MAKING WEIGHT IN WEIGHT CATEGORY SPORTS

BEST PRACTICE GUIDELINES FOR SPORTING ORGANISATIONS

Version 1.0
May 2022

Sporting organisations should play a proactive role in supporting the health, safety and performance of athletes who compete in weight category sports. Some organisations may play a direct role in advocating for, setting or implementing the rules and regulations that determine weight categories and qualification protocols. The role of other organisations may be to provide the daily training or competition environment for the athlete, with influence on the education and support services provided to the athlete as well as an opportunity to shape the culture in which the athlete develops. These organisations should contribute to athlete welfare and performance via the following activities:

> Development of weight management guidelines

> Discouragement of the engagement in weight making practices by junior athletes (<18 years of age)

> Provision of mandatory education activities for athletes and, importantly, their support networks (e.g. coaches, managers, families, service providers). Education strategies should target:

  — Risks of inappropriate acute and chronic body mass management practices

  — Optimal acute and chronic BM management practices, including post weigh-in recovery strategies

  — Body image, disordered eating and eating disorders

  — General health, longevity and long-term career planning/periodization

  — Periodic review to consider whether athletes are physically and emotionally suited to competing in their nominated weight category

> Development of a network of professionals who have familiarity with the sport to provide a core multidisciplinary team who can work collaboratively with an athlete and their coaches, providing education sessions as well as individual assessment/counselling opportunities

> Creation of an environment and culture that encourages coaches, teams, support staff, athletes' family and friends to voice, with confidentiality, their concerns regarding unhealthy or worrying issues and practices around weight management

Core Multidisciplinary Team

Ideally, all NSOs with weight categories should facilitate athlete access to a core multidisciplinary team (CMT) of a sports dietitian, psychologist and a sports doctor, all of whom should have special expertise in issues relating to body mass management, and specific knowledge of weight category sports. As per the Olympic Movement Medical Code, all activities of the CMT should be based on the premise that the health and welfare of athlete are pre-eminent and prevail over competitive, economic, legal or political considerations. Although there are many aspects to their roles within the environment of weight category sports including education and the development of a weight management policy, special attention needs to be given to scenarios in which athletes should be supported or mandated to receive individual attention from members of the CMT. Recommendations are provided in Table 1.

Table 1. Scenarios which require Professional expertise

Professional	Scenarios which require Professional expertise
Sports Dietitian	Any athlete who needs to reduce their body mass to make weight, but particularly: > An athlete who is known to have difficulties with making weight or has expressed interest to qualify for a lower weight category > An athlete, identified by another health professional, whose weight making practices are affecting their performance, physical or mental health, or lifestyle > A junior athlete (<18y) who is in the exceptional circumstances where weight making might be considered; e.g. an athlete who has qualified for high level open competition, but due to subsequent growth is no longer able to make their competitive weight category without engaging in some acute weight loss strategies for that specific competition. Thereafter, a review of the most appropriate weight class should be undertaken
Psychologist	Any athlete who is identified as having mental or psychological health problems related to weight making or their general involvement in a weight category sport, including > An athlete who is not making progress despite a structured plan for weight management > An athlete who demonstrates concerning eating behaviours > An athlete who demonstrates body image concerns > An athlete who experiences large weight gains between competitions > An athlete who expresses interest in competing in a lower weight category where this has been deemed a 'borderline' decision following assessment of body composition and discussions with a sports dietitian In addition: > A junior athlete (<18y) who is in the exceptional circumstances where weight making might be considered
Sports Doctor	Any athlete who is identified as having medical or health issues related to weight making or their general involvement in a weight category sport, including: > A youth athlete (<18y) who is in the exceptional circumstances where weight making might be considered > An athlete who expresses interest in competing in a lower weight category where this has been deemed a "borderline" decision following assessment of body composition and discussions with a sports dietitian > An athlete who is identified by a sports dietitian as needing diagnosis (blood testing) of suspected sub-optimal nutrient status > Any athlete who is identified as having mental or psychological health problems related to weight making or their general involvement in a weight category sport, including — An athlete who has reoccurring injury and/or illness — An athlete who has suffered complications during the weight making process such as episodes of dizziness/fainting, stomach pains or nausea, full body cramps, changes in blood pressure, cessation of sweat response or altered cognition

Development of Weight Management Guidelines/ Policies

Sporting organisations, and potentially individual units (e.g. teams or clubs), should set guidelines/ policies that govern the weight management and weight making practices of the athletes within their care. These rules should govern the behaviour and shape the culture of coaches, teams, athletes, support staff and the families of athletes. Suggested components of weight making policies include:

- Strategies for determining an athlete's ability to safely compete at a given weight class
- Contribution of the maximum body mass loss that can be achieved via acute weight loss in the 7 days prior to weigh-in
- Suggested weight targets throughout the season/year
- Guidelines outlining the involvement of support staff

A Body Mass Management in Weight Category Sports guideline/policy template is available for sporting organisations to use. Furthermore, a number of strategies have been explored by international governing bodies of sport in an attempt to dissuade the use of aggressive acute weight loss strategies. Examples are specified in Table 2. Where appropriate, these should be considered within the context of Australian sport.

Table 2. Potential Strategies and Rule Changes to Minimize Harmful Weight Making Behaviors in Weight-Category Sports Modified from American College of Sports Medicine expert consensus statement on weight loss in weight-category sports (2021).

Intervention	Positives	Negatives
Athlete and coach education	> Required to help athletes make better dietary choices and improve awareness of harmful methods	> May be ineffective without concurrent rule changes
Increasing the number of competitive weight categories	> Competitors have more options to choose a weight class that is compatible with their habitual weight	> Creates a problem for sport organisations to ensure adequate number of competitors at each weight > Smaller weight increments between divisions create greater temptation to 'cut' to a lower division
Use of height categories instead of weight categories	> Eliminates the need for AWL and the health risks associated with making weight > Maintains fairness in striking-based martial arts where limb-length is an important factor for competition success (***e.g.***, karate, taekwondo)	> Potential for large differences in body mass, strength, and power between competitors > Less suited to full-contact martial arts where use of body mass is important (***e.g.***, wrestling or judo) > Measurement error and diurnal variations in height could lead to misclassification
Establishing a minimal competition weight	> Encourages athletes to maintain their BM close to their competitive weight-category > Emphasises chronic BM management through the manipulation of FFM and FM	> Estimation of BF% requires standardized equipment, methods, and trained personnel to ensure reliability > Requires a "season" or a standardized period each year where athletes are measured and certified > Athletes can still undergo large RWL prior to competition if they maintain a higher BF%
Move the weigh-in time closer to the start of competition	> Several sports with a short recovery duration (≤1 hr) do not have issues with large RWL and RWG > Athletes undergo less RWL due to inadequate time to rehydrate/recover and the risk of a negative impact on performance in competition	> A risk that athletes may still undergo RWL and enter competition severely dehydrated due to inadequate recovery time—may increase health risk > Some argue that early weigh-ins are beneficial as it allows for maximum rehydration and mental preparation for competition

Intervention	Positives	Negatives
Determine the weight classes the day of competition	> Discourages any weight reduction because of unpredictability. > Effective administration at youth wrestling tournaments with abundant participants.	> Some weight discrepancies will exist within a weight class but not one is dehydrated or malnourished. > Difficult to administer for championship tournaments requiring prior qualifying tournaments.
Limit the number of weigh-in attempts during the official weigh-in period	> Athletes who need to re-weigh multiple times will likely use harmful practices (e.g., spitting, vomiting, sauna, or training in rubber suits) in the short timeframe permitted before re-weighing	> To enforce the rule, athletes who miss weight at the first attempt must be excluded from competition
Assess urinary hydration status at the official weigh-in **(specific gravity <1.020 indicates adequate hydration)**	> Discourages weight-making via dehydration-based methods by ensuring athletes are euhydrated at the time of the weigh-in > Easy to implement for sport organisations/ events	> Concerns over the validity and reliability of field-based hydration tests: may lead to a high false-positive rate ***i.e.,*** hydrated athletes classified as dehydrated and being excluded from competition > Requires a calibrated refractometer at each event > To prevent fraud, each athlete must be closely observed when providing their urine sample (similar to anti-doping) > To enforce the rule, athletes showing dehydration must be excluded from competition
Competitors subject to a re-weigh limit (tolerance) on the morning of competition	> Discourages extreme AWL and regain due to the need to remain within 5% of the weight category	> Competitors can maintain their weight below the limit and continue to rehydrate following the re-weigh (typically 1-2 hr pre-competition, but can be longer) > Athletes may rehydrate, taking them over the re-weight limit, then perform another weight "cut" on the day of competition to be within the limit > To enforce the rule, athletes who re-weigh above the limit must be excluded from competition
Weight allowances for early season competitions	> Encourages athletes to use diet and exercise to slowly reduce their body mass for competition, while de-emphasizing AWL	> May bias success of larger athletes, who are less successful at end of season competitions due to weight allowances
Prohibition of potentially harmful RWL methods (e.g., IV rehydration, training in plastic suits, sauna use, laxatives, emetics, diuretics etc.)	> Encourages athletes to use diet and exercise to slowly reduce their body mass for competition	> Challenging to enforce in the real world (athletes cannot be monitored 24/7) > In specific contexts, some methods deemed potentially harmful can be used in a safe manner

BF% = body fat percentage; IV = intravenous; AWL = Acute weight loss; RWG = Rapid weight gain, BM = body mass, FM = fat mass, FFM = fat free mass

APPENDIX 1: ACUTE WEIGHT LOSS DO'S AND DONT'S

ADDITIONAL RESOURCES

https://www.sportsdietitians.com.au/sda-blog/make-weight-competition/

https://www.sportsdietitians.com.au/#find-sports-dietitian

https://www.gssiweb.org/en/sports-science-exchange/Article/acute-weight-management-in-combat-sports-pre-weigh-in-weight-loss-post-weigh-in-recovery-and-competition-nutrition-strategies

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