

What Not to Take Into an MRI, Are In-Home Laser Treatments Safe and the Surprising Benefit of Lidocaine

S2 Ep 58

In this episode: what not to bring in an MRI and two people who broke the rules and paid the price. Can Lidocaine, a common anesthetic, help cure some cancers? The research is very positive. Plus, Matthew Perry's autopsy named Ketamine as a contributing factor in his death. How does Ketamine, which is used for depression and pain management, turn deadly? And lastly, are in-home laser and light therapy devices safe? We'll find out.

Peter: [00:00:02] Welcome to Bedside Matters, the podcast that addresses the medical issues that impact all of us every single day. We will hopefully give you the answers you're looking for so you can be more informed and healthier. I'm one of your hosts, Peter Tilden, joined by Anna Vocino and Dr. David Kipper.

Anna: [00:00:17] Today, we have a very diverse show. Number one, the one thing you should never bring to an MRI. And can a common anesthetic cure cancer? Fascinated to hear about that.

Peter: [00:00:31] And in This Just Happened, it's really unfortunate, we all know that Matthew Perry died and they found ketamine in his system. The question is this in This Just Happened, how does ketamine, which is used for depression treatment, how did it factor into Matthew Perry's death? And also in Hey, What About Me? where you get an opportunity to call Dr. Kipper with a question, this question is about laser treatments. And can they make you look younger? Do they work? So, it is, as Anna said, a diverse show. Let's get started.

Anna: [00:01:01] Alright, Doc, what is the number-one thing we should never bring to an MRI?

Dr. Kipper: [00:01:08] Metal. So this comes from two very unusual stories. And there are thousands more of these. But these were recently in the press. Well, one was a 57-year-old Wisconsin woman who snuck in a gun into the MRI machine. And the MRI...

Anna: [00:01:29] Intentionally?

Dr. Kipper: [00:01:31] Yes, evidently it was intentional. And the MRI machine, if you haven't been in one of these, are tubes that work by electromagnetic forces that actually take little images and small slices through the body, and they create very clear images of the tissues, bones, etc., organs in the body. This woman decided to get into the machine with a pistol, and the magnetic force of this machine dislodged the gun from her. It went up against the inside of the machine and fired and shot her in the butt.

Anna: [00:02:15] She's lucky.

Dr. Kipper: [00:02:16] Well, I don't know if she's lucky, but she survived. And the other story that I thought was also...

Peter: [00:02:23] Well, wait a minute. Let's stay with this one for just a second.

Anna: [00:02:26] Can we Zapruder film this, please, figure out how...

Peter: [00:02:30] Oh, they got it. They got it Zaprudered in layers. The MRI's in layers. You got it in real time. Hey, I've got to find out in some future episode why she felt she needed the gun in the MRI. Like someone's going to tell her to do something. But also, if that thing had gone off and killed a technician or somebody...

Anna: [00:02:47] Oh, my God.

Peter: [00:02:48] She'd be there for murder.

Anna: [00:02:49] Yeah. Manslaughter at least.

Dr. Kipper: [00:02:52] Well, you can't get two people in an MRI machine, so the likelihood that she would kill someone else is very unlikely.

Peter: [00:03:00] Oh, so nobody else is in the room with you ever when that goes off?

Dr. Kipper: [00:03:03] No, you're in the tube, and that's when they start the magnets. So only one person. And, by the way, barely one person fits in these.

Peter: [00:03:11] I didn't know if a technician was standing in the room somewhere or she shot through the wall. I mean, it could go... You could shoot the drywall, go off through drywall, and kill the people standing there looking at her test. Can you imagine?

Dr. Kipper: [00:03:21] Well, so there was another story that sort of dovetailed this, and it was a story of a man that wore a metallic sex toy advertised, we find out later, as 100% silicone. Turns out there was a metal core to this. And when he got into the machine and they turned on the magnet, that thing shot up through his body into the chest cavity. So imagine that journey, and all the tissues and organs that it punctured getting up to the chest. He also survived with a lot of surgery and a lot of medical care.

So the take home from this is metal objects should not be in an MRI machine. These were exaggerated examples, but there are things that are safe. There are metals that are safe and they're metals that are safe. So what are those?

Let's do the unsafe first. The unsafe metals are the, what we call, ferromagnetic materials. And those are highly magnetable metals. And those include things like iron, cobalt, nickel. So things like bullets and shrapnel, surgical pins and plates and screws and clips and staples and wire mesh are all made out of this ferrous material. So, if you have had any surgical procedures, you have to talk to the MRI technician and notify them before you get into the camera.

Anna: [00:04:58] Yeah. What about like a pacemaker, is that metallic?

Dr. Kipper: [00:05:02] Great question, Anna. We're now creating these medical devices that are not made of ferromagnetic material. And, to that end, what is safe are the titanium metal materials. Those are things like implants that you get for your hips and your knees. Dental implants are safe. Gold crowns are safe, fillings, dental braces. Those are all things that are made primarily out of titanium. But the take home message here is that you should ask the technician about what you might be bringing in, and the technician will ask you

anyhow, but you want to be sure that you're not putting yourself or other people at risk. You shouldn't even in a wallet, bring in a credit card. It will deactivate the credit card.

Peter: [00:05:50] What about with hernia? With meshes? When you said mesh, what kind of surgical mesh do they use?

Dr. Kipper: [00:05:56] Excellent question, Peter. They're now using meshes that are safe for the MRI machine. The older meshes that they used for hernia surgeries, not so safe.

Peter: [00:06:05] How old? So, when did they discontinue – if somebody is listening now?

Dr. Kipper: [00:06:08] Yeah, I don't know the exact year, but I think for the last ten years we've had safety with the MRI machines. Here's another interesting thing. People that have tattoos, what can happen in those people that are heavily tattooed is that the magnets can heat up and irritate the tattoos, and they can create some burning and discomfort.

Peter: [00:06:31] Whoa, did not know that. So, the key here is leave your sex toys at home, or at least check to make sure that the sex toy is not cobalt or titanium.

Anna: [00:06:42] I mean, I would argue that you don't need to wear a butt plug to any medical procedure or lab exam.

Peter: [00:06:49] Very well said.

Dr. Kipper: [00:06:50] That would be one opinion.

Anna: [00:06:52] On that note, can a common anesthetic cure cancer? This is a fascinating story. I love it when drugs get used for other applications. And this might be one of those.

Dr. Kipper: [00:07:04] And the answer is yes. And the anesthetic is something we've all had in our lives, which is lidocaine. And lidocaine is an anesthetic that blocks the nerve signals, which is why we get it locally when we're having stitches or we're having dental procedures. So, it's very safe and it's available.

But what we found is very interesting. There are taste buds in the mouth and oropharynx, and there are taste buds for sweet, sour, bitter. And it turns out that the receptors for the bitter taste buds, those things that stimulate a bitter taste and actually activate that receptor for the bitter taste buds, which is called T2R14, that receptor, actually, when activated and set off a cascade of chemical reactions that can actually kill cells, kill cancer cells.

And it turns out that the cancer cells, in the oropharynx, in the mouth and throat have a very high concentration of these T2R14 receptors, and lidocaine, as it happens, creates a bitter taste. If you taste or swallow lidocaine, it's going to taste very bitter. So with that information they started injecting lidocaine into these oral tumors. And these oral tumors started to go away. So there's a direct relationship now of using lidocaine in tumors in the head and neck for this reason.

Anna: [00:08:45] Wait, let me make sure I understand this logic. So if you eat something with a bitter taste, it creates this chemical reaction that kills the cancer cells? So why not skip the step and just go straight to the lidocaine? Did I say that right or wrong?

Dr. Kipper: [00:09:01] Well, we're not eating things that have a bitter taste to kill the cancer cells. There's not enough of a concentrate.

Anna: [00:09:07] Right. Okay, so lidocaine's concentrated. Got it.

Dr. Kipper: [00:09:10] But lidocaine, yes, has a higher concentration.

Peter: [00:09:13] Is it just a taste of lidocaine, like, in other words, they don't have to use a lot of lidocaine at some point, they can reproduce whatever that is that's giving you that intense bitter taste to release the chemical. Yeah?

Dr. Kipper: [00:09:25] Yes, Peter. And I think that's one of the journeys that they're on now to see what else can do this. But we know that lidocaine is safe because we use this all the time. And it's readily available and it does have some anesthetic effect. So if you're going to shoot this into a tumor, the pain issue is mitigated by that.

Another very interesting part of this research was that there may be other cancers that are benefited by these T2R14 receptors, and those receptors are also found in breast, pancreas and the ovary. So we're now looking at whether or not we're going to... They've done studies on breast cancer where they have actually shot lidocaine into these tumors. And the survival rates are actually higher. This was a recent study in the Journal of Oncology, and they're now looking at this for pancreas and ovary.

Anna: [00:10:22] That's wonderful.

Peter: [00:10:23] Wow. That's pretty stunning. All I keep thinking, though, is the receptors, is that the new area of research, David, is how to impact these receptors so they can do our bidding? In other words, manipulating them with this, which is a bitter taste, or whatever else. You know what I mean? But that's the key?

Dr. Kipper: [00:10:41] Yes. And we've really learned about receptors because of all the addiction issues in the world. And we know that these drugs attach to receptors in order to get their activity. So if you block these receptors, the drugs that people take can't get on the receptors and therefore don't have any value or don't have any clinical effect.

One popular drug out there for opiate treatment is buprenorphine. And what buprenorphine does is that it blocks the opiate receptors. So if someone's taking buprenorphine and someone gives them morphine or Demerol or even fentanyl, those receptors are going to keep, they're going to be blocked. And those drugs are not going to have the same impact or any impact.

So people are dissuaded from using these drugs because they're on the buprenorphine and they're not going to work. But, speaking of drugs, there are other drugs. Peter, you spoke about foods that activate these T2R14 receptors. There are common medicines that activate these, and these medicines are now being explored.

Some of those also include erythromycin, Tylenol, Soma, certain antihistamines, colchicine. We talked about colchicine in a recent episode, about its effect on inflammation in the coronary arteries. So that's another whole area of research now for cancer treatment, which is how can we activate these T2R14 receptors?

Peter: [00:12:20] Wow. Can I ask you about, before we leave this issue, buprenorphine, when that's administered and it numbs the receptors, so it's not uptaking the drugs, how long does it last for?

Dr. Kipper: [00:12:31] Buprenorphine has a long half-life. Buprenorphine can stay in the system for up to 36 hours, depending on the dose. So people that are in buprenorphine therapy, they develop a blood level, if you will, of buprenorphine if they're taking it long enough and it can last for quite a while.

The converse of that question is how do you take somebody off the buprenorphine? Someone's on buprenorphine and they have a serious accident or a serious illness, and they need pain management, well, they're not going to get any opiates for pain management. So you have to take them off the buprenorphine. So taking them off of buprenorphine, to your question, Peter, takes a long time. And if they've been on it a while, they have tissue levels that are very high. And it takes a long time for that, to come off of these receptors, so that you can actually have the advantage of an opiate when you need it.

Peter: [00:13:28] Wow, that's complicated. So if I have a surgery and I'm on that -- and how do you get off them? How do you leech that out of their system?

Dr. Kipper: [00:13:35] Well, there are different ways to do this. Generally, you taper them down as quickly as you can, and then you get to the endpoint where that's just one, or even less than one, milligram of this product. And then they go into a withdrawal from the buprenorphine. And then you have to treat them as you would any other opiate withdrawal.

Peter: [00:13:58] Boy, and then put them back on the buprenorphine?

Dr. Kipper: [00:14:00] It depends. I mean, I think people that... Originally, we used buprenorphine to get people off of the opiates. And once you've got people off the opiates, yes, then you tried to get them off the buprenorphine. But there are some people that could not stay away from opiates, and they're on chronic buprenorphine treatment. But, again, they run that risk if they ever need a painkiller, they're in a little bit of trouble.

Peter: [00:14:25] So, speaking of addiction, in our Hey, This Just Happened segment, Matthew Perry lost his battle, I mean, his addiction battle, unfortunately. And ketamine was found in the autopsy. And the question here is, if ketamine is used for depression, how would ketamine, David, factor into the cause of death?

Dr. Kipper: [00:14:48] There are a couple ways that this happened. First of all, ketamine has effects on the body that stimulate the heart, and they depress the respirations. So ketamine in large doses can do this. Also, if you combine ketamine with other products, like buprenorphine, then you accelerate the respiratory depression because buprenorphine in high enough doses can create respiratory depression. So if you combine ketamine with other things, that's a problem if you have underlying health issues, like heart disease, like respiratory issues.

And we know from the reporting that Matthew Perry had these underlying problems. He had cardiac problems, he had lung problems. So he was already at risk for having some complications from the ketamine. The bigger issue with the autopsy findings was, not so much the ketamine, it was how much ketamine was in his system and how he took the ketamine.

So he had been going through ketamine treatments that were IV infusions. And ketamine has a very short half-life. It's only in your system a few hours. So the last ketamine infusion that he had was ten days prior to his drowning. So it couldn't have been from the infusion. Ketamine can also be delivered as a nasal spray. We talked about this, I think, in another episode that this is thought to be a really good mode of delivery for people that are in an acute depression, and it works very fast.

What they found in Matthew's autopsy was that he had a dose in his stomach, which meant he had an oral dose of ketamine. Doctors don't prescribe this orally, and the amount of ketamine they found in his stomach was ten times higher than a therapeutic dose for treating depression.

We also treat pain, we also treat PTSD with ketamine. So there was some complications, not only of what he took in the way of ketamine, how much he took, combined with all the other health problems that he had. And because he was overly sedated from this combination and had respiratory depression and was in a hot tub, he drowned. That's what happened.

Peter: [00:17:23] David, why would somebody take ketamine? So, say I'm getting the infusion because I have depression. Why would I be apt to take it on my own? Is it to alleviate the depression? Or how does that addiction work? How do you get addicted to ketamine? What is it that I'm searching for from the ketamine? What was he, what was his body getting from that?

Dr. Kipper: [00:17:43] So, again, people take ketamine for pain. They take it for depression, for PTSD. So someone is in pain, they might take ketamine. It's a recreational party drug – people take ketamine. They snort ketamine. They inject ketamine. Again, for the high that it gives. And it doesn't really give a high, what it gives as some dissociation. That's what ketamine does.

Peter: [00:18:09] That's what I was looking for. Okay.

Dr. Kipper: [00:18:10] So that's why when people get these infusions and these infusions could last a few hours, there's always a doctor or a nurse that's supervising them, and they're not running around the room. They're on a table or a comfortable chair. They're not moving around. You don't give this to people and have them go home.

So, this is an unfortunate problem that happened. And some people actually are okay with the dissociation. It's like eating a mushroom, some people are fine with that. Other people freak out, but everyone that takes that dose in an infusion is going to have some dissociation.

Peter: [00:18:52] Got it. And they're there with you, the doctor, the nurses, whatever to make sure that your respiration doesn't stop. Correct? That's the whole key.

Dr. Kipper: [00:18:58] Yes, that's the point. And the question then comes up, where do you get this oral ketamine? And one answer is that since telemedicine, there are people that are prescribing this via telemedicine. MDs are not prescribing this, at least people that are responsible are not prescribing this because it's not FDA approved in an oral form. Hello! So, but it's out there.

Peter: [00:19:27] So, telemedicine, you call a place, or on the internet and you just answer a couple of questions? But a doctor has to still prescribe it, correct?

Dr. Kipper: [00:19:36] So what would happen is you call up and you say, "I'm depressed," or "I'm in pain," or "I have PTSD," or whatever excuse you give. And the doctor says, "Well, we're going to prescribe this for you," but they can't prescribe an infusion over the phone.

Peter: [00:19:53] Right.

Dr. Kipper: [00:19:53] They might prescribe a nasal spray. The nasal spray just came out. So this was going on during the pandemic. And someone might say, well, "I can't do that because I have nasal polyps," or "I have sinus problems," or whatever. Well, then we have an oral form.

Peter: [00:20:12] And a doctor then is prescribing it over the internet with no liability as far as I mean, will they now reverse engineer where he got it and try and track it back to go after who sold it?

Dr. Kipper: [00:20:23] I would think somebody is looking into this. I would hope so. This is a big problem with prescribing over the internet.

[music]

Peter: [00:21:48] We have a caller, as we always do, in our Hey, What About Me? segment, who has a question for you. This is a big area: laser treatments for your face. Here's the question.

Caller: [00:21:58] Hi, Dr. Kipper. This is Dawn. I'm 68 years old and every time I look in the mirror, I realize I'm getting older and older. I was wondering whether the laser therapy would be a good option for me.

Dr. Kipper: [00:22:15] Dawn, laser absolutely can help with some of these problems. I don't know your specific problems, but laser treatments for facial reconstruction rejuvenation does work and it works for wrinkles, age spots. It can even out the texture of your skin, sun damage, acne scars. So it does have a place in medical therapeutics.

And there are two types. There's one that's ablative and one that's not ablative. And, by the way, both of these work by creating an inflammatory change in the collagen tissue under the skin. And they do this in such a way that they leave some untreated tissue next to the treated tissue. So they don't just destroy all your tissue. And, as the tissues heal, your collagen improves. That's the basis of how they work.

Of the two types, and both of them have a different story to them. The ablative laser is a 30-minute to 2-hour treatment. It's a much more severe laser experience. And it also, not only knocks out the epidermis, the skin, but it also heats up the dermis, which is underneath. So there's quite a bit of tissue damage to this. It takes up to a month before this heals, but it does heal. And it is another way to do this.

The non-ablative also affects the collagen growth, but less aggressively. The treatment sessions are shorter. Usually 1 to 3 treatments is all people need, and they're spaced out over a few weeks or a few months, and people recover very quickly from that. And the

swollen and red skin reaction to the non-ablative laser only lasts for a few hours. So that one's really, if you are older and going through this, you might want to consider the non-ablative forms.

Anna: [00:24:19] I think I saw a doctor that I like, and she had done an ablative one and went on the internet to talk about it right after it happened, and it, it was shocking looking. Her face looked like a wet strawberry, like I was worried, you know what I mean? Like it was very irritated and dark pink red. And, you know, she says, in a few weeks, this will start to calm down. But I was glad that she showed what it looks like because I don't think people know what they're in for.

Dr. Kipper: [00:24:46] Well, imagine you peel off the skin. What's under the skin? Blood vessels, connective tissue, muscles. There's stuff under the skin that gets exposed, and it's scary looking, frankly.

Peter: [00:25:02] So let me ask a question. I know someone who ordered one of those, like a product off the internet that claims it does the same thing, not as, I'm sure, not as deep or whatever. And they used it, I don't know how long, but I noticed a difference in that person the next time I saw them and said, "Wow, have you done something different?" And they said it was because "I bought this product" that does, I guess it's electric stimulation, that kind of thing, rather than laser?

Dr. Kipper: [00:25:31] Well, there are products that you could put on your skin, topical things that will also create some skin changes and, hopefully, collagen changes. You know, the retinoids that we use, like Accutane, the people that have had acne, when people take Accutane and these things, what they do is they dry up the oil under the skin. Their skin becomes very red in the beginning of the treatment. And so when the skin comes back, it usually looks a little better.

Peter: [00:26:03] So do you always need that irritation? Does it always have to get to that level of inflammation and healing?

Anna: [00:26:09] You have to break it down, to build it up, that kind of thing?

Dr. Kipper: [00:26:11] Yes. You have to inflame the collagen. That's the trick here. And so the collagen, as it heals, think of this -- it scars a little bit, right? -- so it firms up a little bit. And, as it does, the skin underneath does the same thing.

Anna: [00:26:29] You know I wanted to, I'm always looking at these, and hearing about so-and-so did this and that and the other one. But there are so many, other than hearing ablative and non-ablative, I never know what to choose, because I see all these different names for all these different ones. But are they all kind of the same?

Dr. Kipper: [00:26:44] They are, Anna, they all work very much the same. They're different kinds of laser machines, but they're all basically divided into these two groups, and it really depends on whether you want this over in a couple days, or whether you're willing to sit on your couch and lock your front door for a month.

Anna: [00:27:03] Yeah, because I mean, I feel like they are expensive, these treatments, unless you have a medical reason, is not going to be covered. So I want to make sure I'm spending my money in the smartest way possible.

Dr. Kipper: [00:27:13] They'll never be covered by your insurance.

Peter: [00:27:16] Producer Lorre has a question, by the way.

Lorre: [00:27:18] Well, my question is about the red light therapy, there's a green light. If you use those, do they do anything?

Dr. Kipper: [00:27:26] They can. And it's the same theory. They're inflaming the skin, and what's under the skin, and what's under the skin is collagen. So, yes, they can have an effect.

I think that, for the listeners, if you're going to try this, if you're going to try to firm up your skin or do these, take the wrinkles away, I would do this under doctor supervision because there are people that shouldn't do this.

I mean, people that are dark skinned or very tan shouldn't do this. If you've keloided, which is that darkened scar that people get, people that have a connective tissue disorder, and there are a lot of those people that have autoimmune disorders, that's not going to go so well. If you've had radiation to your face for any reason, someone's had a squamous cell cancer, someone's had some other reason for the radiation. And people within the year that have used these retinoids, Accutane is one that we just spoke about. So not everybody's a candidate. So at very least, ask your doctor if you're a candidate for these.

Anna: [00:28:35] So wrapping up today, let's recap. The number-one thing you should not bring to an MRI, and I don't think I'll ever forget these two examples you gave us.

Dr. Kipper: [00:28:45] Metal. Anything with metal and some metals are safe, those are the nonferrous metals. Some aren't. Asks the technician. They'll know exactly what you can wear.

Anna: [00:28:57] Then we discussed how lidocaine could be a cure for cancer.

Dr. Kipper: [00:29:03] Lidocaine activates the receptors that are involved with bitter taste. These are the T2R14 receptors. We also find these receptors in breast, pancreas and the ovary. But they're very highly concentrated in the oropharynx.

And so for mouth and throat cancers, injecting something that can activate them, which is lidocaine, and stimulate these receptors, and when you stimulate these receptors, these receptors create cell death. And, if there are cancer cells and they're turning over faster than your normal cells, those are the cells that are going to die first.

Peter: [00:29:47] And in This Just Happened, Matthew Perry passed away. We got that story. And we found out from the autopsy that it was due in part, large part due to his ingestion of ketamine.

Dr. Kipper: [00:29:59] So, ketamine is not a recreational drug. Taking it orally is quite dangerous. And if you have any underlying health issues, particularly heart or lung issues, you need to avoid ketamine unless you are under doctor's supervision. And this is really not to destroy the ketamine industry because there's value in ketamine. Just make sure that you're doing it in a controlled, supervised facility.

Peter: [00:30:27] And in Hey, What About Me? we got a caller that wanted to know about laser treatments and if they really do work.

Dr. Kipper: [00:30:33] Lasers work. There are two kinds. One is stronger than the other. That's the ablative. The non-ablative are less aggressive. What they do is that they inflame your collagen that sits under the skin. It tightens up and they work. They're expensive. They're not going to be covered by your insurance. And, again, try to do this under doctor's supervision.

Anna: [00:30:58] And for anybody out there who's thinking, gosh, I would love if Dr. Kipper would answer my question, we now have socials. Head on over to Instagram @BedsideMattersPodcast, or Twitter/X, or whatever you want to call it, @BedsideMattersPod and ask your question there. Or at BedsideMatters.org and Doctor Kipper might just answer it on the air.

Peter: [00:31:18] And, Dr. Kipper, thank you for participating as always, because we would get arrested if we gave you answers because we have no medical degree. And you have a book called Override, which explains so much about our personalities and our behavior, you should check it out. It's about your brain chemistry and what's released, what's not released and why you're the way you are.

Anna Vocino, I know the way you are. You're somebody who loves sauces and spices and recipes and gluten-free and grain-free and low-carb. You should go to AnnaVocino.com because it's all there. And I eat your pasta sauce at least once a week. And look at me. I don't need laser treatments. I want to thank producer Lorre Crimi. Thank you, as always, for being part of the broadcast and putting it together and also asking wonderful questions.

And, of course, thank you for listening to Bedside Matters. If you're sick and tired of being sick and tired, we're here to help. We offer new episodes every Monday, so follow us, like us, and make sure, by the way, you look for upcoming interviews with Felicity Huffman with William Macy and Johnny Knoxville.

Announcer: [00:32:15] The information on Bedside Matters should not be understood or construed as medical or health advice. The information on Bedside Matters is not a substitute for medical or health advice from a professional who is aware of the facts and circumstances of your individual situation. Thank you for listening. If you enjoyed the show, please share it with your friends. We'll see you next time.