

**Pinn Point on Women's Health**

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ANNOUNCER: From the National Institutes of Health in Bethesda, Maryland, the Nation's medical research agency, this is Pinn Point on Women's Health with Dr. Vivian Pinn, Director of the Office of Research on Women's Health.

Now here's Dr. Pinn.

DR. PINN: Welcome to another episode of Pinn Point on Women's Health.

Each month during this podcast, we take a look at some of the developments in the area of women's health and the medical research that affects our lives. For today's podcast, I am delighted that we will have as our special guest, Dr. Robert Carter, who is the Deputy Director of the National Institute of Arthritis and Musculoskeletal and Skin Diseases here at the National Institutes of Health.

Dr. Carter is an internationally recognized expert in the area of autoimmunity, and that is what we are going to be discussing with him today, but, first, some hot

flashes from the world of women's health research coming up in just 60 seconds when we continue with Pinn Point on Women's Health.

[Commercial break.]

DR. PINN: Welcome back to Pinn Point on Women's Health.

As promised, we will again take a look at some brief hot flashes in the news regarding women's health research.

The first that I want to mention today is that related to urinary incontinence, I know something that we don't like to talk about, and therein lies part of the problem because, while this is more common in women than in men and may be due to many different causes, about 80 percent of urinary incontinence is curable.

I want to just point out to you, without going into more detail, that there are two other Web sites that you can consult that may give you information.

One is the National Institutes of Health Web page, which is NLM, for the National Library of Medicine, [NLM.NIH.gov/MedlinePlus/UrinaryIncontinence.html](http://NLM.NIH.gov/MedlinePlus/UrinaryIncontinence.html).

Let me repeat that, [NLM.NIH.gov/MedlinePlus/](http://NLM.NIH.gov/MedlinePlus/)

UrinaryIncontinence.html, or just go to NIH.gov, and write in your inquiry related to urinary incontinence.

And another good Web site is that of the Mayo Clinic on urinary incontinence, and that is at [MayoClinic.com/Health/Urinary-Incontinence](http://MayoClinic.com/Health/Urinary-Incontinence), and that can give you some good information related to this condition of urinary incontinence.

Remember, women, that it is possible to cure or to overcome some of the major problems related to urinary incontinence, and I remind you that we did a podcast on pelvic floor disorders where we discussed some of the implications and issues related to urinary incontinence in some detail.

I want to also let you know that in another hot flash, the American College of Obstetricians and Gynecologists, referred to as ACOG, has recently launched a new Web site devoted to women who are approaching or going through the menopausal transition. This Web site is going to provide lots of information about the questions that women continue to have about issues related to menopause such as hot flashes, sleep problems, urinary incontinence, depression, osteoporosis, breast cancer, heart disease. All

of those issues and concerns that you may want to ask your doctor about, you can ask about through this Web site, and this ACOG Web site is at [Pause.ACOG.org](http://Pause.ACOG.org). Again, [Pause.ACOG.org](http://Pause.ACOG.org).

Finally, as you are looking at your plans for the fall, I want to just remind you that the Office of Research on Women's Health is approaching its twentieth anniversary, which will be celebrated in September 2010, but, in preparation for that, we are taking another look at our research agenda and what the priorities are that we should be focusing on during the next decade here at the National Institutes of Health, looking at priorities related to research and issues related to women's health and what we still need to address or have not addressed adequately thus far.

So I just want to remind you that we have two public meetings coming up, one, October 14th through 16th, 2009, that will be held at Northwestern University, the Feinberg School of Medicine, in Chicago, and one just a month before that at Women and Infants Hospital at Brown University in Providence, Rhode Island, and that will be September 21st through 23rd, 2009.

During both of these meetings, we will have working groups discussing issues of importance to women's health, but we also invite and welcome public testimony from any organization or any individual with an interest in women's health. So, as you are looking at your fall calendars, note these dates, and we hope we will see you there.

We will have more updates in the next podcast, but coming up in just a few minutes, I will visit with Dr. Carter for a discussion about autoimmunity and its importance for women's health. We will be right back with more Pinn Point on Women's Health.

[Commercial break.]

DR. PINN: Welcome back to Pinn Point on Women's Health, and I am very excited that today, we have a chance to discuss autoimmunity with Dr. Robert Carter, who is Deputy Director of the National Institute of Arthritis and Musculoskeletal and Skin Diseases here at the National Institutes of Health in Bethesda, Maryland.

Dr. Carter, welcome to our podcast.

DR. CARTER: Thank you, Dr. Pinn.

DR. PINN: I know that you are an expert in this

field of autoimmunity and have long been involved in research on this topic and have recently joined the National Institutes of Health to lead many of the research programs related to autoimmunity and many other topics that are sponsored by NIAMS, but why don't we start for our audience in explaining, if we are talking about autoimmunity, what is autoimmunity, or what are autoimmune diseases, and why are these important for women to know about?

DR. CARTER: So autoimmune diseases are a range of disorders that can affect just about any organ system in the body, from your hair to your toenails. So they can cause all sorts of different problems.

They are often chronic diseases that go on, once you have them, often lifelong. So, although they don't get quite the publicity of, say, cancer or a sudden heart attack, actually the burden of the diseases is enormous because they do go on for the lifetime.

There are a group of diseases that we think of, at least conceptually, as due to the fact that your immune system, which is designed, we think, to fight infections, becomes overactive and, instead of fighting infections, fights your own body, and that can happen even in very

localized places, like you can have isolated autoimmune disease in your thyroid that only attacks your thyroid disease, or it can happen all over the body, what we call systemic autoimmunity.

And it's the latter type that we at NIAMS are particularly interested in, and diseases like rheumatoid arthritis, lupus, or scleroderma would all be considered systemic autoimmune diseases. They do tend to affect women more than men as a general rule.

So these are diseases that are not as common as, say, cancer or a heart attack, but, in aggregate, they actually affect a lot of people, and they are chronic, and they do affect women in particular.

DR. PINN: Well, I think that points out the importance of learning more about these conditions and sharing with our audience some of the things that we do know, and why don't we start with lupus. Obviously, there are many autoimmune diseases, and we won't be able to cover all of them during this podcast, but of those three that you mentioned, I think they are worthy of discussion. Certainly, lupus is always a topic of interest.

So tell us, what is lupus?

DR. CARTER: We all wish we knew the answer to that question. Lupus can be defined as a constellation of problems, diseases which show up as various manifestations, and they can affect the skin, the kidneys, the hair, the lungs, the gut in terms of the lining of the gut, and they found an association with particular blood tests, and that combination, then, is used to make the diagnosis of lupus.

One of the problems with studying it is that different people will have different combinations of those disorders, although most commonly in association with that same panel of disorders in the blood. So, whether it is one disease or sort of a group of disorders that all go into the rubric of lupus, that makes it quite a challenge to study.

It has also been very difficult to make progress in treatment in part because we don't really understand it that well, that probably a variety of different problems, which can lead to the syndrome, this group of disorders.

The other thing about it is that it is often devastating, and it is terrible, for a very sick patient with lupus can be as ill as anybody you have ever met. In fact, the toughest part about it is that this is a disease that still kills young women of child-bearing age, and as a

physician, I have seen and tried to care for these patients in ICUs who are as sick as anybody there and were not always successful.

So, from a patient care standpoint, it is a huge burden for families. For the physician, it is a real clinical challenge. Then, from the research side, it is both extremely a fascinating disease because of its complexity and a challenge in terms of developing new therapies.

DR. PINN: We often hear from some of the advocacy groups related to lupus, stories about how they had lupus for years, and it wasn't diagnosed. Obviously, your patients were handled and I am sure diagnosed early on, but maybe you could say a little bit before we talk about some of the research about how lupus presents and how women might -- when they might want to question their doctors or when they might want to even think about the possibility they have lupus.

DR. CARTER: So there is actually an ongoing campaign. It actually just started a couple months ago from the Department of Health and Human Services, Office of Women's Health, with Ad Council working with several of the

advocacy organizations to try to broaden awareness of lupus in young women and in part because it can start fairly insidiously with maybe just a rash, particularly on the face and certain parts of the face, maybe fatigue, maybe some stiffness or pain in the joints, and sometimes with some low blood counts. Those things, just the fatigue and feeling tired and some aching in the joints, obviously can happen to a lot of people who don't have lupus. So a lot of doctors will dismiss those as what they say "non-specific," which means they don't know what is causing them.

But if a physician who is tuned into this thinks, well, here is a young woman, particularly a young black woman, who has got a rash and some arthralgias and do a blood test and some of their blood counts are a little low, that physician ought to be clued in that these are signs of a serious disorder.

And the Ad Council campaign is to help women be aware of this possibility that, particularly in those at risk, particularly if you have family members, to go ahead and question your doctor.

Now, the truth is that most people who have fatigue and joint pains won't have lupus, but, particularly,

if you have a family history or some other signs, you should be aware, so that you can ask your doctor.

DR. PINN: What about that butterfly rash we hear about? Is that really something typical? What is that?

DR. CARTER: That is quite typical. It is a rash that spreads out from the nose across sort of the cheeks of the face and has a very characteristic pattern in sort of the way it spreads out from the nose. It makes it look like a butterfly wing. It also gives sort of what is called a "wolf-like appearance," which may be the part where the word "lupus" comes from.

But that rash is quite characteristic, particularly in association with some of the other things I mentioned. It should definitely clue both, if you have a family member, that you're at risk, or your physician in, to the fact that you may, indeed, have lupus.

DR. PINN: And you mentioned this affecting and possibly even causing death in women of child-bearing age. Do we see this primarily in women of child-bearing age, or should older women be concerned about having lupus also?

DR. CARTER: It certainly can affect people of all age groups, and there are different sort of severities

across age groups, but, certainly, anybody of any age can be affected, including men.

DR. PINN: Let me just ask you a little bit about women versus men -- or I shouldn't say women versus men, but looking at lupus, and as you pointed out, many autoimmune diseases are more common in women than in men, and that is especially true of lupus.

Do we have any understanding of why this may be the case?

DR. CARTER: It is an area of very active research right now, and, as a physician, my biggest care is to take care of the patients, but, as a researcher, it is actually quite interesting. That is why a lot of us are brought into this field because it is such a fascinating disease, and the research is making progress in understanding these sorts of -- the gender differences really provide a clue of what is going on. So there is something about being female that leads you to an almost tenfold higher risk of having the disease.

So there are two main ways we can think of that. One is, obviously, the hormonal balance is different between men and women, and there are receptors on cells that control

the immune system that respond to these types of hormones, estrogen and actually male hormones as well. They can have effect that regulate the cells that can sort of ramp them up or ramp them down, and one theory is that the presence of female hormones tends to ramp up the system.

The other possibility is that women have two X chromosomes, and some of the genes that control the cells that may cause disease are on that X chromosome. So, if you have two copies of the X chromosome, that may also predispose you.

Now, that is a little complicated because the thinking is that in women, one of the two X chromosomes is shut down, so how having two would make a difference, but there is evidence that just the presence of the second X chromosome makes a significant difference. So we are still trying to understand both the role of the hormones and the genes that are on the X chromosomes and how those two things in combination increase the risk of the disease.

DR. PINN: Well, you have certainly given us a good understanding about the clinical situation with lupus and what women should think about or even men should think about in terms of lupus, and you have also referred to some

of the ongoing areas of interest for scientific investigation.

Maybe this would be a good time for you to tell us about some of the areas of research that we are pursuing right now that may offer more hope to women who have lupus or have members of their families who have lupus. What is some of the exciting research today? What should we look forward to?

DR. CARTER: Well, there's been progress in a couple areas in humans that really are opening doors. One is the ability to study the immune system in patients with lupus, and sometimes this can be as simple as drawing blood and looking at abnormalities in the blood, which occur in lupus, and you can try to understand them that way. There have been some major breakthroughs taking that approach.

The second approach is from genetics. So that if you can find the gene that is more common or a variant of a gene that is more common in patients with lupus than in people who don't have the disease, then that means there is something about that gene that is directly involved in predisposing you to lupus, and that actually starts to provide a hard fact that we can now say, well, let's look at

this gene, how does this variant in this gene lead to the manifestations that show up in patients in diagnosis of lupus?

DR. PINN: I can recall when the involvement of the kidneys in patients with lupus didn't always lead to the idea of transplantation, but I have recently read in the lay literature of some very exciting instances of families being very happy because members of their families have received transplant kidneys when their kidneys had been affected by lupus, and they seemed to have had very successful outcomes.

I just wonder if you would just say a little bit about the role of lupus affecting the kidneys and transplantation today.

DR. CARTER: So it is used and hopefully successfully, but, certainly, the end-stage renal disease is something to be avoided, and we hope to try to keep patients from getting that far.

It used to be said that patients with lupus after their kidneys had completely failed had a sort of remission, which is called "burnt-out lupus," and sometimes then those patients who would then go onto transplant would do well. I am not sure that that is still a current concept, and it is

also true that lupus can occur in the transplanted kidney in a patient who had lupus previously.

Now, the types of what we call immunosuppressants, which are the drugs you take to keep you from rejecting the kidney that is given to you as a transplant, may also be effective in controlling your lupus. So that can also help to have a good outcome that way.

DR. PINN: Well, we are making progress and more research, and we will come back in a few minutes to see what other areas I haven't asked you about that you might want to tell our audience about related to lupus, but why don't we move onto another autoimmune disease, and that is rheumatoid arthritis.

I am not sure that everyone in our listening audience knows that rheumatoid arthritis is something that is more common in women than in men. So tell us, what is rheumatoid arthritis? How would you describe it? What are the symptoms, and why should our audience be concerned about rheumatoid arthritis?

DR. CARTER: So arthritis comes in two different forms. There are two broad categories at least. One is what we think of, at least the current concept and maybe a

bit outmoded actually, is that arthritis can happen just from wearing out your joint, wear-and-tear arthritis. As it turns out, there is a little bit of inflammation involved there as well, but we will leave that aside and just call it "wear-and-tear arthritis," and that tends to happen in people who have had damage to the joint when they were young or just with age.

But there is another group of people who also get arthritis, which is problems in their joint, often at a young age where it is not due to damage. It is due to the same autoimmunity that we are talking about where the body is reacting against something in itself, and the outcome of that is inflammation in the joint. That inflammation then causes damage to the cartilage and to the bones around it, and that can be very destructive. And it does occur more commonly in women, particularly at younger ages, and it is actually a pretty common disease, somewhere around 1 in 200 to 1 in 500 people have rheumatoid arthritis.

So it is common. It is lifelong if you have it. It can be destructive, although we are making progress, and it does occur more frequently in women.

DR. PINN: What should our audience know in terms

of when they should inquire as to whether or not they might have rheumatoid arthritis, and what hope can we offer them from research that is being conducted today or being anticipated today?

DR. CARTER: So the pattern of arthritis is different in patients with rheumatoid than with other types of arthritis. So wear-and-tear arthritis will frequently affect, say, your knee or hip or the base of your thumb. Rheumatoid is most common in the small joints of your hand, and whereas wear-and-tear we call "osteoarthritis" will often affect the most distal joint in your fingers, rheumatoid actually doesn't, which is a clue there I wish we understood.

So there is a pattern of arthritis on both sides, almost always with swelling, sometimes some warmth, similar, what we call "symmetrical," so that it looks similar on both sides, often involving the small joints of the hands, although it can also involve those other joints. So that particular pattern should alert somebody that they might have rheumatoid.

The good news with rheumatoid is, unlike lupus, we have had dramatic success in our development of new

treatments. So there's three or four whole different sort of approaches, not just different drugs, but whole different approaches that have been developed and approved by the FDA, such that the very nature of this disease has changed dramatically since I have been in training.

DR. PINN: How has it changed?

DR. CARTER: Well, it used to be that, first of all, you couldn't do much, and you had things like actually injections of gold, of all things, as well as steroids, which had their own problems, and people still got devastating disease.

The other problem, I mentioned that these are examples of what is called "systemic diseases," meaning they affect the whole body. So patients with rheumatoid would often get, say, eye problems or pulmonary problems or problems in their vasculature, which could be devastating.

Those are pretty much not seen much now. It is not entirely clear whether it is the treatments or just the changing nature of the disease, but very rarely do we see the systemic manifestations anymore.

We are also doing much better at preventing the permanent damage to the joints. There are still some

patients who we can't capture, but I would say 80 to 90 percent of the time, we can prevent the type of mutilating arthritis we used to see.

DR. PINN: I think that is very encouraging because I think for those who do know about rheumatoid arthritis, unfortunately many have in their minds that deformed hands that we used to see with women or men who had rheumatoid arthritis and knowing that it affects other joints also and that we are making some progress there. What do you think are some of the avenues of research that we need to pursue or that are underway that may help us have a better understanding about rheumatoid arthritis and maybe how to prevent even better its consequences?

DR. CARTER: I would say there's two sorts of avenues that I would say are very interesting right now, and one is in terms of what causes the disease, and the second is in terms of its treatment.

So, in terms of what causes disease, I guess there's two avenues there. There's the genetics which, again, like I said with lupus, can lead us to understand certain pathways that may be involved that we didn't even have any clue to before.

There's also research into how this inflammation occurs and how that inflammation causes damage to the joint. So it is trying to understand how the immune system interacts with the cartilage and bone and other cells in your joint that leads to the destruction.

The other area is in terms of treatment. What we have now is a plethora of drugs, like I mentioned, that work through different pathways, and so maybe somebody who has got arthritis can get better on any of those drugs. Some people will, and some people won't, or maybe different people with rheumatoid arthritis have different pathways that lead to the disease, and we need to understand who will respond better to which of the drugs that we have available.

Right now, the choice of drugs, to be bluntly honest, is really based on history and exposure of the physician, more than knowledge of what a particular patient is going to respond to. The good news is that most people will respond to multiple of the different drugs we have available, but we could do a better job of understanding who is going to respond to which one because they are expensive. Sometimes they don't work, and there are side effects.

DR. PINN: Dr. Carter, is there something else

that you might want to add at this point?

DR. CARTER: Yes. In both diseases that we have talked about, lupus and rheumatoid arthritis, it actually is important to get medical care early.

In rheumatoid, this has actually been studied. So that we know that a patient who has got early disease or it is just starting, if they are treated very aggressively, they do better in the long term. In fact, we even have data that says if you actually get to see a rheumatologist, you do better. So, in both diseases, it is very important to get to a doctor, and if you do have the disease, to start treatment early and we now think aggressively.

DR. PINN: I am going to ask you to explain what is a rheumatologist, and why are some of these referred to as "rheumatoid diseases," just so our audience will have that understanding?

DR. CARTER: Right. So the term "rheumatology" goes back to the evil humors that people used to think caused disease, but the idea is that it goes back to this idea of systemic disease, that these diseases are caused by an evil humor that spreads throughout the body. So that part of the concept is still right, but that is where the

term "rheumatologist" comes from, and they often treat patients with systemic autoimmune disease.

DR. PINN: I just want to make sure that everyone in the audience knows because, if they hear that, perhaps if they see a rheumatologist, that they may have a better chance of doing well. So we want to make sure they understand, and, of course, Dr. Carter is an outstanding rheumatologist himself.

So moving onto another condition that is an autoimmune disease and this one is called "scleroderma." We don't hear a lot about that, but we do occasionally hear of people who have scleroderma, and it, I think, is an important condition for our audience to know about.

So tell us, Dr. Carter, what is scleroderma? How do people with scleroderma present?

DR. CARTER: So the term "scleroderma" has to do with the derm, which is the skin, and they get thickened skin and hard skin, and it is bound down. So it is a very distinctive finding.

It is less common than the others we have talked about, but the estimates are that about 50,000 people in this country do have it. So I wouldn't say it is rare, and

it is also quite devastating because there are different variants of it, but it can affect other organ systems besides just the skin. That includes the kidneys and the lung and the digestive track.

Particularly, in the kidneys, that is what used to be fatal. If the scleroderma of kidney wasn't treated, it was often fatal, and now still in patients with scleroderma who get the lung disease, we are making some progress, but we are not there yet. Patients still succumb to the pulmonary disease in scleroderma. So it can be quite devastating, both from the skin manifestations and the internal organ manifestations.

DR. PINN: Let's just clarify for our audience. If scleroderma affects the skin, how will I know or what will I experience if scleroderma is affecting my skin or if it is affecting my GI, my gastrointestinal tract, my digestive system? What kind of symptoms might I have?

DR. CARTER: In most people, it starts with the skin, and most people also have what is called "Raynaud's phenomenon." That is a phenomenon where when, for example, your fingers get cold, the blood shuts off to them, and they actually go through color changes. Now, most people who

don't have Raynaud's don't have scleroderma, but it is a sign.

In addition to the Raynaud's, often the skin, starting with the fingers, will become tight and such that it becomes hard to move the fingers just because of the changes in the skin, and that is the sign that we look for.

DR. PINN: Well, scleroderma, like rheumatoid arthritis and lupus is a form of autoimmune disease. What do we know about its origin, why it occurs, and do we have ways to treat scleroderma at the present time?

DR. CARTER: So I would say we are just beginning. We have a very long way to go to understand scleroderma. We really don't even at this point understand what is causing the disease. We are hoping that the genetics will give us some clue.

We have some evidence that there are abnormalities in the cells in the skin, and we have some evidence of what can drive those abnormalities, such as proteins that are produced by other cells may cause some of that thickening, but our understanding is still pretty rudimentary. What that means is that most of the treatments we have are not very targeted. They are sort of shotgun-type treatments.

We do know that we can do a little bit better with some of the treatments than no treatment at all, particularly, for example, in the lung disease, but the benefit is, I have to say, not what we would hope for.

DR. PINN: What is some of the research going on in this area of scleroderma to help us better understand scleroderma?

DR. CARTER: Well, I would say the important progress that we are making is in identifying these proteins that drive the abnormalities in the cells that then become the sort of thickening and the cells in the skin that cause the hardening and the tightness, and we have made some progress there, but we still haven't been able to translate that into treatments.

DR. PINN: You mentioned very early in this discussion about when you were describing what autoimmune diseases are, you also mentioned autoimmune thyroid disease, and I am going to ask you before we go forward to just again reiterate some of the other autoimmune diseases that affect women. We probably don't have time to discuss them, but I am sure that many don't understand that autoimmune thyroid disease is more common in women and one of the major causes

of thyroid disease.

Maybe you could just talk a little bit more in general about other autoimmune diseases.

DR. CARTER: I am getting a little bit out of my comfort zone in terms of some of the other diseases that are organ-specific, but ones that can be really a pretty significant problem is a form of baldness, alopecia, that is caused by the immune system attacking the hair follicles.

There is also skin problems, like what we call vitiligo, which is where the cells in the skin that produce the pigment are attacked, so that they lose the skin pigmentation, more obvious in blacks but occurs in whites as well.

And just about, as I mentioned, every organ system, there is inflammatory bowel diseases, there are pulmonary diseases that are autoimmune-mediated, and we have mentioned the skin and scleroderma and psoriasis. Psoriasis and scleroderma actually can also affect the nails, as I mentioned, and then, in the brain, multiple sclerosis is considered an autoimmune disease.

So it is this range of different diseases, some of which it seems to just attack very specific organs.

Presumably, the immune system is responding to something that is just in those organs, or it can attack throughout the body in the diseases that we have talked about.

DR. PINN: How important is family history in diagnosing or looking for even being suspicious that an autoimmune disease might be present?

DR. CARTER: In general, it is very important. I would say it is most important in lupus where we know that the genetic risk is quite high.

It is interesting that if you take identical twins and where one of them has lupus, there is a 50-50 chance that the other one will as well, and that chance is much less lower if they are non-identical twins. So it does mean that genes matter a lot and can very much predispose you to lupus. On the other hand, there is the one out of the two who don't get lupus. So there is something else going on besides just the genes.

What we are learning is that there are certain genes that seem to make you prone to a variety of different autoimmune diseases. We have known for a while that somebody, let's say, who's got one family member with lupus might well have an increased prevalence of disease, like the

thyroid disease we discussed, but now we are learning at the genetic level, certain genes that we find are shared more commonly between the different autoimmune diseases, where the other genes occur only in one or the other.

DR. PINN: And are some of these autoimmune diseases more common in women of color?

DR. CARTER: Well, particularly lupus, yes.

DR. PINN: Do we have any idea why that might be the case?

DR. CARTER: I don't -- not to my knowledge. I hope we do, and the problem is that sometimes there is also Latino or Hispanic Americans also have increased risk in women of those populations, and there is also some evidence that it is more severe in those diseases. Some of the genes are different between populations. Some of them are shared across populations, and some of them are different between ethnic and minorities and races.

So one suspects that that is the cause, but we are not there yet.

DR. PINN: I am going to raise another question. Even though this is about women's health, we do pay attention to men's health, and we talked about these as

being more common in women than in men, but if you are a man, could you say a little bit about how these conditions affect men or I assume affect the same way? But I don't want to leave out the men in our audience in this discussion.

DR. CARTER: Right. So most of the diseases we have been discussing are not so disparate as lupus, which is strongly female-predominant. The others, there may be some predominance. In some, actually, it is pretty equal, and in those cases, it can be just as devastating in both men and women.

DR. PINN: Well, I have sort of thrown a number of questions at you, and I have learned a lot in hearing you discuss these, but I want to turn the mic back to you and ask you what kinds of information about these autoimmune diseases, especially those we have discussed, would you like to share with the audience that I haven't given you an opportunity to talk about.

DR. CARTER: Well, I think the first thing to say is that there is a lot of information available. NIAMS on their Web site has public outreach, and we maintain a literature set, pamphlets for most of these diseases. There

are also the advocacy organizations which also can provide very excellent information, and then I mentioned the current Ad Council campaign for lupus. So I think that is the first thing to say is that there is a lot of information out there.

Then I think the other thing we mentioned earlier is the importance of getting treatment for some of these diseases. In some, we can make a substantial impact if we start treatment before the disease progresses.

I think the other thing to say is that this is an exciting time in research. We are learning a lot about the immune system just in general, and we have made some progress, particularly in diseases like rheumatoid arthritis, in trying to apply those lessons to develop treatments. So it is a very exciting time to be in this field to watch a disease like rheumatoid change over time, and at NIH, we are determined to continue to use research to understand the disease, so we develop these new treatments.

DR. PINN: Well, I want to add that the Office of Research on Women's Health has had a long and very productive and encouraging relationship with NIAMS over the years of its existence probably, mainly, because so many of

the conditions that are studied by your institute, such as autoimmune diseases, are those that are important for women's health, and many of them have been among our research priorities.

And we also have been very encouraged by the attention of NIAMS to so many of the conditions that affect both women and men, but especially those that are important in thinking about preserving wellness and treating diseases and conditions that affect women.

I really appreciate your being with us today to discuss autoimmune diseases because we know so much from activists and from advocacy groups and just from the calls we get from women or members of their family asking about lupus or asking about rheumatoid arthritis or who are concerned about what autoimmune diseases are and is NIH giving the attention to autoimmune diseases that it should, and I am delighted that you have been able to describe how much attention is being given, how we have made progress, but also recognize that there is more that we need to do.

So let me ask for any closing comments or closing remarks you might like to make.

DR. CARTER: Well, I certainly agree, and that

NIAMS has really treasured the partnership we have had with your office and very much look forward to continue that work together.

DR. PINN: And we look forward to working with you on not only conditions we have discussed today but many other conditions that affect women with NIAMS and across the NIH.

So, with that, coming up next, a few final thoughts for this month when Pinn Point on Women's Health continues, but, first, let me thank Dr. Carter for a very informative and excellent discussion about autoimmune diseases, an area of great importance for women's health and for women's health research.

[Commercial break.]

DR. PINN: And now a few final thoughts, I want to again express our appreciation to Dr. Robert Carter, who is Deputy Director of the National Institute of Arthritis and Musculoskeletal and Skin Diseases. Yes, that is a big title, but they cover a lot of areas in the research at NIAMS. But I want to thank him for being with us and providing for us a very informed and up-to-date discussion of autoimmune diseases.

As you have heard, many of these autoimmune diseases, those that he discussed and others that he mentioned, are often more common in women, especially lupus, but may occur in both women and men, and, in fact, one of the areas of focus that we have had for research for sometime has been maybe if we learned why these are more common in women than in men, it will help open some additional secrets as to why these conditions exist.

We heard from Dr. Carter about some of the advances that have been made. We heard from him about information related to these conditions, so that you yourself can raise these as issues, but, as you heard, not everybody who has fatigue actually has lupus. But it might be something to think about.

You heard about the importance of consulting a rheumatologist if you have one of these autoimmune diseases, but, certainly, general practitioners, internists, and others all are aware of these autoimmune diseases. We have learned about them for many years, but we know that we are now learning much more, and, again, those are the benefits of research.

I want to give you at least two Web sites now from

which you can obtain information about autoimmune diseases or specific information related to lupus, rheumatoid arthritis, and scleroderma, and one is our own office Web site, which is [ORWH.NIH.gov](http://ORWH.NIH.gov), and that is for the Office of Research on Women's Health, [ORWH.NIH.gov](http://ORWH.NIH.gov), or go to the Web site for NIAMS, which is [NIAMS.NIH.gov](http://NIAMS.NIH.gov). If you can't remember all of that, just go to [NIH.gov](http://NIH.gov), and enter in the condition or enter in "autoimmune diseases," and it should take you to the NIAMS Web site or to our Web site or other Web sites across the NIH.

In a moment, the announcer will tell you where to send your comments and suggestions for future episodes, and it will also provide to you the Web sites for the ad campaign related to lupus and a couple of other organizations that you might wish to know about for more information.

I want to thank Dr. Carter for being with us. I want to thank you for listening with us, and I want to conclude today's podcast by reminding you that I am Dr. Vivian Pinn, Director of the Office of Research on Women's Health at the National Institutes of Health in Bethesda, Maryland.

Give us your suggestions and your comments, so we can plan future podcasts to address issues of interest to you, and thank you for listening.

ANNOUNCER: You can e-mail your comments and suggestions concerning this podcast to Dorie Hightower at [dorieh@nih.gov](mailto:dorieh@nih.gov). That is [dorieh@nih.gov](mailto:dorieh@nih.gov).

And the other Web sites Dr. Pinn wanted to mention include the American Autoimmune Related Diseases Association at [www.AARDA.org](http://www.AARDA.org) and the U.S. Department of Health and Human Services Awareness Campaign About Lupus at [www.CouldIHaveLupus.gov](http://www.CouldIHaveLupus.gov).

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