

## the menstrual cycle

### did you know:

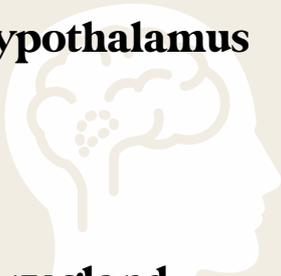
On average an Australian woman will have approximately 30 years of regular menstruation, totaling between 360-400 periods. This is almost 3 years of our whole life!

### science of the cycle

On average a female's menstrual cycle length depends on her genetic makeup and individual health. A 21-35 day cycle is considered normal, with 28 days being optimal (however, very few women have this spot on).

### the menstrual cycle is regulated by:

**hypothalamus**



**pituitary gland**



**ovaries**

This is also called the 'HPO-axis' or 'hypothalamic-pituitary-ovarian axis'.

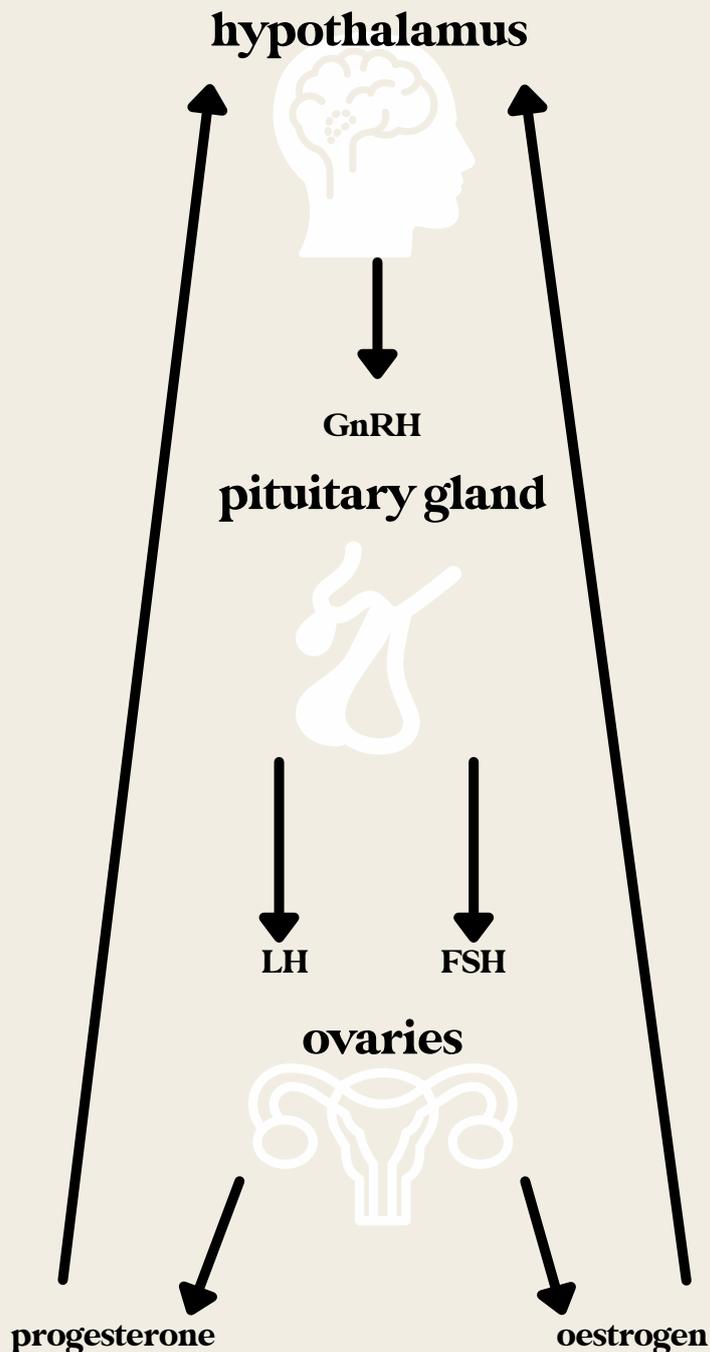
These are the main regulators, however the thyroid gland, pineal gland, pancreas and adrenals are also involved.

### the main hormones involved:

- Gonadotrophin-releasing hormone (GnRH)
- follicle stimulating hormone (FSH)
- oestrogen (E2)
- lutenising hormone (LH)
- progesterone

## where do the hormones come from?

The hypothalamus produces GnRH which says to the pituitary 'Hey, can you please produce some LH and FSH and send them to the ovaries when you are done'. The ovaries is where you produce oestrogen and progesterone, which also communicate with the hypothalamus. There is a feedback loop where the HPO-axis are all chatting to each other and producing different hormones at different stages in your cycle.



## phases of the menstrual cycle

**Phase 1- Menstruation (Days 1-5)**

**Phase 2- Follicular (Days 5-12)**

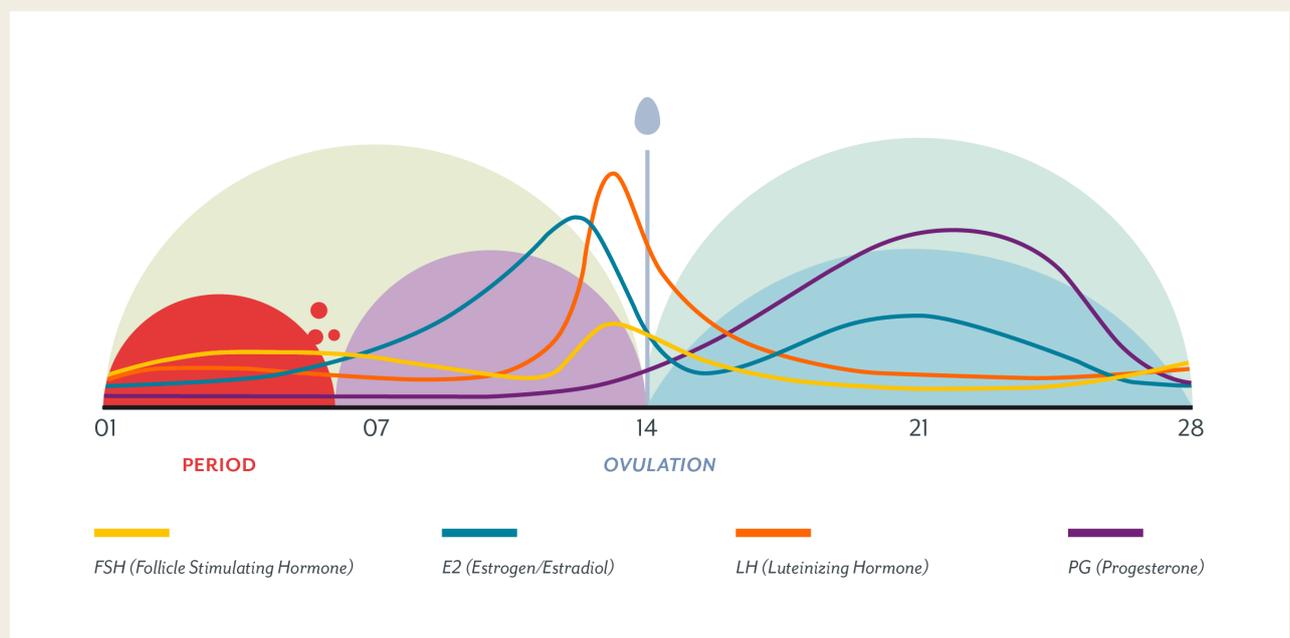
**Phase 3- Ovulation (Days 12-14)**

**Phase 4- Luteal (Days 14-28)**

\*based on a 28 day cycle length

## top things to know

- The menstrual cycle starts with the first day of the period, and ends when the next period begins
- Hormonal signals are sent back and forth between the HPO-axis causing changes to the egg containing-sacs in the ovaries, and the uterus
- The first part of the cycle prepares and egg to be release from the ovary and builds the lining of the uterus
- The second part of the cycle prepares the uterus and body to accept a fertilized egg, or to start the next cycle if pregnancy doesn't occur



## menstrual phase (day 1-7)

### hormone and uterus changes

During the start of menstruation your hormone levels are at their lowest levels. The uterus/endometrium lining is being shed because pregnancy did not occur. This is due to dropping progesterone levels. Progesterone helps to keep the healthy lining in the uterus as a comfortable environment for an implanted embryo. When this doesn't occur and a person doesn't become pregnant, progesterone levels drop.

Prostaglandins are also involved. These are hormone-like substances made by almost every cell of the body. In the uterus they cause muscles to contract so the lining is able to be released.

FSH and oestrogen start to slowly rise towards the end of menstruation, when the follicular phase starts. This is when your energy levels usually start to increase.

### emotional connection

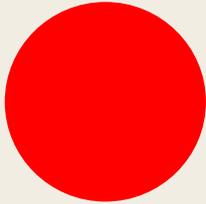
In this phase we may feel a sense of release and relief, there is an invitation that comes at the time of menstruation to slow down and stop the momentum of attending to many things in the world around us. Rest and enjoy the downward pull of energy. Many experience a greater sense of ease and flow when we can give ourselves permission at this time to not be as social or what we call "productive" in modern society.

Now that we can give ourselves space to be and release fully, it's a great time to notice any emotions that have been repressed or unnoticed during the busy weeks before. In this time our body is literally purifying and cleansing, and this uses a lot of our internal energy stores.

Allow time for replenishing self care and reflection. This is a great time to go for a slow walk in nature, to journal, and to allow ourselves to be held and listened to by a trusted friend or loving partner.

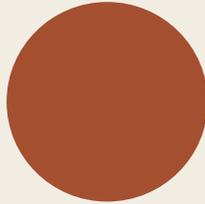
## menstrual phase (day 1-7)

### blood colour indicator



#### **bright red**

normal healthy flow



#### **dark red, brown**

end of period, old blood



#### **grey**

bacterial vaginosis (BV)



#### **light pink, red**

low oestrogen levels



#### **very dark, black**

very slow moving blood, left  
over from last cycle,  
blockage



#### **orange**

blood mixed with cervical  
mucus, possible infection

## supporting yourself through menstruation

- take a break from technology and reduce overstimulation
- make a good nights sleep a priority
- schedule in time for self-care
- set boundaries with those around you
- increase consumptions of omega 3 fatty acids to help with cramping (salmon and sardines are great)
- eat or sip on fresh ginger to help with cramping
- increase magnesium rich foods to help with cramping (pumpkin seeds, chia seeds, almonds, spinach, cashews, oats, avocado, rice)
- reduce or eliminate dairy to reduce inflammation and pain
- replenish lost iron levels, have vitamin C with iron-rich foods, have caffeine away from iron-rich foods to improve absorption
- eat more warming, cooked foods
- listen to your body, avoid high intensity exercise and opt for gentle slow exercise

## follicular phase (day 7-14)

### hormone and uterus changes

The hypothalamus releases gonadotrophin-releasing hormone (GnRH) which causes the pituitary to release follicle stimulating hormone (FSH). This is occurring during menstruation for a small phase. As its name suggests, FSH stimulates the production of follicles in your ovaries.

The follicles are there to produce and contain eggs/ovum. You produces 20-30 follicles each cycle, but only one will develop into a mature egg. By the time the next phase (ovulation) comes around, there will generally only be one mature egg left, and the others will all degenerate.

While the follicles are developing, they are also producing oestrogen from the ovaries. Oestrogen is telling your uterus to thicken and get ready to be a nice comfortable environment for a fertilised egg (if you become pregnant).

### emotional connection

As Oestrogen steadily builds in the body, it spikes a release in serotonin - The feel good chemical associated with vitality, joy and excitement about life. The second week of your cycle will usually feel really good as creativity, joy, motivation and the feeling of engaging with the world around you grows stronger.

After the cleansing and replenishing process of menstruation finishes, we naturally feel lighter, and have a sense of clarity and blossoming into the world again. The more we have honoured our body's energy during the week of menstruation, the more we will feel a sense of steadiness stepping out into the world again with this extra force of oestrogen on our side. In many ways we are the most logical at this time so it is a great time to set your goals and intentions for the coming cycle.

Though as our mind turns on and our energy increases, we can often create a feeling of anxiety about what we need to get done - creating a list of tasks can be helpful and keep clarity in the mind, ticking off tasks on your list over these next 2 weeks will feel really good.

## follicular phase (day 7-14)

### supporting yourself through follicular

- eat more cruciferous vegetables (broccoli, cauliflower, cabbage, brussels sprouts) as they contain a chemical called indole-3-carbinol (which converts to diindolymethane) which helps with oestrogen metabolism
- consume green tea daily
- increase vitamin E, B12, zinc and protein-rich foods to help with egg production within the follicles (even if you want to avoid pregnancy). Consider things like eggs, almonds, wholegrains, chicken, nutritional yeast, seeds, and fish
- include probiotic-rich foods and fermented foods to help with oestrogen metabolism, and to prevent thrush (vaginal candidiasis) which can occur with increased oestrogen levels
- make sure you are passing a stool daily to clear out excess oestrogen levels. Think about fibre- water- exercise
- consider dry skin brushing to improve detoxification pathways via the lymphatic system
- utilise increasing oestrogen and energy levels with higher intensity exercise (dancing, swimming, jogging, boxing, surfing, vinyasa yoga)

## ovulation (day 14)

### hormone and uterus changes

Ovulation occurs when oestrogen levels reach their highest level. This triggers a release of LH which causes the dominant follicle to release the egg. The egg is swept into the fallopian tube and waits for sperm to attach to/fertilise the egg. If the egg does not become fertilised then the egg will not be able to survive and will disintegrate within 24 hours.

If the egg does become fertilized then it will travel to the uterus to develop an embryo.

### emotional connection

Creativity and energy are at peak in this phase of your cycle, and with the energy of fertility, you may experience heightened sensuality, libido and a strong magnetism. The biggest gift of your ovulation phase is that you can become pregnant if that is your wish. Even if you are not wishing to become pregnant, the essence of creation is beaming from you in this phase, and as the body has the most amount of physical energy here you may find you have ease in carrying out life's creations, and ticking off tasks from your list you made during your springtime phase.

### supporting yourself through ovulation

- be creative, have fun, be playful, have sex (remember that you are most fertile at this time)
- communicate and share with loved ones
- consider doing some high intensity exercise at this time
- eat food high in zinc and omega 3 fatty acids to help with hormone regulation going into the next phase (consider salmon, sardines, oysters, eggs, legumes, seeds)
- we need specific nutrients to facilitate ovulation, including magnesium, selenium, iodine, B vitamins, vitamin C and vitamin E
- eat more fresh and raw foods at this time due to increased digestive function

## **luteal phase (day 15-28)**

### **hormone and uterus changes**

For 14 days after ovulation is the luteal phase, the timing of this phase rarely changes. The old follicle which held the dominant egg is still hanging around on the ovaries and is now turned into the 'corpus luteum'. The corpus luteum produces progesterone which helps to maintain the thick uterine lining in case of pregnancy occurring.

After about 14 days post-ovulation, the corpus luteum dies and the production of progesterone and oestrogen fall. The uterus/endometrium lining becomes fragile and starts to break down, causing menstruation.

Another factor involved in initiating menstruation is the level of prostaglandins. Prostaglandins act like hormones in the body, and increase in the luteal phase. They cause contractions in the uterus to help the lining detach and be cleared via menstruation.

### **emotional connection**

Progesterone is at its highest level in this phase, with it brings a sense of calm, happiness and lower energy. It is a great time to turn inward towards the quiet space within.

Slow down, listen to your body. Often, not listening to your body, and continuing with a high paced/high stress lifestyle can contribute to PMS during this phase.

This is a great time to self-reflect and self-assess one what changes could be made to improve health (especially relating to the menstrual cycle).

## **luteal phase (day 15-28)**

### **supporting yourself through luteal**

- prioritise self-care and relaxation during this phase
- be organised and prepared to avoid unnecessary stress and prepare for menstruation
- journalling is helpful to address emotions during this phase
- slow strength training and yoga are great for this phase
- try alternating hot-cold showers to improve lymphatic draining and fluid retention
- avoid excess caffeine, alcohol, sugar and processed foods as they have shown to worsen PMS symptoms
- increase magnesium as it has shown to reduce mood swings, breast tenderness, fluid retention and other PMS symptoms
- eat complex carbohydrates and healthy fats. Carbohydrate cravings might send you straight to the chocolate but eating complex carbs like root vegetables, grains and rice with help to keep your increased appetite at bay.