
Female Combat Athlete: Hormonal Birth Control Considerations

with Dr. Kokes

To give this article context let's first break down hormonal contraception and its varying types. The goal of contraception is to significantly reduce the chance of pregnancy but through the literature and anecdotally we see many athletes using it for PMS symptom management along with heavy bleeding and for the ability to control when and if you have a period.

Hormonal contraceptives function by adding synthetic estrogens and progestins to the body which act on the hypothalamic-pituitary-ovarian axis through a negative feedback loop to downregulate the natural production of estrogen and progesterone. Through this process, no ovulation occurs and any bleeding is not actually a period it is a withdrawal bleed. The hormones used in hormonal contraception are NOT the same as our natural hormones as we have a hard time absorbing bioidentical progesterone orally.

Hormonal contraceptives come in a variety of options:

Note: hormonal contraception differs in the potency of hormones along with the desired androgenicity effect.

Combination pills: (Estrogen + progestin)

Monophasic: Same amount of hormones every day

Biphasic: Same amount of estrogen throughout the cycle but estrogen to progestin ratio is lower in the first half of the cycle (allowing for endometrial thickening and shedding)

Triphasic: Can have constant or variable estrogen throughout the cycle and changeable progestin throughout the cycle.

There is also a progestin-only pill that is effective for instances where estrogen is contraindicated. Other types of hormonal birth control include intrauterine devices (IUD), patches, and injections.

There are many hormonal options and different bodies respond to different interventions, there is no one size fits all here. I would like to highlight some key pieces of information that are not always part of the conversation when considering birth control as an athlete.

Many athletes go to their doctor with severe cramping during their period. Oral contraceptives are a first-line intervention for this despite research showing they don't do much if anything for dysmenorrhea. Oftentimes for athletes, we see extremely tight muscles (hip flexors) and elevated prostaglandins which are significant contributors to period pain. Here we could consider highly absorbable magnesium, bioavailable curcumin, and fish oils to mitigate pain.

As mentioned above, while you are on the pill you are not actually having a real period. So it is very interesting that some practitioners recommend birth control for amenorrhea. When athletes miss periods we want to look at the Hypothalamic-Pituitary-Adrenal axis along with a Relative Energy Deficiency in Sports assessment. In truth, the pill could be masking an underlying issue with the athlete that can have long-term consequences for bone health and fertility.

There are a myriad of symptoms that females can present with in terms of PMS. The pill can be a band-aid fix to mitigate symptoms but to fully resolve hormonal issues it often takes a further assessment of adrenal function, thyroid function, nutrition and training. Adding hormonal contraceptives can have a significant impact on an athlete's weight. These body composition changes can be due to fluid retention or fat mass gain or a combination of the two. This can be devastating and complicated for a weight-class athlete.

Another consideration is the risk factor of birth control to cause deep vein thrombosis especially if the athlete travels a lot for competition. Research studies show that pill users are also more likely to be prescribed antidepressants along with an increased risk of auto-immune conditions, heart attacks, thyroid conditions, and adrenal disorders. The pill can also deplete folate, B12, and magnesium which are all instrumental in female athletic performance. So it is imperative for pill-using athletes to check these levels and supplement accordingly.

Some recent research has also highlighted a strong connection between oral contraceptive use and Inflammatory Bowel Disease. One of the proposed mechanisms for this is that oral estrogen negatively impacts gut permeability and/or exogenous hormones impact our innate and adaptive immune response via the gut microbiome. Although there is not much further research here, the implications of this proposed mechanism would be far more reaching for athletic performance and athlete health.

Now let's look at the science of the impact hormonal birth control has on performance. Please keep in mind this is a very under-researched area and due to the number of birth control options it is difficult to pull recommendations as each different intervention can yield different results. Studies also fail to highlight where the user is in a pill pack, whether it be sugar pill week or hormonal pills. As you could imagine, a biphasic and triphasic pill would have to be assessed at varying points and not just lumped together as birth control for accurate and insightful interpretation. We have yet to see a study that uses the same brand and type of birth control to mitigate variability.

The research shows us that oral contraceptives (OC) have no strength improvements or androgenic benefits and potentially the natural cycle can have stronger days than the consistent strength of OC. So this is an interesting point for a combat athlete, would it be advantageous to potentially be stronger on certain days or have a consistent level of strength overall?

Short-term high-intensity exercise also does not seem to be improved by OC and for moderately active women OC actually may negatively impact endurance performance. Maximal oxygen consumption has also been shown to decrease with OC use and it has been shown that anaerobic performance is negatively impacted by exogenous hormones.

When assessing the impact of the pill on acute weight loss we know that oral contraceptives increase the Aldosterone/ Renin ratio and can even create false positive results for primary aldosterone diagnosis. This does not indicate inherently that it would impact outcomes during fight week but it would be very important to test prior to an event to see how the body is responding to fluid balance.

This all sounds quite negative towards hormonal birth control and I do fully understand that having a positive pregnancy test is not what you are looking for either. This is a risk-reward ratio that you have to make a decision on. I never stand for telling a woman what to do with her body and I write this in hopes that athletes have the education behind them to make an informed decision when it comes to choosing what is right for their body and performance.

Birth control may serve a purpose for you as an individual but if things are not feeling right you must check in with qualified health professionals. If you are looking for performance gains it seems that it not going to be found in a pill pack.



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