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TRANSGENDER CARE AND HORMONE THERAPY: INITIATION AND MAINTENANCE (TRANSFEMININE)

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Transgender Care and Hormone Therapy: Initiation and Maintenance - Transfeminine [video transcript]

00:00
I'd like to introduce today's speaker, Dr. Christopher Wolf-Gould. He is a Family Medicine Specialist in Oneonta, New York and has been practicing for 26 years. He has graduated from Yale University School of Medicine in 1990, and specializes in family medicine. Dr. Wolf-Gould joined the Gender Wellness Center at Susquehanna Family Practice in 2013, where he provides medical care to transgender and gender non-conforming youth and adults. So thank you so much, Dr. Wolf-Gould for being here today and I'll let you take it from here.

00:37
Great. Well, welcome. It's great to have everybody here. I'm glad we can have this meeting today. And today I'll be focusing on feminizing treatment. So medications that can help people feminize. I have no disclosures, no conflicts of interest. And this started with a training series for a nurse practitioner residency. We are very pleased to have a nurse practitioner residency that has started this year at Bassett Healthcare Center, we have four nurse practitioners participating. I think they're online today. And next year, we will have eight nurse practitioners. So it's a wonderful program. We've enjoyed working with it, the four people that we've met so far.

01:19
So the learning objective today is to discuss the risks and benefits of hormone therapies, for feminizing hormone therapies. We will talk briefly about the steps involved in initiating hormone therapy and we will identify screening and monitoring necessary for continuation of safe use of hormones.

01:40
So there are five stages of care that I think about when I think about medical practices providing care to the transgender population. The first is culturally competent care, and that's important to have your office make sure that people understand that it's important to get the names and pronouns right, it's important to have signs around the area that show that you're a welcoming practice. And we would hope that every practice in the country or on the planet would be able to provide this care for this population. The second level is being able to provide appropriate primary care to people who have transitioned. And mostly that is making sure that trans men, trans men who are on testosterone, get adequate pap smears. And then have discussions for trans women about getting mammograms when they're 50 and older. The next level is hormone prescribing, so that's what we're going to focus on today. And the higher level, slightly, is initiation of hormones. So it's a little more complicated if somebody shows up in your office and they want to start hormones. If they're already on hormones, continuing them is fairly easy. And the last level, which we won't get into, is more of expertise where people are doing training and research.

02:51

So one of the first people who received feminizing therapy was a trans woman named Otto Spengler. And this happened over 70 years ago. Otto was I think German, but had moved to the United States and actually gave a lecture in 1906 in New York to the German Society in 1996, to talk about sexual intermediaries. So this is one of the first scientific presentations to the medical community that occurred in this country, that was over 100 years ago. And she was one of the first transgender women to receive treatment, and that was in the late 30s, I believe. And the main medical provider for many, many years in this country was Dr. Harry Benjamin, and he had a practice. He was originally from Europe, but he moved to Manhattan, he had a practice in the New York City area and then also had practices out in San Francisco. And there was a foundation that was established, it was called the Harry Benjamin International Gender Dysphoria Foundation that was established in 1979. And that has evolved into WPATH. WPATH is a World Professional Association for Transgender Health. So that is the association that sort of guides most of our care and most of the care across the planet. So I would encourage providers, whether you're interested in sort of providing this type of care, to join WPATH and become a member. They have annual scientific conferences in the United States, and also international conferences. There's one going on, I think, in a couple of weeks. This year, it will be all on Zoom.

04:24
So there are four different ways to transition. And what we do is we're treating gender dysphoria, which I'll talk about a little bit in the next slide. And then we help people transition to reduce gender dysphoria. And there are four ways that people can transition. One is social, so that they may change their name, they may change their pronouns, they may change their gender expression. They may go to school and present as male, even though they were assigned female at birth. And we don't get involved in social transition that much, except as a coach, and just sort of affirming people and supporting them in their social transition. What we're going to talk today about is medical transition, and that's with hormones. And we do get involved with referring people for surgical transition, we won't touch on that much today. And then the last type of transition is legal transition. And that would be somebody changing their name legally, changing legal documents, such as a birth certificate, driver's license, passport, and we do write letters to help people with legal transitions. It's required that they get letters for some of the document changes.

05:32
So gender dysphoria is when somebody has incongruence between how they identify, I think of it as sort of the brain and their psychology, and what kind of body they have. There's an incongruence between their identity and their gender assigned at birth, or their genitals and secondary sexual characteristics. So if people have incongruence, oftentimes they will be uncomfortable with this incongruence and they will experience dysphoria. Not everybody who is incongruent has dysphoria, but many people do. Dysphoria is a sense of unease, discomfort. And so what we find is that we can reduce the dysphoria by treatment with medical and surgical transitions. And we have a number of studies that show a fairly high rate of people do experience significant improvement in their quality of life, they have improved psychology, psychological symptoms, less anxiety, less depression, improved sexual function, overall improvement in quality of life with transition. These studies are not randomized, blinded, you

know double blinded study. So the quality of the studies is not always very high, but this meta analysis from 2010 out of 28 studies, a large proportion of them did show significant improvement. So that's why we offer treatment and we see that treatment is medically necessary, it's viewed medically necessary. It would be improper to withhold treatment for somebody if they are significantly experiencing gender dysphoria.

07:04
So the things that we think about before initiating any type of hormone treatment, in this case before we initiate feminizing hormones, is we want to think about has a gemder assessment been done? And I'll talk a little more about that. We always encourage people to preserve their fertility, if they're interested, if they're of childbearing age, which would be anybody from 14 up to 60 probably, we would encourage them to bank sperm, if they're interested in doing that. We want to think about are there any contraindications to the feminizing therapy? And that specifically would be DVT, history of DVT or stroke, if they're smokers, if they might have BRCA positive status we would want to think about that. Smoking is not an absolute contraindication, but it does put people at higher risk for DVT. So for smokers, we would encourage them to cut back or quit prior to starting estrogen. In our clinic, we have people sign a consent form. If you're interested in getting that you can email me, you can see my email address at the end, and we can sign send you our consent form. Not all offices do this, but we feel like we want to make sure we've documented, we've gone over both the risks and the benefits. So we do this with any patient that we're starting on hormones. If people are under 18, we have both parents sign the consent form prior to administering hormones.

08:34
So the old way that we practiced was that we would require a formal gender assessment from a mental health professional before we would start hormones on anybody. And this probably was starting in the 60s and 70s, this was how people practiced. And so what we would do is we would make sure that they saw mental health specialist, hopefully somebody who has experience in dealing with gender issues, they might see them for months or sometimes even years, and then the mental health person would write a letter to the medical provider, and the letter would basically say that they were eligible and ready for medical treatment, and then we would prescribe hormones. Nowadays, we're shifting over, for adults, for people 18 and over, to an informed consent model. And this creates less barriers for patients. Many people live in parts of the country where they cannot find a therapist who has any experience in gender issues. They also may feel like they are very comfortable and clear about their gender identity, and they don't necessarily need to see somebody to affirm what they already know. So starting the last 10 years or so we're shifting, to a large extent, to an informed consent model, where the idea is we don't make a diagnosis, we just share the information about the risks and benefits of hormone therapy, the alternatives and help them decide. The advantage is it's less of a barrier. Sometimes people don't necessarily feel like they need to see a mental health person, because it's very clear. One of the disadvantages is we are concerned that rates of detransition, and that might be somebody who starts hormones and then decides that it wasn't right for them, or regret rates, those are people who started hormones and then regret it and don't like the body changes that have happened and want to go back to their assigned gender at birth. We concern that without any formal gender assessment, detransition rates may go up. So right now, it's sort

of providers choice for adult patients, whether you do the the gender assessment from a mental health person or informed consent. And I would say, if you're just getting started, it's probably good to have a good collaboration with a mental health person who has experience with gender issues. And if there are any cases that you're uncomfortable starting them on hormones, then I would certainly encourage the patient to see a therapist and get a letter from them.

10:46
Let me give you two examples of somebody who would be very straightforward versus somebody who I would definitely want to see a therapist before starting hormones. A straightforward case might be somebody who's already on hormones, then certainly continuing hormones, it's very simple and easy and low risk. Or if somebody had been already on hormones before and had stopped it for a couple years and wants to go back on the estrogen, they already know what the risks and benefits are, that certainly is very straightforward. Or somebody who's already socially transitioned, you might have a trans woman who's socially transitioned, she changed her name, her gender marker, she may have legally transitioned, she has changed her gender expression, lived in the female role for a number of years, she wants to start hormones. That person is probably also low risk and I think starting hormones with informed consent is fine. Somebody who might be more at higher risk would be let's say a younger person who's just turned 18 a month ago, gender has not been a big issue for them. And except for the last couple months, they haven't taken any steps to transition socially. They haven't told anybody, but suddenly, maybe they decide that they want to start hormones, that person would make me a little nervous about jumping right into estradiol. And that person, I would encourage them even though they're 18, that would encourage them to get a letter from a therapist.

12:07
So what female hormones do, and the female hormones we're talking about are estrogens. And there are three main types of estrogens that I'll go into a little bit. And then progestins, and we will not talk too much about progestins. The clinical effects for a cis woman as she goes through puberty, and has exposure to increased levels of estrogen and progesterone is she'll get female breast development, she'll develop pubic and axillary hair, and she'll have sort of female fat distribution. So the fat distribution in her body will be more in the hips and the thighs and less in the abdomen. And she'll have maturation of her reproductive cycle, of her uterus and ovaries, and she'll start to have menstruation. The hormones also strengthen bones, and they also contribute to brain development and although that's not really that well defined. Now, the medications that we're talking about today, let me see. The feminizing medicines that we use clinically are estradiol, and we also use androgen blockers, spironolactone. So the take home message today would be if you want to help somebody feminize, you give them estradiol and spironolactone.

13:25
When somebody talks about estrogen, there are three main estrogens in the female hormonal system. The main one in the middle is estradiol, that's what we use. And its diol which means there's two hydroxyl groups. The one on the left has three hydroxyl groups, so it could be called estratriol instead of estradol, but they shortened it so they call it estriol. And then on the right,

one of the hydroxyl groups is just changed into a double bonded oxygen and that's a ketone, so that's called estrone. So these are three estrogens that are in people's systems. So when somebody says they're on estrogen, it doesn't specifically say what they're on. We use, for feminizing treatment, we use estradiol. And this was isolated in the 1930s and has been used clinically probably for the last 60 or 70 years. So primary care clinicians will realize that they may have different uses for estrogens. Today, we're going to talk about gender affirmation and we're going to use higher doses of estradiol. You can also use estrogens to treat menopausal symptoms, and I will talk about that briefly. And estrogens are also used in contraception, that we'll go into a little bit. So we just have to be clear that we have different uses for the estrogen medications.

14:47
So the main preparation that we use is estradiol or Estrace. It's also called 17 beta estradiol and the beta means that one of the hydroxyl groups is above the plane rather than below the plane. There's 17 alpha and 17 beta, the 17 refers to which carbon that hydroxyl group is coming off of. In Epic, in our EMR, if you do estradiol, you'll get estradiol or Estrace, and that is 17 beta estradiol. There are other kinds of estradiols. There's ethinyl estradiol, which is used in birth control pill. That is more potent, that has a higher rate of blood clots, and it used to be used for people with transition early on. And because of the very high rate of blood clots at the dosage used for transition, we stopped using it. So the main take home is we no longer use ethinyl estradiol. We no longer use birth control pills for feminizing transition. Another type of estrogen is conjugated equine estrogen or Premarin. And that's used for menopausal symptoms. That is a combination of different types of estrogen. There's a lot of estrone in that. We don't use that it's harder to monitor the estradiol level, so we don't use that in the higher doses for feminizing treatment. In lower doses, we can use it for menopausal symptoms. Now the contraindications for estradiol are if somebody has an estrogen sensitive cancer. For our patients, we think about did they have breast cancer? Did they have pituitary prolactinoma? If somebody is a cis gender woman, you would also think about it they have endometrial cancer. But in our trans women population, they don't have uteruses, so we're not going to think about worrying about if they have uterine cancer. Another contraindication would be if they have an active DVT, let's say they had a DVT three weeks ago, they're on anticoagulation for that, that would probably be somebody that we would want to wait until the DVT has been completely treated and they've been anticoagulated for three or longer months, and then we consider treatment. Or if they have active cardiovascular disease. And I mean by active, whether they are having unstable angina. Somebody who's had a heart attack and it's been stable, they have stents put in, they are probably at higher risk for problems, but that would be somebody we would offer estrogen. And we do offer estrogen to patients at all ages, the youngest that we would do in our clinic is 14. The oldest might be 70, 75, or 80. So people can transition at all stages of life.

17:34
So when we would start thinking about treating people with estradiol, there are different ways to administer estradiol, the most common way is pills. So we oftentimes start people on pills. Some people request injections, IM injections that they do at home. And we'll talk a little more about that. And then the patches are used for people who are at higher risk for DVT. The pills and the injections probably have higher rates of blood clots, but the patches have been shown to not

increase your rate of DVT. So the patches are going to be used for anybody who is at high risk or has had a prior DVT, or has had a DVT while on estrogen pills.

18:18
On the dosing estradiol or Estrace comes in different doses. It comes in 2.5 milligrams, one milligram, two milligram tablets. The usual dosage that we're going to get most women up to is four to eight milligrams daily. So that would be two milligram tablets. And you can give two to four tablets daily. Titration is optional, I'm comfortable titrating up so I will start somebody, let's say a 25 year old person, I might start them on two milligrams a day, have them come back in a couple months, then go up to four milligrams and then six milligrams. Most people I want to get up to at least six milligrams to have good feminizing effects. It's interesting, you can use this either PO or sublingually. The idea is for using it sublingually you will avoid the first pass of the liver, so you will get higher levels. Some people believe that maybe you'll have a lower risk of DVTs if you're not going through the liver initially. So we offer patients the idea that they can take it sublingual if they want. Unfortunately, there's not a lot of solid evidence of the risks and benefits either way. A lot of our practice in this field is based on expert opinion. We have a lot of things that we do because other people do it and we've been doing it for a long time, but we don't have solid studies about this. So I can't really say that sublingually is better or worse, but I sort of offer to patients. Not everybody can absorb the tablet sublingually, it's uncomfortable, so those people will just take a pill. And the nice thing about estradiol is it's generic, it's inexpensive. It's also micronized so it's both easier to absorb in the stomach and also can be absorbed sublingually.

20:00
Now that the estradiol patch, it's something that we would use for somebody who has a risk for DVT, or just prefers a patch, most people don't prefer the patch because it's a little hard to keep on, they often fall off. But for anybody who had a high risk for DVT, for a while we were saying anybody over 40 should be on the patch. Now, we're not really sure if that's necessary or not, but we start to think about as people age. There are many, many different types of patches, we use sort of high dose patches, so we start at the highest dose of the patch available, which would be 0.1 milligram per 24 hours. And some of the patches are supposed to be changed weekly, and some of the patches are changed twice a week. So we often use Vivelle Dot, these are twice weekly patches. The patches are sort of give a little less estrogen than the pills. So one patch is often not enough. So we would prescribe one patch, and then we would check some levels, have person come back in a month or two, then we would often go up to two patches at a time or three patches at a time to get the adequate levels that we would want and that will have the clinical effects. So the patches we would use, if they've had prior DVT, if they've had a prior CVA, if they're older, if they have risk factors. Let's say they have some blood disorders, they have cancer, they're smokers, those people would be candidates for the patch. Now sometimes people do develop a DVT while on estrogen. If they develop it while on estrogen pills, we can switch them over that the patch. If they develop a while on the patch, it gets more complicated. And those people, we might want to have them be on anticoagulation, lifelong anticoagulation, but we would sort of want to try to offer them the option of continuing estrogen if we can. There's a wonderful website, it's called TransHealth.UCSF, that's University of California at San Francisco. And that is probably the best resource that most providers use to

answer many questions in caring for the transgender population. So I would encourage you to go there, you want to go to the provider part of that and you want to see their protocols for masculinizing treatment, for feminizing treatment, etc. So TransHealth.UCSF is the best site to answer questions. And in terms of blood clots, they have a number of protocols for what to do, if somebody's had a clot on or before starting estrogen and how to be able to continue the estrogen.

22:51
So the side effects of estradiol in addition to the DVT or pulmonary embolism, they may have weight gain, fluid retention, they may have mood swings, hot flashes, it may worsen migraines. It may decrease your libido and cause erectile dysfunction, and over time the testicles will get softer and smaller. Sometimes people complain of pain with erections after being on estradiol for a couple of years. It's associated sometimes with gallstones and nausea. Sometimes blood pressure can get worse. There is some association, though it's fairly rare, with pituitary adenomas and hyperprolactinemia. So some of the protocols have said you should follow prolactin levels with people on estrogen, you should do it at baseline and follow it yearly. I think that's not always necessary, but we do want to monitor for clinical signs of a pituitary adenomas. So that would be if somebody's starting to have visual changes, they're starting to have headaches, then those people we would check a prolactin level. The prolactin level is elevated, then you want to do an MRI imaging of their brain focusing on the pituitary area. It also can cause elevated liver function tests, or high triglycerides. Most of these side effects are fairly minimal. Most people tolerate the estrogen pretty well. I always talk about, when I start somebody on estrogen, I always talk about the signs of a DVT. So I educate them, if they have swelling in one leg, if they have pain behind the calf, behind the thigh. Or if they have trouble breathing, that could be signs of a DVT or PE, and they should let me know immediately and we'll do an ultrasound.

24:34
So it's hard to know exactly what the risk of DVT is. It would be nice if we had solid data and I could tell the patient it triples or quadruples your risk of DVT by going on this medicine, but we don't have that data for the transgender population. We do have it for other populations, other circumstances when we use estradiol, so we can sort of think about what it might be. For people in menopause, if they're using oral estrogens alone, and that's probably at lower dose, the odds ratio, which means the odds of them having a DVT or pulmonary embolism compared to the baseline population is 1.3. So it increases your risk, but by a little bit. The topical estrogen patches, it does not increase your risk by anything. So your odds ratio is 1.0. For people on birth control, it has increased risk. So for those people on ethinyl estradiol in whatever the preparation of birth control, the odds ratio goes up to 2 to 3 times or 3.8 times a risk. So birth control pills will have a higher rate of DVTs. The background population rate is about one and 1000, so even if you double or triple the rate, you're still going up to maybe 2 or 3 in 1000. It's not a really high risk. For gender transition, we don't know. I assume that it's probably similar to menopause treatment or contraception, it's probably, you know, two or three, but we don't have solid data, it would be nice to have solid data on that. The ethinyl estradiol that I talked about, when we were using it for gender transition, it had rates of 20 to 40 times the background rate. So that's why we definitely no longer use birth control pills at higher doses for gender transition.

So because of this potential increased risk, we do recommend that patients consider stopping estradiol two weeks before any type of elective surgery. There's some controversy about this, but in our clinic we certainly recommend that just to avoid a DVT during the perioperative period.

26:29
So for primary care clinicians, we can think about different uses and we talked about it briefly, but different uses that we will use for hormones, for estrogen, for estradiol. So I've talked about for gender affirmation, we use estradiol six milligrams per day. Now you use the same pills, estradiol, but for menopause, you're going to use them in lower doses. So you're going to use maybe one milligram a day. They say start at the lowest dosage for the shortest period of time. So you might have somebody on estradiol one milligram or even a half a milligram daily for a year or two and then you can try tapering off. For menopause we also use the Premarin, which is the conjugated equine estrogens, and it would probably be effective at higher doses to help people with gender transition but the inability to monitor it since Premarin has a mixture of different types of estrogens makes it so that we don't really want to use it for our transwomen. Premarin stands for pregnant mares urine. So they basically impregnate 1000s of mares and then they take the urine out and extract these conjugated estrogens. And for contraception, they use estrogen and progesterone combination in many pills. And again, they need the ethinyl estradiol because it's a little more potent, they need that to really control the menstrual cycle, but we don't use that for transition. And down below, I have a little information about the potency and it just shows that compared to estradiol one milligram tablet, the conjugated estrogens or the Premarin would be 0.625, that's equivalent. And five micrograms of ethinyl estrogen are equivalent, so micrograms is a much smaller dose than estradiol one milligram, so we just have to be aware that the ethinyl estradiol is a very potent estrogen.

28:24
So in addition to the the estradiol that we use, we use androgen blockers. And the one that we use is spironolactone and we try to titrate most people up to 200 milligrams a day. Other pills that sometimes we use for transition are progesterone and finasteride. Let me talk a little more about the androgen blockers. So we have to be aware that the term blocker can be a little ambiguous because we have different types of blockers for gender transition. We have androgen blockers, which block the receptor for the androgens. And androgens, there are different types of androgens, testosterone is one and DHT is another one, there are different androgens in our body. But spironolactone is the one that we use in this country. We use it at higher doses than you would use for other medical indications. You may have heart failure patients that are on 25 or 50 milligrams of spironolactone a day. You may have somebody who has cirrhosis, and they're on lasix and spironolactone to get rid of their ascites fluid. Oftentimes, those doses are smaller than maybe 50 milligrams a day. But for our effective androgen blocking for our trans women, we want to titrate up to 200 milligrams a day. I wouldn't start somebody on 200 milligrams a day. If their blood pressure is on the low side, I might start them on 50 and then see them again and get it up to 100. And if the blood pressure is okay, they're not dizzy when they stand up, then go up to 200. Most patients do seem to be able to tolerate that 200 milligrams daily. You'd probably want to have them take it in the morning since it's a diuretic. It's a potassium sparing diuretic so it can cause increased potassium. So anybody on

spironolactone, we do periodic basic metabolic panels. We do see hyperkalemia in a small proportion of patients, maybe 10 or 20% of people we will see hyperkalemia and we will have to either decrease the dosage or stop the spironolactone. The side effects of spironolactone are hypotension, hyperkalemia or a cognitive fogginess. And what we're doing with a spironolactone is when you give with the estradiol, it will lower people's testosterone level, I think it has an effect on the pituitary access. So that testosterone level will go probably from the cis male range, which would be 200 to 900 nanograms per deciliter, and we try to lower it down to the cis female range which would be less than 50. So we're trying to get it from 300 or 400, down to less than 50. But even though we lower it down that much, we still want to block any residual testosterone that's in people's bodies. And the way we do that to do that is use these androgen blockers.

31:17
Once a person has their testicles removed, either through an orchiectomy or vaginoplasty as part of surgical transition, then we no longer need to give them the androgen blocker. We continue the estradiol, but you can stop the spironolactone. And we do have to be careful with renal insufficiency. So if their creatine is up or they're on an ACE or an ARB, we have to be a little careful and we would want to monitor their potassium level pretty closely.

31:43
Let me just go back, there are other androgen blockers that are used in other countries. So in Europe, they use cyproterone acetate, that's a very effective one, but it's not available. If we have patients that can't tolerate the spironolactone, some of them will get it on mailorder from Europe and use the cyproterone. So that's one other option. There are some other androgen blockers, Bicalutamide is one that some clinics are using. It's relatively newly used for transition, we don't have a lot of data on it. So our clinic is decided not to use Bicalutamide, but you might find some patients on it.

32:30
So I'll talk a little more about the lab monitoring for feminizing medications. And what we want to do, mostly we follow the testosterone level and the potassium, those are the most important in the lab. And as I've said the testosterone, we want to suppress it, we want to get it to below 50 nanograms per deciliter. Deciliter is a 10th of a liter, or it's 100 milliliters. Now unfortunately, some labs use different units. So our Bassett labs have now switched over from the typical nanograms per deciliter to nanogram per milliliter. And what that means is instead of looking at 100 milliliters, they're looking at one milliliter, the amount of estradiol in one milliliter. So you have to be very aware of what units your lab is using and to transition from the deciliter to the milliliter, you have to move the dot over two points to the left. So 50 nanograms per deciliter is equivalent to 0.5 nanograms per milliliter. And this is a little confusing and may be confusing to patients, because, you know, we teach people we want to get your testosterone level down below 50. So I've people with their levels down to 40, and once the labs shifted over to the different units in the milliliter use, suddenly their labs instead of 40, it's coming back as 0.4. And they're very happy. They're saying, well, 0.4 is great. And I'm saying well, it's a different unit, so maybe the same as 40. And then estradiol levels, there's a lot of controversy about how to monitor estradiol levels. We do routinely check them, The Endocrine Society guidelines, which

are some of the main guidelines we use in our treatment, and I would encourage you to look up Endocrine Society guidelines for treatment of gender dysphoria from 2017, they give us a lot of details on things to monitor. They recommend keeping the estradiol level in the 100 to 200 microgram per milliliter range. We don't follow that that closely. This is an expert recommendation, but there's no necessarily solid evidence that we need to keep it in that range. In the normal menstrual cycle, the estradiol level can get up higher and may go up to 300 or 400. So I am more liberal about this if is somebody feminizing well, if the testosterone is sort of where I want it to be, 50 or a little below 50, if their estradiol level comes back at 300 or even 400 I won't necessarily decrease the dosage. So there's some controversy of how best to do this. If the level is very high, if it's 800 or 900, then I would become concerned and probably decrease their estradiol dosage at that time. And just be aware that we need to follow their potassium if they're on spironolactone. And the frequency of labs, we often check them every three months while initiating us estradiol and making any kind of changes or increases in the dosage. And then annually is probably sufficient for people who have been on a stable dose for a while.

35:28

There are supplementary medicines on that we use. There is not a lot of data of the use of progesterone. But a lot of patients hear from their friends and other people who have transitioned that progesterone may give you some benefits. The word on the street is it will help you develop larger breasts, will help with mood and libido. So I have a lot of patients coming to me who are on estrogen, estradiol, they're on spironolactone, they haven't had sufficient breast development, so they want to go on to progesterone. I offer this to them, although we don't have any evidence about the safety or the benefit. I suspect that it's probably beneficial because people really experience, there's a lot of anecdotal reports of improved breast growth. But I always explain that we don't have solid data, we don't really have any studies. Hopefully studies will come in the future. So I just always preface that with I don't know really the true risks and benefits. This is sort of provider choice. Some providers decide not to use it because there isn't solid data about it. There are two different types of progesterone that we use, Prometrium we use doses of 100 to 200 milligrams daily, it comes in 100 milligram tablets, so they can have one to two tablets daily. That's a natural progesterone. There is an idea that maybe there's a less risk for breast cancer development in the natural use, the natural hormone. Again, that sort of a thought but not really solid data. We used to use Provera or medroxyprogesterone and that would be five to 10 milligrams daily. Mostly we use Prometrium at this point in time. And down below, I've talked a little about that cyproterone acetate. Finasteride is medicine that we use sometimes if people are having a lot of or have had male pattern balding, male pattern hair loss, then we could offer patients low dose finasteride, one milligram per day, like Propecium, to help stop the male pattern hair loss. I've talked about bicalutamide, I won't go into Lupron today. Some patients are very upset about the loss of erectile function that comes with estradiol. So they want to take the medicine, they want to feminize, but they have a very active sexual life and they want to continue with a good firm erection. So those people we do offer Viagra as an assistant.

37:55

Let's talk a little about banking sperm prior to starting estradiol, people have to be somewhat into puberty. So this is probably something that we would only be able to offer people once they've reached Tanner stage three of puberty, 12 years and older. The costs of preservation of sperm has been a barrier. It costs maybe up to $1,000 to bank that sperm and then you have annual storage fees. Recently, New York State has a policy that insurance needs to cover any type of iatrogenic infertility. So nowadays, I'm telling people that they may be able to get this covered. I encourage patients to do it, but we don't require them or force them to do it certainly. Sometimes we'll have a child whose parents really want them to bank the sperm, they may be 16, they don't want to bet the sperm. We certainly offer it to them as an option, but we don't require this. I think a little about sexual orientation when we're thinking about banking sperm. If somebody is attracted to women and may end up partnering with a woman, wanting to have a baby with a woman, that person it would probably be very nice to have some sperm available at some point in time to help impregnate the partner. A lot of times people don't want to bank the sperm, it avoids the transition process because it takes a while to go, we refer people to infertility centers up in Albany, they may have a lot of dysphoria about their genitals, so thinking about masturbating to get a semen sample is uncomfortable. So only probably 10 or 15% of people may choose this option. So, the two infertility centers that we use in the Albany area are Boston IVF or Central New York Infertility Center.

39:47

Now I will just briefly talk about appropriate primary care for trans women. If they're trans feminine, we will talk about mammograms starting at age 50. This is a controversial area, we believe that having development of female breasts through feminine transition and through estradiol will somehow move your rate of breast cancer from a cis male towards a cis female, but not necessarily the same rate as a cis female. Some of the preliminary studies show that somewhere in between the rates of those two populations. So I don't think you have quite the same rate as a cis woman. So it's a little unclear if mammograms are cost effective. And some experts say oh, we should do them just to be safe and thorough. For me, I'm not completely convinced, since the rate of breast cancer for trans women may be somewhat lower than cis women, I'm not sure that mammograms will be in the long run shown to be cost effective. So I have a discussion with people. If they've been on hormones for five or 10 years, I offer it as an option. For trans women, we also want to always talk about STI prevention and PrEP, there's a fairly high rate of HIV in this population. So I always want to do a sexual history, get a sense of how sexually active they are, and offer them PrEP, if they have risk due to the number of partners. And we also have to remember that they have a prostate, they may have transitioned years ago, they may present as female, many providers may not know that they have a history of being transgender. So we always have to remember that they have a prostate, if they start to have urinary problems, we have to think about prostate. I would encourage them to alert the providers if they show up in the ED, they have urinary retention, they may have to tell people that they've transition and they have a prostate. You could think about routine screening for prostate cancer, but for even for cis men, there's a lot of controversy about whether we need that annually. So I don't necessarily encourage people to get screened.

41:54

Then as a provider, you may be asked to do a letter for legal transition. So people will change their names, we don't get involved in the name change process. We used to have to do notarized letters for birth certificate changes. If somebody wants to change their birth certificate, you need to know what state they were born in. And you have to figure out the protocols for that state. If they were born in New York, it's fairly easy. If they were born in Kentucky or some of the southern states, there are some more barriers to change the first certificate. Now in New York State, they've passed new legislation that people can just do it online, they don't need a notarized letter from physicians anymore. But they do need a letter if they want to change their passport or they want to change their gender marker on their social security account. Social Security card does not have a gender marker per se on it, but the count back in Washington does have a gender marker. People may not want their new employer to know that they transitioned, so they may want to change the gender marker on their account. And they also may need the letter if they want to change their driver's license. There's sort of standard format letter, you can find this on Google, it's something that if you have a number of trans patients it would be nice to be able to offer them these letters. I give letters to anybody who wants it, I don't necessarily, I don't think they need to have surgery. All we need to say is that they've undergone some medical treatment for gender transition.

43:19
And this is the website for Trans Care UCSF, it's run by Dr. Maddie Deutsch, she's a family practitioner. And what you want to get is to get into the guidelines. So if you're going to take care of people, this would be the best place to start. For further training and educational resources, unfortunately, most nurse practitioners, most PAs, most family physicians or other physicians don't get a lot of training in their schools and in their residences. So we often have to get additional training after we've come out of our programs. I would become familiar with the WPATH Standards of Care 7. Here's a picture of it on the right. That is sort of the bigger view of the of treatment, they're coming out with the new Standards of Care 8, there may be some changes in recommendations probably in the next year or so. And then the Endocrine Society guidelines will give you more specific details on how often to order labs, what labs should be ordered, how to increase the dosage for youth. So the Endocrine Society guidelines is a great document that you should have for your review.

44:31
We're happy to have people rotate at our Gender Wellness Center in Oneonta, New York. Our teaching schedule is fairly full for the winter, but we will probably have some openings in the spring. So if you're a provider, if your nurse practitioner or PA, physician or another provider, we have midwives coming, please, you can email me. I'll have my email address coming up and we can make arrangements as our schedule permits. Conferences, it used to be a great option to go to conferences in person. Unfortunately, those conferences are all done remotely now. But WPATH every two years they have an international conference. This one was going to be in Japan, and then it was changed to Hong Kong. And now it's done all remotely. And in the off year US PATH, which is a US organization does annual conferences. US PATH, they also have something called the Global Education Initiative, where I think you can take courses online, that's a great way to do it, you can get certified to be a WPATH provider. There is also Philadelphia Trans Wellness Conference. There are a lot of conferences across the country,

you want to find a conference that has a provider track. So that would be a medical provider track or a mental health provider track, because then you'll get very specific data about sort of the care of the patient from a medical perspective.

45:53
And I'm about to close. Here's information about the CEI line, if you have questions about HIV treatment, Hep C treatment, PrEP, this is a great line that can give you lots of information. And then, if you want more trainings here, you can request trainings from for your workplace through Survey Monkey. And here's the email. And then I should end with you can visit our social media platforms for updates on CEI trainings and HIV topics. And here's my email, if you have any questions, or if you want to do a rotation, feel free to email me. What I would suggest is having a mentor if you're starting to treat people with hormones, and we would be happy to be your mentors. So you can start the treatments and if you have any questions, send me an email. We'll try to answer you as soon as we can. The best way to learn about this is to start to do it. Alright, and let me open it up to questions now.

46:59
Thank you so much, Dr. Wolf-Gould for the presentation. To piggyback off of when you're talking about PrEP and everything. CEI does have updated PEP and PEP cards, as well as gender pronoun buttons.

47:17
I have a question. If you guys can hear me?

47:20
Yes, we can hear you.

47:22
So you might have touched on this, and I don't know how common it is, but if you have even a young person who's maybe obese, and are you considering that risk factor? Are you using patches with that? And then might you need a higher number of patches? I don't know how effective the transdermal route is with with obesity.

47:46
We would not consider that a real significant risk factor and withold the pills. For patches, we would just have to see what the levels are. So we would start with one patch and then check an estradiol level, probably it's going to be low, it might be 30 or 40. And then we go to two patches. We're trying to get the estradiol level up maybe to 100, above 100. So that person might need three patches, two or three patches.

48:17
Okay, thank you.

48:22
Hi, Dr. Wolf-Gould. I also have a question.

48:25
Hey, Matt.

48:26
Hi. Good to see you. So my question is about androgen blockers. So for patients who have contraindications for estrogen therapy and cannot take hormones, would they see any results if you were to just use like spironolactone or finasteride and just provide androgen blockers, or is there no efficacy if they can't also take estrogen?

48:48
Yes, we would use the androgen blockers in that case, spironolactone does cause some gynecomastia in cis men. So you might have a little breast development, you're blocking testosterone, so we would certainly offer it. It is a good option for people who are unable to take estrogens, but we certainly want to offer that to them. And you would probably want to go to the higher dosage, maybe 200 milligrams a day. We sometimes use, there are sort of partial blockers like in a youth. Sometimes we would give them Depo Provera, that might be used more for trans masculine people who want to stop their stop their periods. Depo Provera is another option for that, that's a partial puberty blocker, not an androgen blocker, but a puberty blocker. So there are other medicines that we use, especially in the younger populations. But for this patient yes, certainly a high doses of spironolactone would be helpful.

49:48
Thank you.

49:48
Good morning. Yes, I've got a question about what someone might experience if they chose to go on a feminizing regimen and then later decided to come off of that regimen and what kind of, if you could talk for just a minute about what kind of potential both physical changes they might experience and any potential risks that we should be aware of?

50:16
Okay, so you're talking about somebody who maybe detransitioned, they started to transition and they detransitioned or re-transitioned. Yes, I'm sorry I didn't touch upon this, but we think about changes that are temporary changes that have happened with medications and changes that are permanent. And we always want to talk about the permanent changes that will happen with any hormonal therapy. So for feminizing medication the permanent changes, in general, are breast development. So if somebody's been on estradiol for a couple years, they will have significant growth of female breasts, and they need to be aware that that will not go away if they stopped taking the medicine. They also, if they've been on it for a long time, they will have sort of atrophy of the testicles and sort of shrinkage of the penis, and that is not completely reversible either. There are also a lot of temporary changes that happen, the fat redistribution where the face appears more feminine on medications. If you stop the medications, that fat redistribution of the face will go back and the face will start to appear more masculine. The hair thins, body hair thins with estrogen treatment, and the body here will get a little thicker with

estrogen treatment. The estrogens don't really have any effect on facial hair, and they don't have any effect on the voice pitch. So it doesn't really cause any sort of changes of that type of masculine in relation that's already happened. But we do want to tell people that breast changes are going to be permanent. So if somebody transitioned, had robust breast development, and then decided they wanted to re transition, the only other option would be to have surgical removal of their breasts. Or they could, they could wear binder, they could bind their breasts. So that that's an issue that people need to be aware of. I think there was a slide that I maybe missed today, but they should be aware that the permanent changes are something they need to know about, especially the breast development. Does that answer your question?

52:19
Yes. Thank you. And would if someone, you know, thinking hypothetically, was on feminizing treatment and decided they wanted to detransition, do you need to titrate down the medications in a particular way? Or, you know, is there any kind of, what would be that protocol?

52:39
I don't know about that. So I probably would titrate them down slowly, let's say over a month or something like that. What happens most of the time is people stop taking the medicine and then they show up and they say yeah, I stopped my medicine three months ago. So one of the things we need to know about is that we do need some type of sex hormones for bone strength. So you do need, there's some estrogen or testosterone in your body. And this comes into play with somebody who's had surgical transition. So if you have a trans woman, she's had, let's say, an orchiectomy or vaginoplasty, she's had her testicles removed. And let's say they're on estrogen treatment, and they decide that they don't want to take the estrogen anymore, then they need something else, because the body is no longer making testosterone. So they would need at that point to either just stay on a very, very low dose estrogen, maybe one milligram a day, or they might need to go on testosterone, but we do want to have some low dose sex hormones available, otherwise they will develop significant osteoporosis. So once people have had surgery, then we need to really continue some type of hormones.

53:48
Thank you. That's helpful. Yeah.

53:52
Question on masculinizing therapy, climbing hemoglobin and hematocrit with testosterone therapy?

54:03
Okay. Hi, Marvin. It's nice to see you. I haven't seen you before. Yeah, so this is a significant problem. In two weeks, we have a lecture November 12th at 8am, I believe, and that's for masculinizing treatment, but we can talk about it briefly today. So one of the things we watch for with testosterone treatment is increased hematocrit and hemoglobin level. Our goal is to keep the hematocrit below 50 to 53%. So some providers use 53% as a cut off, I am more inclined to use 50% of the cutoff. So once the the hematocrit goes above 50%, I want to do two things. I either want to have them take some blood off to remove it and reduce it, that's sort of a

temporary thing, or I might want to decrease the testosterone dose. One of the problems with decreasing the testosterone dose is people's, trans men's, periods may come back and they may start to have monthly bleeding. They won't like that. But if you can get away with it, decreasing the dosage that doesn't cause the hematocrit to go above 50% is the best thing because that's sort of a permanent solution. If that's not available, then I would have people either give blood at American Red Cross blood drives, most of the time they can just donate a unit of blood intermittently, that may keep the hematocrit below 50%. Sometimes we send people for therapeutic phlebotomy, we can do that at, you know, the outpatient services at a local hospital. So those are the two options to withdraw blood. And that happens, I would say, you know, maybe in 10 or 20% of our patients, that they do get above 50%. So it is a fairly common issue. The problem is if the hematocrit goes above 50%, your risk of stroke goes up. We see that with people with polycythemia vera and other conditions. So we assume that the stroke risk is similarly increased in the trans man. But again, we're having to correlate other studies, since we don't have a lot of solid data for this specific population. But we definitely want to keep it below 50 or at least 53%. Some of the labs now, their ranges are changing, and some labs may have a normal range up to 52%. So that's interesting. So for those people, you know, if they have a 52% hematocrit and it's in the normal range of the lab, then I would sort of let them go up to 52%, but not above the normal lab range.

56:23
Can I ask a question before we end this?

56:26
Yes.

56:28
My name is Will, I'm actually an emergency provider down in the Finger Lakes area. And the question I have to do is, let's say you have a trans woman presenting to an ER with a new onset of DVT. And you know, they're on estrogen and they really want to stay on it. Is it safe to just initiate like a DOAC or is warfarin preferred while keeping them on estrogen, or should they be taken off estrogen until their anticoagulation is controlled before resuming it? What's like the guideline for doing and managing DVT in the acute setting?

56:59
So I would familiarize yourself with the Trans Health at UCSF, that website, because they have all these different protocols so what to do you know if they're on it. Certainly, you would want to start them on a DOAC. If they're on pills, you would definitely want to stop the pills. I would probably, if I saw somebody like that in ED, I would probably stop their pills, start a DOAC, and then have them go back to their provider to talk about switching over to the patch. If somebody was on the patch, and they had a DVT, again, I would probably stop the patch, treat the DVT, send them back to the provider. That person might need lifelong anticoagulation with DOAC, and then if they're kind of continuing on the DOAC, it's probably okay to to restart the patch. And then in the emergency room, if you're meeting somebody, we want to continue the hormones throughout their hospitalization most of the time, unless they're going to maybe need surgery. But we used to stop the hormones all the time. You know, if somebody's going to be bed bound

for a week or two, then you might want to stop the hormones. But we don't always want to stop any hormones as people get admitted, that can be very distressing for people. So they're going to have pneumonia, and they're going to be up walking around on the unit, and I would give them the option of continuing the estrogen. But I would definitely go to the UCSF site, because there are lots of different permutations of what can happen. But we feel comfortable continuing patches much of the time, and we don't feel comfortable continuing the pills much of the time because of the persistent increased rates of DVT for somebody who has a DVT. New presentation.

58:42
Thank you, Dr. Wolf-Gould for leading this presentation today.

[End]