



## Stifel U.S. Cross Country Ski Team Wellness Passport

In May 2021, the Stifel U.S. Cross Country Ski Team adopted a wellness passport framework to monitor and optimize athlete health and performance goals. The framework is the result of years of collaboration between registered sports dietitians, physicians, sports psychologists and coaches and is based on current and ongoing research on relative energy deficiency in sport (REDs). The wellness framework focuses on both long-term, sustainable health **and** sustainable performance excellence. It provides an organized system for team providers, coaches and athletes to continually assess wellness in key areas of physical and emotional/mental health and identify needed interventions. While we are not recommending clubs adopt this exact wellness passport system, we feel it's important for everyone to understand how U.S. Ski & Snowboard is prioritizing athletes' physical and mental health by implementing this framework within our system.

The Stifel U.S. Cross Country Ski Team national team athletes have yearly pre-competition physicals with the team sports physician and meet with a registered sports dietitian a minimum of two times before the start of the World Cup season. These consults provide an opportunity to review all areas of the wellness passport, develop individual athlete goals and establish interventions as needed. The framework is intended to support athletes in their personal performance and long-term health goals through collaboration with their support team. It allows for athletes, coaches and support staff to review each athlete's wellness and performance goals and establish a multi-disciplinary performance team to support the athlete along his or her path.

This is the third season that the wellness passport has been used by the team. Coaches and support staff feel the process has been extremely valuable in supporting the health of individuals and the team as a whole. Over the years, we have made adjustments to our wellness passport categorizations.

based on current research. With the release of the updated [2023 International Olympic Committee's Consensus Statement on REDs](#), we will further evaluate our assessment and risk **Wellness Passport in Practice**

The wellness passport is comprised of categories of markers that are indicative of an athlete's current physical and emotional status. Each category is described below:

- **Blood markers:** Routine blood labs are done several times a year looking at trends specifically monitoring complete blood count (CBC), comprehensive metabolic panel (CMP), Iron levels (Ferritin) and Vitamin D.
- **Bone Health:** Bone density is monitored using DEXA screening on a case-by-case basis based upon athlete health metrics.

- **Body Composition:** Body composition is monitored using a combination of height, weight, circumferences and skin fold measures. Significant changes are noted and flagged if concerning.
- **Immune Health & Injury Status:** General health and injury status are monitored for trends, looking both for indications of immune function and the body's ability to recover and repair from the load of training and competition.
- **Energy Availability (EA):** Energy availability can be calculated by the sports dietitian to monitor dietary energy available for maintenance of normal physiological functioning after the energy costs of exercise have been met. Resting metabolic rate (RMR) can be measured and compared to predicted rates using prediction equations to gauge if an athlete has had chronic low energy availability.
- **Disordered Eating & Eating Disorder Screening:** All U.S. Ski & Snowboard athletes complete the [IOC's Sports Mental Health Assessment Tool](#) (SMHAT) annually. Within the SMHAT is a specific nine-question screening related to food, eating, body image and weight management. Any athlete who scores above the threshold is flagged for follow-up with the appropriate support team members.
- **Food & Sport Behaviors:** This category looks at eating patterns, food beliefs and restrictions, body image, social interactions and unrealistic body comp goals. The category is more subjective based on behaviors as identified by the athlete themselves, coaches, teammates or others close to the athlete.
- **Female athletes only:** Amenorrhea or changes in menstrual symptoms are discussed with the team physician and sports dietitian and considered part of the overall athlete picture.

At least twice a year, the overall wellness passport is evaluated. Detection through self-reported and/or objective screening is important to identify an athlete at risk for REDs early, providing an opportunity to intervene promptly to maintain and improve performance and prevent long-term health consequences."<sup>1</sup> If an athlete is at high risk for REDs as determined by the wellness passport, a multi-disciplinary support team will collaborate with the athlete to implement an individualized treatment plan, which may include additional or more frequent testing.

To help illustrate how we utilize the wellness passport, below is a hypothetical athlete's passport for May (pre-season) and the interventions that would be initiated.

### **Athlete-Centered Multidisciplinary Support Team Members:**

Sports Physician, Sports Dietitian, Strength Coach, Sport Coach, Physical Therapist / Athletic Trainer, Sport Psychologist

**Assessment:** The athlete has increased her training over the past 4-5 weeks after some time off at the end of the last season. As training has increased, the athlete is aware that her fueling has not been ideal for the level of training she is currently doing. She has noticed a drop in overall weight and lean mass and would like to work on increasing energy availability and lean mass and strength gains. She was also sick a few times last season and did not recover as quickly as she would have liked, so she wants to focus on immune health this season. Based on these indicators and the athlete's goals, her energy availability (EA) was calculated and the physician ordered additional labs beyond the routine blood work, including iron profile and total and free T3. Since the athlete has three indicators to monitor, including blood markers, energy availability and immune status (yellow below), she is placed in an overall "Yellow" monitor status.

### **Example Athlete's Wellness Passport Summary:**

<b>Category</b>	<b>Markers</b>	<b>Scoring Example (Rating: Green/Yellow/Red)</b>
<b>Blood Markers</b>	<b>CBC, CMP, Ferritin, Vitamin D</b>	Slightly low total and free T3, stable iron and vitamin D status.
<b>Bone Health</b>	<b>DEXA Results</b>	Spine z-score: 0.0 Hip z-score: 0.3 Stable from DEXA two years ago
<b>Body Composition</b>	<b>ISAK Results Significant changes in Body Composition</b>	2% weight loss over 2 months, ISAK measurements show slight decrease in fat and lean mass. Athlete wants to work on increasing lean mass and strength.
<b>Immune Health &amp; Injury Status</b>	<b>Monitor Injuries and Illness Recovery from Injuries and Illness</b>	3 colds last season. Took longer than expected to recover on the road. Wants to focus on immune health.
<b>Energy Availability (EA)</b>	<b>EA calculations RMR Results vs. Predicted</b>	EA calculations: Day 1 (intervals): 32 kcal/kg Day 2 (rest): 47 kcal/kg Day 3 (endurance): 28 kcal/kg  Low EA, low carbohydrate intake on training days
<b>ED &amp; DE screening</b>	<b>Screening Questionnaire as part of SMHAT*</b>	Not flagged

<b>Food &amp; Sport Behaviors</b>	<b>Eating Patterns, Food Beliefs And Restrictions, Body Image, Social Interactions, Unrealistic Body Comp Goals</b>	Positive relationship with food, participates in team meals, brings sport foods for training sessions. Acknowledges that fueling has not been ideal as volume and intensity have increased over the past few weeks.
<b>Female Health</b>	<b>Amenorrhea Changes in Menstrual Status</b>	IUD, but experiences regular menstrual symptoms monthly
<b>Overall Scoring</b>	<b>Yellow: 3 categories</b> Low EA with increased training load and decreased T3. Frequent illness with longer recovery. Change in body composition—athlete desires lean mass/strength gains.	

**Plan:** Multi-disciplinary team meets with the athlete to discuss the athlete’s current health and performance status and develop a plan to help monitor progress toward the athlete’s goals.

- Physician clears athlete to participate fully based on annual physical, which takes into consideration the wellness passport.
- Sports Dietitian will work with the athlete to help meet energy and macronutrient needs for increased training load, to support lean mass/strength gains, and to optimize immune health.
- Strength Coach and Sport Coach will identify optimal training to help the athlete achieve desired gains in strength and lean mass to support performance goals.
- Multi-disciplinary team recommends repeat labs, including T3, body composition testing and strength testing during the October training camp.

Throughout the past three seasons, U.S. Ski & Snowboard staff have identified challenges with the use of the wellness passport. Screening for REDs and long-term health markers is multifactorial and we appreciate the challenges in identifying athletes who are at the threshold of acceptable criteria. We also understand that teammates and the sport community are not privy to the work behind the scenes for at-risk athletes. It can be challenging to garner support for a system without inappropriately sharing health information protected under the Health Insurance Portability & Accountability Act (HIPAA) on individual athletes. As the Wellness Passport has been integrated into the culture of the U.S. cross country national team (presented and discussed annually at several national team camps), it has become a regular topic of discussion within the team. This has helped to raise awareness, overcome stigma and promote athlete communication, help-seeking and coping skills. If an athlete shares a concern with staff about a teammate's health, the Wellness Passport provides a consistent structure and context to reassure teammates

that every member of the team has support. We feel confident that the system is helping us support the athletes' sustained health and performance through multidisciplinary interventions.

While understanding this model is not replicable in all club systems, we encourage all nordic programs in the United States to consider these categories of wellness as they work to support optimal wellness and performance in their athletes. U.S. Ski & Snowboard will continue to prioritize athlete physical and mental health through the evolution of this framework as knowledge and experience advance to best support our athletes on their journey.

#### References & Resources:

1. [International Olympic committee relative energy deficiency in sport clinical assessment tool 2 \(IOC REDs CAT2\) \*British Journal of Sports Medicine\* 2023;\*\*57\*\*:1068-1072.](#)
2. [Mountjoy M, Ackerman KE, Bailey DM, et al. Avoiding the 'REDs Card'. We all have a role in the mitigation of REDs in athletes. \*British Journal of Sports Medicine\* 2023;\*\*57\*\*:1063-1064.](#)
3. [Gouttebauge V, Bindra A, Blauwet C, et al. International Olympic Committee \(IOC\) Sport Mental Health Assessment Tool 1 \(SMHAT-1\) and Sport Mental Health Recognition Tool 1 \(SMHRT-1\): towards better support of athletes' mental health. \*British Journal of Sp\*](#)