



The New WVSSAC Weight Management Program **by Dr. Bill Welker, Chief Assessor**

In compliance with the NFHS weight management program, the WVSSAC has restructured the weight management program for all high schools in the state. We will utilize the National Wrestling Coaches Association's (NWCA) On-Line Weight Management Program.

The primary purpose for this program is to insure the future and safety of scholastic wrestling programs in West Virginia. The program is designed to assist in avoiding harmful weight reduction practices.

Starting this year, each wrestler will be screened by an assessor for hydration level of the body and body fat.

All wrestling coaches should incorporate a nutritional component on proper dieting and food-intake for daily consumption, which the new NWCA program will provide.

The weight assessment must take place from the Monday of week 20 to the Monday of week 31. All wrestlers must be assessed by a certified assessor prior to competing in a match. Any violation of the assessment procedure or weight management program during the season MUST be reported to the WVSSAC office.

Hydration Assessment

Specific gravity assessment of the urine will determine whether a candidate may participate in the skinfold measurement process. If the wrestler has a specific gravity level greater than 1.025g/ml, he/she may NOT be assessed for body fat composition. It is up to the assessor to determine the procedure for collecting urine samples and administering the urine specific-gravity test, utilizing current dated reagent strips. This will eliminate any falsification of results.

The proper sequence of the assessment procedure is (1) the urine test, (2) weigh the wrestler, (3) the Skinfold test. Keep in mind, if the wrestler fails the urine test, he/she must wait 24 hours to be retested. The wrestler can only be weighed and assessed for body fat composition upon passing the urine test.

Skinfold Assessment

Those meeting the specific hydration requirement will proceed to the area where they will be weighed and the skinfold assessment for body fat composition will be administered. The assessor should have total control of this area so that accurate readings are determined and properly recorded. Again, the wrestler must be allowed confidentially regarding his recorded information.

Calculations on NWCA website will determine each wrestler's Optimum Performance weight and at which weight class he or she can wrestle.

Appeal Process

An athlete has 14 days after the Alpha Master Recording Date to appeal his/her skinfold measurements or calculations one time only. At that point, it MUST be approved by the WVSSAC.

If the appeal is accepted by the WVSSAC, the appellant must have a "hydrostatic weigh-in" at West Virginia University or Marshall University at his/her expense. The hydrostatic weigh-in determines the ultimate assessment standard for body fat percentage. Results obtained by this assessment are final. The athlete, family, school, or coach may NOT appeal further. The athlete or school is responsible for all costs associated with the appeal process.

A wrestler may compete during the appeal process, but no weight class lower than his initial assessment minimum weight class.

Minimum Wrestling Weight

After being assessed for his minimum wrestling weight, the first time he/she wrestles at his/her minimum wrestling weight he/she must make base weight. He or she may not weigh-in at his or her minimum weight until the date indicated by the Alpha Report. Once a wrestler weighs in at his/her minimum wrestling weight, he/she MUST then weigh-in at his/her minimum wrestling weight 50% of his remaining competitions.

The Assessors

The assessors will consist of professionals in the following areas: Registered Nurse, License Practical Nurse, MD, DO, CD, Advanced Registered Nurse Practitioner, Physical Therapists, Physicians Assistant, NATA or Certified Athletic Trainer, EMT, Paramedic, Exercise Physiologists, and Certified Dietician.

Assessors will demonstrate the highest professional and ethical conduct relative to performing assessments on our young wrestlers in West Virginia. Assessors must record assessment data on the NWCA website within 48 hours after performing the assessment for each team and retain individual raw data for two years.

WVSSAC certified and registered assessors are expected to conduct themselves in a manner such that there will be no question about their ethics and positive contribution to the participants in the sport of wrestling.

The School's Responsibility

It is the school's responsibility to contact an approved assessor(s). It is recommended that the school contact one assessor if 20 or less wrestlers are involved or two assessors if there are more than twenty wrestlers on the team. The school must have the following available at the time of the skinfold assessment:

- 1) An annually certified scale.
- 2) Skinfold data forms.
- 3) Two school officials (teacher, A.D., or school administrator) who will:
 - a. Assist with obtaining height and weight of each wrestler.
 - b. Assist with recording of data.
- 4) Urine Specimen Cups.
- 5) The charge for is mileage (.31 per mile) and five dollars for each wrestler assessed. (Note: An assessor cannot charge the high school where he works.)

Miscellaneous Weight Management Matters

The following are matters which the coach must be well aware of during the season:

- 1) The two-pound allowance will be given after December 25th.
- 2) A transfer student may be assessed and compete only if he/she can meet the 14-day practice requirement. Note, if the wrestler was competing in wrestling at the school from where he/she was transferred, he/she has fulfilled the 14-day practice requirement.
- 3) All coaches must present the team Alpha Report at each competition.
- 4) If a wrestler is assessed with less than 7% Body Fat for males or less than 12% for females, but passed the urine hydration test, he/she must compete at the nearest higher weight class (e.g., If such a wrestler's assessment weight is 107 pounds, he/she must compete at the 112-pound weight class or higher.)
- 5) All weigh-ins MUST be held at the site and day of the competition.
- 6) Any student that joins the team late (e.g., injury, sickness, eligibility, etc.) MUST be assessed by the Monday of week 31 and meet the 14-day practice requirement before being able to compete.

Concluding Remarks

All high school coaches will receive a detailed WVSSAC Weight Management document in the materials sent to them prior to wrestling season. It is imperative that each coach read this document very carefully for full understanding of the new WVSSAC Weight Management Program.

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We extend our sincere appreciation to the WV Department of Education Office of Healthy Schools who have provided a grant to assist in the implementation of the new weight management program.

WVSSAC

WEIGHT MANAGEMENT PROGRAM FOR WRESTLER ASSESSMENT

The primary purpose for this program is to insure the future and safety of scholastic wrestling programs in West Virginia. The program is designed to assist in avoiding harmful weight reduction practices.

COMPONENTS

The program consists of two components:

- 1) The nutrition education handout for Coaches (Appendix A) and the NWCA On-Line nutrition program.
- 2) The in-service training for Assessors

Nutrition Education Program

All wrestling coaches should incorporate a nutritional component on proper dieting and food-intake for Daily Consumption.

The In-service Training for Assessor Candidates

This training program for assessors will be offered to professionals in the following areas: Registered Nurse, License Practical Nurse, MD, DO, DC, Advanced Registered Nurse Practitioner, Physical Therapists, Physicians Assistant, NATA or State Certified Athletic Trainer, EMT, Paramedic, Exercise Physiologist, and Certified Dietician.

Trained Assessors will be expected to demonstrate the highest professional and ethical conduct relative to performing assessments on our young wrestlers in West Virginia. WVSSAC registered assessors are expected to conduct themselves in a manner such that there will be no question about their ethics and positive contribution to the participants in the sport of wrestling.

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.

Prediction of Body Composition

Below is a brief description of the two techniques to be used by the WVSSAC:

1. **Skinfold Assessment (SFA):** SFA is based on the relationship between subcutaneous fat and its inverse relationship to body density. After passing the hydration specific gravity component,

the subject is measured at a predetermined site to assess the thickness of the skin and the subcutaneous fat deposition. Males must have no less than 7% body fat and females must have no less than 12% body fat.

2. **Hydrostatic Weighing (HSW):** HSW 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.

Note: At this initial stage of the WVSSAC Weight Management Program, the Tanita TBF – 300WA Scale to determine body fat will NOT be utilized. However, for future discussion, Appendix B describes the use of the scale.

SKINFOLD ASSESSMENT TERMINOLOGY

The use of skinfold assessment in the process of determination of body composition requires the following standardization of terminology:

1. **Total Body Weight (TBW)** – weight of the body on a certified, calibrated scale.
2. **Body Density (BD)** – the mass of the body per unit of volume. (Note: The fat free component is assumed to have a density of 1.100gm/cm³. The mass of fat is considered to be about .90 gm/cm³.)
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 fat weight: $LBM = TBW - FW$.
5. **Fat Weight (FW)** – the weight of the fat tissue of the body: $FW = TBW \times \%BF$.
6. **Minimum Wrestling Weight (MWW)** – the lowest weight class at which a wrestler may compete, determined to be no lower than 7 % body fat for males and no lower than 12 % body fat for females in WVSSAC Wrestling Weight Monitoring Program.

Note: There will be a variance of 2 % of lowest weight determined by the Optimum Performance Calculator regarding body fat.

WVSSAC SKINFOLD ASSESSMENT PROGRAM

A key to the success of the WVSSAC assessment program is the ability to standardize the assessment procedures and the calculations to determine minimal weight.

Standard Instrumentation

- 1) The Lange Skinfold Caliber is the only accepted instrument for body fat assessment.
- 2) Tape measure for site location, especially during training and practice for site identification.
- 3) Felt pen (preferably washable ink) for site identification.
- 4) Certified/calibrated scale to determine total body weight (TBW) at same time as skinfold assessment.

Site Selection and Identification

The subject should be standing in an anatomical position with the skin for potential skinfold sites exposed. All measurements are obtained on the right side of the body. Triceps, Subscapular, Abdominals will be measured for males. Tricep and Subscapular for females. The definitions are as follows:

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 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.

Abdominals – 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.

Reference: *“Anthropometric Standardization Reference Manual”* (HK)

Standardized Assessment Procedure

In an attempt to insure valid and reliable assessment of skinfold widths 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 to pass a urine test for hydration prior to the skinfold assessment.

There is no substitute for practice and experience as an assessor. Quality in-service participation is a must. In doing so, one must:

- 1) Palpate the sites to familiarize both assessor and subject with the area to be measured.
- 2) 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.
- 3) 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.
- 4) The fold should be lifted in such a manner as to have two parallel sides.
- 5) The long axis should be parallel to the natural cleavage lines of the skin.
- 6) Measure with caliper in right hand with scale in a position to avoid parallax error.
- 7) Measure midway between the body surface and the bulbous crest of the skinfold.
- 8) Caliper jaws are placed to measure the thickness of the skinfold perpendicular to its long axis.
- 9) Caliper pad measurement surface should be in contact with the skinfold for 2 to 4 seconds.

10) Record to the nearest .5 mm and obtain (through rotation of sites) three measures with no more than a .5 mm difference.

11) Record three measures for each site for males (3 sites) and females (2 sites).

WVSSAC ASSESSMENT PROCEDURES

Time Period for Measurement

The weight assessment must take place from the Monday of week 20 to the Monday of week 31. All wrestlers must be assessed prior to competing interscholastically.

Note: Any violation of the assessment procedure or weight management program during the season **MUST** be reported to the WVSSAC office.

The School's Responsibility

It is the school's responsibility to contact an approved assessor(s). It is recommended that the school contact one assessor if 20 or less wrestlers are involved or two assessors if there are more than twenty wrestlers on the team. The school must have the following available at the time of the skinfold assessment:

- 1) An annually certified scale.
- 2) Skinfold data forms (or inform the assessor to bring them – Appendix C).
- 3) Two school officials (teacher, A.D., administrator) who will:
 - a. Assist with obtaining height and weight of each wrestler.
 - b. Assist with recording of data.
- 4) Urine Specimen Cups.
- 5) The charge for is mileage (.31 per mile) and five dollars for each wrestler assessed. (Note: An assessor can not charge the high school where he works.)

Hydration Requirement

Specific gravity assessment of the urine will determine whether a candidate may participate in the skinfold measurement process. If the wrestler has a specific gravity level greater than 1.025g/ml, he/she may NOT be assessed for body fat composition. It is up to the assessor to determine the procedure for collecting urine samples and administering the urine specific-gravity test, utilizing current dated reagent strips. This will eliminate any falsification of results.

In practice, the wrestler must partially fill the cup with urine. (He/she must be allowed privacy during this procedure.) A reagent strip will be immersed in the urine, pulled out, and read horizontally to determine the specific gravity of the specimen. As previously noted, if the wrestler passes the specific gravity test, he/she may then be evaluated for body fat composition. If the wrestler fails the specific gravity test, he/she must wait 24 hours to be retested for specific gravity and can only be assessed for body fat composition upon passing the urine specific gravity test.

The proper sequence of the assessment procedure is (1) the urine test, (2) weight the wrestler, (3) the Skinfold test. Keep in mind, if the wrestler fails the urine test, he/she must wait 24 hours to be retested. The wrestler can only be weighed and assessed for body fat composition upon passing the urine test.

Skinfold Assessment

Those meeting the specific hydration requirement will proceed to the area where they will be weighed and the skinfold assessment for body fat composition will be administered. The assessor should have total control of this area so that accurate readings are determined and properly recorded. Again, the wrestler must be allowed confidentially regarding his recorded information.

The following are points of emphasis:

- 1) Measure each site (right side) and record in the boxes of the data form for each wrestler (Appendix C).
 - a. Rotate through each site and record values.
 - b. Record three measurements to the nearest .5 mm for each site (3 for males and 2 for females).
 - c. Only the Assessor shall fill in the data sheet for errors and omissions after all subjects have been evaluated.
 - d. Incomplete data will result in return of all data forms for the team.
- 2) Check form to be certain it is complete and accurate.
- 3) Take forms with you and submit data into the Optimum Performance calculator.
- 4) Calculations on NWCA website will determine each wrestler's Optimum Performance weight.

Appeal Process

An athlete has 14 days after the Alpha Master Recording Date to appeal his/her skinfold measurements or calculations one time only. At that point, it MUST be approved by the WVSSAC.

If the appeal is accepted by the WVSSAC, the appellant must have a "hydrostatic weigh-in" at West Virginia University or Marshall University at his/her expense. The hydrostatic weigh-in determines the ultimate assessment standard for body fat percentage. Results obtained by this assessment are final. The athlete, family, school, or coach may NOT appeal further. The athlete or school is responsible for all costs associated with the appeal process.

A wrestler may compete during the appeal process, but no weight class lower than his initial assessment minimum weight class.

Minimum Wrestling Weight

After being assessed for his minimum wrestling weight, the first time he/she wrestles at his/her minimum wrestling weight he/she must make base weight. He or she may not weigh-in at his or her minimum weight until the date indicated by the Alpha Report. Once a wrestler weighs in at his/her minimum wrestling weight, he/she MUST then weigh-in at his/her minimum wrestling weight 50% of his remaining competitions.

Miscellaneous Weight Management Matters

- 1) The 2-pound allowance will be given after December 24th. Wrestler must weigh in and wrestle at minimum weight before receiving 2-pound allowance.

- 2) **A transfer student may be assessed and compete only if he/she can meet the 14-day practice requirement. Note, if the wrestler was competing in wrestling at the school from where he/she was transferred, he/she has fulfilled the 14-day practice requirement.**
- 3) **All coaches must present the team Alpha Report at each competition.**
- 4) **If a wrestler is assessed with less than 7% Body Fat for males or less than 12% for females, but passed the urine hydration test, he/she must compete at the nearest higher weight class (e.g., If such a wrestler's assessment weight is 107 pounds, he/she must compete at the 112-pound weight class or higher.)**
- 5) **All weigh-ins MUST be held at the site and day of the competition.**
- 6) **Any student that joins the team late (e.g., injury, sickness, eligibility, etc.) MUST be assessed by the Monday of week 31 and meet the 14-day practice requirement before being able to compete.**

WVSSAC Assessor Candidate Application Form

Name: _____

Address: _____

Affiliation (School) _____

Phone Numbers: Home: _____

Business: _____

Cell: _____

E-Mail: _____

Educational Level / Degree: _____

Present Position: _____

Note: To be eligible you must be a Registered Nurse, License Practical Nurse, MD, DO, DC, Advanced Registered Nurse Practitioner, Physical Therapists, Physicians Assistant, NATA/State Certified Athletic Trainer, EMT, Paramedic, Exercise Physiologist, and Certified Dietician. Assessors cannot be a paid or volunteer wrestling coach at any WVSSAC participating school.