Sterilization of Endoscopes:

A Special Interview with Dr. David Lewis

By Dr. Joseph Mercola

DM: Dr. Joseph Mercola

DL: Dr. David Lewis

DM: Colon cancer, no one wants it. But are the screening tests safe? Hi, this is Dr. Mercola, helping you take control of your health. Today I am joined by Dr. David Lewis, who is a retired microbiologist at the Environmental Protection Agency (EPA), and a whistleblower, who exposed the massive fraud that is still currently going on at the EPA with respect to biosolids. We discussed that topic in a previous issue. This time we're going to work on another massive public health issue that he exposed in his book. That book is *Science for Sale: How the US Government Uses Powerful Corporations and Leading Universities to Support Government Policies, Silence Top Scientists, Jeopardize Our Health, and Protect Corporate Profits.* The information in it is just astounding, what he exposes.

Dr. Lewis is a man with integrity, who basically put his... When he exposed the truth that what was happening at the EPA, he lost his job. He's a man who loves science. I mean, that's his whole mission, his passion with science. He got fired because he told the truth. He's uncovered this other area, which I'll let him describe in a moment, about the primary tool that's being used to screen for colon cancer (it's routinely recommended for everyone, I believe, over the ages 60 if I'm not mistaken), which is a flexible sigmoidoscopy or colonoscopy. They both have the same problems and that these very expensive pieces of equipment that are used on... They're not disposable so they have to be essentially sterilized before they're used, and the sterilization process does not sterilize. That's the problem.

We're going to go into the details in what you can do to protect yourself and your family from this potential problem. Because I know many of our viewers are at the age where they're getting these screenings on a regular basis. So, welcome, and thank you for joining us again, Dr. Lewis.

DL: Thank you, Dr. Mercola.

DM: You are a research microbiologist so this contamination issue is right up your field. Why don't you give us a... Well, actually, for those who didn't see your previous interview, why don't you describe briefly your research career so they know what your framework is?

DL: Sure. [I worked] at the US Environmental Protection Agency [EPA], Office of Research and Development (ORD), in the laboratory, in Athens, Georgia, where I worked for over 31 years. My career was pretty much equally divided between environmental issues, where I became involved in the land application of sewage sludge or biosolids issues that we talked about before. The other half of my career as a research microbiologist involved infection control within the hospital as well as out in the field, in farms and other areas, where people pick up infections.

It's sort of how the topic that we're discussing today came about. It came on the heels of an outbreak of HIV in a dental practice in Florida in the late '80s or early '90s did I become involved with and discovered that the AIDS virus would become trapped in lubricants in dental drills and prophy angles used for cleaning teeth, for polishing teeth. The HIV would be spit back out of those devices in the

mouths of subsequent patients. HIV was still infectious even though [the dental devices] had been through normal Centers for Disease Control and Prevention (CDC) and Food and Drug Administration (FDA) recommended clean up procedures.

When we sort of wrapped up that issue and the CDC and the FDA changed their guidelines, what happened was the CDC suggested to me, "You should look at flexible endoscopes. It's an even bigger problem." So, the same problems with lubricant that we saw in dental devices were found in flexible endoscopes. They are used for colorectal cancer screening, for example.

DM: Why don't you describe what the standard procedure is in how to sterilize equipment and maybe a little bit about the process with the scopes? Were the scopes mostly the flexible sigmoidoscopes or the colonoscopes or both?

DL: Both.

DM: Okay.

DL: And a variety of other scopes like bronchoscope for looking in the larynx.

DM: Or endoscopes for looking in the stomach.

DL: Yeah.

DM: Endoscopies.

DL: Gastroscopes are used to look inside the stomach as well and the esophagus.

DM: Sure.

DL: These devices have several basic components. One is some long, flexible tube to stick down in your throat or elsewhere to look inside of the body, and a little camera lens on it so that the doctor can real time view the inside of the stomach or colon, through a camera lens, looking for evidence of cancer or other conditions.

On the other end of that scope, there are a number of knobs that you turn to manipulate the scope while it's in the patient. There are also channels, and this is an important part, there are internal channels. In flexible sigmoidoscopes, there's what's called a biopsy channel, where the physician sees evidence of a tumor, for example. He or she can insert a little claw through that endoscope, into the patient, and grab a piece of tissue and pull it back out through what's called the biopsy channel.

There's another equally important, if not more important, internal channel in these endoscopes. It's called the air/water channel. While the camera lens is inside the patient, it often gets covered with blood and other patient material. So there's a little water nozzle close to the camera lens on the tip end of that tube that's inserted into the patient where the doctor can hit a little button. It will blow a jet of air and water over that lens to clean it all. That channel is much smaller than the biopsy channel.

The biopsy channel in all flexible endoscopes is fully accessible to a brush so that when you're cleaning the device between patients, you can insert a long brush, like a bottle-cleaning brush, down that biopsy channel and brush it all clean because it's got blood, mucus, and pieces of tissue from taking biopsies all inside the channels. It has to be completely cleaned out before it can be re-used on the next patient.

The big problem that we always have with these scopes is that the little channel where the air and water flow through, which also gets contaminated with tissue, blood, feces, and all kinds of things, is not fully accessible in most flexible endoscopes. You can't get a brush all the way through it. One of... Well, not

one of as I started to say, but the most common problem that the physician has when he or she goes to insert a colonoscope to look for colon cancer or say a bronchoscope to look in the lungs is when they insert the tube into the patient, the lens gets dirty and when they go hit the little button for the air/water channel and nothing happens. It's clogged up. What the doctor has to do is withdraw the device and get another one. That is the most common problem and it happens when the scope oftentimes is first inserted.

So, what's happening is the physician is inserting a scope into the patient. The scope is so clogged up with patient material from previous patients, that it's unusable. You can't get any air and water through it. That's the problem we're talking about with the scopes today. It's different with dental hand piece, drills, and other attachments to dental devices. They can be thrown in an autoclave and heat sterilized. Flexible endoscopes cannot be heat sterilized. You can't cook these things between patients like you do in normal surgical devices so they resort...

DM: The reason you can't is because these are very sensitive mechanical equipment that would be essentially destroyed if you heat-sterilized them.

DL: Yeah. In short, the way I would put it is you can't do it because the manufacturers haven't been made to do it. We can put a rover on Mars. Surely, we can build a flexible endoscope that you can put in an autoclave. There is no pressure from the FDA to fix that problem.

[----- 10:00 -----]

DM: Okay. So mechanically, it can be constructed. It's just that there hasn't been an incentive to create one that would solve the problem.

DL: That's right. It's all it is.

DM: All right. I did not realize that. That's an important distinction, which is good because there's a solution. Because...

DL: That's right. There's an easy solution to it.

DM: Yeah. You've described and articulated the problem very well. We have the re-use of these devices that essentially, mechanically, it's almost impossible to clean.

DL: It is impossible.

DM: It is impossible.

DL: To completely clean. It cannot be done.

DM: That's just shocking. It really is shocking. It's almost to the level of our last interview where the fraud that's being done with the EPA in these biosolids. It's just... It literally is unbelievable.

DL: It is. it is.

DM: I mean, how science could be so adept at things and then be so foolish, literally so foolish, to not appreciate the dangers here.

DL: I know. It boils down to, like so many of these issues, federal agencies that have the authority to fix these kinds of problems and they don't get around to it for various reasons. More often than not, it's just pressure from the industry on our federal agencies to not do anything to raise their cost of doing business.

DM: Okay. You first got into this because of the HIV problem in the Florida dental practice. In that case, I believe a patient did contract AIDS because of the dental equipment, right?

DL: There were several... There were half a dozen patients in the Florida dental practice that contracted HIV that was matched to the dentist's HIV infection through DNA comparisons. I became involved in those cases. At that time, the problems with cleaning dental equipment were not on public radar, and that's what I did, raise those concerns. That the dental equipment is so contaminated with patient material that you've got to look at that as a mechanism for transmitting HIV. Nobody really believed that until we published a study in *Lancet* and later in *Nature Medicine* demonstrating that you can actually see visible amounts of blood coming out of these dental devices when they're cleaned according to the CDC and the FDA guidelines, in industry standards.

This was what I did on the interview with Primetime Live, in 1992, where all I did was take a dental drill that was prepared to use on the next patient. Instead of sticking it into the patient's mouth, I held it over a little beaker with clear water. You could see red blood flushing out of that which would have gone to the next patient's mouth. With flexible endoscopes, it's the same problem. You can see visible amounts of patient material in these internal channels when they prepare to use it on the next patient.

DM: So you were the researcher who exposed this initially, right? You were the first one to document this, and then bring it to the public's attention. As a result of that exposure, the whole process in the dental field changed. Is that correct?

DL: That's right. It changed overnight. What I told the producer for ABC's Primetime Live is... I said, "Videotape these demonstrations that I'm about to do. Show it to Dr. Harold Jaffe, who was in charge of the HIV study being conducted by the CDC." Let him watch blood come out of the device and ask him, "How is that any different from sharing dirty needles with drug addicts?" So, that's what they did. When Dr. Jaffe saw the video, he said... His mouth opened. He tried to say something. He was silent, and all he said was, "Surely, we don't want to transfer blood patient to patient."

They announced on that program, in 1992, that the CDC was changing its guidelines for dental devices to heat sterilization standard. So that solved that problem overnight.

DM: Well, we need to stop here and extend a warm set of congratulations to you, for saving many people's lives from contracting HIV, and then ultimately, most likely, passing prematurely from AIDS. That was a really great milestone in your career, to be able to do that from a public health perspective.

DL: Well, thanks, Dr. Mercola. I would like to say in return, my older brother, who passed away from colon cancer last year, was a dental supply company representative. He's the one who came to me and showed me that problem, and it cost him his job. Really, we owe him a lot, my older brother, Mike.

DM: Yeah. Your family has a history of telling the truth and getting fired for it.

DL: Yeah. It runs in the family. Even my father who was a navy pilot in World War II went through same thing I've gone through and my older brother did.

DM: I'm just glad there are families like yours who have integrity and are willing to put the public health ahead of their own personal security issues. Thank you very much for doing that and for your family.

I'd like to extend the discussion forward because the next phase was that you examined the flexible scopes and found indeed the same problem existed as you described. [I have] two questions. One is, were you able to document the transfer of infections from these pieces of equipment similar to the way you were with the dental equipment? That's the first part. I'll ask the second question later.

DL: With the dental equipment, I became involved in a second case involving HIV in Massachusetts. In that case, the CDC did investigate it. There was a court trial and the evidence came forward. But that case got a lot of national media attention. We never did get to document that in the scientific literature. There was a lot of evidence that the lawyer representing the dentist was able to get it excluded and the jury never saw it. I wrote about the details of that in my book. There were other patients who came in before the patient I was working with, who contracted HIV within weeks of this patient. So, there was a second outbreak. I sort of focused on HIV infection because it was in the spotlight in the late '80s or early '90s, when all this was going on.

DM: Less so now but it's still a devastating infection. It's really gotten out of the media's attention.

DL: Absolutely. The thought of someone getting HIV infection through dental practice made headlines around the world.

DM: Were you able to document the transfer of infection the same way that you did with the dental equipment with flexible scopes?

DL: Yes. Visually, it can be demonstrated. What I did, along those lines, is got a study initiated with a university where we looked at the internal channels, air/water channel and biopsy channel, and actually took samples of that channel, a little Teflon-like coating on the inside and looked at layers of patient material on that and tested different ways of treating that layer of patient material to see what it required to remove it, to actually clean those channels effectively.

That was what I researched or focused on other than... We did publish a study in *Nature Medicine*, in 1995, where we took the lubricants used in flexible endoscopes and exposed that to HIV-infected human blood, and demonstrated that when you submerge flexible endoscopes inside of two percent glutaraldehyde, which is the most common hollow disinfectant that's used for previous scopes between patients cleaning them, the two [percent] was ineffective. So, using the same laboratory procedures were used for dental equipment, we found with flexible endoscopes the same problems are there.

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Most flexible endoscopes today are simply submerged in two percent glutaraldehyde solution to disinfect them between patients. They're submerged for 10 to 15 minutes normally, which is below what the FDA recommends, and then re-used. We've demonstrated in the laboratory that you could submerge those devices for two hours and there are still infections, with HIV trapped in those lubricants.

DM: So, is there an alternative sterilization agent that can be used, or a liquid?

DL: Yeah. The problem here is one where... The two choices are out there, boils down to two chemicals that are being used primarily. One is glutaraldehyde, which is like formaldehyde, it's just a smaller molecule. Formaldehyde is used for preserving frogs in the laboratory, for example, for display, something like that. It's used in embalming. Glutaraldehyde is used overwhelmingly. The most common procedure for cleaning scopes involves two percent glutaraldehyde...

DM: Would you say 75 percent or 90 percent?

DL: You cannot go much higher than two percent...

DM: No, no. I'm sorry... The number of...

DL: Oh, the number. Somewhere in the range of 80 percent of the time glutaraldehyde is used for disinfecting endoscopes...

DM: And it doesn't work. It doesn't work even at two hours?

DL: Not only it doesn't work, it complicates the problem. What glutaraldehyde does is the same thing formaldehyde is used for preserving frogs. It doesn't dissolve the tissue, blood, and the bits of flesh that are trapped inside flexible endoscopes. It actually preserves them so they buildup over time. You're exacerbating the cleaning problem when you use glutaraldehyde.

The other alternative, which is used on, at least the last time I checked several years ago... About 20 percent of flexible endoscopes in the United States were reprocessed using peracetic acid. Peracetic acid is used in organic chemistry labs. When you have like a flask, a glass flask that has little tubes of glass attached that you can't get a brush through them but you want to clean out old, hardened organic matter, you can put them in peracetic acid and that acid will dissolve proteins, which is what you want to do.

One of the first things I did when I started looking at the problem of flexible endoscopes is visually inspect flexible endoscope channels in them to see what they look like, the little Gore-Tex tube that runs into the patient carrying either air/water or biopsy forceps for doing a biopsy sample. Those coatings are white when the endoscope is new, brand new. You can go into an endoscope repair shop today, any one of them and whoever is working there, repairing and cleaning those scopes that have gotten severely clogged or whatever, you ask that person if they can tell if the scope has used peracetic acid or glutaraldehyde. They all can. You can see it with the naked eye.

In a flexible endoscope, if peracetic acid is used to clean it, that material in that tube, coating of that tube, is as white today after years of use as it was when that scope was bought. On the other hand, if you look at any other scope in those tubes by sticking a camera down those channels, just like you would looking inside a patient, what you will see is a very dark, reddish brown coating. It's no longer white and it's very dark, reddish brown, and that is a coating of patient material.

So, when they run... Say they want to take a biopsy, they run forceps through that biopsy channel, that sharp metal biopsy forceps that's going down that channel is scraping that patient material off and it is being discharged down into the inside of the patient, in the colon, stomach, lungs or wherever that the biopsy is being taken. This gives you some visual idea of what's going on here.

DM: The peracetic acid is somewhat similar to regular acetic acid, which is, of course, vinegar. I think many of us have experienced using that to remove scale or something. We know how it magically just removes it. You put into a container with scale, a glass container and you put in the vinegar and it's gone. It dissolves it, very similar to peracetic acid. It removes the human tissue that gets left behind after all these procedures.

DL: Yeah. There is a fundamental principle of infection control everyone agrees on. The CDC and the FDA will tell you this. They all know it. If you can't clean a device, you can't disinfect it. It's as simple as that. Because the disinfectants can't permeate. They can't diffuse through those hardened layers of patient material.

DM: As you mentioned earlier, just to re-emphasize again, that these channels are so small you can't physically put a brush down the tube to mechanically remove it. So it has to be a chemical solution.

DL: Not the air/water channel. You can't get a brush all the way through it except in some of the scopes that have recently been manufactured by one of the leading manufacturers of flexible endoscopes. I guess it doesn't hurt to mention their name, Pentax, which I've looked at. They actually have channels in some of their scopes, and you can get a brush all the way through their water channel, which is wonderful.

DM: Okay, great. If this is such an obvious problem with such clear implications as to what the consequences can be from not cleaning it and persisting in using glutaraldehyde, why do you think 80 percent of clinicians and clinics continue to use it?

DL: It's simply a matter of economics. In dentistry and endoscopy, pennies per procedure add up, procedures that millions and millions of them are done routinely. There's a lot of pressure at that level of what goes in a hospital to save money. That's what's driving it. Below all of that is a simple problem that is sitting in the commissioner's office at the FDA. The FDA commissioner can write a letter and say, "From henceforth, all air/water channels will be large enough in flexible endoscopes to get a brush all the way through them." It's as simple as that. Once the FDA does that, everybody who's working in the hospital with these devices is going to get a flexible endoscope that you can stick a brush through the air/water channel in. It doesn't get simpler than that.

DM: All right. That is obviously the next question. Why has there been an inertia from the federal regulatory agencies like the FDA, the CDC, and possibly the EPA to not address this issue which clearly is harming, infecting, and probably killing prematurely tens of thousands, if not hundreds of thousands of people every year.

DL: It is, and we should talk about that a little more later. But to get down to the FDA, I can tell you from my own experience the difference between when I worked on the dental issue and it got fixed, and a few years later when I worked on the endoscope issue and it is still not fixed today.

DM: Which is what, 20 years later?

DL: That was 1992 when we handled the dental issue.

DM: Okay, so 23 years later or 24.

DL: Yeah. When I published the paper in *Lancet*, in 1992, along with my co-authors at Washington University Medical School, in Loma Linda Dental School at Loma Linda University, that paper, which *Lancet* wrote an editorial to go with it, it got worldwide attention.

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A gentleman working for Dr. David Kessler, the commissioner of the FDA at that time, took my paper into Dr. Kessler's office and showed it to him. Dr. Kessler sat there, read it, and looked at the guy and said, "Send the letter to every dentist in the country, in the United States, and every possession of the United States like Guam, for example, and tell them that from henceforth, all dental hand pieces and prophylaxis angles that are contaminated this way must be heat sterilized." So, that changed from the FDA.

A few years later, I was catching a plane out of Reagan International Airport, in Washington DC. Dr. Kessler, at that time, was the dean of public health at Yale University. He had left the FDA. I went and stood in the line to get my ticket changed, and I saw him standing there. I had seen him on TV where President Clinton had him back up to a Rose Garden ceremony over tobacco legislation. In a way, I saw Dr. Kessler standing in the distance, staring at me as I went through the line. When I got out of the line, he was still standing there and staring at me. So, I walked over, stuck out my hand, and said, "Hi, I'm David Lewis." He said, "I know who you are. What are you doing now?" I said, "Well, I'm working on flexible endoscopes." He had great interest in that problem. If only he had been the FDA commissioner still, I think he would have done the same thing he did to deal with the dental problems.

We certainly have an FDA commissioner sitting in Washington since then, since Dr. Kessler left, who does not have the same level of concerns, or the willingness to forget what the manufacturers of flexible

endoscopes do with their lobbyists, or screaming and hollering about this or that, and just do what's right. That's what we've got to have when the president is elected and these people are appointed to the heads of these agencies. That's such a key to determine whether we solve these kinds of problems or we kick a can down the road decade after decade, which we are doing.

DM: Well, that's not surprising but it's certainly sad to hear and recognize that so many people are being hurt by this inaction by these federal regulatory agencies, which most likely results from the conflicted interest with major corporations.

DL: Yeah, that's what it is.

DM: I believe the recommendation is, and I should've looked this up before the interview, but I believe only a person over 60 should have colonoscopy or certainly flexible sigmoidoscopy. Maybe...

DL: Yeah, I think it's around 50. At least, that's when my physician, my gastroenterologist started doing that with me.

DM: And then, I think it's like one every year for every two or three years, and that's like every five or ten [years]. Because colon cancer grows very slowly, which is a beautiful thing... A beautiful aspect of why the screening process is so effective because it takes a long time, many times 10 years. It's not like breast cancer, prostate cancer, or lung cancer.

DL: That's exactly right.

DM: I'm wondering, with your knowledge and awareness of the specifics of this ineffectiveness of the vast majority of the sterilization process for the endoscopes, or flexible scopes (maybe that's more accurate), what are your recommendations or what do you personally follow? I mean, is it possible to identify a clinic that uses the peracetic acid, and is that efficient? Or are there still, even when using peracetic acid, are there still deficiencies in the sterilization process?

DL: Just based on what I've seen with flexible endoscopes that are handled by repair shops, the scopes that I've used in my research for these kinds of experiments that I described earlier, I am perfectly comfortable with having a colonoscopy or any other procedure using a flexible endoscope if it is cleaned and sterilized with peracetic acid. Peracetic acid is the process used in the United States. It is actually the only sterilization procedure approved by the FDA. It's a chemical sterilization procedure. It's not heat sterilization but still visually, you can see the patient material thoroughly cleaned out.

I'm comfortable having those procedures done so what I do is simply check when my doctor wants to do a procedure involving a flexible endoscope. I'll explain that I'll only have it done if it's done in a facility that uses peracetic acid to reprocess or clean the device. I double check myself. In Athens, Georgia, I go and talk with the staff at the hospital where I have those procedures done and make sure they are using peracetic acid.

DM: Okay. So, you don't want to prime them with the right answer by asking that. You want to know what the correct answer is. But my guess is, if you want to get an objective and real answer to your question, you call the appropriate person. It may take a while to get through who's ever responsible for doing the cleaning but it should be easy. All you need to do to be able to get this information at the clinic you're going to is to ask what agent are they using to clean and sterilize the flexible scope.

DL: That's a good point. That is exactly what I ask. I go in and ask, "How do you clean these devices between patients?"

DM: Right.

DL: "How do you clean your scopes between patient use?" And I'll listen to their answers.

DM: And if you hear the word glutaraldehyde, as you will in 80 percent of the clinics, you say, "Thank you, but no thanks. Cancel my appointment."

DL: That's what I personally do when they... Usually, they don't say glutaraldehyde. They usually say "Cidex."

DM: Oh, s-i-d-e-x?

DL: It's c-i-d-e-x.

DM: Cidex, okay.

DL: That's the most common form of glutaraldehyde used.

DM: Okay. So, if they give you a brand name, you can easily go on the Internet, look it up, and see what it is.

DL: That's right.

DM: So, that is the answer. This is the key. A key that could save your life or the life of someone you love by simply taking the time, literally a few minutes of your time, to ask this simple question. You don't have to be damaged, hurt, or infected by the ignorance of the medical community. You just don't have to because we've got champions like Dr. Lewis, who have really done the research that shows really clearly that this is an issue, and then if it was brought to the attention of the appropriate FDA commissioner, this wouldn't be an issue. Everyone would be using... It would be mandated, and it may cost another 25 cents per procedure but it's really worth it, to have clean equipment.

DL: It is.

DM: Yeah. It's just mind boggling how atrocious our system is and they don't pay attention to just basic, fundamental details.

DL: Absolutely. I'd like to revisit what I mentioned earlier, the follow up to one of your previous questions.

DM: Sure, let's go there now.

DL: To understand how the industry fights this change. This is an important thing for a patient to be aware of. This is what you're going to hear from their doctors. The doctor's going to tell them, more likely than not, there's only a one in two million chance that you could be infected by flexible endoscopes. That's based on the reported numbers of cases of how many infections have been reported in the scientific literature that are tracked to endoscopes. We should talk about that in a minute.

DM: Yes, let's do that.

DL: Here's the question that I ask doctors, "What does it take to report an endoscope infection in the scientific literature?"

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Think about it. I go to my endoscopist and I have a colonoscopy done, and one week later, I notice I've got human papillomavirus (HPV) infection where that scope was inserted in me, and I go to the doctor

and I'm diagnosed with that, and I say, "Look, you know I got an endoscope used two weeks ago. That's within the incubation time for HPV. There's no other way I could've gotten HPV in that part of my body. This is no coincidence. I want it looked into. I want you to go to the hospital, get that scope that was used on me, which they can do. Check it for HPV and do like in the HIV outbreak in Florida, compare the DNA and see if my HPV infection came from that scope." They're not going to do it.

The only time that these kinds of cases ever get looked at is when you have an outbreak. The infection control is so bad in some medical facility that you get scores or hundreds of patients all of a sudden started showing up saying that they had some particular procedure and now they got hepatitis B, hepatitis C, and HIV, something like that, maybe it's a bacterial infection, but anyway, it becomes evident. They will actually... The hospital will actually invest enough resources then to figure out what happened.

But most infections with dental devices or medical devices like this, flexible endoscopes, they're sporadic cases. It's one patient now and then. One patient goes in today and they're infected. It may be a week, it may be a month, or maybe a year later that another dental patient or another endoscopy patient comes to the same facility where they end up with hepatitis C, and they're not... They don't share needles with drug abusers. They don't have the risk that people have normally, or any of those risk factors. They go to a doctor and their doctor says, "Well, here's how you get hepatitis C." And the patient says, "I don't do any of those things. I don't share needles, etcetera. I haven't had injections with growth hormones or any of the ways you pick up hepatitis C." The doctor will look at that patient and say, "Well, you know, about 5 percent of these infections, we don't know how they get them." So, they're blown off.

There's a different way to look at that problem. Like I did on Primetime Live with me being on film using a dental drill over a clean container of water, you can see the blood come out of it. What more do you need to know? Same with flexible endoscopes, if you could stick a camera down that flexible endoscope that's ready to use on the next patient and what you see inside are blood and tissue from previous patients, you don't need to know anything else. You can't disinfect that thing so it's got to be cleaned properly and sterilized, chemically sterilized or heat sterilized. The patient should be ready for that kind of push back from their position, that your chances of infection are small and the answer is that the chances of those infections being documented are even smaller.

DM: Yes, indeed. So, this is clearly a failure of leadership at the CDC because for almost...

DL: It's a failure of leadership in the CDC and the FDA together.

DM: Okay, I stand corrected. Both of these agencies because... The reason I said the CDC is for almost nearly every one of the infections you mentioned, guess what? There's a vaccine. They're focusing on vaccine, building up an immunity to this when that is not the first step of infection control. [The first step], as you mentioned earlier, is prevention. Never get the infection to begin with. I mean, that's just beyond crazy.

That's how most... Actually, this is a tangent but I think it's an important one especially with respect to the vaccine issue because the reason, the justification for the foolish (I think is probably the best and most accurate term), overuse of vaccine is that they were effective in eradicating previous epidemics. That's based, I think, on the false assumption of what was the result of the diminishing of those epidemics, which in most part was the first issue, which was cleaning up the environment so the infections weren't there through sanitation, hygiene, and a whole variety of other process which minimized your exposure to the infection to begin with. That's the first step. With that, you don't need the vaccines typically if you have a healthy, robust immune system.

And we're failing miserably here, at the CDC and the FDA, in this incredibly common procedure. I don't know the numbers but it's massive. There are millions, tens of millions of these procedures going on every year.

DL: That's right. You know, there are a lot of things we don't have vaccines for.

DM: Oh, sure.

DL: They contaminate endoscopes.

DM: Right. That even makes it more important.

DL: *Clostridium difficile* (C. diff), for example, which is found in human feces. You go in and get a colonoscopy done with a scope that's been used on thousands and thousands of other patients. It's got C. diff contamination in the channels that can't be cleaned. So, it's a Russian roulette for you to go in. There are, I think, something like 24,000 deaths a year from C. diff right now. Once you get it, you may or may not survive it.

DM: Yeah. Fortunately, the standard of care is in transition. It typically has been the administration of intravenous antibiotics. But now, there is an increasing appreciation of the fecal microbiome transplant, which can be very useful. That, you know, goes back to the importance of following a healthy lifestyle we recommend, which automatically upregulates your microbiome so that you wouldn't even get the infection to begin with.

DL: Right.

DM: Because you build up a self-immunity and you can be exposed to these agents and you don't have devastating consequences. It's an interesting... You know, you're injecting these foreign agents into a typical population that is grossly immuno-compromised as a result of their lifestyle practices or primarily their diet and exposure to all these toxins in their food supply.

DL: One big issue here is we have to keep thinking about emerging infectious diseases. I was asked to review an article recently by *Annals of Internal Medicine*, where an international group of scientists got together to set forth all of our proper precautions for dealing with the spread of Ebola. I mentioned in my review there, I said, "Nowhere in all the precautions we take do any of these scientists, medical doctors mention contaminated dental devices and contaminated flexible endoscopes, which can be cleaned of patient material."

Can you imagine going into a dental office where they're not heat sterilizing drills, which create all these aerosols with blood particles in them and sit on a chair where someone who's infectious with Ebola just sat. That same mechanism... Dental devices and flexible endoscopes are mechanisms that are not so problematic right now with regard to some infections, but it can be an open door to introduce some of these emerging infectious diseases in our country.

We've got to maintain a protective wall with our population so that things that are having outbreaks elsewhere in the world don't even move into this country. We've got these kinds of problems where we're using medical and dental devices that you can't clean the blood and tissue out of them between patients, and not everybody is sterilizing them. A lot of cases, most medical practitioners are not sterilizing them. We've got a real problem.

DM: So, you initially brought this up to the FDA 23 years ago?

DL: Yeah, in 1992.

DM: It was 1992, so 23 years ago. Have you brought it up with them on a regular basis? Or are there other researchers or investigators who have brought this to their attention?

[----- 50:00 -----]

DL: I sat down with the head of the FDA's devices group, I'd say, about 10 years ago. It's the last time I interacted with them on this face to face. This was after Dr. Kessler left. I was simply trying to get the FDA just to follow... to make hospitals follow the instructions on the bottle of Cidex.

DM: Glutaraldehyde.

DL: Glutaraldehyde. Because it says, according to FDA recommendations/guidelines, they've got to soak it for 45 minutes when most facilities, hospitals, and otherwise soak it for 10 minutes. I said, "Why are you letting everybody get by with this?" The head of the devices section looked at me and gave me two reasons. He said, "There is a lack public concern on this issue." Number two reason, he said, "There's not enough documented cases." So, therein lies the way we've got to go, to move the FDA and the CDC on this issue. We've got to inform the public and we've got to explain to the public that it is so expensive to document these cases. It is almost never done. It's not on the radar. What does it means to say, "there are not many documented cases", when we don't have a way of routinely testing these things to document cases?

DM: If you are not looking for it, you'll never find it.

DL: You never will.

DM: Right. That's just common sense. But sometimes, common sense is sadly not there, at these levels where they need to be.

DL: Yeah, tell me about it.

DM: So, you're the public. You're watching this. I know, there are many health care professionals [watching this], even better. Because you have access to wider people, wider numbers of the public. You've got to be aware of this issue. It really is important. It's a simple, simple fix.

Remember, if you are recommended by your physician to get one of these flexible scopes: either an endoscopy, bronchoscopy, flexible sigmoidoscopy, or colonoscopy, you've got to... You just have to ask someone in the clinic what the sterilization process is and what the cleaning agent is. Don't prompt them with the right answer, you know. I don't know if that will matter a lot but just don't give them the right answer. You know what the right answer is. It's peracetic acid, and that's the one you need to find out, the one we know.

There's only one out of five clinics that are using it so you might have to contact 10 clinics to find one. Who knows, you might get lucky and find it at the first one or two [clinics]. But most likely the vast majority are not going to be using this.

You've got to do your homework and enough of us, enough of us get ready to take this stance and refuse, absolutely refuse to have this procedure done with glutaraldehyde-sterilized instrument. Then, listen, we vote with our pocketbooks. Those clinics, businesses are going to go down. They're not going to be doing procedures, and they're going to be motivated to switch their disinfection procedure and process. That's what we need to do. I mean, it's pretty clear. It's a very simple process.

DL: That's right, Dr. Mercola. I would urge everyone to follow what I do. I don't avoid these... To having these valuable procedures done on me. I mentioned earlier my older brother passed away from colon

cancer last year. He would probably still be alive today. I feel sure he would be if he had had a colonoscopy done some number of years before he was diagnosed with advanced cancer.

One of the scientists that I worked with for years on the biosolids issue, just past year, was diagnosed with advanced colon cancer. This is a young, healthy guy who is an epitome of doing all the right things. You know, eating all the right foods and exercising. But he didn't ever get a colonoscopy done. He's now in the last stages of colon cancer.

DM: Let me just give my perspective on the colonoscopies.

DL: Alright.

DM: I'm 61 and I've never had one done. Not that I don't believe in them because this is one of the rare exceptions. Normally, I don't believe in most medical procedures but this is a diagnostic procedure. As I mentioned earlier, colon cancer grows very slowly. It's a very common cancer. It's one of the top leading cancers that kill people so it's something to be alarmed about and be concerned with.

The typical screening that is done is to screen for... A guaiac stool detection to check for hidden blood in your stool, which has a lot of false positives. I think the latest evidence is they don't work very well. What does work is to visually inspect. If you could find these little growths or usually called polyps, but at a certain stage, you can simply snip it. There's no chemotherapy. That's the surgical intervention. It's diagnostic but also therapeutic because they can clip it right there. They take a picture of it, clip it, capture it, send it to biopsy, and you're off to the races. It could literally save your life. It's definitely something to consider but you don't want to complicate it with having it done with a contaminated piece of equipment.

I do recommend colonoscopies. They're probably a good idea for most of us. I feel really confident with my lifestyle and my diet that I probably am never going to come down with colon cancer but I probably would be having one at some point, just for an insurance screening.

DL: Yeah. Well, I tell you there are alternatives to colonoscopy. It took me a while to get, after looking at endoscopes for a few years... It took a while for me to get up the courage, when I started approaching 50, to even consider that. What I did initially is just have the old barium enema and the x-ray, and went that route. There are other ways other than colonoscopy to be visually screened.

DM: Well, barium enemas... I mean, you've got complications with the barium. You also have the ionizing radiation aspect, and it's not as effective a screening as colonoscopy. I think colonoscopy is the way to go. You might be concerned about them sticking this big tube up your rectum. Thankfully, this is one of the benefits of modern pharmacology. We have pretty darned good drugs they give you intravenously. So, you're like in Neverland. You couldn't care less what's going on down there because you're just not going to feel it. They don't put you to sleep but you're in this semi- twilight haze, typically. I forget the specific medications that are used. It isn't something that you have to wait years to get courage up to do because it's not a very painful procedure as I understand. I never had it done but...

DL: Yeah. Well, I have all the same concerns myself. I sort of think of this in terms of... If you run into an individual who all of us would agree is probably at high risk for colon cancer, let's say is a heavy smoker, for example, swallowing all of that tobacco juice all the time, if that person won't have a colonoscopy done, I think they ought to, because there's high risk of cancer, look at some alternatives at least like I did.

DM: Sure, yeah. I think that's a wise approach. I think we're really closing in at the end of our time together but this has been a wonderful exposure. I can't thank you enough, again, for all you've done in these really two important areas. You've really catalyzed our interest in this biosolids issue. We're really

committing to integrate that into our Health Liberty initiatives so that we can really make a dent on that. If you don't know what the biosolids are, watch the previous interview that we did with Dr. Lewis because it really is an important issue. It's about how to grow nutrient-dense food that's free from toxic contamination of the sludge that's being used from toxic industrial waste, and that's been put and sold fraudulently as fertilizer.

You've done a really good job. You're probably saving tens of thousands of people's lives by sharing this information. I can't thank you enough for really being a pioneer of public health.

DL: Thank you, Dr. Mercola. I could do all the research in the world and it would be nothing if it wasn't for people like you to get the information out.

DM: Yeah. Well, it's team work. It really is.

DL: It is.

DM: I feel very privileged to have the opportunity to interact with really great, high-integrity researchers like yourself, who spent their entire career. I mean, decades of your life committed to these topics to finding the details, and then we've got the truth. We know what it is, in this area, this small area. It's just a matter of applying it. So, it's so simple once the homework has been done. Thank you so much for doing the homework.

DL: Thank you, Dr. Mercola.

[End]