Annual Dilated Eye Exams

Even if you have no symptoms, it's so important to go see an eye doctor once a year. Yes, once a year as part of your annual healthcare maintenance, you should be making that eye appointment and do not forgo the dilated eye exam.

Yes, you can get photographs taken of the back of your eye non-dilated, but I strongly recommend you still have an eye doctor dilate your eyes and take a look, not just at the macula, but the entire retina to make sure everything is healthy.

So don't forgo, don't skip that dilated eye exam. I know it's a little inconvenient to have to go and get your eyes dilated and then you'll see blurry for a few hours, but it is so worth it if you want to protect your vision.

Welcome to the IQ podcast. I'm Dr. Rani Banik here to help you boost your IQ with powerful insights that connect your eyes, your brain and your whole body wellness.

Hello and welcome to the IQ podcast. I'm your host, Dr. Rani Banik, also known as America's integrative eye doctor. And through this podcast, I share with you insights that will empower you to take better care of your vision and your brain health to help you see clearly for life.

Now, February happens to be Macular Degeneration Awareness Month. And in honor of this month, I'll be doing a multi-part series all about macular degeneration.

Podcast Introduction and Macular Degeneration Series Overview

First, I'll be sharing with you what is macular degeneration, which part of the eye does it affect, how does it look like in the back of the eye when your eye doctor examines you, and then I'll be talking about the root causes of macular degeneration, why does it happen, and what are the risk factors.

Next, I'll be talking about the traditional ophthalmologic approaches to managing macular degeneration, which are mainly provided by retina specialists, but perhaps other ophthalmologists are participating in the care of macular degeneration patients as well.

And then I'll be talking about what I think is most important. What are the integrative strategies people should be employing on a regular basis to help protect their eyes against vision loss from macular degeneration?

Again, I'm a big advocate of integrative strategies. These include strategies like nutrition, lifestyle modifications, and a few other things like supplementation, which has been studied extensively in macular degeneration.

So let's get started with our series on macular degeneration. Hello, I'm Dr. Rani and I'm here to talk about something we often take for granted, our vision.

In my book, Beyond Carrots, Best Foods for Eye Health A-Z, I delve into how crucial it is to be proactive about your vision health. Certain eye issues are quite common, such as dry eye and eye strain, while others frequently develop with age like cataracts, macular degeneration, diabetic retinopathy, and glaucoma.

Some of these types of eye conditions can be debilitating and even lead to loss of vision. The good news is that many of these sight-stealing conditions are preventable if you take the right steps.

Eye Health and Supplement Bundle Promotion

Your eyes are precious and they deserve the best care possible. To ensure healthy vision for life, you need to provide your eyes with the proper nutrition they need.

Nutrients like lutein, zeaxanthin and bioflavonoids, also omega fatty acids, are like fuel for your eyes, keeping them strong and vibrant. But here's the truth, sometimes our diets have gaps.

That's where my Agile Size supplement bundle comes in. It's the result of years of research and my passion for eye health. The Agile Size bundle contains the three essential supplements I recommend to my patients.

Let's start with Fortify, a blend of powerful ingredients that protect against stressors like blue and UV light, eye strain, free radicals, and oxidative stress.

Next is Nourish, a complete multivitamin. Nourish provides the foundational building blocks your eyes need for cellular function and repair, along with powerful bioflavonoids that support the delicate structures within your eyes.

And then there's Soothe, a unique complete blend of omegas, three, six, seven, and nine. This blend of omega supports a healthy inflammatory response, nourishes dry eye, and helps fight against macular degeneration.

Remember, taking care of your eyes isn't just about today, it's an investment in your future. By being proactive now, you can enjoy healthy vision for years to come so you can continue reading, using a device, staying independent, and seeing the faces of your loved ones.

So, join me in taking the first step towards a lifetime of clear, vibrant vision. It's time to introduce your eyes to the Ageless Eyes Bundle. I invite you to learn more on my website about each of the powerful supplements that make up the trio in the Ageless Eyes Bundle.

Let's embark on this journey together because your eyes deserve nothing but the best. The Ageless Eyes Bundle. See the world with clarity and confidence.

All right, let's get started with an integrative approach to macular degeneration. This is going to be part one where I talk about the foundation, so macular degeneration 101. Let's begin with some eye anatomy.

Now, the eye is a small organ. It's about the size of a golf ball, but it's incredibly complex. It has over 40 different parts that work together to allow us to have vision.

And it has also over 200 cell types that work together, again, to capture light energy, process light energy, and keep other cells healthy that are kind of the supporting structures of the eyeball.

Now, this schematic here doesn't show you all 40 parts and 200 cell types. It just points out the most important parts of the eye. Now, what I want to point out to you is that the front part of the eye, the cornea, the iris, the pupil, the lens, which are shown on the left side of the picture, are not involved in macular degeneration.

Macular degeneration is a disease of the retina, which in this picture is shown in this lime green color. Now, the retina is a very thin layer of nerve tissue in the back of the eye.

So it's all the way in the back of the eye. And in reality, I know here the picture is showing the retina colored in lime green. It's not really lime green.

It's actually the retina is transparent. It is completely clear. But for demonstration purposes, that's why it's colored in this picture. Now, when your eye doctor looks in the back of your eye, what they see is basically something like what's shown on the right side of the picture of the slide.

They see the center part of the retina, which is what we're seeing here. Now, just to orient you, this yellow circle here is the optic nerve, and that's where the retina cells sends all of its nerve axons through the optic nerve to connect with the brain.

But this is the optic nerve and these are the blood vessels coming off the optic nerve, which we can see here.

Macular Degeneration 101: Eye Anatomy and Retina Basics

And then all this orange back here is actually the retina. Now remember I said the retina is transparent, it's clear. It's not really orange as we see here.

The reason why it looks orangish red is because the retina has a lot of blood supply. not just the blood vessels that we see here over here on the surface or within the retina, it also has a lot of blood supply behind.

So there's a structure behind the retina called a choroid. And so there's a lot of circulation to the choroid giving it a reddish orange color. But again, the retina is clear.

Now in terms of more anatomy, the retina again is this layer of nerve tissue in the back of the eye, but the center part of the retina is called the macula.

And this is the part that gets affected in macular degeneration. So what you're seeing here, you see these blood vessels right here? The area between those blood vessels is called the macula.

And the macula is very important because it is responsible for our high resolution vision, meaning our 20-20 vision comes from the macula. If you don't have a healthy macula, you will not be able to see 20-20.

Now, the image on the left side of the screen here is showing you, this is a cross section, a schematic of the many different layers of the retina. So the retina is not just a single cell layer, it actually is comprised of nine different layers.

And this picture is showing you eight layers, there's one missing, and then some of the different cell types within those layers. But a lot of those cell types, the 200 cell types that I described below, a lot of them are actually found within the retina.

There are many various different types of cells and they each have their different roles within the retina to capture and process light energy. Now, moving on to a little bit more about the retina and the macula.

Remember I said the macula is where we get our 2020 vision from? It's actually, there are even subdivisions within the macula. The very center part of the macula, which is this darker area we see right here, this is called the fovea.

And the fovea is responsible for our highest resolution vision. And even within that, in the center of the fovea is something called the foveola. Yeah, so you have the retina, which is the entire structure, the macula, which is within those two blood vessel kind of arcs.

And then you have the fovea and then the foveola. So the reason I'm showing you this is because the closer you get to the center of the retina, to the foveola, the higher resolution vision comes from that central area.

And you can think of it like a bullseye. So the target, the very central circle of the bullseye, that red central circle, is basically the foveola. And then you get further away.

And as you get further away from the center of the retina, from the center of the bullseye, vision drops off, meaning the quality of vision drops off.

So resolution, color, it becomes less clear as we get away from that center part of the retina. Now, why am I showing you all this? Well, because this is very important to understand the anatomy of the retina and the macula and the fovea when we're talking about macular degeneration, because it is a disease that affects all of these areas.

So it affects the macula, but even more important than that, it affects the fovea. And if it also affects the foveola,

then that's when people can lose significant vision.

So age-related macular degeneration, or AMD as it's known as for short, affects the central part, the fovea. And what happens is, so the image on your left is someone with a healthy retina.

The image on the right is someone with macular degeneration. And what you'll notice here are these yellowish-white deposits. And these deposits, they're called drusen, and it's spelled D-R-U-S-E-N, drusen.

Drusen is the German word for pebble or stone, or small pebbles or small stones, because they look like that. They look like these tiny little yellowish-white pebbles in the back of the eye.

So this is the patho-pneumonic, or the classic appearance of macular degeneration, these little drusen deposits in the back of the eye. Now, what are these drusen deposits?

Well, they are basically waste products that have not been cleared. And I showed you earlier the many different cell types in the retina. There is a layer of cells underneath all of those cell types called the retinal pigment epithelium.

And these cells are responsible for clearing waste products from the retina. The retina is very metabolically active as it has one of the highest metabolic rates in the body.

Similar to the brain, it's highly metabolically active. It processes a lot of energy, processes light energy, it requires a lot of energy, and in doing so, it creates a lot of waste products.

And when those waste products don't get cleared by the retinal pigment epithelial cells or the garbage collectors of the retina, when they don't get cleared, they can get deposited underneath the retina.

And we see these as drusen. So these deposits, they are mainly made out of proteins and lipids or fats. and some calcium and phosphate. And basically these deposits start to accumulate.

They start to grow in size and number. And eventually they can have inflammation. And then eventually they can cause so much inflammation that new blood vessels grow and then they can bleed.

Now this is a process that happens in macular degeneration slowly.

Stages of Macular Degeneration and Vision Loss

It doesn't happen overnight. It takes years to decades for this process to happen where initially there's just a few waste deposits. They grow, they grow, they grow.

They grow in size and number and then they can become inflamed and then you can get bleeding in the back of the eye. So the next few slides, I'm going to be showing you what this looks like in the back of the eye when your eye doctor goes in and examines you and assesses your stage of macular degeneration.

So the first stage is, you can see that in this picture here, I showed you some of the drusen before. Those are pretty larger size drusen, but usually people start off with these tiny little yellowish white pebbles or drusen.

And sometimes there'll be some darker pigmentary changes as well. So you can see kind of these darker, blackish-brown kind of speckled areas along with the drusen.

So this stage is the earliest stage of macular degeneration. It is what we call early dry AMD, dry, because there's no fluid, there's no leaking. It's just these drusen deposits that are starting to accumulate.

Next. After this stage, if it continues, if it progresses, people may develop more and more drusen. And we call this intermediate dry AMD. And there are actually criteria for this.

So the drusen have to be of a certain size, certain distribution to be classified as intermediate dry AMD. And your retina doctor or your ophthalmologist can talk to you about these different stages and how you classify if you do have AMD.

But basically, the difference between early and intermediate is more drusen, larger drusen as well. but it's still dry, meaning that nothing has bled yet.

There's no bleeding, there's no fluid. Now the next stage after this is what we call advanced dry AMD. And it's not always the next stage after intermediate stage, there's actually another stage, which I'm gonna show you in just a moment.

But this is if those drusen keep accumulating and they kind of coalesce, So they're kind of bunching together, they are merging together. If they coalesce into larger areas of disease, then we call this geographic atrophy or GA for short.

And you may have heard of geographic atrophy because now there are medications that are FDA approved that are injections, eye injections, that are used to treat geographic atrophy.

So basically it's coalescing, drusen, where there's so much inflammation that's happening that the actual retina starts to deteriorate and we call that atrophy.

So this large circle right here, this large yellow circle right in the middle, these are actually no longer drusen. These are areas where the retina has deteriorated and degenerated and the retinal photoreceptors, meaning the cells that capture light energy, have been destroyed.

They've been lost. And you can see some of the drusen still around that area. There's some smaller areas of drusen. But when this happens, this is end stage dry macular degeneration or advanced dry macular degeneration.

And unfortunately, even despite our amazing advances in ophthalmology and our technologies and our abilities to treat eye disease, there is no way to reverse this once it's developed, unfortunately.

And our goal as eye doctors is to help our patients or help them prevent progression to this end stage disease. Now, the other type of advanced macular degeneration is now, you can see this picture looks very different from the other pictures that I've shown you.

This is neovascular or wet AMD. And we definitely want to help our patients avoid getting to this wet stage because when this happens, remember I said that the drusen cause inflammation and then the inflammation causes new blood vessels to form?

Well, these new blood vessels, you would think that, oh, new blood vessels, that's a good thing because there's more blood getting to the retina, more oxygen getting to the retina.

Unfortunately, it's not a good thing because these new blood vessels are not normal. They are very thin, they're very fragile, and they tend to bleed.

And when they bleed, they can look like this. There's sudden hemorrhage. You can see all this blood. And they bleed and they leak not just blood, but fluid, proteins, lipids.

It all leaks into the retina. place where these liquid substances are not supposed to be. The blood is supposed to stay within the blood vessels. It's not supposed to seep into the retina and get into the retinal photoreceptors, et cetera.

So when this happens, usually it's a very sudden change when there's bleeding. And people usually lose vision very suddenly because there's a lot of obscuration of the fovea of the photoreceptors that are still viable.

And so people suddenly notice a sudden change in their vision. I like to call this as an integrative eye doctor. Well, basically, let me backtrack a little bit.

In the integrative and functional medicine world, many people are very familiar with the concepts of leaky gut, leaky brain, leaky heart, leaky skin. I think this is the prototypical leaky eye syndrome.

Yes, leaky eye. You heard it here first. I coined this term years ago, but now I'm trying to make it more common so people can better understand what's going on here.

There is fluid that's leaking into a place in the eye where it's not supposed to be. It's leaked out because there's dysfunction. This, unfortunately, when it happens, it really is quite devastating for patients because they lose so much central vision.

They can be legally blind from neovascular wet AMD. And it's very unfortunate that this happens because there are ways to prevent it. And I'll be talking about prevention strategies in a later episode.

But I just want to give people the reassurance that there are things that can be done to prevent it from getting to this stage. Now, what may a person with macular degeneration notice in terms of symptoms?

Well, because the macula and the fovea are responsible for central vision, that is what's affected. And so the image on the left is showing you a child and someone's looking at the child and they have normal vision.

You can see the details of the child's face, their hair, like it's very clear and the colors are very bright and it's normal. On the right-hand side of this image is someone with macular degeneration, how they may see.

This is just a schematic of what they may see. This is a simulation of what someone may see with wet macular degeneration. So there's central vision loss where there's kind of a graying or a blur in the central part of one's vision.

The periphery may still be intact where you can still make out the details in the periphery, but centrally, you can no longer make out this child's face, their details of their face.

So this is something that can happen either with geographic atrophy, the dry advanced form that I showed you, or with wet macular degeneration. Usually in that situation, it's like a dark, not kind of grayish like I'm showing here, but a dark area where they're not seeing right in the middle.

Now, how can we try to pick this up early? How can we detect vision loss, you know, without going to the eye doctor? How can you detect vision loss before you need to go get it checked formally with a dilated eye exam?

Well, a tool that we use is something called the AMSLR grid. And this is something that you can get on the internet. You can print out. I will include a link to this in the show notes.

But basically, the AMSA grid is basically one millimeter squares of one millimeter square area. And there's 20 of them across and 20 of them going down vertically.

So it's a grid paper with a central circle. And what you're supposed to do is you're supposed to look at this with each eye individually. So you cover one eye, you look at that center dot, and you make sure that you can see all four corners of the big square.

Make sure that all the lines are straight, that they're not missing or distorted.

Symptoms, Amsler Grid, and Importance of Early Detection

And that's what somebody with normal vision would see. And then you do the other eye and you make sure again, you can see that central dot and everything else looks straight and there's no missing areas or distortion.

Now someone with macular degeneration, particularly when someone has developed wet macular degeneration, they can get this distortion in the lines on the amsar grid.

And the distortion is from fluid. There's fluid there that should not be there. So it's caused this what we call, in technical terms, we call this metamorphopsia.

When something that should be looking straight, that should be straight, looks curved or distorted. For example, You don't even need an AMSR grid to look for this.

You can look at a straight edge or a door frame. And if the door, the edge of the door looks distorted, that could be that there is fluid in your retina.

And you can also see that in this particular AMSR grid image, there's also a gray spot right in the middle, which is probably from wet macular degeneration or fluid that's leaked causing that gray spot.

We call that a scotoma, the central scotoma. Now, I talked a lot about the different stages of macular degeneration, what some of the symptoms may be.

What I do want to share before I talk about risk factors is that in the earliest stages of macular degeneration, for example, early dry AMD, intermediate dry AMD, people may have no symptoms whatsoever.

They may have no idea that this disease is developing and progressing. And this is why it's so important to get checked. Even if you have no symptoms, it's so important to go see an eye doctor once a year.

Yes, once a year as part of your annual health care maintenance, you should be making that eye appointment and do not forgo the dilated eye exam. Yes, you can get photographs taken of the back of your eye non-dilated, but I strongly recommend you still have an eye doctor dilate your eyes and take a look, not just at the macula, but the entire retina to make sure everything is healthy.

So don't forgo, don't skip that dilated eye exam. I know it's a little inconvenient to have to go and get your eyes dilated and then you'll see blurry for a few hours, but it is so worth it if you want to protect your vision.

So that's my little public service announcement for today. Get your eye exam, schedule that appointment if you haven't yet had it in the past year. Now, let's talk a little bit about risk factors for macular degeneration.

I like to divide this into two buckets. There are non-modifiable risk factors that are shown on the left of the screen, and then there are modifiable risk factors.

So what are the non-modifiable risk factors? Factors that we have no control over, we can't change. Number one is age. we know that macular degeneration, age-related macular degeneration, tends to affect people more as they get older.

It's more common in people above the age of 70, though that being said, there are people in their late 40s, 50s who have early stages of macular degeneration.

It's not so common, it's about 2% in those younger age groups, 40s, 50s, about 2%. But if you look at individuals who are above the age of 75, that risk goes up to 30%. If you look at people who are in their 80s, that risk goes up even higher.

So the older you get, the more likely that this could happen. So again, if you're listening to this, if you're above the age of 70, 75, please go get your annual eye exam and get checked for AMD.

Other risks, genetic risks. I could do a whole other podcast on this topic alone, and I probably will at some point. But what are the genetic risk factors for AMD?

Well, there have been over 50 genes identified linked to AMD. A lot of those genes, we don't really know what they do.

Risk Factors and Prevention Strategies

We think that they're involved in lipid metabolism. maybe inflammation, maybe blood vessel growth. We're not sure what a lot of those genes do, but some of those genes, we do know what they do.

And there are genetic tests that can be done. And yes, I do genetic testing in my practice to help people identify their risk and stratify their risk.

but it is a genetic condition in many people where if they have a first degree relative with macular degeneration, then their risk of AMD goes up significantly.

So if you have a family member with macular degeneration, that means that you're at risk as well. A blood relative with macular degeneration, you are at risk as well.

Whether you have a parent, a child, a cousin, sibling, you're at risk. So get checked out, please, please, please. Other risks, we know that women are slightly more predisposed to macular degeneration than men.

So especially if you're a woman, be proactive. Don't wait for something to happen. Don't wait to lose your vision. Please go get it checked out. And this is also really interesting.

Another non-modifiable risk factor is pigmentation. So we know that people who have lighter pigmentation, whether it be lighter colored eyes, whether that be blue eyes, green eyes, gray eyes, are at higher risk for macular degeneration.

We know that people who have lighter colored hair, blonde hair, lighter skin are more at risk for macular degeneration. Now, why is this? We can presume that it's because pigment in the skin reflects pigment in the back of the eye or melanin in the back of the eye.

And the more melanin people have, the more protective it is against macular degeneration. So unfortunately, people with those beautiful blue eyes are more at risk for macular degeneration.

So if you have blue eyes, get checked out. And I'm going to be sharing some strategies as well later in this series about what you absolutely need to do to protect your eyes from AMD.

Let's talk a little bit about modifiable risk factors. I'm just going to give you an overview because we're going to go into depth in a lot of these in a future episode.

But diet, you can change your diet. You can do things to protect against macular degeneration. Activity level, weight, smoking status or exposure to toxins and fumes and air pollution.

These are all modifiable risk factors for AMD. And we know that from studies done by some very well-known researchers in macular degeneration, including Joanna Seddon, who's a leading researcher in lifestyle and nutrition for macular degeneration, we know that if you modify your risk factors via these aspects of choice, diet, lifestyle, exercise, et cetera, you can significantly reduce your risk of disease progression, even if you have some of the other risk factors.

So it is not a disease that you're fated to have. You can change your future by making some adjustments with your choices, diet and lifestyle choices.

So I'm going to wrap up today's session on AMD, but I do want to say that for treatment approaches, early or intermediate stage macular degeneration, what's really important, diet, lifestyle, supplementation, and possibly light therapy, and we're going to be talking about that in a future episode, for advanced wet or dry macular

degeneration.

There are treatments that are now FDA approved. There's quite a few now that are FDA approved. These are eye injections that need to be given on a monthly or several monthly basis.

And they protect vision. They've helped millions of people stabilize their vision loss, but they don't necessarily reverse the vision loss that has been already occurred.

So the goal is to maintain what you have. Unfortunately, this eye injection is basically chasing the disease after it's already developed. And there's only so much we can turn around and reverse.

So yes, they are essential if people need them, but people should have the appropriate expectation that the injections are more for maintenance rather than to necessarily recover the vision that's been lost.

So with that, I'm going to finish up this week's episode of the IQ podcast. I hope through this episode, you've gained some really important insights into what macular degeneration is, how it affects the back of the eye, what it looks like, what the risk factors are.

Next time, I'm going to be talking a little bit to you about the underlying root causes of macular degeneration. Yes, I talked a little bit about genetics.

Treatment Overview and Episode Wrap-Up

but we're going to go a little bit more into the root causes of AMD so you can understand it better because when you understand it, then you'll better understand why the diet and lifestyle modifications that I'm going to be talking to you about in the last episode of this series are so important because they're addressing the root causes of AMD.

Stay tuned for both of those episodes. In the meantime, I hope you've enjoyed this episode. If you've learned something, remember to like and share and please subscribe because that's the best way to support us in producing this podcast is to subscribe so we can get our views up, we can get more viewership and keep bringing you all of this important information.

Also, please leave us a review. I'd love to hear your comments about how you you know, enjoyed or perhaps, you know, something else I could have done to help you enjoy the episode a little bit better.

But please leave me a comment. Hopefully it's a good review, but if not, I'm very open to constructive criticism. So I look forward to seeing you on the next episode of the IQ Podcast.

See you soon. Thank you for tuning in to the IQ Podcast. I hope you enjoyed today's episode and learned something new to help you boost your IQ. Leave us a review and share the podcast with your family and friends.

Stay connected with me for more eye-opening insights on eye health, nutrition, and lifestyle. Until next time, keep your vision clear and your IQ sharp.