00;00;06;23 [Jen]: From the California Prevention Training Center in San Francisco, this is Speaking Frankly, the State of Sexual Health. We know good sexual health doesn't just happen, it's created. In this series, we're starting the conversations we should already be having. We'll speak with experts in the field about sex, stigma, and all of the other factors that shape our sexual health and our everyday lives. I'm Jennifer Rogers. Today, we're speaking with Dr. Monica Gandhi. She's an infectious disease physician and professor of medicine at UC San Francisco. And she's the

00;00;40;04 medical director of the Ward 86 Clinic focused on HIV AIDS research. She's also become a trusted expert on COVID-19 today. She speaks with us about the Moderna and Pfizer vaccines, which are already in use in the United States and the Johnson and Johnson vaccine, which was just submitted to the FDA for emergency use authorization on Monday, February 8th. She

00;01;07;01 explains the implications for the one dose Johnson and Johnson vaccine, tells us what we know so far about long-term COVID impacts and explains when we may finally get back to a little bit of normalcy. Thanks so much for tuning in, and I hope you enjoy the episode. Well, thank you so much for being here, Monica. I appreciate it. So Johnson and Johnson today announced that Janssen Biotech has submitted an application to the FDA requesting emergency use authorization of their COVID-19 vaccine. And I was

00;01;43;18 hoping you could explain for us the difference between that vaccine and the Pfizer and Moderna vaccines, which I think folks by now are a little bit more familiar with.

00;01;53;21 [Monica]: Yes. So like you said, I think the Moderna and Pfizer, we know a lot about at this point, they are really these MRNA vaccines. And that was super unique to talk about before this, but it was this idea that you take a piece of genetic material that your body will code for the proteins from that's the MRNA, put it with a lipid particle around it and then stick it in your body. That MRNA comes out. You make proteins in your body, the spike protein that the virus has. And then you

00;02;24;01 raise an immune response against that. And they're very effective. The Johnson and Johnson vaccine is a different design. It is a Chimp adenovirus vector. What that means is the adenovirus that causes colds in chimps, but actually it doesn't replicate in your body. And inside of that is the DNA that codes for the spike protein of the virus, SARS cov-2, and then that spike protein goes out. You actually, the DNA gets made into MRMA and then the same process

00;02;54;04 occurrence RNA gets made into a spike protein in your body, and you raise an immune response against more of a traditional vaccine design. The MRNA was pretty unique. The Johnson and Johnson has major advantages. And I like this vaccine because it is a one dose vaccine. Now a two-dose trial is still continuing, but the one dose vaccine efficacy looked really good. At the beginning, we had just data on it, how it looked immunogenically, but then what it played out in trials is that in South Africa, the UK and Latin

00;03;26;01 America, it a hundred percent protected against hospitalizations. They haven't specified to us how many people were hospitalized, but they said it was a hundred percent protective for that. It was 85% protective against severe disease, which included the subset of those who are hospitalized.

00;03;41;18 [Monica]: And that was South Africa and Brazil and UK, but even in where 95% had the South Africa variant, because they specified that the South Africa variant was circulating. So 85% efficacy against severe disease, including that subset of hospitalizations across all sites, no difference. And then against mild disease, it was 72% effective in the US, 57% effective in South Africa and 66% in Latin America. So it depends on what you look at, whether that is full or empty. I find it very exciting

00;04;15;21 that it presents at the same rate against the South Africa variant against severe disease because the South Africa variant has gotten some flack lately. And so I'm very excited about that really great outcome. It's one dose, it's cheaper to make. They've estimated $3 to $4 as opposed to $30 for an MRNA vaccine. It doesn't need to be stored at these crazy cold temperatures that are making the MRNA vaccines logistically harder for us to

00;04;41;24 administer. It's not as fast as influenza because of this coldness factor. And so these can be stored in the fridge for months and months. So there's so many advantages and that EUA review at the FDA is on February 26th. And I'm very excited about it.

00;04;57;01 [Jen]: So to say that on February 26, we should have a determination from the FDA.

00;05;02;05 [Monica]: Yes, they'll determine. I mean, they were really fast with the other ones. Like they actually released the full information from the two Pfizer Moderna, like three days before. So hopefully we'll see that week, the 58 page or 90 page document that says all the data which we need. And then they would decide as soon as that day. And then if so, you know, Johnson, Johnson says they have the suppliers and they could increase production. Then we'd have more vaccines out here.

00;05;29;20 [Jen]: So what are implications for countries like India that got a lot of publicity for, I mean, they don't necessarily have the infrastructure and other countries that are not as developed as the United States. So what does the Johnson and Johnson vaccine mean for them, should it be passed?

00;05;46;09 [Monica]: Right? The implications are great because any more limited resource setting will do better with a vaccine that's cheaper, one dose, because then you have to go find everyone. And that's a place of a lot of people for their second dose. And also that it can be stored at refrigeration indefinitely. So that's going to have implications. Now, India has actually its own. It has AstraZeneca and it has its own homemade vaccine, which I haven't seen the full data on, but they are going to vaccinate 300 million people by June. They say, even without Johnson and

00;06;17;10 Johnson. So they have actually been having a really vigorous rollout program. I would be interested in Johnson Johnson for the 250. I mean, there are currently at this point, many countries that have not administered a single dose of vaccine accounting for about 2.5 billion people haven't been touched and the WHO had a news conference on Friday, where Dr. Tedros said, this is pretty much unacceptable. We should have all facilities in different countries, give the formula for these vaccines and

00;06;48;22 make them widely available because only we are only so protected as everyone is protected. That is the definition of herd immunity. And he's completely right. So right now, 2.5 billion places, 30 countries have not given out a single vaccine. So this is the advantage of something like Johnson and Johnson for those countries.

00;07;07;27 [Jen]: So other than, I mean, have discussions and encourage countries to kind of get on board and start with their, a vaccine rollout. What can the world health organization or other countries do to spur this along?

00;07;21;06 [Monica]: I mean actually, the countries are, you know, would be all too willing it to actually, because these vaccine formulas are currently patented. And, you know, there are exceptions that are made for life-threatening conditions for worldwide pandemics, where things should go off patent. And there's something called the COVAX initiative, C O V a X, that is sponsored by the WHO and a campaign called the people's vaccine and countries, and the US has not signed onto this yet, unfortunately, but if

00;07;51;06 they signed onto this, this would essentially say that other countries like a vaccine manufacturer in India could have access to the formula for the Moderna vaccine and make vaccines more quickly. So I actually would personally really urge the US to sign on to the COVAX program. And anyone of your listeners can actually go onto the WTO COVAX program site and just sign a petition that says we support the world. These are life saving interventions, and we believe that we should all have access to these

00;08;24;16 vaccines.

00;08;25;19 [Jen]: Can you speculate as to why the United States or have they stated why they have chosen not to sign on yet.

00;08;31;20 [Monica]: Corporate interests are usually the reasons. And this happened for many years during the HIV pandemic until the din grew too loud. That lifesaving antiretroviral therapies were mainly available in rich countries and the world trade organization, and actually stepped in and there was aid to releasing the patents of many life-saving antiretroviral medication, so that India and Brazil and other countries could make them for cheaper for patients in Africa and India. And that was really what launched the ability to have these life saving antiretrovirals worldwide.

00;09;04;29 So that kind of same pressure that happened in the HIV movement I hope will happen here. And the one thing that's different with HIV and COVID is if COVID’s around the world and it's raging somewhere, we're not going to be safe, right? Like this is, we are all as safe as each other. So it really, I think something like a worldwide pandemic like this, I think there will be interest in signing onto the people's vaccine initiative.

00;09;31;00 [Jen]: Yeah. Everyone is vulnerable. [Monica] Right. [Jen]And that's a very different situation than HIV. [Monica] Exactly. [Jen] What do we know about people's risk of reinfection?

00;09;42;17 [Monica]: You know, it's a great question. It's pretty low. I mean, actually before recently, I would say super low. And what I mean by that is like, there's actually been only six or seven described with full-on case reports in the literature of reinfection, where it was a different sequence, was a different virus and someone got reinfected. Now this is like 120 million cases and counting, I mean, this is, this is, there's been lots of COVID and very few documented reinfections. On the other hand, the Novavax trial, they'd really need to give more information

00;10;16;13 on that. They over the weekend, gave some information that there was some reinfection in the placebo arm of their trial and Novavax is another vaccine trial that we don't actually have that much information on because it's also just a press release as opposed to a full publication like Sputnik, Moderna, Pfizer and AstraZeneca. Johnson and Johnson, and Novavax are just press releases. But there was more reinfection in South Africa with the South Africa variant than we thought there would be. And that is with people who are

00;10;46;12 naturally infected before. That actually says very little about what the vaccines will do. And in fact, the vaccine arm, cause that was the placebo arm I just told you about. The vaccine arm, the vaccines were really protective against severe disease in the Novavax trial and about 60% protective for mild disease. So it doesn't say anything about vaccines, but it may mean that reinfection is cutting more than we think. This is the point though, reinfection maybe occurring more than we think, but we don't

00;11;13;29 know it because reinfection is often mild or asymptomatic. Why? Because once you get T-cell immunity, which you can get from natural infection or the vaccine, there's a very broad T-cell response. And even if you see the virus again, that kicks in and make sure that you don't get sick, you get a very asymptomatic infection. So reinfection could be more common than we think worldwide over the time of this pandemic. But if it doesn't cause symptoms, that's actually relatively immaterial while we're rolling out the

00;11;45;11 vaccine.

00;11;46;21 [Jen]: So while it might, may be relatively immaterial, which is so good to know, I did not realize that. Is there the same risk of shedding and passing it on to someone else during that time during a reinfection, or is that lowered?

00;12;01;21 [Monica]: So it is lower. Uh, there are two reasons. It is a lower risk to spread it when you're asymptomatic. Number one, if we get to mass vaccination, the person who is exposed to that shedding will also be vaccinated. So that's where we want to get. But number two, in terms of asymptomatic transmission, it definitely happens, but it's much less than symptomatic transmission. So a Singapore study that was published on December 16th in the Lancet, it, I think is the best view of this, about what's the rate of infection, passing it on when you're asymptomatic versus

00;12;34;21 symptomatic and Singapore has done so well in this pandemic, they've done such a vigorous contact tracing campaign that I think they really could answer this question. Every worker who's out in the workforce is swabbed weekly or once every two weeks, and then they're called the case if they’re positive. And then their close contacts are followed really closely and swabbed as well. So they could really do a proper study where they said, okay, I'm going to swab you every week. Oh, you're asymptomatic, you're symptomatic. I'm gonna call you an asymptomatic person, a symptomatic person. What

00;13;03;01 is the risk of passing it onto your close contacts, people in your home. And basically those who are asymptomatic were four times and up to seven times less likely to pass it on to their close contact than someone who is symptomatic. The viral loads were quite low when you're asymptomatic. I think, again, this is the best study that's been published on this. So even if you're asymptomatic out there, you've been reinfected you're out there in the world. You're reinfected, you're asymptomatic. You are less likely

00;13;31;19 to pass it on. So I do think all of this is accumulating good news.

00;13;37;05 [Jen]: I was reading this morning that CNN reported that 700, roughly US residents have been infected with either the South African, Brazilian or the UK variant. How globally are these different variants being tracked and how is the medical community around the world kind of keeping tabs on these and then anything else that comes up.

00;14;01;05 [Monica]: So they started getting tracked more recently, these variants. So there was actually a variant over the summer that I feel like people didn't pay attention to called the D614G, but there was some attention to it. But then, and it was likely more transmissible. And then there was kind of a quiet period. And then we had the third search and there was more sequencing done. And then we could start seeing these variants, but I actually don't know how long they've been around, probably longer than we think. For example, the South Africa Johnson and Johnson trial described at 95% of the people who got the virus in their studies. It

00;14;33;14 was a B1351 So South Africa variant. So I do think that they've been around longer than we think, and we're just starting to sequence more and seeing them. At some level, you know, CDC has sort of decided to really ramp up sequencing and I think that's totally fine. However, I'm more concerned about ramping up vaccine in administration than sequencing because we're pretty sure with all six of them and we only have two in this country approved, but with all six of them preventing severe

00;15;01;26 disease, almost completely that we can get viral dynamics and the virus to stop replicating and getting more mutations. So whenever we talk about other things, I always keep on thinking, no, let's get vaccine roll out better. So I am more concerned about that than I am sequencing every virus and figuring out where, where the variant is around the world.

00;15;21;07 [Jen]: I think you brought up a really good point that I just want to reiterate that I hear friends or folks, you know, out in the world talking about that the vaccine is a silver bullet. And once the vaccine is in everyone's arms, that COVID will kind of no longer exist. And just to repeat what you just said, it's really to prevent life threatening instances of any of these variants is what the goal is.

00;15;47;05 [Monica]: Yes. I don't think will eradicate SARS cov-2, nor do I think we need to, because the, if you look back at all the vaccine trials, measles, mumps, rubella, pertussis, tetanus, childhood vaccines, they weren't looking for taking the virus away completely. The only virus that's ever been eradicated is smallpox, they were looking to decrease disease manifestations, and they all did that. That was the outcome of their trials. Just like the outcome of the SARS cov-2 trials. And by taking

00;16;18;09 away severe disease, you defang the virus, you take it. We wouldn't have even noticed this virus if it was another coronavirus, if it was another cold, we wouldn't have never even heard on December 3st, 2019, that this was a big deal. It is a big deal, [Jen] right? [Monica] Can cause severe disease in many individuals, it's very scary. And we need to take away that ability of the virus to cause severe disease by our T-cell immune responses. And T-cell immune responses, which is the arm of the system that helps decrease severity of disease is triggered by both vaccines and natural

00;16;49;21 immunity. In a very, uh, there was actually a paper just last week from San Diego. They're doing great work on immunity about the breadth of the T-cell response of both like 19 epitopes on CD4 cells and 17 on CD8 cells. It's really, really a robust T-cell response that occurs. And we expect fully this will grow with vaccinations. In fact, they've tested them. So I have no doubt that we, we are going to defang this virus through

00;17;17;15 these vaccines.

00;17;19;00 [Jen]: One of the, I mean, many frightening things to folks about the virus is that there are unknown long-term impacts. So I personally know folks who have suffered from migraines that they attribute to their infection for long periods of time afterwards. And I just wanted to know what do we collectively understand now about the long-term impacts of folks who have had COVID?

00;17;43;06 [Monica]: Yes. I mean, it's true that we have like a bunch of non systematic reports to put it all together. That NIH is trying to address that to really put it together. But I will say this, that the majority of people who've had longer term effects have had disease that has come to clinical attention. So there are many people who've had asymptomatic infection that never knew they had COVID and to get into a clinic or to get into a cohort even usually there's been some clinical reason why the COVID

00;18;17;17 was diagnosed or that they've had some symptoms, the best place that I think I'm going to look for this data, but it's not out yet is we have a cohort at UCSF called the LINC cohort. They're looking at severe, moderate or mild infection and seeing that these longer-term effects, and we don't know how long they'll go on, hopefully for not that long, occur when you've had more severe disease. So I'm hoping that asymptomatic infection will not lead to these such effects, which actually makes sense because asymptomatic

00;18;44;25 infection is not associated with the degree of inflammation that you see from the innate immune response that more severe disease does.

00;18;53;01 [Jen]: Can you speak briefly about how inflammation plays a role in this illness?

00;18;58;22 [Monica]: Yes. There's kind of two forms of the immune response. There's the innate immunity and adaptive immunity and innate immunity is nonspecific. Innate immunity is the body seeing something foreign, going crazy and putting out like cytokines and interferons and things just to try to in a very non-specific way, fight the pathogen. And then the adaptive immune response is more specifically targeted towards that pathogen. So T-cells that imbibe the epitopes from our pathogen B cells and antibodies

00;19;29;06 all with that pathogen specifically in mind and the innate immune response. However, does have a big role to play in viral pathogenesis for this particular virus. It's not true of all viruses like SARS cov-2 is specifically a virus with you need immune system really gets very active, especially when it sees higher viral loads, higher viral inoculum, we think. And so that innate and immune response can actually be destructive. It can hurt the lungs. It can cause inflammation in the lungs and cause body inflammation, which is why the literally the most effective treatment

00;20;03;08 for severe SARS cov-2 hands-down is dexamethasone steroids to tamp down that innate immune response.

00;20;10;14 [Jen]: So just on a very simple level, it's your body's response to protect you almost haywire and just in hyper overdrive. And that inflammation becomes dangerous instead of protective.

00;20;23;02 [Monica]: Right, exactly. Right. I mean, it's not like the body's trying to turn against you or anything, but they are really trying to fight hard and by fighting hard, they can cause damage by pushing out all these immune responses.

00;20;34;26 [Jen]: Right. So I want to talk a little bit about vaccine rollout. I know that communities of color have been impacted much more by COVID and I want to understand what's being done, if you can either speak to a state level or a national level, but to ensure equitable access of these vaccines.

00;20;56;02 [Monica]: Well, I will say, you know, in general, our vaccine rollout in the United States has been not where we were hoping two months in. So the CDC said yesterday 32 million Americans have been vaccinated, which is a 10% of the population. But December 14th is when we got our first EUA. So really hoping that it would have been better by now. So let's ramp it up. And I think if we get the Johnson Johnson that will be ramped up, I do fundamentally know that we have a tension between older people

00;21;26;22 getting it first or 16 to 64 year olds with medical conditions or essential workers. It's those three groups essentially that is important to roll out to, and by rolling it to essential workers, people are out in the workplace, people who are working, we will not only break the chain of transmission, but we will be more likely to have more equitable access to Black citizens and immigrants. So because of that, I am very interested in every state immediately,

00;21;56;25 whoever is still working on greater than 65 year olds. Like our state immediately here in California, immediately like tonight, changing to all the central workers and over 65s. I think that gives more flexibility and you can slot in people. If you can't find the older population, you want to do both, our vaccine supply is getting better today. Today there was an estimate that we're going to get a million doses a week in California, which is pretty great compared to where we were getting before. Hope

00;22;26;12 they'll even get better with Johnson and Johnson's.

00;22;28;22 [Jen]: Can you speak at all to the prioritization of folks who are incarcerated for instance, and where they lie in the vaccine rollout because they are in such tight quarters.

00;22;41;00 [Monica]: Yes, I do believe incarcerated populations should, should have been, probably prioritized a little earlier than they were just because of, like you said, in a way they're like the longterm care facility, individuals who are in a place that are tighter quarters. And in this case, they actually can't dictate their own safety protocols. Like they aren't free and they are in the incarcerated setting. So that was the original thought that they would be put in what's called tier 1A by the CDC. But then they got put down to tier 1B I think there was, I actually think there was kind of conflict. I don't know. I think people

00;23;14;04 were, there was a lot of fights, you know, everyone wanted to be in the higher tiers and I absolutely agree with you that I would be vaccinating them now, but they should at least be vaccinated in the next go because it's very concerning that they cannot control their own distancing often. Right? Like it's, it's really difficult problem. And they are very much at risk.

00;23;33;20 [Jen]: And then also thinking about the folks, similar to teachers, how can you vaccinate folks who are incarcerated without compromising the safety of the staff, the dozens, if not hundreds of staff who work in each prison site or, you know, teachers not being vaccinated, but students being vaccinated. It's

00;23;53;15 [Monica]: Exactly. I mean, yeah. So the staff and the incarcerated, and in the case of schools, that's a different story because we don't have children vaccines yet, but given that children are so much less susceptible to severe disease, there should be no concerns about school openings.

00;24;08;28 [Jen]: What would you say to parents who are concerned and trying to make a decision whether or not to send their child back to school in California?

00;24;17;05 [Monica]: I would really try to counsel them that there've been two huge studies, one in the United States. So we can forget about all the great studies everywhere else, cause there's many, but let's just concentrate on the US. Wisconsin MMWR data from January 29th. And then that around the same time 11 districts in North Carolina opened their schools. Even when there were in North Carolina, many districts, weren't very high transmission rates in the community. And there was just great safety. I mean, students didn't get it. Teachers didn't get it because all of these

00;24;48;19 safety mitigation procedures work. In fact, it's safer to be in a school than kind of the wild world. And so there was even with community transmission around, there was great safety for students and teachers in the schools, very little school transmission. So because of that, CDC director said just five days ago that vaccination should not be necessary to open schools. I think they're going to clarify this week or relatively soon their exact policy. And then if you get vaccines on top of it, then

00;25;20;09 you're really ironclad with your safety. So I think that parents should feel really secure in sending their children to school with all the safety guidelines that have been installed. You talked about for the CDC from the beginning and have been working really well in States that have worked harder to open their schools than ours.

00;25;38;01 [Jen]: So given all that, when do you think that we will return back to some normalcy?

00;25;45;16 [Monica]: It depends on if we get Johnson Johnson or we can go faster. So let's say that happens. And then we can go faster with vaccine rollout. I think by fall of 2021, we could be back to normal. If we go faster. At the current rate, it's not going to be until December, 2021. And that means that we have enough of the population vaccinated, that we've reached herd immunity, that the vaccinated don't have to protect the unvaccinated by masks and distancing everyone's protected. And that really

00;26;14;23 is very helpful for basically returning to normal non-masked life.

00;26;19;07 [Jen]: So by the end of fall, latest winter, latest, sure. Everything goes as planned. Then we could be walking around maskless but with some security, knowing that we're not passing it. And we're also not getting it.

00;26;35;12 [Monica]: Exactly. Yeah. So I have no doubt that we're going to get the definitive data to say, Oh, you can't even transmit, or very rarely if you've had the vaccine and then not allows more comfort about a vaccine person being around an unvaccinated person without a mask at this moment, the current guidelines were to say, if you're vaccinated, you can hang out with your vaccinated friends without distancing or masks, but we're a massive distance from unvaccinated.

00;27;00;07 [Jen]: So I want to switch as we end our time together. I want to switch a little bit to your work in HIV. What has HIV taught us over the years about dealing with this pandemic and also in responding quickly with a vaccine?

00;27;19;06 [Monica]: I think HIV has infused and informed the COVID-19 what happened with COVID-19 throughout. I think there are good and bad. So the good is that HIV activists pushed very early on for life threatening conditions to be managed with rapid and nimble regulatory approvals and reviews. So all the work that all those HIV advocates did at the beginning of the pandemic led to the emergency use authorization process, which is the one that the FDA uses to even approve these vaccines. They're not

00;27;49;15 actually fundamentally approved. They're actually called EUA’d when that all happened because of HIV, also something called used to be called parallel track. But now it's called compassionate use. That was also pushed by HIV activists and then rapid reviews of NIH research applications that happened because of HIV. And that happened with a lot of COVID 19 applications that went in over this last year. HIV practitioners have been really working on the COVID response cause a lot of them are infectious disease people. I think where we haven't learned

00;28;23;03 enough lessons from HIV is about harm reduction and harm reduction messaging. What harm reduction means is that you don't just tell everyone to abstain from all activity or from going outside the house or from a stay at home. Or I mean, that is totally belying that people have to work or people are profoundly lonely or they're single. And so I have found the messaging during the COVID-19 pandemic, not enough informed by what we learned from HIV, which is that abstinence only is actually really not

00;28;53;13 required for HIV. And we all remember the politicians who claimed abstinence-only at the beginning of the HIV pandemic and we didn't like them very much. So I'm not sure why we have to like all of these people who say, stay at home, stay there and don't say, huh, you're lonely.

00;29;10;00 [Monica]: You're single. You're a widow. You're let me tell you how to stay safe. Let me tell you about masks, ventilation. And yes, you may see your friend. So not enough harm reduction messaging. We will learn that too late. If we don't apply this at least to vaccines right now, we're just, Oh my gosh, we are dooming and glooming vaccines. Please, please stop having these people talk about every variant and every mutation and Oh gosh, the South Africa's is not going to work. And we just spend this last 40 minutes talking about why these vaccines are amazing. And we

00;29;41;17 just got to get away from fear-based messaging, which has been the hallmark in this country, at least, you know, in Europe, the way they message vaccines is they have all these like older people are fun-looking people on a billboard and they say, I'm going to go hug my grandchildren after I get my vaccine or the young person is like, I'm going to have a party. And it's like, here, we're like, nothing's going to change after you get the vaccine. That is not good messaging and inaccurate.

00;30;05;28 [Jen]: Yeah. It's very, I think it follows a long history of the United States being very aversion oriented, very no oriented, various abstinence only oriented. We're very polarized in the way. Yeah.

00;30;17;27 [Monica]: Say, no, you know, that's all you have to do. Don't ever have sex again or stay at home. That's all you have to do. It's easy. [Jen] I know we have no emotional needs. Yes, exactly. [Monica] So I wish we had learned more because I actually think there would have been more trust from public health officials. If they'd let our HIV people, you know, including the reproductive and STD experts and all of these people who have been working in sexually transmitted diseases for so long contribute to their messaging,

00;30;47;27 [Jen]: What should we be talking about more when it comes to COVID or the vaccines, or what would you just like to leave our listeners with?

00;30;56;08 [Monica]: I would like to leave our listeners with that. I am so sorry that we went through this and I am so sorry for everyone who has lost anyone to COVID and also who has suffered so much loneliness and so much economic issues from these lockdowns. And I'm just so sorry this happened. And I do fundamentally believe that November 9th, our whole world changed when we saw the first press release from one of these vaccine trials, followed by press release after press, like they are amazing. And

00;31;28;14 we will get back to normal life. It is normal for humans to want to be next to each other. It is normal to have all that impulse. When you see someone you want to hug them, all of that will come back. That's who we are. [Jen] We're communal animals. Right? [Monica] Exactly. Yeah. [Jen] Well, thank you so, so much for your time. I have loved talking to you and thank you for all of this information. Take care. Bye Monica by a special, thank you again to our guests, Dr. Monica Gandhi, infectious disease, physician, and professor of

00;31;59;11 medicine at UC San Francisco and medical director of the Ward 86 clinic. Speaking Frankly, is a production of the California prevention training center in San Francisco, California. It's produced by me, Jennifer Rogers and Laura Marie Lazar and is edited by Nils Myers at 152 West productions.