

NUTRITION TO SUPPORT WOMEN'S WRESTLING



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Nutrition plays a vital role in performance, weight management and overall health of wrestlers—across age groups in both male and female athletes. Wrestling is a physically and mentally demanding sport, requiring multiple energy systems (strength, power, endurance) as well as top cognitive performance. Optimizing nutrition is essential not only for maximizing performance on the mat but also for supporting hormonal balance, bone health, long-term health and well-being.

Female athletes' bodies may react differently from male athletes. These include such considerations as body composition, fuel utilization, weight management targets, and acute weight loss strategies. Understanding these factors and optimizing nutrition plans allow female wrestlers to fuel their bodies effectively, plan realistic weight descent, and optimize athletic performance and training adaptation.

FEMALE WRESTLERS' BODIES ACT DIFFERENTLY FROM THEIR MALE COUNTERPARTS

KEY CONSIDERATIONS

- Body composition – typically less lean/muscle mass = less glycogen storage space (i.e. less acute weight loss capacity via carbohydrate manipulation)
- Substrate (fuel) utilization (fat metabolized better)
- Iron status (greater risk for low status than male)
- Fluid balance
- Thermoregulation (e.g. core temperature increases during luteal phase)
- Menstrual cycle symptoms:
 - Water retention (vary individually, can be 1-5 pounds) during late follicular (ovulation) and luteal phases
 - Premenstrual syndrome (PMS) may affect training and nutrition plans:
 - Cravings
 - Constipation or loose stool/diarrhea
 - Bloating
 - Mood swings



PRO-TIPS: THINGS TO KNOW FOR MANAGING YOUR WEIGHT EFFECTIVELY

- Do you know your walk-around weight (i.e. a typical body weight before weight descent) range?
- Do you know how much you sweat in practice?
- Do you know your typical float weight (i.e. weight fluctuation) – throughout the day and the night before weigh-ins?
- Are you tracking menstrual cycles to better understand how they affect your weight, mood, and appetite changes?
- Do you know how much water retention you experience during menstrual cycle?
- Is your current weight class right for you or are you growing out of it?
- Are you, the athlete, determining the weight class or somebody else involved or driving that decision (parent, coach, etc.)?

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RELATIVE ENERGY DEFICIENCY IN SPORT (RED-S)

RED-S occurs when energy intake does not adequately meet the body's requirements for training, daily activities, and basic physiological functions. This state is called low energy availability (LEA). This can negatively affect numerous body functions. Wrestlers, especially female competitors, are at high risk for RED-S due to the making weight component of the sport, particularly when weight descent is not well-planned. Whereas, short-term reduction in energy availability combined with a well-planned weight descent and post weigh-in recovery nutrition plans, is called Adaptable LEA. During this state, the body can bounce back and have little effect on performance and overall health. However, when the body is exposed to LEA for a prolonged period of time, this becomes Problematic LEA, which leads to RED-S, resulting in greater performance decline and health impact on the athlete.



Systems Affected by LEA	How
Hormonal/Menstrual Cycle	Hormone suppression (e.g. estrogen) can disrupt or eliminate menstruation. Estrogen is important for muscle building/repair, as well as building bone cells.
Metabolism	LEA can suppress metabolic rate, which can negatively affect body composition and weight descent, and making weight harder over time.
GI	Irritable gut, bloating, constipation, diarrhea, difficulty tolerating fueling during training and post weigh-in meal/snacks
Immunity	More frequent illness (cold, flu, gastrointestinal etc.), skin infections
Bone & Soft Tissue Health	Increased injury risk
Cognitive/Psychological health	Decrease in focus, alertness, mental health, motivation, impaired sleep

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WEIGHT DESCENT DEFINITION AND OVERVIEW

Weight descent is a **PLANNED**, strategic weight loss process to minimize performance impairment, as well as negative health consequences. High school and collegiate wrestlers must adhere to their respective weight-certification processes and weight management rules and programs which can dictate the weight descent process.

Both chronic weight loss and acute weight loss strategies can be used to achieve a systematic way to achieve targeted weight decent plans. The aim of a chronic weight loss phase is to focus on fat mass reduction and muscle mass retention (or minimizing muscle loss). Gradual weight loss strategies can result in more favorable body composition as well as metabolic health compared to rapid weight loss strategies.



FEMALE SPECIFIC CONSIDERATIONS (WEIGHT DESCENT)

To support physiological, hormonal and metabolic differences from male wrestlers, a descent target (% above weight class) is typically a little closer to their weight class, allowing more time to start initial (pre-season) descent and weight management plan can be a good idea.

ACUTE WEIGHT LOSS (AWL) DEFINITION AND OVERVIEW

The focus of this short-term weight loss phase (<1 week before weigh-in) is weight manipulation through strategic glycogen depletion, gut content management, and body fluid and bound-water modulation via reduced carbohydrate intake, low fiber foods and active/passive dehydration as well as fluid intake.



FEMALE SPECIFIC CONSIDERATIONS (AWL)

Due to body composition differences from their male counterpart (i.e. less % lean mass), there may be less strategic and acute glycogen depletion available as part of the acute weight strategy. Also, less total lean mass can result in less total body water pool, which may affect sweat loss capacity

compared to male wrestlers. Staying within 2% of body fluid loss may be beneficial to achieve better re-hydration status post weigh-ins, especially with a recovery window (e.g. 2 hours). Knowing menstrual cycle schedules and water retention is key in this phase.

Extreme weight loss strategies and poor nutrition plan during weight descent may not only decrease performance but may also cause serious health consequences, including life-threatening conditions. Working with a sports dietitian to develop a nutrition plan is key to a successful weight descent and top performance.

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POST WEIGH-INS

A post weigh-in recovery nutrition plan is influenced by (1) the magnitude and strategies used during weight management/loss and (2) the time between weigh-ins and the start of competition. Post weigh-in rules can vary depending on competitions. High school, collegiate and Olympic wrestling are typically 2-hours; however, athletes may have more than 2-hours post weigh-in window, depending on their bout orders.

Nutritional goals for post weigh-in recovery are rehydration and glycogen replenishment to support performance. It is also essential to select food and fluid options to minimize gastrointestinal distress. Food tolerance and preference are highly individualized; therefore, athletes should practice their post weigh-in nutrition routines before major competitions so they can refine as needed.

POST WEIGH-IN NUTRITION PRIORITIES

- Carbohydrates - Replenish glycogen
- Fluid - Support rehydration
- Electrolytes (particularly sodium) - Retains body fluids and restores electrolyte loss during AWL
- Low fat - Fat delays gastric emptying
- Low fiber - Fiber delays gastric emptying
- Moderate protein - Support glycogen restoration when co-ingested with carbohydrates
- Familiar food - Don't try new food on competition days

POST WEIGH-IN RECOVERY TIMING

Immediately after weigh-ins	• Drink 20-30 ounces bolus fluid (for adults; young athletes may need less) with electrolyte/oral rehydration supplements (sodium range ~50-60 mmol/L) • Facilitates rapid rehydration by passing the bolus fluid through the stomach (i.e. faster gastric emptying) to restore fluid balance • The rest of the fluids should be consumed as smaller sips
First hour	• Eat a bigger meal/snack: high-carb, moderate protein, low-fat, low-fiber for glycogen (energy) repletion (see more in Post Weigh-In Nutrition Priorities and Post weigh-in meal examples) • Easily digestible food (low fat, low fiber) • Stick with familiar food • Sip on fluids
Second hour	• Consider eating smaller snacks, high-carb, easily digestible (e.g. dried/fruits/sauce, granola bars, sports waffles, gels, gummies, sports drinks etc.) • Sip on fluids
2-Day comp format considerations	• A good descent plan before competition is key and helps prevent excessive weight rebound on day 1 • Moderate sodium intake on day 1 – large sodium loads can result in excessive water retention and weight gain

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POST WEIGH-IN MEAL EXAMPLES

• Oral rehydration solution/drink • Oatmeal • Banana • Honey • Yogurt	• Oral rehydration solution/drink • Chicken noodle soup • Saltine crackers • Fruit	• Oral rehydration solution/drink • Fruit smoothie • Granola bars
• Oral rehydration solution/drink • PB& jelly/honey (light on PB) on Bagel • Fruit	• Oral rehydration solution/drink • Turkey sub • Fruit juice	• Oral rehydration solution/drink • Rice • Grilled chicken • Fruits
• Oral rehydration solution/drink • Eggs • Potatoes • Toast + jelly • Fruit juice	• Oral rehydration solution/drink • Eggs • Pancakes + syrup • Fruit juice	• Oral rehydration solution/drink • Rice • Bone broth • Fruits

TIPS FOR CHAMPS:

- Weight MANAGEMENT, not weight cut – work with a sports dietitian. Crash dieting doesn't get your hand raised, a solid nutrition PLAN does.
- Know your body. Everyone has different genetics, metabolism and response to a nutrition plan. Know your optimal walking-weight, weight management plans, and post weigh-in regimen. Find what works for YOU.
- Track menstrual cycles and know your typical range for water retention.
- Start initial (pre-season) descent at least 4-6 weeks out.
- Scale = a TOOL to understand your body, not your enemy
- Numbers on a scale = Data point, NOT stressor
- Menstrual cycle is a women's superpower that helps with wrestling performance.
- Your body evolves – your weight class may too.



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PRIORITIZING HEALTH AND PERFORMANCE

These might be early warning signs from your body – Sports RDs can help!

- Frequent illness or slower recovery from illness
- Recurrent injuries
- Absence of periods for 3 consecutive months or longer, or fewer than 8 periods per year
- Becoming preoccupied with body weight or how you “look”
- Increased anxiety around food
 - Efforts to make weight or improve performance can sometimes become unhealthy over time. Female wrestlers may be at increased risk for disordered eating and eating disorders. Recognizing the warning signs and reaching out for help early can protect your health and support your performance.



ADDITIONAL RESOURCES

- [Wrestling Resource for the Wrestling Student-Athlete](#) found in ASPDA Downloadable Resources
- For sport RDs: [Combat & Weight Class SIG - RD toolkit](#), and more!

