

Podcast Transcript

Key tips for food safety in your home kitchen

[INTRO MUSIC PLAYS, Going Somewhere by Aves]

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Jae Williams (host): Welcome to Bridging the Gap, a podcast that brings us closer to understanding how environmental public health shows up in our everyday lives. I'm your host, Jae Williams.

We're continuing our three-episode series on food safety, and today, we are zooming into a place many of us know: the kitchen in our very own homes. Even though this space isn't typically inspected by health officials, it is important to follow best practices for safe food preparation and storage. The knowledge that food inspectors have can be applied to the smaller scale of cooking that happens in the home. What are some of the ways we can protect ourselves from foodborne illness, make food last longer and enjoy meals safely at home? Our guest is here to bridge the gap.

Jae: Welcome to the show. Really, really glad to have you here today. I would love to know a little bit about you.

Greg McKnight (guest): Good morning. My name is Greg McKnight, and I'm a supervisor for the Seattle Health Department. I'm primarily responsible for the team that covers downtown Seattle.

Jae: Thank you, welcome. So, how did you come to this role and get involved in this work?

Greg: I, originally, I graduated college, I had a degree in biology and I was, you know, looking for a job; I put my application in in a multitude of city departments. And the one that called me back first was the Denver Health Department. And so, I showed up for my interview, not really expecting to get much, and then next week I found out they were hiring me. So, really cool thing.

Jae: Wow. So, you've been other places before you landed here in Seattle?

Greg: Yes. My experience is all across the country. I actually started off in Denver, Colorado, where I worked for about 15 years. And then I actually went to Vermont, where I was the town health officer and the director of code enforcement. And then, I came out to Washington State to do clandestine drug labs, and a plethora of other things at the state health department. So, I did vital statistics, transient accommodations, which is kind of that fancy work for hotels and motels. I did birth certificates, death certificates, the whole nine; drinking water, a little bit of on-site septic; just a lot of experiences that have helped build my career over time.

Jae: I feel like that probably gives you a lot of good context for problem solving, but also is kind of a testament to "oh the places you'll go" within public health.

Greg: That's true, public health covers quite a bit. Kind of being a Jack of all trades helps with that. It definitely, like you said, increases your ability to be adaptable and helping you understand how to problem solve and being flexible too.

Jae: Wow, well, that's really good to hear.

So, today we really want to give our listeners tips for safety in their home kitchen. So, I would love to know what are some of your personal experiences, in terms of learning about safety that can be applied to the home kitchen?

Greg: When I first became a health inspector, and I was starting to learn about foodborne illness, the principles are there, bacteria growth, etcetera, but you don't really even think about it as part of your normal everyday household routine. My family, not everything we did made ourselves sick, but we did some things that I didn't realize, and particularly cooling certain foods.

My family used to have this one meal that we had probably once or twice a month, but it was basically like a beef stew over rice. And that stew probably was the part we wanted to focus on cooling down; obviously, it had meat and protein in it, not realizing we were probably making ourselves sick by not properly cooling the rice; very often put the whole thing in the refrigerator while it was warm, therefore it didn't cool down correctly. And oddly enough, rice has a bacterium called *Bacillus cereus*, which can actually make you sick. And so, if you don't cool it correctly and reheat it correctly, you can actually make yourself ill.

Jae: What would be the right way to cool rice? Because I think most people probably make more rice than they're going to eat in a single serving, which is easy to do because it expands. So, what would be the best way to cool rice?

Greg: The best way is to do portion control, of course. But, like everyone else, the worst thing you want to have is to run out of rice with your meal. So yeah, we make more than normal. But if you have some left in the pot or rice cooker, it's basically good to let it come down to about 120°F degrees, 110°F roughly. And that's just entering what they call this danger zone between 90°F and 60°F. And so, once it gets down to there, it's not gonna heat your fridge up. So, putting it in a pan or container that's more shallow or even putting it in uncovered, it will allow the refrigerator cool it down quickly through that danger zone. And that is probably the best way to save, keep it safe. The next step would be to reheat it correctly, so making sure you heated it back up to 165°F.

Jae: I want to hear a little bit more about these danger zones. Of course, they've probably called that because I would suspect that's when peak bacterial growth is going on that can make you sick. But what are those temperatures? And then, you also mentioned 165°F.

Greg: The danger zone is between 40°F and 140°F technically. We do know that there's some better data that shows it may not be quite as high, so, for certain foods, you know, it can be closer to like 130°F, 120°F. And really, it's about going below 50°F. You know, that 60°F is still pretty dangerous and bacterial growth. Because it's so organism specific, it's impossible for us to say this is the danger zone because it could determine on what bacterium is on the food.

Jae: So, it sounds like the first major thing is making sure that you're cooling your food correctly. You're trying to you're trying to reach the balance between cooling something so that it's not in that danger zone of temperature, but also not warming up your fridge.

Greg: That's right. That's something for people to know that a restaurant has a commercial refrigerator, which probably is a lot more powerful than the ones we have at home.

Jae: Right. On the flip side of that, this morning, I was seasoning some chicken and I took it out to thaw. I'm not going to say exactly when I took it out to thaw because I want to hear your guidance on this. What is the right way to thaw proteins, to make sure that you're not introducing an opportunity for making yourself sick?

Greg: Yeah, the best way to do it is under cold running water, or to take a few days in the fridge. I do a lot of the same things. You know, it's a cost saving measure, you can't eat the whole package or whatever you buy from Costco usually, so you're gonna have to freeze it. If I'm meal planning for a week, say I want to have chicken, in fact I had it last night. So, I took a frozen pack out of the freezer on Monday and I put it into the refrigerator. I put it on a paper towel because I mean, obviously I'm being a health inspector, I'm like, I don't want chicken juices to accidentally then leak out in my freezer and contaminate my other foods.

Give it a couple days and it's usually thawed; it was completely thawed by yesterday evening. The other way, if I didn't estimate correctly or I have surprised guests coming over, which sometimes happens, but I will take an extra couple packs out and I run them under cold running water, just a trickle of water. And what that does is it keeps it cold and cool because running tap water usually is around 41°F to 45°F. So, that doesn't allow the food to actually enter into the danger zone. It won't get to 70°F, which is kind of where we see things start growing.

Jae: You heard it here. You can put something under cold running water.

Greg: Not on, like, full blast either. Like I said, just a trickle, enough so that it's covering the package. Obviously the bigger the package, the little bit more water you'll need.

Jae: We've covered cooling food that is hot, defrosting things that are frozen, and then also being aware of portioning. What are some of the things in your household that affect how much food you decide to make?

Greg: You know, it depends one, on the dish, and depends on how I'm feeling about leftovers, right? So, you can't keep leftovers more than five days. People like to push that all the time. Whoa, man, after three, you know, you gotta be careful. But five, you're doing a bio experiment and I'm not sure you're gonna like the results, so definitely five days is it.

Most people who do use leftovers, a lot of times it's great for lunch. If you're going to consume it within a couple or three days, that's great. I think for me and my household, it depends on my son and if he's coming he could eat most of what I cook; I can cook enough for four people, he's gonna eat three people's worth of food.

Jae: Oh my gosh, wow.

Greg: He's a big guy, so yeah, he's 6'5". If he's not here and I've cooked something, or let's say I had a BBQ with some friends last weekend where I cooked a lot of meat, but I already have a vacuum sealer. I have things that, containers that allow me to like package food. So, I try to do all of the portioning. So, for example, I'll continue slicing the brisket like I would be serving it, but then putting that into the containers, vacuum sealing and freezing. You know, it'll be good for about 30 days.

Jae: OK, that's enough time to turn around and then be in the mood to eat it again.

Greg: That's right, gives you some time.

Jae: I wanna come back, because you said, you know, after five days, all bets are off. That kind of goes into my question of what does it mean for food to go bad and how can we tell? Because I think everybody has done the sniff test. You know, you open your milk, you do the sniff test, you open your leftovers, you sniff and you're like, this smells fine, it's probably fine.

Greg: Right? I think that's probably the hardest thing for us to do. You know, not everything really can be smelled. So, bacterial colonies don't always generate that. And then sometimes, because you cook the food and you packaged it correctly, you'll almost always get some sort of spores on there, whether they're mold or some sort of fungus. And those are pretty invisible the first few days that they've actually started growing. And so, that's what really makes it difficult for people to know even though you're seeing it. For certain foods like cheeses, you may see a dime sized piece of mold; the reason why we have you cut a whole inch around the visible mold is that removes those little tendrils you can't see inside of it. So, rather than try and get people to do that with containers, it probably is best just to say toss it.

Jae: When in doubt...

Greg: ...throw it out.

Jae: The way that you talk about bacteria and mold and fungus is in a way that doesn't come across as gross, but kind of fascinating. Do you feel like you've been able to see where your biology background plays into some of these things regarding food safety?

Greg: You have to have a passion for it 'cause it is fascinating. It doesn't make you fun at family reunions 'cause you'd be like "Yo, that Mac and cheese has got to go!", but you can definitely put your passion into knowing like, OK, I'm right up against the line and use your knowledge.

It can be a double-edged curse, right? Because as health inspectors, you kind of know what risk you're taking. Most people don't get the opportunity to go into the back of the kitchen or see these things go awry. So, over time, you know, this is just innate knowledge. And it becomes fascinating because then when something new happens, you're like, what happened here? You could just see all the eyes light up in the room 'cause everybody's like, you know, what's the science behind this new thing? So, that's exactly where it becomes fun in a way, because you're learning.

Jae: That is cool. My nerdy spidey senses are tingling.

Greg: Exactly.

Jae: I'm someone who really enjoys avocados and I I'm also someone who understands that onions, garlic are very important in creating a depth of flavors in my food. But I also think about those things as having a shell; I'll pick up an onion I feel like if I take off the first layer or two, I'm good. You know, I'm not eating the outside of the avocado, I'm eating the inside. But should I be washing

those types of fruits and vegetables?

Greg: I don't really rinse it because outside of an onion is usually dry. And when you cut down, if you're sacrificing a couple layers of that, it's more than appropriate, there's usually plenty of onion left, and I think that's OK. If it's something like a melon, honeydew or a cantaloupe or a watermelon, that's not something you wanna do that because they've done absorption studies where you can actually literally see how the rind, even though it seems impermeable to water, it's semi permeable. You don't want to wash it with bleach water or something because you could actually impact the actual flavor.

Jae: So, what you're saying is if you wash it with like bleach water, or I know people have fruit and veggie washes, that could actually be absorbed into the fruit.

Greg: Correct.

Jae: On the note of cleaning our fruits and vegetables, I wanna know, because I've heard a couple of different terms; in my mind and in my kitchen, oh, I'm sanitizing something, I'm disinfecting something, they feel pretty much the same to me, especially in a post-COVID era. OK, I cleaned it, so it's clean. But it has come to my attention that those two are different, and I think that that's something that maybe not everyone is aware of. So, what is the difference between sanitizing and disinfection?

Greg: So, sanitizing really just means that you're reducing the pathogens on there. Like when you talk about hand sanitizers, you're reducing the number of things on there.

Jae: A reduction in like germs?

Greg: Right, in germs, correct. As opposed to disinfecting, which means you're completely removing everything on there.

Jae: How would that difference look in your home kitchen if you wanted to sanitize something versus disinfect something?

Greg: So, there's cleaning agents, which just takes the gross impurities off. Then there's sanitizing, which lowers the number of germs. And then disinfecting is killing it all. The usual big difference is contact time.

Jae: Okay.

Greg: So, the same substance, like 409, bleach, Clorox spray or whatever you're using; let's say you put it on there for three seconds and you wipe it up, that's sanitizing, you reduce the number of germs. Putting it down there and letting it sit for about a minute, that's disinfecting. When I prepped the chicken last night in my kitchen, I did sanitizing before but I did disinfecting when I was done cooking everything.

Jae: In levels of strength, you can use a cleaning agent, then a sanitizing agent is reducing the number of germs, but a disinfectant is killing it all, and that is about contact time. You have to let the, whatever you're using, like you said, 409, bleach, Clorox spray, be in contact for longer and in

order to disinfect.

Greg: Correct.

Jae: Something that people might be wondering, we're talking about the home kitchen. I think it's easy for people to feel like, well, I'm in my home, what does that have to do with public health? So, how does making sure you're safe in your own personal home kitchen support public health more generally?

Greg: Well, by knowing the basics of how to protect yourself from making yourself sick, you are in essence supporting the whole system. So, then you're not filling up hospitals, you're not taking up valuable resources for people who need medical attention. And so, you're basically, you know, helping society have our bandwidth that we would use for those incidences when people couldn't protect themselves. That's why I think it's super important that you protect yourself in your own home.

Jae: We have to remember that we are all a lot more connected than we think.

Greg: Correct.

Jae: By taking care of your home kitchen and maintaining safe practices, you're keeping yourself healthy and safe from foodborne illness. Also, the people around you and your larger extended circle that could potentially be affected if somebody is sick.

Greg: Correct, yes.

Jae: I know from friends and family, and I'm guilty of this too, that often when people eat something and they end up feeling upset in their stomach, they associate it with the last thing that they ate. What are your thoughts on that, what can you tell us about that?

Greg: That was something I used to assume as well until I became a health inspector and, in fact, until I became more trained on investigating foodborne illness. And, one of the first things they teach you, is to get a 72-hour food history because the incubation period for bacteria are very well known.

Jae: wait 72 hours. So that's -

Greg & Jae: - 3 days.

Greg: Yes. We want to know what you ate three days before your symptoms first came on. A lot of times what epidemiologists are doing when they're asking you questions is they're trying to find ways to get you to share what you had. And if you think right now, right? I mean, even I, just in this podcast, have a hard time thinking of what I ate three days ago. But it's so important to know because you do have to do some stuff. It's not something we do every day.

Another time I had a lady who complained about getting sick at the last restaurant she ate at. But then when I was going through her 72-hour food history, she started talking about this pan of lasagna she had made, and she literally was reheating the whole pan for almost four days.

Jae: Based on what you told us about heating and cooling, I know from personal experience that when you have something as large as a pan of lasagna, the whole thing is not going to heat and cool at the same rate, right?

Greg: Correct, that's right.

Jae: So, I imagine she was heating the whole thing up, eating a little bit, cooling it down, sticking it back in the fridge. So, it was just several cycles of the danger zone, and of potential bacterial growth.

Greg: Correct.

Jae: Okay.

Greg: That is spot on. And that's exactly what we think happened. The corners of that lasagna were probably extra crispy, but the center was probably never really reaching 140°F or 165°F and it was never really probably fully cooling down at 41°F. People heat food to taste, and that's probably a bad thing. It's why we really recommend, if you're reheating food, get a thermometer. It's OK to check it. The probe stem thermometers have value, but definitely making sure you heat things back up to 165°F.

Jae: I feel like we've covered a lot of really great territory; we've talked about cooling, portioning, thawing, the danger zone, when it might be more appropriate than other times to wash fruits and vegetables that have a shell. We've covered a lot of things that I think will be useful for people as they're cooking at home. Where can people look for additional resources if they have more questions about safety in the home kitchen?

Greg: You know, I would say that definitely your local health department has pages. The state health department has pages. The U.S. FDA has pages. Food safety service, Internet, there's, there's thousands of pages out there. I would say those are all great places to go look for things to find information. Even if you have a question and you can't find it, you know, feel free to call your local friendly health inspector. We have a person who's on duty even at our department that you can call and ask those kinds of technical questions too. Health inspectors and we have them there to be able to take those kind of calls. That's definitely something I would recommend.

Jae: We will definitely include links to the food safety resources for Public Health Seattle and King County and the Washington State Department of Health in our show notes. And thank you so much for joining us. Thank you so much for all of this knowledge. And I feel like I've learned a lot as someone who cooks at home fairly frequently, and now I have some do's and don'ts.

Greg: There you go. And we're all still learning. I'm glad I could share.

Jae: And I also want to take a moment to thank our listeners. Hopefully we were able to fill in some gaps for you.

[MUSIC RESUMES, Going Somewhere by Aves]

[OUTRO]

Jae: Bridging the Gap is a project by the Environmental Health Services Division of Public Health Seattle and King County. This episode was hosted by me, Jae Williams, and produced and edited by myself and Ben Lennon. Special thanks to Greg McKnight for sharing his everyday expertise. Thank you to Keith Seinfeld for lending invaluable insight and knowledge about creating a podcast. We would also like to thank Carina Elsenboss for her leadership and support throughout. This project is funded through Foundational Public Health Services from the Washington State Legislature. You can learn more about FPHS on the Department of Health website, which is linked in the show notes.

Thanks for listening.

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