



# **OHSAA Wrestling Weight Management Program**

## **Assessor Handbook**

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## **OHSAA Wrestling Weight Management Program**

### **1) Overview**

The Ohio High School Athletic Association (OHSAA) believes that one of the primary factors in promoting proper weight maintenance among high school wrestlers is the development of a weight management program that encourages safe weight loss. Many states have instituted body composition testing programs in the past several years. The primary purpose of a body composition-testing program is to determine the lowest certifiable, safe, and healthy weight for each wrestler in order to provide a safe wrestling experience for all high school wrestlers. The wrestler's minimum wrestling weight may not be his or her optimal competitive weight; it is simply the lowest, safe weight at which a wrestler may compete.

In addition to this Weight Management Program, it is imperative that the school's wrestling coach monitors each athlete throughout the entire season to ensure they are maintaining or losing weight properly and in a healthy and safe manner. This program has been developed in response to the need for guidance of young wrestlers as they make decisions about diet, nutrition, and weight control. It has been documented that wrestlers frequently attempt to lose weight rapidly, often in an unhealthy and unsafe manner, to gain a perceived advantage over their opponent. This Weight Management Program is designed to assist wrestlers and coaches in avoiding potentially harmful, rapid weight reduction practices utilized to achieve specific weight class participation.

## **2) Professional Responsibilities**

When an individual is registered with the OHSA as an “assessor” there is an automatic concern for professional responsibility. There is an expectation of the highest professional and ethical conduct relative to performing assessments on young wrestlers in Ohio. These young wrestlers should be treated with the highest regard for their “right to privacy” and for the confidentiality of all data collected on them for this program. As an OHSA-registered assessor, you are expected to conduct yourself in a manner such that there will be no question about your positive contribution to the participants in the sport of wrestling. There will be times when professional judgment will be involved to clarify and validate the assessment process; the greater the depth of your understanding of body composition assessment, the better your ability in representing the OHSA, serving our student-athletes, and administering the program in a professional and consistent manner.

### **3) Training the Assessor**

1. **It is considered a “conflict of interest” for an active wrestling coach, at any level, to become an OHSAA-approved skinfold assessor.** Coaches are only allowed to perform clerical and organizational duties.
2. Master assessors are individuals who:
  - a. Have at least three years of skinfold assessment experience
  - b. Willing to teach other subsequent General Assessors outside of their organization
  - c. Can perform original assessments
  - d. Cannot change original assessment numbers once they are committed due to an error for themselves OR a General Assessor. Changes must be submitted to **Monroe Britton** ([mbritton@ohsaa.org](mailto:mbritton@ohsaa.org)) at the OHSAA.
  - e. Can reassess their own athlete if they fail a hydration test
  - f. Responsible for handling the first step of the appeal process.
  - g. If Master Assessor does not meet these obligations they relinquish their status of Master Assessor and take on a General Assessor status
3. New Master assessors:
  - a. Must receive permission from the OHSAA
  - b. Selection is based on geographic need and distribution of existing Master Assessors in the state.
  - c. Must meet guidelines and provide all responsibilities of a Master Assessor
  - d. Must be properly trained by a person the OHSAA designates before active status is granted
4. General assessors:
  - a. Cannot instruct others in the technique
  - b. Can perform the initial assessment
  - c. Cannot retest their own wrestler if they failed the hydration test
  - d. Can perform a “redo” assessment if a wrestler failed original hydration test, 48 hours have passed, and NOT their own wrestler
  - e. Cannot retest a wrestler if they passed the initial assessment
  - f. Has no authority in appeals and must refer to a local Master Assessor
  - g. Cannot change original assessment numbers once they are committed due to an error for themselves or any other assessor. Changes must be submitted to Monroe Britton at the OHSAA.
  - h. Double check numbers before you save
  - i. Prior to an appeal, a copy of Individual Profile will need to be provided to Master Assessor
  - j. Coaches should have roster in computer prior to original test date
  - k. Any report of changing numbers outside of these guidelines will be reported to the ethics committee of the professional’s organization and the OHSAA
  - l. Will no longer be qualified to be an Assessor if ethic codes have been violated or if OHSAA has found fault for a minimum of one year and

subject to additional penalties and sanctions imposed by the OHSAA Commissioner.

5. Requirements of a General Assessor:

- a. It is considered a "conflict of interest" for an active coach, at any level, to become an OHSAA-approved Master or General Assessor
- b. Coaches are only allowed to perform clerical and organizational duties
- c. The General Assessor may be subject to a random sample test to substantiate the quality and consistency of his or her measurements
- d. New Assessor candidates must submit to a training session of 1 hour classroom instruction and 1 hour of practical training and an annual educational update
- e. Bring Lange Skinfolts and calibration block
- f. Wear appropriate clothes for skinfold testing
- g. A training fee will be assessed to each General Assessor candidate to attend the training program
- h. \$35 each payable to Master Assessor for 3 or more
- i. \$50 each payable to Master Assessor for 2 individuals
- j. \$100 for an individual training
- k. All prices are maximums, Master Assessors are permitted to charge less for training.
- l. Assessors will receive a certificate upon completion of training.

6. Persons eligible to be trained as OHSAA approved assessors include licensed physicians, chiropractor, registered nurses, licensed practical nurses, licensed athletic trainers, licensed physical therapists, licensed physician assistants, registered/licensed dietitian/nutritionists, and exercise physiologists. Bod Pod GS site personnel are approved by the OHSAA. The site personnel are at least General Assessor status unless otherwise noted.

7. Recertification of General Assessor:

All Assessors who have been certified for the previous wrestling season and wish to recertify must:

- a. Report any new email address and contact information to:  
**Monroe Britton** ([mbritton@ohsaa.org](mailto:mbritton@ohsaa.org)) , within 30 days of new information
- b. No correspondence of change may forfeit General Assessor status
- c. Successfully assess wrestlers the previous year
- d. If a year passed without assessing, you will be considered a new General Assessor and need to be retrained
- e. Complete a quiz or review pending on method of OHSAA designs, annually or biannually pending OHSAA directive
- f. Correspond regularly via email
- g. Pay a re-certification fee of \$10 or less to Master Assessor, if requested
- h. Repeat the course after a lapse of certification (more than 1 year) or if the OHSAA determines the need based on declining performance

#### **4) Assessment Setting Restrictions**

In order to maintain the integrity of the OHSAA Wrestling Weight Management Program, there are restrictions on who General and Master Assessors may assess.

##### **1) General Assessor Restrictions**

A General Assessor may NOT perform assessments on a team/individuals which he/she:

- a) has a professional relationship
- b) has a current sports medicine contract
- c) provides regular medical assistance
- d) is assigned regular on-site athletic training coverage

Any team/individuals that fit one or more of the described scenarios above are not eligible to be assessed by the described General Assessor.

Any team/individuals that fit one or more of the described scenarios above will be referred to henceforth as “your/their team”.

General Assessors:

- a) May NOT conduct any part of the hydration testing for their team
- b) May NOT administer skinfold measurements for their team
- c) May NOT input data into Trackwrestling for their team
- d) MAY record data onto the paper Assessment Form for another assessor’s measurements

##### **2) Data Entry**

The assessor who conducts the either the hydration testing or skinfold measurements must enter the data from their personal Trackwrestling account.

##### **3) Requirements for Assessment Setting**

As it pertains to assessment sites, a wrestling team is constituted by 4 or more wrestlers from one school.

**\*\*This number does not pertain to the sport as defined by the OHSAA Handbook, Constitution, Bylaws, and Sport Regulations\*\***

###### **Requirements for a Multi-Team Assessment**

- 1) 2 or more teams
- 2) 2 or more General Assessors, or  
1 Master Assessor

###### **Requirements for a Single Team Assessment**

- 1) 1 team (any number of wrestlers)
- 2) 1 Master Assessor or 2 General Assessors

Requirements for a Single Wrestler who is Re-Assessing Due to Failed Hydration Test on First Assessment

- 1) 1 wrestler
- 2) 1 General Assessor who is not affiliated with the wrestler's school, or  
1 Master Assessor

Requirements for a Single Wrestler who Missed Initial Team Assessment

- 1) 1 wrestler
- 2) 1 General Assessor who is not affiliated with the wrestler's school, or  
1 Master Assessor

*\*\*\*A wrestling team of 3 or fewer may be assessed at a multi-team assessment by General Assessors with written (electronic) approval of the OHSAA, contact **Monroe Britton** ([mbritton@ohsaa.org](mailto:mbritton@ohsaa.org)) & **Dustin Ware** ([dware@ohsaa.org](mailto:dware@ohsaa.org)) .*



## **5) Requirements of Assessment Site**

It is the responsibility of the assessor to coordinate with the assessment site so that the following are available:

1. A minimum of two schools/teams must be present for a multi-team assessment.
2. Exception is a Master Assessor can test a single athlete or single team
3. Enough staff to assist with recording data, such as weight and skinfold measurements and supervising the urinalysis
4. An individual to perform the specific gravity urinalysis
5. Urine dipsticks to determine urine specific gravity
6. Collection cups for urine
7. Disposable nonsterile gloves
8. Individual Profile Forms – it is preferable that all wrestlers bring these forms with appropriate information completed with them to the assessment
9. Parent Permission form completed
10. Digital scale – **do not use a dial scale**  
**-Record to the tenth, standard rounding procedures**
11. Skinfold calipers
12. All assessments are completed in pen
13. Have copies of forms on file if applicable
14. Keep all paper work on file for one full year
15. A copy of individual profile form from the original General Assessor to Monroe Britton for changes or if requested
16. Master Assessor will confirm original numbers and dates coincide with Trackwrestling assessment numbers

## **6) Body Composition**

The human body can be represented as composed of at least two components:

1. **Lean Body Mass (LBM)** = the muscle and bone mass predicted to be in the body.
2. **Body Fat (BF)** = essential and non-essential fat storage predicted to be in the body.

To some, this is an over simplification. The actual composition of an individual's body is probably not truly known, nor can it actually be determined. All current methods of assessing body composition are indirect methods or predictions of the actual values. While underwater (hydrostatic) weighing has long been considered the "gold standard" (the method to which all other methods of body composition determination have been related) it too has been critically reviewed as having the possibility for error. Population specificity, maturation, and sub-component validity have all been cited as having potential negative impact on hydrostatic body composition assessment. Current technology and its improvement will continue to lead researchers to develop new methods and refine those which currently exist. This will require those individuals assessing body composition through various field techniques must continue to update our knowledge and remain current relative to adjustments in assessment procedures.

## **7) Methods of Body Composition Assessment**

There are a number of field techniques available to assess body composition. Following is a brief description of some common techniques:

**1. BOD POD:** The BOD POD Gold Standard Body Composition Tracking System is an air displacement plethysmograph which uses whole-body densitometry to determine body composition (fat and fat-free mass) in adults and children, and can accommodate a wide range of populations. A full test requires only about 5 minutes, and provides highly accurate, safe, comfortable, and fast test results. Each BOD POD Gold Standard is a complete turnkey system with a dedicated computer system, the ability to measure thoracic gas volume (TGV), and data management capabilities

**2. Hydrostatic Weighing (HSW):** This is an ancient method (Archimedes' principle) adapted to the body composition assessment problem in recent times. It involves the submersion of an individual to determine the subject's under water weight which is used along with the weight on land to calculate the body density. It utilizes the concept that muscle mass and fat mass have specific known densities relative to water. The assessment of residual volume of the lungs is an important feature of this assessment. The availability of a proper space and equipment is a problem with this method, but it can be very accurate if all the conditions of assessment are met.

**3. Skinfold Assessment (SFA):** This is a current method which has gained popularity with the exercise and fitness community. It is based on the relationship between subcutaneous fat and total body fat and its inverse relationship to body density. The subject is measured at a selected number of sites to determine the thickness of the skin and the subcutaneous fat deposition. The skinfold thicknesses are used in a regression equation to calculate body density. The regression equations have been derived for specific populations, which is a key to validity of the prediction. The cost of accurate calipers range from \$200 to \$450.

**4 – Dual-energy X-ray absorptiometry (DEXA):** This is a means of measuring bone mineral density (BMD) using spectral imaging. Two X-ray beams, with different energy levels, are aimed at the patient's bones. When soft tissue absorption is subtracted out, the bone mineral density (BMD) can be determined from the absorption of each beam by bone. Dual-energy X-ray absorptiometry is the most widely used and most thoroughly studied bone density measurement technology.

### **Method Comparison**

Given the methods reviewed above to accomplish this task, the appropriate choice is skinfold assessment. There has been more work done to establish population specific methods, procedures, and calculations with the skinfold method than with any other method. The cost of the methods is also a factor to consider in the selection of a

program. Standardization of procedures is a major factor in the control of validity and reliability. This can be best accomplished to ensure accurate reproducible and fair results in an economically controlled environment through the skinfold assessment procedures.

## **8) Skinfold Assessment Terminology**

The use of skinfold assessment in the process of determination of body composition requires some standardization of terminology used in this field. The following is an attempt to accomplish this standardization:

- 1. Total Body Weight (TBW)** = weight of the body on an accurate digital scale
- 2. Body Density (BD)** = the mass of the body per unit of volume. (The fat free component is assumed to have a density of 1.100 gm/cm<sup>3</sup>. the mass of fat is considered to be about .90 gm/cm<sup>3</sup>.)
- 3. Percent Body Fat (%BF)** = the proportion of total body weight that is fat weight and expressed as a percentage.  $\%BF = (TBW - LBM) / (TBW) \times 100$
- 4. Lean Body Mass (LBM)** = the weight of the lean tissue of the body such as muscle, bone, and blood. The weight of the body without the fat weight.  $LBM = TBW - FW$
- 5. Fat Weight (FW)** = the weight of the fat tissue of the body. Includes both essential and stored fat tissue.  $FW = TBW \times \%BF$
- 6. Minimum Wrestling Weight (MWW)** = the lowest weight at which a wrestler may compete, determined to be 7 % male , 12% female, body fat for the Ohio Wrestling Monitoring Program
- 7. Ideal Body Weight** = a body weight selected for a specific individual or group based on both empirical and scientific evidence that provides an optimum level of performance
- 8. Minimum Weight** = a body weight selected for a specific individual or group based on a specific percent body fat. A minimal, but not necessarily ideal or optimum body weight to be applied to a similar, larger population. In skinfold assessment for body composition the important specific factors are sex, age, national origin, maturation and hydration
- 9. Reliability** = reproducibility, the consistency and dependability of a measure >.9 with experienced assessors. Increases with fewer sites and monitored practice
- 10. Validity** = degree to which an assessor obtains an accurate measure. How well the group being assessed matches the group from which the regression equation was obtained. Dependent upon: age, activity level, population specific, body composition status

## **9) Standardized Skinfold Assessment for OHSAW WWMP**

A key to the success of this program will be the ability to standardize the assessment procedures and the calculations to determine minimum weight. This section is directed specifically to the method and procedures for skinfold assessment for the Ohio High School Athletic Association Wrestling Weight Management Program (OHSAW WWMP).

### **1) Instrumentation**

The following instruments are needed to calculate body fat percentage:

1. Lange skinfold calipers are the only accepted instruments to determine body fat percentage. The calipers must have been checked for accuracy using a calibration block prior to the beginning of the current wrestling season. If it is determined, that they are not accurate, they are not to be used to determine body fat percentage.
2. A tape measure for site location especially during training and practice for site identification
3. A felt pen (preferably washable ink) for site identification
4. A digital scale for determination of total body weight (TBW) at same time as skinfold assessment. **Reminder: must use a digital scale and round to the tenth of a pound.**

### **2) Hydration Testing**

Testing to determine a wrestler's hydration status as part of a minimum competitive weight assessment process has been embraced in recent years by the sports medicine community, as well as sport governing bodies (NFHS, NCAA), coaches, and other various athletic associations.

In part due to the physical developmental stage of adolescent wrestlers, along with both the immediate and lifelong benefits of healthful nutrition habits, hydration testing is a key component in helping wrestlers, parents, coaches, and administrators determine a safe and healthy minimum weight for high school wrestlers. Therefore:

- a) Each wrestler must pass a test to substantiate that they are at an acceptable level of hydration before they can proceed further with the OHSAW Weight Management assessment process. The urine specific gravity must be less than or equal to 1.025.
- b) Urine dipsticks will be used to measure the hydration level of each wrestler through the testing of a urine sample prior to the assessment process continuing.

- c) Hydration testing **MUST** be done immediately prior to and at the same site where the body composition testing occurs.
- d) Dehydration will concentrate urine and thereby increase the urine's specific gravity.
- e) Only an active OHSAA Assessor, who has successfully completed the OHSAA in-service education program, may conduct body composition assessments for OHSAA wrestlers.
- f) Wrestlers who fail the hydration measurement will be instructed that they will need to reschedule their assessment no sooner than 48 hours following the time of test failure and that they will need to pay another full assessment fee at the time of their re-test.

### **3) Getting Prepared for the Assessment**

Athletes should be given the following set of instructions in order to maximize the chances of a successful testing session:

- 1) No vigorous activity on the evening before and the day of the testing.
- 2) Avoid any caffeinated beverages on the day before and day of the testing.
- 3) On the day of testing, drink 500ml (17 oz.) Of fluid. (A sports drink is an excellent choice).
- 4) In preparation for the hydration test drink 2-4 cups of water in 1-2 hour period immediately preceding the test.
- 5) Be awake three hours prior to testing.
- 6) Do not eat two hours prior to testing.
- 7) Avoid any vitamin or mineral supplements two days before and the day of testing.
- 8) Wrestlers shall be assessed (weighing and skinfold measurements) in weigh-in attire
- 9) Each athlete is required to have a completed Individual Profile Form that should be completed prior to arrival.

## **10) Hydration Measurements**

### **Measuring Hydration Status**

- 1) Hydration testing **MUST** be done immediately prior to and at the same site where the body composition testing occurs.
- 2) Dehydration will concentrate urine and thereby increase the urine's specific gravity. Accurate determination of minimum wrestling weight from assessments requires the wrestler to be properly hydrated.
- 3) The specific gravity of a hydrated individual will be 1.025 or lower. If the wrestler is dehydrated (i.e. specific gravity of the urine is 1.026 or higher) assessments are **NOT** to be taken. Testing must be rescheduled for a different time when the wrestler is properly hydrated.
- 4) A minimum of 48 hours must pass prior to reassessing the specific gravity of any wrestler's urine who initially fails a test.
- 5) Failed hydration tests must be entered onto [www.trackwrestling.com](http://www.trackwrestling.com) by the Assessor immediately.

### **What Is Specific Gravity?**

- 1) Indication of relative proportion of dissolved solid components to the total volume of the specimen
- 2) An indication of relative degree of concentration of the sample
- 3) Elevated whenever with excessive loss of water through sweating, vomiting, diarrhea, or elevated body temperature
- 4) Typically higher in the first morning sample and will be different in random samples through the day

### **Obtaining a Urine Sample**

1. The completed Parental Permission/Consent for Urinalysis form and Individual Profile form (see Appendix) should accompany the athlete to the assessment site.
2. To assure an appropriate urine sample has been collected for testing the following procedures are required:
  - a) Area**  
A bathroom with toilet(s) or urinal(s) can be used by the wrestler to provide a urine sample. The determination of specific gravity can be completed in another area, but a means of appropriately disposing of the urine must be available as well.



**b) Safety:**

1. Use gloves when measuring the urine and appropriately dispose of the urine.
2. Place cup in hazard collection system.
3. Collection Containers: Paper cups of sufficient size to provide a 20-30 ml (1-2 oz.) urine sample can be used by the wrestler to collect the sample.

**Steps for Collecting the Urine Sample**

1. Wrestlers may report to the hydration testing portion in normal athletic clothing. If athlete is wearing suspicious clothing, ask the athlete to change out of the baggy/suspicious clothing before conducting the urine collection.
2. Once the process has begun, each athlete is required to have a completed Individual Profile Form. (See appendix) It is preferable that each athlete completes the demographics section of this document prior to arrival. If not, the athlete must complete it prior to starting.
3. The athlete should report to the station where weight is recorded.
4. School personnel must ensure that the wrestler has provided a sample of their own urine. **Reasonable supervision is the key.**
  - Water faucets must be turned off. Wrestlers should not have access to the sinks where water can be added to the samples.
  - Blue, green or red dye may be added to the toilet so that wrestlers will not be tempted to dip their cup in the toilet water.
  - School personnel must supervise the process of urine sample collection. Reasonable supervision does not mean witnessing the sample going from the body into the cup.
  - School personnel are to ensure that conditions do not exist that could compromise the integrity of the urine sample collection (bulky clothes, other containers, dipping the cup into the toilet water, horseplay, etc.).
  - School personnel must be in all traffic areas between the collection area and the testing area. Any possible problem in the urine collection of an athlete necessitates voiding their sample and the provision of another sample with more scrutiny.
  - Normally one to three wrestlers can be supervised at one time by school personnel.
  - The following procedures have been developed to minimize dishonest techniques to bypass the urine test and maximize the athletes' right to privacy.
    1. Mark each urine collection cup to identify each wrestler. The athlete's collection number should be marked on the container. This number corresponds to the number on the Individual Profile Form.

2. Instruct each wrestler to enter the toilet or urinal one at a time with nothing but the urine collection cup.
3. Instruct the wrestler to begin urinating; allowing a small amount to fall into the toilet bowl (this clears the urethra contaminants).
4. Then, in the urine collection cup, catch approximately 2-3 ounces of urine and remove the collection cup from the urine stream.
5. Allow reasonable time for the wrestler to provide a sample of urine.
6. Once completed, the athlete immediately provides sample to the proper authority prior to hand washing
7. After collection of the urine by the wrestler, appropriate personnel should ensure that the urine is warm by feel on the outside of the collection cup.
8. If the urine is cold or suspect, reject that sample and require the wrestler to provide another sample under closer supervision.
9. Once completed, the wrestler will give the sample to the proper authority and move along through the assessment process.

### **Testing the Sample**

1. Only urine dipsticks will be used to measure hydration levels.
2. The assessor must test the sample using a urine dipstick according to the manufacturer's directions. Failure to do so will void the sample.
3. The assessor will then record the wrestler's actual reading on the Individual Profile Form and check Pass or Fail.
4. Measurements greater than 1.025 will disqualify the athlete from continuing with the rest of the assessment. Any athlete not properly hydrated may not be assessed further and must wait a minimum of 48 hours before being assessed again. They will not be refunded their assessment fee and must pay a full assessment fee the next time they appear for assessment.
5. Wrestlers who pass the hydration test will move on to the next step in the assessment process.

### **11) Weighing the Wrestler - Weighing Attire**

Per the NFHS Wrestling Rule Book, Section 4-5-7:

“All contestants shall weigh-in wearing a legal uniform (4-1-1) and a suitable undergarment that completely covers the buttocks and the groin area. Female contestants shall also wear a suitable form-fitted compression undergarment that completely covers their breasts. Contestants may wear low-cut socks that cannot be removed or added if the wrestlers do not make weight.”

The OHSAA Wrestling Weight Management Program shall use this same definition for appropriate assessment attire for the weighing portion of the assessment, meaning the wrestler may wear any garment that fits this definition during the weighing portion of the assessment.

If a wrestler does not have an NFHS-approved uniform to use for the weighing portion of the assessment, then a comparable outfit (i.e. athletic shorts and a t-shirt) with the same amount of body coverage may be used. There is no weight allowance for any type of clothing worn during the weighing portion of the assessment.

Clarification – there is no weight allowance for clothing while being weighed

## **12) Skinfold Assessment Procedure**

In an attempt to ensure valid and reliable assessment of skinfold thickness the following general measurement techniques should be employed. These techniques are general in that they are applied to all skinfold site assessments. The subject's skin should be dry. Measurements should not be taken immediately after a workout or when the subject is overheated. This may be an ever present problem because some of the wrestlers may be attempting to take part in rapid weight reduction through exercise just prior to the assessment-this should not be allowed. In addition the process requires that each wrestler pass a urine specific gravity test to determine adequate hydration level for the skinfold assessment procedure.

There is no substitute for practice and experience as an assessor. Quality in-service participation, in-depth knowledge about all aspects of the body composition assessment, careful site identification, and practice will assist in the accuracy and value of this program.

Only OHSAA certified assessors may conduct body fat measurements using skinfold calipers.

### **Site Selection and Identification**

The sites and regression equation selected for the program are those described by Lohman specifically for use with young male wrestlers and the Boileau equation for females. The techniques for site identification are adopted from "Anthropometric Standardization Reference Manual," Lohman, Roche, and Martorell, Human Kinetics Books, Box 5076, Champaign, IL 61820.

#### **A Note on Transgender Accommodations:**

Considering that the purpose of the weight management rules is safety above all else, we shall apply the equation and calculations of the wrestler's biologic gender rather than identified gender as per OHSAA policy. Females who identify as males will be assessed as females in order to keep the student healthy and safe with a body fat level not to be below 12%. Conversely, males who identify as females should be assessed as males. We shall always use athlete safety as our guide and therefore shall not compromise on this assessment.

**Triceps** - measured vertically in the midline of the posterior aspect of the upper arm, over the triceps muscle, midway between the lateral acromion process of the scapula and the inferior margin of the olecranon process of the ulna. Elbow is flexed to identify the landmarks but extended and relaxed to elevate the skinfold.

**Subscapular** - measured on a diagonal axis, (left shoulder to right hip) one centimeter below the inferior angle of the scapula. The site is angled infero-laterally about 45 degrees in the natural cleavage line of the skin. It may be necessary to have the subject place their arm behind the back to make the anatomical features more prominent. The arm is returned to the relaxed anatomical position for the measurement procedure.

**Abdomen** - measured vertically, the site is located 3 centimeters lateral to the midpoint of the umbilicus and 1 cm inferior to the umbilicus. The subject must stand erect with weight on both feet, relax the abdominal wall musculature and breathe normally during the assessment procedure. (Not applicable for females)

The following steps should be followed:

1. The subject should be standing in the anatomical position with the skin for potential skinfold sites exposed.
2. All measurements are obtained on the right side of the body
3. Identify the sites to be measured. The triceps, abdomen and subscapular region are to be measured on males. The triceps and subscapular region are to be measured for females.
4. Palpate the site to familiarize both you and the subject with the area to be measured.
5. Carefully mark the sites. The largest source of error in skinfold testing is inaccurate site selection
6. Elevate the double fold of skin and the subcutaneous fat with the thumb and index finger of the left hand 1 cm above or adjacent to the measurement site.
7. Become familiar with the width of the thumb and index finger as well as the perpendicular approach to site assessment prior to the elevation of each specific skinfold site.
8. The fold should be lifted in such a manner as to have two parallel sides.
9. The long axis should be parallel to the natural cleavage lines of the skin.
10. Keep the fold elevated as you measure and ensure that the shape of the skinfold is maintained.
11. Measure with caliper in right hand with scale in a position to avoid parallax error.
12. Measure midway between the body surface and the bulbous crest of the skinfold.
13. Place the caliper pads 1 cm below the fingers and half-way the depth of the fat fold
14. Caliper jaws are placed to measure the thickness of the skinfold perpendicular to its long axis.
15. Caliper pad measurement surface should be in contact with the skinfold for 2 to 4 seconds.
16. Release the caliper pads gently
17. Record to the nearest 1 mm and obtain (through rotation of sites) three measures with no more than a 1 mm difference between any two measurements (eg. 9.5, 10, 10.5).
18. Record three measures for each of three sites for males (subscapular, abdominal and triceps); record only subscapular and triceps measurements for females on the Skinfold Data Worksheets.
19. Continue to measure each site until you get three numbers within a mm

### **Formula for Calculation of Body Composition**

The following information is given so that you are aware of the equations used to determine body fat percentages. All calculations are done online using Trackwrestling.com.

#### **Values for Skinfold Assessment Process for Males**

1. The Lohman Equation is used to calculate body density of males.

▪ **Body density (Bd)** =  $[1.0973 - (\text{sum skinfold} \times .000815)] + [(\text{sum skinfold})^2 \times .00000084]$

▪ **Sum of skinfold** = triceps skinfold + subscapular skinfold + abdominal skinfold

2. The Brozek equation is used to calculate body fat percentage from body density.

**Percent Body fat** =  $(457/bd) - (414.2)$

3. To calculate minimum weight at 7 % body fat

▪ **Fat weight (fw)** = **total body weight** x **(%bf/100)**

▪ **Lean body mass (lbm)** = **tbw** – **fw**

▪ **Minimum wrestling weight** = **(lbm) ÷ .93**

#### **Values for Skinfold Assessment Process for Females**

1. The Boileau equation is used to calculate the body fat percentage for females

**Percent Body Fat** =  $[1.35 \times (\text{sum skinfold})] - [0.012 \times (\text{sum skinfold})^2] - 3.4$

**Sum of skinfold** = triceps skinfold + subscapular skinfold

2. To calculate minimum wrestling weight at 12% body fat

▪ **Fat weight (fw)** = **total body weight** x **(%bf/100)**

▪ **Lean body mass (lbm)** = **tbw** – **fw**

▪ **Minimum wrestling weight** = **(lbm) ÷ .88**

### **Wrestlers Below 7% and 12% Body Fat**

The OHSA does not require a Physician's Clearance for athletes with less than 7 % (12% for females) body fat.

Any male athlete who is cleared to participate below 7% or female athlete who is cleared to participate below 12%, may not wrestle below their actual weight at the time of the assessment.

### **Weight Loss per Week**

1. A weight loss limit of 1.5 percent of body weight at the time of the assessment per week has been set. A season long weight loss plan will guide his/her weight loss during the season. The athlete's minimum weight will be listed on the Alpha Master Roster.
2. The weight loss plan will determine which weight class(es) a wrestler may participate in each week.

### **13) Inputting the Data on Trackwrestling.com**

It is the responsibility of the Assessor to input the data of each wrestler on Trackwrestling within **72 hours** of the assessment:

Each OHSAA-approved assessor will be provided an Assessor ID and Assessor Password. These will be provided via e-mail to the Assessors by the OHSAA after completion and registration of the OHSAA assessors' training. Do not share this information with any other person. Protect this information at all times. Never use any other Assessor's ID number or password.

#### **Login to Trackwrestling**

1. Go to [www.trackwrestling.com](http://www.trackwrestling.com)
2. Go to the horizontal menu and click on "**OPC**"
3. On the next screen, click the "Login" button to the right of season (i.e. "2018-19 High School Boys")
4. Enter your username and password

#### **Enter an Assessment**

1. Log in with your username and password
2. **If you are an assessor:** click on the team you want to enter assessments for.
3. If you are adding to an existing transaction click on it and skip to step 5. Otherwise, click the [Add Transaction] button to create a new transaction.
4. Select your name from the assessors list, enter the hydration tester if prompted and select 'Live' for the transaction mode. Click the [Add] button to be taken to the transaction.
5. Click the [Add Assessment] button
6. Select the wrestler from the drop down menu. If the wrestler is not in the list and there is a [New] button available next to the drop box, then use the [New] button to add or import them to the roster. When creating a new wrestler you have the option of selecting gender. Otherwise wrestlers will need to be added from the 'Roster' page.
7. Check/edit the assessment date and answer the 'Passed Hydration' question or enter the 'Specific Gravity' value. Click the [Next] button.
8. Select a measurement type if prompted and click [Next].
9. Enter the measurement data and click the [Next] button. The data required on this page may vary.
10. Review the assessment results. You will not be able to view the wrestler's Minimum Wrestling Weight (MWW). That information will only be visible to the coach.
11. **If you are entering assessments for another wrestler:** Click the [Next Wrestler] button. **If you are done adding assessments:** Click the [Finish] button.

Click here for an instructional video on how to login: [Login Video](#)

Click here for an instruction video on how to input measurements: [Entering Assessments Video](#)

#### **14) Athlete Relocation**

If an athlete changes schools after their original assessment, contact **Monroe Britton** at [mbritton@ohsaa.org](mailto:mbritton@ohsaa.org) to have wrestler information transferred to new school.



### **15) Appeal Process (from OHSA High School Wrestling Manual)**

A wrestler may compete before or during an appeal at his or her lowest approved weight based on the initial assessment.

1. All steps of the appeal must be completed during the 14-day appeal period.
2. The 14-day appeal period shall start on the day following the assessment date.
3. The 1.5% weight loss limitation is in effect the day following the assessment date.
4. In order to utilize the results of an appeal, the wrestler must compete at his/her approved lowest minimum weight during an appeal for a lower weight.
5. Any athlete may appeal his/her initial assessment one time by reassessment.
6. An athlete must take an Individual Profile Form and written parental permission with him/her to the appeal assessment.
7. Appeals are not an appeal of the weight from the initial assessment, appeals are only appealing the body fat percentage.

The steps of the appeal process are as follows:

**Appeal Process Step 1 - Reassessment:** The athlete shall repeat the weight assessment as described in the regulation.

1. The master assessor shall be responsible for conducting the initial appeal using skin fold calipers.
2. The reassessment shall occur within 14 calendar days of the original assessment date unless a written extension is granted by the OHSA before the expiration of the 14-day period. All steps of the appeal must be completed during the same 14-day period.
3. Reassessment includes hydration assessment, weight measurement, plus three measurements of three skin fold sites. If the hydration assessment is failed, the wrestler may not be reassessed for a minimum of 48 hours.
4. When the assessor enters the appeal data, he/she must indicate that this is an APPEAL.
5. Failure to adhere to these conditions or timelines will be cause for denial.
6. The wrestler is responsible for any costs incurred during the appeal process.

**Appeal Process Step 2** - If dissatisfied with the initial results, the wrestler may choose to be hydrostatically weighed or undergo air displacement weighing to determine body fat percentage. Results obtained at this step are automatically accepted. The athlete, family, school, or coach may not appeal further.

1. Hydrostatic weighing or air displacement weighing facilities must be approved by the OHSA and the Appeal Proposal shall be filed with the OHSA before any assessment occurs.
2. The 1.5% weight loss limitation shall be observed when conducting hydrostatic or air displacement weighing.
3. The wrestler is responsible for any costs incurred during the appeal process.
4. A student may not wrestle at the new, appealed weight until the assessor has entered the valid data into the Trackwrestling system.

5. A wrestler may skip a skin fold reassessment and proceed directly to a hydrostatic reassessment or an air displacement reassessment.

### **18) Initial Assessment and Appeal Costs**

- All costs incurred for the initial assessment and appeal process are the responsibility of the school or parent.
- An assessor may charge up to \$5.00 per athlete for each assessment plus \$35.00 per hour. This charge is assessed for any athlete who passes or fails the urine specific gravity test.
- In addition to the **\$35** per hour charge for services and the \$5 per assessment (not exceeding \$55.00), OHSAA assessors are permitted to charge mileage at the IRS standard rate whenever travel is required to an assessment location.
- OHSAA certified assessors are permitted to charge mileage at whatever the IRS standard rate is and charge a service fee of \$35.00 per hour whenever travel is required to a location. This is in addition to the \$10.00 per athlete per assessment.
- CLIA lab certification will be obtained by the OHSAA and all assessors will work under that certificate.

#### Appeals

- An athlete who appeals the initial test will be charged \$10.00 for a body fat assessment using skinfold calipers.
- Second option— hydrostatic or air displacement testing. Air displacement must be Bod Pod GS model at a site approved by the OHSAA. The charge for the service may be up to \$75.

#### General

- The cost of membership for schools in the National Wrestling Coaches Association (or “NWCA”) is \$30.00 and this allows each school access to Trackwrestling.

To put it another way, assessors may charge up to \$35 per hour for their services and \$5 per athlete. Additionally, you are permitted to charge mileage to whenever travel is required to an assessment site.

# APPENDIX

# Ohio High School Athletic Association

## **PARENTAL PERMISSION/CONSENT FOR URINALYSIS**

OHSAA adopted a weight control program for Ohio high school wrestlers. The program has two basic components:

- 1) A nutrition education dimension, and
- 2) the establishment of a healthy minimum weight for each wrestler.

Skinfold measurements are used to predict (on a scientific basis) the lowest healthy weight for wrestlers. The program requires each male wrestler to maintain at least 7% body fat and females 12% body fat. The rule does not suggest or urge wrestlers to reduce to 7%, or 12% body fat, but sets a healthy limit as to how much they can safely reduce. The rule controls:

- 1) the rate of weight loss, and
- 2) the amount of weight that can be lost.

The first step of the testing is a urinalysis, which is required to determine the athlete's hydration level. Proper level of hydration is important to provide an accurate measurement of body fat percentage. Dehydration will concentrate urine and thereby increase the urine's specific gravity. Accurate determination of minimum wrestling weight from total body fat requires the wrestler to be properly hydrated. The specific gravity of a hydrated individual will be 1.025 or lower. If the wrestler is dehydrated (i.e. specific gravity of the urine is over 1.025) measurements will not be taken. Testing must be rescheduled for a different time when the wrestler is properly hydrated. The re-scheduled assessment may not occur until 48 hours after the initial urinalysis testing.

I hereby grant the OHSAA and its agents' permission to perform a urinalysis on myself/son/daughter for the purpose of determining the hydration level to properly determine an accurate skin fold measurement. I understand that the OHSAA accepts myself/son/daughter on their willingness to participate.

In becoming a participant in the program, I understand that myself/son/daughter will agree to the following:

1. A bathroom with a toilet or urinal will be used by the wrestler to allow the wrestler to provide a urine sample for testing.
2. Use of gloves by individuals when measuring the urine and proper disposal of said urine will be mandatory.
3. School or OHSAA personnel will be present (female to female, male to male) whenever possible to ensure that the wrestler has provided a sample of his or her own urine.
4. Every reasonable measure will be taken to ensure privacy for the wrestler when he/she is submitting a urine sample.
5. Urine collection cups will be properly disposed of following single use.

I hereby agree to release, discharge and forever hold harmless the OHSAA and its agents from any and all claims, which I might now, or hereby have with respect to the urine testing I am consenting to herein. I am free to deny any consent for myself/son/daughter both now and at any point during the testing. I realize that if I deny or revoke my consent, participation may be denied.

I acknowledge that I have read this form in its entirety or it has been read to me, and I understand the urine testing procedure myself/son/daughter will be engaged. I accept the risks. Knowing these, having had an opportunity to ask questions which have been answered to my satisfaction, I consent and give permission for myself/son/daughter to participate in the urinalysis.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Time

Name of Athlete: \_\_\_\_\_

Signature of Athlete: \_\_\_\_\_  
(if over 18 years old)

Name of Parent/Guardian: \_\_\_\_\_

Signature of Parent/Guardian: \_\_\_\_\_

# **OHSAA Wrestling Weight Management Program**

## **Individual Profile for**

### **Assessment / Reassessment / Appeal Form**

Reassessment / Appeal Assessment to Determine Minimum Wrestling Weight

Master Assessors and approved appeal assessment sites use the Appeal  
Link on [www.trackwrestling.com](http://www.trackwrestling.com)

Parental Permission Form YES \_\_\_\_\_ NO \_\_\_\_\_ (If no, do not assess wrestler)

Wrestler's Name \_\_\_\_\_ GENDER: M F

Grade \_\_\_\_\_ School \_\_\_\_\_

Assessor's Name \_\_\_\_\_

Assessor's Phone Number \_\_\_\_\_

Type of Assessment: Original \_\_\_\_\_ Re-Assessment \_\_\_\_\_ Appeal \_\_\_\_\_

Urine Collection Cup # \_\_\_\_\_

**STEP 1: URINE SPECIFIC GRAVITY** \_\_\_\_\_ (Record athlete's actual specific gravity)

❖ If failed, wrestler must wait 48 hours to be re-assessed!

❖ MUST record FAILED hydration test the same day

PASS FAIL

**STEP 2: ASSESSMENT DATE** \_\_\_\_\_ (This is the date of the initial measurement or appeal)

**STEP 3: WEIGHT** \_\_\_\_\_

**STEP 4: SKINFOLD MEASUREMENT**

- Tricep Measurement \_\_\_\_\_
- Subscapula Measurement \_\_\_\_\_
- Abdominal Measurement \_\_\_\_\_

❖ Continue until you get 3 numbers within a mm

❖ Must input results within 72hrs of assessment date. Same day is preferred

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**APPEAL ONLY (Site must be approved by OHSAA)**

- Hydrostatic Weighing, Bod Pod, or DEXA: Percent body fat \_\_\_\_\_
- ❖ Appeal must be completed during the 14-day appeal period
- ❖ The appeal period begins the day after the assessment date
- ❖ Complete Steps 1-3 prior to body composition testing
- ❖ Input results within 72hrs. Same day is preferred