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## **Should clinicians make chest surgery available to transgender male adolescents?**

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**Abstract:** Bioethicists are increasingly engaged in considering the ethical issues associated with the care of transgender people. One such issue facing paediatric clinicians is requests for chest surgery from transgender male adolescents. For transgender young people who identify as male but have already progressed through the mid to late stages of puberty, hormone treatment will not reverse breast development. Some of these young people are distressed by their chest, and request surgery to remove this tissue. Demand for this surgery during adolescence is increasing. However, few paediatric hospitals make this intervention available to adolescents. This paper focuses on the following ethical question: Should clinicians make chest surgery available to transgender male adolescents? We argue that making chest surgery available to transgender male adolescents under some circumstances is ethically justifiable for three reasons, based on the concepts of beneficence, privacy and non-discrimination. Firstly, the limited evidence to date suggests that chest surgery is beneficial to transgender male adolescents who seek this intervention. Secondly, chest surgery protects transgender adolescents' privacy by enabling them to better control disclosure of their transgender identity. Thirdly, chest surgery is already performed on other adolescent males for psychosocial reasons, such as in the case of gynaecomastia; non-discrimination thus provides further reason supporting making chest surgery available to transgender male adolescents whose male gender identity is consistent. We suggest that the ethical justifiability of chest surgery in any specific transgender adolescent's case will depend on the individual patient's circumstances.

**Keywords:** transgender, adolescence, chest surgery, chest reconstruction

## Introduction

Bioethicists are increasingly engaged in considering the ethical issues associated with the care of transgender people. One such issue facing paediatric clinicians is requests from transgender male adolescents for surgery to masculinise the chest. While the body of bioethics scholarship on transgender healthcare is growing, including work focused specifically on transgender adolescents,<sup>1</sup> there has not yet been ethical analysis focused specifically on the justifiability of chest surgery for this group. In this paper, we will consider the ethical question: should clinicians make chest surgery available to transgender male adolescents?

Masculinisation of the chest (also called chest reconstruction or top surgery) is requested by some transgender young people. For transgender young people who identify as male but have already begun or gone through the mid to late stages of puberty, hormone treatment will not reverse breast development.<sup>2</sup> Some of these young people are distressed by their chests, and request surgery to remove this tissue. For some adolescent transgender males, chest surgery is a priority in order to “pass” successfully as a male in day-to-day life and is seen as “an integral part of the transition process”.<sup>3</sup> Our focus in this paper is on transgender young people who identify as male, but the ethical questions around chest surgery also apply to young people assigned female at birth who identify as non-binary (not entirely/exclusively male or female).

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<sup>1</sup> Steensma, T. D., Wensing-Kruger, S. A., & Klink, D. T. (2017) How should physicians help gender-transitioning adolescents consider potential iatrogenic harms of hormone therapy? *American Medical Association Journal of Ethics*. 19(8), 762-770; Crall, C. S., & Jackson, R. K. (2016) Should psychiatrists prescribe gender affirming hormone therapy to transgender adolescents? *American Medical Association Journal of Ethics* 18(11), 1086-1094; Vrouenraets, L. J. J., Frederiks, A. M., Hannema, S. E., Cohen-Kettinis, P. T., & de Vries, M. C. (2015) Early medical treatment of children and adolescents with gender dysphoria: An empirical ethical study. *The Journal of Adolescent Health*. 57(4), 367-373; Milrod, C. (2014) How young is too young: Ethical concerns in genital surgery of the transgender MTF adolescent. *The Journal of Sexual Medicine*. 11(2), 338-346; Holman, C. W., & Goldberg, J. M. (2007) Ethical, legal, and psychosocial issues in care of transgender adolescents. *International Journal of Transgenderism*. 9(3-4), 95-110; Murphy, T. F. (2019) Adolescents and body modification for gender identity expression. *Medical Law Review*. 27(4), 623-639.

<sup>2</sup> “Breast” is a term that may cause distress for transgender males, and “chest” is often the preferred term, so wherever possible we will use “chest” hereafter.

<sup>3</sup> Marinkovic, M., & Newfield, R. S. (2017) Chest reconstructive surgeries in transmasculine youth: Experience from one pediatric center. *International Journal of Transgenderism*. 18(4), 376-381; Olson-Kennedy, J., Warus, J., Okonta, V., Belzer, M., & Clark, L. F. (2018) Chest reconstruction and chest dysphoria in transmasculine minor and young adults: Comparisons of nonsurgical and postsurgical cohorts. *Journal of the American Medical Association Pediatrics*. 172(5), 431-436.

Chest surgery is controversial, particularly for patients under 18 years of age. Intuitively, there are worries about irreversibility, and potential regret. Even in the context of support for gender-affirming care which involves other irreversible changes to transgender adolescents' bodies through hormone treatment, there is a range of views about whether chest surgery for transgender adolescents is appropriate and about the circumstances under which it might justifiably be made available.<sup>4</sup> Clinical practice varies substantially. To date, this type of surgery has not been a part of transgender healthcare in paediatric hospitals in the UK and Australia. It has been performed in some US centres, with patients as young as 13 at the time of the surgery.<sup>5</sup> The first gender surgical centre located in a US pediatric hospital has set a minimum age for chest surgery of 15 years.<sup>6</sup> In the US, the procedure is usually not covered by insurance,<sup>7</sup> reflecting controversy about whether it is medically necessary.<sup>8</sup>

The Standards of Care produced by the World Professional Association for Transgender Health (WPATH) put forward decision-making capacity and persistent gender dysphoria as necessary criteria for chest surgery, but are less clear about age. Specifically, the current version of the WPATH Standards of Care states the following criteria for transgender males to access top surgery:

1. "Persistent, well-documented gender dysphoria
2. Capacity to make a fully informed decision and to consent to treatment

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<sup>4</sup> de Vries, A. L. C., & Cohen-Kettenis, P. T. (2012) Clinical management of gender dysphoria in children and adolescents: the Dutch approach. *Journal of Homosexuality*. 59(3), 301-320; Olson-Kennedy, J., Warus, J., Okonta, V., Belzer, M., & Clark, L. F. (2018) Chest reconstruction and chest dysphoria in transmasculine minor and young adults: Comparisons of nonsurgical and postsurgical cohorts. *Journal of the American Medical Association Pediatrics*. 172(5), 431-436.

<sup>5</sup> Marinkovic, M., & Newfield, R. S. (2017) Chest reconstructive surgeries in transmasculine youth: Experience from one pediatric center. *International Journal of Transgenderism*. 18(4), 376-381; Olson-Kennedy, J., Warus, J., Okonta, V., Belzer, M., & Clark, L. F. (2018) Chest reconstruction and chest dysphoria in transmasculine minor and young adults: Comparisons of nonsurgical and postsurgical cohorts. *Journal of the American Medical Association Pediatrics*. 172(5), 431-436.

<sup>6</sup> Boskey, E. R., Johnson, J. A., Harrison, C., Marron, J. M., Abecassis, L., Scobie-Carroll, A., ... & Ganor, O. (2019) Ethical issues considered when establishing a pediatrics gender surgery center. *Pediatrics* 143(6), e20183053.

<sup>7</sup> Marinkovic, M., & Newfield, R. S. (2017) Chest reconstructive surgeries in transmasculine youth: Experience from one pediatric center. *International Journal of Transgenderism*. 18(4), 376-381.

<sup>8</sup> Dubov, A., & Frankel, L. (2018) Facial feminization surgery: The ethics of gatekeeping in transgender health. *The American Journal of Bioethics* 18(12), 3-9.

3. Age of majority in a given country (if younger, follow the SOC [Standards of Care] outlined in section VI [quoted below])
4. If significant medical or mental health concerns are present, they must be reasonably well-controlled”.<sup>9</sup>

So, for adolescents with decision-making capacity who are seeking chest surgery prior to legal adulthood, these guidelines essentially direct clinicians to a different section of the document which states that

“[c]hest surgery in FtM [female to male] patients could be carried out earlier, preferably after ample time of living in the desired gender role and after one year of testosterone treatment. The intent of this suggested sequence is to give adolescents sufficient opportunity to experience and socially adjust in a more masculine gender role, before undergoing irreversible surgery. However, different approaches may be more suitable, depending on an adolescent’s specific clinical situation and goals for gender identity expression”.<sup>10</sup>

In this way, the guidelines suggest age of majority is important but also indicate that chest surgery could be justified for adolescents prior to the age of majority.

The other key clinical guidance, from the Endocrine Society, states that “[t]here is insufficient evidence to recommend a specific age requirement” and suggests that “clinicians determine the timing of breast surgery for transgender males based upon the physical and mental health status of the individual”.<sup>11</sup> This group’s guidance is arguably more restrictive than WPATH’s, suggesting chest surgery be considered after two years of hormone therapy:

“[b]ecause some transgender male adolescents present after significant breast development has occurred, they may also consider mastectomy 2 years after they begin androgen therapy and before age 18 years.”<sup>12</sup>

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<sup>9</sup> Coleman, E., Bockting, W., Botzer, M. Cohen-Kettinis, P. DeCuypere, G., Feldman, J., ... & Zucker, K. (2012) Standards of care for the health of transsexual, transgender, and gender-nonconforming people, Version 7. *International Journal of Transgenderism*. 13(4), 165-232.

<sup>10</sup> Ibid: 178

<sup>11</sup> Hembree, W. C., Cohen-Kettinis, P. T., Gooren, L., Hannema, S. E., Meyer, W. J., Hassan Murad, ... & T’Sioen, G. G. (2017) Endocrine treatment of gender-dysphoric/gender incongruent persons: An Endocrine Society clinical practice guideline. *The Journal of Clinical Endocrinology and Metabolism*. 102(11), 3869- 3903.

<sup>12</sup> Ibid: 3894

As with WPATH, a case-by-case approach is advocated in relation to chest surgery: “clinicians should individualise treatment based on the physical and mental health status of the individual.”<sup>13</sup>

Given the high degree of discretion that the WPATH and Endocrine Society guidelines allow, potential provision of chest surgery to transgender adolescents is an ethically challenging area for individual clinicians and centres. Clinical teams need to work through the key clinical and ethical considerations themselves, and systematic bioethics work can assist in this task. The involvement of clinical ethicists in decision-making about chest surgery in some institutions<sup>14</sup> is further evidence of the ethical complexity of this area.

In this paper, we aim to explore this area of clinical discretion and the ethical question underlying the guidelines, in order to provide a specifically ethical perspective to support clinicians and clinical ethicists navigating this area of healthcare. In line with the WPATH guidelines, we focus on transgender male adolescents with persistent gender dysphoria and decision-making capacity in relation to their healthcare, specifically those judged to have capacity to make a decision about chest surgery but who are under the legal age of majority. We argue that providing chest surgery to these young people is ethically justifiable under some circumstances for three reasons. Firstly, the limited evidence to date suggests that chest surgery is beneficial to transgender adolescents who seek it. Secondly, chest surgery protects transgender adolescents’ privacy by enabling them to control disclosure of their transgender identity. Thirdly, chest surgery is sometimes performed on other adolescent males for psychosocial reasons, and transgender adolescents should not be excluded from accessing this intervention based on their gender identity. While these three reasons support making chest surgery available to transgender male adolescents, the ethical justifiability of providing chest surgery to any specific transgender male adolescent needs to be determined on a case-by-case basis.

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<sup>13</sup> Ibid

<sup>14</sup> Marinkovic, M., & Newfield, R. S. (2017) Chest reconstructive surgeries in transmasculine youth: Experience from one pediatric center. *International Journal of Transgenderism*. 18(4), 376-381; Boskey, E. R., Johnson, J. A., Harrison, C., Marron, J. M., Abecassis, L., Scobie-Carroll, A., ... & Ganor, O. (2019) Ethical issues considered when establishing a pediatrics gender surgery center. *Pediatrics* 143(6), e20183053.

## Chest surgery in the context of care for transgender young people

The term “gender dysphoria” describes the distress experienced by a person due to incongruence between their gender identity and the sex assigned to them at birth. Increasingly, gender-affirming care is provided to transgender young people who approach health services with gender dysphoria.<sup>15</sup> Gender-affirming care is care that supports the young person in their gender identity.<sup>16</sup> It is provided on the basis that such care significantly improves mental health outcomes in this group.<sup>17</sup> For some transgender young people, gender-affirming care includes medical interventions aimed at aligning their physical body with their gender identity in order to reduce their distress.

Gender-affirming care for adolescents with gender dysphoria may involve medical intervention (Figure 1). One aspect of this is delaying puberty. Temporary suppression of pubertal development can be achieved using gonadotropin releasing hormone analogues (puberty blockers), and is most effective for transgender males if commenced shortly after the onset of puberty.<sup>18</sup> Puberty blockers prevent a young

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<sup>15</sup> Spack, N. P., Edwards-Leeper, L., Feldman, H. A., Leibowitz, S., Mandel, F., Diamond, D. A., & Vance S. R. (2012). Children and adolescents with gender identity disorder referred to a pediatric medical center. *Pediatrics*. 129(3), 418-425; Khatchadourian, K., Amed, S. & Metzger, D. L. (2014) Clinical management of youth with gender dysphoria in Vancouver. *The Journal of Pediatrics*. 164(4), 906-911; Chen, M., Fuqua, J., & Eugster, E. A. (2016) Characteristics of referrals for gender dysphoria over a 13-year period. *Journal of Adolescent Health* 58(3), 369-371; de Vries, A. L. C., & Cohen-Kettenis, P. T. (2012) Clinical management of gender dysphoria in children and adolescents: the Dutch approach. *Journal of Homosexuality*. 59(3), 301-320.

<sup>16</sup> Telfer, M. T. Tollit M. A. Pace, C. C., & Pang, K. C. (2018) Australian standards of care and treatment guidelines for transgender and gender diverse children and adolescents. *The Medical Journal of Australia*. 209(3), 132-136.

<sup>17</sup> Costa, R., Dunsford, M., Skagerberg, E., Holt, V., Carmichael, P., & Colizzi, M. (2015) Psychological support, puberty suppression, and psychosocial functioning in adolescents with gender dysphoria. *The Journal of Sexual Medicine*. 12(11), 2206-2214; de Vries, A. L. C., McGuire, J. K., Steensma, T. D., Wagenaar, E. C. F., Doreleijers, T. A. H., & Cohen-Kettenis, P. T. (2014) Young adult psychological outcome after puberty suppression and gender reassignment. *Pediatrics* 134(4), 696-704; de Vries, A. L. C., Steensma, T. D., Doreleijers, T. A. H., & Cohen-Kettenis, P. T. (2011) Puberty suppression in adolescents with gender identity disorder: A prospective follow-up study. *The Journal of Sexual Medicine* 8(8), 2276-2283.

<sup>18</sup> Telfer, M. T. Tollit M. A. Pace, C. C., & Pang, K. C. (2018) Australian standards of care and treatment guidelines for transgender and gender diverse children and adolescents. *The Medical Journal of Australia*. 209(3), 132-136; Coleman, E., Bockting, W., Botzer, M. Cohen-Kettenis, P. DeCuypere, G., Feldman, J., ... & Zucker, K. (2012) Standards of care for the health of transsexual, transgender, and gender-nonconforming people, Version 7. *International Journal of Transgenderism*. 13(4), 165-232; Hembree, W. C., Cohen-Kettenis, P. T., Gooren, L., Hannema, S. E., Meyer, W. J., Hassan Murad, ... & T'Sioen, G. G. (2017) Endocrine treatment of gender-dysphoric/gender incongruent persons: An Endocrine Society clinical practice guideline. *The Journal of Clinical Endocrinology and Metabolism*. 102(11), 3869- 3903.

person's body developing sexual characteristics that may exacerbate their gender dysphoria, and also give the adolescent the time to explore their gender identity without the distress of their body developing.

For a young transgender male, puberty blockers can thus stop the development of breast tissue when given directly after the start of puberty. In later adolescence, gender-affirming hormone treatment using testosterone can be commenced if desired, to produce a more stereotypically masculine body shape, facial and body hair, and deepening of the voice.

However, not all transgender males have access to puberty blockers at the beginning of puberty. This may be due to barriers in accessing care, such as long waiting lists or a lack of local services. Further, many transgender males present to health services in mid to late puberty, with puberty itself being the trigger for gender dysphoria. Although some of these young people choose to begin gender affirming hormone treatment using testosterone, testosterone will not substantially reduce the size of any pre-existing breast tissue.

This breast tissue can be a significant source of ongoing dysphoria and negative social experiences. This is especially the case for transgender males who have large breasts that remain visible under clothing despite the use of minimizing garments or chest binders. The presence of breast tissue can prevent the young person from being recognized socially as male. This inability to 'pass' is one important driver for transgender young people requesting chest surgery. Passing can be important to prevent negative experiences such as stigma, discrimination and harassment, which currently occur despite increasing social acceptance of diverse gender identities. However, clinical experience indicates that many adolescents request the surgery based on their internal dysphoria; even transgender males with smaller chests who pass quite well can express a strong desire for this surgery. For these adolescents, chest surgery is likely to be perceived as directly beneficial by consolidating a male identity, consistent with the notion that "[m]astectomy is often necessary for living comfortably in the new gender".<sup>19</sup> In the sections that follow, we argue that providing

this intervention can be ethically justifiable under some circumstances, based on three reasons: benefit, privacy and non-discrimination.

[Figure 1 here]

*Figure 1: Gender affirming care for transgender male adolescents with gender dysphoria*

### **Benefits and risks**

A crucial ethical question about any healthcare intervention is whether it is overall beneficial to the patient. Assessing whether the benefits outweigh the risks and burdens is fundamental to the ethical justifiability of chest surgery for transgender male adolescents. This assessment is complicated in two ways. Firstly, there are only a small number of published studies on chest surgery for this patient group, and outcome data is not available for all young people who have had this intervention. Secondly, given that this is a new intervention, existing studies only report short-term follow-up. While comprehensive longitudinal follow-up data would assist in risk-benefit assessment, such data is not yet available. However, as in many areas of healthcare, decisions about the care of current patients need to be made despite this uncertainty, based on the available evidence.

The limited existing research on chest surgery for transgender adolescents suggests that the benefits outweigh the risks and burdens of the procedure, in the short term. There are currently only two studies that specifically investigate outcomes of chest surgery in adolescents, both conducted recently at US paediatric hospitals.<sup>20</sup> In one study, 14 transgender males had undergone the procedure, ranging in age at surgery from 13 to 19 years (with a mean age at surgery of 17 years).<sup>21</sup> All patients were satisfied with the aesthetic outcome and reported improved mental health, such as

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<sup>19</sup> Hembree, W. C., Cohen-Kettenis, P. T., Gooren, L., Hannema, S. E., Meyer, W. J., Hassan Murad, ... & T'Sioen, G. G. (2017), *op.cit.*, note 11

<sup>20</sup> Marinkovic, M., & Newfield, R. S. (2017) Chest reconstructive surgeries in transmasculine youth: Experience from one pediatric center. *International Journal of Transgenderism*. 18(4), 376-381; Olson-Kennedy, J., Warus, J., Okonta, V., Belzer, M., & Clark, L. F. (2018) Chest reconstruction and chest dysphoria in transmasculine minor and young adults: Comparisons of nonsurgical and postsurgical cohorts. *Journal of the American Medical Association Pediatrics*. 172(5), 431-436.

<sup>21</sup> Marinkovic & Newfield, *op. cit.* note 7

decreased depression and anxiety. No serious adverse events occurred (such as nipple necrosis or infection) and the complication rate was low (relying on patient self-reporting). However, 5/14 patients experienced scarring and/or fluid collection. Loss of sensation was also reported: “[m]ost subjects had decreased or complete loss of sensation in the surgical and nipple area”.<sup>22</sup>

The second study compared 68 transgender male post-surgical patients (again with a mean age at surgery of 17 years) with 68 similar transgender male patients who had not undergone chest surgery. In line with the previous study, this study found that, among the post-surgical cohort, serious complications were rare and 67 of 68 reported an absence of regret.<sup>23</sup> Complications are shown in Table 1 and included loss of sensation, and scarring. These researchers conclude that “surgical intervention positively affected both minors and young adults” by reducing their dysphoria.<sup>24</sup> Overall, these studies suggest that distress regarding the presence of breasts is high among transgender male adolescents who seek this intervention, and is significantly less after chest surgery. Side effects and risks of surgery included loss of sensation of the nipple or other areas of the chest and substantial scarring, in addition to the risks and burdens that apply to any surgery, such as the risks associated with a general anaesthetic.

[Table 1 here]

*Table 1: Complications of chest reconstruction surgery, reported by Olson-Kennedy et al.* <sup>25</sup>

The possibility that a patient will come to regret the surgery is a further potential concern when considering the risks and benefits of this intervention. In the existing studies of chest surgery in adolescents, the reported regret rates were 0/14 and 1/68, although it is important to note that these studies report relatively short-term follow-

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<sup>22</sup> Ibid: 379

<sup>23</sup> Olson-Kennedy, J., Warus, J., Okonta, V., Belzer, M., & Clark, L. F. (2018) Chest reconstruction and chest dysphoria in transmasculine minor and young adults: Comparisons of nonsurgical and postsurgical cohorts. *Journal of the American Medical Association Pediatrics*. 172(5), 431-436.

<sup>24</sup> Ibid: 431

<sup>25</sup> Ibid: 435

up with nearly all participants only two or less years since surgery.<sup>26</sup> One of these studies reported an additional patient stopping testosterone “about two months after the surgery (at age 19.8 years)” and later requesting “assistance with the gender mark and name change back to female”.<sup>27</sup>

Chest surgery would usually occur in the context of testosterone treatment, which also has some irreversible effects on the body such as deepening of the voice and increased body hair.<sup>28</sup> Ensuring that an adolescent has the capacity to make an informed decision is part of the process before testosterone treatment.<sup>29</sup> So, while there is a risk that an adolescent may regret their chest surgery, existing data suggests that this risk is low and that transgender adolescents with decision-making capacity already weigh up irreversible effects in deciding whether to undergo testosterone treatment.

Attending to the risks and burdens of *not* providing chest surgery is also ethically important. As Giordano writes in relation to puberty blockers and hormone treatment for transgender young people,

“in judging whether or not to treat, health care professionals should evaluate what is likely to happen to the applicant if he or she does *not* receive treatment, and not only what is likely to happen if he or she *does* receive treatment”.<sup>30</sup>

A further complication in assessing the risks and benefits of chest surgery is that chest surgery is an intervention that could conceivably be delayed for each patient; thus there is the need to consider the risks and benefits of the intervention at different possible timepoints.

For transgender male adolescents seeking chest surgery, not providing the procedure can result in physical health issues associated with chest binding. Although

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<sup>26</sup> Marinkovic, M., & Newfield, R. S. (2017) Chest reconstructive surgeries in transmasculine youth: Experience from one pediatric center. *International Journal of Transgenderism*. 18(4), 376-381; Olson-Kennedy, J., Warus, J., Okonta, V., Belzer, M., & Clark, L. F. (2018) Chest reconstruction and chest dysphoria in transmasculine minor and young adults: Comparisons of nonsurgical and postsurgical cohorts. *Journal of the American Medical Association Pediatrics*. 172(5), 431-436.

<sup>27</sup> Marinkovic & Newfield, *op. cit.* note 7, p. 379

<sup>28</sup> Telfer, M. T. Tollit M. A. Pace, C. C., & Pang, K. C., *op. cit.* note 14

<sup>29</sup> Ibid:133,135

<sup>30</sup> Giordano, S. (2008) Ethics of management of gender atypical organization in children and adolescents. In M. Boylan, *International Public Health Policy and Ethics* (pp. 249-272). Dordrecht: Springer. (Italics added)

commonly used as a non-invasive means to help manage chest dysphoria and as a 'bridge' to chest surgery, chest binding is very frequently associated with adverse effects. For instance, 97.2% of 1800 transgender adults reported at least one negative outcome associated with binding, with the most common being back pain (53.8%), overheating (53.5%), chest pain (48.8%), shortness of breath (46.6%), and itching (44.9%).<sup>31</sup> Rib or spine changes (11.6%) and rib fractures (2.8%) are also reported.<sup>32</sup> Anecdotally, not being able to bind due to presence of these symptoms can result in social isolation and school refusal. Further, there is some evidence to suggest that a lack of access to surgery is likely to increase or prolong dysphoria and negatively impact mental health.<sup>33</sup>

In summary, the limited evidence to date indicates that, in the short term, chest surgery is beneficial to transgender adolescents who seek this procedure in the context of gender-affirming care. The evidence available suggests that chest surgery reduces distress, and that there is a low chance of post-surgical regret in the time period studied. The level of physical risk associated with the surgery is reasonable in comparison to the benefit produced. For transgender adolescents who seek chest surgery as an alternative to chest binding, there are risks of binding that need to be taken into account. An approach that does not categorically exclude chest surgery for transgender male adolescent minors, but rather allows an individualised assessment of benefits versus risks for that particular individual is ethically justified.

### **Autonomy and privacy**

Alongside beneficence, a second (related) reason justifying providing chest surgery is based on autonomy and privacy. A fundamental ethical principle governing health care for adolescents is that as they mature, they develop greater capacity to understand information about their health, and increasingly acquire authority over their own lives including deeming what makes their life go well.<sup>34</sup> This increasing autonomy and interest in becoming self-governing is reflected in the legal and ethical

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<sup>31</sup> Peitzmeier, S., Gardner, I., Weinand, J., Corbet, A., & Acevedo, K. (2017) Health impact of chest binding among transgender adults: A community-engaged, cross-sectional study. *Culture, Health & Sexuality*. 19(1), 64-75.

<sup>32</sup> Ibid: 71

<sup>33</sup> Olson-Kennedy, J., Warus, J., Okonta, V., Belzer, M., & Clark, L. F., *op.cit.* note 23.

<sup>34</sup> Tucker, F. (2016) Developing autonomy and transitional paternalism. *Bioethics* 30(9), 759-766.

idea of the mature minor, where parental power diminishes as a child develops capacity to make medical decisions.<sup>35</sup> As an adolescent becomes older, they are more mature and arguably have stronger moral claims to have their opinions, experiences and decisions respected.

A further significant and related moral interest is the need for privacy. Maintaining privacy demonstrates respect for a person's autonomy by allowing them to make decisions about who to share their personal information with. Providing chest surgery protects transgender adolescents' privacy and respects their autonomy by enabling them to better control disclosure of their transgender identity. A transgender male with visible breasts has a body that discloses his transgender status to others, whether he wants this information known or not. Holman and Goldberg write that

“[t]he decision not to disclose is not necessarily evidence of shame or embarrassment; it may be based on concern about the likely response of others, or may be a reflection of the adolescent's feeling that this aspect of their identity is private”.<sup>36</sup>

Their reflection highlights that, alongside the intrinsic value of respecting a patient's autonomy, maintaining a transgender adolescent's privacy can also be important to promoting their physical wellbeing. There is an important relationship between beneficence and maintaining privacy in this context. Transgender young people are at increased risk of bullying and assault compared to cisgender<sup>37</sup> young people.<sup>38</sup> Being visibly transgender male in public may increase the risk of verbal abuse or assault. While continued social change is clearly imperative to decrease this risk, such change takes time. In the short-term, requests for chest surgery remain a way in which transgender male adolescents might seek to protect themselves. In the current social circumstances, there is both intrinsic and instrumental value in protecting a transgender adolescent's privacy, and chest surgery may be one way in which young people wish to achieve this protection.

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<sup>35</sup> Gillick v West Norfolk and Wisbech Area Health Authority [1986] AC 112

<sup>36</sup> Holman, C. W., & Goldberg, J. M. (2007) Ethical, legal, and psychosocial issues in care of transgender adolescents. *International Journal of Transgenderism*. 9(3-4), 95-110.

<sup>37</sup> Individuals whose gender identity matches their sex assigned at birth.

<sup>38</sup> Aparicio-García, M. E., Díaz-Ramiro, E. M., Rubio-Valdehita, S. López-Núñez, M. I., & García-Nieto, I. (2018) Helath and well-being of cisgender, transgender, and non-binary young people. *International Journal of Environmental Research and Public Health*. 15(10), 2133-2144.

## Non-discrimination

Non-discrimination is the third reason that justifies clinicians making chest surgery available to transgender male adolescents under some circumstances. Non-discrimination is the principle that patients should not be treated differently based on their personal characteristics such as race, sexual orientation or gender identity. Specifically, chest surgery is sometimes performed for equivalent psychosocial reasons in cisgender adolescent males who have the condition gynaecomastia (benign enlargement of breast tissue); transgender adolescents should not be excluded from accessing this intervention based only on their gender identity.

Many cisgender males develop gynaecomastia during adolescence, with a reported incidence of between 4-69%.<sup>39</sup> While the exact cause of gynaecomastia remains unclear, the hormonal changes that occur during puberty are believed to be the key driver and, for the majority of adolescents, their gynaecomastia is self-limiting and resolves as puberty advances. However, for some, unwanted breast tissue persists and can cause significant psychological distress.<sup>40</sup> For such individuals, drugs that block oestrogen activity can be helpful but surgery to remove the breast tissue may also be required. In such cases, an implicit rationale for providing chest surgery is that the patient's appearance does not align with his gender identity. The justification is a psychosocial one, with the surgery aimed at relieving the anxiety, self-consciousness and distress of having a chest that does not appear male. This is essentially the same basis on which transgender adolescent males request chest surgery: to align their chest with their gender identity.

Not providing chest surgery to transgender male adolescents in a setting where surgery for gynaecomastia is available to cisgender male adolescents discriminates against transgender patients purely based on their gender identity. However, there are two possible ways to resolve this concern: to refrain from providing surgery for gynaecomastia in cisgender males, or to consider transgender males as potential

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<sup>39</sup> Lemaine, V., Cayci, C., Simmons, P. S., & Petty, P. (2013) Gynecomastia in adolescent males. *Seminars in Plastic Surgery*. 27(1), 56-61

<sup>40</sup> Soliman, A. T., De Sanctis, V., & Yassin, M. (2017) Management of adolescent gynecomastia: An update. *Acta bio-medica: Atenei Parmensis* 88(2), 204-213

candidates for chest surgery.<sup>41</sup> It is important to note that surgical treatment for gynaecomastia is offered to only some patients affected by the condition, based on a risk-benefit calculation for each individual patient. From the perspective of non-discrimination, chest surgery would only be justified for a specific transgender adolescent male where an individual risk-benefit calculation similarly indicated that chest surgery would improve welfare overall.

Unless a morally relevant difference between the two situations can be identified, chest surgery ought to be available to transgender male adolescents if gynaecomastia surgery is available to cisgender male adolescents in that setting. One possible morally relevant difference between the two situations relates to stability of gender identity. In the case of gynaecomastia, the surgery realigns the cisgender adolescent's body with the gender identity he has consistently expressed. One legitimate concern is that gender identity can fluctuate for some transgender adolescents, which is worrying in the context of an irreversible surgery. This concern means that the non-discrimination argument only applies to transgender male adolescents with a long-term stable gender identity. Thus, chest surgery would only be ethically justified on this basis for transgender male adolescents whose male gender identity was consistent over time. How one practically determines what is 'long-term', 'stable' or 'consistent over time' is itself open to interpretation and clinical judgement. However, it is likely to involve the same sort of assessment that clinicians are already routinely undertaking in the consideration of gender-affirming hormone therapy, as reflected in the Endocrine Society's recommendation that "the adolescent has demonstrated a long-lasting and intense pattern of gender nonconformity or gender dysphoria (whether suppressed or expressed)."<sup>42</sup>

## **Conclusion**

Based on three reasons, we have argued that making chest surgery available to transgender male adolescents who seek it is ethically justifiable under some circumstances. The existing limited evidence indicates that chest surgery can be

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<sup>41</sup> We are grateful to an anonymous reviewer for articulating this point.

<sup>42</sup> Hembree, W. C., Cohen-Kettenis, P. T., Gooren, L., Hannema, S. E., Meyer, W. J., Hassan Murad, ... & T'Sioen, G. G. (2017), *op.cit.*, note 11: 3878

beneficial in the short term, it respects their autonomy and privacy, and is required to avoid discrimination based on gender identity in settings where chest surgery is available for gynaecomastia. In line with the WPATH Standards of Care, we have focused on adolescents with decision-making capacity and persistent gender dysphoria. We have argued that chest surgery is, in principle, ethically justifiable for this group.

Obviously, for any individual case, there are a range of patient and organizational factors that will impact on the ethical status of chest surgery for that specific young person. A case-by-case analysis of the risks and benefits for that individual adolescent will be required in each case; we have argued that chest surgery can be ethically justifiable for a transgender male adolescent before adulthood, not that chest surgery is *always* ethically justifiable for individuals in this group. Further, organizational features such as the availability of relevant surgical expertise and other institutional resources will impact on the ethical justifiability of chest surgery in that setting. In settings where surgery is provided, reporting further evidence is crucial including evidence about long term outcomes.

It may be objected that our argument puts clinicians on a slippery slope to making genital surgery available to transgender individuals before adulthood. In our view, this is not the case. Genital surgery is significantly different to chest surgery from an ethical perspective. The risk/benefit picture for genital surgery is substantially different to chest surgery: for example, genital surgery has an impact on sexual function, and different complications associated with the surgery. The privacy issues are also importantly different, given that genitals are not publicly visible in the way that chests are. The non-discrimination argument that we have put forward also does not translate to genital surgery. Current clinical guidelines categorically exclude genital surgery for adolescents.<sup>43</sup>

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<sup>43</sup> Coleman, E., Bockting, W., Botzer, M. Cohen-Kettinis, P. DeCuypere, G., Feldman, J., ... & Zucker, K. (2012) Standards of care for the health of transsexual, transgender, and gender-nonconforming people, Version 7. *International Journal of Transgenderism*. 13(4), 165-232; Hembree, W. C., Cohen-Kettinis, P. T., Gooren, L., Hannema, S. E., Meyer, W. J., Hassan Murad, ... & T'Sioen, G. G. (2017) Endocrine treatment of gender-dysphoric/gender incongruent persons: An Endocrine Society clinical practice guideline. *The Journal of Clinical Endocrinology and Metabolism*. 102(11), 3869- 3903.

In relation to chest surgery for transgender male adolescents, there are many ethical questions remaining. For example:

- Guidelines recommend testosterone treatment prior to chest surgery.<sup>44</sup> Is this recommendation ethically appropriate? What about individuals who only want chest surgery and do not want testosterone treatment?
- Within a service, how should young people who qualify for chest surgery be prioritised relative to one another?
- What would be an ethical funding model for chest surgery?
- Is a specific minimum age ethically justified? If so, what age is appropriate as the threshold?
- What if an adolescent has medical contra-indications for the surgery, but is willing to take on the additional risks to have a chest that they regard as better matching their gender identity?

In this paper, we have argued that making chest surgery available to transgender adolescent males is ethically justified under some circumstances. All of the additional questions articulated above would be fruitful areas for future bioethics analysis.

*Table 1: Complications of chest reconstruction surgery, reported by Olson-Kennedy et al.[footnote 23]*

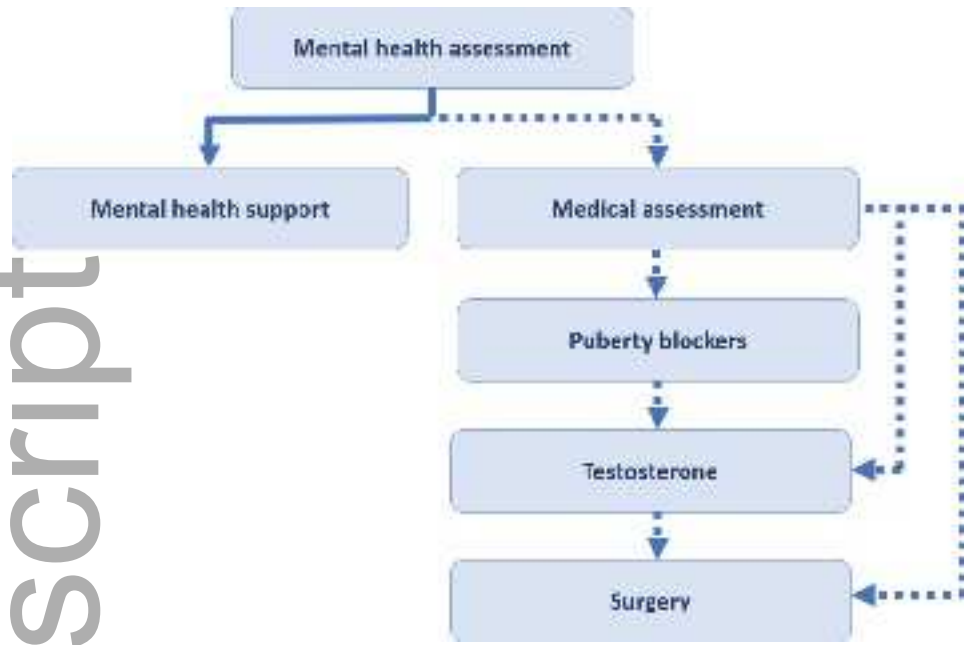
<b>Complication</b>	<b>Participants, No. (%) (n=68)</b>
Temporary loss of nipple sensation	40 (59)
Loss of sensation of other areas of the chest	29 (41)
Long-term loss of nipple sensation	22 (32)
Keloid (excessive) scarring	10 (15)
Unequal chest appearance	9 (13)
Postoperative hematoma	7 (10)
Postoperative pain beyond normal healing time	6 (9)
Nipple/areola(s) too large	5 (7)

<sup>44</sup> Coleman, E., et al., *op. cit.* note 9, p. 178

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