Eating Disorders Among Athletes

Detection & Referral Guidelines

Jenny H. Conviser, PsyD, CEDS, CMPC
Justine J. Reel, PhD, LPC, CMPC
Amanda Tierney, MS, CSCS
Dana K. Voelker, PhD, CMPC
EATING DISORDERS AMONG ATHLETES

DETECTION & REFERRAL GUIDLINES

I. Definition, Prevalence, Etiology
II. Health Risks, Signs, Symptoms & Early Detection
III. Multidisciplinary Assessment
IV. Managing Resistance & Motivating Recovery
Part III
Multidisciplinary Eating Disorder Assessment
Eating disorders (EDs) are a serious mental illness posing substantial threat to mental and physical health.

Rates of EDs and subclinical disordered eating behaviors (DEBs), continue to increase across the nation and in particular among athletes.

The purpose of this presentation is to provide an overview of approaches used for the detection of EDs among athletes and referral for evaluation and/or treatment.

Vital components of effective care for athletes are summarized.

It is hoped that this summary will facilitate effective ED related assessment and referral for athletes and thereby reducing risk and improving athlete well-being.
Eating Disorders Assessment
What to Expect?
The purpose of an ED assessment is to:

- Diagnose the ED and any other relevant conditions.
- Determine severity of ED illness and identify co-occurring conditions.
- Identify any immediate medical and psychological risk.
- Draft goals and treatment plans for each condition identified.
- Draft a schedule for additional testing, re-evaluation, monitoring & support.
- Select treatment providers to manage each identified condition.
- Draft initial guidelines for participation in training, practice & competition.
Multi-Disciplinary Assessment Team

Collaborative health care providers shall include multi-disciplinary, licensed professionals with specialized training in assessment and treatment of eating disorders.

The assessment team may include, but not be limited to, the following providers:

- Clinical Psychologist
- Registered Dietitian
- Board Certified Psychiatrist
- Primary Care Physician
- Athletic Trainer
- Athletic Department Personnel (medical director, physician, coaches, trainers, & academic staff, etc.)
- Other Medical Professionals (gastroenterology, endocrinology, orthopedics, & gynecology, etc.)
Figure 1.
Multidisciplinary Treatment Team

Conviser, Reel & Tierney, 2017
Assessment

The personal interview, conducted by a licensed and appropriately credentialed professional with sport and eating disorder experience, is an essential component of the ED assessment.

Information gathered from all members of the treatment team, is vital in accurately evaluating illness, identifying co-occurring conditions and drafting initial treatment recommendations.
Components

ED Assessment

Weight Change: rate and amount of weight change over time and especially in the past six months

Nutritional History: dietary intake (quantity & variety consumed, restriction of specific foods and/or food groups, food allergies, food related illnesses)

Compensatory Behaviors: frequency of behaviors (fasting or dieting, self-induced vomiting, exercise, laxative, diuretic or ipecac abuse, insulin misuse, use of diet pills and/or over-the-counter supplements)

Exercise: (frequency, intensity, duration & mode). Is exercise excessive, compulsive, rigid or used to manage weight?

Menstrual History: (if relevant), menarche, last menstrual period, regularity, oral contraceptive use, etc.

Figure 2. Adapted from, Eating Disorder Assessment, Academy of Eating Disorders: Guide to Medical Care, 2017.
Components

ED Assessment

Psychiatric History: include symptoms of mood, anxiety, OCD, substance use disorders, self-injury

Trauma History: physical sexual or emotional trauma and/or chronic neglect

Nutrition History: dieting, food scarcity, deprivation, food allergies, food sensitivities, etc.

Physical Examination

Growth History: (obtain grown charts when possible) consider covariance with nutrition history

Measurement: height, weight, and body mass index (BMI= weight (kg)/height (m2))

Record: height, weight and BMI (on grown charts for children and adolescents

Heart Rate & Blood Pressure: standing, sitting & reclining

Figure 2. Adapted from, Eating Disorder Assessment, Academy of Eating Disorders: Guide to Medical Care, 2017
Assessment:
Relevant History

**Current Medication:**
Include supplements, vitamins, and alternative medications (include dose amount and prescribing physicians name, address, telephone)

**Allergies:**
Especially food related allergies or sensitivities must be medically confirmed

**Psychosocial History:**
Social anxiety, comfort in relationships, capacity for interpersonal connection, and ability to constructively self-advocate

**Family History:**
Include symptoms or diagnosis of ED’s, obesity, mood & anxiety disorders, substance use disorders

**Stress:**
Amount, chronicity, severity, and perceived capacity for management

**Emotional Regulation:**
Ability to appropriately identify, express and manage a wide range of emotions

**Financial Pressure:**
Amount, chronicity, severity and perceived capacity to cope and/or overcome financial constraints

Adapted from, Eating Disorder Assessment, Academy of Eating Disorders: Guide to Medical Care, 2017
Assessment: Anthropometric Information

Anthropometric information may be beneficial in planning effective athletic training or rehabilitation programs, monitoring progress and even motivating exercise.

However, the same feedback may be de-motivating or even detrimental for some athletes and especially if they have a history of:

- DEBs or EDs
- Low confidence, low mood or anxiety
- Body related bullying, teasing or shaming
- History of trauma or assault
Assessment: Anthropometric Information

Some athletes may use numeric information to prompt personal improvement:
- Constructive goal setting
- Establish reasonable expectations
- Healthy self-care

Others may use numbers in a manner that impedes success:
- Compare themselves with others
- Become self-critical
- Decreased confidence
- Lower motivation
Ask each athlete, at the time of assessment, if feedback about their body weight is helpful or not helpful. Respect the athlete’s preference.

It is recommended that weight and anthropomorphomic information remain a private component of the athletes protected health care record (HIPPA).

Body weight should not be available to:
- Other athletes
- Sport personnel
- Media
- The public.
Assessment: Standardized Tests

The SCOFF is a brief assessment tool used by non-professionals to assess the possible presence of an ED (Morgan, Reid, & Lacey, 2000).

The EAT-26 (Eating Attitudes Test), is a self-report questionnaire targeting ED characteristics seen among high school, college and special populations including athletes (Garner & Garfinkel, 1979).

The Eating Disorder Examination (EDE), is a semi-structured interview targeting restraint, eating concern, shape concern and weight concern and targets ED behaviors over a 28 day period (Fairburn, Cooper, & O’Conner, 2008).

The Eating Disorder Examination Questionnaire (EDE-Q) evaluates ED behaviors over a 28 day period but is a 41 item self-report questionnaire (Fairburn & Beglin, 2008).
ED Assessment: The SCOFF

The “SCOFF” is a validated screening tool for EDs

S- Do you make yourself **Sick** because you feel uncomfortably full?
C- Do you worry you have lost **Control** over how much you eat?
O- Have you recently lost more than 6.35 kg or 14 lbs. in a 3-month period?
F- Do you believe yourself to be **Fat** when others say you are too thin?
F- Would you say **Food** dominates your life?

*Two or more positive responses on the SCOFF indicate a possible ED and should prompt referral for further evaluation.

A variety of exercise assessment tools are available to evaluate the amount of exercise and motivation for exercise. These include:

- CET (Compulsive Exercise Test)
- CES (Commitment to Exercise)
- EBQ (Exercise Beliefs Questionnaire)
- REI (Reasons to Exercise)

The benefits of structured self-assessment tools include:

1) Ease of administration
2) Ease of scoring
3) Simplicity of comparison
4) Relative little expense
Medical Evaluation

Laboratory and other diagnostic tests are necessary when evaluating an athlete who may have an ED.

Blood test results may fall within normal parameters even when a severe ED is present. Tests are commonly repeated on a schedule advised by the attending physician.

The testing schedule may be influenced by observations from any member of the evaluation or treatment teams.

Suggested laboratory tests are described on the subsequent images.
Medical Evaluation

Blood Tests

Complete Blood Count:
leukopenia, anemia, or thrombocytopenia

Comprehensive Panel:
Including electrolytes, liver enzymes & renal function

Glucose:
poor nutrition

Sodium:
water loading or laxatives

Potassium:
vomiting, laxatives, diuretics

Chloride:
vomiting, laxatives

Blood Bicarbonate:
vomiting laxatives

Blood Urea Nitrogen:
dehydration

Creatinine:
dehydration, renal dysfunction & poor muscle mass

Calcium:
bone loss
Figure 3.
Academy of Eating Disorders: Guide to Medical Care, 2017

Complete Blood Count

- Leukopenia, Anemia, or Thrombocytopenia
- Comprehensive panel including electrolytes, renal function & liver enzymes: Glucose, Sodium, Potassium, Chloride, Blood bicarbonate, Blood Urea, Nitrogen, & Creatinine
- Calcium, Phosphate, Magnesium, Total Protein/Albumin, Pre-albumin
- Aspartate, Aminotransaminase (AST) Alanine Aminotransaminase (ALT)
- Electro-cardiogram (ECG), Bradycardia, prolonged QTc (>450msec) & other Arrhythmias
Medical Evaluation

Leptin level
Thyroid stimulating hormone (TSH) thyroxine (T4), TSH, T4
Pancreatic enzymes, (amylase and lipase), Amylase, Lipase
Gonadotropins (LH & FSH), sex steroids (estradiol & testosterone), LH, FSH
Estradiol (women) and testosterone (men)
Erythrocyte Sedimentation rate (EST)
Dual Energy X-Ray
Absorptiometry (DEXA)
A comprehensive ED assessment should evaluate ‘co-occurring’ conditions and assist the athlete in accessing appropriate treatment.

Co-occurring conditions are those that exist at the same time that the ED is present. It should **not** be assumed that ED treatment alone will sufficiently remedy all other conditions. Co-occurring conditions often require additional assessment and their own targeted treatment. Assessments conducted by a multi-disciplinary team are common features of ED assessment.

**Examples of co-occurring conditions are listed below:**

- Depression
- Anxiety
- History of Trauma
- History of Abuse
- History of Self-Injury
- Nutritional Deficiencies
- Sleep Disorders
- Suicidality
- Alcohol Use of Abuse
- Substance Use or Abuse
- Medical Illnesses
- Other
Structured self-assessment tools have limitations. Previous assessment tools targeted primarily females and diagnostic criteria which have changed over time.

Original ED assessment tools were not typically inclusive of male relevant DEBs such as; overvalued muscularity, body image disturbance in males, unhealthy or dangerous weight loss practices, and steroid use, thereby challenging the accuracy of previous epidemiological studies and disrupting accurate detection and referral procedures.

(Mitchison & Mond, 2015)
Athletes may be concerned about the following:

Limited privacy and confidentiality of self-assessment questionnaire results
Knowing that test results may impact subsequent decisions regarding eligibility and sport participation

Athletes who are concerned about privacy of test results may:

Be reluctant to disclose ED signs and symptoms and the athlete’s responses may be altered as a result.
Guidelines for Treatment Decisions

Treatment typically occurs at one or more of the following levels of care:

- Outpatient with individual weekly sessions
- Outpatient with more intense daily treatment (4 to 6 hours daily, 3 to 6 days per week)
- Residential or 24 hour Care
- Inpatient hospitalization

Guidelines for selecting the appropriate level of care follows:
Treatment decisions are contingent upon:

1. Assessment results
2. Severity of illness
3. Medical risk
4. Psychological risk
4. Availability of specialized care
Treatment Decisions are also influenced by:

5. Insurance approval and authorization of services
6. Available financial resources
7. The athlete’s willingness to participate at the recommended level of care
8. The family’s willingness to participate at the recommended level of care
Criteria for Hospitalization

Figure 4. Criteria for Hospitalization
(Presence of one or more of the following):

- ≤ 75% median BMI for age, sex and height
- Hypoglycemia
- Electrolyte disturbance (i.e., hypokalemia, hyponatremia, hypophosphatemia, metabolic acidosis, or alkalosis, etc.)
- ECG abnormalities (e.g., prolonger QTC > 450, bradycardia, other arrhythmias, etc.)
- Hemodynamic instability; bradycardia, Hypotension, Hypothermia
- Orthostasis
- Acute medical complications of malnutrition (e.g., syncope, seizures, cardiac failure, Pancreatitis, etc.)
- Comorbid psychiatric or medical condition that prohibits or limits appropriate outpatient treatment (e.g., severe depression, suicidal ideation, obsessive compulsive disorder, or Type 1 Diabetes Mellitus, etc.)
- Uncertainty of the diagnosis of an ED
**Figure 5.**
Levels of Care: Guidelines for Treatment of Eating Disorders.

<table>
<thead>
<tr>
<th>Levels of Care</th>
<th>Medical Stability*</th>
<th>Suicide Risk</th>
<th>% of IBW** (Ideal Body Weight)</th>
<th>Eating Disorder Behaviors***</th>
<th>Motivation</th>
<th>Support System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient (Hospital Setting)</td>
<td>Constant Medical Supervision</td>
<td>HIGH/Imminent Danger to Self</td>
<td>&lt;85% IBW or acute weight loss due to food refusal</td>
<td>Requires Constant Supervision to interrupt identified behaviors and weight restore</td>
<td>Very Poor to Poor Uncooperative or cooperative only in highly structured setting</td>
<td>Lack of Adequate Support System</td>
</tr>
<tr>
<td>Residential (24 HR Care)</td>
<td>Medical Monitoring throughout the day</td>
<td>HIGH Danger to Self</td>
<td>Generally &lt;85% IBW</td>
<td>Requires Supervision to interrupt identified behaviors and weight restore</td>
<td>Poor to Fair Cooperative within structured setting</td>
<td>Lack of Adequate Support System</td>
</tr>
<tr>
<td>Partial Hospitalization (Extended Day Program)</td>
<td>Medically Stable</td>
<td>Monitor as Needed</td>
<td>Generally &gt;80% IBW</td>
<td>Requires Structure to interrupt behaviors, weight restore, and implement healthy coping skills</td>
<td>Partially Motivated Cooperative</td>
<td>Limited to Partial Support and Structure</td>
</tr>
<tr>
<td>Intensive Outpatient (Partial Day Program)</td>
<td>Medically Stable</td>
<td>Monitor as Needed</td>
<td>Generally &gt;80% IBW</td>
<td>Uses Structure to interrupt behaviors, weight restore, and implement healthy coping skills</td>
<td>Fair Cooperative</td>
<td>Adequate Support and Structure</td>
</tr>
<tr>
<td>Outpatient (Individual Appointments)</td>
<td>Medically Stable</td>
<td>Monitor as Needed</td>
<td>Generally &gt;85% IBW</td>
<td>Able to interrupt behaviors and implement healthy coping skills</td>
<td>Fair to Good Cooperative</td>
<td>Adequate Support and Structure</td>
</tr>
</tbody>
</table>

EDs Detection & Referral Guidelines: Authors

**JENNY H. CONVISER, PSYD, CEDS, CMPC**

Founder/CEO, ASCEND Consultation in Health Care, Assistant Professor, Northwestern University, 737 North Michigan Avenue, Suite 1925, Chicago, Illinois 60611, 312-283-2650 - 773-551-7746, Jenny.Conviser@Ascendchc.com, J-conviser@northwestern.edu.

**JUSTINE J. REEL, PHD, LPC, CMPC**

Associate Dean of Research and Innovation and Professor, College of Health & Human Services, University of North Carolina Wilmington, 601 South College Road McNeill 3024, Wilmington, NC 28403-5685, (910)962-7341.

**AMANDA S. TIERNEY, MS, CSCS**


**DANA K. VOELKER, PHD, CMPC**

Assistant Professor, West Virginia University, College of Physical Activity & Sport Sciences, 207 Health & Education Building, PO Box 6116, 375 Birch Street, Morgantown, WV 26506, DKVOELKER@MAIL.WVU.EDU, 304-293-0871.
Additional Resources

Association of Eating Disorders: AED.org
National Eating Disorder Association: NEDA.org
International Association of Eating Disorder Professionals: IAEDP.org
American Psychological Association: APA.org
Figures

Figure 1. Multidisciplinary, Collaborative & Credentialed Treatment Team, Conviser, Reel & Tierney, 2017.

Figure 2. Medical Eating Disorder Assessment, Academy of Eating Disorders: Guide to Medical Care, 2017.

Figure 3. Basic Tests for Medical Evaluation, Academy of Eating Disorders: Guide to Medical Care, 2017.

Figure 4. Criteria for Hospitalization: Academy of Eating Disorders, Guide to Medical Care, 2017.


Thank You for Making a Difference!
Eating Disorders Among Athletes

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Part III
Multi-Disciplinary Assessment

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