

But Why: A Podcast for Curious Kids

Why do people get older?

September 22, 2023

Jane 00:21

This is But Why: a Podcast for Curious Kids from Vermont Public. I'm Jane Lindholm. On this show, we take questions from curious kids just like you and we find answers. Today we're answering questions about what happens as we get older.

Shepherd 00:36

Why does old people's hair turn white? My name is Shepherd. And I live in Rocky Mountain House, Alberta, Canada. And I'm six years old.

Kinsale 00:48

My name is Kinsale. I'm 10 years old. I love Miami, Florida. And my question is, why do people shrink when they're old?

Elianna 00:55

My name is Elianna, I'm five years old. And I live in Mission, Texas. Why are old people always tired?

Jane 01:03

So first of all, we're getting older all the time. I mean, you are older now than you were when I started this sentence. But often when people talk about older adults or old people, they mean people who are 65 years or older. But not all older adults, like being called old people, or even the elderly. Some don't mind, but others might be hurt to be called old. They know their age and they might even be proud of it. But they might not like some of the generalizations or stereotypes that some people have about older people. And to be called old sometimes comes with negative feelings. And older adults want to be treated with respect just like everybody else. I bet you can actually sympathize, like, what if someone started referring to you and your friends as little kids? Maybe that's not a problem for some of you. But others who are listening might feel a little annoyed by that, like, hey, I'm not just some little kid, there are a lot of things I can do. So no matter how old you are, people want to be seen as individuals and not just defined or described by our age, right? So in making this episode, we've been keeping that in mind about how we're talking about aging. And we're not going to say old people or the elderly but we will talk about aging and getting older and older people, and here to help us with that is someone who thinks a lot about older adults because she's a doctor who works with them.

Suvi 02:33

My name is Suvi Neukam and I am a geriatrician in Portland, Oregon and what a geriatrician is, that means I'm a doctor who specifically takes care of older adults. So typically people above the age of 65.

But most of my patients are 80 and older. So you can think of me as the doctor for your grandparents most commonly.

Jane 02:54

Or maybe even your great grandparents. Dr. Neukam was excited to get your questions, like these ones.

Harper 03:00

My name is Harper. I'm 10 years old, and I live in Zeeland, Michigan. Why do ages matter and why do we get old?

Samantha 03:09

My name is Samantha. I'm eight years old. I live in Cabot, Vermont. And my question is, why do people get old?

Suvi 03:16

To start, I think it's really interesting that smart kids like you are not asking how people get old, but why. And I think there's a few ways to think about this. And I don't want to start too big picture. But most simply, I think about age as a reflection of time, the more birthdays we've had, that just means the more years we've been alive. So people get old because they've been on earth longer. But what I think you're really asking about is why we change as we get old. And that's a really wonderful question and an active area of research for scientists and doctors who are trying to understand aging. Now one of the most common theories, or guesses relates, to something called DNA. And if you don't know what DNA is, I think about it like a recipe when we're baking. My DNA recipe is the unique instructions for my body to create me and your DNA recipe is unique to you. They are the instructions that create you and only you. Now our DNA recipe is very important. It allows us to build different parts of our bodies. It helps us get rid of harmful materials that can mess up our instructions. And it also helps us protect us and helps us grow. Now unfortunately, many things can be really harmful to DNA, like dangerous chemicals, cigarettes, pollution, and even too much sun, which is why your parents probably tell you to wear your sunscreen and your sun hat. Now over time, as our DNA is exposed to more of these dangerous things, it just starts to not work as well. And if your DNA doesn't work well, your body starts to work less well. Because remember, it's your set of instructions after all. So many people, scientists and doctors, feel that aging or getting old is really just a reflection of DNA that's beginning to not do its job as well as it once used to.

Jane 05:10

Dr. Neukam says there's another theory that helps explain aging. And it's related to a very specific part of our DNA called telomere.

Suvi 05:19

Everyone's DNA instructions has telomeres. And we know that over time, our telomeres get shorter and shorter and shorter. And we think that the shorter they are, the more old people appear. And like just DNA in general, many things contribute to telomere shortening, pollution and stress and inflammation. And even just being sick can make your telomeres shorter, faster. And now some people are born with

short telomeres, and some people with long telomeres. But really time is the biggest contributor to how long your telomeres are. And everyone's telomeres will get shorter with time. And the shorter your telomere is the older you seem.

Jane 06:02

Think about things you've had for a really long time. They may still work great, but they can start to look a little different, a little worn in maybe. Sometimes after a while they even need a little help to work great. Or maybe they're just a little slower than they used to be. Your body's a little bit like that. Here's a question from Leo.

Leo 06:21

And I'm six years old. I'm from Berkeley, California. My question is, why do people when they have a hard life look like they're really old?

Suvi 06:35

This is such an interesting question, Leo. And I guess I would think about the answer to this question as similar to the more general question about why people get old that we just talked about. That important part of us, remember that the DNA, remember that it gets shorter, as we get older, and the shorter it gets, the more old we seem. And as we talked about before too some of the things that make DNA shorter include too much sun or dangerous chemicals, cigarettes, pollution, infections, and just stress. Now oftentimes, when we say someone has had a hard life, what we mean is that they do not have an easy time getting some of the basic things that keep us all safe and healthy. So for example, people who can be seen as having a hard life may not have had shelter or a place to live in. And therefore they may have not have had protection from the sun or the elements and perhaps even pollution or chemicals. And another necessity for health is fresh fruits and vegetables. And people who have had a hard life may not have as easy of a time giving their bodies this adequate nutrition regularly. So perhaps the easiest way to think about it is that a hard life often means that it's more challenging for someone to give their bodies the things that it needs to stay healthy. And also it can mean that this person may have been more likely to be exposed to harmful substances or environments. And these together make it more likely that their DNA and their bodies in general have undergone more wear and tear. And thus they might seem a little bit older sooner.

Jane 08:10

Here's a hopeful note to close that question with for people who have had a hard life, if they're able to get into a better situation, their bodies organs will start doing their jobs better again, and they can have a healthier future, even if their appearance looks a little bit older. Many of the questions you've sent us about aging and getting older have to do with the way appearances change. And there's one specific change a lot of you have noticed, like Amaaya in India.

Amaaya 08:39

I want to know why when we become old our hair turns silver.

Yitzy 08:46

My name is Yitzy. I'm from Long Island, New York. I'm nine years old. Why do grandmas grow white hair?

Eleanor 08:52

My name is Eleanor. I am four years old. Why does hair turn gray?

Miranda 08:59

I'm Miranda and I live in China. Why do when people turn old their hair turns white too?

Joshua 09:10

I am Joshua. I'm seven years old. I live in Royal Oak Michigan.

Veera 09:15

My name is Veera and I'm five years old. I live in Bethesda, Maryland.

Salem 09:20

My name is Salem, I'm seven years old. I live in San Francisco, California.

Samuel 09:27

My name is Samuel. My age is seven and my town is Monrovia, California.

Lina 09:34

My name is Lina and I am five years old. I am from Bellingham, Washington.

Bryce 09:42

My name is Bryce. I am eight years old. I live in Arlington, Virginia.

Josie 09:49

My name is Josie. I am seven years old. I live in Bath England. Why do old people have gray hair?

Suvi 09:57

So I think that in order to answer the question question about why people get gray hair when they're older, we need to also recognize that some people do not get gray hair. So it's true. Some people get really gray hair, some people just get a few grays here and there, I like to call those salt and pepper hairs. Some people actually get white hair, and some people, like my husband, lose their hair all together. Now the reason hair changes as we get older and changes in different ways for different people is because everybody has different amounts of melanin. Melanin is a substance or a natural chemical in our bodies that creates color. It's the reason people have different colors and shades of their skin, their eyes and their hair. And as we get older, our bodies start to produce, or make, less melanin, again, how much less is different for every person, and we often don't have control over that. But the bottom line is that the less melanin you make, the lighter your hair is. And typically older people do make less melanin than younger people. So they're just more likely to have gray hair.

Jane 11:05

Some people have hair that turns gray, or even a beautiful white color at a very young age, like in their 20s. And some folks might be in their 40s or 50s, or even older with no gray or white hair. So hair color isn't really a good way to estimate age. And while it's true that people generally make less melanin as they get older, you can also have areas where there's increased melanin production in your body, and your skin might get dark in some spots, especially spots that have gotten a lot of exposure to the sun, and maybe not enough sunscreen, like your hands or your face. These darker spots are often called age spots.

Max 11:42

Hi, I'm Max. I'm eight years old. I live in Portland, Oregon. My question is how come when, when you get old, you start to get wrinkles?

Suvi 11:52

All right, Max, why do older people get wrinkles. What's really neat about aging is that as we get older, every system in our body changes in some way and your skin is no exception. Now if you push your skin right now and you can give this a try, it feels a little squishy, right? It bounces back up after you push on it. And if you softly pinch on it, now don't hurt yourself or pinch someone near you unless they give you permission, it probably doesn't stay tented up, right, you pinch it up. And then when you let go, it falls flat again. This is because you have healthy young skin. Your skin is made of three layers. And in these layers are substances like collagen and elastin. These are substances that make your skin bouncy and stretchy. And in your three layers, you also have a layer of skin that's used to hold in moisture, and another layer that contains soft, squishy protective fat cells. Now as we get older, the amount of these bouncy, squishy substances decreases. And when we have less of these things like collagen and elastin, and less fat cells and less hydration, our skin is more likely to have a wrinkly or kind of loose saggy appearance, it doesn't bounce back the same way that it used to. Now interestingly, protecting your skin with sunscreen, and staying well-hydrated can help your skin age as healthily as possible. But as someone who is getting older myself, I have to say that I'm pretty proud of some of my wrinkles. I can thank my three silly kids for some serious laugh lines around my mouth. And I've been told that I have the forehead of someone who spends a lot of time thinking about good questions like these. So I actually feel pretty proud of my wrinkles. And I often think of them as a beautiful part of aging, and really never something to worry about.

Jane 13:42

Some people fret or worry about their wrinkles and want to get rid of them, but they really don't have anything to do with how healthy you are. Or again, even how old you are. Someone who spends a lot of time in the sun without sunscreen will probably get wrinkles at a younger age than someone who protects their skin well. One more question about skin.

Sasha 14:01

Hi, my name is Sasha. I'm six years old. I live in Austin, Texas. And my question is, why do your veins stick up when you're old?

Suvi 14:12

Now remember the answer we just talked about with wrinkly skin? We talked about all the things that make our skin thick and squishy? Well as your skin gets thinner the structures that are under your skin, like your veins, but also tendons and bones, they appear to stick out more. Now also in certain parts of the body like your legs, changes can happen that make the veins themselves actually bigger. Veins are just the tubes that run all around your body to carry blood back to your heart. And sometimes it is a lot of work for that blood to make it all the way back up to the heart. Specifically when the blood is coming from the legs. The legs are really, really far from the heart. And also your heart is higher up in the air than your legs, right. so your blood needs to move up up up up against gravity to get it back to the heart. So often in older people, the blood is more likely to stay in the veins. When that happens, this can cause the tubes to actually look bigger or bumpier or more bulged. So veins can appear to stick out more in older adults because they may actually be bigger themselves if that blood is just hanging out there a little bit longer, but also because there's less skin and soft tissue around those veins to hide them.

Jane 15:28

Dr. Neukam says she actually likes seeing plump veins in her patients because it means they're well hydrated. Coming up more of your questions about aging.

Jane 15:38

This is But Why: a Podcast for Curious Kids. I'm Jane Lindholm. Today we're answering questions from young people on things they've observed about older people. Dr. Suvi Neukam is our guide. She's a geriatrician, a doctor who treats older adults, and she works in Portland, Oregon. Let's get right back to your questions.

Shane 15:58

I'm Shane. I am seven years old. And I live in Los Angeles, California. And my question is, when you're old, how come you shrink?

Jane 16:10

Kinsale who we played at the start of this episode also had this question. Why do older people sometimes get shorter?

Suvi 16:17

People get shorter as they become older, because the things that make us tall, mainly our bones, and the discs or cushions between our bones, those start to change. Now, as you probably know, you have bones all throughout your body, you have long tall bones in your legs, these connect to the bones of your back, and then there's bones all the way up to your skull, right, that protect your brain. Now, the vertebra these are the bones in your back. These are particularly important when we think about height and why people get short. Vertebra are roundish bones, and they vary in size a little bit. But in general, you can think about the size of one of those small cutie oranges. There are 24 vertebra and they're all stacked on top of one another like a big tall tower of blocks. And this tower runs down the center of your back to make your spine. Now in between each vertebra, or building block, is a squishy circle called a disc. When you're younger, your vertebra grow and grow and grow until you reach how tall you will become. And then during your adulthood, so long as the vertebra stay strong and healthy, they will stay

on top of one another and they really don't change their shape or size so your height doesn't change at all. But unfortunately, as we get older, it can be harder for our bodies to get enough of the things that keep our bones strong. Two examples of nutrients that are very important for bone health are vitamin D and calcium. And if we do not get enough of these important vitamins and minerals, our bones get softer, they can change their shape, they can get squished down, and sometimes they can even break. Also as we get older, the squishy discs between our vertebra get smaller and drier. So imagine now that that big tall tower of vertebra building blocks has a block knocked out of it, or one block breaks in half, or you replace a big solid strong block with something softer like a marshmallow. What do you think would happen to the tower? It would probably look shorter, or maybe bent in some way. So just like this tall tower of blocks that has bent or lost height when our vertebra bone blocks change, older people often lose height and appear shorter. And this is because their bones aren't quite as strong as when they were younger.

Jane 18:37

There are lots of things we can do as we age to keep our bones strong, like eating good nutritious foods with vitamin D and calcium, exercising to strengthen our bones and stretching to loosen up our back muscles and help keep good posture. There are even medicines doctors can prescribe to help bone strength if that's a problem as we get older.

Grace 18:58

My name is Grace. And I live in Huntsville, North Carolina, and I'm six years old. I want to ask you, why do grandmas sleep a lot? That was my mom laughing by the way!

Jane 19:17

That question seems to have caught Grace's mother off guard. And we heard Elianna asking a similar question at the beginning of the episode.

Suvi 19:24

So I think this question deserves a little bit of a background explanation around energy, to help understand why it seems like older adults often don't have as much energy as you young kids. So when I think about why people get tired, I think about what we need to have good energy, because being tired is kind of like the opposite of having good energy, right? When you have good energy, it's because of many things, but some of these include muscles that feel strong. You've gotten a good night's sleep. Your breathing is really good. You're filling your body with healthy foods and nutrition. And a lot of times when our body feels low on energy is because we're not giving it the things that it needs to feel strong, like rest and nutrition and exercise. But one of the very most important things that all bodies need to have good energy is oxygen. Now, if you don't know, oxygen is the air we breathe, and it's so important to our bodies, all of your organs, or body parts need oxygen to work. Oxygen is kind of like the breakfast, lunch and dinner for our muscles and our brain, our heart, our lungs, pretty much every part of our body. So your question was, why are older people always tired? Or why are my grandparents sleeping more than me? Well, some of the reason here is that the parts of our bodies that allow us to breathe in oxygen and use oxygen can change or work differently as we get older. It can be harder for older people to breathe in oxygen from the air and into their lungs. Sometimes their hearts have a harder time pumping that oxygen around to their whole body. And maybe the parts of their body that

carry the blood to it's different organs don't work the same way. And sometimes the organs themselves just have a harder time incorporating or eating that oxygen into the muscles and tissues and body parts. So it may seem like older adults are always tired. But I think about it more that older adults just need a little more time to breathe in and use their oxygen, more so, your older adults sometimes just need to do the fun activities that you'd like to do a bit more slowly to give that oxygen enough time to do its job.

Jane 21:40

Dr. Neukam says it's actually part of her job to help older adults who feel really tired because sometimes she can help them feel a little less tired. A lot of you had questions about the way our appearance the way we look changes as we get older. But we asked Dr. Neukam if there are other changes that happen in older adults that we might not know from outside appearance.

Suvi 22:02

One of the things that changes about older adults, but you may not see or appreciate as easily is that balance can become a really hard thing to maintain. And the reason geriatricians, well a lot of doctors, care about balance is because falling can be really dangerous for everyone, but especially for older adults. Because remember, I also explained that their bones are sometimes not as strong as your bones are. And a bone break in an older adult can be really dangerous. So something I work on a lot with older adults is working on balance. And the reason I care about balance so much is because I don't want them to fall. And the reason I'm telling you about balance is because if you're anything like my kids, you are probably running circles around everybody around you, you're having fun, you're climbing on the couch, and you want your grandparents to do the same exact thing back with you. And I want you to play with your older adults. And I want to to have as much energy with them as you possibly can. But I also want you to remember that sometimes they have a harder time staying on their two feet than you do. So just be gentle, right? Don't push them around and make sure you give them some good safe space to keep their balance. Because the last thing you want is for your grandparent to fall.

Jane 23:22

We're going to leave you with one more thought. We've talked a lot about why our bodies work differently as we get older. And a lot of your questions explored things that don't seem to work quite as well or quite as fast. But there are a lot of really cool things great things about getting older.

Suvi 23:38

Memory may become a little bit more challenging, or an older adult may just need a little bit more time to come up with a word or to remember what they're doing. The most important thing to keep in mind, however, is that your older adults in your life have brains that are filled with years and years and years and years of wonderful memories and experience and knowledge. And one of the best things about having older adults in your life is that you get to learn from them. You get to hear their stories, they get to teach you things, you get to ask them questions that only they know the answer too. So even if it takes your older adult a little bit more time to come up with the answer or to remember that memory, I really recommend that you spend that precious wonderful time with them asking questions and hearing

their stories because their brains are filled with such rich and beautiful knowledge that it's a privilege to get to have that time to talk to them.

Jane 24:33

As you get older you not only have all those memories Dr. Neukam mentioned, but you understand the world in new ways. You have a sense of wonder about how much has changed in your lifetime. You have things you can share with younger people. You might care less about what other people think about you. You have a sense of what's really important in life and lots more things. If you have some people in your life who have lived a really long time, I encourage you to ask them what they like about getting older. Maybe their answers will surprise or even inspire you.

Jane 25:05

Thanks to Dr. Suvi Neukam for having such thorough answers to all of your questions about aging. Suvi is a geriatrician, a doctor who works with older patients based in Portland, Oregon. Now, we've been talking about older adults as a big general group. But I want to remind you of what I said at the beginning of this episode. Every human is different. And the experience of aging varies from person to person. So how you will look and feel when you're older may be completely different than how it is for your grandparents or great grandparents or older friends and neighbors. Everyone's different, and that is great.

Jane 25:41

Now as always, if you have a question, have an adult record it it's easy to do on a smartphone using a free app like voice memos or voice recorder. Be sure to include your first name, where you live and how old you are, and try to do it in a quiet environment, unless you want us to hear the sound in the background. Then your adult can email the file to questions@ButWhyKids.org. We can't answer every question we get but we do listen to all of them and we love hearing what you're wondering about. But Why is produced at Vermont Public by Melody Bodette and me, Jane Lindholm. Kianna Haskin is our engagement producer. We're distributed by PRX and our theme music is by Luke Reynolds. We'll be back in two weeks with an all new episode. Until then, stay curious.