

# **EXHIBIT 3**



and completed my residency in General Pediatrics at Monroe-Carell Jr. Children's Hospital at Vanderbilt. Thereafter, I completed a fellowship in Pediatric Endocrinology at Cincinnati Children's Hospital Medical Center in Ohio.

6. I have been licensed to practice medicine in the state of Tennessee since 2015.

7. I am board certified in both General Pediatrics and Pediatric Endocrinology by the American Board of Pediatrics.

8. I am a member of the American Academy of Pediatrics, the Endocrine Society, and the Pediatric Endocrine Society. I am also a member of the World Professional Association for Transgender Health ("WPATH").

9. I have extensive experience working with children with endocrine disorders, and I am an expert in the treatment of children with intersex traits, also known as differences or disorders of sex development, and in the treatment of adolescents with gender dysphoria. I have been treating patients with gender dysphoria since 2012.

10. The Differences of Sex Development Clinic at Vanderbilt ("Vanderbilt DSD Clinic") sees patients with differences of sex development ("DSDs") and intersex conditions prenatally up to 23 years of age. I have been its Clinic Director since 2017. At the Clinic, we treat all conditions related to differences in sex development, including: 5-alpha reductase deficiency; androgen insensitivity (CAIS/PAIS); congenital adrenal hyperplasia (CAH); gonadal dysgenesis; micropenis; and ovotesticular DSDs. I have thus extensive experience caring for youth with DSDs by way of working in a multidisciplinary clinic with genetics and urology. Our team sees inpatient consultations, prenatal consultations, and individuals presenting at all ages. Our team has a special interest in identifying genetic causes for presentations. We also have a clinical psychologist and

social worker, given the importance of incorporating psychosocial care into these visits. I have treated over 100 pediatric patients with DSDs.

11. I am also one of the founders and the Clinic Director of the Vanderbilt Pediatric and Adolescent Gender Clinic (“Vanderbilt Gender Clinic”), a multi-disciplinary clinic that provides care to gender variant and transgender children and adolescents. The Vanderbilt Gender Clinic sees patients between the ages of 6 and 22 who have gender dysphoria. My clinical duties include providing gender-affirming care such as puberty blocking and hormone treatments to transgender youth with gender dysphoria.

12. I have over 200 transgender patients under my care, with a 3-4 month waitlist to be seen for services. The majority of my patients reside in Tennessee, Alabama, Kentucky, Mississippi, Indiana and Georgia.

13. I have taught courses on differences of sex development, the care of transgender patients, sexual medicine, and pediatric endocrinology, among other subjects, at VUMC and the Vanderbilt School of Nursing since 2016.

14. In addition to the above, I regularly provide guidance to physicians who care for transgender patients at Vanderbilt and elsewhere. I do this by giving grand rounds, presentations to medical students and residents, and training to various community providers.

15. As part of my practice, I stay current on medical research and literature relating to the care of transgender persons and patients suffering with gender dysphoria. I am a manuscript reviewer for *Transgender Health*, *Pediatrics*, and *Obesity*. I have published a number of peer-reviewed scientific articles and presented numerous abstracts and presentations at scientific meetings, including regarding the care of transgender and gender diverse youth.

16. Additional information about my professional background and experience is outlined in my curriculum vitae, a true and accurate copy of which is attached as **Exhibit A** to this declaration.

17. I have never testified as an expert at trial or in deposition.

18. I am being compensated at an hourly rate of \$250 per hour for preparation of expert declarations and reports, and \$400 per hour for time spent preparing for or giving deposition or trial testimony. My compensation does not depend on the outcome of this litigation, the opinions I express, or the testimony I provide.

#### **BASES FOR OPINIONS**

19. This declaration sets forth my opinions in this case and the basis for my opinions. The materials I have relied upon in preparing this declaration are the same types of materials that experts in my field of study regularly rely upon when forming opinions on the subject.

20. In preparing this declaration, I also reviewed Attorney General Ken Paxton's Opinion No. KP-0401, dated February 18, 2022, and Governor Greg Abbott's Letter Directive to Texas Department of Family and Protection Services ("DFPS") Commissioner Jaime Masters, dated February 22, 2022, as well as materials listed in the bibliography attached as **Exhibit B** to this declaration. I may rely on those documents as additional support for my opinions.

21. I have also relied on my years of research and caring for transgender youth, patients with gender dysphoria, and patients with DSD conditions, as well as my professional knowledge, as set out in **Exhibit A** and the materials listed therein.

22. The materials I have relied upon in preparing this report are the same types of materials that experts in my field of study regularly rely upon when forming opinions on the subject. I may wish to supplement these opinions or the bases for them as a result of new scientific

research or publications or in response to statements and issues that may arise in my area of expertise.

23. I have not met or spoken with the Plaintiffs for purposes of this declaration.

## **EXPERT OPINIONS**

### **A. Gender Identity and Gender Dysphoria**

24. Individuals are given a sex at birth based typically on their genital anatomy.

25. Research, however, has shown that determination of sex is far more complex than what is seen on genital exam. Instead, sex is a complex compilation of multiple factors, including one's chromosomal make up (XX or XY, for example), gonadal sex (presence of ovaries or testes), fetal hormonal sex (production of sex hormones by the fetus or exogenous exposure of sex hormones to the developing fetus), pubertal hormonal sex (the change in hormonal milieu that results in the development of secondary sexual characteristics, such as facial hair and deep voice for those assigned male at birth, or breasts and menstrual cycles for those assigned female at birth), hypothalamic sex (variations in brain structure and function as a result of embryonal exposure of sex hormones), and gender identity.

26. For each of the above factors that contribute to the development of sex, there can be variations. Sex related characteristics do not always align as either completely male or completely female. These variations are common. The DSD Clinic at Monroe Carrell Children's Hospital at Vanderbilt, in which I work, caters to the medical needs of this patient population.

27. Gender identity is an individual's inner sense of belonging to a particular gender. Individuals whose sex and gender identity align are cisgender (1). Individuals whose sex and gender identity do not match are transgender/gender diverse (1). Research has shown that gender identity has a strong biological basis and cannot be voluntarily changed (2).

28. Research has shown that children begin to develop the self-awareness of their gender identity during their toddler years, as young as 2 years of age. By 3-7 years of age, many children have a clear sense of their own gender identity (3,4). However, there are some individuals for whom it may be later into pubertal age/adolescence when their sense and awareness of what their gender identity is (4).

29. Gender identity is innate and cannot be voluntarily altered. Experts agree that being transgender is a normal variation of human development. The medical community at large considers attempts at changing one's gender identity to be a futile, harmful, and unethical treatment approach (49).

30. While all individuals have a gender identity, not everyone's gender identity is that of their sex assigned at birth. When this happens in transgender individuals (i.e., a lack of alignment of assigned sex and gender identity), it can cause significant distress which is referred to as gender dysphoria (5).

31. The term "gender dysphoria" is the distress related to the incongruence between one's gender identity and one's sex assigned at birth.

32. The World Health Organization's International Classification of Diseases, the diagnostic and coding compendia for mental health and medical professionals, codifies Gender Incongruence as the diagnosis resulting from the incongruity between one's gender identity and sex assigned at birth (32). The Gender Incongruence diagnosis is part of a new "Conditions related to sexual health" chapter in the ICD-11. This reflects evidence that transgender and gender diverse identities are not conditions of mental ill health and classifying them as such can cause enormous stigma.

33. Gender Dysphoria (capitalized) is the medical diagnosis for the significant distress that results from the incongruity between one's gender identity and sex assigned at birth. It is a serious medical condition, and it is codified in the American Psychiatric Association's Diagnostic Manual of Mental Disorders, Fifth Edition (DSM-5) (5). The DSM-5 is a trusted manual that mental health providers use to diagnose many conditions including eating disorders, depression, and anxiety. It has been developed since 1952 with most recent update in 2013.

34. The DSM-5 defines gender dysphoria as a: "marked difference between the individual's expressed/experienced gender and the gender others would assign him or her, and it must continue for at least six months. In children, the desire to be of the other gender must be present and verbalized. This condition causes clinically significant distress or impairment in social, occupational, or other important areas of functioning."

35. The DSM-5 also states that: "gender dysphoria is manifested in a variety of ways, including strong desires to be treated as the other gender or to be rid of one's sex characteristics, or a strong conviction that one has feelings and reactions typical of the other gender." (5)

36. "Gender Dysphoria in Children" is a diagnosis applied only to pre-pubertal children in the DSM-5. The criteria are:

- A. A marked incongruence between one's experienced/expressed gender and assigned gender, of at least 6 months duration, as manifested by at least six of the following (one of which must be Criterion A1):
  - 1. A strong desire to be of the other gender or insistence that one is the other gender (or some alternative gender different from one's assigned gender)
  - 2. In boys (assigned gender), a strong preference for cross-dressing or simulating female attire; or in girls (assigned gender), a strong preference for wearing only typical masculine clothing and a strong resistance to the wearing of typical feminine clothing.
  - 3. A strong preference for cross-gender roles in make-believe play or fantasy play.



4. A strong preference for the toys, games, or activities stereotypically used or engaged in by the other gender.
5. A strong preference for playmates of the other gender.
6. In boys (assigned gender), a strong rejection of typically masculine toys, games, and activities and a strong avoidance of rough-and-tumble play; or in girls (assigned gender), a strong rejection of typically feminine toys, games, and activities.
7. A strong dislike of one's sexual anatomy.
8. A strong desire for the primary and/or secondary sex characteristics that match one's experienced gender.

B. The condition is associated with clinically significant distress or impairment in social circles, school, or other important areas of functioning.

37. The DSM-5 has a separate diagnosis of "Gender Dysphoria in Adolescents and Adults". The criteria are:

- A. A marked incongruence between experienced/expressed gender and assigned gender, of at least 6 months' duration, as manifested by at least two of the following:
  1. A marked incongruence between one's experienced/expressed gender and primary or secondary sex characteristics (or in young adolescents, the anticipated secondary sex characteristics).
  2. A strong desire to be rid of one's primary and/or secondary sex characteristics because of a marked incongruence with one's experienced/expressed gender (or in young adolescents, a desire to prevent the development of the anticipated secondary sex characteristics).
  3. A strong desire for the primary and/or secondary sex characteristics of the other gender.
  4. A strong desire to be of the other gender (or some alternative gender different from one's assigned gender).
  5. A strong desire to be treated as the other gender (or some alternative gender different from one's assigned gender).
  6. A strong conviction that one has the typical feelings and reactions of the other gender (or some alternative gender different from one's assigned gender).

- B. The condition is associated with clinically significant distress or impairment in social, occupational, or other important areas of functioning.

38. Given that gender dysphoria can cause such distress, many transgender individuals face depression, anxiety, and higher rates of suicidality than cisgender people. This is noted both in adults and adolescents (6). However, these risks do decline when transgender individuals are supported and live according to their gender identity (7). Not only is this documented in scientific literature and published data, but I witness this each time I see my patients being supported by their community, family, school, and medical providers.

### **B. Evidence-Based Guidelines for Treatment of Gender Dysphoria**

39. Evidence-based clinical practice guidelines are established to treat individuals with gender dysphoria. These protocols are published by the Endocrine Society and WPATH.

40. The Endocrine Society is an organization of over 18,000 physicians and scientists across the world who provide and research endocrine care. The Endocrine Society publishes clinical practice guidelines for many endocrine conditions including, for example, osteoporosis, obesity, and diabetes. In 2017, the Endocrine Society published the current, evidence-based practice guideline for treating gender dysphoria—“Endocrine Treatment of Gender Dysphoric/Gender Incongruent Persons: A Clinical Practice Guideline” (2). This evidence-based guideline was developed using the “Grading of Recommendations, Assessment, Development, and Evaluation approach to describe and the strength of the recommendations and the quality of evidence” (8). This has been published in a peer-reviewed scientific journal (9) and appears in other medical literature.

41. WPATH is an international multi-specialty professional organization that publishes the widely adopted medical *Standards of Care for the Health of Transsexual, Transgender, and Gender Nonconforming People* (“WPATH Standards of Care”). The first WPATH Standards of

Care were published in 1979 (10). The current version is WPATH SOC 7, with WPATH SOC 8 due out in spring 2022. The WPATH Standards of Care provide guidelines for the multidisciplinary care of transgender individuals, including children and adolescents, and describes criteria for medical interventions to treat gender dysphoria, including hormone treatment when medically indicated.

42. The WPATH and Endocrine Society recommend similar protocols and evaluations. The goal of treatment is to alleviate gender dysphoria and prevent severe harm including possible death from suicide.

43. The protocols and policies set forth by the Endocrine Society Guidelines and the WPATH Standards of Care are endorsed and cited as authoritative by the major professional medical and mental health associations in the United States, including the American Academy of Pediatrics (44), the American Medical Association (43), the American Psychological Association (47), the American Psychiatric Association (45-46), among others (e.g., 48).

44. The Endocrine Society Guideline focus on the evaluation of youth and adults, treatment of adolescents, hormonal therapy for transgender adults, adverse outcome prevention and long-term care, and surgery. As a board-certified pediatric endocrinologist, I follow the Guideline when treating my patient.

45. The Endocrine Society advises that only trained mental health providers should make the diagnosis of gender dysphoria in youth/adolescence. The mental health provider should have the following:

- competence in the DSM;
- ability to diagnose gender dysphoria and distinguish it between it and other mental health conditions;

- have training in other psychiatric conditions; and
- participate in meetings relevant to this topic (for continued competence--a typical recommendation from many organizations and societies).

46. The transition process begins with mental health providers. In pre-pubertal youth there are no medical treatments. For pre-pubertal children, interventions are directed at supporting the child with family, peers, and at school, as well as supportive individual psychotherapy for the child as needed. Treatment includes supporting them in a social transition with the help of a mental health provider. A social transition may include letting them choose which clothing they want to wear, supporting them in their pronouns and name, allowing them to participate in activities for the gender they identify. It is not recommended to begin medication management therapy in prepubertal minors, and I am unaware of any licensed pediatric endocrinologist who specialize in this treatment who would ever initiate medical interventions to treat gender dysphoria prior to the onset of puberty.

47. Once a patient enters puberty, treatment options include pubertal suppression therapy and gender affirming hormones. Pubertal blocking involves methods of temporarily suppressing endogenous puberty to alleviate gender dysphoria and give the patient more time to work with their mental health providers to assess treatment needs. These blockers are reversible medications and once stopped, a patient immediately returns to the stage of pubertal development that had begun when the treatment was initiated.

48. If a patient is assessed to have a medical need for and capacity to consent to hormone therapy, gender affirming hormones such as testosterone in transgender male individuals and estrogen in transgender female individuals may be used to treat gender dysphoria later in

puberty. This treatment allows patients to have pubertal changes and development consistent with their gender identity.

49. Adolescents are eligible for treatment with pubertal blocking therapy when:

- a mental health provider has confirmed;
  - the adolescent has long standing and intense gender dysphoria;
  - the gender dysphoria has worsened with pubertal onset;
  - any other psychological, medical, or social concerns are stable at time of treatment;
  - they have been informed of the effects and side effects of treatment and options to preserve fertility;
  - they are able to provide informed consent and parents have consented; and
  - they also will be informed of the side effects and will have opportunity to provide informed consent with parents; and
- the endocrinologist has confirmed there are no interfering medical conditions, agrees with the indication for the pubertal blocking therapy, and the adolescent is in puberty at least Tanner Stage 2.

50. Some patients at my clinic are never treated with pubertal suppression because they arrive already well into their endogenous puberty and only evaluated for gender-affirming hormones like testosterone or estrogen. Others are evaluated and treated first with pubertal suppression and then assessed for gender-affirming hormones.

51. We typically begin to assess patients for gender-affirming hormones around 14 years of age to allow for pubertal onset to occur in line with patient's peers. The timing of treatment is individualized for the patient based on their endogenous puberty, their mental health needs, and

the ongoing evaluations that occur with mental health providers and endocrinologists. Typical pubertal development ranges significantly and is generally earlier for those assigned female at birth.

52. Per Endocrine Society Guidelines, these are the steps to initiate gender affirming hormones. The mental health provider:

- confirms the persistence of gender dysphoria;
- ensures that any other coexisting psychological, medical, or social problems that could interfere with treatment are stable;
- the adolescent has sufficient mental capacity for consent and understanding of risks;
- the adolescent and parents should be thoroughly educated/informed on all the side effects of treatment; and
- they should be able to provide informed consent.

53. The pediatric endocrinologist should agree with the indication for sex hormone treatment and confirm that there are no medical contraindications to sex hormone treatment.

### **C. Treatment with Pubertal Blocking Therapy**

54. For many transgender adolescents with gender dysphoria, going through endogenous puberty can cause extreme distress. Pubertal blocking therapy allows them to avoid going through their endogenous puberty thereby avoiding the heightened gender dysphoria and permanent physical changes that puberty would cause. This fully reversible treatment also gives a young person time to further understand their gender identity without the distress caused by the changes to their body that result from puberty and before initiating gender-affirming hormone therapy if it becomes medically indicated.

55. Pubertal suppression, as noted above, is most commonly provided in the form of a GnRH agonist.

56. Treatment of gender dysphoria with pubertal suppression has been shown beneficial in psychological functioning and decreasing suicidal ideation (11-13). This can save many lives given that reports of suicidality in trans youth are as high as 40% (14).

57. Pubertal blocking agents are medications that have been used for over 30 years for the treatment of central precocious puberty. These medications are fully reversible allowing one to proceed with their endogenous puberty once the medication is stopped. These blocking treatments have been studied for years especially in central precocious puberty (34).

58. Puberty is considered early under the age of 8 years in individuals whose birth-assigned sex is female and under the age of 9 years in individuals whose birth-assigned sex is male. Puberty is staged based on secondary sex characteristics noted on exam and confirmed with laboratory evaluation. Tanner Stage 2 is considered entrance into puberty (15) based on breast development in those whose birth-assigned sex is female and testicular enlargement in those whose birth-assigned sex is male. Normal age ranges of puberty include the following:

- Assigned male at birth: 9-15 years of age
- Assigned female at birth: 8-14 years of age

59. Pubertal blocking therapy works by pausing endogenous puberty at the stage it has reached when the treatment begins. This has the impact of limiting the influence of a person's endogenous hormones on the body. For example, after the initiation of puberty-delaying treatment, a girl who is transgender will stop experiencing the impacts of testosterone on her body for the duration of the treatment.

60. There are some adolescents who are further into puberty (examples include transgender males who are already menstruating and adolescents whose growth plates are already closed, and for whom puberty is complete). For these adolescents a traditional pubertal blocker (GnRH agonist) may not be as effective or necessary. Other forms of pubertal blocking that are offered include medications such as those that can stop menses. These are also reversible therapies that are commonly used for contraception and menstrual regulation. As with all medical interventions, there are some risks involved with this treatment but the risks are comparable when used for transgender and non-transgender patients alike (16). These medications have been around for a number of years and are commonly used. Gynecologists offer these medications for individuals who may not be able to tolerate estrogen-containing contraceptives or to nursing mothers.

61. For transgender female individuals a medication known as spironolactone can be used to block testosterone. This is a diuretic with the additional feature of blocking the testosterone receptor and perhaps interfering with testosterone hormone production (17). This medication is not only used to treat gender dysphoria but is a commonly used medication in the treatment of hirsutism (unwanted hair growth on the body) in individuals with polycystic ovary syndrome (PCOS). In my clinic I treat transgender female patients with gender dysphoria, intersex patients who may have excess endogenous testosterone production, and PCOS patients with this treatment. I treat with equivalent dosages for these populations. The use of spironolactone in these populations is for the same purpose, prevention of unwanted hair growth. I have also had many patients visit dermatology clinics who offer spironolactone as a treatment for acne.

#### **D. Treatment with Gender Affirming Hormones**



62. For some adolescents with gender dysphoria, initiating puberty consistent with their gender identity through gender-affirming hormone therapy may also be medically necessary. When prescribed gender-affirming hormone therapy to treat gender dysphoria—testosterone for transgender males and testosterone suppression and estrogen for transgender girls—the adolescent will go through hormonal puberty consistent with their gender identity on a comparable timeline to their non-transgender peers.

63. Gender affirming hormones include testosterone for transgender males and estrogen therapy for transgender females. The Endocrine Society Guideline provides clear evidence-based protocols for this treatment which are similar to protocols to initiate hormonal puberty in individuals with hypogonadism (inability to secrete sex steroids) such as primary ovarian insufficiency, Turner Syndrome or Klinefelter Syndrome. Individuals are closely monitored for any side effects based on these protocols. The monitoring parameters and recommendations for patients with gender dysphoria are quite extensive and conservative. It is advised under the Guidelines to monitor for side effects both physically and biochemically every 3-6 months. I monitor my patients every 3 months and obtain labs and vitals each visit. It is quite rare for patients to have any side effects at all from these therapies.

#### **E. Surgical Treatment**

64. Patients who have continued gender dysphoria following treatment with the medications described above, may need surgical intervention after the age of 18 years in order to treat their gender dysphoria.

65. Per the current Endocrine Society guidelines, it is recommended that patients should have the following when pursuing such surgical treatment:

- persistent, well-documented gender dysphoria;

- legal age of majority in the given country;
- having continuously and responsibly used gender-affirming hormones for 12 months;
- successful continuous full time living in the new gender role for 12 months;
- mental health concerns must be considered; and
- demonstrate knowledge of all practical aspects of surgery.

66. These surgeries are recommended after the age of 18 years. Most patients over 18 years in my clinic that seek surgeries are transmasculine and require top surgery (breast removal). These individuals commonly use a device known as a binder prior to these surgeries. They begin binding sometimes as early as their first sign of breast tissue. This can occur as early as 8 years of age. Despite manufacturing that provides flexibility and give, these binders can cause chest wall discomfort, musculoskeletal pain, and back pain. A binder is tighter than a sports bra and can lead to chest pain, rib pain, and difficulty breathing if worn too long (18). Some individuals will wear these daily for excess hours given significant dysphoria with their chest. Despite the side effects of the binders, alternate routes of binding breast tissue include unsafe practices such as tape and bandages. Chest surgeries will alleviate the distress, reduce risk for unsafe practices which can harm the skin, chest wall and musculature, and reduce the ongoing musculoskeletal pain.

#### **F. Safety of Pubertal Blocking Therapy**

67. As noted above, great care, diligence, and evidence-based assessment, evaluations, and treatment occur at every step of the transition process for adolescents with gender dysphoria. Labeling these therapies as child abuse is incredibly dangerous and inconsistent with the existing medical literature and one should consider the alternative, that withholding these therapies can lead to worsened mental health outcomes and suicide.

68. Physicians providing these therapies are highly trained and qualified individuals. They have dedicated their careers to saving lives of children and adolescents. One may argue that these therapies in transgender youth already require more gatekeeping, oversight, and painstaking steps than when these same therapies are offered in other populations treated. It is also important to note the extensive mental health evaluation that occurs for these individuals. When starting pubertal suppression in individuals with precocious puberty, I do not require a mental health provider prior to initiation of this reversible therapy. But my gender dysphoric patients have longstanding, frequent interactions with their mental health providers.

69. It is known that pubertal blocking therapy in the form of an implant (histrelin) or injection (leuprolide) have rare side effects. I counsel my transgender and precocious puberty patients similarly regarding these side effects. Mild effects include injection site irritation or sterile abscess formation (19) weight gain, hot flashes, abdominal pain and headaches (20). These effects are seen in both populations and in my experience, weight gain appears most often. However other contributing factors such as lack of physical activity and poor nutrition are typically present. Claims of other long-term effects that are considered include decreased bone mineral density and infertility.

70. Given that pubertal blockers are reversible, permanent sterility is not a side effect (34). There is no data to support that patients who have been treated with blockers for central precocious puberty are “sterilized” following its use. In fact, some studies have shown that assigned males had normal sperm function following treatment and cisgender women treated as children did not need assisted reproductive techniques (19).

71. Though pubertal suppression alone does not impair fertility, because proceeding from pubertal suppression to gender-affirming hormones can impair fertility, for our transgender

patients with gender dysphoria, we counsel extensively with the patient and the patient's parents regarding fertility preservation. Should one desire to preserve fertility while on therapy, the blocker can be discontinued, and the patient can progress into puberty further for fertility preservation. Of note, one study (21) has reported fertility preservation in an earlier stage of puberty in a transgender male (oocyte cryopreservation) thus allowing for blocking therapy to be restarted. Should a transgender male desire to become pregnant later in life this remains a possibility. Through fertility preservation or naturally, patients with gender dysphoria are able to conceive biological children later in life and the treatment is not automatically sterilizing.

72. Pubertal blocking agents in transmasculine individuals also allow for decreased chest development and thus reduce the need for a binder or surgical intervention later in life. I see a significant amount of pain in the chest musculoskeletal structures secondary to binder use as described above. A decrease in the need for binder wear and chest surgery is an added benefit of this treatment.

73. For transgender female patients with gender dysphoria, pubertal suppression can limit hair growth and bone structure development in ways that greatly minimize later in life distress and potentially the need for surgery like facial feminization surgery.

74. During the course of treatment with pubertal suppression, there is some loss in bone density, which is a side effect that we discuss with all patients and their families. However, studies show that with removal of the blocking agent or addition of gender affirming hormone therapy, bone mineral density begins to improve (22, 23). Typically, patients treated with pubertal suppression for precocious puberty are on pubertal blockades without affirming hormones for longer periods of time and the same risks are present.

75. Scientific studies published in highly regarded medical journals do in fact support that these therapies are greatly beneficial to children and adolescents with gender dysphoria (11-13, 24, 35-37). My patients have benefitted significantly from these life-saving therapies; they become successful in school, reduce their need for psychological pharmacotherapy, and thrive.

76. As an experienced pediatric endocrinologist, I treat patients with these same medications for both precocious puberty and gender dysphoria and in both cases the side effects are comparable and easily managed. And for both patient populations the risks are greatly outweighed by the benefits of treatment.

### **G. Safety Profiles of Gender Affirming Hormones**

77. As described above, adolescents with gender dysphoria who need gender affirming hormones must meet a number of mental and physical health criteria prior to initiating this care.

78. Although Attorney General Paxton's Opinion states that there are concerns for "serious mental health effects, venous thrombosis/thromboembolism, increased risk of cardiovascular disease, weight gain, decreased libido, hypertriglyceridemia, elevated blood pressure, decreased glucose tolerance, gallbladder disease, benign pituitary prolactinoma, lowered and elevated triglycerides, increased homocysteine levels, hepatotoxicity, polycythemia, sleep apnea, insulin resistance, chronic pelvic pain, and increased cancer and stroke risk," these side effects are not unique to the use of these hormones in transgender individuals. And these risks are extremely rare to nonexistent. Moreover, these rare side effects are considered in *ALL* individuals seeking hormone therapy of testosterone or estrogen. These therapies are used in hypogonadism such as Turner Syndrome or Klinefelter Syndrome.

79. A majority of my patients with differences of sex development, require some form of gender affirming hormones throughout life as well.

80. The claim that treating gender dysphoria with medically supervised and recommended hormone treatment causes serious mental health effects is not supported by data. Research shows and my clinical experience confirms that these treatments are highly beneficial for adolescents with gender dysphoria (37-40) and that harmful side effects occur when this treatment is withheld from those who need it. Like all medical treatment, these medications can cause side effects, but all mental health and mood-related effects are better managed in the population of gender dysphoric patients who are under ongoing supervision and treatment by mental health providers. By contrast, other diagnoses do not require the ongoing support of mental health providers while on these treatments. In fact, this treatment monitoring in youth with gender dysphoria would actually be considered a safer protocol than those for other diagnoses.

81. Venous thromboembolism is a known side effect of estrogen therapy in all individuals placed on it (26). It has been shown as well that this can occur in transgender women. Again, the venous thromboembolism risk is not unique to treating gender dysphoria. And this risk is managed by ongoing clinical supervision of the treatment. When the patients are cut off from their providers, they are more likely to seek treatment on the Black Market and these risks increase dramatically.

82. The other side effects noted, again, are not unique to transgender individuals placed on these therapies.

83. Fertility preservation is offered to all transgender patients prior to the initiation of gender affirming hormones. However, data shows that treatment with testosterone is not sterilizing (27). And many transgender men become pregnant on their own.

84. PubMed searches regarding the risk of cancer in gender affirming care, yields limited data. However, the use of testosterone in adult men for low testosterone may increase their

risk for prostate cancer. Long term use of unopposed estrogen in cisgender women can increase their risk for uterine and breast cancer. Again, any risk of long-term use of medication can be mitigated with supervision and is not unique to the population of patients with gender dysphoria.

85. The risk for benign pituitary prolactinoma is controversial. Some studies question whether monitoring prolactin is even necessary in this population, given that they found no rise in levels (28). While I have not seen a prolactinoma in a transgender individual in my practice, I have a limited number of patients in my general endocrine practice that do present with prolactinomas.

86. It is important to note that when these risks are reported, they are rare risks. They are also the risks associated with these hormones whether they are endogenous or exogenous. While starting a transgender individual with gender dysphoria on these medications does raise their risk from their natal sex, at times, the risk profile remains similar to their cisgender counterparts (venous thromboembolism risk in cisgender and transgender women on estrogen). Many times, the lipid profiles, hematologic profiles, and findings are equivalent to that of the gender these individuals identify as opposed to that of their sex they were born. I note this often when the medical record and lab utilize laboratory data ranges for the sex assigned as opposed to the gender identity and do not align with the true physiologic milieu of the patient. I take this into consideration for all my patients.

87. I have a large population of patients on blockers and gender affirming hormone therapy. It is very rare for me to see any of these side effects despite extensive monitoring. Most side effects that I see can be treated with lifestyle changes (i.e., weight gain and lipid changes in transgender men).

88. Overall, as a pediatric endocrinologist that treats many conditions, treatment for gender dysphoria is in no way the riskiest or potentially harmful. Insulin, if used inappropriately,

can cause death. Some endocrine patients may require pituitary surgeries or adrenal tumor removals. The postoperative management of these individuals is crucial to their care and avoidance of severe complications that could result in mortality.

## **H. Surgical Care**

89. Gender affirming surgeries that can result in sterilization as a side effect are not recommended for and are not typical practice in minors with gender dysphoria. As per the current guidelines of care, transgender individuals must be over the age of majority to make this decision in consultation with their medical providers.

90. Chest surgery (breast reduction) in transgender males is the most common surgical procedure in my patient population as they reach appropriate age for surgery. Given the concerns noted above regarding binder wearing, these patients are supported in their decision when it is medically indicated and must meet all Endocrine Society recommendations. Research also shows that gender-affirming chest surgery is beneficial for transgender males with gender dysphoria where medically indicated (41-42). Chest surgery does not “sterilize” an individual, however. Breast tissue is not necessary in the reproductive process. Chest surgery for cisgender males with a condition called gynecomastia (breast tissue) is a common practice. These cisgender males may not have to wait until they reach 18 years before these surgeries if family is supportive and puberty is complete. These surgeries are supported because they allow these cisgender males to live more fully in their gender identity. This is similar to transgender male individuals who need chest surgery to live more fully in their gender identity.

91. The surgeries described as sterilizing surgeries are not conducted in individuals under the age of 18 years in the gender diverse population. However, at times, I am seeing individuals with differences of sex development who had sterilizing gonadal removal during



infancy without their consent. These individuals did not reach an age where they could discuss their diagnosis, treatment, and consider their gender identity.

### **I. Prohibiting and Discontinuing These Therapies is Dangerous**

92. When legislation or regulation penalizes and proscribes evidence-based medical practice, it is dangerous. In the case of penalizing practitioners who provide gender affirming care, it puts the lives of young, already marginalized youth at risk.

93. The American Academy of Pediatrics and the Texas Pediatric Society “strongly oppose” the actions undertaken as a result the Governor’s Directive and Attorney General Paxton’s Opinion because they “directly threaten the health and well-being of transgender youth” (50). Similarly, the American Medical Association has denounced similar laws as “dangerous governmental intrusion into the practice of medicine” and “detrimental to the health of transgender children across the country” (51). So have numerous other major medical organizations (52-55).

94. Passing bills like the Governor’s Directive and Attorney General Paxton’s Opinion has increased emergency room visits for attempted suicide in transgender youth in Arkansas (29). There are noted increased calls to crisis lines from transgender individuals when these bills pass (30).

95. When bills were proposed last year in my state, there was increased anxiety and distress. Families were confused, scared, and looking to move to a safer and more affirming location. If a bill went into place blocking care, I would be very concerned with a rise in mental health co-morbidities. Preventing gender affirming care will not reduce the number of gender dysphoric youth in this nation or state. It will worsen their gender dysphoria and health outcomes.

96. Moreover, withholding pubertal suppression and hormone therapy from young people with gender dysphoria when it is medically indicated is extremely harmful. As noted above,

administration of pubertal suppression has shown to significantly reduce suicidality in transgender patients. If I was prohibited from treating my patients with this treatment where it is medically indicated, it would result in predictable and significant harms, including the at least partially irreversible changes from endogenous puberty.

97. The effects of undergoing one's endogenous puberty may not be reversible even with subsequent hormone therapy and surgery, thus exacerbating lifelong gender dysphoria in patients who would have this treatment withheld or cut off. Bodily changes from puberty as to stature, hair growth, genital growth, voice and breast development can be impossible or more difficult to counteract.

98. Similarly, it is at least as dangerous to withdraw treatment once it has been initiated as it is to withhold the initiation of treatment. Abruptly stopping gender affirming, medically necessary therapies causes mental and physical harm.

99. Abrupt discontinuation of pubertal blockers would lead to the development of a deeper voice, facial hair, Adam's apple in a transgender female and breast development, menses, and body feminizing in transgender male individuals. These individuals would have significant increase in distress and dysphoria. This makes it more difficult for individuals once they are adult to transition or pass as their affirmed gender.

100. Discontinuation of estrogen or testosterone abruptly would induce symptoms similar to menopause, with headaches, fatigue, hot flashes. Weaning down would be recommended should someone consider a withdrawal of these medications. The spironolactone medication should not be abruptly stopped as it can lead to electrolyte changes and cardiac effects (31).

## **CONCLUSION**

101. Trusting the medical and mental health providers who are trained in the provision of this care, trusting the patients who know their true self, and trusting the parents who are

supportive protect this population of young people. The measures proposed and statements made are not beneficial in any way and are based on dangerous misunderstandings of the science and medicine used to treat this condition.


102. Again, the care of transgender youth is complex, but well studied and documented. A great deal of care is taken at every step of the process to ensure the safety and welfare of the youth and families we serve. Doctors and mental health providers adhere to extensively researched professional guidelines set forth by national and international specialty organizations, including the Endocrine Society, the American Academy of Pediatrics, the World Professional Association for Transgender Health, the American Psychological Association, and other organizations.

103. Providers across the world utilize these guidelines when initiating medical treatment for adolescents with gender dysphoria. There are safeguards at every step of the process that are above and beyond what is required for other pediatric conditions. Decisions to begin hormone treatment are always informed by the current best practice guidelines and include input from mental health providers, other expert physicians on our team, as well as by the individual patient and their caregivers. Detailed informed consent is obtained from the patient and guardians prior to starting any medical care, such as puberty blockers or affirming hormone therapy.

104. These therapies are not child abuse. Prohibiting or abruptly stopping these therapies would lead to significantly more harm for these youth.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 6th day of June 2022 in Nashville, Tennessee.

  
Cassandra Brady (Jun 6, 2022 16:59 CDT)

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Dr. Cassandra C. Brady




# PFLAG v. Abbott - Expert Declaration of Dr. Brady

Final Audit Report


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