**Purpose Of Mandatory Weight Certification Program:** In 1997, three college wrestlers were tragically killed within a 35-day period while engaged in unsafe weight management practices. In March 2004, a high school wrestling coach in the southeastern United States is being investigated by a Sheriffs department for child abuse charges stemming from overseeing inappropriate weight loss activities of a wrestler. These situations are just a few examples of the tragedies and near tragedies that have occurred in our sport over the past few decades.

Through a commitment to safeguard our athletes and minimize liability exposure, governing bodies such as the National Collegiate Athletic Association (NCAA), National Junior College Athletic Association (NJCAA), California Community College Athletic Association (CA Junior Colleges), National Association of Intercollegiate Athletics (NAIA), and over twenty state high school athletic associations have mandated and successfully implemented a comprehensive weight certification program that focuses on the following guiding principles:

- Elimination of all weight control practices that could potentially risk the health of wrestlers.
- Focus on competition, not weight loss.
- Recommendations should be practical, enforceable, and scientifically based.

To accomplish these goals, standards have been established that require each wrestler to undergo a comprehensive preseason evaluation to assess the following:

- Hydration level
- Body Fat Composition
- Weight

The raw data from these assessments are entered into a series of equations so that the following safeguards can be determined for each wrestler:

- A lowest allowable weight class
- A safe weight loss descent plan

**National Federation of State High School Association (NFHS) Position:** The Wrestling Weight Management Committee of the NFHS Associations (NFHS) has recently transformed its current “weight certification recommendations” into a rule for the 2006/07 academic year.

**Role of NWCA in Weight Management Education:** Since the accidents that occurred in 1997, the NWCA became a leader in developing automated systems and educational content to help our national collegiate and scholastic governing bodies administrate and implement the mandated weight certification programs in a very efficient, paperless, and cost effective way. Working collaboratively with the NCAA and NFHS, we have developed a web-based, *Optimal Performance Calculator* that performs the following calculations/functions by factoring in the raw assessment data of each wrestler:

- Determines a lowest allowable weight class for each wrestler.
- Establishes a safe weight loss descent plan for each wrestler.
- Produces the alpha master roster form (compliance component)
- Includes an integrated web-based diet program allowing wrestlers/parents to build a customized diet that honors their weight loss, weight maintenance, or weight gain plan.
- Provides password protected viewer access to coaches, wrestlers, assessors, parents, and state association administrators

**Role of the National Athletic Trainers Association (NATA):** The NATA has very generously agreed to develop educational materials (i.e.: assessment protocols, nutrition/hydration information, etc.) to compliment the Optimal Performance Calculator. In addition, the NATA will oversee assessor training and implementation strategies in each state. Our ultimate goal is to have the NATA train master assessors in each state so they can, in turn, train all of the apprentice assessors.
To date, the NWCA Optimal Performance Calculator is the primary clearinghouse for all collegiate governing bodies and a growing number of state high school athletic associations (approx. 20 by 2005/06). The state high school associations of California, New Mexico, Nevada, Idaho, Indiana, Michigan, Delaware, Arizona, North Dakota, Oregon, Tennessee, Louisiana, Maryland (selected counties), New Jersey, North Dakota, Florida, Pennsylvania (selected counties), Alabama, New Hampshire (selected counties) and Hawaii (selected counties), are licensing our automated weight certification system. Many other state associations have expressed interest in licensing our program for the 2005-06 year.

Success of the Weight Certification Program:

Researchers from various universities recently evaluated the NCAA’s weight management program. In a series of investigations from 1992 through 1999 a number of observations were noted. During the 1998-1999 wrestling season (year in which the NCAA’s program was initiated) a total of 4,338 wrestlers were studied: the finding were as follows:

1) In 420 NCAA qualifiers, the average weight lost from October to November was 6.74 pounds.
2) During this same time the average decrease in percent body fat was 2.38%, indicating that the majority of weight lost throughout the season was fat weight as opposed to muscle mass.
3) The average percent body fat at the NCAA championships was 8.47%, with very few athletes at or below the 5% minimum.
4) In 1992 the average weight gain after weigh-ins prior to competition was 8 lbs. (no weight management program in place, with day before weigh-ins)
5) In 1998 the average weight gain after weigh-ins prior to competition was 6 lbs. (no weight management program in place, seven pound weight allowance, weigh-ins held 2 hours prior tournament)
6) In 1999 the average weight gain after weigh-ins prior to competition was 1.5 lbs. (NCAA’s weight management program in place, weigh-ins held 2 hours prior tournament)

Conclusions: The differences through the 1998 and 1999 NCAA tournaments appear to demonstrate that the amount of acute weight gain has declined as the NCAA, coaches, and scientists have worked to establish rules to improve weight management. These data also suggest that the season long approach appears to be the most successful with respect to promoting long-term weight loss and minimal acute dehydration.

Implementation Strategy for State Associations (that have not adopted the NFHS program)

**NFHS Position:** The NFHS recently mandated the wrestling weight certification rule for the 2006/07 year.

**Mandatory/Non Binding Requirement:** In an effort to expose all wrestlers and coaches to the various aspects of the comprehensive NFHS weight certification program before it becomes a mandated NFHS rule in 2006/07, we recommend that NATA members recommend to state associations that a mandatory/non-binding weight certification rule should be in place for the 2005/06 year. In other words, all wrestlers would be required to undergo a hydration, body composition, and weight assessment next year without being bound to the “predicted” lowest allowable weight class (the wrestlers would be subject to the current state certification system for the 2005/06 year).

**The NWCA is not a rule-making body:** Our role is to simply provide administrative efficiencies for state associations requiring this rule. The NWCA also does not specifically endorse any one method of assessing body fat composition. We are prepared to speak to the advantages, disadvantages, and reliability of each method. Ultimately, the Medical Advisory Committee of each state association must determine which body composition and hydration assessment methods will be compliant.

**Acceptable Body Fat Composition & Hydration Assessment Methods:** There are several methods that are typically approved by the state association medial advisory committees. They are as follows:

- **Skin Calipers**
  
  A. Advantages – relatively inexpensive ($150-175 each); reliable if used by qualified assessor; efficient for assessing the masses; has undergone numerous validation studies with wrestlers.
  
  B. Disadvantages – accuracy can vary if in the hands of an untrained assessor; requires a comprehensive certification program and re-certification program for the assessor.
• **Tanita Bioelectrical Impedance**

A. Advantages – easy to use for critical masses; does not require a certification program for the assessors (any responsible adult can operate); although validation research suggests it is less accurate than skin calipers in clinical environment, it might be more reliable in a practical environment due to the minimization of the human error element.

B. Disadvantages – cost/$1700 per unit; it’s a little more variable then skin calipers in a laboratory environment.

• **BodPod**

A. Advantages – widely considered by researchers to be one of the gold standards in measuring body fat composition. It only takes 4-5 minutes to assess a wrestler. Assessment centers typically charge $10 per assessment. Generally used as an appeal method for other less reliable body composition assessment methods.

B. Disadvantages – lack of availability in many states; cost/$35,000 per unit; this concept is only viable in a regional testing site model.

• **Hydrostatic Weighing**

A. Advantages – widely considered by researchers to be one of the gold standards in measuring body fat composition. It takes approximately 15 minutes to assess a wrestler. Generally used as an appeal method for other less reliable body composition assessment methods.

B. Disadvantages – cost/$40 per assessment; not widely available for assessing the public; the unit costs approximately $15,000 - $20,000; this concept is only viable in a regional testing site model.

• **Hydration Testing** – there are two generally accepted methods of measuring hydration. Some state associations use disposable reagent strips ($20/100 strips). Other state associations utilize reusable refractometers ($240 ea).

• **Administration of Program** – the NWCA Optimal Performance Calculator is compliant with all NFHS requirements. It is available for $30 per school per year and provides the following benefits:

- Secured access for all certified assessors.
- Viewer access only to “specific team assessment data” for the coach.
- Unrestricted access for wrestlers/parents to “individual wrestler assessment data/diet component.”
- Results and weekly wt. loss monitoring functionality.

**Establishment of Regional Testing Centers vs Conducting Assessments at the Local Level:** We recommend one of three models that have been successfully implemented by state associations across the nation:

• **Assessments Performed in each School by In-house Assessor:** Require each school district to send a minimum of two individuals (ie: certified athletic trainer, health/physical education teacher, biology teacher, school nurse, etc) to attend an assessor certification clinic (approx. 3 hour program). Each assessor would be responsible for administrating the Wt. Certification Program in their respective school. It’s more likely that skin calipers would be the preferred method with this model.

Advantages: efficiencies with re-evaluating wrestlers that fail the hydration test, assessing wrestlers that come out late for the team, and assessing wrestlers that may be injured during initial assessment period. Further, the coach does not incur costs associated with traveling to a regional location.

Disadvantages: perception of coaches that cheating might occur, need access to a large number of assessors, requires a comprehensive training and recertification program, each school would be required to purchase its own testing equipment.

• **Assessments performed in each school by regional assessors:** A master assessor in each district would be responsible for training an ample number of apprentice assessors (in his/her region) to conduct assessments in each school throughout the district. The master assessors would develop a directory from which each coach could schedule an appointment to have an assessor come into the school and perform the assessments:
Advantages: coach does not incur cost of transporting team to a regional site, the perception of cheating is minimized if an athletic trainer can’t assess his/her own school’s wrestlers, and eliminates the need for each school to have a certified assessor.

Disadvantages: inefficiencies created when a wrestler fails the hydration test (an assessor must return at a later date), requires the training of a large number of assessors, variability of assessments increases as the number of assessors increases (more human error), and logistics of training/recertifying all of the regional assessors.

- Adopt a Regional Weight Certification Model in which each school would be required to travel to a regional site (within ½ hr of their school) to have the assessments performed by a certified assessor.

Advantages: It minimizes the number of certified assessors necessary to conduct the assessments, it could be used as the initial step in migrating to a model of having certified assessors in each school (apprentice assessors could be trained at each regional site), it is easier to monitor quality assurance because there are fewer assessors involved, coaches perceive it to be less susceptible to cheating, less logistics associated with training assessors because fewer assessors are needed, and equipment costs are minimized because you only have to purchase equipment for the regional sites.

Disadvantages: inefficiencies associated with reassessing wrestlers that fail the hydration test, transportation costs associated with getting the team to a regional site, coordinating schedules to coincide with wrestlers/assessors/facilities,

NWCA Assistance: The NWCA is available to assist the NATA ATC’s in the following capacities:

- Secure FREE loaner Tanita Body Composition Analyzer units (for regional assessments) for the 8 week wt. certification window (assuming state association approves Tanita BIA as the preferred method).
- Provide discounts for all certification related equipment (www.nwcaonline.com).
- Provide experts to conduct “assessor certification” clinic (cost varies depending on instructor).
- Free “customer service” support for coaches and assessors to familiarize themselves with the NWCA Optimal Performance Calculator program.

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