

Fertility Challenges for Highly Athletic Women

Fact Sheet

By understanding the potential risk factors, their bodies and reproductive health (sooner rather than later), athletes can make better informed decisions to manage their circumstance more effectively, increasing their chance of having a baby now or in the future.

Impact of sport on female health

Functional hypothalamic amenorrhea or disordered ovulation

Functional hypothalamic amenorrhea refers to the absence of the menstrual cycle due to suppression of the hypothalamic-pituitary-ovarian (HPO) axis.

This occurs due a number of factors including low body fat percentages, energy deficit due to a high level of training, under-nutrition and also the impact of high intensity sport and training on the sympathetic nervous system and the stress response.

Research has shown that elite athletes are at far greater risk of menstrual dysfunction, with up to 65% of long-distance runners developing issues, compared to 2-5% of the regular population. This will often require multidisciplinary intervention including working with dietitians, exercise physiologists and psychologist to manage this. This is particularly relevant in weight dependent sports and endurance sports (long distance running, triathlon).

Impact of female health on sport

Reproductive health related conditions

Fertility related conditions such as the following can considerably effect sports performance:

- PMS
- Dysfunctional bleeding
- Polycystic Ovarian Syndrome (PCOS)
- Endometriosis

Key Indicators for Fertility Challenges Amongst Athletic People

- Many athletes – particularly women may experience significant weight loss, excessive exercise, and a high degree of physical or psychosocial stress – all factors that can impact a reproductive cycle.
- Common female fertility challenges include:
 - Menstrual dysfunction
 - Absence of ovulation
 - Increased incidence of osteoporosis and fracture risk due to low estrogen and nutritional deficiencies
- Menstrual dysfunction occurs as a result of an imbalance between the dietary energy intake versus the exercise energy expenditure.
- For athletic males indicators can be similar, trauma from a sporting injury, performance stress and androgen use or abuse (illegal in performance sport) can have a serious impact on fertility.
- Absence of ovulation occurs as a result of the interaction of the metabolic, nervous and hormonal systems. Absence of ovulation can lead to infertility, an increased risk of fetal loss, and small gestational age babies.
- Painful periods (dysmenorrhoea) – it is not normal for periods to be painful.
- Heavy menstrual bleeding.
- Absence of menstrual periods (amenorrhoea).
- Clots in the menstrual blood (large or very frequent).
- Long periods (more than 8 days).
- Irregular periods
 - Normal to have irregular periods as an early teenager.
- Bleeding between periods / any changes in the pattern of periods.



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Age and pre-existing conditions are two of the biggest factors impacting fertility, athletes can face unique fertility challenges due to the impact high-performance sports training and competition can have on their bodies. Although some athletes may be at the age where their body is at its peak for conceiving, we understand that the time might not be right.

What is elective egg freezing?

Egg freezing is a method of storing unfertilised eggs; preserving eggs now so that a person can start their family later. At Repromed eggs are frozen via vitrification and then safely stored until the patient is ready to fall pregnant. Eggs frozen via vitrification can be stored indefinitely (note embryos can only be transferred to the person carrying the pregnancy if they are under 52 years of age).

Who should consider egg freezing?

Egg quality naturally declines with age making it harder for some women to fall pregnant naturally later in life. Because frozen eggs remain unchanged, this option may be appropriate for those:

- Not in a position to have a baby right now but wanting to preserve oocytes at current age for future use.
- With low ovarian reserve.
- Whose fertility is at risk from a serious illness.

What is involved in the egg freezing process?

Eggs are collected through an IVF stimulation cycle involving injections to stimulate the ovaries to produce multiple eggs. These eggs are then collected during a day surgery procedure where a needle is passed through the vagina into the ovary, hopefully collecting an egg from each follicular cyst. This procedure is performed under sedation, with recovery generally being rapid. The eggs are then assessed by our highly qualified embryologists to ensure they are mature, and are rapidly frozen, using a process called vitrification. Only mature eggs are frozen, as only mature eggs can be fertilised with sperm in the future.

The number of eggs collected in a stimulation cycle is based on age, body mass index, anti-Mullerian hormone level (this result is available from a blood test) and antral follicle count (number of small follicles seen on a pelvic ultrasound). Most women will need to undertake more than one cycle to store enough eggs.

For more information or to make a referral

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