

What You Should Know About Stroke
Webcast
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Dr. Mark Alberts

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The Importance of Knowing Signs of a Stroke

Andrew:

Hello again, and thank you for joining us on Patient Power. I'm Andrew Schorr. I'm delighted we can partner with Northwestern Memorial Hospital and twice a month bring you a connection with leading medical experts and important health information for you and your family so you can make smart choices.

I want to tell you about last Sunday. In Chicago inside the Loop it was a normal early Sunday morning for an older couple, Maya Mullin and her husband Gerald. Gerald's an attorney many years inside the Loop in Chicago, a business attorney. And their kids are grown, three kids, seven grandchildren living in other cities, so what do they do? Whoever gets up first makes coffee for the other one and then they spread out the paper. Chicago papers. They also read the New York Times. They talk about what's in the news. But this Sunday was different, and so I want you to meet Gerry Mullin. Gerry, are you there?

Gerry:

I am. How are you this evening?

Andrew:

I'm okay, Gerry. But you're going to tell us how you are. What happened to you this Sunday morning at age 75 that was different from other Sunday mornings? How did you start to feel? What was going on?

Gerry:

It was rather strange, Andrew, but what had happened was I was talking to my wife, and she said to me, Is everything all right? And I said yes, of course. And then I realized that my speech was slurred, and a moment later I realized that I had lost strength in my right arm and in my right leg. And of course at that point I was in my pajamas. Maya was quick enough to call our physician, who is Steve Deangeles, wonderful guy. And Steve Deangeles said get Gerry over to Northwestern immediately.

Andrew:

You were having a stroke, which is what the subject of our program is today. I don't want to keep Gerry on the phone long, because Gerry is actually joining us from the stroke unit, the tenth floor of Northwestern Memorial Hospital. But I think anyone who knows anything about stroke would know that here it's a couple of

days later, Gerry is no longer in intensive care, which he was for the first part but is now joining us and speaking to us pretty clearly. It's really a testament to what happened next.

Gerry, we're going to put Maya on, but I just want to say we wish you well. We'll see if we can get you back on later in the program, but I'm so glad that things are working out for you and I appreciate you helping people understand that stroke is a very real issue that happens to about 700,000 Americans each year.

Gerry, if we could speak to Maya, because what she observed is so critical.

Thank you. Hi, Maya. So we were just talking about your Sunday morning. You've been married many, many years, and now later in life you celebrate those Sunday mornings reading the paper. What did you observe was happening to your husband this Sunday morning that was different? He'd made you coffee, you were reading the paper, but then what was happening?

Maya:

Gerry said something to me and it was apparent that his speech was slurred even though it had not been just minutes before. So I asked him if there was a problem. He didn't recognize it immediately, but in short order he did. And I am lucky enough to be able to reach our primary physician rather quickly and easily. We are fortunate in living close to the hospital, and it's very easy for us so get taxis in front of our building, so we did not have to wait for an ambulance.

While I certainly had no difficulty in recognizing the onset of a stroke, that's rather apparent when you see it, but I had no idea of the importance of getting the stroke victim to the hospital as quickly as possible. Until I spoke to our doctor I was not aware of how important that was.

Andrew:

So you were at the emergency room at Northwestern, which is a stroke center. It's certified in that. So did they move pretty fast when you got there?

Maya:

They moved extraordinarily quickly. I had been in that emergency room on other occasions when they had been unbelievably slow, infuriatingly slow.

Andrew:

But it wasn't such an emergency, right?

Maya:

Yeah. But they were terrific on Sunday morning. True, it was a slow morning for them but they were really terrific

Andrew:

I'm glad.

Maya:

Then when they got Gerry to the ICU that is designated for the stroke unit, they were incredible. They were really very, very good.

What is a Stroke Exactly?

Andrew:

Well, Maya, let's meet the man who is in charge of all that. He's our medical expert as we spend the next hour talking about stroke and stroke care at Northwestern Memorial Hospital as one of our leading medical centers in the whole country. And that's Dr. Mark Alberts. He's the director of the stroke program at Northwestern Memorial Hospital. He's also a professor of neurology at the Feinberg School of Medicine at Northwestern.

Dr. Alberts, thanks for joining us.

Dr. Alberts:

Well, thanks very much for inviting me, and good evening to you and all of your listeners.

Andrew:

Dr. Alberts, so when the diagnosis happened, what kind of stroke did Gerry have and what are the two main kinds of stroke and what are they? Maybe you can help us understand.

Dr. Alberts:

Yeah, it's very important for folks to understand that stroke is really not one disease. It is in fact several different diseases. The most common type of stroke is what we call an ischemic stroke. That's when a blood vessel in or around the brain gets plugged up, or occluded, and then a part of the brain supplied by that blood vessel with blood and oxygen malfunctions or dies producing the symptoms of a stroke. Ischemic stroke accounts for about 80 or 85 percent of all strokes. It is the most common garden variety type of stroke that most people talk about.

A less common but very serious type of stroke is a cerebral hemorrhage. Cerebral means brain and hemorrhage means bleeding. A cerebral hemorrhage occurs when a blood vessel in or around the brain ruptures putting an abnormal amount of brain within the brain itself or around the brain. There are two different types of cerebral hemorrhage. One we call an intracerebral hemorrhage, when a blood vessel deep within the brain ruptures putting a blood clot within the brain itself. And that's the kind of stroke that Mr. Mullin had.

Another type of cerebral hemorrhage we call a subarachnoid hemorrhage. That's when an abnormal outpouching of a blood vessel, what we call an aneurysm,

(typically at the bottom of the brain), ruptures putting a lot of blood around the brain and on the surface of the brain. Cerebral hemorrhages are less common but still very deadly. Fortunately, Mr. Mullin is doing quite well. His cerebral hemorrhage was not all that large, and he's really done quite well over the past 48 hours or so.

Andrew:

Dr. Alberts, now we know that, as I said, 700,000 Americans each year suffer stroke I understand from the Stroke Association. That means there's a stroke every 45 seconds. And it's a killer certainly, and that is 150,000 people die a year, one of every 16 deaths. And also beyond that it's a huge cause of disability. Help us understand the magnitude of the problem.

Dr. Alberts:

Well, stroke is a very significant problem, as you pointed out. Stroke is the third leading cause of death in the United States, and in the world it may actually be the second leading cause of death, and it is the leading cause of adult disability in the United States. As you mentioned, it is an exceedingly common disorder, and one of the major risk factors for stroke that we cannot do much about is aging. The risk of stroke goes up dramatically for every ten years above the age of 60.

And as we all know there is sort of an aging epidemic here in the United States where the baby boomers, those people born right after World War II are now entering prime time to have a stroke, their 50s, 60s, 70s, and 80s. And in fact some recent studies have shown that the number of patients with a stroke and admissions to the hospital for a stroke have been really increasing quite dramatically over the past 10 or 15 years. And again this may represent an important phenomena, that is the aging of the baby boomers.

Risk Factors

Andrew:

Okay. So what's the cause? What are the risk factors for stroke.

Dr. Alberts:

That's a very good question. There are a number of risk factors for stroke, some of which we can do something about and some of which we really can't do much about. The most important risk factor for stroke, as we just talked about, is aging, but, obviously, we can't do anything about aging.

There are racial factors that increase the risk of somebody having a stroke as well as dying from a stroke. For example, African American folks and Hispanic folks are at increased risk of having a stroke compared to Caucasians and increased risk of dying from stroke compared to Caucasians. Obviously, we can't do anything about someone's racial or ethnic background.

Genetic factors, family history of stroke, the genes that you inherit may play a significant role in terms of some stroke risk factors as well as the propensity to have strokes, particularly some types of the hemorrhagic strokes. So those are what we call the nonmodifiable risk factors, things we can't do much about: age, race and genetics.

The flip side of the coin is that fortunately there are a number of well identified, well studied medical risk factors for stroke that we can do a good job identifying and treating. And the most significant of these factors is hypertension or high blood pressure. Hypertension or high blood pressure is the major risk factor for basically all types of strokes, ischemic strokes as well as hemorrhagic strokes. And our guest patient tonight, Mr. Mullin, does have a history of hypertension, and after his evaluation we feel fairly certain that high blood pressure was a major contributing factor in terms of his cerebral hemorrhage.

Now, in addition to high blood pressure other treatable risk factors include elevated lipids or high cholesterol, diabetes, smoking, not exercising, drug abuse as well as alcohol abuse, abnormal heart rhythms, particularly atrial fibrillation. And having one stroke or what we call a TIA or a mini stroke dramatically increases your risk of having another stroke. So those are some of the significant risk factors. Oh, and I should also add smoking. Cigarette smoking is a major risk factor for stroke that we can obviously do something about.

Mini Stroke: TIA

Andrew:

Yeah, that's not good for anybody for so many conditions.

Dr. Alberts so you mentioned TIA, mini stroke. When somebody has some of these symptoms and then they go away, you know, the blurred vision, the slurred speech, the confusion but then it goes away there are many people who just say oh, it was nothing, go away. Is that what a TIA is, or what they call a mini stroke is? Is it really a wake-up call that you better get checked?

Dr. Alberts:

It is absolutely a wake-up call, Andrew. And TIA means transient, which means temporary, ischemic, lack of blood flow, attack. And some people correctly refer to it as a mini stroke, because the symptoms of a TIA are essentially identical to the symptoms of a stroke, they have the same risk factors. It's just that a TIA or a TIA event typically just lasts a few minutes or even a few hours and then goes away. It

tends to resolve on its own, but it is a very significant, very important warning sign that the conditions are ripe for a full-blown stroke to occur in the very near future.

Andrew:

There is so much more to talk about. I also want to understand also why we're always saying time is brain and about speed.

We're going to take a break. We're visiting with Dr. Mark Alberts, who is the head of the stroke program at Northwestern Memorial Hospital. And he is also a professor of neurology at the Feinberg School of Medicine. Stroke is such an important topic, folks. And as you heard with Gerry Mullin, fortunately they could jump in a cab, live near the hospital, they went to Northwestern, which is a certified stroke center. They can move really fast, understand how speed is so important.

We'll take your calls as we continue. We'll be right back with more of Patient Power on HealthNet brought to you by Northwestern Memorial Hospital.

Why You Need to Get Care Quickly

Andrew:

Thanks for joining us on HealthNet.nmh.org. This wonderful program we get to do every two weeks sponsored by Northwestern Memorial Hospital because of Northwestern's commitment to you to be smarter about health issues, and stroke is a big one.

And we're visiting with the head of the stroke program at Northwestern Memorial Hospital, Mark Alberts. And also we'll have with us also who will join us again, Gerry Mullin, who had a stroke just a couple of days ago and his wife Maya who was a very smart partner in seeing the signs of a stroke, recognizing them. You heard her say at the beginning of the program, yeah, I knew it was a stroke. Boom. You have to move fast.

Dr. Alberts, why do we have to move fast? We're kind of well schooled in heart attack and the chest pain. Stroke don't hurt do they? Maybe you could have a headache I guess but there are different signs, and as we talked about you could have a mini stroke, it's transient, this TIA goes away, you think, well, no big deal. Why is speed so important? What is going on?

Dr. Alberts:

Well, what happens with a stroke, Andrew, is that, as we talked about, part of the brain is not getting enough blood in the setting of a stroke, whether it's an ischemic stroke or hemorrhagic stroke. And the recent studies have shown that there really is a very narrow time window in which to intervene, remove that blockage of a blood vessel and restore blood flow to the brain. The best analogy I can give to you and your listeners, and everybody watches TV and they see somebody who has a cardiac arrest when their heart stops and they start thumping on their chest and

they shock them to get their heart going again.

Well, the reason why they go through all that in terms of thumping on their chest and doing the compressions and shocking the heart, it's not to save the heart. The heart is just a muscle. It's an important muscle and you want to get somebody's heart restarted and treat them if they're having a heart attack, but the reason that they go through all this thumping and pumping is to restore the blood flow to the brain. Because during a cardiac arrest, which is like the worst type of heart attack you can have, there is no blood going up to the brain.

And the brain is very sensitive. It needs a constant supply of oxygen and sugar, what we call glucose, to keep the brain cells, the nerve cells, functioning. That's why in cardiac arrest it's very important to thump on the chest to get blood flow and oxygen up to the brain on a continual basis.

Well, by definition a stroke is the same thing except it doesn't affect the whole brain. It just affects a part of the brain. But even though it's just affecting a part of the brain, that part of the brain is still exquisitely sensitive to the lack of blood flow, the lack of oxygen, the lack of sugar going to those nerve cells. So to get one of our clot-busting agents that has a reasonable chance of opening up a blood vessel, when you give that medicine through a vein what we call intravenously, there is about a three-hour time window.

Now, most patients, in fact the vast majority of patients with a stroke, do not seek medical care in a timely fashion. So they don't come to the hospital at time zero or even within an hour. Oftentimes they sit at home for at least several hours. Some cases they're at home for six hours, 12 hours, in some cases more than one day. We have another patient in the stroke unit today who actually had stroke symptoms on Friday and didn't come to the hospital until last night. He sat at home all weekend with these stroke symptoms, believe it or not. So time is really of the essence in terms of giving us that window of opportunity to intervene.

Andrew:

So as time goes on not only do you have a greater risk of death but there will be brain functions, speech, movement, etc., that may never recover, right?

Dr. Alberts:

That's correct. Those won't recover, number one. And number two, the patients take themselves out of this acute time window when we can intervene. Now, for the intravenous medicines it's about a three-hour time window. For medicines that we would give directly into an artery through a procedure that we call an angiogram or an endovascular type of procedure, the time window for that is somewhere around six hours in very well selected patients.

Whether you're talking about three hours or six hours, it's a very narrow time window when you consider most patients do not recognize the symptoms of a

stroke. They don't know what to do. And in some cases the actual symptoms of a stroke make it impossible for the patient to properly reason, properly communicate, properly walk to the phone, call for help or ask for help, because the process and symptoms of a stroke really inhibit those abilities.

Stroke Symptoms

Andrew:

Okay. Dr. Alberts, for the benefit of loved ones, caregivers, co-workers, could you just run down those one time so that if say our coworker or our friends or our loved one like Gerry, Maya did a great service. What are those symptoms?

Dr. Alberts:

Right. So some of the key symptoms of a stroke include the sudden onset of weakness or numbness, particularly involving one side of the body, like the face, arm or leg. Another key symptoms is a sudden onset of slurred speech or trouble talking, being unable to talk or being unable to understand what somebody is telling you. Another key symptoms is the sudden onset of trouble walking. Not being able to walk, not being able to walk straight, falling down when you get up. Another key symptom of a stroke would be something wrong with your vision, going blind in one eye or not being able to see objects to one side of your environment.

And then lastly another symptom of a stroke would be the sudden onset of the worst headache of your life without any other known cause. If you have a history of migraine headaches and you get a bad headaches every week, well, that's usually not a stroke. But if you don't have any history of headaches and out of the clear blue sky you get the worst headache of your life with nausea, vomiting, it could certainly be a hemorrhagic stroke, and you should certainly seek medical care right away.

Benefits of a Certified Stroke Center

Andrew:

Now, Dr. Alberts, I mentioned that you have a certified stroke center. What does a mean? Because as Maya Mullin said, they moved really fast. They were really pleased with the care and Gerry is doing well. You know, people have choices as to where they go when different events, emergent events happen. So in Chicago and certainly in downtown Chicago it seems to make sense to go to Northwestern, but what's behind the scenes there that's making the care of such good quality?

Dr. Alberts:

There are a number of hospitals around the country that are certified as stroke centers. What that means is that the hospital goes through a process whereby an independent organization, in our case it's called JCAHO, which is the joint commission that accredits healthcare organizations. It's not a government agency. It's sort of a quasi-government agency, but they're actually based here in Chicago just by coincidence.

But JCAHO is responsible for certifying most of the 5,000 hospitals in the United States as being safe and effective providers of healthcare. But in addition they have specific programs to certify specific hospitals for the management and treatment of patients with specific diseases. And one of their newest programs is to certify certain hospitals as what we call primary stroke centers. This means that the hospitals have things like a stroke team in the hospital 24 hours a day, seven days a week, which is one reason why Mr. Mullin got such rapid care. We have a specialized stroke unit, where he is now, that has the proper staff and training and protocols and equipment to monitor him on a continual basis.

We have specially trained nurses and physicians who know how to take care of stroke patients. We have special equipment that allows us to image the brain and do special testing. And we have a process in place to continually evaluate how we're doing and how we can improve upon what we're doing. So that's a big part of being a stroke center.

Another big part of being a JCAHO certified stroke center is what we call disease performance measures, meaning we know what the proper things are to do when somebody comes in with a stroke, but how often do we actually do that in patients who come in with a stroke. And I'm happy to say that at Northwestern we just went through our JCAHO every-two-year review last year in October, and our percentage of meeting the compliance in terms of those disease performance measures was somewhere between 95 and 100 percent for all of these disease performance measures, which means that stroke patients got the proper medications at the proper times, they get the proper treatment, they get the proper blood tests to prevent any complications and to prevent another stroke.

What to Expect at an Exam

Andrew:

Good news for you and good news for folks in Chicago too. Now, Dr. Alberts, Kitt has e-mailed a question from Chicago, if you have symptoms and then you get to your hospital what kinds of tests are done at the hospital to see if you're having a stroke and what tests to kind of understand how to proceed from there?

Dr. Alberts:

That's a good question. The first thing that should get done is a history and physical. The physician should talk to the patient, find out what's going on, what symptoms they're having and in what context these symptoms are occurring and what other medical problems does this person have, what medications are they taking. After the history then we do a physical exam. We listen to the patient's neck. We listen to their heart. We do a neurologic assessment. You see what their speech is like, what their vision is like, facial movement, the strength in their arms and legs, coordination, can they walk and talk, check their reflexes, things like that. And from doing a good history and physical most trained medical professionals could make a reasonable assessment about whether this a stroke, where the stroke may be, the type of stroke they may be having and then what the next step is.

Typically, the next step after the history and physical would be number one, send off some specific blood tests to make sure what the blood counts are and if the blood is too thick or too thin and if there are any chemical imbalances. And then we need to take a picture of the brain, either a CT scan or an MRI scan, since they will give us a very good indication about what type of stroke may be occurring and where in the brain that stroke may be affecting.

Andrew:

And then that leads to the intervention with these injectable drugs usually that are done either in a vein or an artery to decide what the best course is?

Dr. Alberts:

That's entirely correct, Andrew. Based on the history, the physical, the blood tests and the brain imaging studies, then we would have a good idea whether the patient would be a candidate for one of the intravenous medicines or for one of the intra arterial approaches which could involve medications or various mechanical devices that can actually suck the clot out of a blood vessel and open it up to restore blood flow to that hopefully not too damaged part of the brain.

Stroke Prevention

Andrew:

Now, Gerry Mullin, who we met earlier and who is in the hospital now recovering from a stroke, he'd been taking a blood pressure medicine. We'd like to have confidence that you take the medicine, you've been taking it for years, and that protects you from a stroke. Sounds like it doesn't always work quite that way. Is there any surefire way if you have high blood pressure and you're taking medication that you just absolutely will not have a stroke?

Dr. Alberts:

No, there's no surefire way, but all of the recommendations from all the expert panels do have specific numbers or targets for blood pressures that folks should endeavor to reach. And one of the common numbers that we actually educate the public about because it's sort of easy for people to remember is a target blood pressure somewhere in the range of 120 over 80. That's a good number to keep in mind, because a lot of people have risk factors for stroke like diabetes and high cholesterol and smoking and other things like that, and for those high-risk people their blood pressure target should really be around 120 over 80.

Some folks can reach that with just one medication. Some folks need two, some folks need three or even more. But it's more than just medications, Andrew. It's also a matter of making sure that you take it regularly, that you're compliant with the medications. And also what's very important is to adopt a healthy lifestyle. Not eating bad foods, losing weight if you're overweight, exercising 30 minutes every other day. Stopping smoking, not drinking alcohol to excess. Those are all very important steps you can do not just for your general health but also to reduce your blood pressure and make it easier to treat the blood pressure.

Andrew:

We're visiting with Dr. Mark Alberts, who is the director of the stroke program at Northwestern Memorial Hospital, which you've heard is a certified program where they put tremendous effort in having the resources, the expertise to treat stroke as well as it can be treated anywhere in the world and where it can be treated fast. And now we understand the speed that's so important there. We'll be back as we take your calls, if you'd like to call in and ask a question for Dr. Alberts. And we'll also check in with Gerry after awhile to see how he's doing. We'll talk about recovery. We'll be back as we continue Patient Power on HealthNet brought to you by Northwestern Memorial Hospital.

Treatment and Recovery

Andrew:

Welcome back to Patient Power as we talk about one of the most important national health issues, and that is stroke. Could be devastating, could be deadly. Certainly in many cases it is disabling because time goes away. We don't recognize the signs of a stroke. You heard from Dr. Alberts a minute ago about a man who had a stroke on Friday who didn't come in until Monday. That's a lot of time. And that ties the hands a lot of the doctors and what interventions they can use. We talked about testing.

Dr. Alberts, let's get on now and understand about treatment. Now, somebody's in the hospital, you've evaluated their situation. If it's in that magic time, three hours or six hours, you've injected clot-busting medicine right into the veins or arteries to try to get rid of the blockage and get oxygenated blood flowing and the glucose you describe. Then what? Then how do you follow after the many hours to try to get that person as recovered as they can be? What's involved in that treatment and recovery?

Dr. Alberts:

We obviously keep them in our stroke unit until they're stable. We check their blood parameters and we want to keep their blood pressure not too high but not too low. We want to keep it in a certain range. We do other tests to see if their cholesterol is elevated, to see if their blood sugar is elevated. We give them specific medications to prevent blood clots from forming in their legs, particularly if they're going to be laid up in bed for a number of days. And we do additional tests. We look at their heart to make sure there is no heart damage.

And then we start them on various medications, typically some combination of blood thinners, maybe aspirin, maybe Plavix, maybe Aggrenox, maybe warfarin to thin their blood and to prevent another stroke from occurring if they had an ischemic stroke. Then we would get our various therapists in to evaluate the patient, our occupational therapist, our physical therapist, our speech therapist, our swallowing expert and our rehabilitation experts to see sort of quantitatively what type of deficits the patient has, and once they're stable whether they require inpatient or outpatient rehabilitation.

And just to put some magnitude, some numbers to the magnitude of the deficits, after a stroke it's very common for at least half of the patients to have some difficulty with their walking, talking, or with what we call their activities of daily living. Being able to go out, shop, dress, go to the bathroom, drive a car. About 50 percent of patients will have some difficulty in that regard. About a third of patients after a stroke will have some degree of depression. About a quarter of patients after stroke will have difficulty communicating because of some speech or language difficulties.

So the hope is that by stabilizing the patient, minimizing the damage and then having them do post-stroke rehabilitation we can minimize some of these long-term deficits, and we can shorten the time that it takes for somebody to recover from a stroke. Shorten the time it takes for them to be able to walk and talk normally. Shorten the time it takes for them to be able to eat. Shorten the time it takes so that they can go home or back to work.

Andrew:

And, you know, when you total up all those things that you described about the interventions that are needed, here's a fact from the American Stroke Association, Americans will pay about \$63 billion in 2007 for stroke-related medical costs and

disability. So the price is so high. So when Dr. Alberts talks about don't smoke, healthy diet, lose weight, know your risk factors, you know, your genetics and does it apply, keeping your blood pressure numbers down, isn't that a better way to go than risk death or disability and then all this expense for your family and the country?

Here's a question now that came from James in Oak Park. He writes, "My dad had a stroke in mid October of 2006. He started out not being able to walk and is now getting around with a cane. He is still doing rehab exercise, walking and riding bikes. Do you have any suggestions, Dr. Alberts, to help build his strength back up?"

Dr. Alberts:

Well, it sounds like he's already made a significant recovery, which is good. And what we recommend for everybody long-term, and obviously I can't talk about particular patients, particular treatments, but in general continued exercise, continued use of whatever they had the deficit of after a stroke is really a good path forward to help them improve their recovery of function. So if it's difficulty walking because of leg weakness, then more walking exercises, bicycling, running, things like that. If it's difficulty writing, then folks need though exercise their hand and try to write more. If it's difficulties reading or talking, then they need to read more, they need to talk more, they need to do crossword puzzles. There is a theory and there are studies to support that using that affected or damaged part of the brain will actually speed and improve the rate of recovery.

Andrew:

Yeah, that's really the nature of the question we got from Mary in Chicago where she says, "My father had a stroke six months ago and can't use his right arm. Will he eventually regain the use of it?"

And I know maybe we don't know enough about his situation, but just generally, sir, if we're six months out and is there a way to find a way or hope that maybe there will be some movement after some longer time.

Dr. Alberts:

Well, the answer is there's certainly a possibility. One has to know after a stroke why the arm or leg is not moving. In some cases it's not moving because there's been such substantial damage to that part of the brain that the arm just can't move. In some cases, though, we have what's called spasticity where the arm or leg becomes very tight. It's what we call spasticity or flexion, and that's a side effect of the stroke.

Sometimes that can be treated by injecting a medicine called Botox. Now, people may know about Botox because it's been used a lot for cosmetic surgery to make wrinkles go away and things like that but it can also be very helpful after somebody has a stroke. Some well placed Botox injections if the patient is having a lot of spasticity or tightness around a joint in an arm or a leg, some injections with Botox in that area can loosen that joint, can make them more amenable to rehabilitation and can sometimes improve their function. Sometimes, not all the time.

Andrew:

Now, how long can stroke rehabilitation go on for? In other words, if somebody had a serious stroke but there's that little incremental improvement, how many months or even more than a year, I don't know. Help us understand that improvement could continue, the trend could continue to be improvement?

Dr. Alberts:

It's certainly true that recovery of function after a stroke is usually greatest in the first few months after a stroke, but it can continue at a slower rate for many years thereafter, particularly if there's been early improvement. So generally the rule of thumb is that if a patient gets better at six days they will be better than that at six weeks, and if they've gotten better at six weeks they'll be even better than that at six months. It's sort of the rule of sixes.

But even beyond six months they can continue to improve if they continue with their exercises, continue with their treatment, usually outpatient treatment, and make sure there are no other medical factors going on. If there's spasticity they may benefit from Botox injections. If there's depression they may need an antidepressant to sort of perk them up and get them to more aggressively or actively participate in exercises. And good nutrition is obviously very important. Getting plenty of sleep is important. Making sure there are no intercurrent infections like a urinary tract infection or a cold or a flu. Avoiding all those medical complications are very important steps to hasten and improve recovery of function.

Genetic Influence

Andrew:

Dr. Alberts, you've talked about genetics along the way. So if my dad had had a stroke, and fortunately he had not, but if someone close relative like that or a brother or something like that, when do I need to become more conscious of that for me and say, you know, this may be something in our family we need to be well aware of and be evaluated for?

Dr. Alberts:

There are some types of strokes where that genetic influence is especially important. One of them is what we call an aneurysmal subarachnoid hemorrhage, which is where you have this little out pouching of a blood vessel in the brain that could rupture and produce a deadly type of stroke. In some families this propensity

to have aneurysms form can really run in families. And there are certain guidelines about who should be screened and things like that that we don't have time to go into this evening. But I would certainly recommend that if folks have a strong family history of cerebral aneurysms that they go see their friendly internist or neurologist or neurosurgeon and talk about that and talk about various screening strategies.

For other folks I think it's very important to look at the risk factors, because it's the risk factors that tend to run strongly in families: the high blood pressure, the diabetes, the high cholesterol. And those are things that everybody should be checked for whether you have a family history or not. Everybody should know what their blood pressure is. Everybody should get a diabetes screening. Everybody should get a lipid panel, a fasting lipid panel to know what their total cholesterol is, what their good cholesterol is and their bad cholesterol. Whether or not they have a family history those are important things to be checked out.

Heart Attack

Andrew:

Okay. So someone has a stroke and that may be a sign of these things in their life, smoking, diet, etc., you talked about, and it shows up at a stroke. And let's say that they're treated successfully for that and they're doing pretty well. While they could have a risk of another stroke, and I'd like to understand that, are there other things such as heart attack that they need to be cognizant of? In other words, does some of this all go together, if you will?

Dr. Alberts:

Certainly, some of the risk factors we have for strokes are identical to the risk factors we have for heart attacks. And heart attacks kill even more people every year than strokes do. So by addressing your high blood pressure, by stopping smoking, by getting your cholesterol under control, by getting your diabetes under control, by exercising, by losing weight, folks are going to reduce their risk of having a first stroke or a second stroke, and they will also reduce their risk of having a heart attack.

So those approaches really apply to everybody. And as we talked about at the beginning of the hour, as the baby boomers get older, as they move into an age group where their risk of having strokes and heart attacks really increases at a dramatic rate, it is extremely important for them to be checked out for these risk factors and for them to receive proper treatment. And typically it's going to be medications along with lifestyle changes, exercise, weight loss, things like that. And again they may need specific blood thinners like aspirin Plavix, Aggrenox, warfarin, things like that, to thin their blood particularly if they've already had a stroke or a heart attack.

Andrew:

My brother had bypass surgery quintuple bypass surgery, and it changed his life. And I think he's on his second life now and he exercises and quit smoking, and he made dramatic changes. So when we hear about stroke, help us understand the risk of a second stroke but how kind of getting religion, if you will, and changing can really lower that risk.

Dr. Alberts:

Right. In general, after you have one stroke your risk of having another stroke is somewhere in the range of 8 to 12 percent per year. But it's typically highest in the first year, and then in subsequent years after the initial stroke the risk of having another stroke continues to go down. But it still remains elevated over what it would otherwise be if you did not have the first stroke to begin with.

Now, medications that reduce blood pressure, that reduce cholesterol, that treat the diabetes and that thin the blood can reduce your risk of having another stroke by anywhere from 20 or about 45 to even 50 percent as well as reducing your risk of having a heart attack after the stroke by again from anywhere from 20 to 45 or 50 percent if you're on the proper medications and if you take them properly and reliably.

Andrew:

I think what you just said is so important because a lot of people end up with several daily medications. Those doses are there for a reason, and the timing of the medicines, etc., I imagine can be critical. So it's so important to have that active discussion with your doctor to make sure that you're doing your best to either prevent a stroke, keep the blood pressure down, all the other things we described. Or if you've had a stroke so you never have one again.

We're going to take another break. We'll be back with Dr. Mark Alberts, the director of the stroke program at Northwestern Memorial Hospital. As we continue, we'll check in with Gerry Mullin in the hospital recovering with his wife, Maya.

If you'd like more information about Northwestern Memorial Hospital's physicians and services just visit www.nmh.org. I'm Andrew Schorr. Stay tuned for more Patient Power on HealthNet brought to you by Northwestern Memorial Hospital.

Research and the Future for Stroke

Andrew:

Thank you for joining us for today's edition of Patient Power. We've got a few more minutes to wrap things up as we understand about stroke. You know, we do this every two weeks. Our next program is going to be devoted to hypertension in women. So we know hypertension is not a good thing, want to avoid stroke. And we're going to hear from Dr. Renee Scola and understand more about that

particularly for women. They have this wonderful women's center, all this emphasis on women's health at Northwestern Memorial Hospital, so we want you to pay special attention to that, tell people.

So, Dr. Alberts, you are a professor of neurology at the Feinberg School of Medicine at Northwestern and Feinberg does a lot of research as well. What can we look forward to when it comes to stroke? What are you all working on to try to make things better?

Dr. Alberts:

We have some new research coming down the road and some new protocols that we're going to be starting in the very near future. And these are studies, some of which are aimed at patients with acute stroke, approaches to try to reduce the damage from acute stroke, as we talked about before, using some unique tools and some unique methods.

We're also going to be starting a study of a new type of blood thinning agent that has the potential to reduce the risk of having another stroke after you've had a first stroke. And these are both cutting edge research trials that we're very excited about. They're sort of the next phase, the next step forward for both acute treatments and as we call it, secondary prevention.

So we're very excited about this and once the studies are up and running there will be some advertisements to the public letting them know about these studies and the inclusion and exclusion criteria.

Andrew:

Right. I want to make my statement about clinical trial. So I'm an 11-year leukemia survivor, and I chose to be in a clinical trial and participate with researchers in cancer to see whether a new combination of medicines would work better, and it did. So that's something I think for people to always consider. And see if it's right. If you happen to be treated at Northwestern and your doctor mentions it, see that as in the mix of what you might want to consider. Certainly if you're in acute situation of stroke you want to do what's best to save your life and lower your risk of disability, of permanent disability. But I always like the idea of an academic research center where some of the newer things are being looked at and if I can choose to play a role, if it makes sense to me, I'm happy to do that. So that's everybody's individual decision.

So, Dr. Alberts, just to wrap up with your clinical part of it, I know you're very proud of your center, your stroke center at Northwestern Memorial Hospital. It sounds like the speed and the quality of what you do there lowers disability, and I bet you've saved a lot of lives there. You must be very proud of what's going on there and your team.

Dr. Alberts:

I'm extremely proud and everybody needs to understand that this is very much a team effort. It's not just one physician. It's a group of physicians, nurses, technicians, therapists, pharmacists, dietitians, swallowing experts and especially the hard-working nurses in the emergency department, the stroke unit, the ICU, the floor, as well as the rehab experts that really work together to ensure that patients have a good outcome.

I'm very fortunate and very thankful to be working in an environment such as Northwestern Memorial Hospital where the administration is very supportive of our programs. They've been extremely supportive and resourceful. They provide us with the resources, the personnel, the equipment, the infrastructure to make this program really one of the top stroke programs in the country, if not the world. So I want to acknowledge and thank all of my colleagues at Northwestern who have worked very, very hard on this coordinated effort.

Andrew:

Dr. Mark Alberts, thank you so much for being with us. I'm glad you work where you do, and I'm glad it's a good situation for all. I'm really delighted to hear that.

So Maya Mullin, you're joining us again. You're in the hospital room of Gerry who had the stroke Sunday, and there he is recovering under the care of the team that Dr. Alberts described. You know, maybe you've thought about it if somebody said that, you may have, by recognizing the signs of a stroke, you may have saved Gerry's life.

Maya:

I may have, but I may have saved further disability.

Andrew:

Yes. Absolutely. Absolutely. So when you said you recognized the signs of a stroke, and we discussed that on the show numerous sometimes today, I hope that message has sunk in for people because they can just give their loved one or coworker or friend a tremendous gift by taking action fast and you did, Maya. So I give you a medal for that.

Maya:

Well, thank you for the medal. But I think that one message that everyone really ought to get is that one cannot just sit around and wait. You just have to move very quickly.

Andrew:

As always, you know, we believe Maya, best to you, best to Gerry. Dr. Alberts, thank you.

We'll be back in two weeks as always the message here is knowledge is power and knowledge can be the best medicine. We want to prevent strokes, and we want to make sure that you have a lifestyle that makes you stroke-free. Certainly if you have the risk factors in your family you want to be evaluated. This is going to help you if you keep your weight down, if you don't smoke, and I think you hear that all the time, not a good thing or quit smoking, please do.

So much to do. Low cholesterol, monitor your blood pressure, keep that down. You have a chance of living a long, healthy life. If you're lucky enough, if you have a stroke, if you recognize the signs get treated fast. Hopefully that will get you back on your feet soon and that's what's happening with Gerry.

Thanks so much for being with us. I'm Andrew Schorr. This has been another edition of Patient Power on HealthNet brought to you by Northwestern Memorial Hospital. See you in two weeks.

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