Male Birth Control

where is it, and why is it taking so long?

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WHY DOES MALE BIRTH CONTROL NOT EXIST YET?

a brief introduction







A pressing question with an elusive answer, the lack of male birth control options—aside from condoms, vasectomies, and withdrawal—has left some people, including us, itching for an answer. We've conducted research, compiled resources, and assembled this magazine with everything we found relating to this question. Before exploring all the other factors described in these articles, though, **let's first take a look at one striking case study of a trial from 2016 gone wrong.**







A CLINICAL TRIAL GONE AWRY

2008-2012. From a promising testosterone-progestin injectable male contraceptive underwent а phase II clinical trial. The method initially seemed very promising, with roughly 1.57 unintended pregnancies 95.9% per 100 users and of participants' sperm counts below the 1 million/mL threshold. Unfortunately. after a review by the World Health Organization (WHO), the trial was discontinued due to concerns around adverse effects. These adverse effects of concern were namely "mood changes, depression, pain at the injection site, and increased libido" (Behre et al., 2016). This happened despite 87.9% of participants in Behre et al.'s trial responding they would use this method or a similar one if one were commercially available.

DOUBLE STANDARDS? CONTROVERSY OVER DISCONTINUATION

Several media sites and countless women were less than thrilled to hear about the discontinuation of this trial due to side effects. In a New York Times op-ed, Sindha Agha describes her experience with endometriosis and debilitating side effects from birth control through a written piece and a short expressive film. After years of switching between birth control



a visual excerpt from Sindha Agha's film "Birth Control Your Own Adventure", where she visually and verbally describes her exhausting and disembodying journey with endometriosis and birth control. Here she depicts feeling nausea while on her IUD. source: nytimes.com

options, trying to balance between endometriosis management while grappling with grueling changes to her body and psyche, Agha was appalled to hear about this trial being with discontinued seemingly manageable side effects (Agha 2018). Julie Beck, a writer with the Atlantic. expressed similar sentiments in a piece she wrote in 2016 titled "The Different Stakes of Male and Female Birth Control." Here. Beck describes the effects current adverse experienced with just small а sampling of female contraceptives. Beck even cites one study where 40% of women stopped using the pill within one year of starting (Beck, 2016). Several other articles, op-eds, podcasts, and more can be found discussing and debating this controversial trial discontinuation

A CRITICAL ANALYSIS OF POTENTIAL BIAS

In their examining paper discrepancies in adverse effects from this injection trial and from other female birth control trials. Drs. Abbe and Roxby report similarities and differences between this trial and the before it for female ones contraception. After conducting their analysis, Abbe and Roxby found that, aside from increased acne. mood changes, and increased libido, all other adverse effects from the 2016 study were experienced at similar or lower frequency than by women in comparable female birth control trials (2019). Additionally, Abbe and Roxby found that women discontinued from trials due to adverse effects at a higher frequency than did the men from the injection trial (2019). While the method in the injection trial did have some concerning adverse effects, they were similar to those from other contraceptive technology and the method still had too much promise to be thrown away as it was (Abbe & Roxby, 2019).

OTHER FACTORS AT PLAY IN THE DELAY

As evidenced by the story with the discontinued trial, one possibility for the delay in male contraception is unequal standards for acceptable side effects and use type, but there are far potential factors to be more considered. Among these include the history with the pill and its inventor, reproductive justice movements in the early 20th century, biological challenges of the male anatomy, reluctance of big pharma companies, societal expectations and around birth control, just to name a few. Throughout this magazine, we attempt to give context to the question at hand while exploring several of these factors that affect the timeline of development for male birth control.

written by Annika Gillam

Male Contraception: What's available?

Currently, the only existing forms of contraception for men are condoms, vasectomy, and withdrawal, also known as the "pull-out method" (Glasier, 2010). The standard of safety and reliability is vastly different between these 3 methods. Although condoms are an important part of sexual health in preventing the spread of STI's, as a form of contraception there is a 15% failure rate since they are not used perfectly every time (Ellis, 2018). The withdrawal method, describing intercourse whereby ejaculation occurs outside the vagina, is often overlooked as a form of birth control and infamously known to be highly ineffective (Glasier, 2010). A vasectomy is a surgical procedure that essentially sterilizes a man and is extremely safe and effective, but is not intended to be reversible. Given the limitations of these choices, it is safe to say that there is no single reliable, reversible male contraception comparable to the plethora of methods available to females (Khilwani, Badar, Ansari, Lohiya 2020). However, science has proved that it is highly feasible that suppression of male sperm production to a diminished, non-viable amount, or a state called azoospermia, is a safe and reliable way to prevent pregnancy. So if it is widely known that male contraception is possible, why have we been waiting for it to reach the mainstream for decades? In order to better understand how these methods of birth control work, we will provide a basic overview of how male birth control would work on the male reproductive system!



Spermatogenesis is a complex, 3 step process t describing the production of spermatozoa to allow male fertility and reproduction.

1. The first step in the process requires mitosis, cellular division that produces the multiplication of spermatogonia

 the next step involves meiosis - which involves the reduction of chromosomes from diploid to haploid in the spermatogonia (early undifferentiated sperm cells) during the first phase of meiosis, starting with the division of primary spermatocytes to form secondary spermatocytes. In the second phase of meiosis, these cells divide again to form round spermatids
 the last step of spermatogenesis is spermiogenesis, which involves the maturation of round spermatids into the full, differentiated structure of spermatozoon

Potential targets of birth control in the male reproductive pathway

There can be interruptions at any stage that can result in failure of the whole process, through production of defective spermatozoa, reduction of sperm count, or absence of sperm produced. Additionally, there is regulation at every step of the process to ensure successful production of sperm. Hormonal regulation is directed by testosterone and FSH (follicle stimulating hormone), which are needed for successful completion of spermatogenesis.



Spermatogenesis Targeting the creation and development of sperm



Sperm Transport

Interrupting the transit of sperm out of the body



Sperm Motility

Slowing sperm, preventing them from reaching their desination



Fertilization Preventing the interaction

of sperm and egg

ADVERSE EFFECTS

We conducted an in depth literature search of male adverse effects (AEs) reported from clinical trials exploring various birth control methods since the 1970s. We used our findings to compare male experiences with AEs with those experienced by females taking contraception.

THE PILL

Oral hormonal contraceptives in the form of a birth control pill are currently under development. Dimethandrolone undecanoate (DMAU) is an androgen with progestational activity method that aims to suppress sperm production in men. The most recent study showed no serious adverse effects, however some limitations with DMAU is the need for concomitant food administration for effective absorption as well as minor adverse effects reported as headaches and decreased libido, and erectile dysfunction which was only reported in the higher dosage group (400 mg). Other reported adverse effects might be attributed to the drug's androgenic effect, as some participants showed increases in hematocrit, small decreases in HDL cholesterol, and some weight gain. However, and rogenic effects were significantly attributed to those groups receiving higher dosages. Daily oral administration of DMAU is deemed both safe and effective in <200 mg doses, nonetheless long-term administration studies are needed to determine its long-term effectiveness in suppressing sperm production to levels consistent with contraception (Thirumalai et al., 2019).

NEST/T GEL

Testosterone induced contraceptives are among the most common hormonal contraceptive methods studied thus far due to its ability to induce azoospermia in a safe, effective, and reversible way. One of the most recent clinical trials that started in 2018, studied the effectiveness of the NEST/T gel which combines a progestin, Nestorone gel, plus a testosterone gel. The subjects in this study applied two large volumes of gel to two different sites on the body daily, and results showed that NEST/T effectively suppressed sperm concentrations for all males and no adverse effects were reported, deeming NEST/T a safe contraceptive for short term administration. While maintaining healthy testosterone levels, the topical gel minimizes side effects such as lower libido, acne, weight gain, and altered cholesterol levels. NEST/T is currently undergoing long term studies to further assess the efficacy of this combination method (Wang & Swerdloff, 2010). This is among the most satisfactory methods of male birth control currently studied, and it has the potential to give men a range of choices for contraceptive methods.



Photo: Getty Images

RISUG

Reversible Inhibition of Sperm Under Guidance (RISUG) is a non-hormonal contraceptive gel that is injected into the vas deferens which has chemical and physical properties to block sperm movement. The most recent study in India in 2018 reported no adverse effects, with most men achieving oligozoospermia or azoospermia within 2 months after injection. This phase III trial also reported no pregnancies in the group of individuals that received the full dose of RISUG, rendering this product a safe and effective male contraception method (Khilwani et al., 2020). This product has promising potential to reach the market, yet reversibility studies have yet to be carried out in humans.

GOSSYPOL

Gossypol is one of the older methods of male contraception from the late 20th century that was non-hormonal due to its natural properties that caused temporary infertility in men. Gossypol is a substance found in Chinese plants that was used in male birth control trials in 1972. Its toxicity properties and ability to interfere with sperm development and function gained wide attention as a potential contraceptive. An efficacy study reported minor changes in libido, loss of appetite, and headaches, but the most serious adverse effects were through symptoms of stiffness of the neck and numbness of both hands, which were signs of hypokalemia, or reduced serum potassium levels in the blood (Liu et al., 1987). Despite Gossypol's promising natural alternative for contraception, it did not get far in clinical trial testing for it was not accepted as a safe, reversible antifertility drug at the World Health Organization due to findings that later showed damages caused in the lining of the epididymis ducts, which store sperm made by the testicles.

COMPARISON TO FEMALE CONTRACEPTIVE AE'S

Are women held to different standards?

A BIOLOGICAL PERSPECTIVE

Our research in male adverse effects from various methods indicate that there are strict regulations that are assessed in efficacy studies in order to deem a product safe and effective to move forward in clinical trial testing. We also researched the AE's from female contraceptive methods that were approved by the FDA. This allowed us to directly compare male and female AE's in depth, and evaluate the reasoning behind these differences. Findings show there are similar AE frequencies among men and women contraceptive methods. All reported AE's from male contraceptive trials were similar or less frequent than the AE's experienced by women on hormonal contraceptives, with the exception of "increased acne, mood changes, and increased libido."



Male contraceptive trials report emotional disorders such as mood changes as the most prevalent AE, with as much as 95% of emotional disorders cases rated as 'mild.' and few leading to trial discontinuation. It is important to note that differences in riskbenefit analysis, such that women have to balance the risk of birth control against the risk of getting pregnant or abortion, are significant factors that influence standards contraceptive for FDA approval. Retrospectively, regulators considered the risks that women bear as factors for the first combined approving oral contraceptive method, therefore the risk of a female contraceptive can be deemed less severe than the risk that could arise from an and unwanted pregnancy maternal/ postpartum depression if the contraceptive is not approved. This same risk-benefit analysis cannot be applied to males, who cannot get physically pregnant and do not have the responsibility of being childbearers. Undoubtedly, there is gender bias in acceptability of birth control methods due to lower tolerance of AE's for male contraceptive methods. This gender bias places sole responsibility for contraception upon women at the expense of their mental health, pain, and discomfort (Abbe & Roxby,

Written by: Ana Zepeda-Gutierrez

A TWITTER THREAD

IN RESPONSE TO "THE FIRST CLINICAL TRIAL OF A MALE BIRTH CONTROL **GEL IS UNDER WAY"**

A SOCIAL PERSPECTIVE

The first clinical trial of a male birth control gel is under way gizmo.do/8w6DLfX



BIRTH GONTROL: MALES VS. FEMALES

COMAPRISON OF ANATOMIES
HORMONAL REGULATION
BIOLOGICAL CHALLENGES

Comparison of reproductive anatomies



Source: Encyclopædia Britannica, Inc.

In females, the primary reproductive organs are the fallopian tubes, uterus, ovaries, and vagina. The production of gametes or germ cells in females is carried out in the ovaries, and every month ovulation occurs in which one mature egg is released from the ovary into the fallopian tube where it will await fertilization (Human Reproductive System | Definition, Diagram & Facts, n.d.). The production of the female germ cells is known as the process of oogenesis, involving the completion of meiosis that occurs in multiple stages as well as hormonal regulation at each step, and is limited in females as menopause signals the end of fertility (Gilbert, 2000). There are major differences in the structure and objective of the male and female reproductive systems. Basically, the entire goal in male reproduction is to produce sperm and transfer it to the female for fertilization through intercourse, and in female reproduction the goal is to produce a viable egg ready for fertilization then nurture the developing zygote until birth ("Difference Between Male and Female Reproductive System" 2018). In addition to anatomy, there are also major hormonal regulation differences in males and females that become especially important for the use of contraception.

In males, the primary reproductive organs are the testis, epididymis, vas deferens, and the penis. Male germ cells are produced in the testes and are matured and stored in the epididymis and travel through the vas deferens into the penis, and out the urethra upon ejaculation during intercourse (Human Reproductive System | Definition, Diagram & Facts, n.d.). Spermatogenesis is the process by which spermatozoa are produced in massive amounts, regulated by hormones beginning at the onset of puberty and continuing throughout the male lifespan (de Kretser et al., 1998).

Hormonal Regulation

Although there are major differences in reproductive anatomy and production of gametes in males and females, hormonal regulation is key in each process and is extremely relevant for the action of hormonal contraception in males and females. The hypothalamic-pituitary-gonadal axis, or HPG axis is essential to both male and female hormonal control, and our understanding of hormonal birth control methods requires a basic understanding of the connections in this system (Clavijo & Hsiao, 2018).

Female hormonal regulation

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The hormonal control of reproduction in females is much more complex. FSH and LH are released from the anterior pituitary just as in males, and simultaneously developing follicles release estrogen and progesterone (Molnar & Gair, 2019). Estrogen has many roles in ovulation and endometrial growth, and is also responsible for the development of secondary sex characteristics in females just as testosterone is for males. Progesterone plays a role in assisting endometrial regrowth and the eventual inhibition of LH and FSH release. The development of female sex cells or eggs occurs in a stucture called follicle cells and their growth is stimulated by the hormone FSH (named for this particular function). The follicle cells themselves produce inhibin that will stop FSH release, while LH assists in the development of the egg cells and the initiation of ovulation (release of the egg cell) as well as stimulation of hormones that prepare the body for pregnancy if the egg becomes fertilized.

male hormonal regulation

The hypothalamus begins the cycle of the reproductive response by sending GnRH (gonadotropin-releasing hormone) to the anterior pituitary (Molnar & Gair, 2019). This causes the anterior pituitary to release FSH (follicle stimulating hormone) and LH (luteinizing hormone) into the blood. In males, FSH is released and travels to the testes where it stimulates the sertoli cells to initiate spermatogenesis. LH also enters the testes and stimulates the interstitial cells of leydig to produce and release testosterone to act on other areas through the testes and blood (Molnar & Gair, 2019). Testosterone is the hormone that stimulates speramtogenesis and responsible for the development of secondary sex charactersitics in males. Rising levels of testosterone from leydig cells in the blood cause the hypothalamus and anterior pituitary to halt the release of FSH, GnRH, and LH. simultaneously, the sertoli cells produce a hormone called inhibin that is released into the blood once the sperm count becomes "too high" and if sperm count drops back down to approximately 20 million/ml, the sertoli cells stop releasing inhibin so that spermatogenesis may begin again.

Biological Challenges

Now, let's take all of that basic scientific background and utilize it to understand how birth control works for women and men. Hormonal female birth control methods work by the combination of the hormones estrogen and progestin to prevent ovulation, so there is no egg available to fertilize (Ellis, 2018). The hormonal shift that results from the pill will essentially trick women's bodies into believing they are already pregnant; and is successful as long as the hormones block the single monthly hormonal spike that triggers ovulation. There are numerous forms of birth control for women with similar hormonal action, as well as non-hormonal methods such as the IUD (intrauterine device). As previously mentioned, efforts to develop male contraception follow both hormonal and non-hormonal approaches as well.



But many agree that the creation of male birth control is much more challenging than female methods because of the fundamental biological differences between reproductive processes in the sexes. Basically, the defining difference boils down to a matter of numbers. Males produce tens of millions of sperm regularly, and females produce a single egg a month. Biologically, it appears to be a much easier task to block the single egg in women than reduce sperm count to numbers low enough to prevent fertilization in men.

The challenge of male contraception has been acknowledged by many experts, including those working tirelessly to develop solutions. John Townsend of the Population Council, one of the organizations currently collaborating in the development of the DMAU male pill, stated "It doesn't require many sperm to produce a pregnancy... So making sure they're eliminated is a very difficult biological task, whereas if there is a single ovum coming down once a month, there are many more options for interfering with that successful pregnancy" (Ellis, 2018). This barrier helps us understand the historical reasoning behind the lack of male contraception, but it is not the whole story.

Written by: Katie Mann

"IT DOESN'T REQUIRE MANY SPERM TO PRODUCE A PREGNANCY ... SO MAKING SURE THEY'RE ELIMINATED IS A VERY DIFFICULT BIOLOGICAL TASK...."

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COMSTOCK LAWS

contraceptives are outlawed

These laws outlawed abortions, sex toys, letters with sexual content, and other "obscene" material from being distributed in the US. This included contraceptives and information about contraceptives (A Century of Lawmaking).



source: en.wikipedia.org

1914-1918

US v. ONE PACKAGE

Physicians are allowed to prescribe contraceptives to patients.

After several doctors testified that they used contraceptives to treat a wide variety of medical needs, contraceptives became legal for prescription—though not for the sole purpose of contraception (MSPP / Newsletter #59 (Winter 2011), United States v. One Package).

1939 –1945

WORLD WAR I

1873

Soldiers, prostitutes, STI's

In WWI, condoms were not promoted or distributed as prophylaxis against STI's. Many soldiers ended up contracting STI's, and consequences from these "venereal diseases" led to a loss of millions of days of active duty (Valdiserri, 1988 p.241).

WORLD WAR II

1936

Condoms are promoted in U.S. Military

The US Army explicitly informs soldiers of the benefit of condoms in preventing disease, and stores in military bases are required to stock condoms. After the war, however, condoms became negatively associated with prostitution and infidelity of soldiers in war times (Valdiserri, 1988 p.242-243).

CONDOMS IN AMERICAN CULTURE

LEGALIZATION OF CONTRACEPTION

GRISWOLD v. CONNECTICUT

Married persons allowed to use birth control for contraceptive purposes

The judges ruled that use of birth control should be protected under a married couples' right to privacy (Griswold v. Connecticut, 381 U.S. 479 (1965)). This ruling focused on the rights of the matrimonial unit instead of bodily autonomy.

1965

CONDOXAN SAYS

EISENSTADT v. BAIRD

Unmarried persons allowed to use birth control

This case ruled that unmarried people should be offered equal access to contraceptives as married people "since the constitutionally protected right of privacy inheres in the individual, not the marital couple" (Eisenstadt v. Baird, 405 U.S. 438 (1972))

1980's

AIDS EPIDEMIC

Condom usage is normalized by grassroots efforts

In the face of the U.S. government's inaction, grassroots efforts and organizations—namely people in the gay/LGBT community, those living with AIDS—create public health campaigns normalizing the use of condoms.

source: www.nlm.nih.gov/exhibition/survivingandthriving/digitalgallery/condoms-as-safer-sex

1972

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timeline infographic: Annika Gillam

BIRTH CONTROL & REPRODUCTIVE RIGHTS IN THE EARLY 20TH CENTURY

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To understand why the burden of contraception largely falls on women today, with only two contraceptive options for men, it is necessary to examine the history of birth control in early 20th century U.S.

THE FIRST BIRTH CONTROL CLINICS

A woman named Margaret Sanger, who went on to found the Planned Parenthood Federation of America, is often credited for spearheading the movement for reproductive rights and freedom. Born in 1879 and becoming a nurse in 1902, Sanger met countless women who suffered from lack of reproductive freedom, and whom Sanger was sure would have lived better lives or survived if they had access to birth control ("Margaret Sanger – Our Founder").After witnessing one woman die after her second selfinduced abortion, a patient who had feared more pregnancies, Sanger began her activism. She wrote pamphlets frankly explaining women's sexual and reproductive health while grappling with the constraints of the Comstock Laws

("Margaret Sanger – Our Founder"). After receiving a \$50 donation from a woman who heard one of her lectures, Sanger opened the first clinic in the birth control Brownsville neighborhood of Brooklyn, NY in October of 1916, though the clinic was quickly shut down after 10 days ("Margaret Sanger - Our Founder"). Still, Sanger and her colleagues persisted-Sanger opened the Birth Control Clinical Research Bureau and the American Birth Control League in 1923, two organizations which later combined to become Planned Parenthood (The History & Impact of Planned Parenthood). Sanger and others kept opening clinics, including one in Harlem in 1930, and one in Maryland opened by Dr. N. Louise Young in 1932 (Planned Parenthood | 100 Years Strong).

SANGER AND EUGENICS

While establishing more clinics and pushing for more birth control access, Sanger expressed eugenic beliefs and used eugenics to support birth control. In one paper, Sanger claims that the "mentally deficient reproduce more rapidly than those of normal intelligence" and that "Given Birth Control [sic], the unfit will voluntarily eliminate their kind" (Sanger, "A Better Race", 1923). Another source, while acknowledging the problematic writings and terminology Sanger utilized, suggests that Sanger maybe used the rise of eugenics in the US to further her agenda with birth control (MSPP / Newsletter #32). While Sanger did accomplish many things and ignite a revolutionary movement for more reproductive freedom, her complicated perspectives of eugenics still deserve attention and discussion in the same spheres where her accolades are championed.

"Women were told this pill would solve their problems, with little information on possible side effects or dangers"

THE BEGINNINGS OF "THE PILL"

Aside from current available methods, such as sponges and pessaries, Sanger wanted to develop a once-daily pill that would act as a simple contraceptive ("Margaret Sanger Our ____ Founder"). Sanger recruited Katharine McCormick. suffragette with а a large inheritance, to fund research efforts for a pill "as easy to take as aspirin" ("Katharine Dexter McCormick (1875-1967)"). The two traveled to Worchester.



Enovid, the first birth control pill. source: nationalgeographic.com

Massachusetts in 1953 to meet scientist Gregory Pincus, whom the two women then recruited to invent and then test a hormonal birth control pill ("Katharine Dexter McCormick (1875-1967)"). The first large testing of the pill began in 1956 on women in Puerto Rico—but was done without their consent, and had other ethical issues intertwined (The History & Impact of Planned Parenthood).

UNETHICAL EXPERIMENTATION ON PUERTO RICAN WOMEN

Sanger, McCormick, and Pincus ran the widespread experimentation on women in Puerto Rico without their informed consent. Ray Quintanilla of the Chicago Tribune explores this history in the piece "Puerto Ricans recall being guinea pigs for 'magic pill'". While smaller trials were happening back in the U.S., the trials conducted in Puerto Rico were more widespread and lasted years (Quintanilla, 2004). Women were told this pill would solve their problems and keep them from getting pregnant, with little information on possible side effects or dangers of this experimental drug, Quintanilla explains. Side

effects included depression, blood clotting, pain, and even two deaths of otherwise healthy women in the trial-yet there were no autopsies performed to search for possible cause by the pill (Quintanilla, 2004). These trials in Puerto Rico continued for years even after women in U.S. trials left and complained of the side effects. This unethical experimentation left scars in the rural communities that were targeted by Sanger and Gregory Pincus, the scientist recruited by Sanger to develop the pill. Some critics rightfully compare this unethical testing on Puerto Rican women to the U.S.'s testing on black men with syphilis in the Tuskegee Syphilis Experiment, where participants were not informed of or given the cure once it was invented (Quintanilla, 2004). While the invention of the pill was a pivotal moment in the history of birth control and reproductive freedom, it came at the cost of the unethical exploitation of women of color.

SANGER'S MOTIVATIONS AND INTENTIONS FOR BIRTH CONTROL

Sanger's motivations for creating birth control clinics and especially the pill came from her experiences with women who felt desperate and out of control of their situations due to lack of reproductive control. Sanger's focus was on giving women more bodily autonomy, because she saw countless women who did not trust their husbands with birth control, or who suffered from unplanned or unwanted pregnancies (Choudhry, 2015). These women wanted protection against such unwanted pregnancies, and Sanger sought to provide it to them in a way that gave sole autonomy to the woman (Choudhry, 2015). In her time, Sanger believed the world wasn't ready for men to assume

responsibility for birth control, not just from lack of care but also because there was such a lack of reproductive education for women, and Sanger believed such education was vital to liberating women (Sanger, "A Parents' Problem or Woman's?", 1919). To quote Sanger's comment on the cultural situation in her time:

"The hard, inescapable fact which we encounter today is that man has not only refused any such responsibility but has individually and collectively sought to prevent woman from obtaining knowledge by which she could assume this responsibility for herself" (Sanger, "A Parents' Problem or Woman's?", 1919).

McCormick shared Sanger's sentiment, seeing it important to have female-controlled contraception ("Katharine Dexter McCormick"). Back in their time, the intention was not to exclude men from reproductive health options, but rather to use birth control as a means to more freedom and equality for women.

BIRTH CONTROL BECOMES A WOMAN'S RIGHT—AND RESPONSIBILITY

In the middle of the 20th century, especially with progress in the legalization of birth control, the pill shot into great popularity among women in the U.S. After its approval by the FDA in 1960, the first ever birth control pill quickly grew to popularity. By 1962, there were 1.2 million users in the U.S., and by 1963 that number grew to 2.3 million—nearly twice of the vear prior (Nikolchev, 2010). Five years after its approval in 1960, 6.5 million women were on the pill in 1965 -and the pill became the most popular contraceptive in the U.S. (Nikolchev, 2010). By this point, nearly 1 in 4 married women in the U.S. under the age of 45 had used the pill (The History & Impact of Planned Parenthood). This coincided with the year of a landmark case in contraceptive access, Griswold v. Connecticut. In Griswold v. Connecticut, it was ruled that married persons allowed to use birth control for were contraceptive purposes (Griswold v. Connecticut, 381 U.S. 479 (1965)). Seven years later, in 1972, the court case Eisenstadt v. Baird finally legalized birth control for contraceptive purposes for unmarried persons, expanding upon the more limiting provisions provided by the Griswold v. Connecticut case (Eisenstadt v. Baird, 405 U.S. 438 (1972)). Consequently, the pill and other forms of female birth control became the norm as millions of women began use of birth control, and the only non-permanent form of male birth control, condoms, was left out of popularity until the AIDS epidemic in the 1980's (Geiling, 2013).



number of women on the first birth control pill after its FDA approval in 1960. (Nikolchev, 2010)

THEN VERSUS NOW

While Sanger's reasoning made sense back in her day, the culture and society of America in her time versus now is quite different—there is more equality than before, women experience more personal and reproductive freedom than in the early 20th century, and many men are eager for more options. In one text, Sanger mentions the "ideal society" where "Birth Control would become the concern of the man as well as the woman" (Sanger, "A Parents' Problem or Woman's?", 1919). The culture around sex, relationships, and reproduction was different in Sanger's time than it is now, so while a womancentered birth control movement made sense at the time, the cultural and political context is different now. At the time of Sanger's writing in

> "Sanger's focus was on giving women more bodily autonomy"

1919, the Comstock Laws outlawing birth control were still in place, and it would be another 17 years before the US v. One Package would legalize the prescription of contraceptives by medical professionals (see timeline in previous section). Though women do have more autonomy and control now, they also bear most of the burden of birth control. On top of this, many men are ready to step up and are eager for more birth control options-the Male Contraceptive Initiative's research suggests over 17 million men in the U.S. would be on board to use a new method, if one made available (Male Contraceptive were Initiative).

Considerable yet incomplete progress has been made towards equity between genders, and shifting to an equally-carried burden of birth control is one of the next steps towards this goal of equity. Both for the sake of men who are frustrated with only two options, and for women who are exhausted from carrying the burden alone.

HISTORY WITH RISE OF MALE BIRTH CONTROL

Why did it not happen back then?

Scientists began testing and developing hormonal male contraceptive methods in clinical trials since the 1970s, shortly after the female birth control pill was first released to the market. However there was not widespread support for male birth control research.

There is a very popular quote that encapsulates the stagnant progress of the male control industry and birth the limited options that contraception exist today. Unfortunately, "Male contraception has been 10 years away for the past 50 years" (Male Contraceptive Initiative, n.d.). Scientists began researching and developing hormonal-based male contraceptives in the 1970s, and trials have been underway ever since. Still, there is a wide array of factors contributing to this delay including but not limited to, lack of trust, adverse effects, poor research funding, varied public interest, and lack of support from pharmaceutical companies. The female birth control pill was approved in 1960 and it only took around 10 years for this product to make its way to the market. Nonetheless motivations for female birth control were much stronger compared to the support male birth control got. Motivations for developing female birth control originated in the fight for reproductive rights. Women wanted freedom and liberty over their own bodies, nonetheless unplanned pregnancies and childbearing were a huge obstacle for women to receive an education and pursue their career aspirations. The patriarchal system at the time also limited their career prospects through deep cultural expectations that women could only occupy wife and mother roles. Hence, the focus of

female contraception was around liberating women, not creating birth control options for men.

SO WHAT IS TAKING SO LONG?

The question of why has the male birth control pill taken significantly longer can answered through only be the intersection of various social, political, cultural, and economic issues that still pose an obstacle for the successful development of a male birth control option today. Lack of trust in men to responsibly follow through birth control adherence was one of the primary obstacles in the advancement of the male pill since its inception.



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ARE THERE OTHER REASONS MALE CONTRACEPTION IS NOT YET AVAILABLE THAT INVOLVE SOCIETAL FACTORS AND PERCEPTIONS?

Once male birth control gained more acceptance by society, the problem was that scientists wanted to apply the same model that worked for female birth control to develop male birth control. Studying a very different reproductive system posed a challenge to figure out how to prevent sperm production in men; men produce millions of sperm per day while women release one egg every month. Money and lack of research funding also held back the field, which made it harder for scientists to get FDA approval due to lack of support from pharmaceutical companies. Big pharmaceutical companies took a very conservative stance, asking themselves if they would do it, and expecting no one else would be in favor of birth control at the expense of potential side effects. However, there was more support within the younger generation desired to share contraceptive that responsibility and ease that burden from their partners. Despite research efforts to get male birth control to the market, FDA guidelines became more strict over time. Male clinical trials are now evaluated under more scrutinous guidelines than female contraceptive trials. This disparity has led to numerous male birth control trial termination despite similar reported adverse effects between men and women.

"Male contraception has been 10 years away for the past 50 years"



WHAT DOES THE MALE BC FIELD LOOK LIKE TODAY?

Today, male birth control is seldom a priority for research funding in an age that it costs billions of dollars to get a new drug to the market. The diverse availability of female birth control further steers interest from the need to share reproductive responsibility through male birth control options. On top of that, the regulatory pathway of male birth control further contributes to this delay for it is important that the product is safe and efficacious before it is able to continue testing moving forward. Now, even if a contraceptive study is proved to be effective, side effects are strictly evaluated and are subject to termination from further testing (Little 2018). The issue only gets more complex in consideration of the distinct male and female anatomy. The female birth control pill and other hormonal birth control methods work by stopping the ovulation process that occurs once a month in the body. Meanwhile. the female male reproductive system is antagonistic to this process, for a male birth control pill would need to target several million sperm produced a day, posing another scientific challenge for male birth control development.

The Egg and the Sperm

IMPLICATION OF BIAS IN DISCOURSE AROUND REPRODUCTION

It is important to look at history to understand how science works. One example is science textbooks and their representation of the male and female anatomy. The article, "The Egg and the Sperm" written by Emily Martin brings to light the analogies used in science education rooted in gender bias. Scientists' interpretation of the male and female reproductive system is closely related to stereotypical male and female roles in the 20th century. Martin highlights that reproduction for men and women are not analogous processes, and science, being an male-dominated field, originally perceives these two systems through a linguistic and cultural gender bias. Menstruation is a process indicative of women's fertility that starts when women enter reproductive age in puberty, and ends with menopause. Textbooks depict the nature of this process through a demeaning writing style using words illustrate to menstruation as a failure to produce anything useful therefore it must "shed," "lose," and "disintegrate" the "debris" of the uterine lining since the egg "failed" to become fertilized during the monthly cycle. Further, since women are born with all the germ cells they are going to ever have, textbooks show how time is an indicator of the degeneration of



women's reproductive system as they get older. In contrast to women, the male reproductive system and process of spermatogenesis is celebrated for its "remarkable" ability to "produce" millions of sperm per day through precisely timed structures. Men are also able to produce "fresh germ cells" every day, and this is deemed as a very valuable process illustrated through vivid descriptions such that marvel over the length of the seminiferous tubules that carries sperm which "can span almost a third of a mile." The portrayal of the egg and sperm fertilization process is marked through a similar lens, where the egg has a passive role waiting for the sperm to become fertilized. The egg is "swept," "transported," or "drifted" through the fallopian tubes. Meanwhile the sperm is described as motile, moving at high "velocity" to "deliver their genes to the egg," or "activate the development of the egg," by "penetrating the egg." Based on the literature, it is evident that the biological representation of the egg and the sperm, is constructed around the contemporary conventions of gender norms. Discourse surrounding this narrative further supports how misogyny is present in all aspects of our culture, and even serves as the foundation for scientific knowledge. The idea that gender stereotypes are hidden behind scientific knowledge has significant implications in society, and these misconceptions ultimately affect how men and women behave and occupy their respective roles (Martin, 1991).

Written by: Ana Zepeda Gutierrez

Would you be more careful if it was you that got pregnant?

1970s poster produced for the Health Education Council attempting to re-educate male attitudes towards protected sex. (Credit: SSPL/Getty Images)

The perception of men and women in biology has created social barriers that have hindered the development and advancement of male birth control. The role of men is captivated in science through a lens that exhibits his masculinity, and birth control works by inhibiting this process that men are celebrated and take pride for. Notions of masculinity are also present in men's perception that they should not acknowledge and take care of their health needs, rather they should "suck it up and be a man." This is especially more prevalent among people of color (PoC) communities which are typically low income and have limited resources to access health services. Distrust of medical professionals, long wait times at clinics, and not knowing how to navigate the healthcare field are also intersecting factors that would influence access and desire to seek out reproductive health services. There is no doubt that the

intersection of biology and society has lasting implications around reproductive discourse, contributing to the lack of support that male contraception has received since its 1970s. stages in the early reproductive Subsequently, discourse has also led to lack of support from pharmaceutical industries, for they have been reluctant to invest in a product that could potentially be unprofitable. Overall, the notion that gender stereotypes are rooted in biology is fundamental in our understanding of history and science, and why male birth control was not available before, therefore we need it now. Evidently, science has significantly influenced societal constructs, which have retroactively fed back to scientific research and lack of support for male contraceptive methods.

Lasting effects of discourse in society at large

"THE PERCEPTION OF MEN AND WOMEN IN BIOLOGY HAS CREATED SOCIAL BARRIERS THAT HAVE HINDERED THE DEVELOPMENT AND ADVANCEMENT OF MALE BIRTH CONTROL."



MALE CONTRACEPTION

FOR WHO? >

WHY NOW? >

FOR WHO?

he progress of current innovations in male birth control requires multi-faceted support. Many believe the development of male birth control is a matter of contraceptive justice. The abundance of female birth control and lack of male birth control creates a disparity that may be highly problematic in regard to gender equity. The gap leaves women with the health and financial burden of contraception, and prevents men from gaining "reproductive autonomy" (Campo-Engelstein, 2012). The innovation of female birth control was historically momentous for women. allowing them increased quality of life and sexual freedom (Ellis, 2018). Could the invention of male birth control benefit men in similar wavs? And would these new technologies be beneficial for all men, or only those in monogamous partnerships?



> FAMILY PLANNING

n the realm of family planning, the male partner has often played an important role; for millions of couples, contraceptive methods rely on male participation in addition to female birth control methods (Handelsman, 2003). There is a misconception that the development of male contraception would be only for men in monogamous relationships, not men without a single sexual partner (Handelsman, 2003). It is assumed that single men prefer barrier methods to protect against STI's and unwanted pregnancy.

> FOR ALL MEN?

In the contrary, we believe that male contraception would be highly advantageous for monogamous couples and men with multiple sexual partners. Although male contraception would be especially suitable for couples in situations where female birth control is not ideal; like during the postpartum period or if the female is intolerant of traditional birth control methods. But this does not discount the value many single men may glean from controlling contraception on their end.

Non-monogamous males could also use male contraception in tandem with condoms to ensure double protection, alleviation of responsibility from their partners, and their own peace of mind. Currently, even with condom use, men must trust their partners' correct use of contraception, and are still equally responsible for the financial and social costs of an unplanned child (Campo-Engelstein, 2012). Considering the high rate of failure in condom use, it is estimated that the use of male contraception could dramatically reduce the number of unintended pregnancies worldwide (Dorman et al., 2018).

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> FOR ALL MEN?

he opinion that male contraception is only for monogamous couples was vocalized by a male endocrinology expert in The Journal of Clinical Endocrinology & Metabolism in 2003. The societal perspectives of experts in their respective fields tends to carry weight as they have increased potential to influence the opinions of others, namely they lay public that may take stances like these as truth. We see this assumption of limited male birth control use as not only false, but concerning in the consideration of male attitudes towards contraception. There is no evidence that contests the suitability of contraception for all men, regardless of relationship status.

The efforts for male contraception must be inclusive and emphasize the power in having choice and control over reproduction. Just as the pill dramatically increased quality of life for women, it is entirely possible that male contraception may also increase men's quality of life as they take part in birth control responsibility with their female partners. Further, it is also possible that an individual's use of male contraception may make them appear more attractive, seen as a responsible and considerate partner.

WHY NOW?

YES, FOR

ALL MEN

📙 Ithough female contraception has become a global revolution in family planning over the last 50 years, the world's population continues to grow rapidly, causing particular concern for environmental impacts of overcrowding and dwindling natural resources to sustain the world (Page et. al, 2008). Unintended pregnancies account for nearly half of all births, despite the myriad of forms of female birth control. For men, the only viable birth control options are condom use and vasectomy. This is not only unfortunate for men with limited choices, but also their female partners, who will likely bear the burden of contraception for the two of them. Fair and just contraceptive equality demands the development of reliable male birth control (Campo- Engelstein, 2012). The need for contraceptive equality between the sexes can be framed as an issue of social justice, harming both females and males in divergent ways. The efforts and resources allocating to the present efforts to develop new technologies are important, but a nuanced look at gender norms and contraceptive responsibility is also needed. The tight link between femininity and reproductive burdens must be broken to allow males to share the costs and gain their own autonomy.



ACCESSIBILITY AND INSURANCE

THE CURRENT ACCESSIBILITY OF CONTRACEPTIVES IN THE U.S., AND WHAT THAT MIGHT INDICATE FOR FUTURE ACCESSIBILITY OF MALE CONTRACEPTIVES

Picture this: the day has arrived where the first male birth control has finally made it past clinical trials! News headlines and magazines are reporting with overstated headlines, men who want more protection are excited, people tired of carrying the burden of birth control are relieved. Assuming this male birth control option—let's call it SonBlock—is picked up by a pharmaceutical company and consequently mass-produced, the next question folks might be asking is, "Where can I get me some?"

Despite the excitement about a working male contraceptive finally made available, this SonBlock may not be easily accessible, at least for a while. Insurance, potential out-of-pocket cost, and other factors could serve as roadblocks for those hoping to obtain this new birth control. Current access to female contraceptive options is a good initial predictor, but there are other factors at play too, including current legal regulation and the current cultural expectation that women are responsible for carrying the burden of birth control (Campo-Engelstein). First, let's take a look at the current situation with insurance coverage as required by U.S. laws and acts.

THE AFFORDABLE CARE ACT AND ACCESS

With the passing of the Affordable Care Act (ACA) in 2010, the majority of health insurance companies are required to cover birth control in their plans with no additional copay; however, since the passing of this mandate, there have been many attacks by anti-birth control corporations and politicians on coverage of birth control (7 Facts You Need to Know About Birth Additionally, according the Control). to Guttmacher Institute, the federal guarantee from the ACA requires coverage of 18 forms of female contraception, but does not require any coverage of the two existing forms of male contraception, condoms and vasectomies (Insurance Coverage of Contraceptives, 2020). This lack of coverage for male birth control unintentionally places a burden on women by

WHICH STATES REQUIRE INSURERS TO COVER EXISTING METHODS?







INSURERS TO COVER CONDOMS

*THE ACA REQUIRES COVERAGE FOR 18 TYPES OF FEMALE CONTRACEPTION

- requires coverage of condoms
- requires coverage of vasectomies
- requires coverage of both
- data from: Insurance Coverage of Contraceptives, 2020

making financially feasible for it more individuals to depend on female birth control options. It's additionally unfortunate, given that 23% of women in the U.S. rely on existing male birth control methods (see figure on next page), that these are left uncovered by the federal guarantees, since the intent of these coverage requirements was to support women's health (Rounding Out the issues Contraceptive Coverage Guarantee, 2015).

Requirements on coverage of these vary on a state-by-state basis. Only 8 states require coverage of male sterilization, and only 4 plus D.C. cover condoms (Insurance Coverage of Contraceptives, 2020). Though generally most insurers do not face these requirements, Medicaid and Medicare programs in many states do cover vasectomies and condom, for both women and men (Rounding Out the

Contraceptive Coverage Guarantee, 2015); specifically, 21 states expand family planning coverage eligibility to men (Medicaid Family Planning Eligibility Expansions). Still, this does not change the rules and requirements for private insurers. With little enforcement for coverage of the two existing male contraceptives, it's doubtful that coverage of new methods will be great, at least initially.

EMPLOYERS AND RELIGIOUS (OR OTHER) OBJECTIONS

In 2014, the Burwell v. Hobby Lobby case allowed some employers to block access to birth control, a decision that affects over half of workers in the US (Burwell v. Hobby Lobby). In response, the Obama administration extended rules so that insurance companies would be required to provide birth control at no cost for these

PRIMARY METHODS OF CONTRACEPTION FOR WOMEN USING CONTRACEPTION



employees, even if their employers refused to cover birth control (Burwell v. Hobby Lobby). In 2017, the Trump administration made it possible for employers of any kind to exclude some or all types of contraception from coverage if they have religious or, in some cases, moral objections, though the courts have objected to enforcing regulations (Insurance these Coverage of Contraceptives, 2020). These constrictions currently apply mainly to female birth control because most current methods are female contraceptives, but future struggles around employers not wanting to cover birth control will likely affect male birth control in similar ways.



protesters outside the supreme court during the Burwell v. Hobby Lobby trial. image source: thedaonline.com

COST OF CONTRACEPTIVES

Because new methods of male birth control do not exist yet, we cannot determine their cost nor how they will be covered by insurance, but we can look at current cost burdens. Over one third of female voters have reported difficulty in paying the monthly additional costs of birth control, leading many to use it inconsistently (7 Facts You Need to Know About Birth Control). Additionally, co-pays for birth control pills can cost up to \$50 a month, and other methods such as the IUD can cost up to over \$1,000 even when covered by health insurance (7 Facts You Need to Know About Birth Control). During our interview

CO-PAYS FOR BIRTH CONTROL



note: depending on the type, an IUD can last anywhere from 3-5 years up to 10-12 years (bedsider.org).

with a student, Alonzo*, he also described similar concerns for himself: "If it wasn't covered under insurance and it cost any more than \$15 to \$30 a month, it would be a non-option." After a second thought, he backtracked, saying "\$15 to \$30 is way too much" for him personally. Even if male birth control ends up being covered similarly to female birth control, there could still be cost-barriers, especially for long-acting reversible methods like vasalgel or RISUG.

*name anonymized per interviewee's request.

REPRODUCTIVE JUSTICE AND ACTIVISM WILL PREVAIL

Despite the less-than-ideal current situation with coverage, both for male contraceptives and for female contraceptives, there are possible ways to change the coverage guarantees of the ACA. Additionally, activist groups will likely play a role in promoting coverage for new methods as they have in the past for birth control coverage generally. The Guttmacher Institute outlines several possible fixes, including congress introducing new coverage legislation, change in health plan individual coverage (through influence from health advocates). state legislation, and recommendations from the U.S. Preventive Services Task Force (USPSTF) (Rounding Out the Contraceptive Coverage Guarantee, 2015). According to the Guttmacher Institute, the latter is the most likely path to fixing contraceptive coverage, as this group typically rectifies such disparities, and all of its recommendations are automatically included after one year. Additionally, in the advent of novel male contraceptives, large players in

reproductive justice such Planned as Parenthood will likely spearhead or at least aid in movements for coverage. According to the guiding principles of Planned Parenthood, "failure to provide birth control coverage is sex discrimination" (7 Facts You Need to Know About Birth Control and Costs). Based on this, one might assume this would include sex discrimination when legislation covers female birth control methods but not male birth control methods, especially as more become available on the market.If and when a new male birth control method becomes available, initial coverage and access may be subpar. However, changes in requirements for insurance coverage, whether for government-funded programs like Medicaid or for all insurers, may ensue, even before then. The climate is still dictated largely by the discourse and activism currently for reproductive justice and burden on women, though maybe the arrival of more male contraceptives will be the catalyst needed to push change in coverage and access to all contraceptive options, male or female. written by Annika Gillam

<image>

INTERVIEW WITH ALONZO

Alonzo* is a 20-year-old college student in the LA area who volunteered to participate in a clinical trial for male birth control. Alonzo was kind enough to spend an hour doing an interview with us. the interview has been edited for brevity and clarity.

*name redacted for privacy.

Which birth control trial did you want to become a participant in, and how did you find out about the clinical trial?

I don't remember the exact name of it, it's been a year or so. I found out about it because there were ads on Facebook, just like scrolling through facebook and it says "would you like to be part of a birth control trial?" But I know that it was through UCLA's Health Center in Torrance.

We read about two trials being done through UCLA in our research —one was a topical gel and one was a pill. Do you remember which one you were being recruited for, or was it for both of them? Yeah-so, they told me about both of them, and they said you would be randomly put into one of these two groups [topical gel or oral pill] and you wouldn't know if you were getting the actual treatment or a placebo.

I remember you mentioning to me before that they ended up deciding not to recruit you for the trial. May I ask why they did so, if you're comfortable answering?

So I was on the phone with them and they asked me a question about mental health asking, "do you have any diagnoses?" At the moment, I was like "I don't think I do." So then they kept bringing me through these steps to prepare for the trial. But then I called my therapist to check, and she said "for billing purposes, we have you down generalized depression for and anxiety disorder." The recruiters had told me over the phone before, if I had generalized depression or anxiety disorder. I couldn't continue with the trial because that would interfere with their data on mood changes. So for that reason. I was like I shouldn't continue with this trial, and I called them back to give them the updated information and discontinue from the trial

What was your motivation or reason to participate in the trial?

I've always really wanted there to be a birth control for folks with penises, with this type of body, so when I saw it I immediately jumped on it. Like "This is it, this is great-I can actually help out here!" And I'm so for that. And every time I read updates on new methods around the world I'm like. "Why don't we have this yet? This is ridiculous!" So the second I saw it, I verv enthusiastic about the was opportunity.

Does it bother you, and if so, what bothers you about the nonexistence of birth control options (besides condoms and vasectomies) for people with penises?

It does. It bothers me to no end. And it's 100% a product of heterosexism and the patriarchy. I could talk about this forever-when it comes to world responsibility in of the reproductive justice, men are always given the most autonomy and the least responsibility, and women get like the exact opposite of that. Every single woman in my life that I've

talked to about dealing with their reproductive health has crazy fucking stories about, like, being in a target bathroom or smuggling supplies or just getting around how cumbersome this world is. I feel like there would be a lot less shame around men taking responsibility. Most guys I talk to don't have a story like that-don't even think about those things like women have to. Like every woman they know has a story like that, you know? The more I hear about other people's experiences, the more I'm like "oh my god, we need this. Like. this is ridiculous."

If a form of male birth control is developed, how do you think the culture will shift, if at all, for reproductive responsibility?

I have a bad, sinking feeling that most men won't use it. But at the very least, part of me feels like they won't have an excuse then. We already live in a culture where we're so used to. like, there's this standard where men have this kind of audacity about lack of responsibility. Part of me would like to see that this would make it like, "well, why aren't you on the male birth control pill? Why aren't you doing this?" Because it's not because it's too hard now, it's because you just don't care. Just straight up don't give a shit. Unfortunately, I feel like at first-or maybe even for decades to come-like, most men will not take responsibility. But it's so crucial to start that dialectic shift, because that's how progess is made, a little at a time. And I think there's a lot of dudes out there that would jump on it immediately. Maybe the majority would not, but I think it would make a difference. First we have to make it available, and then society will catch up.



"IN THE WORLD OF REPRODUCTIVE JUSTICE, MEN ARE ALWAYS GIVEN THE MOST AUTONOMY AND THE LEAST RESPONSIBILITY, AND WOMEN GET LIKE THE EXACT OPPOSITE OF THAT"

billing purposes, we have you down for generalized depression and anxiety disorder." The recruiters had told me over the phone before, if I had generalized depression or anxiety disorder, I couldn't continue with the trial because that would interfere with their data on mood changes. So for that reason, I was like I shouldn't continue with this trial, and I called them back to give them the updated information and discontinue from the trial.

In our research, a point of some controversy has been the adverse effects experienced by trial participants, especially potential double standards for what's considered acceptable for women versus men. For you personally, where would you draw the line for side effects?

When it comes to side effects, that's a real concern. I'm not gonna be high and mighty like "oh anything is ok!" I think if my body really started to feel like it's not my body, I think I'd be like "it's time to find another option." I'd also have to take it to really see what side effects I get, cause like I could get one thing and not another. Who knows, you know? Something else we've been researching is potential the accessibility of male birth control cost. ease of access. does insurance For cover it. etc. how vou. accessibility affect your ability or choice to use birth control?

Right now, it would totally affect it—like right now, my STI testing is covered by my parents' insurance, and I get tested all the time because it's covered under their insurance. And if it wasn't it would be so much harder for me to access care. Like, as a student, I'd have to take up an extra job or all sorts of things. If it cost any more than 15-30 a month, it would be a non-option. In fact—wait, 15-30? Actually that's too much for me.

Some of the methods we found that are the furthest along in trials are the pill, the topical gel, and RISUG (an injection of a plug-like gel into the vas deferens). Which of these sounds most appealing to you or which would you use, if all three were available right now?

[more context on usage and duration was given during the interview; for this information see article titled "what birth control option is for me?"]

Oh, the RISUG one? I would sign up for that right fuckin' now. That sounds wonderful.

Thank you so much for taking the time to do this interview!

Thank you so much, you're an awesome interviewer, it's been a pleasure!

interview conducted and transcribed by Annika Gillam.

WHAT BIRTH CONTROL OPTION IS FOR ME?

A three-way comparison of the latest methods

RISUG

What is it?

RISUG is a non-hormonal male contraceptive gel that offers long term contraception with safety, efficacy, and it is delivered by noscalpel injection. RISUG is injected into the vas deferens to block sperm movement. It is a one time injection that lasts for up to 10 years. Effects can easily and effectively be reversed by another shot that breaks down the gel.

How does it work?

The RISUG complex is injected into the vas deferens, and within 72 hours changes the polarity of the inner walls of the vas deferens by creating an acidic environment. Sperm passing through the vas deferens suffers pH stress and becomes damaged. The impaired sperm is unable to move forward to meet with the egg, therefore pregnancy can't happen.

Are there any side effects?

There have been no reported adverse effects from RISUG users, other than a slight scrotal swelling in some men immediately following the injection which goes away after a few weeks!



NEST/T GEL

What is it?

The NEST/T Gel is a hormonal male contraceptive method that combines gel Nestorone® (NES) and Testosterone (T). The gel is applied topically to two different sites in the body, to the back and shoulders, twice a day. This gel is applied daily and has easy reversal capabilities by simply stopping application.

How does it work? The NEST/T gel reduces sperm count to a level that it is contraceptive. Nestorone suppresses testosterone and FSH and LH levels to concentrations that are unable to produce sperm. Testosterone is also administered to counter the side effects that may arise from low testosterone levels in the body, while still maintaining low testosterone levels in the testes.

Are there any side effects? The topical gel is able to maintain healthy testosterone levels and users have reported no adverse effects. This product is well tolerated, while it is slightly inconvenient due to constant reapplication.



THE PILL

What is it?

The Pill contains Dimethandrolone Undecanoate (DMAU) and it is made up of a combination of testosterone and progestin. It is an oral male contraceptive method that works very similar to the female birth control pill. The Pill is taken once a day and has easy reversal capabilities by simply stopping administration.

How does it work?

The Pill reduces sperm count to a level that is contraceptive. It does this by suppressing serum testosterone, LH, and FSH which stops the process of sperm production. By lowering sperm count, there will be no more sperm produced that will be able to fertilize the ovum, therefore pregnancy will not be able to occur.

Are there any side effects?

The Pill has shown no serious adverse effects, while some minor side effects were reported as headaches and decreased libido.



Word Search

CAN YOU FIND ALL 20 HIDDEN WORDS?

REMEMBER, WORDS CAN BE DIAGONAL, VERCAL, HORIZONTAL, FORWARD OR BACKWARDS. GOOD LUCK!

с	Ν	к	U	Α	۷	м	Α	Ν	D	R	0	G	Ε	Ν	S	L	к	Ρ	к
S	т	С	Ε	F	F	Е	Е	S	R	Ε	۷	D	А	С	н	۷	Т	R	в
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Т	R	R	А	0	S	Е	Α	в	Ν	D	0	Ν	U	G	J	Т	Т	т	Ν
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в	м	F	к	S	Ρ	Е	R	м	С	0	U	Ν	т	Е	Т	G	Ρ	F	С

WORD LIST:

ADVERSE EFFECTS ANDROGENS AZOOSPERMIA BIG PHARMA

DMAU ESTROGEN GOSSYPOL OLIGOSPERMIA

PROGESTIN **REPRODUCTIVE JUSTICE RISUG** SOCIAL JUSTICE CLINICAL TRIALS PROGESTERONE SOCIETAL CONSTRUCT

SPERMATOGENESIS SPERM COUNT **TESTOSTERONE** THE PILL VASOOCCLUSION

MALE BIRTH CONTROL TRIAL RECRUITMENT

Study of Daily Application of Nestorone® (NES) and Testosterone (T) Combination Gel for Male Contraception

If you are a man 18-50 years old and interested in participating in a clinical trial conducted by UCLA Health, please contact our research coordinator. Details can be found below.

METHOD

Daily application of NES/T gel to shoulders.

DURATION OF STUDY

screening phase – 4 to 8 weeks suppression phase – up to 20 weeks maintenance/efficacy phase – 1 yr recovery phase – 24 weeks (est.)

REQUIREMENTS

Male

18-50 years of age

General good health as determined by diagnostic tests

No history of androgen use in six months prior to start of trial

In a sexually monogamous relationship with a female and intends to stay in relationship for duration of trial

Willingness to accept a low but unknown risk of conceiving a pregnancy for the duration of the trial

Contact recruitment coordinator for details or if you have any questions: Xiaodan Han • 310-222-1865 • xhan@labiomed.org

Source: based upon Study of Daily Application of Nestorone® (NES) and Testosterone (T) Combination Gel for Male Contraception, ClinicalTrials.gov

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