medical news from the office of Dr. Dan Frank

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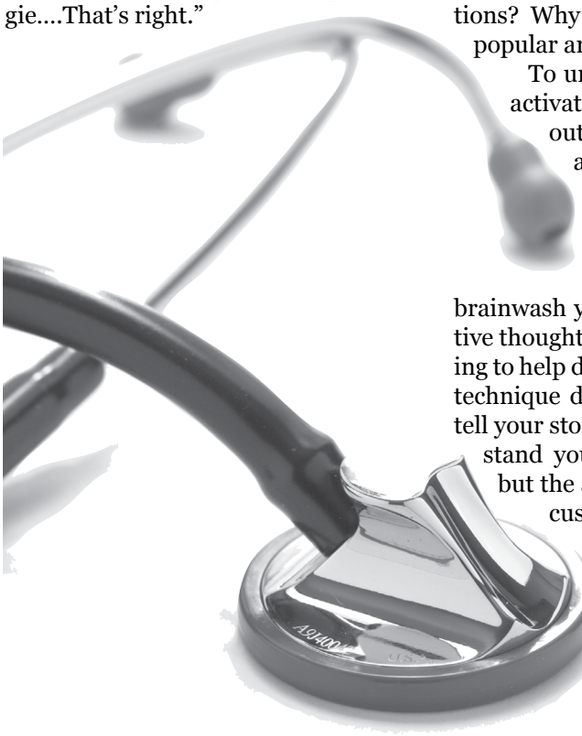
GET UP AND BOOGIE

Behavioral Activation: A simple but powerful way to treat depression

Here's a parlor game for psychologists and the rest of us. Try to pick a popular song that captures the essence of a given type of therapy. Freudian psychotherapy focuses on the effect of your parents on mental health, just like when Loggins and Messina sing, "Your momma don't dance and your daddy don't rock and roll." General supportive therapy creates a safe environment where you can talk about your feelings, even if this approach does not lead to concrete action or immediate change, just like Karen Carpenter in "Rainy Days and Mondays." Drug and alcohol counseling uses a technique where the patient, not the therapist, elaborates the reasons why he or she wants to quit using substances, just like Ringo Starr announcing, "No, no, no no, I don't smoke it no more."

For behavioral activation, the song which best describes this form of psychotherapy is "Get Up and Boogie" from 1975 by the Silver Convention. If you don't know it, I'll save you the time of Googling the lyrics. The whole song is just, well, "Get up and boogie.....Get up and boogie....Get up and boogie....boogie....That's right."



In 11 years of primary care, I've seen a lot of depressed people, and I have found behavioral activation to be the single most powerful tool available to help depression quickly. A few randomized trials have compared this treatment, behavioral activation, to medications and other types of psychotherapy. It always comes out as equal to or better than other approaches.

What is behavioral activation? Why is it so effective? What are its limitations? Why is this method not more popular among therapists?

To understand what behavioral activation is, we first need to find out what it is not. Behavioral activation is not about your early childhood experiences, listening to you talk extensively about your feelings, or trying to unbrainwash you out of irrational, negative thoughts. Of course, clinicians trying to help depressed patients with this technique definitely want to hear you tell your story and they want to understand your history in some detail, but the actual therapy does not focus on these things. It focuses on behavior. Neurobiologists believe depression is caused by abnormal brain chemistry, Freudians think it is caused by early childhood experiences, and cognitive therapists think it is caused by what you are *thinking*, but clinicians

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GENOMIC MEDICINE:

HEALTH CARE IN THE 22ND CENTURY

Every living organism is built from a design which is coded in genes. All cells in the human body, except red blood cells, contain a nucleus which holds the genetic information necessary to make a completely new human being. In *Sleeper,* Woody Allen and Diane Keaton are supposed to clone a dead person from his nose, but the fact is that once the details of human cloning get worked out, only a single cell is going to be necessary to clone a person.

You might consider it pretty dang wasteful that every cell carries the entire genome—all the DNA needed to make a new person. If you're a white blood cell and your job is to fight infections, why would you carry around the DNA to make ear hairs or produce testosterone? No one knows.

It is helpful to remember that in genetics, things often come in pairs. The DNA in our bodies sits on 46 total chromosomes which are grouped into 23 distinct pairs, numbered 1–23. Your mom supplies one half set of chromosomes and your dad supplies the other. These are those fuzzy black images that look like X's and Y's from our high school biology textbooks.

On each chromosome are what we call genes. What is a gene? Well, it is a sequence of DNA that tells the body how to make a particular protein. For example, the insulin gene is located on chromosome 11. Proteins are everything to an organism. Eyes, brain, bones, muscle, antibodies, cells, earwax, everything in the body—directly or indirectly—comes from proteins. Bones have calcium, sure, but they have a protein frame which allows the calcium to deposit there. Cell membranes are made of fat, but this fat is manufactured and put in place by proteins. You eat a cheeseburger to get energy, but the chemical reactions which turn a cheeseburger into energy are orchestrated by proteins.

DNA mostly consists of a long string of only four different molecules: Adenine, Guanine, Cytosine, and Thymine. They are abbreviated A, G, C, and T. Proteins, such as the protein which makes tendons or nerves, are not made of these molecules. Instead,

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GET UP AND BOOGIE

Behavioral Activation: A simple but powerful way to treat depression

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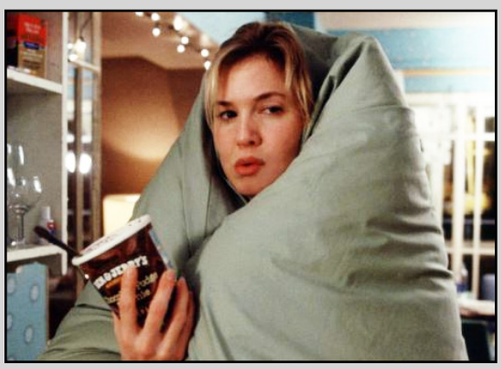
using behavioral activation say depression is caused by what you are *doing*.

Behavioral activation believes that depression is caused by sitting on the couch, watching reruns of *Oprah*, and eating Ben & Jerry's. It is caused by lying in bed all morning and not getting up to do something. It is caused by avoiding a problem instead of solving it. In short, behavioral activation is the most simple-minded, brain-dead, one-dimensional, un-intellectual approach to helping a depressed person out there, except perhaps for Bobby McFerrin's 1988 song, "Don't Worry, Be Happy," and dagnabbit, it is beguilingly effective. Can you imagine some clinical psychologist looking at this approach and saying, "I slugged it out at Yale getting my PhD for this?"



Contrary to manufacturer's claims, Ben & Jerry's "Chocolate Therapy" does not treat or cure depression.

In *Anna Karenina*, Tolstoy tells us, "All happy families are alike, but an unhappy family is unhappy after its own fashion." Behavioral activation sees it as just the opposite. All unhappy people are unhappy for the same reason—they are behaviorally deactivated. Happy people are all different.

Treating depressed patients with this methodology is not as simple as I'm making it out to be. The challenge is not in mastering a large, complex, theoretical framework. We know the patient just needs to get up and boogie, but how do you get someone who feels like s*%t to do that? Changing their behavior is the difficult part.

When helping depressed patients with this technique, I begin by presenting the model of behavioral activation. I was fortunate to be able to attend a seminar by Chris Martell, PhD, who is one of the founders of this methodology and has written a couple of books on it. Dr. Martell attended the "Eschew Obfuscation" institute for his English degree, so his books are not that helpful, but in person and watching the training videos, the method does come to life. Behavioral activation is a whiteboard-and-marker approach. Tweed jackets and pipes are not part of the treatment.

Elegantly stated, the central tenant of this approach is that people feel like crap because their lives suck. It makes sense that someone whose life *is* bad *feels* bad. Depression often starts with a life event. That event could be anything—the loss of a job, bad weather in Seattle, whatever. But the net result is that the patient now has a less *rewarding* life. Imagine you work for $50,000 annually for the phone company. Suddenly, no one wants regular phone lines any more and your boss cuts your pay to $30,000. Your life is less rewarding. For the amount of effort put in, you are getting fewer rewards. The correct strategy in this situation might be to look for a new job or get some extra training and improve your skills. But someone who is prone to depression does not see this pay cut as a call to action; he sees it as a psychic injury and he responds by withdrawing. That withdrawal makes him less likely to be engaged in work, less likely to look for a new job, less likely to want to pursue additional training. The result is an even less rewarding life, and this creates a positive feedback loop. According to behavioral activation, most depressed people are spinning in this loop of unhappiness and that is why they are depressed. Depressed people are withdrawn, deactivated, not doing things for fun, not taking on interesting challenges, and it is this behavioral state which causes persistent depression.

Sometimes, patients are highly activated, but in ways that don't provide adequate rewards. Imagine someone who works for a graphic design firm. He has been there for 20 years and is tired of having a boss. He wants to run his own company, not work for someone else. That individual might be very busy, but not in a way that is bringing rewards. Or consider a stay-at-home mom who is bored and restless and wants to work. She is likely busy all day long, but again, not activated in a way that is bringing her rewards. Getting patients activated in ways they find rewarding is the goal of this form of treatment.

Behavioral activation has several tools that can be used to help patients. One is to have folks carry around a calendar for the week and write down everything they are doing and what their mood is at that time. One of my patients discovered that she was watching TV five hours per day and her mood was always down during and after TV, but it was much higher when she worked on job applications or went downtown shopping and met up with friends. Another patient discovered that going shopping with his wife made his mood poor, but working on a business deal (he was retired) made him happy.

Another method is to use the calendar to schedule activities and provide structure in the patient's life. We know that one of the reasons why severely depressed people improve during a mental health hospitalization is that the environment is highly structured, and there are specific activities and treatments that require participation throughout the day.

A skilled clinician doing behavioral activation is always mindful that patients put up roadblocks. There is often "some reason" why the patient can't do a particular activity. Sometimes, it is helpful to break up a task into simple steps and get the patient to start on the first one. This approach was parodied in the very entertaining movie, *What about Bob?* with Bill Murray and Richard Dreyfuss. Often, getting a patient to take that first small step is enough to start the activating process. In one video of this technique, Dr. Martell is seen using his PhD in clinical psychology to help a patient fill out the first page of a health insurance form. They filled out the first page in the office so that the patient would complete the rest at home.

Proponents of behavioral activation will point out that this technique is at its best with very depressed patients, folks who are just sitting at home all day on the sofa doing nothing. Getting these people do to something that is fun and rewarding or productive and satisfying can help improve mood almost instantaneously. However, I have found the technique equally helpful with patients who are less depressed but leading unhappy lives.

Umm...yeah. Peter is activated, but filing TPS reports is not particularly rewarding...mmkay.

There are many fine points that go into being effective with this technique and I'm just giving a broad overview here, but behavioral activation is a great approach for primary care physicians.

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GENOMIC MEDICINE:
HEALTH CARE IN THE 22ND CENTURY

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these molecules are *instructions* that tell the body how to make a protein. They are best thought of as letters in a written recipe. You don't eat the word C-H-O-C-O-L-A-T-E in a recipe which calls for chocolate; you don't eat the ink and paper it is printed on. Instead, those letters tell you what ingredient to grab from the pantry. In the case of DNA, it is exactly the same. A sequence of those four letters tells the body what ingredient to put in each protein.

The ingredients that make proteins are called *amino acids*. There are 20 amino acids in the human body, and from these you can assemble any protein you want. Imagine a house: it is made of lumber, drywall, carpet, roofing materials, etc. Amino acids are like the materials which make a house. DNA is the *blueprint* that indicates what materials, and in what order, should be strung together for construction. Since there are 20 different amino acids, but only four letters in DNA (A,G,C, and T), the letters are read in groups of three to determine which amino acid to choose when building a protein. In English, the letter "B" means nothing, but B-O-Y means something. In living organisms, the sequence GAG indicates that the amino acid glutamic acid should be added to the developing protein. If we know the sequence of letter codes in a gene, we can then easily figure out what is the sequence of amino acids for any protein.

As noted, DNA is located in the nucleus of cells. But what do you call the rest of the cell outside the nucleus? You call it the *cytoplasm* and that is where proteins are manufactured. In order to get genes into the cytoplasm so that a protein can be manufactured, a special kind of molecule called messenger RNA, which is very similar to DNA, is created and serves as a copy of the gene that floats into the cytoplasm. It is similar to Xeroxing a recipe from a cookbook and working off the copied page so as to not spill butter and milk on the original cookbook.

Imagine you took a human cell and sequenced the entire genetic code. You would have about three billion letters, or *base pairs*, as they are called. Why the stupid term *base pairs* when *letters* is much easier to understand? Well, the reason for that term has to do with how DNA is copied. Every strand of DNA is bound to a complimentary twin strand, like a nut and a bolt, Watson and Crick, or better yet, two pieces of Velcro. Each strand of DNA sits in the nucleus stuck to a partner strand. When the two stands are stuck together, A (Adenine) always is bound to T (Thymine) and C (Cytosine) is always bound to G (Guanine). This creates the so-called "double helix." The double helix of DNA is just like a spiral staircase where half of each step is one letter, and the other half of the step is its companion. Another visual is to imagine a long strip of Velcro with the two sides stuck together. Just twist the ends a few times and that is what DNA looks like. The advantage of this arrangement is that if you split the staircase down the middle, it is easy to rebuild it into two identical staircases. Here's an example with English. Suppose you wrote a book and on every line of text, you put the opposite word on the next line. So if the intended line from the book reads, "Children love smiles," the next line would read, "Adults hate frowns." Splitting the two in half would allow you to make two whole copies of the originals. Give me "frowns" and I can figure out that it should be paired with "smiles." Clever, no? This is also how messenger RNA is made. The double helix is unwound and split, and messenger RNA binds to the nonsensical, or "Adults hate frowns" side of DNA, which is called the 3' (three prime) strand among the cognoscenti. The result is a copy of the original strand of DNA which can float into the cytoplasm and be used as a template to manufacture a protein.

What I've presented here is just a tiny speck of the DNA story, but it is enough to consider what it means to obtain the DNA sequence of every gene in the body.

There are not that many genes in a person, only 32,000. But imagine that you could take a person and get his or her entire genetic code, that is, list the exact sequence of all the "letters" which make up a particular human being. It would be about three billion letters long, or as long as one thousand copies of *War and Peace*. However, a typical protein in our body is only 360 amino acids, so there seems to be 10 to 20 times as much DNA in our cells as we need to make all of our proteins.

"Woah," as Neo might say. What's going on here? Well, the fact is much of DNA is just long strings of a single letter like "TTTTTTT" or a repeat like "CGCGCG," and these segments don't seem to do anything. We call these sequences *introns* because they just sit *in* there and take up space. The regions of DNA which actually tell the body how to make a protein are called *exons*. No one knows why the vast majority of your DNA is junk and does nothing. Maybe it has an important function. One principle of the human body is that in general, nothing is wasted. That principle is not apparently in evidence here.

But this fact is going to save us money and move medicine forward. Because most of the three billion letters in our genome do nothing and can be ignored, if we want to sequence the entire DNA of a person, we can skip 90% of it and just sequence the exons, just the parts of DNA that actually make proteins. This advance is called *whole exome sequencing*.

For a few thousand dollars, you can have all your exons sequenced. I'm sure the price is going to come down in the next few years. One day in the not too distant future, doctors will have your entire exome on a computer and be able to make clinical decisions based on your genes. A recent article in the *New England Journal of Medicine* from a research group at Baylor University in Texas rounded up 250 people and performed this process—whole exome sequencing. That is, they took the DNA, but instead of sequencing everything, they ignored the junk which is 90% of DNA and just sequenced the active genes. It was about $7,000 per person. Most of these patients were children with neurological problems, mental retardation, or other birth defects. In 25% of the cases, they made the diagnosis by sequencing the genome. Many of these diagnoses were for extremely

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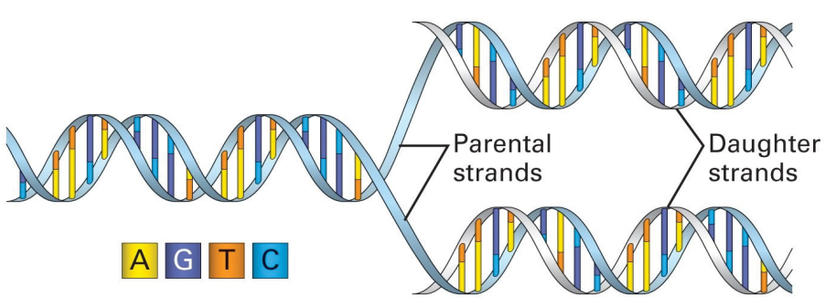

The double-stranded DNA "staircase" always matches Adenine to Thymine and Guanine to Cytosine. When it unwinds, two new staircases are made from each single strand. This is how identical copies of DNA are created.

GENOMIC MEDICINE:
HEALTH CARE IN THE 22ND CENTURY

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rare genetic diseases that most of us, including physicians, have never heard of, such as Floating-Harbor syndrome, which causes facial abnormalities and language delay and has only 50 cases reported in the world's literature, or KBG syndrome, which causes mental retardation, bone and structural changes, and also causes patients to become international spies.

Genomic medicine means sequencing the DNA of a patient and using this information to guide clinical decision making. Imagine a patient who comes to see me for migraines. Often, it takes trial and error to determine which of the dozen drugs we can use will be best for a particular person. Given a close family member with a similar diagnosis and a good response to a particular medication, it makes sense to try that same medication first on the patient. Some patients don't respond to typical headache medications such as Imitrex and end up doing extremely well on drugs used to treat seizures or high blood pressure. It seems very likely that if I had all of my patient's genome sequenced and I could compare it to a database of a million patients who had been treated with medications for migraines, I could figure out which drug is the best choice without as much trial and error.

Contrast this approach to what we do now with most genetic testing. In the current situation, a patient comes in with a specific diagnostic picture. For example, maybe the patient has Crohn's disease but the pathologist is not sure based on the biopsy, or maybe there is a disorder of iron metabolism where we want to understand the long-term risks. Here, we are testing the blood for the presence of a single abnormal gene based on clinical suspicion. This is a much more straightforward approach than testing for and identifying 32,000 genes which may or may not have anything to do with the price of tea in China.

And this brings us to the first big limitation in genomic medicine, the signal-to-noise ratio. We know that genetic defects can lead to catastrophic outcomes for patients, but the vast majority of genetic "defects" are harmless. The most common type of genetic change or defect is the *single nucleotide polymorphism*, or SNP (pronounced "snip"). This is when exactly one letter, A, C, T, or G, is substituted for another. If you switch an Adenine to a Thymine on chromosome 11 where hemoglobin is coded, then the resulting amino acid is going to come out as valine instead of glutamic acid. It is like a typo. If the recipe calls for salt but it mutates to malt, well that is going to change things. The result in this case is a hemoglobin molecule of a different shape. If both your mom and dad have this same genetic defect, you will be born with sickle cell anemia.

The average person probably has 1,200 such single letter changes which cause proteins to be slightly different. Craig Venter, PhD, the biologist who first sequenced the entire human genome, found 1,200 mutations when he sequenced his own genes. Many of these changes are irrelevant to the functioning of a protein, but under the right circumstances, a few could be highly significant, yet we have no way to know.

The next big limitation in genomic medicine is that genes are only part of the story. A variety of diseases require not only a genetic predisposition, but also an environmental trigger. For example, in type I (juvenile onset) diabetes, if one sibling in a pair of identical twins is diabetic, the other will eventually develop type I diabetes about 80% of the time if you follow the twins for many decades, but not 100%. In schizophrenia, the rate is around 50%. So knowing someone's exact genome is not enough to predict what diseases they will get. With conditions like asthma and heart attacks, the influence of environment is likely much greater.

Finally, only a small minority of the common diseases which affect our population are caused by single genetic defects. High cholesterol, depression, breast cancer, and migraines are likely influenced by many different genes. Given 32,000 different genes and 1,200 "defects" in a normal healthy person, the task of associating a genetic defect with a particular disease is tough. Considering that most diseases are caused by the interaction of dozens of different genes with the environment, we can see that even having a patient's entire genome sequenced and compared to a database of thousands of other people is going to make it very difficult to extract useful information.

THE VAST MAJORITY OF GENETIC DEFECTS ARE HARMLESS.

A perfect example of this problem comes from the company 23andMe which will do a lot of genetic testing on your saliva for $99. Several patients have had this analysis performed and sent me the results. Amazingly, some of my caucasian patients whose parents came from Europe found out through sophisticated genetic testing that they are indeed white people. But most of the reporting came in as an increased or decreased risk of certain diseases. For example, 1.6% of the population overall develops Parkinson's disease, but with a single letter change in the PARK8 gene, the risk rises to 2.2%. Well, if you're selling genetic testing, you can say someone's risk went up by 38%, but the reality for most of us is that the difference between a 1.6% and a 2.2% risk of Parkinson's is not meaningful. In addition, many patients have quite mild Parkinson's and only a few have very severe disease. This problem underscores how little we know about the ways that genetic changes cause most of the common diseases that people suffer from.

Genomic medicine has great promise, but the devil is in those billions of little details. I predict that success is going to come slowly and incrementally. At this point, it is a great research tool that is not quite ready for prime time in clinical medicine, but its day will come eventually.

GET UP AND BOOGIE
Behavioral Activation

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Primary care doctors are the main providers of mental health care in the United States, and unfortunately because of how medical care is paid for by insurance companies and the government, almost no primary care doctor is allowed the time to provide this very effective methodology to patients. As a result, most primary care mental health focuses on prescribing medications to the exclusion of psychotherapy, even when good approaches like this one are available.

Why is behavioral activation less popular among practicing therapists when it is such a powerful technique? I think part of the reason is that therapists like deep explanations for patients' problems, not superficial ones. Many therapists are willing to incorporate some activating strategies into treatment, but are uncomfortable just focusing on what patients are doing without investigating and treating the supposed root causes of the problem. Whether a deeper examination is truly necessary is a very open question and from the available research, we can conclude that it is not necessary in many cases.

I feel that behavioral activation, all by itself, is a powerful tool and a great approach for psychologists, psychiatrists, social workers, school counselors, primary care physicians, life coaches, and others who encounter and treat depressed individuals. Sometimes we can get so bogged down in the details of early childhood experiences, irrational thoughts, interpersonal relationships, and brain biochemistry that we neglect the most obvious way to help depressed patients—having them get up and boogie. That's right.

THE MAKING OF A PHYSICIAN:

Our Magnet, on the Wings of an Angel

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Washington has a Death With Dignity Act, where you can end things with medication prescribed by a doctor, but for most of my patients, I oppose it. This is actively killing somebody, and there are many forms, rules, checkboxes, and reports. It is just not how physicians like me wish to comfort the sick and dying.

So, what are our options? What can patients do to protect themselves against suffering at the end of life? What can any of us do to not end up like Terri Schiavo in a persistent vegetative state kept alive artificially with extensive brain damage and no hope of recovery? And what about those of us who, for religious or moral reasons, wish to receive ongoing care and be kept alive under these circumstances? Well, it starts with your own wacky family members. If you don't want this sort of treatment, I can assure you that no medical professional I have ever encountered in my career wants to provide it to you. If you do want it, you need to insure that your family will carry out your wishes. The problem in the Schiavo case was that some family members wanted her kept alive in a persistent vegetative state or doubted that she was in a vegetative state, and her husband wanted her to be allowed to die.

So the first step is to make your wishes known to those closest to you. Now in my family of quasi-atheistic 100th generation Jews, we pull the plug. This is just what modern reform Jews generally do. In your family, things may be different, but if you get your family to understand your wishes, one way or the other, your desires are more likely to be respected.

The next thing you can do is to appoint a Durable Power of Attorney (DPOA) for health care. What is a DPOA? Remember that the word *attorney* just means a person who represents you. An *attorney-at-law* is some dude who passed the bar and charges $400 per hour. An *attorney-in-fact* is a family member you have designated to make decisions for you, often a spouse or child, but sometimes a trusted family friend. The word *durable* means that even if you are incapacitated, your earlier request to have someone else represent you should not be revoked. A DPOA can be set up for general business or financial matters, or for a specific reason, such as a DPOA for health care. In health care, the DPOA is what lawyers call a *springing power* because this agreement lies dormant and your DPOA has no authority unless and until you are incapacitated and can't make your own healthcare decisions. Then, the DPOA can authorize or refuse treatment for you. He or she can fire your doctors and get new ones. A DPOA for health care (and otherwise) can be valuable in family situations when there has been a divorce and remarriage. Treating physicians cannot be a DPOA for health care.

The next document that is helpful is an Advance Directive to Physicians. In this document, you make it clear that you do not want to be kept alive if in a coma or if critically ill with virtually no hope of recovery, or you make it clear that you do. In theory, if you have a DPOA, you don't need this document, but if family ever challenged the actions of the DPOA, this would back up the decisions being made. In Washington state, there is a separate document which authorizes the DPOA to consent to you receiving electroshock therapy or a mental health hospitalization if you are incapacitated. I would definitely sign this one. All these forms can be downloaded from the Washington State Medical Association website, www.wsma.org.

Patients often ask me about a DNR (Do Not Resuscitate) order. In general, healthy, active patients living independently should NOT sign such an order. This document is appropriate for very old folks and those with obviously terminal illnesses. In Washington state, the Do Not Resuscitate order appears on a big green form, called a POLST (Physician Orders for Life Sustaining Treatment). Although there are a number of Yes/No boxes on the form to help you articulate your wishes, these forms are almost always completed in order to refuse care in the event of a terminal event. The reason why healthy, active patients in their 60s, 70s, and even 80s should not sign this form is that you will receive less than the full effort of doctors and nurses when you are a "DNR." The amount of time and intellectual energy that any physician or nurse has to devote to patients is limited. In our current environment, that limited energy is spread too thin. My patients understand this issue, which is why they join a practice like mine. A lot of my behind-the-scenes work on your behalf is to get the most we possibly can from other medical professionals. When doctors and nurses know you are DNR, they feel they don't have to devote as much effort to your care. If you are dying of cancer, this "slow walk" is a good thing. You want little from the medical profession other than to be kept comfortable. The same is true if you are 95 years old and in a nursing home. But for the rest of us, you don't want to send a message of giving up. A much wiser choice is to have a DPOA and an advanced directive. Be a "Full Code" patient and let us withdraw support if after aggressive treatment, there is no hope for recovery.

Recently, my uncle died after a long illness. In the last days of his life, he ended up getting CPR and being put on a ventilator. Soon after, my parents called me and were ready to sign DNR orders for themselves. I recommended against it. As I explained to them, no patient in my 11 years in this practice has had a long, suffering death unless the patient wanted to keep on fighting, which many do, but we don't send that DNR message to our caregivers until the appropriate time.

My patients need to understand that...

at the end of life I am not your enemy, I am your advocate.

If you are hospitalized, the hospital doctor is required to determine your "code status," that is, he or she must ask if you want to be given CPR and put on a breathing machine if necessary. The correct answer for virtually all of my patients is, "I wish to be a full code. Do everything." Sometimes the hospitalist will say, "Do you want me to push on your chest and break your ribs and put you in the ICU and force a breathing tube down your throat?" This discussion takes place under these terms with an older person because that hospital doctor is tired. He is overworked and looking for a way to ease his burden by making you a DNR. Only my patients who are truly ready to die based on very advanced age or incurable illnesses should allow themselves to be a DNR. In most cases, the far better choice is to treat aggressively and withdraw support later if patients are not turning around. We should err on the side of life, but not be enslaved by that decision. We should move boldly and aggressively in acute medical situations, but reassess the validity of what we are doing on a daily basis.

Mannix, our magnet, was a good dog who gave and received much love in his lifetime. Our final act of gratitude was to help him on his way when his time had come. My father, a powerful man of the World War II generation, ten feet tall in my estimation, wept when Steve and I came home that day, as did we all.

The Making of a Physician:

Our Magnet, on the Wings of an Angel

Growing up, my brothers and I had a copy of the 1968 *World Book Encyclopedia* with one section poured over so intensely that the pages were wrinkled and worn like an old man. We spent hours after school reading one particular article, studying every word and looking at every picture. The section that captivated us so completely was, of course, on dogs.

Lined up on six different pages like mug shots—or maybe like yearbook photos—were the objects of our desire, smiling, playing, and waiting to join a home just like ours. After a short three or four years of constant nagging, we finally convinced our parents to get us a dog. When he arrived, a whimpering and uncertain little black and white puppy, he joined a family that gave him such love and attention that he must have wondered what great accomplishments in his 12 short weeks of life had led to all this adulation.

We named him Mannix, which for those of you not of that era, would be equivalent to naming him Rockford, Magnum PI, or Columbo. Mannix was a member of our family and loved us from elementary school until we were off to college. Once, a little boy came to play with him but could not pronounce his name. He called him "Magnet" instead. It was fitting because Mannix was like a magnet that drew us together.

Late in life, Mannix developed a form of dementia somewhat like Alzheimer's disease. He suffered from arthritis as well. Where he used to interact with us and take joy in playing with his brothers, he now was more of an automaton, just going outside and back in, all day long. Finally, around his 14th year, he became incontinent of urine and at that point my father made the painful decision that we had to put Mannix to sleep.

I was in my first year of medical school and my brother Steve was at Berkeley, but we were both home for winter break and agreed to take Mannix to the vet to be put down. Part of me felt guilty that we had kept him alive this long. For several years, dementia had made his life quite empty and hip arthritis rendered him constantly in pain. But I also wondered, were we now rushing his death just because he was urinating in the house? On the other hand, maybe the urination was a stern admonition from our beloved magnet that we were inhumane and had let things go on way too long.

Our veterinarian, Dr. Miller, was a good man, but way too rushed for this final moment. He looked over Mannix's chart and then told us, "You know, it is good that we can do this with pets." Then his assistant shaved the hair from one of Mannix's paws and put in a small IV. Steve and I held him close. Something gruesome was injected and within seconds, Mannix collapsed and died. We clutched at him and could not let go in the unreality of the moment.

"He's gone," Dr. Miller said, perhaps trying to move us along so he could tend to the next patient. Steve slipped Mannix's collar off his neck and we brought it home. As we walked in, the house seemed eerily empty. You could smell the urine and I thought to myself, well, it will be nice for Mom and Dad to get some new carpets and make the place a lot cleaner. But I was also crushed and grieving for my dog. Such are the opposite emotions when someone we love grows old and sick, and withers too long. Death is both a relief and a tragedy all at once.

Four years later, I was an intern at the University of Washington. An elderly patient with end-stage emphysema had been admitted late the night before and placed on a ventilator. His physician told me, "He would never have wanted to be put on that vent. He was really at the end stage of his disease and suffering quite a lot."

"Are you saying that I should take him off the ventilator?" I asked, knowing that it would kill him.

His doctor did not feel he could order me to do so. Instead, he said, "He would be grateful to you if you did."

I went to his bedside. This man looked awful. He was down to maybe 90 pounds, just skin, bones, and bruises. His eyes held a permanent wide-open suffering. I told the nurse that this patient never wanted to be on a ventilator, then I ordered up a large dose of morphine and disconnected him from his life support. The patient died minutes later.

Is this euthanasia? In medicine, we feel we are staying on the right side of that slippery slope because we give morphine, not to kill a patient, but to ease pain. Respiratory depression and death may be a consequence of our actions, but it is not the goal of our actions. Our goal is to relieve suffering. You might say this is nonsense, that when I disconnect a terminally ill patient from the ventilator and give him morphine, that is euthanasia. On the other hand, patients—and by extension their loved ones—have the right to refuse treatment. They have the right to tell me to stop treating a family member. And I have a moral obligation as a physician to relieve suffering.

Many of my older patients have said they do not want to end up like this. They do not want to die in an ICU with lines and tubes coming from every orifice. They are old and they accept the fact that no one lives forever.

My brother Steve and I would again be united in one of these sad moments when his elderly neighbor Clara was discharged from Cedars Sinai in Los Angeles and sent home to die. In failing health, she was well into her 90s and had suffered a hip fracture, but Clara did not want it fixed. She wanted to die.

Steve had made her his adopted grandmother, looked after her for many years, and seen her through several hospitalizations. This would be Clara's last. The hospice program sent over some oral morphine for comfort. Steve stayed right by Clara's side, and with some guidance from me, gave her enough medication so that she was completely out of pain from her broken hip. Clara died that night.

My patients need to understand that at the end of life, I am not your enemy. I am your advocate. Doctors, even the Catholics who now run Swedish through their merger with Providence, are not your enemy. No, the only people you really have to worry about are your own family members.

Most of the time, these end-of-life issues are handled very privately. There are no courts, no committees, no lawyers. It is only in the case of violent disagreement among family members that terminally ill and comatose patients end up in a situation many of us would find objectionable.

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