Pulmonology with Dr. Jason Bronstein MD Transcript

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Introduction and pulmonology overview

Hey, welcome to this week's episode of the Baby Manual Podcast. Today, I have the pleasure of interviewing Dr. Jason Bronstein, who is a friend of mine and a pulmonologist.

So he's a medical doctor and MD. And Dr Bronsteen, can you just tell me a little bit more about yourself, where you practice, and what is pulminology?

Sure. Right. So I am a pulmonologist and sleep medicine specialist at Mount Sinai Hospital in New York City. I'm the director of the pediatric sleep laboratory there and I see children, different types of breathing issues.

Pulmonology is the study of lungs. That's really interesting. How did you get interested in that? Why did he decide to subspecialize? I was a general pediatrician in primary care.

I noticed that it seemed kind of the most dangerous issues affecting children really related to their breathing. And I wanted to get out ahead of that and try to make a difference.

Awesome. So what kind things do you see a lot of in the office and what are some reasons that a patient might get referred to a pulmonologist? I mean, there's a whole lot of different types of conditions that can affect the lungs and affect breathing.

But I guess I would say generally, I could break it down into a few kind of areas where someone would see a pulmonologist. So, you know, in general, yes, you're having a serious breathing issue, they might call on a consult.

But if you are going to come see us of your own volition, generally that's going be either your child has had breathing problems since birth, and they've had emergencies related to their breathing that aren't getting better after getting urgent treatments.

Or I would say most commonly, if they kind of gradually develop problems like If they're having coughing, wheezing or difficulty breathing and it's kind of getting worse or not going away after a couple of months, you know, maybe like after three months or so, probably time to see somebody.

When children should see a pulmonologist

Now, I think a lot of general pediatricians can handle this sort of stuff, but as pulmonologists, we have certain types of tests and treatments that not every pediatrician would be familiar with.

Nice. That's cool. So it sounds like people aren't really coming to you like if they have the flu or a COVID episode or something. It's more chronic stuff that are related to the lungs.

Yes. And some from birth, some the office, and some on the house. Now, I would say if a child's had kind of repeated or severe respiratory infections or like they've had pneumonia, you know, even more than once.

Yeah, that would be certainly, or if got more sick from the fluid than like, they should have, based on their health. Yeah, that makes sense. And I suppose that would probably be related to some underlying lung condition that they might not even know that that's where they happen to be getting lung stuff all the time.

Yeah. I mean, really, problems from any organ system or any type of problem can sometimes have a pulmonary effect or respiratory effect. You know, I'd say asthma is probably the most common thing that we see, at least certainly in urban areas.

There's a whole host of issues that could… The most commonly chronic childhood condition, right? Asthma, yeah. That's cool. So you mentioned that you do special testing and do things that they might not have done in a regular pediatrician's office.

Can you just tell me real quick, what does a general pediatricians do with lung-related stuff, like if they think that somebody has asthma or something, and then what do you that's a little different?

I think generally a pediatrician is going to ask a bunch of questions. They'll do a physical exam, a stethoscope on the child's chest. Some pediatricians may have access to spirometry or chest x-rays, so a lot can be done with those things.

And depending on a paediatrician, lot of people don't necessarily have to see a pulmonologist. Just real quick, what is spirometric? Oh, yes. Yeah. I mean, most people know what an x ray is, but you can also turn that to you.

Yeah. Spirometry is a breathing test where the child blows into a tube that's connected to a computer and it measures the speed of their breathing and the amount of air coming out.

Okay, cool. So by measuring that, we can kind of see like, is the a child's breath small? Is there obstruction or blockage somewhere in their airways that causing the air to come out more slowly?

And there's a few different other types of the column pulmonary function tests that can measure different aspects of breathing. And then why might your regular doctor get a chest x-ray?

And often when there's a significant breathing issue, let's say someone's having trouble breathing or they've been coughing really badly for a while, particularly if there is fever and they suspect an infection, they're looking usually for pneumonia.

But sometimes you'll find other things on an x ray. I don't want to get into all the different things, but anything in the lungs, anything Anything that takes up space can cause breathing issues.

Pediatric testing: spirometry and chest X-rays

Awesome. So then assuming they've had these tests done and maybe their spirometry is showing that their lungs aren't moving air as well as they should, and then they come to you, what would you do at that point?

What would a pulmonologist do that's sort of a next step in testing? And if there's anything they can do while they're waiting for that visit, like how worried does a parent need to be with that kind of thing?

It does depend on the case, certainly. And obviously, some breathing issues really are emergencies and then you have to go checked out and some people end up going to the emergency room more than once, unfortunately.

But in many cases, it's the type of thing where it is causing some trouble, but not to an emergency extent. It's affecting the child on a day-to-day basis and their quality of life.

Often, there is a wait of several months for people to get in to see the specialist, but they can make it there. Now, in the interim, it really depends on what the condition is.

Often parents and kids won't get an answer until they are able to have that more extensive evaluation by us. I would say that there are certain things that affect a lot of breathing issues regardless of the cause, particularly things we often think of as affecting asthma, since that's one of most common things.

Yeah, so maybe we can kind of go down that route. I had asthma when I was a kid and the way that we found out was, well, I just thought I really bad at sports and I got out of breath faster than everyone and stayed out breath longer than anyone else and sometimes coughed afterwards.

When I 13, was riding my bike to school every day and realized I'm really getting out a breath a lot. And so we went to my doctor and mentioned it and they were like, this sounds like exercise induced asthma, which I think now is just called mild intermittent asthma maybe.

That was when I first used an inhaler and it was life changing. I was suddenly able to run with, you know, and be able breathe and not get out of breath as quickly as everyone else.

So when was diagnosed with asthma, my primary care pediatrician just gave me an in haler to use and that was all I needed. But I know that there are some reasons for children to need more than that.

And actually as I got older, then I started seeing an allergist and they weeded out other things on. Maybe you can talk a little bit about that. If a child is diagnosed with asthma by their pediatrician and then they get referred to a pulmonologist, where's that line?

Is there a hard line, is there reason to think you might need to upgrade to specialist care or that the doctor might refer you out? You know, I think often there's not always a hard line.

It sort of depends on the pediatrician and the resources that they have available. I would say there are certain tests that usually pediatricians are not going to be dealing with.

So for example, bronchoscopy is one type of test that pulmonologists do. And what is bronchioscopy? What does that look like? that's basically putting a camera down into a child's airway and looking into their lungs and visually inspecting.

They are asleep. In adults, they actually are not always asleep, which is something to experience. But in kids, we do it with sedation so that they are out and not worried or bothered by it.

Specialist evaluation and bronchoscopy

That's good. Awesome. And what kind of stuff do you find on bronchoscopy that you wouldn't see on pulmonary function testing or a chest x-ray? Yeah. So, uh, you know, really we're looking just like how, um, a doctor, any type of doctor might look in a child's mouth, kind of examine, yo, is it red?

Is it swollen? Yeah, pus or mucus, that type thing. And then also, we were usually able to collect a sample of the, the secretions or mucous down from deep within the lungs, which we can then analyze, can send for cultures or for different types of tests and often find things that you wouldn't otherwise realize there.

Neat. So looking for things like bacteria, viruses, mold? Bacteria, virus, fungi. Yeah. Wow. Those are the main things. CT scans can be useful in some situations.

If a chest x-ray shows something that is not always clear or we may want to get more detail, we'll get a CT scan. A CT Scan is just a 3D picture now. It's a line, right?

So that tells you exactly how big something is and where it is. That's right. That is a test that some children may need sedation, but usually it's a short enough test.

For a CT scan, usually, it is just a few minutes in the big machine and most kids can do okay with that. Do you ever do MRIs of the lungs? Usually not, but some of the structures around the lungs, sometimes the blood vessels of heart sometimes will do that.

And generally MRIs that often will require sedation for kids who are smaller or younger. Yeah, I know those take a bit longer too. But also there's no radiation with MRI and there is with CT.

Is there any other reason you would want one or the other, that you would want an MRI over a CT? It's really just for the blood vessels? Yeah, it depends on what you're looking at.

Usually, to look at the lungs, you will get a ct scan, mostly because when you breathe in and out, the lung moves. Really, what we want is to be able to take pictures very quickly to kind of catch the the longs in between motion.

Usually, that's why CT scans work better there, but there are some cases where you could do an MRI. That's, I think, more of the exception than the goal.

Any other kind of testing that you do that… For some children, sleep studies are something that can be very helpful. For other children exercise, stress tests are things that we would take advantage of.

But I would say the more common study would be a sleep study. Great. Why would a child need a So the primary reason for most kids is if they have signs of obstructive sleep apnea, snoring, pauses and breathing or choking in their sleep.

And a sleep study is a test where they would stay overnight in a sleeping laboratory. They'd have their parent come with them, sit in the bed and get hooked up to EEG, little stickers on their head, and something on the nose to measure their breathing, bands on chest to the measure the motion of their breath, on a finger to their oxygen.

And basically, we're looking at their reading and their sleep. Because when you sleep, that's one of the times when your body is not trying as hard to breathe.

So you might be getting less air and your throat can close sometimes. Generally, it's not dangerous for most kids when they have sleep apnea, but it can be something that disrupts their sleep and makes them very tired.

It can have other effects on their health.

Sleep studies and pediatric sleep apnea

In some cases, for kids who do have those more serious conditions, whether that's a congenital issue affecting their breathing or some other health condition, if they're at risk for low oxygen levels or for high carbon dioxide levels, we can measure that in their Cool.

And let me just explain real quick, congenital means that it's something that was there since that person was born. Yeah, cool. I want to go back to sleep apnea just real quickly.

When I was working in the outpatient office, sometimes children who have symptoms of ADHD, it turns out it is really because of sleepapnea. It looks like they're not paying attention as well or they are just not getting as much information in and it just because they aren't sleeping aswell.

We also always ask parents if their kids are snoring and that can sometimes be a sign of asleepapnia. Are there any other things I'm missing that parents should be watching for at home to think that their child might have obstructive sleep apnea?

Because I know it's different than sleepapnea in adults. Yeah. So, you know, it can be kind of nonspecific. I don't want parents to go kind searching for this in their, in a child, but there are some situations where, yeah, many different symptoms could theoretically be caused by sleep Apnea or difficulty with sleep.

Any issue with a child's thought or mood, behavioral issues, difficulty learning or paying attention, sometimes stress or anxiety can be related to not sleeping well.

But also because they're related some other things, right? They can relate to a lot of different things. Yes, absolutely. Sounds like an ask your pediatrician kind of situation, like go to your regular doctor I would say if your child clearly seems to be having some trouble breathing in their sleep, it's good to get it checked out.

You may not always notice such things, but if you happen to listen to your children once or twice and you hear gasping or choking or strange sounds or they look like they're having trouble breath in there sleep.

Tell your doctor about it. Yeah. Awesome. And I know some types of children are more likely to need a sleep study than the general population. Can you talk a little bit about that?

Like what types disorders might go along with trouble sleeping or needed for a somewhere around 5% of kids that can have sleep apnea, probably it's a little bit less than that.

The most common issue that kids have is if they have very large tonsils, very larger adenoids, if the have a lot of allergies or things that are blocking up their nose, they may not be able to breathe well.

And usually, often there can be simple fixes to that, and they might not need a sleep study. For kids who have conditions where their muscle tone is very low, or if there have some muscle weakness, So, for example, Down syndrome, it's very common to have sleep apnea, other conditions as well, any condition where you have a very small jaw or very narrow opening of the nose.

Awesome. And then what is the role of sleep studies for children with autism? in autism, children can have issues with anxiety or hyperactivity or other things where they, you know, for whatever reason may not always seem to be at their best.

And it can be hard to know whether, is that just them from day to day? Or is there something that's kind of causing them to be worse? And some kids with autism also have low muscle tone.

Some kids, with Autism can be very overweight and that can affect their breathing as well. So if they have kind some of those different symptoms together, we think about maybe sleep apneas, you know, affecting their mood or affecting, their concentration or things like that.

And getting a sleep study might be helpful there. You had mentioned way back now in the episode that sometimes children have these congenital or from birth issues with their lungs.

Can you talk a little bit about that? Is that something that is going to be picked up in a hospital before they go home? When kids are born, they may actually have trouble breathing in the delivery room.

And obviously, the team there is going to take care of them. Most of those kids will improve pretty quickly. That's actually my job right now is I'm a newborn hospitalist.

I am there for the deliveries that need a little oxygen, a lot of trouble-breathing. Like you said, most of these have no issues long-term. It's really just the first couple of minutes of life, and then they're totally fine after that.

But yeah, but then some children do have underlying lung issues, like I know preemies and stuff. So yeah. In those rare cases when kids continue to have breathing issues and don't get better quickly, often you'll send them to the NICU and they may call us pulmonologists for help.

There may be tests that they get. There's a host of rare things that we deal with in those cases. You were sharing your story about your own experience with asthma and using inhalers and having a lot of improvements.

Sometimes symptoms can be tricky because they come on slowly or you may think of it as being normal. And so it's important to talk about these things with your family, talk to about things about your pediatrician.

If it seems like a child may be having more issues than their peers or more than they should, then it could be important get evaluated. There's different types of inhalers that kids use for asthma and they usually make a really big difference.

Congenital breathing issues and newborn care

And that's something that often will get called about or have kids see pulmonologist for. We do a lot of troubleshooting with inhalers and medications.

And most of the time, the inhaler is actually can work, but the issues have to do with kind of how they're given or the environment around the child. The most commonly we recommend that kids use a spacer with their inhaled.

Yes. And that's something that sometimes is new to parents. Other times, the exact manner in which you're using the spacer needs to be adjusted or the timing of the medications or things like that.

Yeah, and for listeners of Spacer, it's just a plastic tube that sticks onto the inhaler and then the kid puts that in their mouth or sometimes they have a mask on them that I've seen for younger children.

And this spray from the Inhaler just kind of gets spread out in that spacer before they breathe it in. So it gives them more time to get it all the way into their lungs versus it mostly just hitting their mouths and not working as well.

If the medication goes into their mouth but isn't pulled fully into the lungs, they'll get more of the side effects and they may not have as much of a positive effect.

What other kind of things are related to asthma? I know that we talk about things like mold and allergens. And I'm really curious what your opinion is on humidifiers.

Yes. So right, the environment that a child is breathing in really can affect them a lot, particularly for asthma, where things in the air can be pulled into your alveoli and your bronchi and kind of irritate you.

And so the number one thing that we try to draw parents attention to is smoke exposure. So if they are smoking or even if their using electronic cigarettes or other types of vaporized things in the home that can stick around the environment and be inhaled by the child.

Does that also go for things like incense? And I'm in Colorado, so everyone smokes marijuana here. Anything that you can smell in the air, right, is something that's what we usually counsel parents that is getting into their kids' lungs.

Right. Not every smell necessarily is going to cause a problem, but yeah, anything that can't smell potentially could.

Asthma treatment, inhalers, and spacers

Any type of smoke, any type right, potentially incense, cleaning products, you know, also they can have a strong smell. Sometimes, soaps or things like that that have scents.

I've seen that also with swimming pools, like the chlorine. Chlorine, yeah. And so one of the things that we'll ask children and families about if they're having asthma attacks or attacks of coughing or wheezing, What kinds of things have they been around that may have triggered that?

We'll also ask kind of about all the different things in the air and the environment. which can include those types of things. Allergens, you mentioned, mold, dust, different types or pests or animals can often trigger issues.

Yeah. And when you say pests, do you mean things like rats and mice? Rats and mices or roaches. Oh, yeah. Sometimes pigeons can potentially be a problem, some issues, pet birds, other types of pets, kids can be allergic to dogs and cats.

You mentioned humidifiers. Yeah. I have very mixed feelings about humidifiers because I feel like they're great in the short term when kids are sick, but if you're using them every day, you are more likely to grow mold.

And I don't know if that's, yeah. So I'm curious to hear what the professional says. Yeah, I had some tips about that. Um, um, universally recommend humidifier.

But, uh, certainly, in some cases where the air is very dry, it may be helpful. I should quickly caveat the humidity in New York is very different than in Colorado.

We have very dry air in color. Yeah, I think in new york I never recommended a humidifier. I'm like just go outside and take a breath. But you're very try interesting in the winter.

The biggest issue here is not just in the winter, but for people who have heaters that are dry heat or radiators, often it'll get rid of the humidity even worse.

But if you're going to use a humidifier, you do want to clean it on a regular basis, which is hard to do. If you can stay vigilant, that can prevent mold growth.

And then, interestingly, Using distilled water can be helpful. Distilled is often sold in pharmacies. It's basically 100% pure water without any minerals added.

And when that water evaporates from the humidifiers, it doesn't leave any residue, which makes it a lot easier to clean. That's cool. And that makes sense because if you think of like distilled water is literally water that's been boiled and then they catch the steam and they turn it back into water.

So it's only the part that make steam. That is really cool, so I imagine that is different than using filtered water or… Correct. Filtered water still does have some minerals in it.

Mineral water, spring water clearly does, sterile water does. Distilled is not. What I would recommend is after using distiled water perhaps in the morning or at some point opening up the humidifier and letting it dry out.

If the modifiers remain dry, at least part of the time, and there's no residue on it, less likely to grow mold. Yeah. Now, my other concern is growing mold in the room that the child is in, that it might start growing on the walls or the ceiling because of frequent humidity.

Right, right. So some humidifiers kind of titrates or measure the amount of humidity, preventing it from getting too humid, but not all of them do. That's really cool.

Can I ask you on the same thread of children being ill, how you feel about things like Vicks or things that you can put into the humidifier or on a child that help with breathing?

I think that there are a lot of substances that can be soothing, if it's a mild smell in the air. Vicks, I don't know of anybody who has reactions to vicks.

Theoretically, it could occur, but as long as the child's not having a reaction to it, yeah, that could be quite soothing and calming. It doesn't necessarily, per se, help with asthma or breathing issues.

Environmental triggers and humidifier advice

Or just like an illness and you're feeling kind of stuffy, congested. Right. That can be a very soothing feeling for a child. Are there any medicines for cough?

I know that we always caution against cough medicines in children because they can make them stop breathing. I am personally not a fan at all of Musinex, which is marketed in the U. S., it's just a guanfacine, or sorry, guaifenicin.

And it causes you to cough more. It causes more like watery secretions so that you can cough stuff out. it's marketed as a cough suppressant or cough medicine in the US.

And so parents give it to their kids thinking it'll make the cough better. Then they're like, my kid's been coughing for weeks and I keep giving him the mucinex and it is not doing anything.

I'm like actually it making them cough more. So yeah, any other advice related to cough medicines that you have? Yeah, I think that there's no medication that's really approved to help children's cough.

And it's really unfortunate. I wish there was something we could give kids to help them cough less in general. All those medicines that are marketed for cough really should not be given to kids.

There are, I guess, some situations where you could have allergy medicines. Right. Like if they have an allergy and then have a cough, that makes sense.

But yeah, it doesn't help with just basic cough Part of the problem is that there's a lot of different reasons that kids can be coughing. I think most commonly in the short term, right from a cold or from the virus, usually it's because their throat is irritated.

Sometimes a little deeper down in their lungs, it gets irritated and we just don't have a great treatment for that. In some cases, if they do have asthma or a touch of asthma, you know, inhalers or nebulizer treatments sometimes can help.

Sometimes parents or pediatricians will have access to a nebularizer which can give them saline, just salt water, sterile saltwater that's, you that sometimes can be soothing in some way, similar to their fire.

When I was in Europe, they had salt caves that were meant to be healing for people with breathing issues that go in there. Yeah. I think there is some truth to that.

And I also think it's part of the osmosis, right? Any salt that's on the airway will then pull more water out and thin out whatever secretions are in the only reason for it, but I know also like we suggest saline for things like when kids have a stuffy nose or a thick runny nose that you can use the salin or salt water in their nose to thin out that mucus and that indirectly helps with the cough, at least with a post-nasal drip part of it.

Yeah, I think that's a great recommendation. And you know, it doesn't always work, but sometimes it does. Anything we can do. Yeah. I also talk a lot about like tea with honey, lemon and ginger, because the honey's actually like it's the one thing that I've seen through research that actually helps with cough in children and is safe.

The ginger is also like a decongestant naturally, and then lemon just for vitamin C, not Not for anything specifically respiratory related. And honey for kids over one.

Exactly. Thank you for pointing that out. Yes. No honey until a year. The cough medicines that are, you know, so like we have a brand called Zarby's here, which is basically sort of expensive honey that is, um, with like a little added flavor in it.

And you can just use regular honey and kids over one. They have one that's marketed as a cough medicine for kids under one, and it's agave syrup.

Cough remedies and closing remarks

What I've seen in the research is that Might be helpful, not as good as honey, as at least safe for kids under one. But yeah, may or may not help. So those are things that a parent could try theoretically.

Safe is more important than effective. Yes. Mint tea sometimes can help too. I know peppermint can kind of help a little with cough, be a bit soothing.

Yeah, I do want to try any flavor if it helps my child. I would say that one thing that I've noticed is that for children with cough and cold and viruses, I think when they have fever, their cough often can get worse, whether it's the inflammation in the blood vessels or something having to do with the inflammatory chemicals that occur when you have fever.

So sometimes giving a fever reducer, whether it's acetaminophen or ibuprofen or something like that, depending on their age, can be helpful if they have that fever, if have an inflammation.

I've seen that too. And yeah, it is funny that the things that are really just for the fever do help the cough a little bit inadvertently. But also, yeah, for parents to remember, it's not actually a cough medicine and isn't guaranteed to help, but might.

So yeah. That's really cool. Awesome. Thank you so much for being here today, Dr. Bronstein. It was great to chat with you and get your specialist opinion on all things lung related.

I hope this was really helpful to our parents. Any closing remarks? I just hope that everyone tries to stay safe and healthy. If you have an issue, don't feel afraid to talk to your pediatrician.

In some cases, if you need to see a specialist, go ahead and listen to the podcast because there's going to be some great specialists on here coming up soon.

Yeah, I'm really excited for this season. Awesome. Thank you so much. I hope you'll have a wonderful rest of your day. Thank you for tuning in. Make sure that you like and subscribe so that can be the first to know when new episodes come out.

Also, you can check out the four first seasons of the Baby Manual Podcast on your favorite podcasting platform, or check my YouTube channel for lots of videos and shorts that will help you feel empowered as a new parent as I answer all of common questions that tend to come up in the couple of years of life.

Have a wonderful day.