

Going Viral: Testing, Diagnosis and Treatment of COVID-19

with

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EPISODE 3: TREATMENT OPTIONS: ANTIVIRALS

ANGELA LECLERC: Hello, and thank you for joining us today. My name is Angela Leclerc. I'm a PA working in Critical Care in Portland, Maine. You are tuning in to Going Viral: Testing, Diagnosis, and Treatment of COVID-19, a podcast series developed by the American Academy of Physician Associates and supported by an independent education grant from Pfizer. The goal of this series is to provide education and tools to assist PAs and other clinicians in providing patient-centered care in the early recognition, diagnosis, and management of patients presenting in the outpatient setting with symptoms of COVID-19.

The COVID-19 pandemic is now entering its third year, and while cases are abating, new variants continue to emerge along with the threat of new surges in infection. In addition to having three effective and approved vaccines in the United States, new therapeutics have arrived in the clinic that have the goal of preventing serious illness, hospitalization, and death. Throughout the pandemic, PAs have played a critical role in helping combat COVID-19. As diagnosis and treatment shift to the outpatient setting, PAs are ready to meet the challenge on the front lines. This is the third episode in a five-part podcast series focused on the various treatments available for outpatients with COVID-19. I am proud to be joined by Steph Podolski, who is a PA working in Hospital Medicine in Augusta, Maine, with a Master's of Public Health, and Dr. Sam Wijesinghe, who is a PA and Clinical Assistant Professor of Medicine at Stanford University with a Doctorate in Health Sciences.

Before we get started today, let's recap what we have reviewed thus far. In our first episode, we discussed the testing modalities available to diagnose patients presenting with COVID-19 symptoms in the outpatient setting, their advantages and disadvantages, and when to rely on which test. These include the home antigen test, PCR test, and antibody test. In the second episode, we highlighted the importance of prioritization of testing and resource allocation, given the increased demand of resources and shortage of medical equipment and staff. We discussed risk stratification for patients with COVID-19 to guide treatment options and disposition. In today's episode, we will discuss current treatments available to outpatients, including steroids and antivirals. Please note, we have an entire episode dedicated to monoclonal antibodies, so this treatment will not be discussed in this episode.



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Our listeners have likely been reading about and even prescribing treatments to their patients with COVID-19, which can range from prescriptions as simple as oxygen or over-the-counter acetaminophen and ibuprofen for fevers and myalgias, to more significant prescriptions where their risk and benefits must be weighed. These medications must be approved by the Federal Drug Agency or FDA. Before we dive into treatments, Sam, could you please remind us what the difference between Emergency Use Authorization (EUA) and Federal Drug Agency, or FDA-approved, is?

DR. SAM WIJESINGHE: Yes, sure. First of all, it's great collaborating with you, Angie and Steph. So as far as EUA and FDA, I think as clinicians, we have a good understanding regarding FDA normal approval process. As you know, it is a very extensive and comprehensive process, so for this discussion, let me focus on what EUA is. EUA is an Emergency Use Authorization, it's a tool the FDA can use to expedite the availability of medical products, including drugs and vaccines during a public health emergency. So if you are wondering how long have EUAs been around, the FDA established its EUA program in 2004 in response to threats of bioterrorist attacks, including anthrax. Later, it was found useful in H1N1, which is known as swine flu, Ebola, avian flu, and other major health threats, and EUA can be revised or reworked by the FDA at any point as the agency evaluates the most current needs and available data. So let me share an example really quick here. The FDA issued an EUA for hydroxychloroquine during the first phase of COVID-19 pandemic, and then later when it became clear that the treatment was a risk but did not offer significant benefit, the FDA retracted the EUA, so I am sure you all remember that.

ANGELA LECLERC: Sam, thank you so much for that refresher. That was very helpful, and I didn't realize that it was as recent as 2004 that EUA had come into the FDA's ability to approve drugs.

Dexamethasone is a drug that most providers are very familiar with. The RECOVERY trial, a randomized trial evaluating immunosuppressants in COVID-19 patients, showed a 30% reduced mortality rate in patients on mechanical ventilation, and 20% reduced mortality in patients receiving oxygen not on mechanical ventilation. The recommended dosing from this trial for inpatients is 6 milligrams daily for 10 days. Steph, could you discuss the role of dexamethasone in the hospitalized patient?

STEPHANIE PODOLSKI: I'd be happy to. So our approach to COVID-19 specific therapy in hospitalized patients depends on the presence of hypoxia and that is defined as oxygen saturation or SpO₂ of less than or equal to 94% on room air. We also assess the need for oxygenation or ventilatory support, and we look at the patient's clinical laboratory risk factors for severe illness when we decide to utilize dexamethasone in the hospital setting, and as Angie mentioned, dexamethasone is dosed 6 milligrams once daily for up to 10 days. This can be used in the hospital setting in either IV or oral formulations.



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Dexamethasone is specifically recommended in any setting for treatment of COVID-19 when a patient with an acute COVID-19 diagnosis is requiring supplemental oxygen or ventilatory support. For hospitalized patients, we usually use dexamethasone for the course that they're in the hospital, as long as they remain on oxygen therapy. Early on in the COVID-19 pandemic, patients in the hospital setting would standardly get 6 milligrams of dexamethasone for up to 10 days or for a 10-day course, regardless of if they required oxygen, and our differentiation was based on severity of illness. Since the early days of the pandemic, we've realized that the risks and benefits of steroid therapy need to be weighed, and now we only use daily treatment as long as oxygen is required.

So a few things about dexamethasone specifically would be that if folks are requiring mechanical ventilation or extracorporeal membrane oxygenation, we're going to be using the IV route in the hospital setting. If folks are using low-flow oxygen supplementation, we're going to be using the oral therapy or IV therapy, depending on what the rest of their clinical picture looks like, including vital signs and medical comorbidities. Some contraindications to dexamethasone include hypersensitivity to this medication or any component of the formulation. Another contraindication would be a systemic fungal infection. There aren't very many, but there is some documentation of allergic cross-reactivity to corticosteroids, and if you see a patient or come across a patient with this documented allergy, this medication should be avoided.

A few other diagnoses or comorbidities, disease-specific related concerns when using dexamethasone would include cardiovascular disease, specifically if you have a patient in acute heart failure. Steroids, specifically in dexamethasone, can be associated with fluid retention, electrolyte disturbances, and hypertension. GI disease, including diverticulitis, or recent inter-abdominal surgery with intestinal anastomosis, active or late in peptic ulcer, as we do know that there is a risk of GI perforation associated with steroid therapy. Recent head injury, hepatic impairment, history of hepatitis, myasthenia gravis, pheochromocytoma, renal impairment, and seizure disorders. So it's also important to note and consider, there are some special populations that we need to evaluate when we're using dexamethasone, and there are some caution that we need to use in elderly patients as well as pediatric patients.

ANGELA LECLERC: Great, thanks, Steph, that was a really great overview. Does it have to be dexamethasone or can we prescribe prednisone?

STEPHANIE PODOLSKI: That's a really great question, Angie. So standard of care for acute COVID-19 illness is dexamethasone, although there is one specific special population where an alternative steroid might be considered, and that population would be individuals who have an acute chronic exacerbation of a lung disease such as asthma or COPD. In that population, for folks who have an acute exacerbation of asthma or COPD and an acute COVID-19 diagnosis,



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prednisone could be considered or even IV Solu-Medrol could also be considered in order to taper the medication, and what folks may have noticed when we're talking about dexamethasone for an acute COVID-19 illness, the guidelines do not recommend tapering of dexamethasone for an acute COVID-19 infection for folks requiring oxygen. If you do have a patient, and I see many of these myself, who also have an acute exacerbation of asthma or COPD and an acute COVID-19 infection, you may want to start an alternative glucocorticoid initially so that you can taper it for a longer duration, and that may provide your patient with more benefit.

ANGELA LECLERC: Yeah, that makes sense. Are there any other medications that providers should consider prescribing concomitantly with the dexamethasone?

STEPHANIE PODOLSKI: That's also a great question, so as I mentioned earlier, based on the current guidelines, oxygen should be prescribed in conjunction with dexamethasone for COVID-19 and depending on the timeline of symptoms and first positive test, and depending on the patient, say we're talking about an adult specifically, if you're within the first 7 to 10 days of symptom onset, remdesivir can be considered. For the outpatient setting, remdesivir can be considered within the first 7 days of symptom onset. We do extend that duration in the inpatient setting to up to 10 days, as we know that the inpatients are usually much more sick.

Now, there are some U.S. guidelines and recommendations for the role of remdesivir in hospitalized patients. We are using it at a dose of 200 milligram IV on day 1, followed by 100 milligram once daily for 4 more days, for a total 5-day course. In the outpatient setting, remdesivir can be coordinated in an infusion clinic for a 3-day course.

ANGELA LECLERC: Great. We will talk in a little bit more detail about remdesivir in just a moment. Sam, I'm wondering if you could comment on how this has evolved to your outpatient practice in terms of prescribing dexamethasone.

DR. SAM WIJESINGHE: So in general, most of these patients that will need dexamethasone really need an in-person evaluation. We like to prescribe that when there is a hypoxia concern, so as you might recall from our previous discussions, we mostly evaluate these patients virtually, so when hypoxia is a concern, we ask them to go to an inpatient evaluation - that might be the emergency room or urgent care. So as a result, we don't really start the dexamethasone during our virtual visit. One other thing I'd like to highlight really quick here, if patients with COVID-19 are receiving dexamethasone or another corticosteroid for any underlying condition, they should continue this therapy as directed. So for example, if they are on prednisone for an autoimmune condition



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or asthma exacerbation, then we recommend them to continue that until they have that in-person evaluation at the emergency room or urgent care.

I remember 2020, when COVID first happened, we didn't have an antiviral medication, and then we didn't know about monoclonal antibody, and so most of the time we had to send patients to inpatient evaluation, so now we have these medications, so in general what I do when I have a patient, if they are having mild symptoms or maybe no symptoms, we talk about the supportive care, and then if I have a patient having symptoms and they are within that five-day time period, then I most of the time recommend nirmatrelvir and ritonavir as a treatment option, and then after that, if they are on their sixth or seventh day and having symptoms, then I talk about monoclonal antibody. Obviously, I look at the variants and subvariants, those things, and see whether monoclonal antibody can play a role there, but that's what I normally do. So I just want to highlight that unlike when the pandemic started, now we have different treatment options in primary care setting that we can help our patients with.

ANGELA LECLERC: Yeah, that makes sense. Thank you, Sam.

Now might be a good time to move on to remdesivir. Remdesivir is an antiviral and RNA polymerase inhibitor with properties to inhibit viral replication of the COVID-19 virus. Positive results from early studies, noting that it may hasten recovery and decrease mortality, led to Emergency Use Authorization. We are still learning about remdesivir's role in COVID-19, and for now, it is standard of care for patients hospitalized with COVID-19. Steph, you already alluded to the role in the inpatient and potentially the outpatient setting. Which patients are we thinking about prescribing remdesivir to specifically in the outpatient setting?

STEPHANIE PODOLSKI: We're considering the folks that are at highest risk for severe illness, and this may be patients who cannot tolerate the oral antiviral treatments because they have significant renal disease, or there's no access to the oral antiviral agents in their area. There may be higher access to an IV infusion clinic. We're also looking at trying to keep people out of the hospital, and so what we've learned throughout the course of the pandemic is that depending on the patient's individual geography, there may be higher access to certain treatments than others. These are folks that have mild to moderate illness, who may be immunocompromised in some capacity, or have significant medical comorbidities that could benefit from IV remdesivir treatment, that couldn't otherwise tolerate another treatment option, and I do think recently with the Omicron variant being present, we're seeing more use of remdesivir outpatient than we are of other therapies, specifically monoclonal antibodies.

ANGELA LECLERC: Yeah, I think I've noticed that too. If I recall correctly, there are some contraindications to the prescription, perhaps maybe renal disease?



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STEPHANIE PODOLSKI: There are some contraindications to remdesivir specifically. Hepatic impairment does happen to be one of them. Folks who have cirrhosis or end-stage liver disease should not use this medication whatsoever. So for non-hospitalized patients, the treatment is very similar to inpatients. It's 200 milligrams IV dose on day 1, followed by 100 milligram once daily on day 2 and 3. And again, this is ideally administered within the first 72 hours of symptom onset, and in the outpatient setting, should be utilized within the first 7 days of symptom onset.

In the inpatient setting, can be used for up to that 10-day mark, symptom onset being day 0, and day 10 being 10 days after symptom onset. Just a few other contraindications. Angie, you did mention renal disease, so I should have acknowledged the fact that yes, renal disease is a contraindication, with a GFR of less than 30 milliliters per minute specifically, and then hepatic impairment or individuals with acute hepatitis is the other major contraindication to this medication.

ANGELA LECLERC: Great, thank you. Moving on, I'm interested to hear more about these new oral antivirals. I think we're going back to you again, Steph. What are our options for oral antivirals and how do they work?

STEPHANIE PODOLSKI: Great question. The indications for treatment include individuals with mild to moderate COVID-19 who are at risk for progression to severe disease. Some examples include older age, immune compromised, folks who are unvaccinated, and a few others. We do not use COVID-19 specific therapy for symptomatic individuals without any risk factors for progression to severe disease, and we also know that these oral antiviral treatments have not been well studied in individuals who are pregnant. The oral antiviral treatments that are currently available for outpatients with mild to moderate symptoms do have benefit in individuals who have significant comorbidities, some of which include age greater than 65 years, asthma, cancer, neurological disease such as cerebrovascular disease, certain children with underlying conditions, and there is an age requirement for those oral antiviral treatments, chronic kidney disease, chronic lung disease, chronic liver disease, diabetes, significant heart conditions, HIV, obesity, and multiple others, and I would refer our listeners to the many online resources that are available to them.

So as we talked about our preferred therapy for oral antivirals is nirmatrelvir/ritonavir, which is a combination of oral protease inhibitors, and is the first-line outpatient oral antiviral treatment for folks who have mild to moderate disease, who are at risk for progression to severe disease. Just one note about this specific oral antiviral treatment, it can currently be used in the outpatient therapeutic realm for individuals age 12 and older. So nirmatrelvir specifically blocks the activity of the SARS-CoV-2 protease, which is an enzyme required for viral replication, and the co-administration with ritonavir slows the metabolism of



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nirmatrelvir, so it remains active in the body for a much longer period of time at higher concentrations. This combination is expected to retain activity against Omicron variants, which makes it one of our best therapies for treatment in the outpatient setting.

The dose is 300 milligram nirmatrelvir, so two 150 milligram tablets, with one 100 milligram ritonavir tablet, taken together orally twice daily for five days. This should be initiated as soon as possible following a COVID-19 diagnosis, and within five days of symptom onset. These tablets should not be chewed or broken, and it should be dose-reduced for individuals with kidney disease. For folks with certain GFRs, there is specific dose reduction, I'm not going to go through that here, but it's something that folks could easily look up in resources available to them or even UpToDate, or you could, in fact, call your local pharmacist if need be.

There are some drug interactions to consider, which I did highlight for you all in a prior episode. The nirmatrelvir/ritonavir is an inhibitor of metabolic enzymes and transporters, such as those in CYP3A enzyme or that family of medications, and so prior to prescribing this oral antiviral, clinicians should review all prescribed home medications as well as recent laboratory studies to ensure that there are no major drug-drug interactions. As I mentioned previously, there are some medications that need to be held for a few days, while others may need to be dose-reduced, et cetera. The efficacy of the medication comes from two randomized trials in outpatients, and so far has been found to be highly efficacious in reducing symptoms after the five days of treatment. There is some risk of rebound infections associated with nirmatrelvir/ritonavir, although the risk at this time continues to remain low.

Specific contraindications include a history of Stevens-Johnson syndrome, a history of toxic epidermal necrolysis, any sort of hypersensitivity to any component of the medication, etcetera. There are some concerns that we all need to be aware of when administering this medication, in addition to individual's renal function, and that would also include any sort of hepatic impairment, specifically whether or not an individual might have clinical hepatitis or jaundice. If that is the case, an individual should not be prescribed this medication.

The other oral antiviral agent that is available, molnupiravir, is a nucleoside analog that inhibits SARS-CoV-2 replication. This is an alternative treatment for COVID-19 specific therapy for symptomatic outpatients, that does have, in fact, similar properties to the previously noted oral antiviral treatment. It is contraindicated for use in patients younger than 18 years old, due to bone and cartilage toxicity, and it's also not recommended during pregnancy and lactation at this point in time. It actually should be avoided altogether in any individual of child-bearing potential, unless no other treatment alternatives are available.



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AAPA

As we previously mentioned, there are other treatments out there, such as remdesivir, monoclonal antibodies, and even convalescent plasma was used earlier on throughout the course of the pandemic, but convalescent plasma has fallen out of favor.

ANGELA LECLERC: Thanks, Steph, that was a really great overview of the oral antivirals, and the convalescent plasma did not show any benefit to - at least for hospitalized patients - early on in the pandemic.

STEPHANIE PODOLSKI: That's right, Angie, and I believe you used it probably more frequently than I did, working in critical care, is that right?

ANGELA LECLERC: Yes, correct. We used it briefly at the beginning of the pandemic, and an article came out in the *New England Journal of Medicine*, I think it was out of Brazil or one of the South American countries, that there was no decreased morbidity or mortality benefit with the convalescent plasma, so we actually saw decreased mortality and morbidity with the dexamethasone/remdesivir combination, so we just ended up sticking with that.

STEPHANIE PODOLSKI: Great, yeah, I really do think it's important that folks also understand the stuff you do every day as well, and that some of these therapies have really evolved over time, so I appreciate you sharing that with us.

ANGELA LECLERC: We've covered dexamethasone, remdesivir, oral antivirals. Sam, in terms of non-prescription options for treatment, some supplements like vitamin C, vitamin D3, and zinc, that all have anti-inflammatory properties, have been recommended for additional support during treatment. I'm wondering, can you share what you are recommending for patients, and if there has been any evidence that this has helped in the literature?

DR. SAM WIJESINGHE: Yeah. Actually, there is no strong recommendation one way or the other. You know, it is very interesting, most of the patients who call me with COVID-19 infection, they are already on these supplements – vitamin C, vitamin D, zinc – and then I just make sure that they are taking the right dose, but if I have 10 patients calling, at least 8 of them are already on it, and if they are not, then I tell them, you know, there is no strong recommendation but there is no risk associated with that, so I ask them to continue that.

ANGELA LECLERC: Great, and it also as a patient helps you feel like you're doing as much as you can to try to prevent serious illness, even if it is an over-the-counter supplement.

ANGELA LECLERC: Switching gears a little bit, the COVID-19 pandemic has magnified long-standing healthcare and social inequities, resulting in disproportionately high COVID-19 associated illness and death among members of racial and ethnic minority groups. Steph, back to you, have there been any studies or reports on treatment variance based on race, ethnicity, or culture?



STEPHANIE PODOLSKI: That's a really great question, Ange. I think that the studies are ongoing, is the short answer, but I think it's really important to highlight here that COVID-19 has, in fact, disproportionately affected under-served and high-risk populations, including people of color and those who are socioeconomically disadvantaged, and this conglomerate of certain terms is defined as health disparities or the social determinants of health.

So the health disparities in these communities, as it relates to COVID-19, have in fact become exacerbated by a lack of equitable access to affordable or free testing, as well as affordable and free masks. With this lack of access includes lack of ability to reach a healthcare facility or even a healthcare provider, lack of access to transportation, and among these communities, usually there's a fear of going to see a healthcare provider, due to concerns that individuals may be subject to discrimination based on race, ethnicity, socioeconomic status, mental health, gender, etcetera.

I think that we as healthcare clinicians need to be more open to looking at the barriers that prevent our patients from coming to us, and certainly, we need to find ways that we can reach them. I think sometimes the best treatment for people is to meet them where they're at, and so treatment variance has mostly occurred because these under-served and high-risk populations either cannot afford the treatments, they cannot access the treatments, they have decreased health literacy so they don't understand the information. Perhaps the way messaging is in this country, being primarily in English, they don't understand the information that's available, and it's really important to highlight that, 45% of households in the United States lack access to public transportation, so these folks cannot make their way to see us when we need them to the most.

I think it's really important to highlight here that, you know, Angie, Sam, I'm sure you all eventually had to sign up online or help a family member sign up online for a vaccine, and I can specifically think of somebody who I love very much in my family who's 92, who doesn't know how to operate a computer, a cellphone, or iPad, etcetera, but is a high-risk member because of age and other health comorbidities, but needed to make it to get their COVID booster shots. If that individual didn't have access to broadband or a computer, that specific patient or loved one of yours would not have been able to receive a vaccine, and that also applies to treatments that are available on the market as well right now, and so many places throughout the country are very rural and don't have access to broadband, and many folks who have low socioeconomic status do not have access to computers, and the way everything exists in healthcare now, being electronically created, prevents this subset of folks from accessing the healthcare system, as well as treatments, or even preventative modalities that they need.

So how do we mitigate this risk? I think it's just important to know that there are many studies that are looking at this and looking at this vulnerability, the medical



vulnerability for these individuals. Most of these studies are government funded, and there are people who are doing these grassroots efforts, including healthcare providers across the country who are working diligently to improve access to treatment, to prevention, and to vaccination.

ANGELA LECLERC: Yeah, that was a great synopsis of many multifaceted barriers that we have yet to solve, so it's probably going to take us decades to solve, and Maine being the oldest state in the nation is an excellent example of that, perhaps not as racially or ethnically diverse as many other areas in the country, but we do have a large rural population that is aged and has difficulty accessing things like the internet, or knowing how to use the internet, accessing transportation. And I do believe early on the pandemic – and Steph, you can correct me if I'm wrong – when the vaccination came out, there were some efforts to a mobile vaccination clinic by the state Department of Health and Human Services, and I wonder if that would offer some mitigation in the future for treatments particularly during a pandemic.

STEPHANIE PODOLSKI: I think so - I think you're absolutely right. There have been these popup groups that have been working with our aging community, our immigrant and refugee population, etcetera. I think the most interesting part of the pandemic is that lack of insurance still remains a barrier to treatment, even though free treatments are being offered. A lot of times now, you'll see that oh, this vaccine is free to you, as long as you provide your insurance card, but there's a large group of people out there, especially our immigrant and refugee populations, in every state across the country, as well as those who remain under-served who still do not have access to health insurance, despite many years ago there being a push for everyone being able to access affordable healthcare in this country, and so I think it's very geographically dependent. As you mentioned, our state is very rurally diverse and also very old, and many states face other geographical issues to provide antiviral access, etcetera, and so I think we will continue to face these issues because we are each fighting different battles.

ANGELA LECLERC: Thank you, Steph. Sam, do you have any creative solutions from your end of the country for access to treatment for patients?

DR. SAM WIJESINGHE: As you know, I work in California in an under-served rural clinic, so I get to see many patients with those barriers, actually, Steph already mentioned, and one thing that I tell them, "This is a safe place, and we can discuss anything." Some of these patients, they don't like to - they are worried to come to the clinic because they might have a problem with documentation, so one of the things that I tell them and their families, that is please don't make it a barrier for your treatment if you contract COVID, so I like to deliver that message within the community and make sure that if they need help, they feel comfortable to come to our clinic and get the treatment.



ANGELA LECLERC: Oh, yeah, that's very interesting. I hadn't thought about the documentation status for immigrants. It's certainly a major barrier, I'm sure. Lastly, we encounter skepticism regarding treatments and recommendations in the hospital, where even patients who are minutes from being intubated decline standard pharmaceutical treatments, some even demanding unproven, not recommended treatments such as ivermectin. Sam, in your community, as an outpatient provider, how have you handled situations where patients decline treatment?

DR. SAM WIJESINGHE: Thank you, Angie. I really like this question because this was something that I had to deal with quite a bit when I was recommending the vaccine, COVID vaccine to patients. There was quite a bit of resistance at the time. When it comes to drugs, though, in particular antiviral, I haven't seen much resistance from the patients. In fact, many patients ask for the treatment. When someone has acute infection and if they are symptomatic, they know the outcome can be very undesirable, including death, so I see many patients do not refuse treatments when it comes to antiviral. However, if I have a patient who refuses the treatment, I talk about the evidence-based medicine, I talk about benefits and risk and the side effects of the medication, then I provide my recommendation.

ANGELA LECLERC: That is very sound guidance, Sam, and I'm glad that you have a large portion of your patients who are accepting of the treatment. Steph, do you have anything to add to this question?

STEPHANIE PODOLSKI: I do. I think in the inpatient setting, we often, from the beginning of the pandemic, saw a lot more folks who were unvaccinated, and we still, in fact, do to this day see folks who are very sick and are unvaccinated, and I think that it's interesting, vaccination status aside, we do still see folks who come in with an acute COVID-19 infection who do like to have a choice of what therapeutics they have, whether they would like dexamethasone and oxygen alone, or they would like oxygen and remdesivir, or they would like none of the above, or they often sometimes ask for treatments such as ivermectin and hydroxychloroquine, which have been completely debunked, or they were in fact taking ivermectin from Tractor Supply or some other place in the community where they were purchasing it in the form of a pet-related product.

So it's a little bit more challenging at times, because I feel like the inpatient group of folks who have acute COVID-19 infections are more at times medically complex, but also socially complex in the fact that you have to, as a clinician, try not to allow your unconscious biases to come out, and provide the facts, their current condition, the options for treatment, the current recommended standard of care, and weigh the risks and benefits, and ensure that you ask the patient to provide you with adequate teach-back, if they're not too hypoxic or too short of breath to do that.



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AAPA

A lot of the times, we have patients' family members involved in decision-making as well, which is another layer of complexity in the decision-making process, but I think maybe not surprising to a lot of folks, a lot of providers out there, we do still have a lot of folks who will refuse certain treatments because they heard something about it from somebody they know or from some other source where they're receiving information.

DR. SAM WIJESINGHE: I have a PA student most of the time with me. As you know, when these students are with us, they have enough time to spend with our patients, so if I have a patient who is refusing the treatment or vaccine, I tell the students, "Take your time, try to explain then we'll see what they will decide at the end." So one thing I have observed, when they spend that much time and really educate the patient, then most of the time they end up getting the vaccine or go for the treatment, so I think spending enough time with patients, explaining all the evidence-based medicine, also can play a role.

ANGELA LECLERC: Yeah, that's great to hear, Sam. I wonder, as you were saying that, I'm wondering what you recommend as an approach to opening the conversation so that the patient who may have initially been resistant to vaccination, hopefully you are opening their minds to receiving the information. Is there something that you typically stick to in terms of opening that conversation?

DR. SAM WIJESINGHE: Yes, I make it all evidence-based medicine, as I mentioned earlier. I tell them, all this information that I share, there is science behind that, and then these are facts, these are the information we know, and then like Steph mentioned, we don't want to be biased when we recommend these treatments, so I try my best to make sure that it doesn't come across like biases when we have that discussion. So I think once patients get to know that we are very honest about that, then they are more willing to listen to our recommendations.

ANGELA LECLERC: Yeah, that definitely makes sense, being completely unbiased and making that known to the patient, and delivering the information that is supported by science, and then just being very honest with them. I'm sure that helps build rapport in terms of vaccination and treatment for COVID-19.

Thank you, Steph and Sam, for discussing treatment options available to outpatients with COVID-19. We would like to highlight that the NIH website has an excellent resource that is a decision aid for COVID-19 outpatient therapeutics. This serves for both pediatric patients and adult patients aged 12 and up, and includes different treatment options for outpatient COVID-19. I also want to thank our listeners for joining us. We are looking forward to the next episode, where we will discuss the past, present, and future of monoclonal antibodies in the treatment of COVID-19.



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RESOURCES

For Providers

- [COVID-19 Outpatient Therapeutics Clinical Decision Aid](#) (HHS)
- [COVID-19 Treatment Guidelines: Antiviral Therapy](#) (NIH)
- [COVID-19 Drug Interaction Checker](#) (University of Liverpool)
- [COVID-19 Treatment Guidelines: Corticosteroids](#) (NIH)

For Patients

- [COVID-19 Test to Treat Initiative](#) (HHS)
- [What are Oral Antivirals?](#) (HHS)



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