is chronic exhaustion with a touch of narcolepsy. Falling asleep at the wheel is much more common in this group, obviously a huge danger for the patient and anyone unlucky enough to be on the road with them.

The next danger is more insidious. With each episode of apnea, the resulting low oxygen levels cause a bit of direct injury to the lung. Over many years, this injury can cause significant destruction to the lung's blood vessels. If you recall, *all* of our blood passes this way every minute or so. Fewer healthy blood vessels means a traffic jam, high blood pressure in the lungs, which causes a destructive strain on the right side of the heart as it struggles to pump against it. Ergo, deadly conditions known as pulmonary hypertension and right-sided heart failure. This means slow suffocation, a particularly bad way to die.

Strokes, heart attacks, abnormal heart rhythms, uncontrollable high blood pressure, and worsening diabetes all contribute to a shorter life expectancy. And all of these occur more commonly in patients with sleep apnea. To name a few of the psychosocial consequences

of this condition, there's depression, memory loss, irritability, low sex drive, headaches, and chronic fatigue. Any one of these can make life miserable.

Sometimes, patients are misdiagnosed with ADHD when the real culprit is sleep apnea. It's important to rule out sleep apnea before assigning any psychiatric diagnosis.

Many patients with sleep apnea are overweight, which sets up the mechanical problems that occur during sleep. There are also facial features more commonly found in such patients including thick necks, a narrow upper jaw, a receding chin, overbite, or a larger tongue.

While the "classic" sleep apnea patient might be described as a stocky, no-neck linebacker, it can also occur in 98-pound women with small chins. Men with the disorder are more likely to snore for ten hours every night, while women will often have difficulty getting to sleep each night and suffer mild insomnia.

One reason it's so poorly recognized is the patient sleeps through the whole thing. They may not even recognize how rotten they feel compared to the energy level they once had. If they do, they may blame it on not being as young as "back in the day."

If a sleep apnea patient is lucky, he or she sleeps with someone who knows the difference between a bit of snoring and the fight-for-air variety. Screening starts out very easily, with a short questionnaire like the one below:

Basic Screening for Sleep Apnea:

- ▶ **Do you snore loudly?**
- ▶ **Are you overweight?**
- ▶ **Does your snoring wake you up at night?**
- ▶ **Do you or your partner notice that you make gasping and choking noises during sleep?**
- ▶ **Do you have a dry mouth, sore throat or headache in the morning?**
- ▶ **Do you find it hard to stay awake watching TV, reading a book, or attending a meeting?**
- ▶ **Are you often irritable, fatigued or have trouble concentrating?**
- ▶ **Do you have high blood pressure?**
- ▶ **Do you ever wake up choking, gasping for air, or have a skipping or racing heartbeat?**

If you answered yes to three or more of these questions, you may be suffering from sleep apnea and need further evaluation. If you have any questions about appropriate referrals, check <http://www.sleepapnea.org>.

Referral to a sleep center is required to evaluate patients. Sleep apnea comes in all shapes, sizes, and levels of severity. In some cases, simple tricks to keep the sleeper off their back, or modest weight loss can make a huge difference. For others, a way to keep the airway open at night must be found.

Continuous positive airway pressure (CPAP) machines and related devices are becoming commonplace as the preferred, non-surgical way to keep the air flowing all night long.

They include a facial mask worn in bed, which is connected to an air source that applies enough pressure to maintain an open airway. One complaint has been that the machines are cumbersome and too much like a hospital respirator. Okay, they aren't exactly sexy, but neither is snoring like a jackhammer. Even less sexy is dying from heart-lung failure. And the improvement in the patient's life can be well worth dealing with the device.

Finally, there are surgical options. I only consider these when the problem is clearly dangerous, and nothing else has worked. If the patient is obese, surgery can be performed to lower weight, such as with a gastric bypass or a gastric banding procedure. However, sleep apnea surgery is usually directed at the neck, jaw, and oral cavity, never a pleasant prospect. Fortunately, the need for surgery is very rare, because most cases can be easily treated.