On-Campus Response to Eating Disorders in Sport: Why, Who and How?



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Disclosure

Consultant for Walden Behavioral Care since 2015 www.waldeneatingdisorders.com

Creator of the Walden GOALS program, an Intensive Outpatient Program treating competitive athletes with eating disorders

www.waldeneatingdisorders.com/treatment-programs/specialized-eating-disordertreatment-programs/goals-intensive-outpatient-program-for-competitive-athletes/

What I bring to this conversation...

- Registered Dietitian
- Tenured faculty in Nutrition
- Funded researcher
- Built the Sports Nutrition Consult service at Boston Univ in 2004



- Published more than a dozen peer-reviewed papers on ED in sport and lectures widely on the topic
- □ Led the creation of the Walden GOALS program in 2015
- Former student-athlete and dancer
- □ Mother of three highly competitive athletes...

http://sites.bu.edu/nutritionalepilab/

Today's Objectives

- Define the unique risk factors for eating disorders in collegiate sport
- 2. Describe the consequences to health and performance caused by eating disorders in sport
- 3. Identify the necessary components and resources for an on-campus response to eating disorder risk in collegiate athletics

What do you know about Nutrition for Sport?



Nutrition for the Student-Athlete

- Healthy strong body
- Increased nutritional needs
- Optimal performance
- Adequate hydration

- Better immunity
- Injury prevention
- Faster recovery
- Mental focus



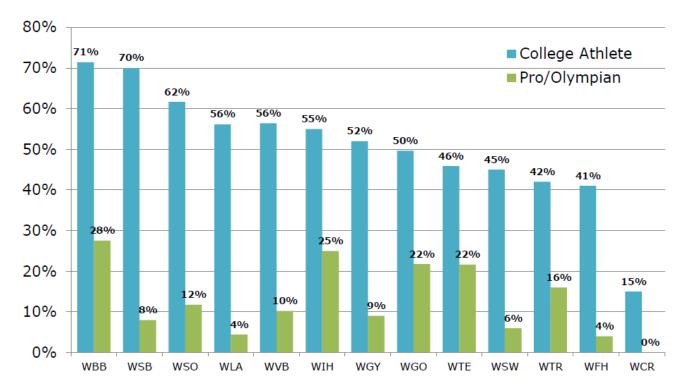
Challenges that can create a Perfect Storm for College Athletes

- Fear of the Freshman 15
- Different food supply
- Few cooking skills
- > Alcohol
- Demanding schedules
- Being unprepared
- Travel & eating on the road
- > Roommates & Relationships

- > Academic stress
- Financials & Scholarships
- > High expectations
- Pressure to perform
- > Body image & uniforms
- Misinformation
- Coach interactions
- Feam culture

2015 NCAA Survey – D1 Women

Since I was young, my family expected I would be... (Agree/Strongly Agree, Division I Women in GOALS-2015)

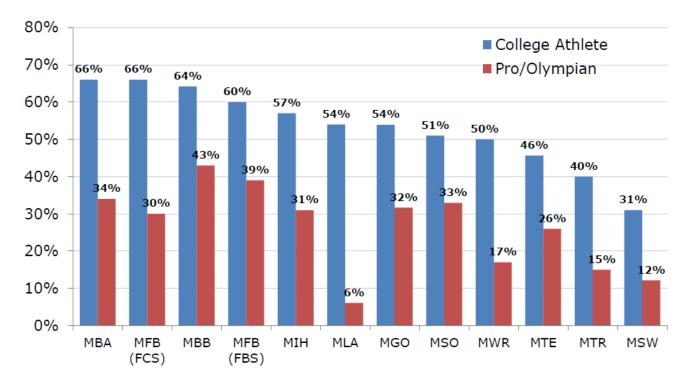




n = 8,743

2015 NCAA Survey - D1 Men

Since I was young, my family expected I would be... (Agree/Strongly Agree, Division I Men in GOALS-2015)





n = 12,490

Common Obstacles to Good Nutrition for College Athletes

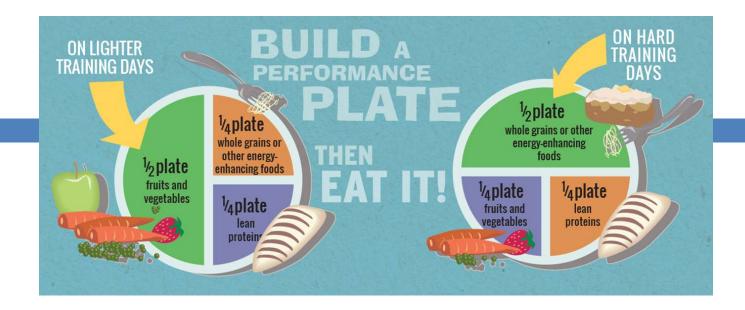
- Not eating enough
- Not drinking enough
- Skipping meals
- > Missing out on recovery nutrition
- > Uninformed vegetarianism
- > Dieting or other food restrictions...
- > An obsession with the scale or with body image
- > Unhealthy relationship with food





Sports Nutrition





ATHLETE'S PLATE

HARD TRAINING / RACE DAY: **Fresh Fruit** Grains Water Stewed Fruit Dairy/Nondairy FATS Dried Fruit Beverages 2 Tablespoons **Diluted Juice** Pasta Rice Flavored Potatoes Beverages Cereals Breads Coffee Tea Poultry Poultry Beef/Game/Lamb **Cooked Veggie** FLAVORS Fish Veggie Soups Eggs Raw Vego Salt/Pepper Low-Fat Dairy Soy (e.g., Tofu, Herbs Avocado Tempeh) Spices Oils Legumes/Nut Vinegar Nuts Salsa Seeds Mustard Cheese Ketchup Butter



The Athlete's Plates are a collaboration between the United States Olympic Committee Sport Dietitians and the University of Colorado (UCCS) Sport Nutrition Graduate Program. For educational use only: Print and use front and back as 1 handout:

Eating Competent Athletes

- Feel good about eating
- Are reliable about feeding themselves
- Choose foods that give them pleasure
- Eat as much as they are hungry for
- Will not overeat in the presence of big servings
- □ Will eat it all if they want to; will not if they don't
- Will allow "forbidden foods" at meals and snacks, making them ordinary foods that they can eat in ordinary ways

Adapted from: ellynsatterinstitute.org

Where do Student-Athletes get Nutrition Information?







Where do Student-Athletes get Nutrition Information?

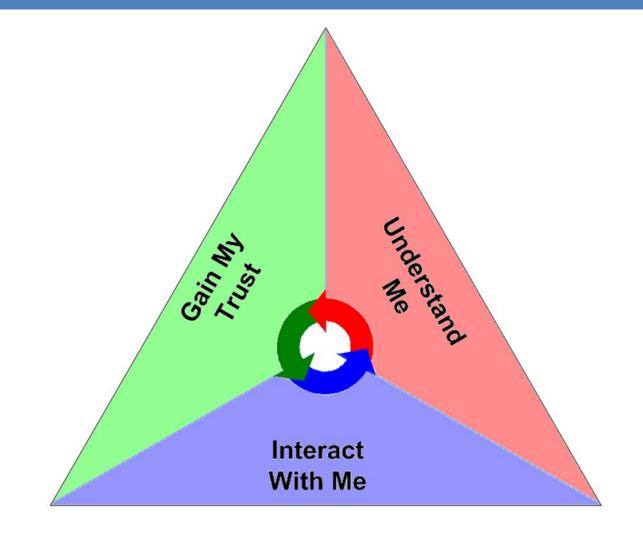
How to achieve A Lifetime of SUSTAINED PEAK PERFORMANCE

THE

METHOD



What do Student-Athletes Want from Sources of Nutrition Information?



Benari & Quatromoni, 2006

The Realities...

- Pressure is high
- > Nutrition knowledge & skills are low
- Misinformation is abundant & targeted
- > Coaches, strength coaches and ATs are most trusted
- Access to nutrition professionals is limited in most college settings, meaning few opportunities to educate or screen





ncaa.org



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🦉 HARTLAHD 🔀 🌾 CHANNEL 🖘 N

By the numbers...

More than 1,100 colleges & universities

More than 6,000 Division I athletic teams

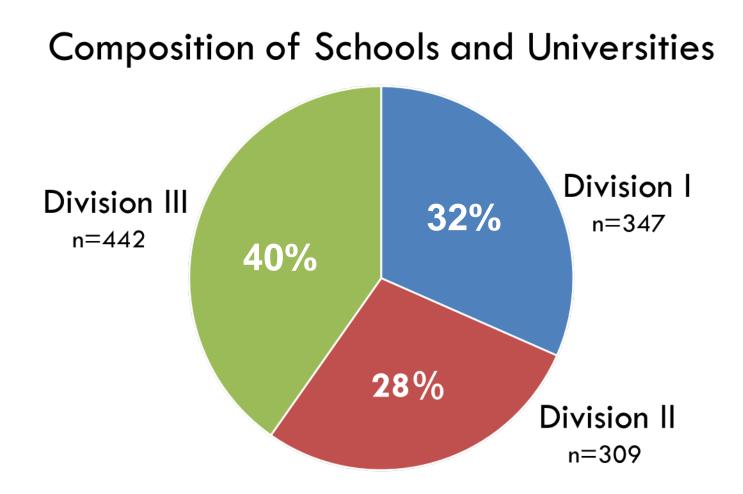


More than 500,000 student-athletes participating across DI, DII & DIII programs



Who knows how many club sport athletes, intramural athletes, dancers and performers?





NCAA Schools that Employ Full-time Sports Dietitians

- □ None in Division II (24 conferences)
- □ None in Division III (43 conferences)
- □ 12 of the 34 NCAA Division I conferences (35%)
- 79 total schools (7%)

Conference	Schools	Conference	Schools
BIG 10	14	American	4
SEC	12	Colonial	4
ACC	12	Mountain West	3
PAC 12	12	FCS	2
BIG 12	9	A-SUN	1
IVY	5	C-USA	1

sportsrd.org



7% of 500,000 = 35,000

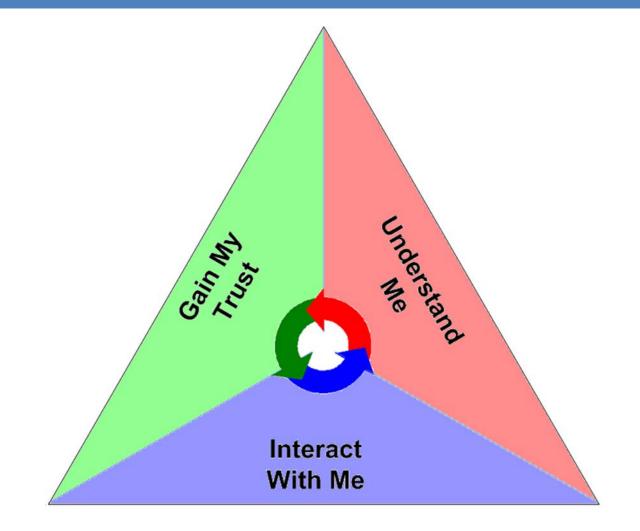
482,500 likely are not

17,500 (maybe half?)

may get nutrition services

500,000 NCAA student athletes

This is NOT happening inside most collegiate athletic programs...



Benari & Quatromoni, 2006

2015 NCAA Survey

n = 21,233

I wish our coaches and athletics				
administrators talked more about				

	Men	Women
Preparation for a career after college	49%	64%
Proper nutrition for athletic performance	42%	56%
Getting good sleep	35%	40%
Managing time demands	27%	34%
Keeping sports in perspective	26%	33%
Importance of academic success and graduation	26%	32%
Speaking up when you see things that aren't right	24%	33%

Note: Only items with >20% endorsement listed. Other items included: personal conduct; social networking; treatment of members of the opposite sex; academic integrity; hazing or bullying; drinking/substance abuse; and concussion treatment.



The Realities...

- Pressure is high
- Nutrition knowledge & skills are low
- Misinformation is abundant & targeted
- Coaches, strength coaches and ATs are most trusted
- Access to nutrition professionals is limited in most college settings, meaning few opportunities to educate or screen
- Knowledge does not translate to healthy eating behavior, especially under extreme pressure to perform
- > Unhealthy attitudes and behaviors are contagious



The Face of the Eating Disorder

What does an eating disorder look like in an Athlete?

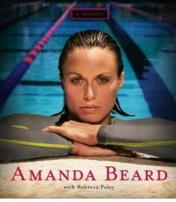


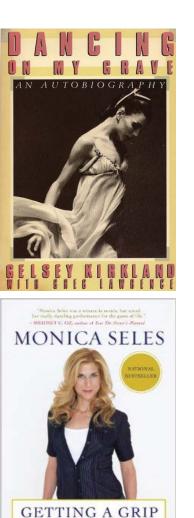




kathryn bertine.

in the water they can't see you cry

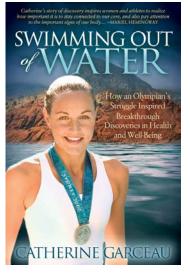




ON MY BODY, MY MIND, MY SELF

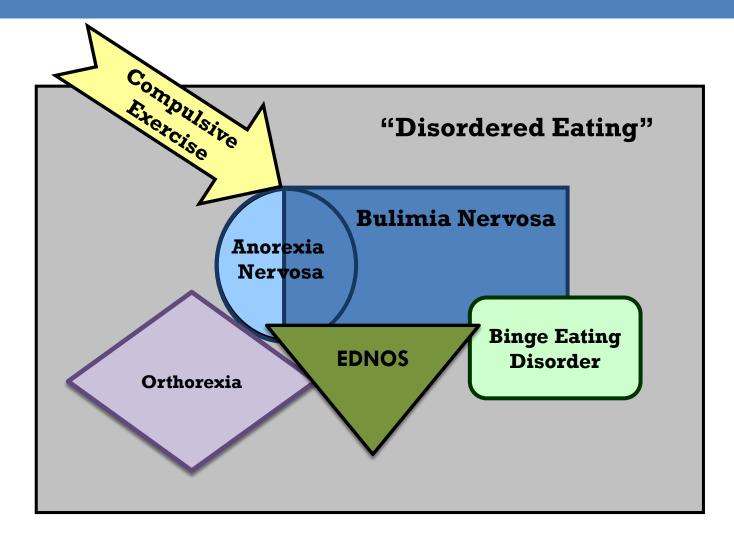
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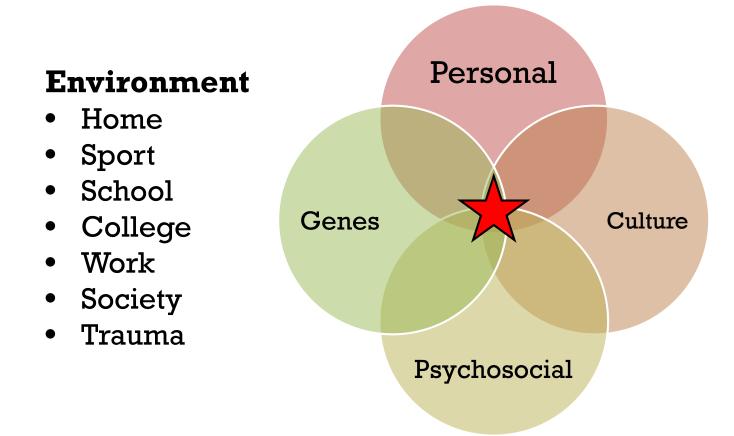




Common "Diagnoses"



Contributors to Eating Disorders



What puts a Collegiate Athlete at risk for Disordered Eating?

Internal Factors

- Drive & commitment
- Perfectionism
- > Beliefs & attitudes
- Coexisting mood disorders
- Knowledge
- Behaviors
- > Transitional life stage

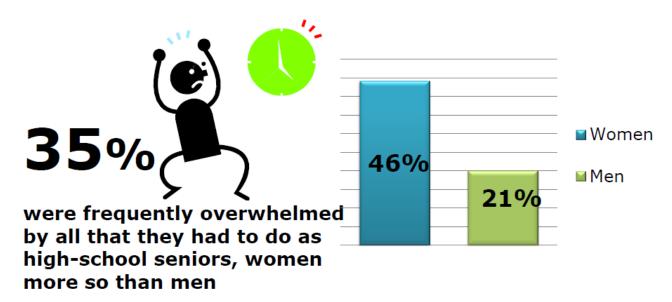
External Factors

- Home environment
- College environment
- Sport environment
- > Teammates/Coaches
- > External pressures
- Training demands
- Misinformation
- Sociocultural pressures

2015 NCAA Survey

n = 21,233

Students Generally Are Entering College Feeling More Overwhelmed Than Ever



Data source: CIRP Freshman Survey 2014 (Higher Education Research Institute) www.heri.ucla.edu



Factors Related to ED Onset

Disordered eating among female athletes in any sport appears to be predicted by two main factors: desire to enhance sport performance by losing weight, and negative emotions about missing training sessions (Krentz & Warschburger, 2011).

Themes	Primary Codes	Athletes	Non- Athletes	Secondary Codes (disproportionately affecting)
Psychological Factors	Low Self Worth	100%	88%	Poor body image similarly affected 5 of 6 women Feeling inadequate (athletes)
	Co-morbid Diagnoses Perfectionism/Control	67% 42%	76% 24%	Anxiety (athletes) Depression (non-athletes) Learning disabilities (non-athletes)
				Č , ,
Physical/ Behavioral Factors	Changes in Weight Rigid Eating/Dieting Injury/Illness	47% 41% 33%	71% 41% 0%	Dieting practices similarly affected 2 in 5 women Rapid weight changes (athletes) Puberty body changes (non-athletes)
Relationship Factors	Peer Issues Family Issues Other Relationships	75% 50% 33%	94% 77% 6%	Peers role modeling EDs (athletes) Others controlling food intake (athletes) Bullying/Fitting in (non-athletes) Family dysfunction/EDs/Dieting (non-athletes)
Environmental Factors	Sport Environment Cultural Thin Ideal	67% 17%	18% 18%	Performance pressures (athletes) Team weigh-ins (athletes)

Arthur-Cameselle & Quatromoni, 2017

How does Disordered Eating present in College Athletes?

- Dissatisfied with performance
- Dissatisfied with weight or body image
- > Extremist thinking, rigid behaviors, highly self-critical
- Supplements valued, food distrusted
- Dieting, chronic food restriction, orthorexia
- Binge/purge or binge/diet cycling
- > Overly restrictive vegetarian diets
- In response to injury
- > In response to other stressors...sport, coach, academics, family



How common are EDs among Athletes?

- Accurate estimates are elusive
- Athletes are more likely to underreport symptoms and consider their ED habits benign, a sign of commitment, and maybe even endorsed by their coach, teammates, parents...
- Prevalence estimates are 2-3 times higher in athletes vs. nonathletes; rates are increasing for male athletes
- ED rates vary by sport, noted as high as 42% of athletes in aesthetic sports
- As many as 70% of athletes in weight class sports are dieting or have disordered eating behaviors Joy et al. Br J Sports Med 2016

Today's Objectives

- Define the unique risk factors for eating disorders in collegiate sport
- 2. Describe the consequences to health and performance caused by eating disorders in sport
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Social & Emotional Consequences...

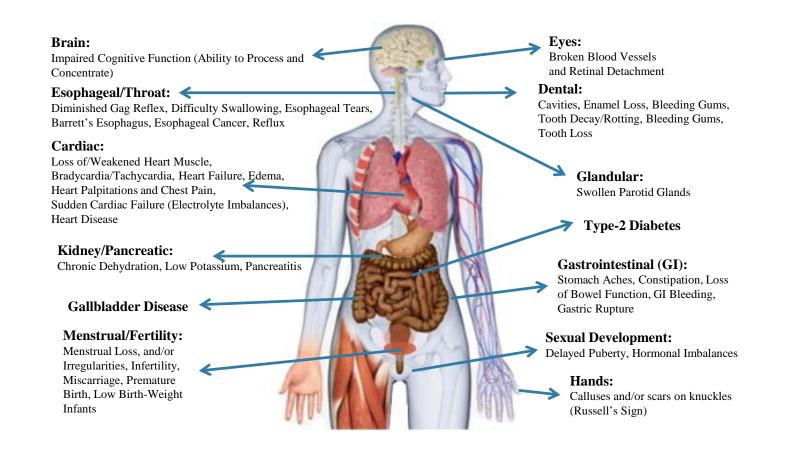
- Increased depression and anxiety
- Social isolation
- Difficulty concentrating, poor memory
- Increased irritability
- Relationship conflicts and tension
- Poor self-esteem
- Inability to focus on other priorities due to preoccupation with food, weight, etc.
- > Difficulty coping with stress

Physical Consequences...



- > Chronic fatigue
- Depleted muscle and adipose stores
- Dehydration and electrolyte imbalances
- Fainting, weakness, anemia, low immunity
- > Amenorrhea and osteopenia
- Compression fractures and stress fractures
- Delayed recovery from injury
- Suboptimal training and performance
- Inability to train or compete

Physiologic Consequences of EDs



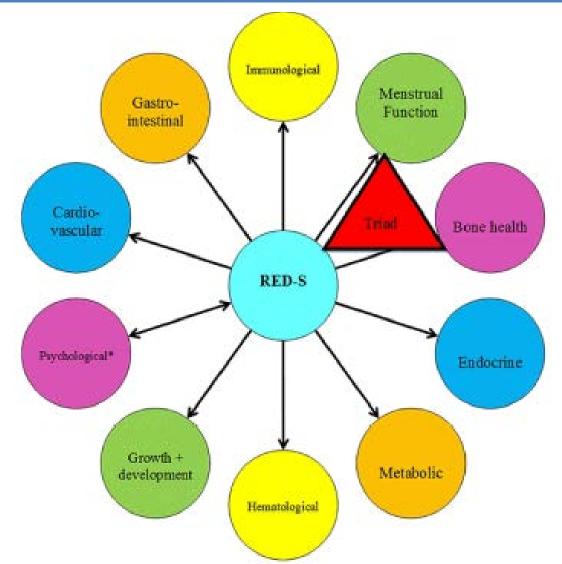
Female Athlete Triad

Low Energy Availability/Disordered Eating Female Athlete Triad

Bone Loss/Osteoporosis Menstrual Disturbances/Amenorrhea

Relative Energy Deficiency in Sport (RED-S)

A clinical syndrome that also affects males



Mountjoy et al Br J Sports Med 2014

Br J Sports Med 2016

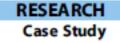
- Presenting signs & symptoms
- Diagnostic criteria
- Behavioral screening questions
- Assessment tools
- Multidisciplinary treatment plans
- Treatment contract
- Return to Play guidelines
- Prevention strategies

Joy et al, 2016

Case Studies

Quatromoni PA, Journal of the Academy of Nutrition & Dietetics, 2017; 117: 21-31.





A Tale of Two Runners: A Case Report of Athletes' Experiences with Eating Disorders in College



Paula A Quatromoni, DSc, RD, LDN

ARTICLE INFORMATION

Article history: Submitted 17 May 2016 Accepted 26 September 2016

Keywords:

Anorsola nervosa Exting diborder, not otherwise specified (EDNOS) Sports nutrition Gase report Exting diborders

2212-2672/Copylight © 2017 by the Academy of Nutrition and Dietetics. http://dx.doi.org/10.1016/jj.and.2016.09.0.32

ABSTRACT

Athletes are at higher risk than the general population for eating disorders, and risk is heightened for athletes in thin-build sports, including track. Collegiate athletes are particularly vulnerable to disordered eating when the transition from home to the college environment adds to the stress of performance pressures and the high demands of the sport environment. Male and female athletes who develop eating disorders share some common characteristics, yet their experiences can be quite different, in part as a consequence of their sex and how eating disorders develop, and are recognized, acknowledged, and treated, within the culture of sports. This case report describes the experiences of two track athletes, one male and one female, who were recruited to the same Division 1 collegiate track program. Both were dite athletes, freshmen in the same year, experiencing the same urban college environment, and experiencing an eating disorder characterized by restrictive eating, significant weight loss, injury, and compromised performance in sport. Both received treatment from a multidisciplinary team of professionals. Both athletes achieved weight restoration, recovery from the disorder, and success in their sport. In spite of the similarities, striking differences were apparent in clinical presentation, predisposing features, onset of symptoms, entry points to treatment, interventions received, and clinical courses through treatment that depict sex differences in how eating disorders present in athletes and are addressed in the sport environment. Findings endorse the need for research and inform prevention strategies, risk assessment, and intervention approaches for nutrition and sports medicine professionals and collegiate athletic departments. J Acad Nutr Diet. 2017;117:21-31.

Common Entry Points in Sports Nutrition

- > Athlete is sent to the nutritionist
- > Athlete is encouraged/referred by a teammate
- > Athlete seeks nutrition advice on own...
 - >To address weight/body composition concerns
 - To control their food environment
 - To validate what they are doing
 - To improve sport performance
 - >In response to an injury
 - Negative consequences of ED on sport or life

Readiness to Change



Female Athlete Triad: PLAN

- > Address low readiness to change
- Explore ambivalence (Motivational Interviewing)
- Provide nutrition education
- Dispel myths
- Increase food knowledge & food prep skills
- > Address obstacles to behavior change
- > Set small, realistic goals to bolster success
- Reinforce accountability
- Support strategies of psychotherapy

Male with RED-S: Plan

- Ongoing (weekly) nutrition counseling & education
- Collaboration with sports psychology & sports medicine
- Assessment and creation of an individualized plan to meet nutritional needs for wellness and for sport
- Work to increase eating competence
- Provide objective evidence to support client-driven goals
- Empower self-confidence through skills, positive self-talk, and reshaping belief systems
- Identify and contribute to the athlete's support system
- > Manage relapse by being available & accessible

Key Similarities

- Same urban university
- Same sport
- Same coaches
- Freshmen in the same year
- Access to same multidisciplinary providers
- □ In treatment for 5 years
- Achieved recovery from the eating disorder
- Achieved excellence in sport

Key Differences

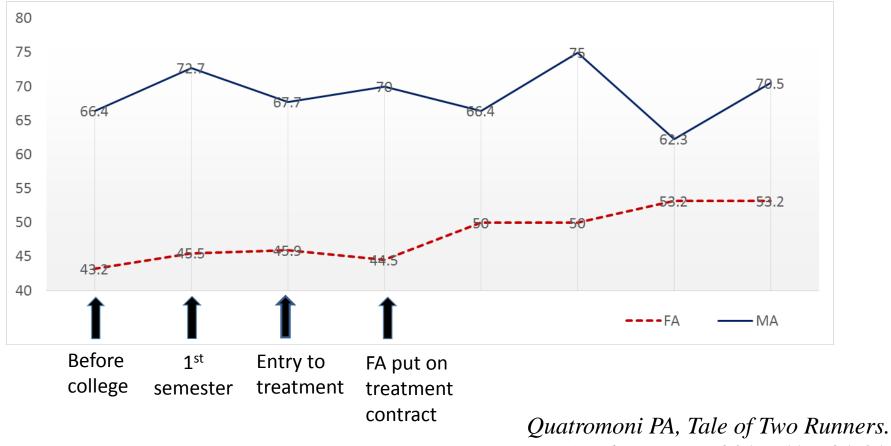
Female Athlete

- Came with ED
- □ She was "sent"
- Entry via Sports Med
- Put on treatment contract
- Recovery was slow and steady, but consistently uphill

Male Athlete

- Developed ED
- He came willingly
- Entry via Nutrition
- Not put on treatment contract
- Recovery marked by several cycles of progress & relapse

Weight Trajectories before and during 5 years of treatment



J Acad Nutr Diet 2017; 117: 21-31.

Today's Objectives

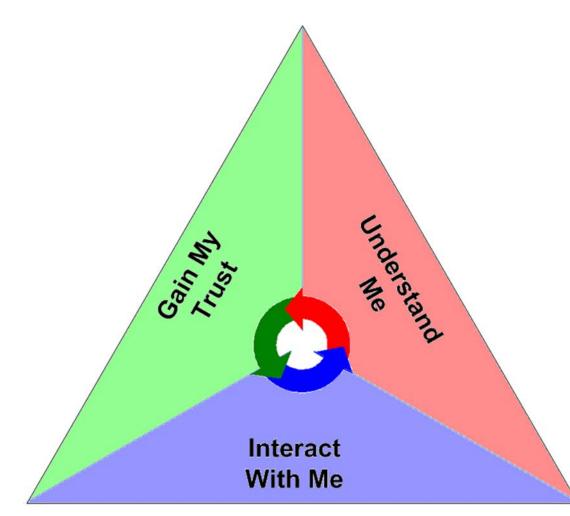
- Define the unique risk factors for eating disorders in collegiate sport
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Implications for Best Practices

- An accessible multidisciplinary team of professionals is needed in collegiate sports for prevention & treatment services that go the distance to support recovery efforts
- Nutritionists and therapists need expertise in ED treatment and need to understand the sport environment



Best Practices



Benari & Quatromoni, 2006

Institute Protocols

- Ongoing screening & referral
- Annual Coach education
- Weighing protocols per RD
- Conversations about weight and nutrition are initiated only by the RD (not Coach)
- RD presence in strength & conditioning and in AT areas
- Fueling stations, staffed by RD and/or Nutrition students
- Use treatment contracts and Return-to-Play guidelines

Multidisciplinary Team Members

- Athletic Trainers
- Sports Medicine doctor
- Registered Dietitian
- Sports Psychology/Therapist



Coaches

- Strength & Conditioning Coaches
- Student-Athlete Life Skills counselors
- Residence Life & Dining Services

SCOFF Screening Tool

Endorsed by the NCAA as the ED screening tool Any YES should be followed up to determine need for referral

Do you make yourself <u>sick because</u> you feel uncomfortably full?

- Do you worry that you have lost <u>control</u> over how much you eat?
- Have you recently lost more than 15 pounds in a three-month period?
- Do you believe yourself to be <u>f</u>at when others say you are thin?
- Would you say food dominates your life?

Hill et al. SCOFF, the development of an eating disorder screening questionnaire. Int J Eat Disord. 2010

Exhausted Athlete Screening Tool

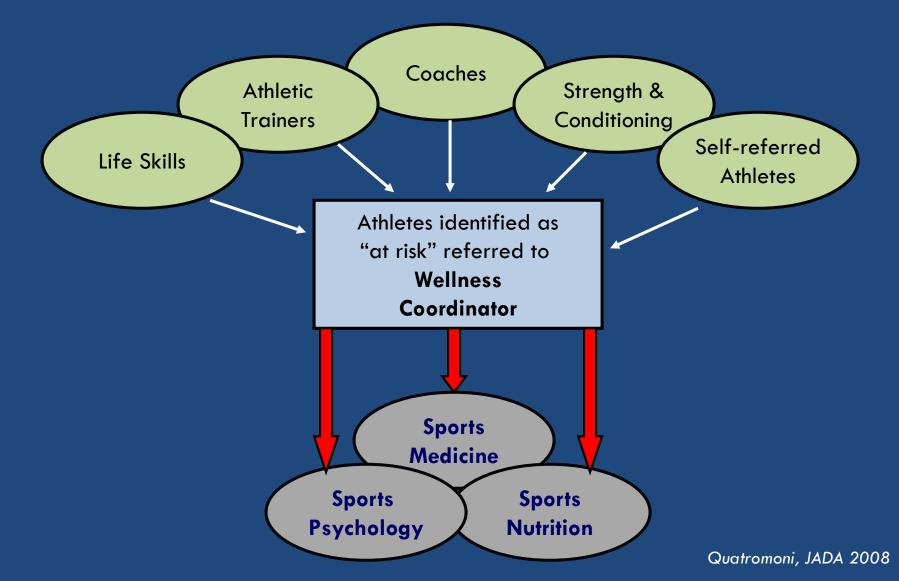
- To screen for risk of low energy availability
- Brief questionnaire created by Nutrition, AT, Sports Medicine and Behavioral Health
- Administered by AT
- CBC bloodwork and iron status assessment
- Generates a referral to Nutrition
- Other indicators include amenorrhea or low BMI which are assessed on annual pre-participation assessment

Boston University Sports Medicine, for more info contact Lauren O'Brien, MS, RD lafrarob@bu.edu

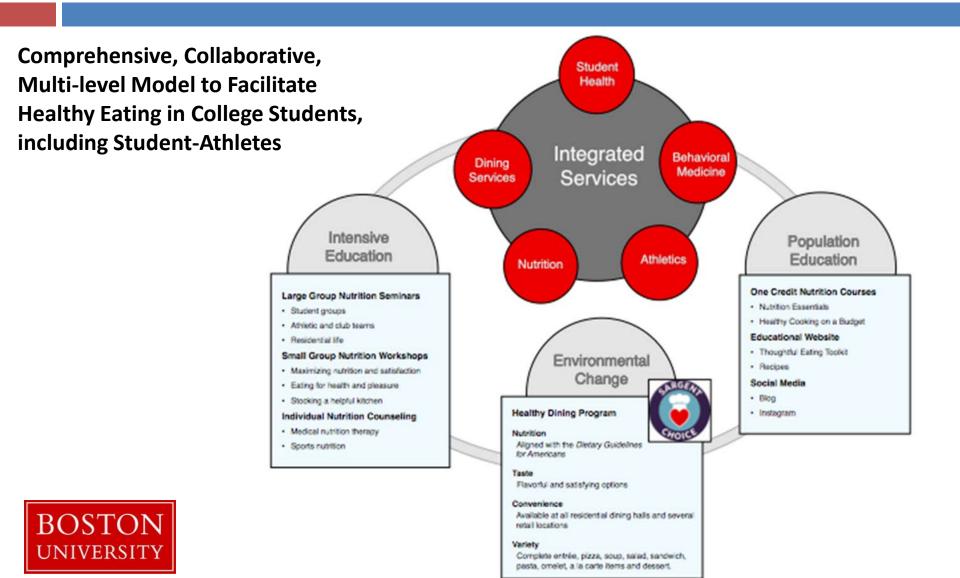
How RDs work in Collegiate Sports

- Employed by Sports Medicine or Dept. of Athletics
- Contracted as a Consultant for specific role(s)
- Employed by Student Health/Behavioral Health
- Employed by Dining Services
- Faculty or Center for Nutrition/Health Education
- Outside consultants in private practice
- Referral to hospital-based outpatient nutrition services
- Referral to ED or athlete specialty treatment programs

Boston University's Multidisciplinary Sports Wellness Team



BU's Sargent Choice Nutrition Center



Nutrition Services for Boston University Students

Individual & Group Counseling Sessions

Every student is entitled to nutrition counseling sessions with a registered dietitian for a variety of concerns, including:

- · Eating disorders and
- · Diabetes/pre-diabetes

Polycystic ovary syndrome

- disordered eating
- Food allergies/intolerances
- Celiac disease
- Digestive disorders / FODMAPs
- · Iron deficiency anemia Vegetarian/vegan
- meal planning · Sports nutrition

(PCOS)

- · Weight management
- · Cholesterol/blood pressure

Free Nutrition Workshops

- Maximizing Nutrition Thoughtful Eating
- Budget Friendly
- Advanced Meal Planning
- Meal Planning
- Stocking a Healthy Kitchen

One-Credit Nutrition Classes

- Nutrition Essentials
- · Healthy Cooking on a Budget

bu.edu/scnc

635 Commonwealth Ave., Boston, MA 02215 P: 617-353-2721 E: scnc@bu.edu @sargentchoice



BU Sargent Choice Nutrition Center

Sargent Choice Healthy food choices at Boston University

Nutrition

Sargent Choice foods feature:

- Whole grains
- More fruits and vegetables
- · Lean meats, fish and plant proteins
- Low-fat dairy and dairy alternatives
- · Heart-healthy oils
- · Zero trans fat
- · Less saturated fat, added sugars, and salt

Taste

BU's award-winning chefs use herbs, spices, and special preparation techniques to ensure that Sargent Choice recipes are as flavorful as traditional options.

Variety

Choose from a variety of complete entrées, pizzas, soups, salads, sandwiches, pastas, omelets, à la carte items, and desserts at dining halls and retail locations across campus.

Learn more at bu.edu/scnc

Look for the Sargent Choice label on campus for a healthy choice.



How to Find a Registered Dietitian

eatright.org

eatright	eatright PRO eatright S	ORE	Sign In	Join / Renew About Us	💥 Shopping Cart empty
eat				Media Find	l an Expert 🗲
right.	Academy of Nutritio and Dietetics	n		Search	Q
Food Healt	•		or Parents For Me	n For Women	For Seniors



Latest Articles



Feeding Vegetarian and Vegan Infants and Toddlers



Chronic Disease Prevention Infographic

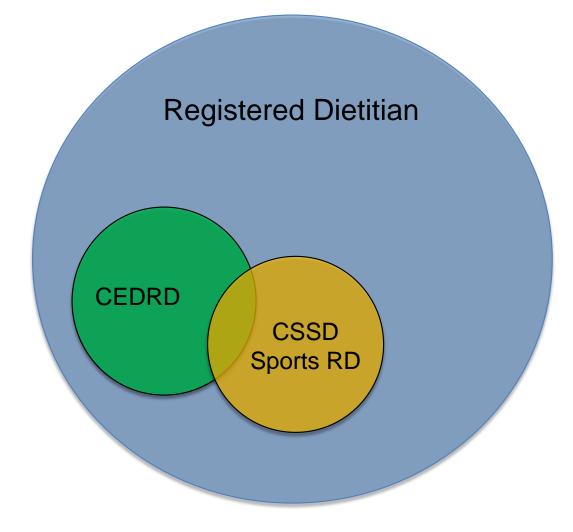


Veggies for Breakfast? Yes!



Vegetarian Glossary of Terms

Not all RDs are Sports RDs...



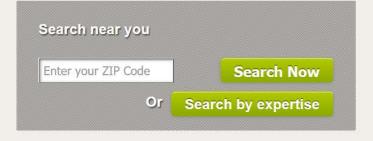
Search by Zip Code & Expertise

Find an Expert

Find a Registered Dietitian Nutritionist

The Academy of Nutrition and Dietetics' Find a Registered Dietitian Nutritionist online referral service allows you to search a national database of Academy members for the exclusive purpose of finding a qualified registered dietitian nutritionist or food and nutrition practitioner who is right for you (no solicitations, please).

Active category Academy members can enroll in the Find an RDN program by signing in and visiting the My Account tab, located in the My Academy Toolbar.







Walden GOALS

3 nights/wk IOP

Competitive athletes

Waltham clinic

Multidisciplinary team



Information and Referrals Emily Slager, 781-899-2460 ext. 4022 ESlager@WaldenBehavioralCare.com



Walden GOALS Mission

To equip athletes with the mental and nutritional skills to achieve their full athletic potential and sustain a positive mindset



Five Pillars of Strength

elecceleccelec
Grado Grado Grado Grado Grado Fueling for Sport & Life
Eating Competence
Body Esteem
Recovery Skills
Resiliency

ecSatter Eating Competence Tool

ecSI 2.0

Below are statements about your eating. Think about each one, then choose the best response for you.

A = Always O = Often S = Sometimes R = Rarely N = Never

	А	0	s	R	Ν
1. I am relaxed about eating.					
2. I am comfortable about eating enough.					
3. I have regular meals.					
4. I feel it is okay to eat food that I like.					

16 items Max. Score 48 Eating Competent \ge 32 © Copyright 2011 by Ellyn Satter.

Athlete Behavioral Screening Tool

- Weight/Body Image Satisfaction
- Attitudes, Beliefs, Thoughts, Worries, Guilt
- Self-worth, Perfection
- Food & Alcohol Behaviors
- Dieting Practices
- Training & Performance Habits
- 🗆 Injury

Adapted from the Female Athlete Screening Tool, McNulty et al, JADA 2001;101:886

Body Appreciation Scale

- □ 13 item tool
- Measures a positive aspect of body image
- Addresses body respect, acceptance, self-worth and self-care
- Addresses the influence of the thin ideal on body image