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# INTERSECTIONAL IMPACTS ON TRANS-MASC INDIVIDUALS' FERTILITY

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**He/Him/His**

***My name is Lukas Daniels and I served as the Editor-in-Chief of the ESJOA and the President of the Anthropology Club from 2021-2022. My research interests include Queer identity and culture, biological anthropology, sociology, mental health, how culture impacts biology, as well as power structures and their influence on consumption, identity formation, and cultures. My most recent research focused on transgender peri-reproductive health and lactation. I graduated from CSUDH in May 2022 majoring in Anthropology with a concentration in Biology and minoring in Women and Gender studies. I am currently enrolled in the Biological Anthropology MA / Ph.D. Program at Washington University in St. Louis!***

The world's "first" pregnant man, Thomas Beatie, made headlines across the US in 2008 (Trebay, 2008). While these sensational headlines broke the ice for queer people across the country wanting to produce and carry their biological children, they did not curb the rampant transphobia, homophobia, and lack of information within the US public and the medical field. While the case of Thomas Beatie premiered over 12 years ago, the realities of biological parenthood for transmasculine individuals have not changed much as shown by a lack of information, research, training, or guidelines for providing medical and therapeutic care to trans-masc. individuals. However, recent research is slowly creating a baseline of information regarding transgender bodies and how they experience the world (de-Castro-Peraza, et al. 2019:12). It is important to note the wide spectrum of genders and sexes regarding whom this paper will be studying and referring. Firstly, for this study, the sex terms of 'male', 'female', and 'intersex' will be used when discussing one's assigned sex at birth.

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Thus, ‘cisgender’ will precede the sex term to describe the individual as someone whose gender identity aligns with their assigned sex at birth. Whereas ‘transgender’ will precede the sex term to describe someone whose gender identity does not align with their assigned sex at birth. For simplicity within this paper, ‘trans masc.’ will refer to trans-masc. individuals assigned female at birth (AFAB) that identify as transgender men and gender non-conforming or non-binary individuals who pursued Testosterone Hormone Replacement Therapy (THRT).

Trans-masc individuals often experience dysphoria, characterized by a distressing, cognitively dissonant reaction to one’s assigned sex and gender ascription not aligning with their gender identity (de-Castro-Peraza et al. 2019:12; Ellis et al., 2015; Light et al., 2014). Therefore, there are an array of methods designed to help to ease the distress of dysphoria. These methods include social and behavioral modification, talk-therapy, hormone therapy, and gender-affirming surgeries (colloquially referred to as “top” or “bottom” surgery, depending on the anatomical region of the operation). While these gender-affirming interventions are key in many transgender individuals’ wellbeing (de-Castro-Peraza et al. 2019:12), there are concerns about long-term hormone use and fertility outcomes (De Roo et al., 2016: 112; Hembree et al. 2009). It is important to note the wide spectrum of genders and sexes regarding whom this paper will be studying

and referring. Firstly, for this study, the sex terms of ‘male’, ‘female’, and ‘intersex’ will be used when discussing one’s assigned sex at birth. Thus, ‘cisgender’ will precede the sex term to describe the individual as someone whose gender identity aligns with their assigned sex at birth. Whereas ‘transgender’ will precede the sex term to describe someone whose gender identity does not align with their assigned sex at birth. For simplicity within this paper, ‘trans masc’ will refer to trans-masc individuals assigned female at birth (AFAB) that identify as transgender men and gender non-conforming or non-binary individuals who pursued Testosterone Hormone Replacement Therapy (THRT). This study aims to determine if the biological side effects of THRT for transgender masculine individuals diminish fertility, or if there are confounding factors contributing to decreased fertility among trans-masc individuals.

## Methods

In conducting a literature review, I gathered data through EBSCO Academic Search Premier and Google Scholar. Keywords including but not limited to transgender pregnancy, pregnant men, hormone replacement therapy, birth, birthing outcomes, and fertility preservation were used to find articles to review. Then, I narrowed down articles by relevance to topic, date, and accessibility. This paper references sixteen peer-reviewed articles to provide insight into current knowledge of the possibility, risks, and

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outcomes of pregnancy for trans-masc individuals with gestational capacity. While it is understandable that any individual AFAB with gestational organs may not wish to conceive, gestate, or parent due to the social, psychological, economic, and biological stressors it produces, there is an established desire among trans-masc individuals AFAB to have children (Wierckx et al., 2012; Moseson et al., 2020). Many studies have cited unknowledgeable and/or insensitive care providers, expensive procedures, and psychological well-being as key reasons for trans-masc people to not pursue having a biological child (Malmquist et al., 2021; El-Hadi et al., 2018: 263; Unger, 2016:877; Wierckx et al., 2012; Moseson et al., 2020). Therefore, I gathered and analyzed recent research about testosterone hormone replacement therapy, fertility preservation techniques, pregnancy, and peripartum medical care for transgender people. Then, I summarized the process and risks associated with achieving and fulfilling a pregnancy as a transgender person. By providing this information, I aim to help the transgender community learn more about their own bodies' capabilities as well as how to manage the social and medical barriers to pregnancy they may face. Additionally, I hope to inform the transgender community and their care providers on how to advocate for oneself and others in peripartum medical environments by providing a current review of the medical and social literature[SL1].

## **Medical Transitioning and its Impacts on Fertility**

There are multiple types of testosterone hormone replacement therapy (THRT) that trans-masc people may use, and it has been found that gender-affirming hormone therapy has positive impacts on transitioning individuals' physical and psychological health (Unger, 2016:877) There are multiple ways to administer THRT including intramuscular or subcutaneous injection formulated with testosterone enanthate or cypionate, subcutaneous implants that administer testropel, transdermal options that use testosterone gels or patches to administer THRT, and an oral option of testosterone undecanoate is available outside the US (Leung et al., 2019:200; Unger, 2016:878). The type of THRT prescribed will depend on the provider's knowledge, patient preference, patient's medical history, living situation, and accessibility. The effects of THRT can be seen within three months of use, and the individual undergoing THRT can expect amenorrhea (the cessation of menses), increases in facial hair, body hair, acne, libido, and muscle mass, as well as changes in skin texture and fat distribution (Unger 2016:878). Notable changes that occur with continued THRT include deepening of the voice, increased clitoral size, vaginal atrophy, and male pattern baldness (Unger 2016:880). These effects of testosterone are partially reversible with the cessation of THRT; however, the extent to which testosterone impacts fertility is highly debated (De Roo et al. 2016; Leung et al., 2019).

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## Biological considerations

The use of THRT by transgender masculine individuals has been known to damage reproductive functioning (De-Roo et al., 2016). Yet, there is evidence that transgender men can become pregnant with or without the cessation of THRT (Moseson, et al., 2020:9), especially with assisted reproductive technologies (Leung et al., 2019:858). Cases have been reported in which individuals have conceived while concurrently on THRT[SL2] (Practice Committees, 2013; Light et al., 2014; Leung et al., 2019). Thus, there must be underlying causations to the lack of fertility among transgender masculine individuals that wish to become pregnant.

Counseling concerning fertility preservation and one's desire to have future biological children is the main consideration taken when undergoing gender-affirming care in the form of THRT or surgery due to data suggesting negative outcomes for fertility preservation after one has been on THRT (De Roo et al., 2016). Counseling is important as transgender masculine patients are often too young to have clear reproductive wishes at the time of starting THRT (De Roo et al., 2016: 112).

However, Leung et al. (2019:863) found that trans-masc. individuals who have already begun THRT can “preserve fertility”, given they keep their ovaries. The fertility preservation options for trans-masc. individuals assigned female at birth (AFAB) “are embryo cryopreservation, oocyte

cryopreservation, and ovarian tissue cryopreservation” (De Roo et al., 2016). However, unlike gender-affirming genital reconstructive surgeries that result in sterility due to partial or full hysterectomy, THRT's impact on fertility is partially reversible (De Roo et al., 2016, Leung et al., 2019). A more recent study of the “ovarian histopathology” of trans-masc. people who underwent an “oophorectomy at the time of hysterectomy performed for gender affirmation” (Grimstad et al. 2020:1807), found no link between THRT and malignant cysts of the ovaries. Additionally, no association between the length of testosterone therapy before histopathology and ovarian cyst occurrence was found (Grimstad et al., 2020: 1807). Grimstad et al., suggest this data be added to the counseling transgender individuals are provided when considering THRT as they may wish to keep their ovaries for many reasons such as “no desire to undergo surgery, desire for backup sex steroids, and potential use for future fertility” (Grimstad et al. 2020: 1807).

Assistive reproductive technologies used for cisgender female patients can be used by trans-masc patients as well. Thus Leung, Sakkas, Pang, Thornton, Resetkova (2019:858) compared the outcomes of these technologies in female-to-male transgender (n=26) and cisgender female (n=130) patients through a “matched retrospective cohort

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study”. Leung et al. (2019) found that trans-masc individuals who have already begun testosterone hormone replacement therapy can “preserve fertility”, given they keep their ovaries. Yet, little is still known about the safety of conception without the cessation of testosterone hormone replacement therapy[SL3] (Leung et al., 2019). Additionally, further research into the efficacy of fertility preservation whilst on THRT is important to reduce the psychological stress related to the cessation of testosterone (Ellis, 2015).

### **Pregnancy in Female-to-Male trans-masc individuals**

Obedin-Maliver and Makadon’s (2016) review of transgender males’ pregnancy experiences include clinical guidance for caretakers of transgender men and gender non-conforming people contemplating pregnancy. The first public male pregnancy, that of Thomas Beatie in the U.S., was plastered across headlines. However, Beatie’s experience is not unique (other than being the first legally recognized “male” to give birth in the U.S.) from most transgender men and gender non-conforming people’s experience in the U.S. regarding pregnancy (Obedin-Maliver and Makadon, 2016). There has been little Rresearch comprehensively documenting transgender men’s fertility and pregnancies[SL4] have been published recently (Ellis, 2015, Ellis et al., 2015; Obedin-Maliver and Makadon, 2016; Grimstad et al., 2020; Leung et al., 2019) and

lack large enough sample sizes (Light et al., 2014). The, but the recent increase of media attention and research of transgender people demonstrate the existing need trans-masc people have for accessible and culturally sensitive care around “family planning, fertility, and pregnancy” (Obedin-Maliver and Makadon, 2016).

If a transgender masculine individual retains their fertility and manages to become pregnant, there are still obstacles to face during their pregnancy journey. Ellis, Wojnar, and Pettinato’s (2015) study of trans-masc individuals “Conception, Pregnancy, and Birth Experiences” used qualitative measures with a grounded theory and interviewed eight transgender male or gender non-conforming gestational parents and found that overwhelmingly, a heightened sense of loneliness[SL5] “permeated participants’ experiences, social interactions, and emotional responses during every stage of achieving biologic parenthood”. Also, participants reported most distress during the pre-conception phase (Ellis et al., 2015). Thus, Ellis et al., suggests preconception counseling and culturally sensitive medical care may assist transgender and gender-variant people looking to gestate (2015).

Light, Obedin-Maliver, Sevelius, and Kerns (2014) study examined transgender men experiencing pregnancy after transitioning to guide practitioners and further research. They utilize web-based surveys to obtain information about participants’

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“demographics, hormone use, fertility, pregnancy experience, and birth outcomes”. The participants were not required to have been on THRT before the study to be eligible; however, 61% (n=25) of the participants (n=41) had been on testosterone before their pregnancy (Light et al. 2014). However, (Light et al., 2014) notes that only half of the participants received prenatal care, [SL6] specifically from a physician, and 78% delivered in a hospital. The low levels of prenatal care that transgender patients received may be due to transgender people in the US being twice as likely to be living in poverty and four times as likely to be unemployed than the general population (James et al. 2016). Moreover, the 2017 United States Transgender Survey found that over the previous year, nearly a fourth of their transgender participants did not see a doctor when needed because they feared mistreatment, and a third did not see a doctor when needed because of the cost (James et al. 2016: 93). Light et al. (2014) use mixed-methods approach to argue that transgender men can and are getting pregnant after medically transitioning, sometimes even while receiving THRT. However, health care providers are inadequately aware of the “unique needs of pregnant, transgender” individuals which is alarming and should be receiving more attention (Light et al., 2014, USTS 2017). Therefore, services and medical care that can improve the health care trans-masc individuals experience during pregnancy and birth should

be informed by the community’s input (Light et al., 2014[SL7] ).

### **Birthing as a Trans-Masc Person**

A major concern of patients wishing to conceive after THRT use is the impacts it may have on the birthing process and the fetus’ development. The birthing process of transmasculine individuals was studied by Light et al. (2014) and they found that, out of their participants, more transgender men who previously used testosterone (n=9, 36%) birthed through cesarean section than the transgender men who had not previously taken testosterone (n=3, 19%). Also, one-third of the individuals in this study who had a cesarean section requested to have the procedure rather than birth vaginally (Light et al., 2014). While this data is based on statistically insignificant samples, it shows that there is a need for more research into what influences one’s choice of birthing/delivery methods[SL8] . Moreover, Ellis et al. (2015) pointed out that care providers need to consider the specific concerns of transgender patients during delivery that include impacts from hormone therapy and the individual’s worries of dysphoric distress or disassociation. On the note of fetal development, there is evidence showing that “high endogenous androgen levels in pregnant women are associated with reduced birth weight” (Voegtline et al., 2013; Carlsen, Javobsen, Romundstad, 2006 as cited in Obedin-Maliver and Makadon 2016).

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However, Obedin-Maliver and Makadon (2016) found no difference in “pregnancy, delivery, and birth outcomes” associated with prior testosterone use. Their participants did self-report complications like hypertension, preterm labor, placental abruption, and anemia. The most notable of which is anemia as there were no participants who reported experiencing anemia and had previously used testosterone. While their results are quite limited by small samples, self-reporting, and inability to observe the differences of prior and non-prior testosterone users, their findings are still important for caretakers and medical professionals to consider when caring for their transgender patients. Even though it is key to have an informed medical provider, as Obedin-Maliver and Makadon (2016) mention, there also needs to be training for all staff within care settings that implement asking each patient screening questions about their gender and pronouns[SL9].

## CONCLUSION

Trans-masc individuals are biologically capable of conceiving, gestating, and giving birth successfully with the cessation of testosterone hormone replacement therapy, especially with modern assistive reproductive technologies. Therefore, the lack of accessible, informed medical care for trans-masc people who want biological children and the psychological and social stressors of being prescribed the incorrect gender have a greater impact on trans-masc individuals’ fertility than prior testosterone hormone replacement therapy.

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