

Summary from Maz's female health course 2021
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How can we understand female physiology in the best way possible to create better opportunities for female athletes?

After attending a 12-hour course jointly run by the LTA & The Well (www.thewell-hq.com), it was highlighted to me how just incredibly important this topic is and how crucial it is that we share with each other the powerful knowledge we come across.

If we spend regular time with adolescent girls, be it socially or through work, it is important to understand more about puberty. As we know, puberty brings with it many new mental, hormonal and physical changes and if we can start an open forum of discussion about these changes we will be enormously benefitting the girls long term.

To set the scene, here are some stats which may or may not surprise you:

- After Rio 2016 Olympics it was found that only 35% of GB medalists were female (many other countries had a more even split between male & female).
- By the end of puberty, 40% of girls will have dropped out of their sport.
- Only 4% of sports performance research has been done on females.
- Females are 4.5 times more likely than males to suffer an ACL rupture through non-contact injuries.
- 88% of female athletes says their menstrual symptoms make their performances worse.
- 57% of females have lied about the cause of their menstrual symptoms.
- 78% of teens worry about their breasts during exercise (they don't like being watched).
- 42% of teens avoid exercise during their period.
- 25-40% of active women do not know how to exercise their pelvic floor muscle properly.
- 44% of elite female athletes say that breast pain has interfered with their performance.
- 80% of women have the wrong fitting bra.

In order to explore this further, this summary will cover the following female topics:

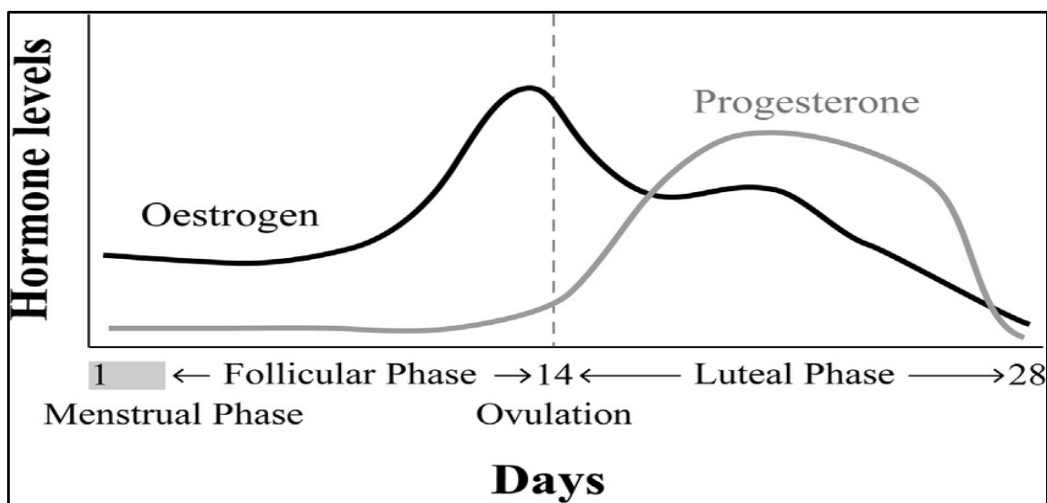
- The menstrual cycle and tracking
- Hormonal contraception
- Relative Energy Deficiency in sport (RED-s)
- Nutrition
- Injury considerations
- The pelvic floor muscles
- Recovery
- Optimising Performance
- Breast support
- Female mindset

THE MENSTRUAL CYCLE

An overview of the cycle

Starting age:	Anywhere between 9-15 years old. On average 12 years old. If they haven't started by 16, seek advice.
Cycle length:	24-38 days (but 40-50 days can be normal in teens). Cycle length may vary by about 8 days per month.
Day 1 terminology:	First day of period
Period length:	5-8 days. The flow should be manageable (manageable enough to change sanitary product every 3-4 hours)
Symptoms:	These should be tracked as they can vary massively. Can be stomach / back / leg pain, diarrhoea, fatigue, light headedness, confusion.

Graph of oestrogen & progesterone levels during the menstrual cycle



Some implications of different stages of the menstrual cycle

PHASE 1: The period (day 1)	Chemicals that shed the uterus lining are inflammatory, therefore can cause stomach & back pain, diarrhoea and fatigue. The best way to deal with this can be pro-actively with anti-inflammatories (must eat first or take a gastro-protector). Also heat, exercise, yoga and eating unprocessed foods / limiting caffeine can help.
PHASE 2: Late follicular phase	High oestrogen in this phase, which is an anabolic hormone. Emotionally, oestrogen makes us more resilient so this is a good time to have difficult conversations! This is a time for increased confidence, being socially motivated and for taking risks. Physically, as it is anabolic, oestrogen helps muscle growth so this phase is good for strength training, muscle repair/recovery and for high intensity exercise. Beware oestrogen also increases joint laxity which is linked to joint injury. This is however only one of the many risk factors for injury and not to be worried about (see more in injury section).
PHASE 3: Mid-luteal phase	High progesterone in the phase, which is a calming hormone & may reduce irritability. Because it floods the brain, it can lead to a reduction in co-ordination & less willingness to risk-take. There may be an increase in appetite as blood sugars fluctuate more, so be mindful of eating low GI foods in this phase. This hormone is also associated with lower digestion & water retention.
PHASE 4: Pre-menstrual phase	Here, both hormones are declining which can cause a broad range of symptoms (headaches, asthma, IBS, emotional fragility such as anxiousness & irritability, breast tenderness). These symptoms will be amplified by stress & inflammation.

Girls' menstrual cycles are a **VITAL** sign of health

The menstrual cycle is a fluctuation of hormones which, as they rise, are essential for long-term health. Girls have receptors for these hormones all over their bodies which make these hormones responsible for all sorts of other health benefits. For example, the rapid rise in oestrogen just before the middle of the cycle is responsible for immune function, muscle health, bone growth and growth plate closure. This rise in oestrogen during a regular cycle is therefore absolutely integral for bone health (up to 90% of peak bone mass is acquired by 18 years old). Concerns if periods stop or start later than 16 years of age include a much higher risk of bone stress fractures and other bone injuries.

Girls' menstrual cycles will on average start approximately **1.2 years after they hit their peak height velocity** (peak growing rate). For my athletes, I use an algorithm to calculate their "percentage of their predicted adult height" at any moment in time (%PAH) **AND** another algorithm to determine whether they are an early, on-time or late maturer. When this %PAH hits around 91-92%, this equates to them being at their peak height velocity. This may give you a rough indication of when their cycle will start if the child in question is still in the preadolescent phase of growth.

MENSTRUAL CYCLE TRACKING

Encouraging girls to track their periods can be really beneficial. Such tracking can help:

- Monitor health – track cycle length & flow, how regular the cycle is, keeping a log of symptoms so they will be easier to predict and manage.
- Develop cycle resilience - help them anticipate and understand how to manage symptoms.
- Optimise performance – record energy, mood, motivation and add training intel to training programmes (for example knowing days you can lift more weight) therefore create better habits.

A really great app which helps them track their menstrual cycle is called "Clue". This has a free version which works perfectly for their needs. It not only tracks their cycle, but also educates about their personal cycle based on the information it is given (such as typical cycle length, cycle length variation, length of period and personally your most common symptoms). There are many other apps out there. Tracking can also be as simple as marking "day 1" of the cycle down in a diary. Do what works for you!

The possible causes of an unhealthy cycle

An unhealthy cycle (very irregular once established, absent for more than 3 months, doesn't start before 16 years of age, severe pain symptoms) may be caused by many factors which include:

- Overtraining (therefore we need to be mindful of overall load & rest days)
- Poor nutrition / not refuelling properly (also manifests as low energy)
- High stress levels
- Decline in body weight
- Thyroid dysfunction
- Other medical reasons

If a young female has an unhealthy menstrual cycle, it would be useful to make a note of it to see any patterns that emerge so that action can be taken. Speak to someone experienced in this area if you are worried. It may also simply be that the child is a very late maturer and has grown late. In summary, if all you do for young female athletes in your care is ensure that when they start having a menstrual cycle it is regular, then this is a massive tick in their long-term development and health. Speak to their parents as first port of call if having these conversations direct with the athlete feels uncomfortable.

HORMONAL CONTRACEPTION

For young athletes this may be irrelevant, but it is worth knowing a bit more about. Hormonal contraception (the pill, implants, injections, coil) is a medication therefore it should be declared. If in any doubt speak to UKAD (UK Anti-Doping). Many athletes will use the pill, but it is vitally important to understand that in these athletes, period health can not be tracked as the bleeding they have is not a period. When on the pill, our body shuts down natural production of oestrogen & progesterone. Instead, there are small deliveries of replacement synthetic hormones into your body every day; the monthly bleed is just a withdrawal bleed from these hormones and not a proper period.

Hormonal contraception is about weighing up the pros and cons...

Some athletes go on the pill for reasons such as managing menstrual cycle symptoms, preventing pregnancy, acne, managing endometriosis or regulating their cycle. It is unadvisable to go on it for other reasons such as trying to kick start cycles or to regulate periods when there are unknown underlying causes of the dysfunction. It is always best to investigate these causes first and then re-evaluate.

There are very few reliable studies in this area, but the research so far suggests the following:

- Sports doctors will often happily prescribe contraception, but the only form of contraception that many sports doctors will not prescribe is the injection, as this has been linked in some studies to poor bone health
- Cortisol (marker of chronic stress & inflammation) can sometimes be higher when taking the pill. This can in turn reduce recovery rates & therefore consequently reduce performance
- As the pill competes with females' own natural testosterone, it may influence the ability to gain strength. This is important just to be mindful of in case female athletes are not gaining strength (or even if their strength decreases); it is another consideration in performance planning
- The pill may affect performance capacities. A collection of studies has shown that VO2 max decreased by ~11% after going on the pill
- The pill can affect mood and mental health; there is a 50% likelihood of depression within 6 months of starting the pill, especially in 16-19 year olds. They are more likely to be prescribed anti-depressants

"The Lowdown" (<https://thelowdown.com>) is a website where you can discuss many different types of contraception and weigh up the pros and cons yourself.

RELATIVE ENERGY DEFICIENCY IN SPORT (RED-S)



Over the past decades, the red flag in female health to watch out for has been known as the “female triad”. The triad being that (1) if we don’t refuel properly, (2) there may be menstrual irregularities & (3) resulting decreased bone density:

The modern terminology for this is “Relative Energy Deficiency in sport”, or RED-s for short as there are now considered to be more than 3 factors in the female triad. The chain of events which can be so detrimental to both female health and performance stem from under-fuelling.

Reasons for under-fuelling are generally as follows:

1. Totally unintentional (too busy, lots of training meaning the simply forget)
2. Misguided, but intentional (trying to conform to peer pressure / aiming for a weight / controlling food macronutrients in an uneducated way)
3. Compulsive (disordered eating)

Symptoms of under fuelling include:

1. Low energy availability (can also relate to hours in the day without food, i.e. no breakfast)
2. Menstrual dysfunction (low energy means the body goes into survival mode & it switches off systems that can be preserved; the reproductive system is one of the first to shut down). There can sometimes be a time lag after under fuelling, which shows up months later as menstrual dysfunction. The pill can mask RED-s symptoms so this should simply be another consideration when screening female athletes; they may have to monitored in a different way
3. Weak bones (with no menstrual cycle, oestrogen and progesterone simply flatline)

The following shows different body systems/considerations and the percentage increase likelihood of it being compromised by RED-s:

Menstrual function (50%)	Impaired cognitive performance (65%)
Bone health (63%)	Adaptation to training (68%)
Psychological (70%)	Increase injury risk (53%)
Endocrine, Haematological & immune function	Decreased endurance performance (59%)
Metabolic (75%)	Gastrointestinal (60%)

Top tips to get energy balance right

- Eat every 3-4 hours (healthy balanced snacks in between meals)
- Eat around training (arrive well-fuelled, top up during training and re-fuel within 30 minutes after training)
- Eat to match your daily training volume
- Plan ahead – consider daily schedule logistics and where to get your food from. Buying specific Tupperware tubs that suit the snacks you want to bring in can also really help
- If you need help, then ASK!!! Find a good sports nutritionist or use apps to help if that works for you (for example “the fitness chef”)

NUTRITION

Nutrition is such a delicate topic. It is an imperative part of performance, and should be celebrated and talked about in this way with our female athletes; we should highlight how doing it properly can give them such a competitive advantage. We must however be careful with our language; encourage how good nutrition can help the function of their bodies & emphasise performance success over and above body size or aesthetics. Any talk of calories must be in relation to them fuelling / replacing how much energy they are expending & keeping energy levels high, and NOT about weight loss.

From a RED-s viewpoint, what a female ingests today will affect an egg that will ovulate in 100 days time. So be mindful that nutrition changes can take ~ 3 months to show improved symptoms, and our RED-s radar should be on at all times.

Professional nutrition advice should be sought to ensure the energy intake matches the energy outputs of female athletes. As a rough guide, females prosper best on a nutrition plan of 75% good quality carbs, 35% good quality protein & 20% good fats. This is a HUGE topic and a detailed analysis is beyond the scope of this summary. Link up with a sports nutritionist for help in this area. Coaches & parents can help by simply checking that athletes have eaten before training and have a post-training snack with them.

For a quick visual guide, see below a table showing some examples from each of the three main food groups. A simple aim is to ensure each meal and snack has a component of each food group, and preferably mostly from the 'highest quality' section.

Quality of Food		
Highest Quality: Least Processed and Least Refined		
PROTEIN	CARBOHYDRATES	FATS
Beef	Beans - Fresh	Avocado
Chicken	Brown Rice	Flaxseed Oil
Egg Whites	Fruit	Natural Nut Butter
Eggs Whole	Hot Cereals	Nuts
Fish	Sweet Potatoes	Olive Oil
Hemp Powder	Vegetables	Olives
Hydrolyzed Whey (shakes/bars)	Yams	
Pork		
Turkey Breast		
<small>(All Other Fresh / Frozen Meat)</small>		
Medium Quality: Medium Processed and Medium Refined		
PROTEIN	CARBOHYDRATES	FATS
Canned Meat	Bread <small>- (at least 2 grams of fiber)</small>	Canola Oil
Garden Burgers	Canned Beans	Guacamole
Pre-Packaged Meats	Canned Fruit	Processed Nut Butters
Protein Powder - Whey, Egg & Soy	Canned Vegetables	Vegetable Oil
Sandwich Meats	Cold Cereals	
Soy Beans	Crackers	
Soy Meat - Packaged	Pasta	
Quorn	Potatoes, Red & White	
Dairy	Pretzels	
- Cheese		
- Milk		
- Cottage Cheese		
- Yogurt		
Low Quality: Most Processed and Most Refined		
PROTEIN	CARBOHYDRATES	FATS
Protein Bars (non-hydrolyzed)	Bread <small>- (< 2 grams of fiber)</small>	Butter
RTD Protein (non-hydrolyzed) (ready to drink)	Ice Cream (NF, LF)	Creamy Salad Dressing
	Potato Chips	Margarine
	Tortilla Chips	Mayonaise
	White Rice	Sour Cream

INJURY CONSIDERATIONS

Injury risk, particularly concerning joints, are much more common in females than males...

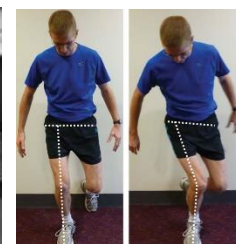
- Females are 4.5 x more likely to suffer a non-contact ACL injury than males.
- Even at the shoulder and ankle, females are 2-3 x more likely to get injured

The reason for this is an accumulation of many different factors, for example in relation to the higher ACL rupture risk, we need to consider:

- **The Q angle** (the angle between the quadriceps muscles and the patellar tendon). This actual angle can't change, but how the leg is controlled dynamically is an imperative part of S&C training to help protect against sudden valgus (knee falling in) forces going through the knee.
- **The menstrual cycle.**
 - a) There is a theory that oestrogen interacts with the collagen in our ligaments and makes them more lax by about 1mm; this in turn would make the joint more unstable. Oestrogen is at its highest just before ovulation (at about day 12 in a 28 day cycle). However no researchers have definitively linked this – it is theory.
 - b) There is a theory that just before the period comes (approx. day 28), there is more inflammation in the body. But again there is no concrete evidence how this might affect injury risk.

Female athletes should not worry about the above facts, as this will increase their anxiety levels which in turn will increase their injury risk!!! This information should simply be helpful in educating athletes and coaches about tracking their cycle **AND** tracking any intermittent injuries / niggles to see if they perhaps relate. Then we can talk about action plans. The majority of females will have no problem, and working on the single leg alignment will have much more of an injury protecting mechanism than laying off training for a few days due to a theory. Just see this as part of the overall picture.

- **Muscle imbalance in females.** Females generally have over-dominant quads and relatively under-dominant hamstrings. As hamstrings are synergists to healthy ACL ligaments, it would be sensible to address any such imbalances.
- **Landing mechanics.** As mentioned above in the Q angle section, looking at dynamic knee valgus control is so important. This extends to trunk position too. ACL rupture is more likely when landing with sudden knee valgus, hip drop and/or a trunk position which has deviated away from the centre line.



It is also important to reflect on the fact that there are many other interactions which precede an injury, and the above are simply some female specific considerations. Below are some such interactions to consider including & additional to what has already been discussed:

• Hip muscle weakness	• Age
• Dynamic knee valgus	• Unanticipated environment
• Foot misalignment	• Inciting event
• Neuromuscular capability	• Anxiety
• Overall Training load	• Previous injury
• Fatigue	• Being female

The best plan of action in my opinion is to design an S&C programme which includes exercises in every session to work on landing mechanics and hip strength. This would include progressions of squat jumps, lunges, bridges, running variations, lateral movement control, single leg squats, single leg RDLs, functional hamstring work, acceleration, sprint & deceleration training.

THE PELVIC FLOOR MUSCLES

Females should attach value to how their bodies work as a priority over what they look like. Like many issues in this summary, pelvic floor training is often under-discussed. Looking at the stats below, it is important to see why women should seek advice from specialist pelvic health practitioners if they feel they need help.

- 40% of athletes report urinary leaking during training / competitions
- 60% of women list urinary leaking as the number one reason not to be active
- 25-40% of active women do not know how to do pelvic floor exercises properly

Some symptoms of needing help in this area include the following:

- Urinary stress incontinence (unintentional loss of urine)
- Urge incontinence (only want to go to the toilet at home)
- Constipation (this presses on the bladder which then causes incontinence)
- Lower back pain and/or pelvic pain
- Unable to empty bowel or bladder
- Going to the toilet “just in case”

“Normal” function should be along the following lines:

- Should empty bladder 5-7 times per day and should urinate for between 8-12 seconds
- Should have a bowel movement every 24 hours

What to do if you think they need help:

- Make pelvic floor exercises part of everyday training – get a women’s health expert to teach you first. Pelvic floor work should ALWAYS work in synch with the diaphragm. Find out about your local referral system when needed.
- Teach girls about their bladders and bowels
- Modify exercises where needed to do them properly.

RECOVERY

For this section, I will simply bullet point some of the research and its practical implications:

- Females' blood pressure (BP) drops much faster when exercise stops than their male peers. We want BP to stay up a bit after exercising so blood can keep pumping around the body faster and help recovery. Therefore it is important to do an active cool down after training sessions / matches so that their metabolites are processed more quickly. Coaches could use a 'walk & talk' after training and use this time to talk about what they are going to eat post-training!
- Females' core temperature drops more quickly than males', therefore using ice baths should be used with care. If the female body gets too cold, this will interfere with their recovery. It is a delicate balance. Recent research shows that the temperature of the water does not need to be icy cold. Go for minimum time exposure in ice baths to get an optimal effect; in an ice bath you are balancing recovery with hypothermia (which will not help recovery as the blood then shunts out of the muscles to preserve the organs). 5 minutes is a minimum dose. If in doubt, only half immerse females and only expose them for 5-10 minutes.
- Eating well before and after training can help females' recovery enormously; in females, pre-training meals led to better adaptation to that training session. Protein requirements are greatest immediately after training.
- If you use a HRV (heart rate variability) algorithm to track recovery, ensure you consider where they are in their menstrual cycle. It can appear that females are under-recovered in the second half of their menstrual cycle, but this is just a normal hormonal influence.
- Females have shown they have a quicker neuromuscular recovery time than males in several studies. This potentially means they can train again more quickly (although the whole "training" picture must be considered here).
- Simply asking females "how do you feel" the day or two after a hard training session can give accurate results!

OPTIMISING PERFORMANCE

*“You do not rise to the level of your systems,
You fall to the level of your systems”*

During puberty, girls' body shape changes and there is a different distribution of body fat which in turn can affect coordination. Often, girls plateau in their sports performances during puberty whereas boys often improve. This is a key time that girls drop out. Simply understanding this can make a huge difference. It is therefore really important to create an environment where girls feel they belong, stay healthy, optimise their performance and where there is a duty of care.

There are many myths about females and training out there.

Here are some common topics when it comes to optimising performance in females:

1. There is no need to carb load. (The research of having 75% of carbs in your diet during the taper 24-48 hours before competition improved performance in men, not women).
The best practice in women is to consistently fuel well, and not worry about carb loading during tapers etc. The main thing to be conscious of the night before a competition for females is to avoid super-high carb content meals and high fibre foods.
2. Fasted training (e.g. the 5:2 diet) has been shown to be effective in males, but not so much in females and it can be detrimental to their hormone cycle and function. When females train in a fasted state, their bodies assume they are under fuelling and can then shut down their reproductive system.
3. As discussed in the section before, females need an active cool down. Females cool down quicker and their blood pressure drops faster than males'. However, the positive spin on this is that in cold water swimming for example, females can often last longer as they heat up from the inside, then the extra layer of fat insulates them better so they can stay in the cold for longer when exercising. This is the same in cold air, so it is good to encourage females to wear lots of layers so they can peel them off as they warm up.
4. When preparing to perform in the heat, women need more exposure than men and a longer time for heat acclimatisation. This can be done in a heat chamber, or even a greenhouse with a heater in it or sitting in a sauna before a session! To prepare for the Tokyo Olympics, athletes were prescribed 10 acclimatisation sessions over two weeks to prepare. However, it was found that the minimum dose for the most efficient acclimatisation was:
 - 5 acclimatisation sessions for men
 - 10 acclimatisation sessions for women
5. Heart rate monitoring algorithms have predominantly be done on men. However, Whoop are just launching some female specific research. In the meantime, here are some calculations we can use for max heart rate:
 - $220 - \text{age}$ is not really accurate anymore.
 - $208 - (0.7 \times \text{age})$ is better but is not sex-specific and is suited better to men and pre-pubertal athletes.
 - $206 - (0.88 \times \text{age})$ is better to use as a female guide for max heart rate.

DEVELOPMENT OF STRENGTH

Women respond to strength training just as well as men; women develop proportionately more through neuromuscular adaptation than men, although women will obviously still develop hypertrophy. Therefore, functional movements are more potent for transfer into the sporting context due to the link between the neural pathways of the gym movements and the sporting movements.

In women, the first 6 weeks of training or learning a new movement, strength gains will come from neural adaptation. For example, in a study done by Carlsson et al (2007), after 6 weeks of elite juniors training, males increased their upper body strength by 7% and females increased it by 36%. After these initial 6 weeks, muscles will adapt by increasing hypertrophy.

In another study, low load/high reps was compared to high load/low reps. It was found that:

- women respond better to high load & low repetition training
- women are more fatigue-resistant than men
- women recover more quickly in between sets than men
- women recover more quickly in the days following damaging exercise than men (especially in the first half of the menstrual cycle when oestrogen is dominant)

For females, it is interesting to consider how optimal training could be done in tune with their menstrual cycle:

- Performing a higher proportion of strength days in the first half of the cycle may lead to greater strength adaptations (due to the higher presence of oestrogen in the system). Strength can certainly be developed throughout the whole cycle, but there is a bigger window of opportunity in the first half of the cycle.
- Practically, this could look like strength training every other day in the first half of the cycle (or 8 sessions), then once or twice a week in the second half. This could lead to bigger strength gains than if females just trained regularly throughout the month. This approach is termed “stacking training in the follicular phase”. Remember females also recover more quickly in the first half of their cycle, which supports this theory.
- This is another case for females tracking their periods. This may help them to know when they recover quicker on harder sessions and may be able to push harder the next session or do a little extra.
- Remember though to balance concurrent training with appropriate rest, recovery and nutrition and look at the full picture over the whole month / mesocycle / macrocycle.

BREAST SUPPORT

Breasts are basically just fat and glands – the only thing containing them is skin therefore there can be lots of movement. If the skin here keeps going past its elastic limit, there will be irreversible stretch marks.

More practically, breast movement has actually been shown to change the biomechanics of the body and can have the following effects:

- Increase risk of injury
- Increase torso muscle activation
- Reduce breathing frequency
- Increase perception of effort
- Shorten usual stride length, making a female's running action less efficient and able to cover less ground. Excessive breast movement has been shown to literally cost a mile over a marathon.

50% of women experience breast pain, and 44% of elite athletes say that breast pain has interfered with their performance. Generally, women do not receive good advice about good fitting bras:

- 80% of women have the wrong fitting bra
- 40% have the wrong style of sports bra for them (D cups & above should wear encapsulation bras or encapsulation & compression combined; C cups & below can deal with more simple compression bras)
- 50% of teens wear an everyday bra for sport

There are many good brands out there for sports bras. A couple are:

- Booby Doo – the website has lots of resources & videos, with a questionnaire telling you the type you need
- Maaree has also been recommended

FEMALE MINDSET

Neuroscientists have now proved that there are no physical differences between male and female brains. But the differing male and female hormones DO affect our brains differently, for example the more male hormone testosterone can make you more aggressive / have no self doubt etc. Below is what is seen **generally** as a trend between males and females. However, this will not always be the case and ultimately it comes down to knowing your athlete.

So what **tends** to happen more in females (due to female hormones acting on the brain) is:

- Being emotional – it is more how we display our emotions that is more apparent. Females tend to want to talk things through more and show feelings. Males tend to internalise their emotions more. So both sexes are equally emotional – it’s just often females externalise it more.
- Tend and befriend – In females, when stress rises they tend to use social connections to help them cope, which raises their oxytocin levels.
- Need to understand decisions – females often need to know the “why” behind decisions
- Authentic connections fuel motivation and confidence – when looking for a coach or mentor, males will often look for a coach with a track record of brilliance. Females will tend to look for the quality of the relationship with the coach / how much they care / how much they feel nurtured by them.

Here is a simple table to summarise female motivating factors:

Females are often driven by...	Females are often held back by...
<ul style="list-style-type: none">• Personal bests• Progress over outcome• Skill development to practice• Being asked “how did you do that?”• Feeling part of a team / group• Fun and exploration	<ul style="list-style-type: none">• Lack of authentic connection (so coaches should learn all names / ask questions etc)• Shame and embarrassment (so coaches should avoid forfeits & penalties etc)• Perfectionism, fear & judgement (so coaches should help them develop strategies to let mistakes go & encourage females to be brave rather than being perfect)*

* There is a good TED talk on encouraging girls to be brave not perfect.

WHAT CAN WE DO NOW?

I hope I have done the course justice in summarising what I can remember. If you have found this information thought-provoking and relevant, then like me, you may be thinking “how can I apply this into my setting”? I think the first action is to bring others with you; maybe chat with the coaching team and start with the question “why is this important?”.

I feel it is important to develop a psychologically safe environment for all athletes to train, but particularly with female athletes having a low fear, high candour, inclusive, compassionate but professional & accountable environment will make their training much more productive.

Practically, this may be along the lines of, “I’m holding you (athlete) accountable to be the best player you can be, therefore you need to tell me if you are missing periods etc”. Getting to this type of conversation is possible, but trust needs to be established first and strong foundations / structures built on to get there. Trust is built in everyday moments. For younger athletes (under 18), communicating constantly with parents on any of these topics is key and the feedback may well need to come from them.

Some ideas to spark environmental change are as follows:

- Build certain questions into already-established assessments which may start the ball rolling, for example ask about the regularity of periods as part of the normal screening process (maybe in a pre-screen questionnaire)?
- Have a discreet but central place to keep emergency sanitary items should your girls need them.
- Send out questionnaires to see where your female athletes sit with many of these issues, or discuss with their parents if under 18.
- Track energy intake Vs energy expenditure to see any energy deficits. Could do this in conjunction with a nutritionist.
- Get some role models in to talk to the girls
- Have a weekly check-in time

I hope you have found this helpful – if any of you want to discuss this further then please get in contact with me. Otherwise, you can sign up to The Well HQ and be part of their amazing community.

Thanks for your time,
Maz

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