

NUTRITION ACROSS THE MENSTRUAL CYCLE

Understanding Fueling and Activity for Female Athletes



OVERVIEW

1

Fluctuations in endogenous sex hormones across the menstrual cycle influence a range of physiological processes, including those involved in nutritional status.

2

Menstrual

Follicular Phase

Ovulatory

Luteal Phase

3

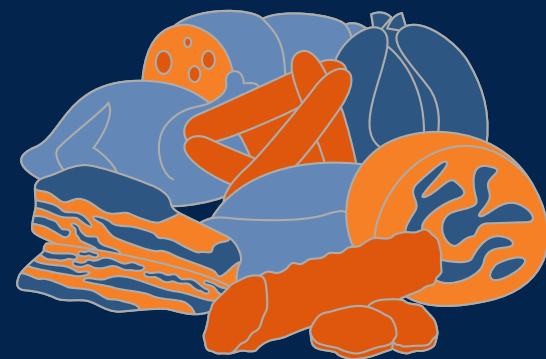
Fuel needs and energy levels will be different during different phases of the menstrual cycle.



THE PHASES OF THE MENSTRUAL CYCLE

There are three big phases of the menstrual cycle, which lasts 26–28 days, and there is an ovulatory period (around 24 hours) right in between the follicular and luteal phase.

MENSTRUAL



FIRST 3–7 DAYS

FOLLICULAR



FIRST 14 DAYS

LUTEAL



DAY 14–28

MENSTRUAL



Characteristics:

- Hormones: Low estrogen and progesterone
- Low energy, stomach cramps, tiredness, nausea, mood fluctuations

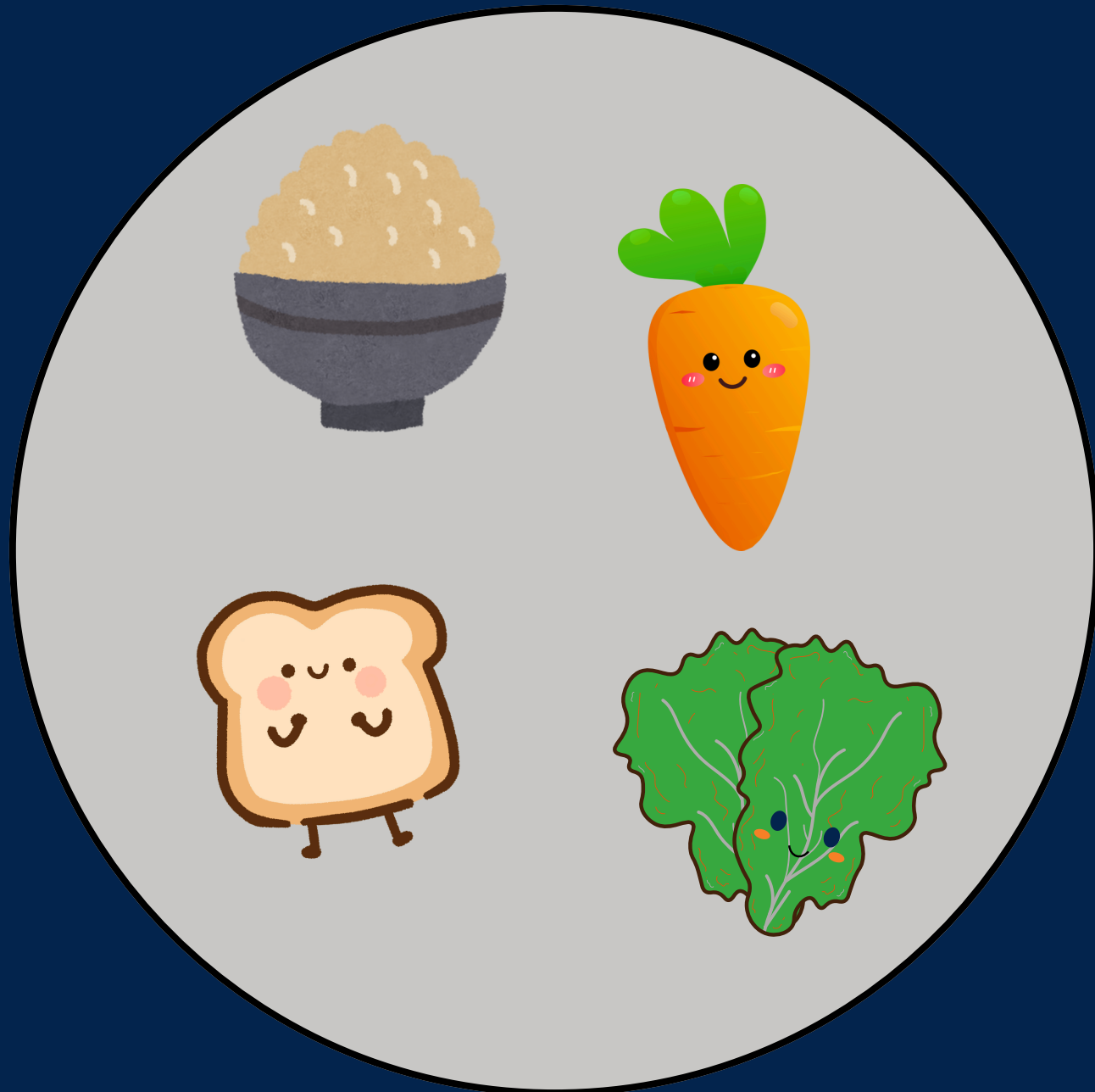
Nutrition:

- Goal: Replenish lost B vitamins and Iron
- Foods: Flax seeds, spinach, kale, red meats, whole grains, dark chocolate, eggs, herbal tea, avocado, salmon

Activity:

- Energy is on the lower end, so lower intensity exercise is best during this phase.
- Examples: Yoga, pilates, walks

FOLLICULAR



Characteristics:

- Hormones: Rising estrogen and follicular stimulating hormone
- Rising energy and mood

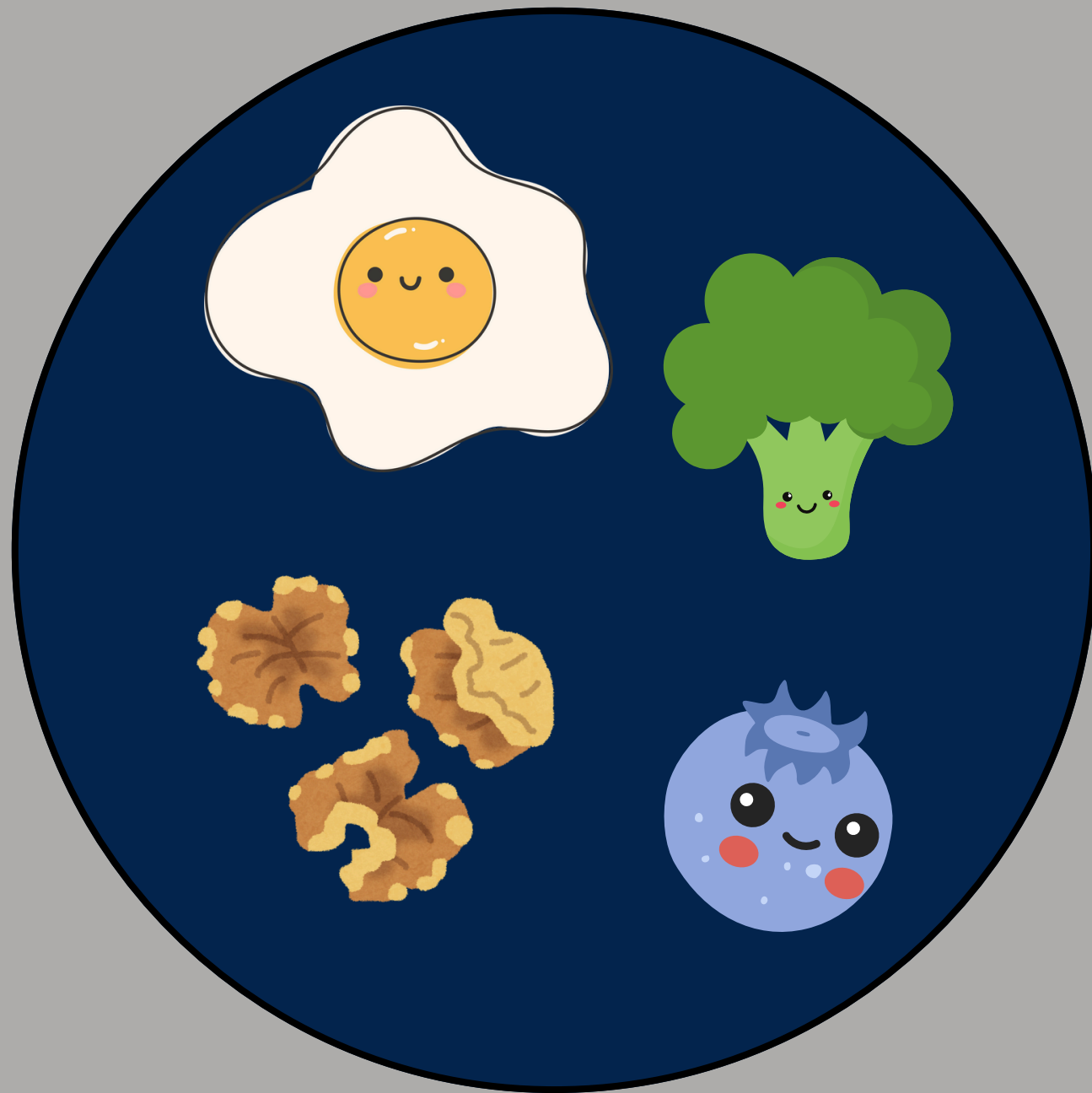
Nutrition:

- Goal: Hormonal balance, higher carbs and egg maturation
- Foods: Quinoa, brown rice, chicken, whole grains, turkey, oats, yogurt, carrots, broccoli, spinach, leafy greens

Activity:

- Energy is rising during this phase, interval training is beneficial
- Examples: Circuit training, sprints

OVULATORY



Characteristics:

- Hormones: Estrogen peaks
- High energy and motivation/mood

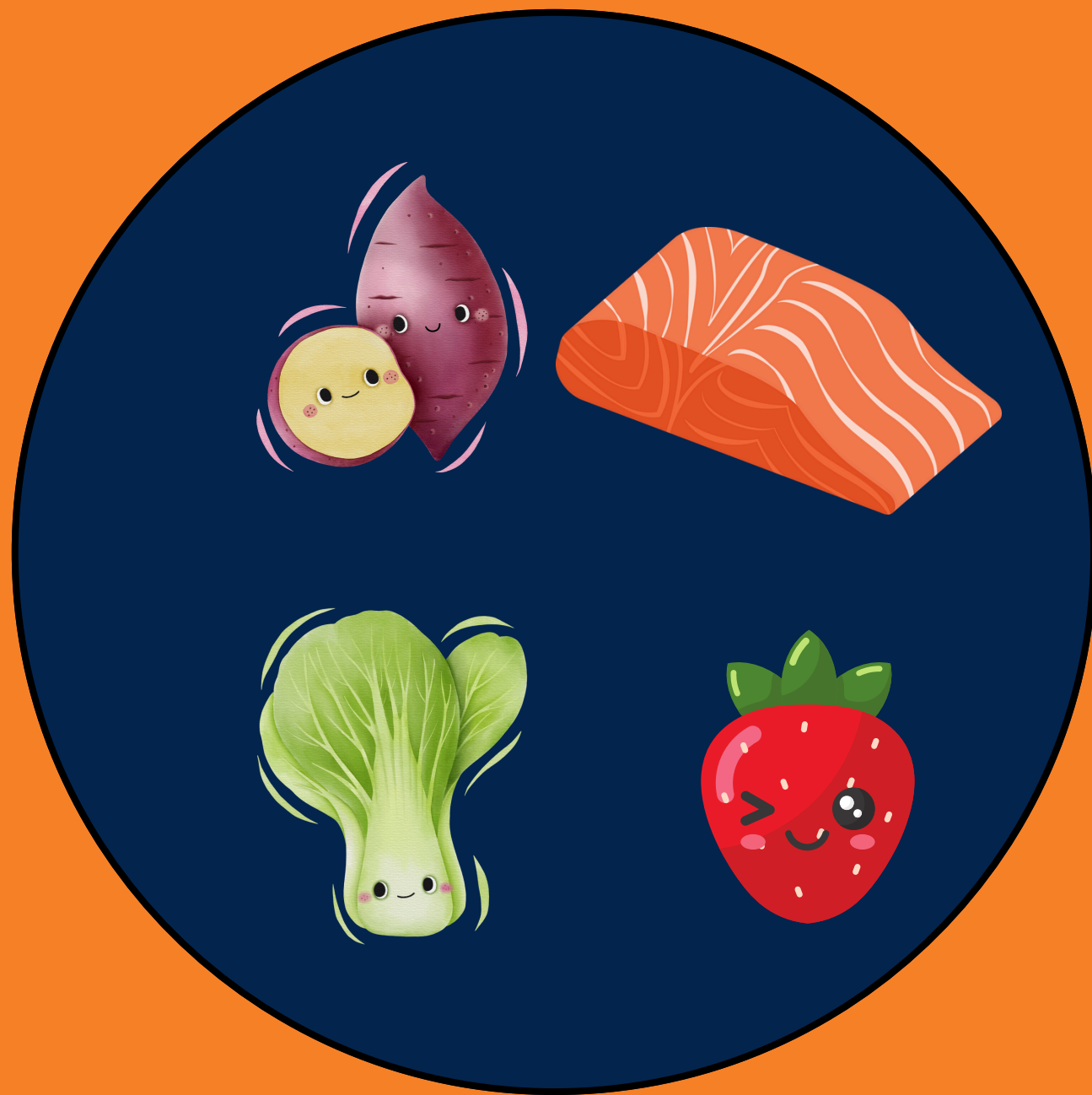
Nutrition:

- Goal: Support mood and hormonal balance
- Foods: Broccoli, spinach, eggs, avocados, blueberries, walnuts

Activity:

- Energy is high, so higher intensity training
- Examples: Sprinting, running, biking, HIIT training, high intensity weight training

LUTEAL



Characteristics:

- Hormones: Progesterone lower
- Energy lower, metabolism higher

Nutrition:

- Goal: Support hormonal balance, manage PMS symptoms, increase water intake, increase protein
- Foods: Sweet potatoes, strawberries, tumeric, bok choy, ginger, salmon

Activity:

- Energy is lowering, aerobic efforts beneficial
- Examples: Running longer distances, swimming longer distances

REFERENCES

Holtzman, B., & Ackerman, K. E. (2021). Recommendations and Nutritional Considerations for Female Athletes: Health and Performance. *Sports medicine (Auckland, N.Z.)*, 51(Suppl 1), 43–57. <https://doi.org/10.1007/s40279-021-01508-8>

Rocha-Rodrigues, S., Sousa, M., Lourenço Reis, P., Leão, C., Cardoso-Marinho, B., Massada, M., & Afonso, J. (2021). Bidirectional Interactions between the Menstrual Cycle, Exercise Training, and Macronutrient Intake in Women: A Review. *Nutrients*, 13(2), 438. <https://doi.org/10.3390/nu13020438>

Rogan, M. M., & Black, K. E. (2023). Dietary energy intake across the menstrual cycle: a narrative review. *Nutrition reviews*, 81(7), 869–886. <https://doi.org/10.1093/nutrit/nuac094>