SUPPORTING THE DEVELOPING FEMALE ATHLETE

Evidence-based sport science and medicine guidance for developing athletes

These resources have been compiled based on the expertise and experiences of practitioners working with our GB Olympic and Paralympic programmes, across the Home Country Sports Institutes, together with other expert opinions and current literature findings.

The aim is to bring the most appropriate and useful knowledge being applied at the top end of British sports to the athletes, parents and coaches who are currently at an earlier stage of their development journeys.

We are confident that if this guidance is followed from an early point in an athlete's career, as well as by those supporting them, positive habits will be formed that will actively contribute to the athlete achieving a great deal of success, both in and out of competitive sport.

We would like this resource to be as inclusive as possible ensuring that people who identify as trans, non-binary and intersex feel included and where possible we have used gender neutral pronouns with the wish that the resource is accessible to all. In places this resource uses the terms girl and female. When we have used these terms it relates to the research carried out which focused on people who were assigned female at birth and remained within that gender and identify as cis women.

Editable and presentable versions of these resources are available on a case-by-case basis;
if you'd like to request these please email us at *talent.matters@eis2win.co.uk*.

Dr Ben Holliss, PhD (Performance Pathways Team), Dr Natalie Brown, PhD (Welsh Institute of Performance Science),
Dr Emma Ross, PhD (The Well^{HQ}), and the EIS Female Athlete Health & Performance Programme and SmartHER campaign.

Supporting the developing female athlete

Introduction

Periods are perfectly normal – the menstrual cycle is a biological process.

It's not just a period – the cycle is a **repeating pattern of fluctuating hormones**, characterised into four phases. Female's responses to these hormones vary widely, and therefore **experiences of the cycle are unique**.

The menstrual cycle is a **useful sign of health in females**.

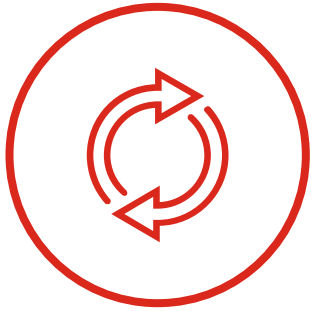
There are numerous strategies to manage menstrual cycle symptoms in relation to training and performance. To begin with, cycles should be tracked and monitored so **the impact on an athlete can be better understood**.

If periods have not started by **15 years old**, if symptoms related to the menstrual cycle are severe, or if three months of periods are missed, female athletes should **seek medical advice from their doctor**.

It's the responsibility of all of us to talk about female health: increase education, awareness and provide an open environment to talk about female specific factors which influence sport performance.

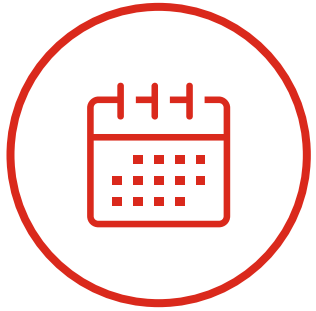
Introduction - menstrual cycle 101:

The Menstrual Cycle: First Facts



The menstrual cycle is a **biological process** for reproduction in females.

Its not just a period – the cycle is a **repeating pattern of fluctuating hormones** which are very individual. Females experience of their cycle will be **unique**.



A typical cycle ranges from 21-35 days, up to 40 days in adolescents. **A regular cycle may vary in length.**

Day one of the cycle is characterized by the bleed, known as **menses, menstruation or a period**.

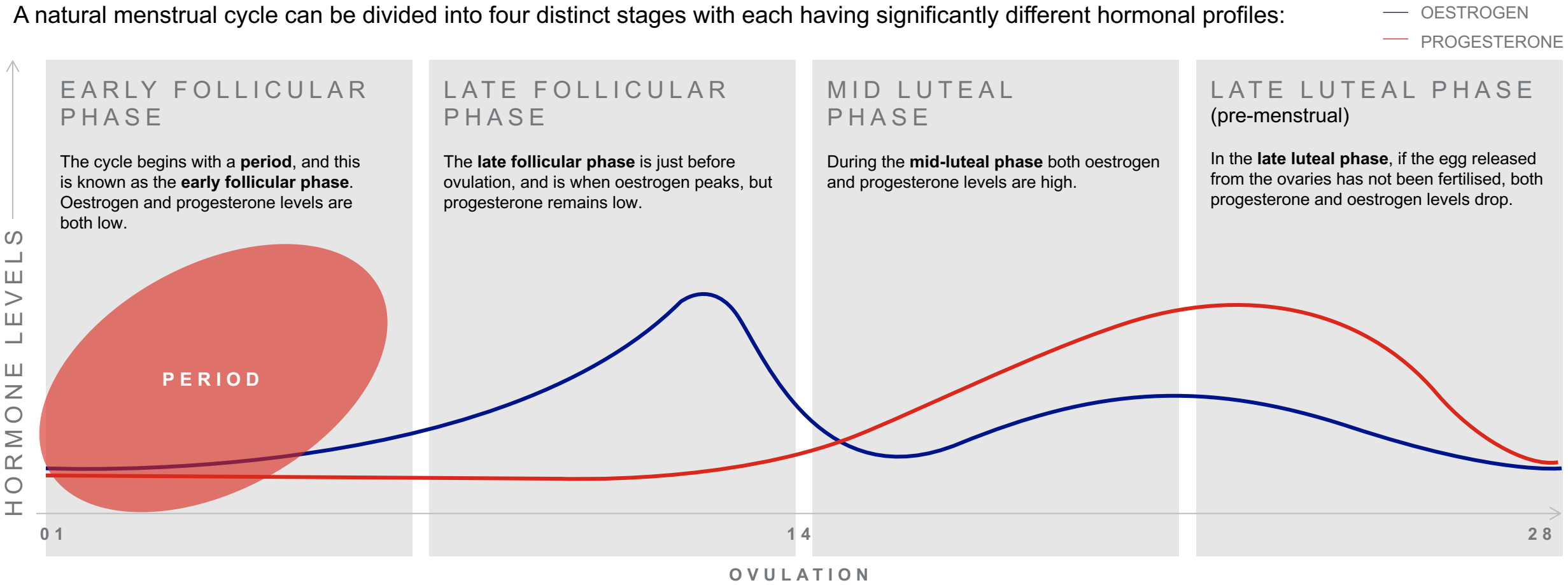
On average females start their period around 12 years, with **ranges from 8 to 15 years.**

See our short 'supporting the developing female athlete' animated video by clicking on this link.

Introduction - menstrual cycle 101:

The menstrual cycle is a repeating pattern of fluctuating hormones, namely oestrogen, progesterone, luteinising hormone (LH) and follicle stimulating hormone (FSH). These hormones are subject to large individual variation and will influence how a female athlete feels, both physically and emotionally.

A natural menstrual cycle can be divided into four distinct stages with each having significantly different hormonal profiles:



The menstrual cycle as a sign of good health

A regular period with only mild symptoms is an important marker of good underlying health.

‘Having a menstrual cycle is like having an extra vital sign - like heart rate or body temperature. Unusual menstrual cycle variations can tell someone when their overall wellbeing is disturbed, when something is a bit off, or when they may have a medical condition that could need treatment.’

The hormones of the menstrual cycle are important for short- and long-term health, including, but not limited to:

Healthy mood

Oestrogen helps to lift mood and build motivation.

Healthy metabolism & body weight

Together, oestrogen and progesterone promote a healthy body weight by aiding healthy metabolism.

Healthy bones

Oestrogen and progesterone are vital for bone health. A lack of oestrogen leads to decreased bone mass and strength (over time this can lead to osteoporosis).

Atypical menstrual cycles

Factors influencing menstrual cycle regularity include: hormonal contraceptives, age, diet, exercise, energy balance, pregnancy, medical conditions, stress, sleep and travel.

CYCLES ARE CONSIDERED **IRREGULAR** IF:

No period
('amenorrhoea')

Infrequent periods
(the cycle lasts more than 40 days)

Very frequent periods
(the cycle lasts less than 21 days)

CYCLES CAN ALSO BE CONSIDERED **ATYPICAL** IN THE CASE OF:

Excessively painful periods (which interfere with daily activities, and are not improved by 'over the counter' pain medication)

No ovulation
(a period will still occur)

Heavy menstrual bleeding,
defined as losing more than 80 mL blood per period or very frequent changing of period products (every 2 h or less), flooding, or having to use two menstrual products at once (e.g. a tampon and pad).

Approx. 30% of elite athletes report heavy menstrual bleeding and it puts them at an increased risk of anaemia and symptoms such as fatigue*

*SOURCE: *Unpublished EIS elite female athlete survey, 2015*

What's different about the cycle in adolescents?

Girls may need support navigating being an athlete and managing their periods.

Girls usually start their periods around 12 years old, but they can be as young as 8 years.

If girls turn 15 years and have not yet started their periods or if their symptoms become unmanageable, disrupt daily life or training, they should seek advice from the doctor.

It is very common for teenagers to report more severe menstrual cycle symptoms like premenstrual syndrome, bloating, breast swelling and tenderness, and mood swings.

Since the body is not used to the sudden flux of hormones across the cycle, the effects may be felt more significantly in the early years of menstruating.

Menstrual cycle symptoms

Not everyone will experience symptoms that relate to their menstrual cycle, however most common symptoms are seen below and can generally be managed by simple interventions such as nutrition and lifestyle. No symptoms should prevent anyone from completing daily activities, training, recovering and competing.

Acne	Headache	Abdominal pain / cramping	Bloating	Fatigue	Back ache	Leg pain
Pelvic pain	Diarrhoea	Constipation	Nausea	Weight changes	Irritability	Breast pain
Emotional sensitivity	Food cravings	Lethargy / decreased energy levels	Reduced motivation	Clumsiness / reduced coordination		

Strategies for managing the menstrual cycle and associated symptoms – menstrual cycle tracking

Menstrual cycle tracking gives female athletes the opportunity to increase symptom self-awareness; understanding the positive features and avoid the challenging symptoms of the different phases of the cycle that impact on training, recovery and competition.

Female athletes should monitor for at least three months to allow meaningful conclusions about their cycles to be made. It's not useful to instruct athletes to monitor their cycle; instead they must first see the value in it, often through education, then find a system that suits them.

Navigate your menstrual map with confidence

Monitoring helps create a menstrual map of your cycle – it may help predict symptoms and maximise training.

It also helps plan to manage symptoms and still be able to perform.

Reap the mental rewards

Tracking physical and emotional experiences of the cycle improves body literacy – increasing the ability to tune into and respond – it's an athlete's superpower and has been shown to enhance confidence, mental health, and reduce anguish and catastrophe.

Have better performance conversations

Females' understanding of their own cycle and how it affects them can help them to have impactful conversations with coaches. Having more information can make it easier for coaches to support the athlete.

Keep it simple

Females should collect information about their cycle that is important to them as individuals. Apps can be a helpful tool to record the cycle but be aware that they only provide generalised advice that is not targeted at individuals.

Everyone is unique

Every female's experience of her cycle is unique, and cycles in the same person can also change across her life. That's why the first step is to monitor symptoms and improve personal understanding.

Strategies for managing the menstrual cycle and associated symptoms

Whilst there are specific strategies for alleviating individual symptoms, these steps are crucial for a healthy cycle:

Understanding

The best way to manage the menstrual cycle and symptoms is to improve self-awareness as to when they are likely to occur, and what has worked to alleviate them in the past (which requires menstrual cycle tracking).

Managing training & life stress

Menstrual cycle-related symptoms are strongly affected by emotional stress, and fluctuating hormones can contribute to feelings of anxiety, irritability, low mood and poor concentration.

Proactive stress management can help reduce the impact of these changes, and should consider stressors from sport and life outside of sport. Please see the 'Stress Bucket' section within our ***MAINTAINING POSITIVE MENTAL HEALTH*** resource.

Pain relief

The uterus sheds its lining during the period, which can cause pain and inflammation, often termed 'period pain'. Applying heat to the lower abdomen (e.g. a hot water bottle) can help, as can gentle exercise (see the next page).

'Over-the-counter' painkillers such as paracetamol and/or ibuprofen can help with more severe symptoms (though seek advice from your doctor first). It can help to start taking them a day or so before the pain begins, and consistently whilst pain is experienced (painkillers won't be as effective if you wait for the pain to get severe).

Strategies for managing the menstrual cycle and associated symptoms

Whilst there are specific strategies for alleviating individual symptoms, these steps are crucial for a healthy cycle:

Planning and preparation

Periods can start unexpectedly, especially during adolescence, when cycles can be irregular. Be prepared, have period products ready in your kit bag. This can reduce anxiety and stress.

Exercise

Exercise is essential for positive health and has been shown to alleviate many menstrual cycle symptoms, though some athletes find certain forms of exercise are less tolerable on some days of their cycle.

Gentle movement such as walking and yoga can ease period pain (search YouTube for 'Yoga for Cramps and PMS' to get started). Some athletes find continuing to train helps manage pain where others may need to adapt their training week.

Sleep / recovery

Sleep is critical for an athlete, and its influence is equally beneficial for menstrual cycle health. Adolescents should get 8-10 hours of sleep per night. A recent study showed that 50% of adolescent athletes do not reach the recommended minimum sleep requirements.

Please see our ***RECOVERY STRATEGIES*** resource for some specific guidance in this area.

Strategies for managing the menstrual cycle and associated symptoms – healthy nutrition

At present there is insufficient evidence to provide specific nutrition strategies around different stages of the menstrual cycle.

However, a well-balanced diet which includes all food groups on a daily basis is important.

Please see our separate ***FUNDAMENTALS OF SPORTS NUTRITION GUIDANCE*** (N.B. IN PRODUCTION – LINK TO BE ADDED SHORTLY).

Below are some strategies for managing common symptoms specifically from a nutritional perspective:

BLOATING

Eat little and often avoiding large meals.

Chew food well (10 to 20 chews per mouthful).

Avoid sweeteners ending in OL e.g. sorbitol.

Only have one portion of fruit at a time.

Avoid fruit juices and smoothies.

CHANGES IN APPETITE

This may be increased or decreased.

If appetite is increased think about the quality of meals, ensuring that all meals contain a source of protein, plenty of vegetables and a source of wholegrain carbohydrates.

If appetite is decreased, try to have smaller meals throughout the day whilst ensuring a good balance of intake across the food groups.

CHANGES IN BOWEL HABIT

Altered bowel habits can occur across the cycle.

In the first instance try ensuring regular meals and snacks, avoiding large meals

Limit alcohol, caffeine and fizzy drinks.

Cut down on processed high fat foods such as chips, crisps, chocolate, cake.

Use fresh ingredients where possible and limit fresh fruit to three portions per day.

HEADACHES

Ensure adequate hydration through drinking regularly throughout the day and monitoring urine to ensure that it is a pale straw colour.

Some people experience headaches from drinking caffeine to excess. If headaches persist consider your overall daily caffeine intake.

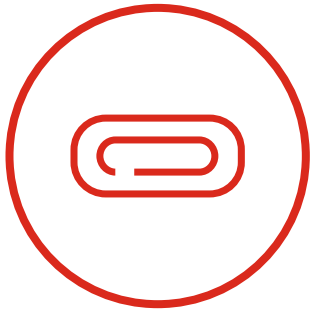
If you aren't eating regular meals and snacks throughout the day this may also be contributing to headaches.

Tracking appetite and food / drink preferences and consumption can be useful in conjunction with more general menstrual cycle monitoring.

Strategies for managing the menstrual cycle and associated symptoms – period products

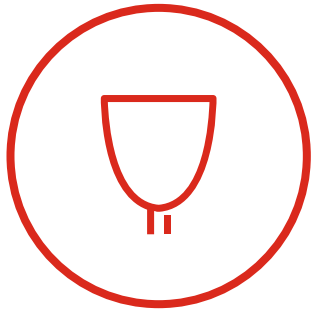
There are a range of period products available, and the choice will be based on several factors including absorbency, frequency of need to change, comfort, price, environmental impact, natural ingredients, suitability for activities and likelihood of being visible under clothes. Some popular options include:

Period underwear



Pads

Tampons



Menstrual cup

In addition to the athlete having their own supply of period products, whilst in most scenarios this remains a wholly personal matter, coaches and / or others in the training / competition environment could consider having a small supply of period products which athletes are aware of, to further alleviate anxiety and stress.

Hormonal contraception

Up to 50% of elite athletes use hormonal contraception

(Martin et al, 2018)

There are different forms of hormonal contraceptives, including oral contraceptive pills (the combined or mini-pill), implants and intrauterine devices (coils).

Common reasons that athletes use hormonal contraception:

- As a contraceptive, to avoid pregnancy
- To control symptoms such as bad cramps, mood swings, or to maintain a constant weight
- To prevent having a period for training or competition needs

Hormonal contraception provides synthetic hormones. If you experience a withdrawal bleed, this is due to the effect of the synthetic hormones on your body. For this reason, a withdrawal bleed is not classed as a period.

A regular withdrawal bleed is **NOT** indicative of a normal menstrual cycle, so females who use hormonal contraception cannot use their withdrawal bleed to indicate irregular or loss of menstrual cycle.

Some athletes may experience symptoms whilst using hormonal contraception, such as irregular bleeding, headaches, changes to mood and reduced motivation. As such, it is important to enable athletes to make informed decisions, weighing up the reasons to use them, and to explore alternative strategies, in consultation with a doctor.

ORAL CONTRACEPTIVE PILL

IMPLANT

INTRAUTERINE DEVICE

Menstrual cycle key messages

01

Periods are perfectly normal

Almost all females have them during their life.

02

Speak up

Periods don’t need to be hidden. They are nothing to be ashamed of.

03

Get help

If they hurt a lot or have a big impact on life, it’s important to see a doctor.

Always!

IMPACT OF MENSTRUAL CYCLE ON TRAINING AND PERFORMANCE:

All females experience their menstrual cycles differently, but for all athletes, the associated hormone fluctuations can have both positive and negative effects on training and performance.

During the late follicular phase, when oestrogen is rising to its peak, athletes may experience:

Confidence, increased energy, and motivation to train

Feelings of improved recovery

Optimised high intensity exercise

Better visual-spatial awareness

A greater ability to receive constructive feedback

Every female athlete will experience her cycle differently to others, and so whilst there is evidence to support these factors for many women, it is not a blueprint for what will happen in every athlete.

What we suggest is that coaches and others make a concerted effort to listen to their athletes, encouraging them to tune into their bodies, giving consideration as appropriate to the above factors, and together adapt training programs based on their individual experiences.

During the mid-late luteal phase, when progesterone peaks, athletes may experience:

Gastrointestinal symptoms (e.g. changes in bowel habit, bloating and nausea)

Impaired coordination (‘clumsiness’)

Feelings of less confidence and potentially taking fewer risks

Altered appetite (e.g. food cravings)

Increased body temperature affecting thermal perception during exercise

Every female athlete will experience her cycle differently to others, and so whilst there is evidence to support these factors for many women, it is not a blueprint for what will happen in every athlete.

What we suggest is that coaches and others make a concerted effort to listen to their athletes, encouraging them to tune into their bodies, giving consideration as appropriate to the above factors, and together adapt training programs based on their individual experiences.

During the late luteal / pre-menstrual phase, when progesterone and oestrogen decline rapidly, athletes may experience:

Pre-menstrual symptoms, which can include reduced motivation to train, headaches and fatigue

Increased susceptibility to illness

Breast swelling and pain

More severe pre-menstrual symptoms, especially if poor sleep and diet habits, and if particularly stressed

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What we suggest is that coaches and others make a concerted effort to listen to their athletes, encouraging them to tune into their bodies, giving consideration as appropriate to the above factors, and together adapt training programs based on their individual experiences.

Increased injury risk in female athletes

Oestrogen improves muscle protein regulation, meaning that females are less likely to experience muscle injuries than males. However, this benefit comes at the cost of decreased connective tissue stiffness; power and performance can be reduced, and ligament injuries are more likely (e.g. anterior cruciate ligament of the knee).

Additional factors that likely contribute to this increased injury risk in females include differences in strength, and in landing and change of direction movement mechanics.

RECOMMENDATION 01

Encouragingly, strength and movement skill / control during landing and change of direction can all be trained, including landing and plyometric jumping drills which progressively increase in difficulty as the athlete improves her control.

This training can be undertaken as a warm-up activity, taking less than 10-15 minutes to complete, with research indicating that doing so just 2-3 times per week has a significant benefit.

RECOMMENDATION 02

In addition, a female's ability to balance has been shown to be affected by hormonal changes throughout the menstrual cycle.

Female athletes are encouraged to monitor their menstrual cycles in relation to their balance and injury prevalence, especially when participating in sports with an increased risk of concussion or serious injuries. If a pattern emerges whereby injuries seem to be more likely at certain times of the cycle, it may be sensible to adjust training and / or competition regimes accordingly.

Relative Energy Deficiency in Sport (RED-S)

Hypothalamic amenorrhoea is when a females' periods stop. In the absence of any underlying health conditions, it is caused by stress or an energy imbalance (under-eating or over-training) and is known as relative energy deficiency in sport (RED-S).

If an athlete does not have a period for three months, they should seek support from their doctor.

No-one should accept that periods disappear with hard training.

It is never normal for an athlete to stop menstruating (it is a red flag that the body is not functioning to its full potential).

See the below website for more quality-assured information on RED-S: *www.health4performance.co.uk*.

See this *"cautionary tale"* by Mina Leslie-Wujastyk.

Impaired growth and development	**01**
Impact on health and wellbeing (including but not limited to bone health)	**02**
Adverse affect on performance	**03**
For female athletes' regular menstrual cycle is a barometer of hormone health	**04**
Oral contraceptives can 'mask' signs of RED-S, as a withdrawal bleed is not a period.	**05**

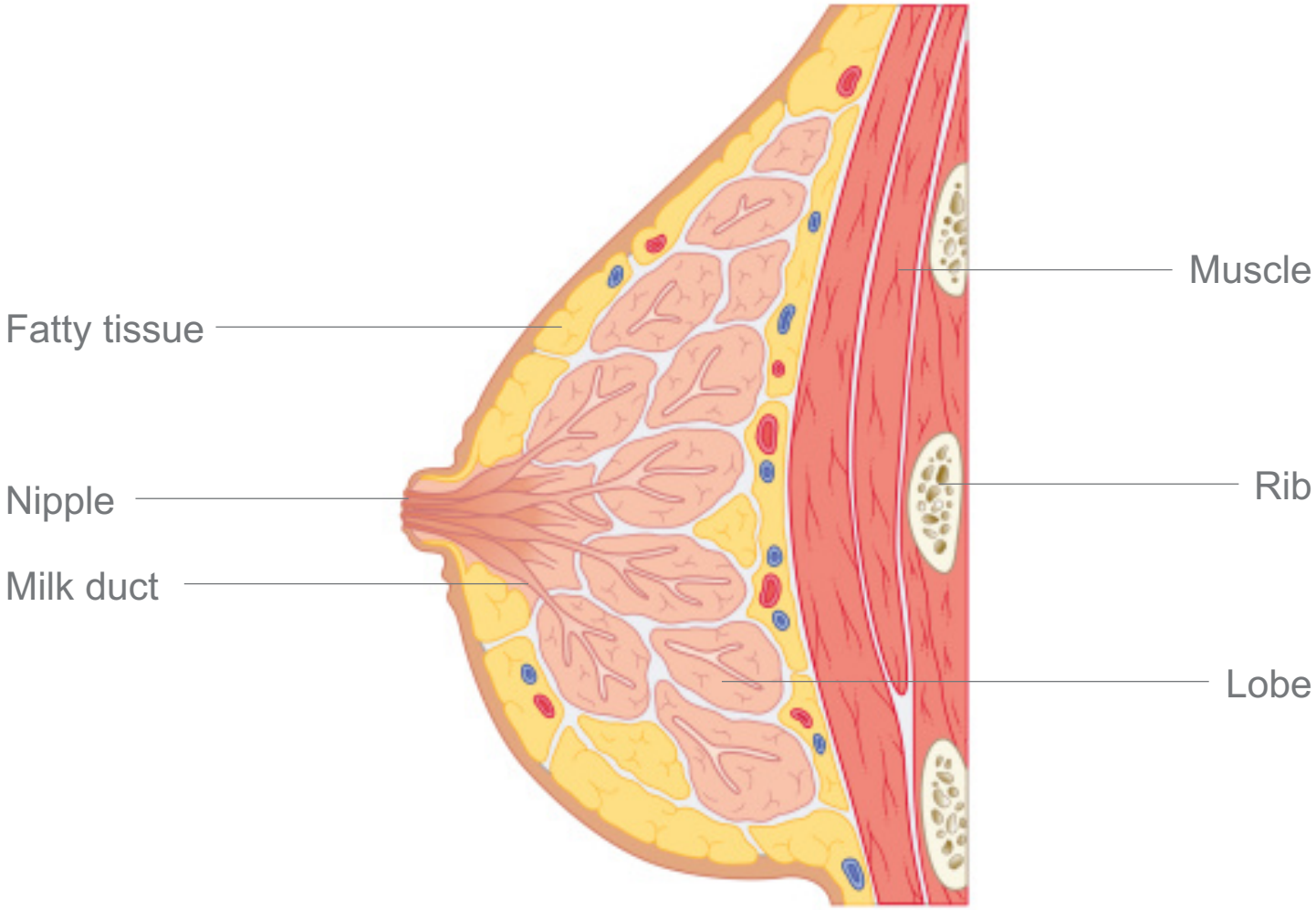
Breast health in sport

Breasts are made of fat and glands, not muscle. The only thing supporting the breast during movement is skin, which is why a good fitting sports bra is essential.

A well fitted sports bra can:

- Reduce breast pain (which has been reported in up to 72% of exercising females),
- Reduce the risk of damage to supporting structures of the breast, e.g. skin stretch,
- Improve running biomechanics,
- Reduce upper body muscle activity, and therefore make movement more efficient,
- Improve breathing mechanics,

Fun fact: If a female raced a marathon against a clone of herself, and the only difference was that she was wearing a well fitted sports bra, she would finish a mile ahead.



SOURCE: *Getty Images (#141527259; Dorling Kindersley)*

Breast health in sport

Sports bras can offer support via encapsulation (each breast is supported separately, and is especially suitable for larger breasts) or compression (squashes the breast tissue into the chest wall, often a 'crop top' design, works well for smaller breasts), or a combination of both.

Breasts can change size and shape across the menstrual cycle, and breast pain may be experienced in the pre-menstrual phase. Some females benefit from a different size or type of bra at different times of the cycle.

For younger athletes, there are specially designed sports bras which are designed for developing breasts (e.g. the *Limitless Bra*).

COMPRESSION BRA

ENCAPSULATION BRA

COMBINATION BRA

SOURCE: *Sarah MacReading*

Getting it right with sports bras

Do educate females on the importance of a well-fitted sports bra, not just for reducing breast pain and bounce, but for significant performance gains.

Talk about a sports bra like any other piece of kit or equipment – ensuring athletes have the right type of bra for their shape and size, and their sport.

Do be sensitive that during teenage years breast shape and size changes, and girls may be especially self-conscious about their breasts.

THE 5-POINT FIT FOR SPORTS BRAS

CUPS
These should enclose the breasts with no bulging or gaping at the tops or sides. If the cup material puckers, the cup size is probably too big.

STRAPS
The straps should be adjusted to be comfortable. Not too tight that they dig in the skin, but not too loose that they sag or slip.

UNDERBAND
This should sit firmly around the chest. It shouldn't slide around as you move, be too tight that it's uncomfortable, affect breathing or cause flesh to bulge at the edges. It should be level all the way around.

UNDERWIRE
Not all sports bras have underwire, but if they do, the wire should follow the natural crease of the breast and not rest on any of the breast tissue.

FRONT
This is the lower edge, between the cups. It should sit flat against the body and not gape away from the skin. If the front lifts away you may need to increase the cup size.

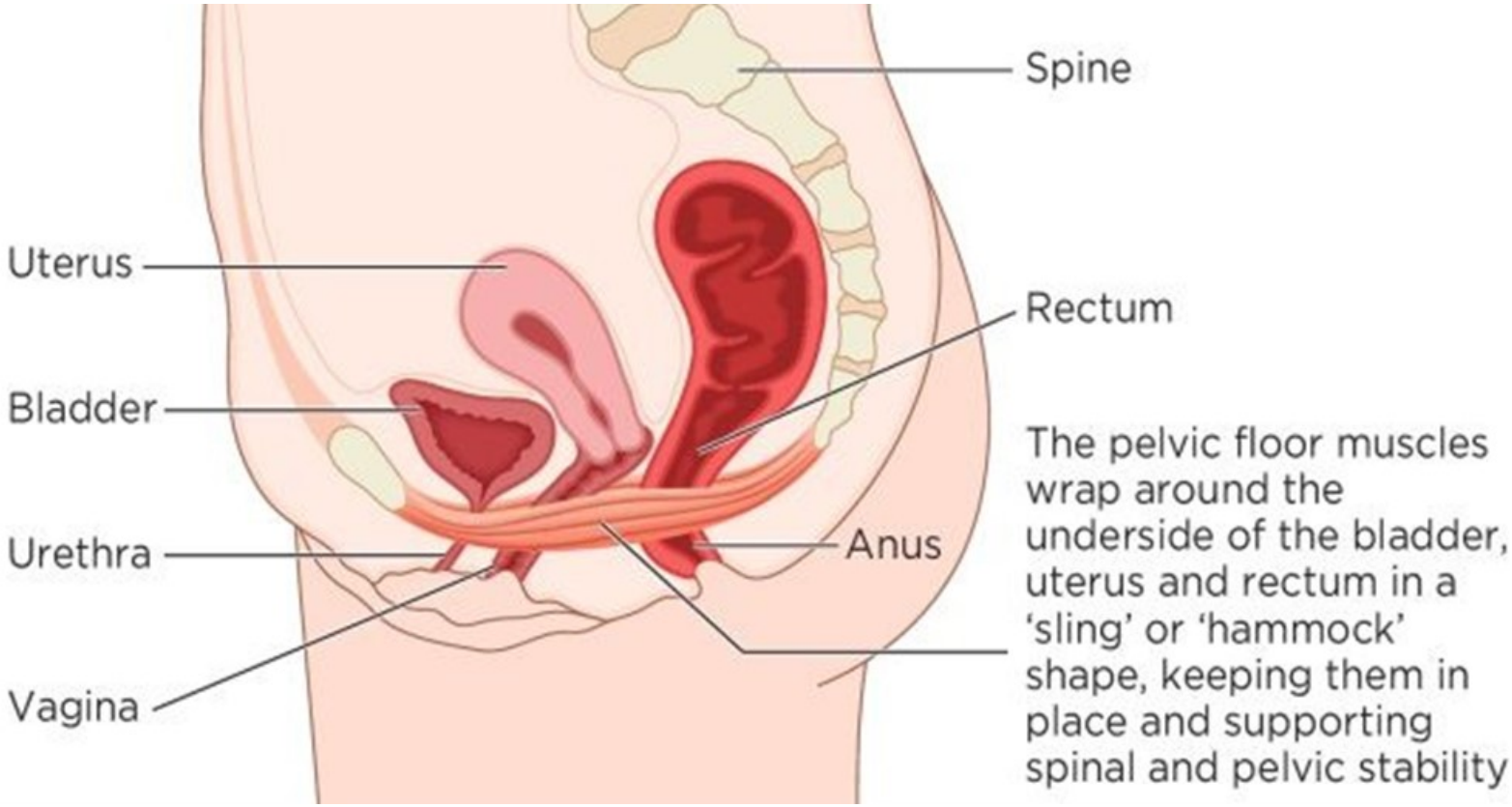
SOURCE: Adapted from the British Equestrian Federation '*The Horse Rider's Guide to Bras*'

Pelvic floor health and urinary incontinence

The female pelvic floor is made of muscles and connective tissue which keep the pelvic organs (bladder, uterus and rectum) in place, and support spinal and pelvic stability.

Stress urinary incontinence (SUI) is the involuntary leakage of urine. A rise in pressure within the abdominal cavity occurs with activities such as coughing, holding deep breaths, heavy lifting, and high impact exercise.

Female athletes who have not given birth are three times more likely to suffer from SUI than non-athletic females who have not given birth. In addition, SUI is more common in athletes suffering from RED-S.



SOURCE: *Nursing Times 'Female pelvic floor 1' article*

Pelvic floor health and urinary incontinence

In sport, significant and sudden intra-abdominal pressure increases, especially during high-impact activities such as running and jumping, which may play a role in SUI prevalence. In athletes SUI is caused by either a weakness of pelvic floor muscles compared to deep abdominal muscles, or due to overactivity of the pelvic floor leading to fatigue.

Although urinary incontinence is common in some sports, it should **NOT** be normalised.

Pelvic floor dysfunction can also cause pelvic pain, constipation and difficulty passing urine.

Aside from symptoms of SUI causing embarrassment and anxiety, dysfunction of the pelvic floor muscles can result in the athlete modifying her technique, it may increase her injury risk, or even lead to complete drop-out from sport.

Athletes should seek medical advice if they are experiencing urine leakage or other symptoms of pelvic floor dysfunction at any time. Left untreated these symptoms can progress to be severe and drastically affect someone's wellbeing.

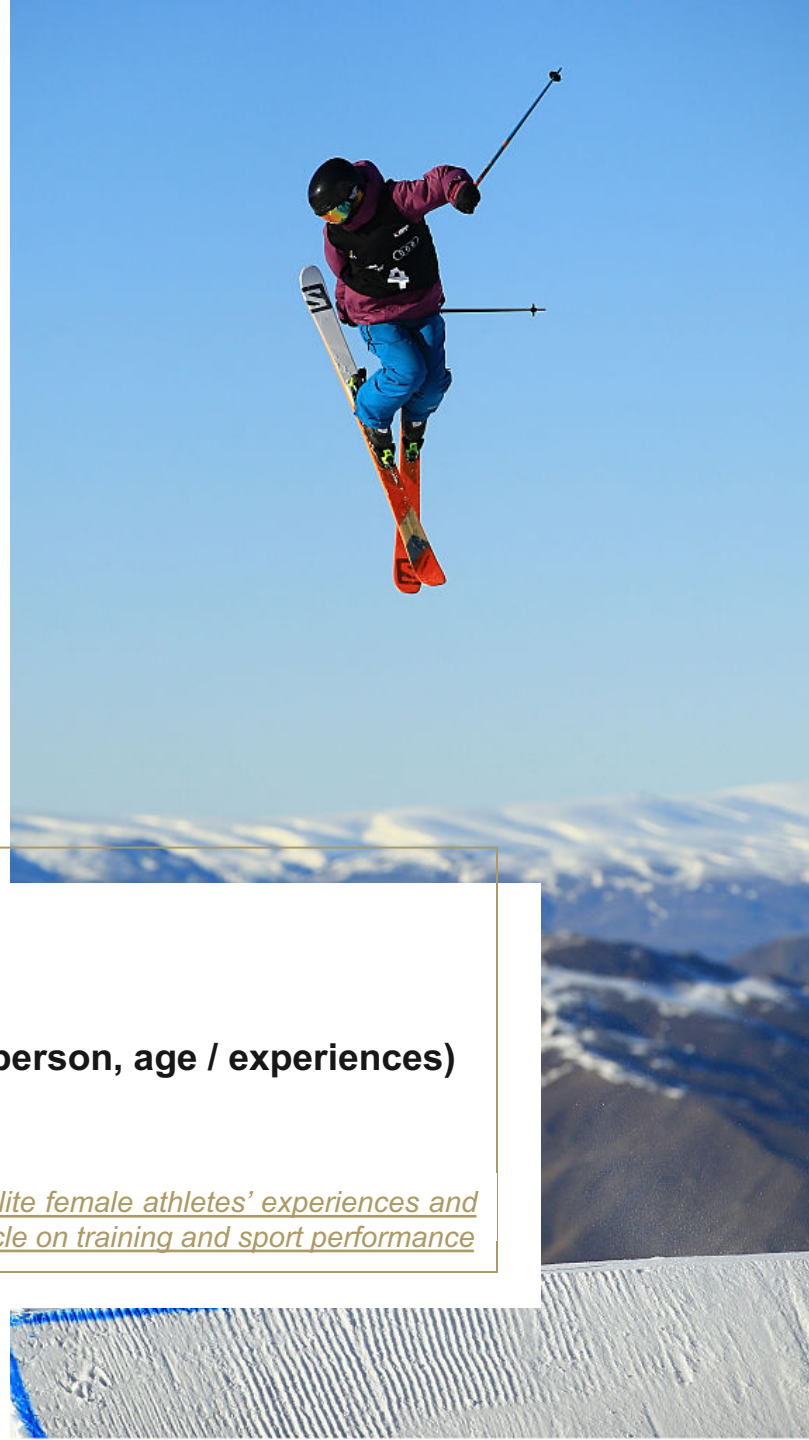
If in doubt, seek support from a doctor, who may make a referral to a women's health physiotherapist, who are experienced at identifying and treating pelvic floor dysfunction. The ***Pelvic Obstetric and Gynaecological Physiotherapy network*** can be contacted to find local chartered NHS and private practitioners.

A psychologically safe environment

Silence, secrecy and judgement still exist around female specific factors in sport.

Many females don't feel comfortable talking openly, and many are suffering unnecessarily from manageable or treatable conditions. For example, the ***RCOG*** recently reported that 48% of girls in the UK are embarrassed by their period.

Coaches and others can help by creating a psychologically safe environment, so female athletes feel they can have conversations about their health whenever they want, just as they would about any other aspect of training or performance planning. Female athletes should also help their coaches to help them.



Factors influencing openness and comfort discussing female specific factors:

- **Perception of awkwardness of the other person**
- **Influences of previous conversations (positive conversations, confidence, familiarity of the person, age / experiences)**
- **Perception that males lack knowledge**
- **Lack of opportunity to have conversations**

SOURCE: *Brown et al (2020) Elite female athletes' experiences and perceptions of the menstrual cycle on training and sport performance*

How to start the conversation?

Clarity of message

Consider sharing an observation

Evidence

Share facts and knowledge (avoid the rumour mill!)

Really listen

Especially to athlete's experiences

Support

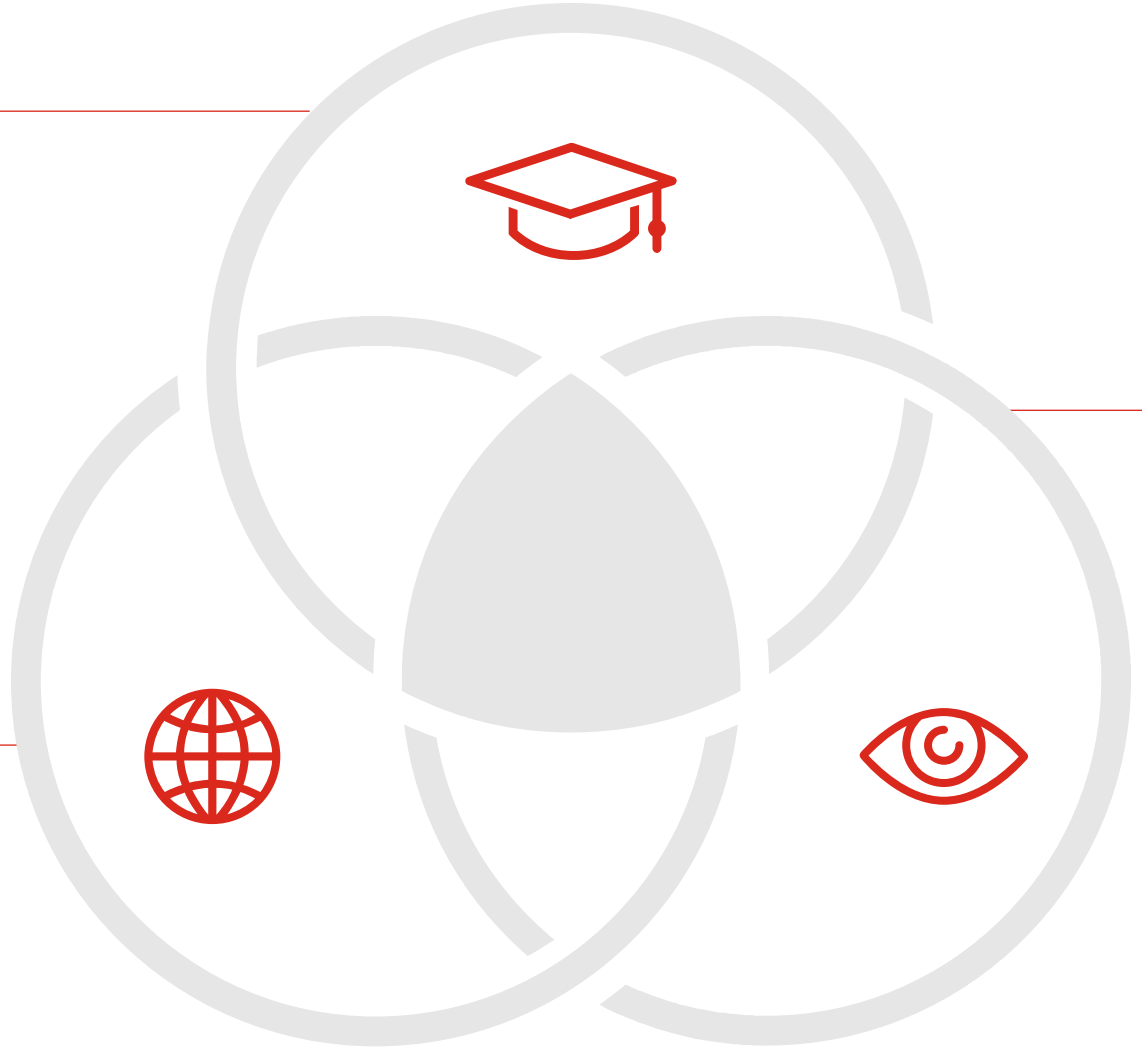
What next? Any actions? Shared actions?

No silence: Talk openly, make it a normal part of conversation.
No secrecy: Say what you really mean.
No judgement: Educate yourself and have empathy.

Looking ahead

EDUCATION

For coaches and athletes to increase knowledge and understanding of female specific factors influencing health, wellbeing and performance.



AWARENESS

Promote increased self-awareness in female athletes through menstrual cycle tracking. Coaches and athletes engage in conversations using tracking and observations.

ENVIRONMENT

Create a psychologically safe environment that is supportive of open conversations relating to the female athlete health; **no secrecy, no silence, no judgement**.

USEFUL LINKS / FURTHER READING

Athletic Training, Performance and the Menstrual Cycle... LET'S GET TALKING!
A short animated video focused on having open dialogue about the menstrual cycle, aimed at coaches and others who support female athletes (collaboratively created by the authors of this information resource).

Elite female athletes' experiences and perceptions of the menstrual cycle on training and sport performance (Brown et al, 2020)
A thought-provoking piece of qualitative research which is full of emotive quotes from a group of athletes regarding their experiences in high-performance sport.

'Natural Period Repair for Teens'
An insightful conversation featuring Dr Lara Briden, author of the popular book 'Period Repair Manual' (well worth the 60 minute watch!)

Period Prevalence and Perceived Side Effects of Hormonal Contraceptive Use and the Menstrual Cycle in Elite Athletes (Martin et al, 2018)
A recent study which provided some of the statistics featured in this resource, with one of the concluding suggestions being that "athletes and coaches / practitioners should maintain an open dialogue to pursue the best interests of the athlete".

The Female Athlete Podcast
Shining a light and bringing focus to topics about the female body and sport and exercise which have often gone under the radar (there are loads of brilliant and relevant episodes, but in particular check out: "Puberty & periods: How to normalise the area for young girls"

Better for Women (Royal College of Obstetricians and Gynaecologists, 2019)
A powerful and detailed report calling for more focussed attention on women's health in society; "The 21st century has brought us the largest generation of adolescent girls in history and educating them to optimise their health is key" (also see the *RCOG website*).

Health4Performance; raising awareness and improving the identification and effective management of athletes/dancers at risk of RED-S
This excellent resource is compiled by a working group of the British Association of Sport and Exercise Medicine. Whether you are an athlete / dancer, coach / teacher, parent / friend, researcher or healthcare professional, you will find information on the symptoms and outcomes of RED-S: what to look out for and what to do in each of the sections tailored according to the nature of your involvement.

Treasure Your Chest
A 50 minute breast education presentation and lesson plan which aims to help teach adolescent girls about breast health.

Please see some of our other sport science and medicine resources, all of which give lots of practical advice, in particular:

- *RECOVERY STRATEGIES* for specific guidance on a range of ways to enhance recovery (emphasising sleep, 'balance' and nutrition),
- *MAINTAINING POSITIVE MENTAL HEALTH* to help understand how various factors affect an athlete's overall mental health and wellbeing,
- *MINIMISING YOUR RISK AND RECOVERING FROM ILLNESS* to learn about a range of common illnesses that may negatively impact training and performance,
- *FUNDAMENTALS OF SPORTS NUTRITION* to find out how what we eat and drink can dramatically enhance athletic training and performance (N.B. this resource is currently in production – the link will be added soon).

Evidence-based sport science and medicine guidance for developing athletes

PERFORMANCE PATHWAY TEAM

uk sport inspire the nation

ENGLISH INSTITUTE OF SPORT

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