

Eating Disorders, Dysregulated Eating & Athletes – Dieting Gone Awry –



Athletes are physically fit.
But how many of them are nutritionally sound?

1

How common are eating disorders among Athletes?

The frequency of eating disorders is higher among athletes than non-athletes:

20-22% of athletes have eating disorders
3 - 9% of non-athletes have eating disorders

Weight-sensitive sports have an especially high prevalence of eating disorders :

24% of endurance athletes
30% of athletes in sports with weight categories
42% of aesthetic athletes

Sundgot-Borgen J, Torstveit MK. Prevalence of eating disorders in elite athletes is higher than in the general population. *Clin J Sport Med* 2004;14:25-32

2

Dysregulated eating - High School

Survey of 240 female HS athletes from a variety of sports

- 50% reported menstrual irregularity
- 42% had 2 or more Female Athlete Triad risk factors
 - Amenorrhea (n = 39)
 - Past stress fracture (n = 41)
 - Self-reported "not eating enough" (n = 53)
 - Underweight (BMI <5th % for age) (n = 10)
 - Pressure to be a certain weight (n=143)
 - Wanting to lose >10 lbs despite healthy weight (n = 34)

Brown, Beals *J Pediatric Adolesc Gynecol* 2014

3

Dysregulated Eating - College

Survey of 425 female collegiate athletes across the US

- The women wanted to lose 5 pounds, on average
- 43% felt terrified of becoming overweight
- 22% were extremely preoccupied with food, weight
- 31% reported menstrual irregularity
- 34% had had a bone injury (stress fx, break)
- 3% reported having anorexia, and 15% were "at risk"
- 2% reported having bulimia, and 32% "at risk"

Beals, Manore *Int'l J Sports Nutr*, 2002

4

Dysregulated eating impacts even world-class runners and race walkers

- 37% (n=13) of female athletes were amenorrheic
- 40% (n=10) of male athletes had low testosterone levels

Compared to those with normal reproductive function, both amenorrheic females and men with low testosterone:

- Lost more training days due to bone injuries + stress fx
- Had 4.5 times greater incidence of bone injuries

Heikura, Stellingwerff *Int'l J Sports Nutr Exerc Metab* 2017

5

Relative Energy Deficiency in Sports

Physical signs

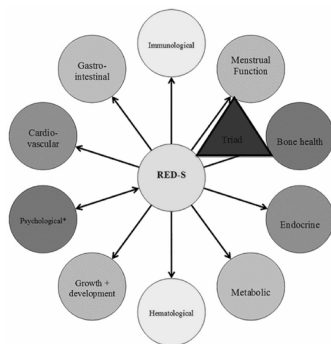
- Low body temperature <97.5°
- Low resting heart rate:
 - <60 beats/minute women
 - <50 beats/minute men
- 30 bpm difference in heart rate lying to standing

(Postural Orthostatic Tachycardia Syndrome; POTS)

The cause: Low Energy Availability (LEA): a mismatch between energy intake and energy expended in exercise, leaving inadequate energy to support optimal health and performance. Can be intentional or unintentional.

6

RED-S impairs many body systems

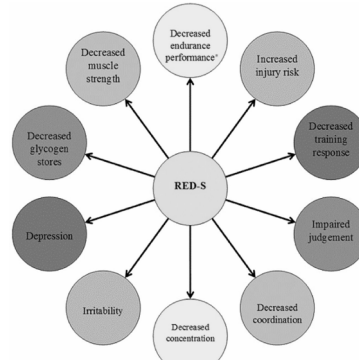


Systems affected:
Menstrual function
Bone Health
Endocrine
Metabolic
Hematological
Immunological
Growth/development
Psychological
Cardiovascular
Gastrointestinal

Mountjoy M, et al. Br J Sports Med 2014;48:491-497.

7

Potential Negative Impacts of RED-S



Reduced:
Endurance
Training response
Muscle strength
Glycogen stores
Concentration
Judgement
Coordination

Increased:
Injury risk
Irritability
Depression

Mountjoy M, et al. Br J Sports Med 2014;48:491-497.

8

So what? Why should we care?

0-19% of male athletes ... 6-45% of female athletes*

- Medical complications can impact athletes' short and long-term health, injuries, and ability to help the team have a winning season.
- Associated with tremendous mental anguish; depression and anxiety.
- Anorexia has the highest mortality rate of all mental illnesses.
Between 10% to 20% of people with anorexia die a premature death
- Suicide is 57 x more likely in people with anorexia than their peers.

We can make a big difference in someone's life!

*Sundgot-Borgen. Eur J Sports Sci 2013

9

The quest for thinness can hurt performance

(a 12-week study with elite female swimmers)

Adequate eaters Restrictors

	<i>Adequate eaters</i>	<i>Restrictors</i>
Calorie intake	~2,500/day	~1,800/day
Body fat	19%	22%
RMR (kcal/day)	~1,400	~1,250
Menstrual status	Every 28-31 days	Irregular

Vanheest. Ovarian Suppression Impairs Sports Performance in Junior Elite Female Swimmers. Med Sci Sports Exerc 46(1):156-166, 2014

10

Female swimmers who restricted their energy intake

- Ate ~700 fewer calories/day than the adequate eaters.
- Did not lose weight during the 12-week training session
- Were 10% slower in 400-meter race at the end of the season

Their efforts to be leaner hurt their performance.

Were they trying to be too thin for their genetics?

Vanheest. Ovarian Suppression Impairs Sports Performance in Junior Elite Female Swimmers. Med Sci Sports Exerc 46(1):156-166, 2014

11

Treatment goals with dysfunctional eating

To be:

- Fit
- Healthy
- At peace with food
- At peace with one's body

12

Myth: The lightest athlete is the best athlete...



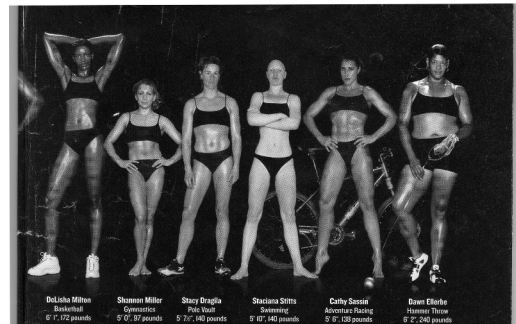
Truth—

The best athlete is:

- genetically gifted
- well trained
- well fueled
- well rested

13

Lean athletes come in varied sizes & shapes



14

“I feel fat...”

Fat is not a feeling. You are likely feeling—

- Imperfect or less perfect
- Inadequate or less adequate
- Out of control, anxious

15

“I’m too fat...”

- Too fat for whom?
- Too fat for what?

*Where did you get the message
that something is wrong with your body?*

16

**“No weight is ever
perfect enough to do
the enormous job of
creating happiness.”**

From:
The Don't Diet, Live-It! Workbook: Healing Food, Weight & Body Issues
www.EDCatalogue.com

17

To compare is to despair

Practice living on a fantasy island
where you — and your body — are
“good enough” the way you are.



18

Athletes often deny this fact:

Being lighter might not
enhance performance

19

CASE STUDY: **Sophomore collegiate runner**

"I used to be a really good runner both in high school and as a freshman in college. But now, as a sophomore, I've gotten slower.

"I thought I could run faster if I lost weight, so I cut back on food...

"I've ended up gaining weight and my times keep getting worse and worse..."

20

CASE STUDY: Collegiate runner

Her concern: "I'm getting slower"

Her translation: "I must be too fat"

The actual problem: **Anemia**

The solution: Iron supplements

21

CASE STUDY:

National champion runner

Senior in college

21 yo female runner

"I'm too fat..."

- Double workouts; ran 45-80 miles/week
- Tried to eat ~1,200 calories; deserved ~2,600+
- Binged/purged 2-3 times / week at night
- "I'm addicted to food."

22

Her attempted diet

7:30 am	Run x 30 minutes	-400
8:30	Yogurt + fruit	+200
12:30	Snacks: fruit, pretzels	+400
2:30-5:30	Team Practice	-600
6:30	Starving! Binge and then purge	

With realistic food plan (700-700-700-500 = 2,600 cals):

"I feel great! I had a good week ... eating was easy."

23

Respect the power of hunger

ANALOGY:

• Can you breathe normally after having held your breath for too long? *No!*

• Can you eat normally, after having eaten too little food for too long? *No!*

24

30% of dieters who seek help with weight loss are binge eaters

Binge eating serves a purpose—

- Resolves hunger related to inadequate food intake
- Cheers a person up (for a minute); handy distraction
- “Numbs them out” when feeling stressed.
- Can be a way to procrastinate
- Convenient alternative to addressing one’s fears

What are you doing with your feelings...?

25

Tips for binge eaters

To help resolve dysregulated eating—

- Stop dieting
- Practice eating intuitively
- Be compassionate and gentle on yourself
- Pay attention to the emotional aspects of bingeing
- Experiment with new ways to self-soothe w/o food

Judith Maltz. *Beyond the Shadow of a Diet: The Comprehensive Guide to Treating Binge Eating Disorder, Compulsive Eating and Emotional Overeating*

26

Screening for Eating Disorders: SCOFF Questionnaire

- Do you make yourself **S**ick because you feel uncomfortably full?
- Do you worry you have lost **C**ontrol over how much you eat?
- Have you recently lost **O**ver 14 lbs in a 3-month period?
- Do you believe you are **F**at when others say you are too thin?
- Would you say that **F**ood dominates your life?

*2 or more **Yes** answers highly suggests an eating disorder*

27

Sub-clinical Eating Disorders

Characteristics of food-obsessed people—

- Under-consume by 500 calories / day
- Eat repetitive diet, little variety, strictly low fat
- Categorize food as “good” or “bad”
- Feel guilt / self-anger if they break their food rules

Q. What percent of your time do you spend thinking about food?

K. Beals & M. Manore, *Int’l J Sports Nutr* 10(2):128, 2000

28

Clients present with these concerns...

- My diet is horrible...I eat way too many sweets.
- I have a really good diet. I’m very careful...
- I’m always cold...
- I feel tired all the time...
- Why aren’t I pencil-thin for all the exercise I do...?

29

Brainstorming reasons why frustrated dieters haven’t lost weight.

Maybe they....

- have gained muscle (and lost body fat)?
- have an increased appetite from exercise?
- use food as a reward for having exercised?
- over-consume sports drinks, gels & recovery foods?
- under-eat satisfying meals & graze on too many snacks?
- are “sedentary athletes”?

30

Dieters who exercise but don't lose weight may be...

- chronically dehydrated and “want something”—so they eat?
- too tired from over-exercising and seek sugar for energy?
- trying to lose *essential* female fat that is tough to lose?
- leaner than they realize, and don't have excess fat to lose?

31

**Athletes forget:
We are *supposed* to have some body fat!**

	<i>Men</i>	<i>Women</i>
Essential fat	3 - 5%	11-13%
Top athletes	7-12%	14-18%
Athletic	12-15%	18-22%

32

Focus of Nutrition Counseling: *Health, not weight*

Educate the client about—

- Physiology of hunger, binge-eating
- Stress management; importance of sleep
- Carbohydrates, protein, fats, calories
- Realistic weight goals, body acceptance

Goals: To be fit, healthy & at peace

33

Motivational interviewing

- *Tell me* about your history with diets...
- *It sounds like* you are very frustrated...
- *What do you mean* by “being bad”?...
- *I can't even imagine* how hungry you must feel...
- *What would happen* if you didn't exercise today?

34

Client-centered Counseling

While taking a detailed weight history and food intake (typical day + food frequency), I intersperse questions:

- **How much** of an issue is food for you?
- **How much** of an issue is weight for you?
- **How long** have these been issues?
- **What led up** to your calling me?

35

Client-centered Counseling

- When are your hungry times of the day?
- What do you do when you are hungry?
- How do you know when to start / stop eating?
- What do *you* wish was different about your eating?
- What do you think I'm going to tell you?
- What are you afraid I'm going to tell you?

36

Client-centered Counseling

- What dietary changes would *you* like to make?
- What benefits will come from changing your diet?
- What concerns you the most about changing?
- What's your long-term vision for change?
- What are you willing to start working on today?

37

Energy needs during recovery from anorexia

23-27 cal/lb (50-60 cal/kg)

100 lb person with anorexia requires 2,300-2,700+ calories

Food buckets for 100-lb person:

B' fast/Sn:	500-600 calories	(cereal + milk + banana + eggs)
Lunch:	600-700	(sandwich + soup + fruit)
Lunch-2:	300-400	(apple + cheese + crackers)
Dinner/Sn:	600	(fish + rice + veg + milk + cookie)
Total:	2,300-2,700 calories	

38

"I can't eat that...."

- Reframe:
"I'm having a thought that I can't eat that...."
- What is your eating disordered voice saying right now?
- What is your healthy voice saying?
- Can your healthy voice calm your eating disordered voice?

39

SMART Goals

Specific
Measurable
Action based
Realistic
Timeline

- *"I will add a yogurt to breakfast three days this week."*
- *"I will grocery shop on Monday nights so I have food to eat."*
- *"I will exercise no more than 60 minutes, five days a week."*

40

CASE STUDY

28 yo woman who wants to get pregnant

"I am trying to pregnant. I've been amenorrheic for 7 months. The MD says my body is in starvation mode and she thinks I am not eating enough."

- *5'5" Current wt: 145-150; Her goal wt: 135-140 lbs;*
- *Leaner than others in her genetic family*
- *Highest wt: 185 – Junior in High School*
- *Lowest wt: 135 - Senior in High School*
- *Exercises 1.5-2 hrs/day (HIIT/jump rope)*

41

Woman with amenorrhea

- 5:00 a.m. Gets up
- 5:30-7:30 High Intensity Exercise; jumps rope
- 8:30 Kind Bar for breakfast at work
- 10:00 Grapes
- 1:00 p.m. Hummus, carrots, snow peas, strawberries
- 4:00 Two clementines
- 7:00 Grapes when she gets home from work
- 7:30 Dinner: 2 eggs, brown rice, spinach
- 8:30 Ice cream

Reported calorie intake: <1,200 "Deserves": 2,400+

42

Nutrition education needs

- Calories needed to support life, exercise, health
- Sample meals with appropriate carbs, protein, fat
- Variety, moderation; no such thing as a “bad” food
- Sports nutrition tips: fueling up / refueling
- Intuitive eating & body’s ability to regulate weight

(Eat when hungry, stop when content.)

43

Helpful mantras and affirmations

Woman wanting to get pregnant

- I need to have a healthy body to create a healthy baby.
- My body is happier now; my workouts are better.
- I don’t have to choose a perfect diet to have a good diet.
- I want to be more flexible. I can always go back to my old ways, if I need to.

44

Woman with amenorrhea

- *2 weeks later:* “I’m eating more and I feel better. I’m exercising only 1 hour a day plus taking 1 day off. I feel so much better and I am in a better mood.”
- *6 weeks later:* “I’m eating too much a night – I feel stuffed. I need to be able to control my portions.” (Her weight was stable; still needed more calories. Eating only 1700-1800.)
- Cancelled her next appointment

45

What’s the real problem—food? life?

Eating disorders are a *psychological* diagnosis

Common Life Problems

- Family dysfunction
 - Alcohol, food abuse Sexual abuse*
 - Poor communication Depression*
- Perfectionism + low self esteem
- Separation issues

46

What’s the real problem?

People with eating disorders commonly have the following personality traits. They--

- Have a great desire for control
- Strive for perfection
- Are compulsive

These traits are common to children of alcoholics, of whom one-third reportedly become bulimic.

47

What can we do to prevent eating disorders?

Study with 465 athletes who attended 16 Elite Sports High Schools in Norway. The program prevented the development of new cases of EDs in the freshman class

- Boosted self-esteem and belief in themselves.
Think of three things a day that you feel good about that have nothing to do with you as an athlete.
- Expanded their vision of themselves:
*You are not just “a runner.”
You are a person who runs, a good friend,
a fun person who makes your sister laugh...*

Martinsen M. Preventing Eating Disorders among Young Elite Athletes: A Randomized Control Trial. *Med Sci Sports Exerc* 46(3): 435-447, 2013

48

How to move a person towards health?

Elly and her food rules

- Eating is a “fall from grace”; eating nothing is ideal.
- My body is different; it stores almost all food as fat.
- I do not eat foods I like; high danger of bingeing.
- I do not eat foods if I don’t know calories, fat content.
- I prevent hunger by drinking coffee to fill me.
- I eat as little fat, bread/starches as possible.

49

After years of treatment...

- Hunger is a normal & positive aspect of being alive.
- Food is a beautiful and pleasurable aspect of my life.
- I appreciate my body for what it can do, not it’s size.
- I enjoy pleasurable exercise as a way to take care of myself, not as a punishment for having eaten.
- My favorite exercise is yoga; it reinforces self-care.

50

For more information:
www.EDCatalogue.com
www.NEDA.org
www.SCANDpg.org

Nancy Clark’s Sports Nutrition Guidebook



51