

What Can I Do About My Rheumatoid Arthritis?

Webcast

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Beth Anne Demeter: My Life with Rheumatoid Arthritis

Andrew Schorr:

Rheumatoid arthritis, or RA, a chronic autoimmune disease that leads to inflammation of the joints, can affect nearly every part of the body even including the lungs and the heart. Coming up, an expert from Northwestern Memorial Hospital in Chicago explains the latest treatment approaches and more about RA and exciting research and development, and you'll also hear from an inspiring patient. It's all next on Patient Power.

Hello and welcome to Patient Power sponsored by Northwestern Memorial Hospital. I'm Andrew Schorr.

Well, you may have heard that there are types of conditions called autoimmune conditions, when your immune system is doing what it shouldn't, and it could be that it is inflaming your joints. And one of the types of arthritis that can be very serious is rheumatoid arthritis, and there are literally millions of people in the US who are affected by it. Sometimes diagnosis is tough. Sometimes people he even get the wrong diagnosis for a while. Well, that's the bad news. The good news is that now there're increasingly a broad range of treatment and encouraging research. We're going to talk about all that during our Patient Power program.

First, I'd like to introduce you to someone who has been living with RA for many years. She's 34 now, but it began when she lived outside Cleveland in Bath, Ohio, age 13, and that's Beth Anne Demeter. And Beth Ann, tell us what were you noticing about yourself? What were the symptoms when you were 13 years old?

Beth Anne:

Hello. Yeah, when I was 13, I guess I was really confused. I was young, you know, now I at least consider myself a kid at that age. I'm sure I felt very grownup at the time, but I was starting to grow up. My body was starting to change, and I was a girl becoming a woman, and I didn't know what was happening. All I knew was that in some aspects of my life I was very limited. I couldn't straighten my knees. I had a lot of pain. I couldn't flatten my hands on a table. I couldn't make a fist, and at some point I couldn't even put my hand in my pocket. So I was very confused. I didn't know what was going on.

Andrew Schorr:

And we should mention your father is a doctor, is a pulmonologist, not necessarily an expert in autoimmune conditions, but obviously he was concerned, but it wasn't obvious what you were dealing with.

Beth Anne:

Correct. Yes. He was knowledgeable enough to know that something was amiss.

Andrew Schorr:

Now, other kids would look at your hands, and I know they made a comment about your fingers. What was that?

Beth Anne:

Yep. Not only other kids, but [also] adults would comment that I had sausage fingers because my fingers were very swollen and stiff all the time. I have very small hands, so I'm sure the swelling made them look even, you know, ookier [sic]. But it was a little bit painful. It was difficult, and I didn't really know how to respond to that, if it was just polite teasing or bullying. I felt bad and awkward.

Andrew Schorr:

But eventually [you received] a diagnosis came of what we've been calling juvenile rheumatoid arthritis.

Beth Anne:

Yes.

Andrew Schorr:

And you started on the treatments that were available back then, so methotrexate and also gold therapy.

Beth Anne:

True. Yes.

Andrew Schorr:

And so that was your relationship with a rheumatologist there in Cleveland when you lived there. And it did okay, right? It was okay?

Beth Anne:

It did, yeah, it did fine. I didn't really know how to compare, so I couldn't tell the difference really well. I know my white cell counts were off the charts, or in the bad range I should say. I'll defer to Dr. Brown for the scientific analysis.

Andrew Schorr:

Right. We're going to meet your doctor, Dr. Brown, in just a minute. Just to continue the journey for a minute, though, you then went to college.

Beth Anne:

Yep.

Andrew Schorr:

And you'd have flare-ups, right?

Beth Anne:

Yes.

Andrew Schorr:

But much of the time you were okay, so it would sort of come and go.

Beth Anne:

Yeah, much of the time it was fine. I would know throughout my teenage years and throughout college the different medications I was on would work, some would work, some would not work. So I would notice, could I put my hand in my pocket, could I flatten my hand on a table, can I do the things I normally do, open the refrigerator, cook dinner, etc.? And if I couldn't, that's when I was having a flare-up.

Andrew Schorr:

And you finished college and that came at about the time that they had clinical trials going on for one group of medicines we'll talk about, the so-called biologics. You were in a clinical trial for a medicine that has continued to work for you, right? Giving yourself a shot once a week.

Beth Anne:

Yep, which I don't enjoy.

Andrew Schorr:

Right.

Beth Anne:

But I put up with it, and it has worked very, very well. I really haven't had any significant flare-ups--and significant I'm talking about not being able to put my hand in my pocket--in many years.

Andrew Schorr:

And you were fortunate that your joints didn't get to the point, the inflammation, that it was destroying the joints, that you ended up with crooked wrists and needing surgery, didn't get to that point.

Beth Anne:

Nope. No, I'm not at that point.

Andrew Schorr:

And let's talk about how you active you are. I know you have a busy job as-- helping with strategy at a computer hardware company outside Chicago, but tell me he about the sports and physical activity you do.

Beth Anne:

Oh, yes, I'm sort of hyper; have to move all the time, compulsive sport addict. So I do a lot of different things. I swim. I do cardio kickboxing at the gym. I like to snowboard in the winter and run and rollerblade in the summer. I do some martial

arts even, which I think Dr. Brown would probably object to, but I do Tae Kwon Do and Jujitsu. So I kind of do a lot of stuff.

Andrew Schorr:

You're an active single woman.

Beth Anne:

I am, yes.

Andrew Schorr:

Now, would you say that you live with RA but you live a full life?

Beth Anne:

Correct. Very correct, yeah. Very accurate.

Andrew Schorr:

All right. Well, let's meet this physician you've mentioned. That's Dr. Calvin Brown. Dr. Brown is a rheumatologist in Chicago. He's a professor of medicine at Northwestern Feinberg School of Medicine and sees patients at Northwestern Memorial Hospital for conditions including rheumatoid arthritis. Dr. Brown, thank you. I know having someone that you've known for a number of years because ever since she's been in the Chicago area she's been your patient, this is really a symbol of the progress we've made in RA, isn't it?

Dr. Brown:

It absolutely is, and Beth Anne I think really epitomizes many of the points that are important for people listening to understand about rheumatoid arthritis, that Beth Anne is a woman, and autoimmune diseases are not equal opportunity. They do affect women more often than men. We don't yet know why that is. As importantly, Beth Anne got arthritis when she was young, when she was a relatively new teenager. And one of the common conceptions is that arthritis is an old person's disease or it's wear and tear, and in fact rheumatoid arthritis, which Beth Anne has, is a condition caused by the immune system and ironically more commonly attacks people when they're young and in the beginning stages of their life.

Understanding and Diagnosing Rheumatoid Arthritis

Andrew Schorr:

Now, we talk about an autoimmune condition, so what's going on? Does the immune system get revved up and then it starts attacking the joints and if it's not arrested will destroy those joints?

Dr. Brown:

Well, our immune system is a pretty amazing, complex system when you think about it. The purpose of the immune system is to fight off foreign invaders, bacteria, viruses, and all the other things that would like to get into our body and live inside it and damage it, and it also plays a very important role in surveying our

own bodies. If a cancer cell develops early on the immune system plays an important role in attacking and warding off cancer cells, so in preventing cancer development in our own bodies.

And when you think about it, there's probably billions and billions of potential invaders and billions and billions of cells within our own body. For most of us, for most of our life, our immune system is deadly, perfectly accurate. It attacks the foreign invaders, and it attacks the cancer cells, and it leaves our own body alone. In autoimmune diseases the immune system becomes confused, and it will attack one part or perhaps even multiple parts of our body as if it is a foreign invader. So our immune system is attacking and fighting off, which it's designed and meant to do, but is mistakenly attacking our own body rather than this foreign invader.

Andrew Schorr:

So I mentioned that people could be not diagnosed right away or misdiagnosed. What's the problem in identifying RA?

Dr. Brown:

Well, rheumatoid arthritis, as I said, is an autoimmune disease, and it manifests by causing pain in an individual, pain in their joints, stiffness, limitation in motion, and lots of other symptoms like fatigue and poor sleep and a variety of symptoms. So it falls within the realm of arthritis, but in fact there are many, many, many potential causes for arthritis. At the current time we know that there are over 105 different and distinct types of arthritis, each with potentially different cause, potentially different effects on the person it's affecting, and importantly very different types of treatment.

So one of the important things for patients with arthritis to recognize is they should make sure that they have been correctly and properly diagnosed. Unfortunately, we find that this is not as easy as it might seem, and in the case of rheumatoid arthritis 50 percent of the patients who come haven't been properly diagnosed before, and 50 percent of the patients who have been told they have rheumatoid arthritis actually may have a different form. So a lot of advancement has been made, but the first and most important thing that a patient needs to do when they have musculoskeletal pain that is inhibiting their quality of life and things they want to do is to get correctly diagnosed.

Andrew Schorr:

Well, you're a rheumatologist, of course, a specialist in this. So are there any specific tests or a range of tests you would do so that someone you would try to narrow it down--is it RA? And could you look at somebody's joints, let's say if they had inflammation on both wrists, for example, that would be a clue. If it's symmetrical.

Dr. Brown:

[That is a] really good question, and there's a combination of three major things that need to occur for a patient to get properly diagnosed. The first is they need to really describe their story as Beth herself did earlier on, where and when it affected

them, how they felt, how it impacted what they he did. This is what we refer to as the history, and it's vitally essential, and it's the first very important step of information. Because by hearing that history we can narrow down from 105 into a narrower category of what the potential types of arthritis are.

The next is to actually examine the patient, and someone who is skilled at and has had regular experience with examining joints, to look for inflammation, look at the range of motion of joints, to the structures that are affected, to whether or not signs of inflammation are present. And the pattern overall, as you mentioned, is it symmetric, is it equal on both sides of the body, or might it in other forms of arthritis for instance affect one joint on one side of the body but not on the other. So that's the physical examination piece.

And then the last piece is laboratory testing, a combination of blood tests and some type of imaging tests. Commonly it's been X-rays, and now and into the future other types of imaging with ultrasound and MRI, or magnetic resonance imaging, taking a picture of involved structures. Putting these three key pieces of information together will lead to a correct diagnosis.

Advances in RA Treatment

Andrew Schorr:

Doctor, we're going to get more specifically into treatment in a minute, but just as an overview, years ago it was sort of a one-way trip with RA and people had joint destruction and eventually would need joint replacement surgery. Is that--with the range of treatments we'll be discussing, has the need for surgery been lessening?

Dr. Brown:

So rheumatoid arthritis, as you correctly point out, does two things. It affects the quality of life, pain, swelling and stiffness, but as equally important it actually damages tissue if it's not properly treated. It destroys the tendons, the ligaments and the cartilage that allow our bones and joints to move fully and freely and smoothly on each other. And in our early days of treatment of rheumatoid arthritis we focused first on treatments that might help improve the symptoms, but we didn't have enough understanding of what the actual causes or mechanisms were, and we unfortunately did little to halt the progression. So while we could make patients feel better many, unfortunately, became crippled in front of our eyes.

Nowadays, with our major advances in treatment, we can not only improve the signs and symptoms more--reduce more pain, reduce more swelling, reduce or even eliminate stiffness-- but as importantly, we can prevent the damage. We recently did a study here at Northwestern looking at rheumatoid arthritis patients treated 20 or more years ago versus patients treated recently. One of the most serious places rheumatoid arthritis can go is into the neck where it can affect the spinal cord and the nerves, and of course therefore the ability of the whole body to move. And we found that with our new generation of treatments the need for surgery to correct damage from rheumatoid arthritis has become almost nonexistent, whereas more than 20 years ago it was an operation that

unfortunately needed to be performed reasonably often.

Andrew Schorr:

Wow. What a positive story.

Dr. Brown, we talk about this timing that Beth Anne has benefitted from and really a great expansion in therapies and targeted therapies for rheumatoid arthritis. Tell us about what you have now to treat this illness and how you figure out what treatment for what patient when.

Dr. Brown:

Well, when Beth Anne was telling her story was really interesting to me because it again reminded me of where we've been and where we've come from and where we're at now, which has been pretty remarkable over my career. Even prior to the time that Beth Anne had rheumatoid arthritis, before we knew very much about it, our treatments were relatively crude. They were medicines that we discovered might help rheumatoid arthritis oftentimes by accident. Beth mentioned gold shots, which is one of the first treatments we had. Actually probably the very first treatment for rheumatoid arthritis was aspirin, and in the early days we gave patients lots of aspirin. And that helped them a little bit, but they still got crippled, and their ears rang and they got upset stomachs a lot. So that was the best we had.

Beth took gold shots, and gold shots were actually that. They were shots mixed up in an oil with small teeny particles of gold, and that was an accidental discovery. They gave gold shots to people with TB thinking it might cure their TB. It didn't, but the ones who had rheumatoid arthritis incidentally noted they got better. So that was kind of a dumb luck. But again gold shots only worked about 60 percent of the time and caused side effects 40 percent of the time.

And then we began to move forward and use a medicine called methotrexate. We borrowed that from our cancer colleagues and found that it reduced inflammation in teeny, tiny doses given on a regular basis and was our first major step in terms of a treatment that not only improved the pain and the swelling and the stiffness but actually had the power to slow down the damage, prevent some of the deformities that occurred and prevent the bones from being damaged and eaten away by rheumatoid arthritis, which can happen. So that was a major step. We then realized we had the ability not only to make people feel better but try to prevent them from being damaged.

And then about 15 to 20 years ago, there began remarkable advances in our understanding of the immune system, how the immune system worked-- unfortunately, how the immune system in those days was attacked and ravaged by some things like the HIV/AIDS virus. But out of that became a profound understanding of how the immune system worked and in particular some of the chemicals, the chemical messengers that the immune system released that caused it to do the things that it did, either in fighting off infections or in other cases when it attacked one's own body in autoimmune disease.

And leveraging that knowledge and advances in scientific technology allowed us to create a new class of treatments called biologic. These weren't chemicals or pills. These are molecules like proteins and antibodies that specifically went into the body and would do things like soak up specifically some of the harmful chemicals or mimic some of the beneficial chemicals. And an example of that is etanercept, or Enbrel, which was one of the first biologic medicines to treat rheumatoid arthritis. And soon, when we began to realize how effective it was, and how if we knew what to watch for it could be given in a supervised and safe fashion we use to treat rheumatoid arthritis. And it had a very substantial effect in improving the way patients felt even better, and as importantly, helping to stop, or in cases, even halt the progression of the damage of rheumatoid arthritis.

Andrew Schorr:

Wow. And then we should mention, Beth, that's the medicine you take [Enbrel], you were one of the people in the clinical trial to help prove its effectiveness, right?

Beth Anne:

Yep. Definitely.

Andrew Schorr:

Yay for being in a clinical trial.

Beth Anne:

Yay for clinical trials. Yay for successful clinical trials.

Making an Informed Treatment Decision

Andrew Schorr:

Yes. Yes, thank you. So, Doctor, so we have other drugs now in this biologic group, right, and then also you have these other medicines that I think have been called disease-modifying drugs. So you have kind of different levels. And I guess methotrexate may still get used. So, you know, we have people who are listening and may be newly diagnosed. How do practitioners decide which drug and when and at which level? Help us understand your thinking in that.

Dr. Brown:

Well, that's a great question. As you say, we have gone on to develop now a host of biologics, several different ones working on different molecules, given in different ways. And we have those in addition to our background of the disease-modifying medicines like methotrexate that were the pills that worked. So we have this big, very exciting, very broad library of therapies, menu of therapies, I guess I might say, and of course the question is, "Which one is the right one for people with rheumatoid arthritis?" And just like with a menu, we have to find the item on the menu that matches up best with the individual person so that there isn't one single treatment for everybody.

And then the other hand not everybody is going to respond to the same treatment

the same way. When we do research and clinical trials--like you said, yay for clinical trials, that's how we got here--what we do is we give a treatment to a group of patients as a whole and see how that group as a whole responds, and that gives us a good idea if this medicine is a medicine that's better than a medicine that we used in the past that we might be comparing it to, or if it's going to produce how much improvement in patients.

But the key issue is, what's good for the group as a whole isn't equally good for each and every member of the group, and so that's where it comes down to both the science and the art of taking these treatments and making a good, informed decision along with the patient because, after all, they're the one who is going to be taking the medicine, weighing what its potential benefits are, and keeping in the mind that every medicine has some potential for side effects and finding the right one that matches and fits that patient. And then, most importantly, going forward and trying it to see how the patient does actually respond. If they respond, excellent. If they need some fine tuning, that can be done, and in some cases a medicine that might be expected to work may not and we need to go try others.

Andrew Schorr:

Well, fortunately you have a number of them. If people see the TV commercials, and I know they do, often there are these warnings or they're in the newspaper ads, things like that. And some of these warnings are kind of scary, you know. You could develop a cancer [or] something is affected in your immune system. From your experience, where are we now in keeping the risk low so that people can have powerful RA-fighting medicines and not be losing sleep every night that it's going to cause some other problem?

Dr. Brown:

Yep. You remind me, every time I see these advertisements for medicines on TV I'm excited because I know what we can do for patients, and I'm excited because I know that patients are going to become aware of the potentials for treatments for them. But I also know how scary it can be. It reminds me of a Saturday Night Live commercial many, many years ago for Happy Fun Ball that was a ball of fun but it could explode and cause all kinds of crazy damage. It was a joke, but of course we have to remember that these medicines are very powerful, they're working on the immune system, and we have to weigh in mind their great powerful potential for benefits but also their ability to affect the immune system that can do things like make patients more susceptible to common infections or occasionally susceptible to very unusual infections so that the patients and the doctors need to be informed about this, know what to do if a patient is experiencing signs of infection, not to nurse it themselves, and to, very importantly, promptly treat these infections.

But if we know this and if patients are informed, pay attention to themselves and communicate with their doctors and nurses and healthcare providers on a regular basis, these risks can be very actively appropriately managed, and the vast majority of people who suffer from rheumatoid arthritis can receive one or some combination of these treatments that's likely to give them benefits and with a low risk of side effects, such as an infection, and a way to treat it if that might rarely

develop.

Andrew Schorr:

Well, that is good news. Beth has to give herself a shot once a week. Other people have infusions or other medicines. And, Beth, wouldn't you agree that as wonderful as this is and the full life you have, what you really have is a C word, and that would be cure, right?

Beth Anne:

I think of it, yeah.

Promising Research: On the Road to a Cure

Andrew Schorr:

So, Doctor, let's look into the window of research for just a minute. Where are we now so that Beth at just age 34, as she goes through her life, one day she comes in and you say, "Beth, you know what, we've had this groundbreaking research and we actually think we have a road map to a cure."

Dr. Brown:

Well, Beth is doing remarkably well. She is my poster child slash adult for how to properly manage rheumatoid arthritis recognizing that something was wrong when it happened, getting medical treatment, taking a really proactive approach toward finding the best treatment, having the courage to volunteer for a clinical trial that resulted in a major advancement, and then her and the rest of her fellow community of people who have rheumatoid arthritis benefitting from that.

But, as you correctly point out, this is a treatment. It's a medicine that Beth needs to inject that we need to give ongoing. Beth is always cognizant of the fact that she could catch a cold or a flu or something even more potentially serious than that. So what we'd really love to be able to do is someday have a treatment that would stop the whole process, what we would call a cure. So up until now the first phase of treating rheumatoid arthritis was making the symptoms better. The next phase has been understanding how the immune system reacts to cause rheumatoid arthritis, and that's what we do now. We treat that.

But what's coming in the future and what we're very actively involved with here in our research programs at Northwestern University and Northwestern Memorial Hospital are studies of the immune system and the actual potential causes of rheumatoid arthritis. We have studies on various different types of cells that play a role such as macrophages, genes that turn on and off that flip in and out to actually turn on the immune system and causes damage attacking the own body, how cells might have knowledge that something is foreign versus the person's own innate, and then stealth molecules that can penetrate into the immune system and turn on and turn off critical pathways.

So where we are at now is going beyond treatment to look at the actual causes and to find ways that we can actually stop the immune system from causing rheumatoid

arthritis, to have cures, and ultimately in the future to have prevention, to know who might be susceptible to rheumatoid arthritis and perhaps someday get something like a shot like your measles or your mumps vaccine that might also prevent rheumatoid arthritis.

Andrew Schorr:

Wow. One last question for you, because as you said you've been at this for a while and you've seen tremendous change. So you're kind of our barometer, our search engine for how things are going. Are you encouraged with both how far we've come and your sense of where we're headed?

Dr. Brown:

I absolutely am. One thing I've learned over the years is that science and knowledge progresses at the rate it's going to progress, and sometimes there's great leaps forward and sometimes it's a journey of many, many steps. So no one has a magic crystal ball and says we're going to cure a rheumatoid arthritis on date X and year X, but what I can tell you is that with the knowledge we have of the immune system now and what's coming nearby in the future a cure is definitely within our reach. The major campaign of the American College of Rheumatology has been based on and is based on the fact that our leading scientists, our leading clinicians, our leading investigators, believe that the cure for rheumatoid arthritis is in fact within our reach.

Andrew Schorr:

That is so cool. Wouldn't you agree, Beth?

Beth Anne:

Heck, yeah. I don't mind shots once a week, but a shot once forever, that would be much nicer.

Andrew Schorr:

So, Beth Ann, you've been listening to this and you've lived it for a number of years now. Somebody may be a listener to this program, they've been newly diagnosed or their 13-year-old has been, and it's pretty scary, and you're looking at a life-long condition unless hopefully we can come up with a cure. What would you say to them about maybe inspiring them or giving them hope that they can go on with their life?

Beth Anne:

Yeah, I mean it is scary. I can tell you when I was 13 I was definitely scared. I was young, and I didn't know what was happening. And I didn't really know how to talk to my parents because of course I at that age thought of my parents as kind of creepy. So I didn't know what was going on. I didn't know how to seek information.

And I think that having parents who are knowledgeable and cognizant and wanting to take the right step to figure out what was happening and figure out the right treatment was very important. I mean, as my life has gone on I kind of have to

remind myself every day that despite the fact that the treatment is wonderful and Dr. Brown is awesome, I still live with this every day. And I have to remind myself, yes, you have to eat right, you have to drink your water, you have to go to the gym, you have to stay active, and it's tough.

And I just figure out where I want to be in the next few years. Do I want to be stiff or tired or, you know, not have a whole lot of energy, or do I want to keep living my life? Do I want to keep living my life in the moment and be able to do things spontaneously? Having rheumatoid arthritis is not like having measles, where, "Oh, wow, I've got little bumps on my face, okay, I must be having a flare-up." There are not really many obvious signs like that. I will notice I'll get tired over a period of days and that's when I'll figure out, "Oh, yeah, my RA is flaring up," so I'll need to take steps to help my body out, to get a little bit more sleep or do what I need to do.

So it's not very obvious, but as long as I'm cognizant of the steps and I mentally prepare myself to follow through by making a plan, getting enough sleep, getting my exercise, eating right, I think that's very important.

Andrew Schorr:

Wow. Well, it sounds like so you have taken on responsibility for your health as we all should, in this case a chronic condition, but that said, taking responsibility doesn't sound like it holds you back.

Beth Anne:

Oh, no. No, I'm not holding back. I refuse to let this hold me down.

Andrew Schorr:

Good for you. You're a wonderful mentor for people.

Beth Anne:

Well, thank you.

Andrew Schorr:

Beth Anne Demeter, I want to thank you so much for being with us. I want to wish you well.

Beth Anne:

Thank you very much.

Andrew Schorr:

I hope you're going to walk into Dr. Brown's office one day and he's says, "We've figured it out and we can now start talking about a cure," and you'll say, "Give me that shot and see you later," right?

Beth Anne:

I hope so. He better not retire because I'm waiting for that day. I owe him dinner.

Andrew Schorr:

Dr. Calvin Brown, thank you so much for joining us from Northwestern Memorial Hospital, and while certainly this is a serious illness and it's important to get an accurate diagnosis and early on, and to connect with a specialist like yourself who is knowledgeable in it, it's a pretty hopeful story and I love telling it. Thank you for being with us, sir.

Dr. Brown:

Andrew and Beth, it's a pleasure to talk to you guys, and I appreciate the opportunity myself as well.

Andrew Schorr:

This is what we do on Patient Power is connect you with leading experts like Dr. Calvin Brown and inspiring patients like Beth Anne Demeter. Thank you for joining us. I'm Andrew Schorr. Remember, knowledge can be the best medicine of all.

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