

About Health TV with Jeanne Blake
Oral Health
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JEANNE BLAKE: Welcome to *About Health TV*, I'm Jeanne Blake. About 80% of Americans over the age of 65 suffer from gum disease according the American Dental Association. In his landmark report, the former Surgeon General Dr. David Satcher referred to periodontal disease as the "silent epidemic." A growing body of research proves that keeping your teeth as you age isn't the only reason to brush and floss regularly. There are a number of diseases that appear to be linked to oral health. On this edition of *About Health TV* we're joined by Dr. Raul Garcia who is a Professor at Boston University School of Dental Medicine and also on the Board of Directors of Dental Service of Massachusetts that created the Oral Health Foundation. Doctor thank you so much for coming in. It's so interesting in so many years of doing this program we've really not focused much on oral health. I guess that's the whole point of what Dr. Satcher said a few years ago in his report, it doesn't get enough attention.

DR. GARCIA: That's absolutely right Jeanne. For some reason, over time, we have forgotten that the mouth is actually connected to the body. So we have good news today that it connected to the body in very important ways that people really need to know about.

JEANNE BLAKE: Well the bad news is that I read 500 different types of bacteria in the mouth. Yuk.

DR. GARCIA: And those bacteria don't only harm the teeth and gums but they have the potential to affect your general health and wellbeing.

JEANNE BLAKE: I am almost embarrassed to say that this is really the first time I've delved into this to the point where I can understand it. I mean it really makes sense when you think about it. So that we can help the viewers understand this, let's just start with really basic information. Gingivitis is when the bacteria creates inflammation. But, just help us understand because for the rest of this conversation we have to really, really understand how the gums get inflamed and what gingivitis is.

DR. GARCIA: Gingivitis is the simple technical term for gum inflammation and it's identified by redness, swelling, often times bleeding of the gums just bleeding from brushing are all signs of gingivitis or gum inflammation.

JEANNE BLAKE: And the reason that we get gingivitis?

DR. GARCIA: Primarily because of the bacteria that are around the teeth under the gum line that our bodies are always in a constant battle against trying to create a balance between health and disease and those bacteria sort of get the edge in part by us not doing as good a job as we should in cleaning around our teeth especially under the gum line that leads to inflammation, gingivitis.

JEANNE BLAKE: See, I'm not on camera for some of this so people can't see me sitting here going like this, but I mean it's, I think people do have, for whatever the reason is, there is a certain of cringe factor that goes with the whole dentist thing. You're going to hate me for this right? But, it's

DR. GARCIA: No.

JEANNE BLAKE: Thank you. But it's, you know, I'm very diligent about flossing a couple of times a day because the idea of having to deal with the treatment for gingivitis is something that I never want to have to endure. Can you explain what that is for people that do get it treated and taken care of?

DR. GARCIA: Well, if you just have gingivitis by itself it's something that can be self-managed or handled by the usual routine cleaning appointment that one has at one's dentist that the hygienist performs. The risk is that if gingivitis is left untreated or is allowed to progress then you have a deepening of the problems with the inflammation not as it affects the gums on the surface but actually begins to damage the jaw bone that holds your teeth in place and that's where you're talking about some serious trouble.

JEANNE BLAKE: Okay and trouble such as?

DR. GARCIA: Well at that point, the only treatment really is going to be much more than just simple routine cleanings, you're going to have to undergo periodontal or gum treatment perhaps even to the point of needing gum surgery to correct these defects.

JEANNE BLAKE: Doctor what percentage we said that 80% of Americans over the age of 65 have gum disease, what are the numbers for those of us who are under the ages of 65?

DR. GARCIA: They can reach that high a percentage as 80% depending on the population sub group you're looking at. If you are in a population group where you are poor, of a racial ethnic minority where you are more susceptible to these conditions, the numbers can be that high. But it really gets down to a definition problem. If you look at gum disease or periodontal diseases as encompassing both gingivitis and the more serious peritonitis,

JEANNE BLAKE: Okay.

DR. GARCIA: The numbers can be that high. If you focus only on the more severe aspects where the gum disease has progressed to really destroy the supporting structures of the teeth, there you are talking about 10, 15, 20% of the population.

JEANNE BLAKE: Okay, so when we are talking about the fact that gum disease can contribute to other health issues and we are going to go through them one at a time, are we talking about gingivitis or are we talking about periodontitis where it's, it's gingivitis has gone to the next stage?

DR. GARCIA: Well we really could be talking about both, but the key one where the evidence has really mounted to show a real association is with the more advanced form of gum disease, periodontal disease, periodontitis.

JEANNE BLAKE: Okay, just back to something that you said a moment ago about in the communities where perhaps the problems are worse, and where, and where

you are referring to where people are underserved and they don't have access to good healthcare so therefore they may not go to the dentist as much?

DR. GARCIA: In large part it's because of the problems of the underserved where they can't go to the dentist, not because they choose not to but because they don't have the resources available to get good, routine preventive care and early treatment of early stages of disease.

JEANNE BLAKE: Well how much is, I'm asking a lot of basic questions because I'm very curious about this, but how much of this can we take care of ourselves by flossing and brushing regularly and how much is required to be dealt with by a dental hygienist with regular cleanings?

DR. GARCIA: I think individuals can do an awful lot for themselves but again only up to a point. I think the ideal is a nice marriage between what you are doing at home every day in self care and what you are able to get on the professional side on a periodic basis for professional preventive care. That combination is really what does the magic.

JEANNE BLAKE: Okay, let's talk about now the link between gum disease, advanced gum disease and other health issues. Let's start with diabetes.

DR. GARCIA: Diabetes is one of those conditions where the connection between the body and the mouth is really a two-way street. We have known for decades that people who have diabetes are at much higher risk for having gum problems.

JEANNE BLAKE: And why?

DR. GARCIA: We've known that the problems of a diabetic in regards to their glucose metabolism in many ways also make them at risk for infections and diabetics are known to be at risk for a whole variety of infections. And in turn, if you remember that gum diseases are simple, bacterial infections, sure enough if you have diabetes you are going to be at more risk of diseases that are infections around the teeth.

JEANNE BLAKE: So there in that case, it's not because necessarily they are not taking care of their teeth.

DR. GARCIA: Exactly. It doesn't have to do with just their inability to care for their mouths, a diabetic who does a good job keeping their mouth clean will prevent the risk of gum disease but they are at much higher risk for gum disease because of their diabetes. The other correction, the other side of the coin, or the other sort of out arrow on the two-way street, is with the evidence is begun to mount more recently where the idea is that perhaps since gum disease is an infection, we also know that diabetics who have infections have much poor ability to control their diabetes, that an infection in a diabetic is a major problem for their diabetic health, so perhaps that gum disease, which is an infection, actually is having a consequence for the diabetic and that's where the evidence is really mounting showing that in fact, individuals who have gum disease and diabetes have much worse glucose control/

JEANNE BLAKE: Right.

DR. GARCIA: Much worse diabetic health because of their oral infection.

JEANNE BLAKE: I read about the culprit Cytokines and it seemed to me from what I've read that Cytokines which is a protein that's in bacteria correct?

DR. GARCIA: Cytokines are made often times by the body in response to all sorts of injury including infection. So the body tries to mount a defense against infection and in the process releases a whole variety of molecules some of which are called cytokines that are pro-inflammatory. They cause inflammation and sometimes that inflammation gets out of control.

JEANNE BLAKE: Is it true that cytokines can disrupt the body's ability to make insulin which, of course, is a characteristic of diabetes right?

DR. GARCIA: There's been increasing evidence and in diabetics specifically it's a very high burden of these inflammatory mediator of these molecules called cytokines

that actually themselves worsen the diabetic condition and fat cells are a major source of these inflammatory cytokines.

JEANNE BLAKE: And of course, we know of the link between obesity and diabetes and these cytokines are actually they're made in the lining, they exist in the lining of the abdomen in people that are obese. You can really see the link it's like connecting the dots.

DR. GARCIA: Right, and the evidence has really been mounting that the cytokines that are coming from fat cells in obese individuals are actually perhaps a significant burden to diabetics and a major problem for their progression of diabetes.

JEANNE BLAKE: That's interesting. Diabetes is so, I think so, it's getting more attention now but I think it's often been overlooked. Many, many Americans who don't, who have diabetes don't know it.

DR. GARCIA: They don't. And in some ways, not to push the analogy of periodontal disease as the silent epidemic, similar with diabetes, I think also with diabetes, and again, not to push the analogy too far, with tooth loss - oftentimes people thought these were sort of inevitable consequences of getting older. You lose your teeth as you get older, well you get diabetes after you get to be a certain age, but we've realized that these are truly both preventable conditions, tooth loss and diabetes and I think our attention to diabetes has increased seeing how many younger people are getting diabetes and how many younger people are reaching stages of obesity that in turn put them at risk for diabetes as well as heart disease.

JEANNE BLAKE: As well as tooth loss.

DR. GARCIA: And tooth loss as well.

JEANNE BLAKE: I hope we're not confusing our viewers too much. Let's talk about heart disease because there is a growing body of evidence as well that there is a link between gum disease and heart disease and it's so obvious once I read it that of course, that inflammation, I think that the thing that was most amazing to me was to read

that these inflammation these cells were found in amniotic fluid of pregnant women so clearly they are being disbursed throughout the body and they were even found in plaque in the arterial wall, so it seems to me that while the definitive study hasn't been done, there certainly leans toward that we will have proof of that soon.

DR. GARCIA: Jeanne, I think if you just keep in mind that the mouth really is connected to the body, it really shouldn't be surprising that a chronic and severe infection around the teeth which is what periodontal disease or severe gum disease is, should just stay there around the teeth, so the idea that the bacteria that are residing around these infected teeth can travel through the blood stream and affect other parts of the body, or that the inflammatory molecules that are created around the teeth as part of the severe chronic gum inflammation can affect other organs of the body, that should not be a surprise to us.

JEANNE BLAKE: Well how much of an increased risk is there? I know the statistics are available, there have been large studies that have been done, the number of people who've had heart attacks that have had periodontal disease?

DR. GARCIA: Most of the work to date linking the two conditions of periodontal disease and heart disease, have really been based on observational studies, studies of population following individuals over time. And they're the evidence for the risk that having gum disease gives you, or more likely to have heart diseases, from one and a half to two times higher, so if you have gum disease you are almost two times more likely to develop a heart attack or to have a serious cardiovascular event including a stroke.

JEANNE BLAKE: And there's more recent research that's showing a potential link between pancreatic cancer.

DR. GARCIA: That was recent evidence from the long-term Harvard study of health professionals following over 40,000 individuals over their life span and there, interesting, they've showed that those individuals who had periodontal disease, who had moderate to severe gum disease were at one and a half times higher risk of developing pancreatic cancer and they looked at only those people who are not smokers, who are

not smokers. The risk in the not smokers was twofold so if you have gum disease, you are at twice the risk of having pancreatic cancer and how can the two be connected and there again, the link was in regards to inflammation that the inflammatory mediators that are the product of severe gum disease can travel through the bloodstream and affect other organ systems.

JEANNE BLAKE: Well I would think that that would give us insight into the causes of pancreatic cancer of which – I've been asking a lot of questions about pancreatic cancer lately because I've noted maybe it's because of my age, but I'm noting a lot more people in my age bracket so I don't know if the incidence is up, or if I'm just noticing now that a lot of young people, young, are dying from pancreatic cancer.

DR. GARCIA: Pancreatic Cancer is a challenging condition of which relatively little is known about.

JEANNE BLAKE: That's right.

DR. GARCIA: Modifiable risk factors. A lot of interest is going into understanding the genetic predispositions that make people more likely to have pancreatic cancer but the key thing would be to find modifiable risk factors and if in fact, there truly is a biological link between gum disease and pancreatic cancer. My goodness, you can treat, control, eliminate, prevent periodontal disease, think with potential impact.

JEANNE BLAKE: I'm ready to leave my chair right now and floss, I mean the evidence. Who could not floss looking at this data in its face? Who could not take care of their teeth?

DR. GARCIA: I can only agree. I gave a talk ten years ago when I presented some data from a long term study of aging here in Boston that I run at the Boston Department of Veteran's Affairs Hospital, long term study of aging and health. We followed over a thousand men over their lifespan starting in the 1960's and there we found that those individuals who had gum disease, moderate to severe gum disease, were at almost twice the risk of dying earlier, this is controlling for all the usual suspects,

all those other factors that are likely to lead to someone dying earlier. So I concluded in my talk, floss or die.

JEANNE BLAKE: Okay.

DR. GARCIA: And only half jokingly.

JEANNE BLAKE: Half joking. Really? And the last topic that I'd like to touch on, this one actually surprised me, the landmark study in Chile of 400 pregnant women that had gum disease and they treated half of them and those women who were treated and they were treated by the scaling operation that so gives me the shivers, they miscarried at about one percent, a little over one percent, and women who did not receive treatment miscarried at the rate of ten percent. Thus, again, the link between infection and possibly miscarry?

DR. GARCIA: That is one of the most intriguing links that I think has come up in the last decade where poor birth outcomes are a major health burden to this country and to other countries in the world. And the poor birth outcomes we are talking about are low birth weight, and/or prematurity and associations were found between those pregnant women who had moderate to advanced periodontal disease and their likelihood of having poor birth outcomes meaning low birth weight or premature births. The nice thing about pregnancy is that it's limited in time and those individuals who are pregnant are able to within a certain period of time, receive gum treatment and right now there have been some studies that have been started to actually see whether treating the gum disease in pregnant women can help prevent poor birth outcomes. In fact, one landmark study from Chile show just that. A pilot study from the University of Pennsylvania showed something similar and right now the National Institute of Health has a long term, large scale study focusing on over 1800 women to see whether in fact, treating their periodontal disease during pregnancy can help prevent poor birth outcome.

JEANNE BLAKE: Do you think most dentists talk with their patients about these issues?

DR. GARCIA: I think they do.

JEANNE BLAKE: Mine doesn't. I'll just, mine doesn't. Never, never has. Ever.

DR. GARCIA: Well you have to give me your dentists' name and I'll give him or her a call.

JEANNE BLAKE: I mean it could be because I'm so meticulous about flossing, brushing and my gums are always healthy and so maybe he thinks that he doesn't have to but I would just, I would think that it would be a routine part of talking with people about the importance of doing so.

DR. GARCIA: I agree with you and I think more and more dentists and dental hygienist should be talking about this as they are seeing patients perhaps in your case where you have generally good oral health and good general health they may not see a particular need to emphasize that in everything else that they are talking to you about but I do think that large numbers of persons who see dentists are at risks for these important medical conditions or have them already and I think for dentists to draw the connection between oral health and general health is a key message that they have to send.

JEANNE BLAKE: I'm going to ask my dentist, I mean who is a friend of 20 some years, I'm going ask him, in his large practice if they do address these issues because it's – talk about the place to do it, I mean, they really have you when you're there and you're just saying please don't find anything wrong. I mean its

DR. GARCIA: I think you have a perfect situation of a captive audience but then again you don't want to abuse that privilege. But also there's a healthy skepticism on the part of many health professionals about these associations, these connections but I think those skepticisms will sort of play out in time as more evidence mounts showing that there is an association, but more importantly, that you can actually do something about it.

JEANNE BLAKE: Right, exactly.

DR. GARCIA: That preventing or treating gum disease, actually makes you a healthier person overall.

JEANNE BLAKE: And there are a couple of major studies that are due out in the next year or two that I think will make this a lot less, people will have less opportunity to dismiss it.

DR. GARCIA: I agree and getting back at the heart disease story, there was a fantastic article that came out just last month in March on the effect of actually treating someone with severe periodontal disease in regards to improving their vascular health. A study that was done in the University of London and was published in the New England Journal of Medicine, that really showed that the treatment of periodontal disease actually had benefits for vascular health also.

JEANNE BLAKE: There you go, the evidence is mounting. I would like to just shift gears a little bit and talk about some of the most basics because I think that there are so many people who don't understand that their, putting into practice maybe is a better choice of words, the very basics. So how often should someone brush their teeth?

DR. GARCIA: I think in my ideal world, they should brush multiple times a day, after every sort of ingestion of food, every time they eat, but I think less than the ideal perhaps, would be at least once a day very thoroughly.

JEANNE BLAKE: And that's actually, someone wanted me to ask you that. What is, I heard on television the other day that the length of time to wash your hands is singing I think "Happy Birthday".

DR. GARCIA: "Happy Birthday"

JEANNE BLAKE: Right?

DR. GARCIA: Yes, it is.

JEANNE BLAKE: Okay, so what is the length of time that we should brush our teeth?

DR. GARCIA: I think the best evidence would show that

JEANNE BLAKE: "Star Spangled Banner?"

DR. GARCIA: Would show that if you gave a full two minutes to brushing. Now think about it. You've got 28 to 32 teeth, with a full compliment of teeth; we're talking maybe four seconds per tooth. That's not that much time, but it will work and two minutes is quite a long time, I doubt anyone out there right now is typically brushing for two minutes at a time. So get a kitchen timer, bring it up to your bathroom, turn it on and actually for two minutes you will have a very thorough brushing effect, however, brushing by itself, you know, if you don't floss, brushing but itself is sort of like only washing 70% of your body when you take a shower. So it's a combination really of brushing and flossing that really gets to those spaces between the teeth and under the gum line that a brush just can't reach that really is the key thing. So my advise is two minutes by the clock, brushing, two minutes by the clock flossing. Do that at least once a day and as far as maintaining good gum health and mouth health you're there.

JEANNE BLAKE: Overall health.

DR. GARCIA: There are lots of other good reasons to brush besides keeping bacteria down and maintaining your gum health. Making your mouth feel better.

JEANNE BLAKE: Right.

DR. GARCIA: Improving your breath, being able to smile.

JEANNE BLAKE: Now, here's a question. Is there, is there, should one floss before they brush or vice versa or does it matter?

DR. GARCIA: Oh it's sort of tomatoe/tomato.

JEANNE BLAKE: Really?

DR. GARCIA: It's a matter of preference. My own preference would be to brush first, remove all the sort of larger debris that's there, and then go back with a very fine cleaning with floss following with a nice rinse out would be the perfect combo.

JEANNE BLAKE: Exactly, bringing me to my next question. Well actually I have two. There are 12 million kinds of dental floss, does it matter if it's waxed or not?

DR. GARCIA: It's only what gets between your teeth the easiest and that's all that the wax would really do it allows the floss to get between the teeth where the contacts are very tight or you have large fillings or other restorations that kind of fray the floss, so wax just makes your life easier although it does to slip between your fingers a bit more than the regular stuff.

JEANNE BLAKE: Okay, and what about electric toothbrush versus manual toothbrush?

DR. GARCIA: Again, I think it's a matter of personal preference. There actually is good evidence that the use of a particular kind of electric toothbrush, one where the head actually rotates and oscillates actually leads to better cleaning between 7– 17% better cleaning than manual brushing but my feeling is someone who is brushing with a regular old toothbrush and doing it thoroughly for the right amount time is going to do a wonderful job.

JEANNE BLAKE: Can you hurt your gums with an electric toothbrush if you don't do it properly or with any toothbrush? You can hurt yourself with any kind of gadget or toothbrush if you don't do it right, so everyone really, I think nowadays is recommending soft bristles with rounded ends is the most gentle that still allow you to very firmly clean the teeth and clean between the teeth as much as you can. I'm asking this because I use an electric toothbrush and somebody told me that you're not supposed to, you just move it around your teeth but you don't go up and down with it, or you just, or there's a way to do it that apparently my dentist, my dentist and I are going to be having a chat by the way.

DR. GARCIA: I think you've got the right answer as to how to approach this. You really need the advice of a professional and the dentist or the hygienist that you are seeing on a regular basis is really the key person to give you good advice as to what.

JEANNE BLAKE: But I'm not due to go there for another month so you have to tell me how to brush my teeth with my electric toothbrush.

DR. GARCIA: I would really have to do the show and tell because simply telling you isn't going to be enough, I would actually have to show you and have you do it with me before a mirror and we don't have the props here for that right now.

JEANNE BLAKE: Okay, so what other, we were talking about rinses. Are there rinses that are better than others and are there toothpastes that are better than others? You can get them with fluoride, you can get them with whitening, you can get them, you know, there are aisles dedicated to this.

DR. GARCIA: There are many good rinses out there that do more than sort of freshen your breath and make your mouth feel better and many of them actually have good anti-gingivitis effects where they actually reduce plaque which is the bacteria around teeth and actually reduce the amount of gum inflammation and if they have a claim on their label that they are anti-gingivitis and anti plaque you can bet that that really is true, they've had to have those claims reviewed and okayed.

JEANNE BLAKE: Okay. Doctor this has been really interesting and I think that a lot of this information will be new to the people who listen to the program and so I want to thank you for coming and being with us today.

DR. GARCIA: You are very welcome.

JEANNE BLAKE: And I want to thank you for joining us on *About Health TV*. I'm Jeanne Blake. I'll see you next time.