



XC World Digest

The Official Newsletter Of American Cross Country Skiers

Summer 2022

Volume 25

Number 2



***Ski Dreams
Are Made
Of This***

Photo: Seefeld/AUT

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Since 1998, over \$230,000 has directly or indirectly gone back to our sport thanks to AXCS members.

XC WORLD DIGEST is the official in-house publication of the American Cross Country Skiers (AXCS), a non-profit, 501(c)(3) membership association.

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Special thank to all these members!!!



From USA

Understanding Your Heart Rate Responses to Summer Training

By Dan Heil, PhD, FACSM

Editor: The following is an original article by AXCS member and frequent AXCS Digest contributor Dan Heil. Many thanks go out to Dan for making this great content available for other members.

Dan Heil is a master skier and Professor of Exercise Physiology at Montana State University in Bozeman, MT. Dan also serves as the director of testing services at the MSU Human Performance Lab for training and testing of local endurance athletes.

With new products hitting the consumer market every year, it has never been easier to own and use a wearable device to monitor heart rate (HR) when exercising. A modern HR monitor, of course, is probably the single best option for most people to objectively monitor their own aerobic exercise intensity, as well as good metric for coaches to prescribe and monitor exercise plans to diverse groups of athletes. As such, it seems like every serious endurance athlete would be using and loving their HR monitors, right? Well, based upon the nearly constant feedback that I get from masters and younger athletes, there seems to be a lot of using but not so much loving.

The primary culprit behind many athletes' lack of enthusiasm for their HR monitors is an inability to accurately interpret when and why their HR changes during a single bout of exercise, why it changes from training, as well as causes of HR changes during competition. In fact, I've personally encountered a surprising number of high caliber endurance athletes who prefer to never use a HR monitor during training or racing (unless their coach insists) because they believed that knowing their HR would somehow negatively influence their ability to perform. As an exercise physiologist, I have never understood this latter perspective because knowing your HR during exercise is simply information (or feedback) and you can always choose to use or ignore that information (or feedback). Regardless, the overarching theme from athletes of all ages is that seemingly unexplainable changes in exercise HR are often confusing to

the user and difficult to interpret without the help of a coach, trainer, or phone app to mediate the interpretation.

Within this article I wanted to briefly talk about two types of adaptations to HR that we should all experience with progressively designed aerobic training programs during the summer: Heat acclimation and exercise efficiency. Heat acclimation refers to a collection of physiological adaptations, including HR responses, that result from consistent exposure to environmental conditions that cause heat stress to the body during exercise – i.e., high air temperature and humidity. The net effect on the cardiovascular system to becoming heat acclimated is a lower HR response for given exercise intensity and amount of heat stress. Exercise efficiency, in contrast, refers to a collection of physiological adaptations, including HR responses, that result from the body's chronic exposure to aerobic exercise. The net effect on the cardiovascular system is to become more efficient by functioning at a lower HR for a given exercise intensity. When reading these two definitions I'm hoping that you noticed that the definitions sounded similar... i.e., Both conditions result in physiological adaptations and both conditions result in lower HR responses. So, how do you

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Photo: MWC2016

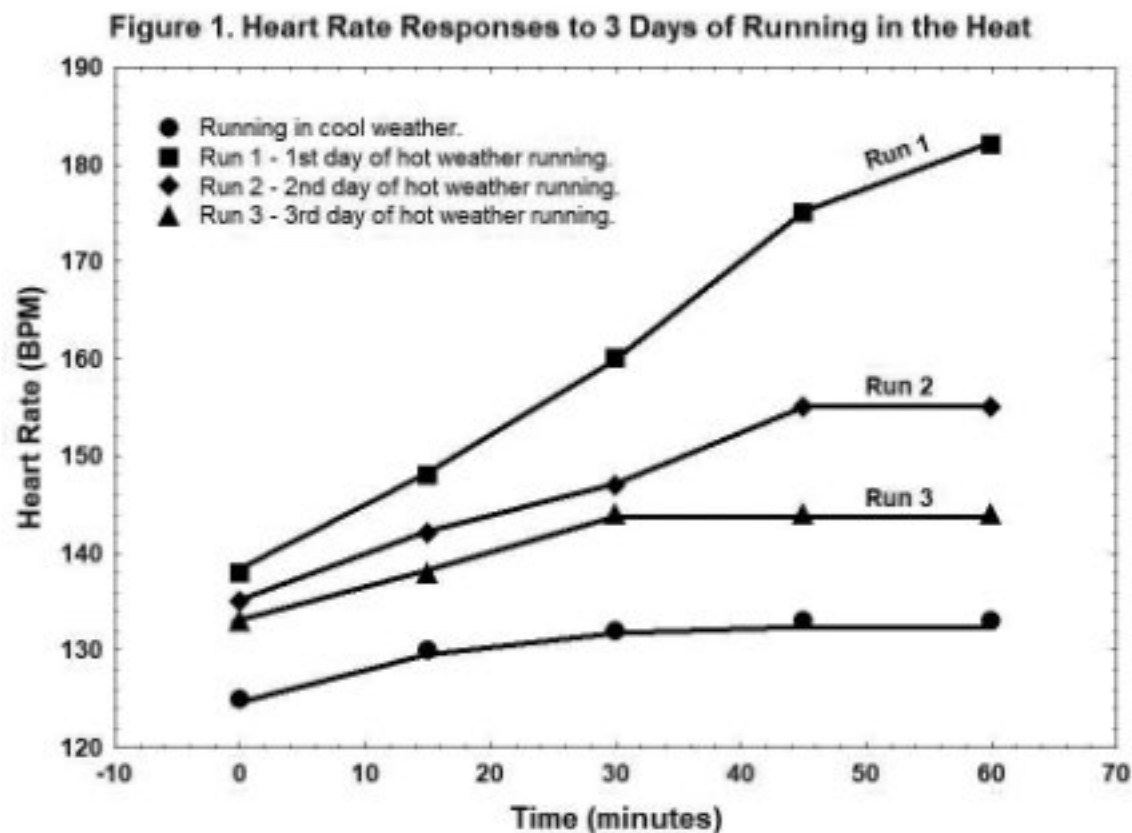
tell the difference when both types of responses can be happening simultaneously? This, in fact, is exactly why I'm writing this article and I'll explain each condition by showing an example with real HR data.

HR and Heat Acclimation

My own summer began this year with lots of traveling, lots of work indoors, a busy life at home, and workouts squeezed into early mornings or late evenings. As such, my workouts occurred during the cooler parts of each day (55-65 degrees F) and completely missed the early summer warm afternoons. In short, I was not getting acclimated to the modest temperatures of early summer. When my schedule finally opened to allow some afternoon training, the afternoons were getting into the high 80's and low 90's and heat stress was going to be a limiting factor to my aerobic exercise duration and intensity. What I've provided below is a summary of my HR responses as I became acclimated to aerobic exercise in the heat over a one-week period (Figure 1). To begin the acclimation process, I decided to do 3 suc-

cessive 1-hour runs within the same week using the same outdoor course while tracking my HR responses (see Figure 1) with a chest-worn strap. As a reference, the planned intensity for these runs was low- to mid-level 2 where HR would have started in the low 130s and probably drifted up to 135-138 BPM over one hour. The first day of running in the heat (Run 1), however, was a complete shock to my body with HR starting around 138 BPM and ending at 182 BPM – That's 42 BPM higher than I would have expected under cool environmental conditions! The actual response, of course, was expected because my body was struggling with how to stabilize the external thermal challenge and a rising body core temperature. The nearly hour-long increase in HR reflected my body's attempt to divert blood to the skin surface to cool the blood (via evaporative and convective cooling) before returning to the body's core. The fact that my HR never stopped increasing until the last 5 mins of the run highlights how difficult it was for my body to find a solution to the increasing body core temperature.

Just how high is 182 BPM for me? My maximum HR is about 190 BPM, and 180 BPM was my average HR for the 10km skate race at 2022 World Masters last March. Clearly, my cardiovascular system was struggling with this acute exposure to aerobic exercise in high heat conditions.



Just 48 hours later (Run 2) at about the same time of day and same air temperature (with 1-2 degrees F), I did the same run course while hitting all split times within 30-60 secs of those from Run 1 (i.e., run pace was the same). This run began with a HR that was a little lower than Run 1 (135 versus 138 BPM), and then drifted upward for most of the run, but the rate of upward drifting was much lower AND HR peaked and plateaued earlier at 155 BPM and 45 mins, respectively. So, just 48 hours after my first exposure to aerobic exercise in the heat, my HR had demonstrated several important adaptations: HR was lower at the start of the run; HR showed a much lower rate of increase; HR peaked at a much lower value (155 versus 182 BPM); HR plateaued earlier (15 mins to go rather than 5 mins to go as happened for Run 1).

cessive 1-hour runs within the same week using the same outdoor course while tracking my HR responses (see Figure 1) with a chest-worn strap. As a reference, the planned intensity for these runs was low- to mid-

Another 48 hours later I did the same run again (Run 3)

Continued on the next page.

on the same course, at the same pace, and under the same environmental conditions. As shown in Figure 1, my HR continued to show evidence of adapting to the heat: HR was lower again at the start of the run (133 versus 135 BPM for Run 2); The rate at which HR increased after starting was lower again than that for Run 2; HR peaked at a lower value again (144 versus 155 BPM); HR plateaued earlier again (after 30 mins of running instead of 45 mins). I'm hoping that you see the trend... The direction of all these changes in HR brings the HR response in the heat closer and closer to that which was observed for HR in cooler conditions, AND that the magnitude of changes in HR get smaller and smaller as heat acclimation progressed. For those who are very experienced with this process, they will tell you that it takes a full two weeks of regular exposure to relatively high heat conditions to become fully acclimated to exercising in those conditions. So, if I continued recording my HR for another week and continued doing these runs in the heat, I would expect my HR response in the heat would continue to get closer and closer to that for cooler conditions. However, my HR response will never be identical to that of running in cool conditions because I never eliminate the thermal stress of running in the heat – My body simply gets better at handling that stress. Additionally, my body has always been very sensitive to exercising in the heat so my HR responses are on the high end of what is considered “normal”.

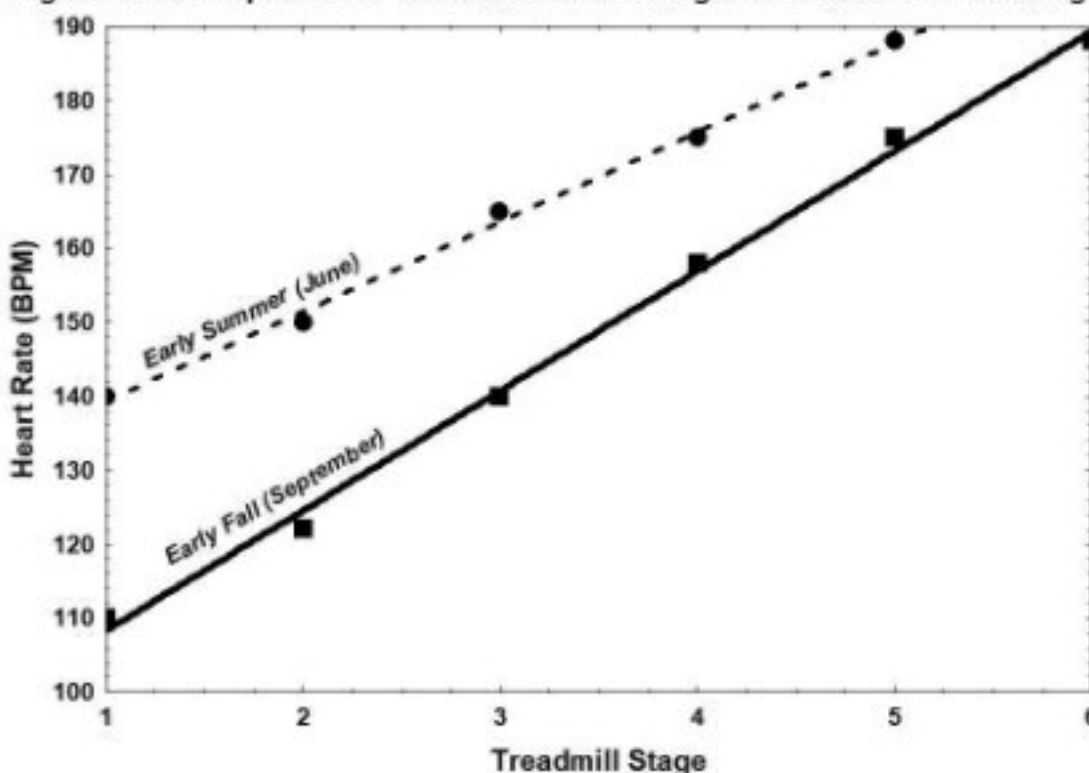
Regardless, how do I know that these HR responses were due to heat acclimation and not improved exercise efficiency or some other cardiac adaptation? First, the results of heat acclimation on the body are expected to happen very quickly – Just note all the differences between Run 1 and Run 2 HR responses in Figure 1 that were only 48 hours apart. In contrast, exercise efficiency is something that happens over months, or even years, of time. Second, the acute influence of heat stress on exercising HR is commonly 10-30 BPM for steady-state intensity aerobic exercise, but HR changes due to improved exercise efficiency are typically far lower (2-10 BPM). Thus, it is both the timeline and the magnitude of HR changes that suggests that what I observed was a result of my body's response to acute heat stress (Run 1) and then my body's gradual attempt

to adapt and acclimatize to the heat (Runs 2 and 3).

HR and Exercise Efficiency

Several years ago, I was asked to test a U.S. national caliber skier in my lab from early summer to early Fall (3-month block) to track several markers of fitness. What I'll highlight here is this skier's HR responses to a sequence of standardized test stages while treadmill roller skiing at the same environmental conditions (68-72 degrees F and 40-50% RH) – These responses are highlighted in Figure 2.

Figure 2. HR Responses to Treadmill Roller Skiing After 3 Months of Training



For the first early summer treadmill test, this skier did 5 stages that resulted in steady-state HR responses of 140 BPM for Stage 1 that progressed linearly to the highest steady-state HR of 188 BPM for Stage 5. This first test, by itself, really tells us nothing about skier's fitness level without another test for comparison. So, we waited 3 months until the skier came back in performed the same treadmill in early Fall. There were several notable differences in HR responses with this second test. First, steady-state HR was 25 BPM (Stage 3) to 40 BPM (Stage 1) lower for the easiest stages than when tested in early summer. I rarely see changes in HR of this magnitude over such a short period, so this was a remarkable observation. However, most of this skier's training

Continued on the next page.

during this 3-month period was spent at lower HR training zones so a significant decrease in HR was certainly expected. Second, steady-state HR at every stage was much lower than the values from early summer. Lastly, this skier was able to complete another stage (Stage 6) in the late Fall while maintaining a steady-state HR equivalent to that of Stage 5 from early summer. This latter observation indicates that this skier's roller skiing fitness had improved so much over 3 months that they could do the mechanical work of another entire stage relative to early summer. Given that we made the effort to control for other issues that could have influenced HR during these sessions (e.g., environment conditions, time of day, using the same roller skis), we can safely say that these changes in HR were due to increased roller skiing fitness that, in turn, manifest itself as improved cardiovascular and metabolic exercise efficiency.

Conclusions

My goal with this article was to get skiers to think about how either heat stress or exercise efficiency may be influencing some of the changes observed in HR responses during the summer. Since both heat stress and exercise efficiency result in physiological adaptations that cause lower HR responses, it can be confusing determining which cause is responsible for your observations. The best way to tell the difference is by recognizing the timeline for the observed HR changes – i.e., Adaptations to heat stress happen very quickly (24-48 hrs) whereas improved exercise efficiency tends to happen relatively slowly (months, or even years).

While this article has focused on HR responses from two causes, it's important to note that there are many other causes of change to HR to consider as well, such as muscular fatigue, sickness, medication side effects, hydration status, overtraining, as well as psychological stress.

-- End --



Exercise and Fluid Replacement General Principles

Compiled by Brad A. Roy, PhD.

1. Before you exercise, make sure you are adequately hydrated:
 - a. Beverage consumption with meals will enhance fluid replace and preexercise/event hydration.
 - b. Recovery from the previous exercise session should be 8 to 12 hours or more to enhance fluid replacement.
 - c. Tracking daily weight is helpful in evaluating hydration status because postexercise and day-to-day variations are likely from fluid loss.
 - d. Consider drinking 16 to 20 fluid oz 4 hours before exercise especially if preexercise weight is reduced.
2. During exercise, drink according to your thirst sensation; no more or no less.
 - a. Drinking more than 800 mL per hour is not recommended and may increase the risk for developing dilutional hyponatremia.
 - b. During extreme weather conditions, fluid intake and pace may require additional adjustment.
 - c. For prolonged exercise, beverages containing 6% to 8% carbohydrate may provide additional benefit.

After exercise;

Drink 16 to 24 oz of fluid for every pound lost
Postexercise meals should include fluid intake.

**Adapted and summarized from ACSM's
Health & Fitness Journal, Vol. 17/No. 4**



From Austria

Masters World Cup 2023

Seefeld

As of the print deadline for this Summer 2022 Digest, we have right around 150 USA skiers and friends/family with reservations in place for the 2023 Masters World Cup in Seefeld, Austria next March.

While that's a great number and should easily translate into triple digit racers for Team USA, AXCS would love to add more skiers to our contingent. On page 8 is a summary of all that is amazing about this trip. For those looking for updates on a meat and potatoes level, here's the sales pitch as we head into the late summer weeks.

Yes, there's still USA lodging space open (just barely, so act fast!)

Both of the "official" USA hotels have a few rooms open and typically we have a few spaces move and shake as personal plans change when we approach our final balance deadline for lodging packages in the first days of November.

We also have a few apartment options open, albeit two of our open apartments have date restrictions that will require a bit of creative scheduling.

The bottom line with AXCS lodging package options is that the association may or may not be able to keep additional space from our reservation block much longer.

Breaking News For USA Skiers Going On The MWC2023 Trip to Seefeld

Boulder Nordic Sport is again planning to send a team of technicians to be on hand for USA ski service in Seefeld! BNS has attended several previous MWC events in Europe and is excited for the opportunity to again serve Team USA folks in Seefeld for MWC2023. Pricing and reservation info will be available soon via USA MWC2023 trip updates & xcskiworld.com.

Once we have to let go of any unsold space, we don't know where we will find lodging space later in the year. So if you are on the fence about the MWC2023 trip, right now is your best bet to join our group.

What's the latest prognosis for smooth European travel in March 2023?

While AXCS cannot pretend to have a crystal ball for how the global health equation evolves or how geopolitical events will play out, your masters association can generalize some probable trends and make some educated guesses. We'll divide these notes into three major risk topics — health, politics, and logistics.

With COVID-19, it is likely that there will be periodic fall/winter case waves, but if the global trends since Fall 2021 continue, the impacts thus far look to be extremely weighted towards the mild side within fully vaccinated populations. If this plays out (fingers crossed), then we would largely be looking at a return to past MWC travel years where the potential for some type of illness (typically winter colds and influenza variants) always exists and is an accepted risk within the combination of overseas travel and winter ski racing.

Certainly boosters and adherence to smart illness prevention techniques (even more honed over the pandemic) can and should be a strong asset in keeping Team USA healthy (or at least healthier) for this years MWC. An added "secret weapon" for the Seefeld trip is the travel dates coming over the second half of March. Statistically winter diseases are normally on the down slope with transmission once we get past mid-March — one hopes that is one stat that holds up in 2023!

With the geopolitical issues taking place in Eastern Europe, it's much harder to pin down any trends (since humans are much more unpredictable than even nasty pandemic-causing viruses!). What we do know is that if the past six months are an indication, European travel outside of the conflict regions does not seem overly impacted (if at all) by the on-going war in Ukraine.

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Finally, the steep price increases with airline tickets and other travel elements seem to be stabilizing and even reversing as we get into late summer. AXCS has tracked the price of some air tickets from USA airports to our target gateway of Munich/GER falling as much as \$300 USD in just the days prior to print. Better yet, reports on both sides of the Atlantic within the air travel universe seem to indicate a slow improvement in much-reported airline misadventures from earlier in 2022. Multiple travel experts are predicting even more improvement over the fall/winter as airlines figure out their operational realities in what we all hope is the backside of the pandemic.

***If you aren't yet convinced to join us,
here's a quick rundown on why you
want to be in Seefeld this March!***

Thanks to a sheltered location and snow-friendly-but-not-too-high elevation of 1200m (3937 feet), Seefeld is one of Tirol's most snow-sure locations. Seefeld has been one of the most popular winter sports resorts in Austria since the early 1900s eventually earning the nickname the "Monaco of the Alps". This is a true adventure playground with sophisticated charm.

A Cross-Country Ski Paradise

The Seefeld resort area features an incredible 245km of perfectly prepared cross-country tracks. If that doesn't have you at "hello", consider the history of XC skiing in the Nordic Hotspot in Tirol.

Seefeld was the venue for the Nordic competitions at not one, but two Olympic Games -- 1964 and 1976. The FIS Nordic World Ski Championships took place here in 1985 and 2019.

Most importantly for master skiers, two previous Masters World Cups have taken place in Seefeld. The MWC1988 in Seefeld saw the largest MWC attendance ever (1,480 skiers!). Then in 2003 this event was organized in Seefeld by the German-based Ski Club Monte Kaolino who are repeating in 2023. In addition, the 2020 Winter World Masters Games were also held in Seefeld to largely positive reviews.

World-class and Right Around The Corner

The main Seefeld race venue is right on the edge of the Seefeld village allowing reasonable walking distance

from many hotels (shuttles will also be provided). This will be one of the latest MWC events in history in the winter calendar so care is being taken to design race courses that will ski in a master-friendly way should we be in "spring conditions".

All MWC off-snow events will take place in the cavernous 2,500 square meter WM Hall (World Cup Hall) located within walking distance of both the stadium and the heart of downtown Seefeld.

Amenities Second To None

In addition to cross-country skiing, Seefeld offers Alpen-style toboggan runs, dog-sled rides, lighted ski tracks, winter hiking trails, alpine ski slopes, ice skating rinks and a biathlon facility.

From traditional Tirolean fare to haute cuisine, there is a wide range of gastronomic delights to choose from. The village core also offers ample shopping options.

You can indulge in the essential pleasures of rest and relaxation two wellness centers. There is even Casino Seefeld should you want to channel your inner James Bond. Further afield, Innsbruck is less than an hour away (via car or train) as are many other alpine and Nordic resorts.

Continued on the next page

**AXCS Trip Schedule
2023 Masters World Cup**

Wednesday, March 15 -- Depart USA
(arrive to Seefeld Thursday, March 16)
Friday, March 17 -- Official Training
Saturday, March 18 -- Opening Ceremony
Sunday, March 19 -- 20/15/10km CL (AM) &
FS (PM) middle distance races
Monday, March 20 -- 10/5km CL (AM) &
FS (PM) short distance races
Tuesday, March 21 -- Rest Day Adventures
Wednesday, March 22 -- 4 x 5km Relays
Thursday, March 23 -- 30/20/15km FS
long distance races
Friday, March 24 -- 30/20/15km CL long
distance races & Closing Party/Banquet
Saturday, March 25 -- Return to USA -- *or --
head off to other adventures!*

Easy Access

With year round "ICE" intercity rail connection into the heart of Seefeld plus a new Seefeld railway station, easy access is going to be from all corners of Central Europe should AXCS members wish to extend your trip on the front or back ends of the MWC.

The Seefeld railway station is located directly at the entrance of the Seefeld pedestrian zone. It is only a few minutes walk to the WM Hall and to the stadium area.

For AXCS members, the association will be setting up ground transportation shuttles from/to the Munich/GER main airport (MUC) for USA arrivals on March 16 and departures on March 25. These shuttles will be a very convenient and affordable alternative to rail or rental car options you can opt for on your own.

AXCS Travel Package

With If you don't still have a copy of the 2022 AXCS Spring Digest at home, we've posted the entire scoop on the AXCS Travel Package on xcskiworld.com. Look for the Team USA Info & Updates link under "AXCS Masters News" on the home page.

Bottom Line:

This is going to be a great trip folks.

We can still get you in.

We'd love to have you join us as the Masters World Cup returns to Europe!

Air & Add-On Travel Assistance For MWC Trips & Personal Travel

Diana Lynn Rau has retired, but AXCS is happy to recommend her friend **Erin Rountree**, from the Sun Valley, Idaho area, who has been a travel agent for over 20 years, also a Travel Society agent and is familiar with the travel needs of active outdoor adults. "Erin is someone who really knows how to take care of people".

Erin Rountree Contact Info:
etravel@cox.net ph-208-788-2870

Please give Erin a head's-up why you have her contact info such as: *"I am a member of AXCS"*

I Want To Sign Up For The Seefeld Trip -- What Do I Do?

Step #1.) Visit **xcskiworld.com** and you'll see the MWC2023 links on either the top slide logo or the AXCS Masters News headlines. Click and you'll automatically be linked to the latest info and pricing for available lodging options.

Step #2.) Email or call the AXCS Office to get your name on the reservation chart & start the planning process for lodging, transfers, etc..

jd@xcskiworld.com or 541-317-0217

Step #3.) If you want help with airfare or travel add-on's in Europe, email or call Erin Rountree (see box, bottom of this page). Yes, absolutely you can do your own air booking if you wish.

Step #4.) Make sure your AXCS membership is current for the 2022/23 membership year. All bookings with the AXCS package require at least one membership per room -- and everyone racing under the USA flag must be a current member.

Step #5.) Talk to your ski buddies and urge them to go along. MWC trips are a blast with friends. If you'll be a single, try and find a roommate ahead of time -- if you can't, AXCS will help figure it out.

Step #6.) Let AXCS take it from there. AXCS National Director J.D. Downing will guide you through all the trip details including tips for adding other destinations to your trip.

Step #7.) Look forward to an awesome ski vacation in a beautiful place in the ski world!





From USA

AXCS NM2023

Anchorage -- March 3-5

After some obvious wrinkles caused by the pandemic the past couple years, the recommendation of the AXCS Office to the AXCS Board of Directors was to wait until Spring 2022 to decide on a plan for the 2023 National Masters. Usually AXCS tends to name a location for upcoming NM events 1-2 seasons ahead of time. But with event plans for Masters World Cup and many American Ski Marathon Series races subject to change all the way thru last season, it was much smarter to get into this past spring before developing a plan.

The good news is that as the situation with COVID-19 has improved enough to reliably count on the return of race events, a plan was quickly developed for the NM2023. AXCS is pleased to announce that the Nordic Ski Association of Anchorage has accepted a proposal to overlay the 2023 AXCS National Masters on the 2023 Tour of Anchorage weekend.

The basic plan is to have a NM2023 10km classic race on Friday, March 3 at Anchorage's famous Kincaid Park venue. Based on past input from skiers, AXCS and NSAA will discuss this fall whether we'll go with the traditional plan of all categories racing 10km or whether we'll use the international MWC threshold of men 75+ years and women 70+ years for a shorter classic distance (potentially 5km but this could be flexible). Race time for the Friday classic events is also being discussed — whether to use a morning or early evening time period to allow extra travel time for out-of-area skiers.

Then on Saturday, March 4 we anticipate all sorts of traditional activities surrounding the start of the Iditarod sled dog races as well as pre-Tour of Anchorage fun, not to mention all the attractions offered by Anchorage in the late winter.

Last but certainly not least, Sunday, March 5 will cap things off with Alaska's biggest ski event (and one of the biggest in all of North America) which will also serve as the NM2023 distance freestyle championships.

For those folks that haven't skied it yet, the Tour of Anchorage offers an overall downhill "point to point" course which traverses the wilderness of Hillside Park, then enters a series of trails through the residential and

city environment, eventually joining with the Cook Inlet Coastal Trail followed by a final climb up the bluffs to Kincaid Park and the finish. Featuring a unique combination of city and scenery, the Tour is a bucket list event every XC skier should experience.

The Tour of Anchorage utilizes three distances and all skiers are free to select any distance you wish (you can also opt to classic if that's your preference). But as per AXCS National Masters tradition, only skiers completing the official distance for your age/gender category will count towards National Masters Championship podium status -- and the honorary U.S. Masters Team scoring. For NM2023, official distance freestyle races are still under review and will be announced in the Fall 2023 AXCS Digest issue as well as upcoming AXCS e-MasterBlasts.

After getting pretty dang expensive earlier this year, airfare prices to Anchorage are starting to drop and forecasts within the travel industry is that trend will continue into the fall. Lodging options in Anchorage are plentiful, but as with any big event weekend it will pay to make reservations early to have the best availability.

There is no separate registration for the 2023 AXCS National Masters overlaid on the regular Tour of Anchorage events. You'll just sign up for the distance you want to ski on-line like any other Tour of Anchorage year and away you go. NSAA will provide a special sign-up for the 10km classic that will be fully described in the Fall 2023 AXCS Digest issue as well as upcoming AXCS e-MasterBlasts.

-- End --



Photo: MWC2018 John/Claire Butler

AXCS U.S. Masters Team Looking for a Sponsor

After many years sponsored by Minnesota's Podiumwear Nordic performance products, the annual AXCS U.S. Masters XC Team is now looking for a new sponsor for Team awards -- at least for the NM2023.

Typically the annual Team has been between 20-25 skiers. The size varies depending on how many skiers from each 5-year age group meet Team selection criteria.

Annual Team recognition awards have varied from simple items like hats and headbands to occasionally vests, tights, and even light jackets. Although AXCS has traditionally had clothing-related companies as sponsors, in reality any product of interest to masters could in theory make a nice Team award.

Benefits to sponsors include full page, color advertising in AXCS Digest issues as well as logo placement and links on xcskiworld.com.

Being able to put products on a couple dozen age group overall winners from a NM event is also a big perk.

If any AXCS member is connected to a company that would be interested in becoming a 2023 product award sponsor, please contact the AXCS Office (541.317.0217 or jd@xcskiworld.com).

-- End --



Photo: MWC2022 Gina Campoli

2023 U.S. Masters XC Team

Selection Criteria

- Points will be awarded per place (using a modified World Cup point system (1st = 25 points; 2nd = 20 pts; 3rd = 15 pts; 4th to 15th = 12 to 1 points) to the top 15 overall skiers in each age/gender individual category in both NM individual events.
- Skiers that wish to be eligible for selection to the U.S. Masters XC Ski Team are required to enter and complete both (2 of 2) official individual race distances assigned to your age/gender category. In addition, only the official race distances assigned to age/gender categories will carry the honorary titles of "National Masters" podium for a given year.
- If you aren't particularly worried about the U.S. Masters XC Ski Team honorary designation or honorary NM podium designations -- please feel free to race any NM event you are allowed to enter. AXCS just wants you out there, so it's literally "all good"!
- In the case of a tie following the second individual race, the tie-breaker is best age/gender category race placings.
- Total points from both individual races will be added up in each age/gender category and the skiers with the highest totals given the designation as members of that year's U.S. Masters XC Ski Team. All categories with an eligible USA performer will be recognized in the Spring 2023 AXCS Digest and on xcskiworld.com in the weeks following NM2023.

2023 National Masters

Tentative Schedule subject to change

**March 3-5, 2023
Anchorage, Alaska**

Friday, March 3 -- Short distance classic races
Sunday, March 5 -- Tour of Anchorage long
distance Skate races



From USA & Austria
Coach Preview:
MWC2023 Race Trails & Training
Written by XC Oregon Coach/Director J.D. Downing

Providing a true “coach preview” for the MWC2023 Seefeld courses was derailed roughly a year ago when the in-person WMA Annual Meeting scheduled for Seefeld was moved to a virtual meeting due to various logistics and travel risks attached to the pandemic.

Since I had not previously visited nor skied in Seefeld, I was counting on the Annual Meeting to provide a chance to at least explore the trail system on foot.

Further complicating things was the decision this past spring to modify the MWC2023 race plan to closely resemble the multi-lap plan for the Minneapolis MWC20218 (more on that in a moment).

So this “preview” is less a breakdown of what skiers are likely to feel like on the Seefeld courses and more a nuts and bolts description of the very sensible modifications in race plans for MWC2023 as well as a quick list of tips for training over this fall and winter.

MWC2023 Race and Track Specifics Adjusted

The Seefeld OC and WMA Executive agreed this spring to an adjusted race and track plan for the MWC2023.

Photo: MWC2023/Seefeld



Items To Note:

—> MWC2023 will use three track configurations of 7km and two different 5km formats (one “easier” 5km and another “normal” 5km). These tracks are not designed as emergency options, but as the firm plan for all MWC2023 races.

—> The MWC2023.com website has listed the new track plan including lap counts per race since late spring. **<https://mwc2023.com/competition-information/>** If you have not seen that competition update, the quick version is that MWC2023 will be using more laps per race on shorter loops than is “normal” at MWC events.

Why Make These Race & Course Modifications?

—> The agreed-upon courses are entirely on the north side of the Seefeld valley providing extra sun protection should the MWC2023 late March dates prove to be warmer than ideal.

—> The courses will all have a strong base of artificial snow providing the highest guarantee of reliable snow possible for a high quality MWC2023.

—> The selected courses do not interfere with recreational tracks which is a contractual requirement of the Seefeld tourism association and will also allow MWC skiers to enjoy excellent skiing on non-race days/times.

—> The courses all provide width to easily have both classic and skate techniques on the same courses (the new MWC schedule now has two double race days plus the 2- technique relay).

—> The OC and WMA Executive have selected the tracks and lap counts taking into consideration course difficulty and crowding on the trails. As with the situation in Minneapolis with MWC2018, adjustments can and will be made if necessary over the coming seven months.

Continued on the next page.

Preparing for Seefeld

Given the extra lap counts and tighter course designs, there are some logical guesses that can be made in terms of athlete preparation to make folks feel at home and comfortable at the Seefeld MWC2023 come March.

1.) Spend some time on roller ski agility this fall and/or on-snow agility next winter. We saw with the relatively tight and twisty courses in Minneapolis MWC2018 (also on multi-lap and manmade based snow) that it paid to be comfortable in tight spaces and tight turns. Seefeld is very likely to be much wider than a typical MWC course (exception being the snow freeways of Canmore), but the modified courses will have several 180 degree corners skied at reasonable speed that will challenge turning abilities -- especially in big packs.

2.) Whenever you can ski on transformed snow from December to early March -- do it. Although Seefeld could just as easily see packed powder conditions during the MWC2023, the later March dates do seem to indicate we will see a fair amount of transformed snow. This might not actually be "spring skiing", but it will pay off to be familiar with the feel of those types of conditions.

3.) The mid-altitude of Seefeld should be a pretty good equalizer between low altitude and high altitude skiers. Low altitude skiers have little reason to dread the 1200m (3937 feet) Seefeld altitude. The physiological impacts at that altitude are minimal, especially if transformed snow means ski conditions that are particularly fast or slow. The biggest thing a low altitude skier can do is be as fit as possible come March and mentally refuse to let the modest change from "home" be a factor to great skiing.

On the other hand, whereas skiers used to skiing at higher altitudes will feel very comfortable aerobically dropping down to below 4000 feet -- those same skiers will need to make sure that they work on the level of tempo, turnover, and transition speed possible at a lower (albeit not super low) elevation.

4.) Finally, all USA skiers will want to spend many months working on your mental and emotional game plan for a return to European racing. The most successful USA masters have long known how to bring the fight to folks from the Old World. Train smart, stay healthy, and get ready for big fun in Seefeld everyone!

-- End --

Two Big Questions For The MWC2023 Almost Everyone Is Probably Wondering About

Having been the AXCS National Director since 1998, the USA representative to the World Masters Association since 2004, and WMA President since Fall 2015, I've had plenty of experience in fielding questions prior to both NM and MWC events over the past couple decades. So I can pretty easily anticipate two hot button questions many members are wondering about related to the Seefeld MWC2023

Will athletes from Russia and Belarus be allowed to take part in the MWC2023?

As of press time, no decision has been reached. WMA is waiting for official decisions from FIS that will impact mostly elite athletes for the 22/23 season. Official word is likely going to come latest by early October which would be shortly after the WMA Annual Meeting in Finland.

Given the war in Ukraine is still very much a reality with no amicable resolution yet in sight -- every week that goes by makes it more and more likely that the ban on international event participation for these two nations will be extended by FIS. Although WMA is not technically obligated to follow a FIS directive, it is pretty much a guarantee WMA will do so.

Will there be a ban on using fluorocarbons at the MWC2023?

Although once again WMA has not reached an official decision (that will come at the start of October), it is very unlikely that there will be any waxing restrictions at the MWC2023.

The main reason is that FIS has yet to develop a 100% full-proof way of testing for fluorocarbons before starts even at the elite level (where races are rarely more than 80-100 skiers per gender). With hundreds of athletes per day spread out over hours of race starts, implementing wax testing at a MWC has to be a super easy, fast, and affordable process. Simply put, such a total package is not yet available.

-- End --



From USA

Everyone Needs Ski Goals

Written by XC Oregon Coach/Director J.D. Downing

*The following is an original article by AXCS National Director & XC Oregon club coach **J.D. Downing** originally appearing in the XC Oregon club free e-News (to subscribe, email jd@xcoregon.org).*

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Whereas looking ahead to the coming winter many of adult performance skiers will annually develop XC ski goals for themselves, the reality is that every winter hundreds of times that number do not.

The reasons for not laying down concrete goals with skiing range from worries about snow/weather, to personal health issues, to the sheer pace of life getting in the way. The curious thing is that these same very outdoorsy and active folks often are more excuse-oriented when it comes to goals and XC skiing than with other endurance sports the rest of the year.

On a coaching level, I have seen time and again where a lack of ski goals can lead to a type of malaise or boredom. Sure, almost anyone will have fun when the weather is perfect and we have plenty of time to ski. The question is what happens when the forecast is less-than-optimal or you are lucky to fit in a 45 minute workout due to a crushing schedule?



Photo: The Center/XC Oregon

The bottom line is that having realistic ski-related goals can be one of the best motivating influences in the winter months. Whether it is finding the time for a quick early morning ski, an improvised strength workout in your garage, getting in a little intensity work once and awhile, or putting in another hour of easy distance in so-so conditions because today is the one day you have to ski -- having a winter-long goal or three can be the difference between getting it done or not.

More significantly, the importance of ski goals applies no matter how you feel about racing.

Don't get me wrong, XC ski races are indeed fantastic and they provide very obvious annual goals for skiing. I am a perpetual and constant promoter of as many people as possible hopping in XC ski races near and far.

But races are far from the only ski events or goal targets that are available to skiers. Backcountry adventures, personal adventure challenges, ski tours from a couple hours to a couple weeks -- the XC winter landscape provides nearly unlimited options no matter what Mother Nature is dishing up.

There are also less specific winter goals that can accomplish many of the same ends. For instance, more than a few skiers have told me their focus with skiing is merely to avoid putting on weight from November to March. Others have mentioned staying in shape for spring running, cycling or triathlon seasons. Still others talk about honing personal ski techniques as their goals for a given season.

Regardless of the actual goals you select, the key is just to have at least one tangible and realistic focus point for each winter. It'll help you motivate and give purpose to those dark, cold, tough-snow days.

Action Tips

1.) Entering every ski season, write down at least 2-3

Continued on the next page.

ski goals. Elaborate or simple -- just do it. Writing down your goals helps make them real. Better yet, place your written goals in a spot you'll see them regularly all winter.

2.) Keep your goals realistic. Just like New Years resolutions, it does you no good to set an unrealistic target. At the same, many folks are motivated by a challenge so it's worth setting sub-goals (objectives) from which you can measure your outcome. For example, a racer could set an objective of finishing within "x" percent of their age group leader in a big event. A more casual skier might set physical fitness markers (e.g. maintaining body comp) or skill-based improvement (e.g. cleaning up your V-1 technique).

3.) Mesh your goals with your life vs. fighting uphill all the time. This means you need to accept realities in your life (work, family, etc.), but those realities also need to contain health and fitness elements. Sometimes you are going to have to be clever and disciplined to stay ski fit due to life factors. But with good planning and execution you can also set up windows where you have the time you need to get out there. Get it done!

4.) Vary your goals. It's a rare skier that can stay motivated doing the exact same things every winter. As great as XC skiing is, we all can use some diversity and new energy. Obviously AXCS encourages you to seek out MWC and NM events that regularly rotate locations. But there are a whole lot of other options at regional and local levels that you probably have never experienced. Seek out ways to shake up your winters with new events and ski goals.

Train/race smart, have fun, stay healthy everyone!



Photo: MWC2017

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From Norway *Training Summer Into Fall*

*The following is a translated and summarized version of an article written by Norwegian guru of master skiing in the 90s and early 2000s -- **Bjørn Arvnes**. In nearly every issue of Norwegian SkiSport magazine for perhaps 2 decades or more, Bjørn contributed training tips for Masters skiers--many of whom have the Norwegian Birkebeiner as their season's big goal--and often includes a training framework for the month.*

*Translation and summary by **Erik Stange** exclusively for the XC World Digest.*

Editor: Proving once again that solid XC ski training and racing advice ages very, very well -- this particular article first appeared in the Fall 2000 AXCS Digest (and was written several months earlier than that).

The summer seems to always to way too fast. The nice days with plenty of daylight are done, and fall and winter announce their arrival. We now have to think about our fall training, such that we still have plenty of energy and motivation in November and December.

Many masters skiers have limited time for training, therefore the combination of little training and good results is the dream for most of us. Out of my own experience, I know that this is possible. One must only be motivated and have a plan for their training. If we manage to have enough energy available for the really hard workouts, there is much we can do.

Last winter I followed the progress of a skier who wanted to know how well she could do with structured training three days a week. She followed the plan all fall and winter, and even though there was very little skiing due to poor snow conditions, she continued to train approximately three hours a week the whole time. Even with such little volume, she had a very strong season; she was able to keep her motivation up and was convinced that it was easier to train when she had a determined plan. When we talk about training for those who will train three times a week, much of the training will be done with a relatively high intensity and shorter workouts. During the weekdays there will be intervals, with

easier distance training on the weekends.

Distance

If you have the possibility to do a distance workout two to three hours long, the intensity needs to be so low that you are capable of talking easily the entire time

Continued on the next page.



Photo: MWC2022 Canmore/CAN (John Gibson)

(called talking-tempo). Use the terrain you have available and ski-walk the uphill sections longer than 30 seconds. It is also important to remember to think about technique while you are doing your skiwalk sections. Bike riding is also a good alternative for distance training, since many older athletes have problems with their knees and other injuries.

Intervals

If we are to train short and hard, we must have a good up-warm. This is best done by running or on roller-skis, but its also possible to do this on a bike. On foot, an interval session may mean natural intervals over variable terrain for 30 to 50 minutes. This is an even hard speed over the terrain. Other possibilities include intervals of two to five minutes with the same amount of rest in between. We also need pure explosiveness training. A great form of this is bounding up hills with lengths varying from 15 to 30 seconds. Walk back down the hills for rest in between.

Strength

There are many of us who don't do any of this type of training. We think it's boring to train inside. Even so there is a lot of double-pole in many races, and strengthening our stomachs, back, and arms will improve results for many of us.

Time Trial

For those of you who are not competing in other sports, you should be doing a time trial or test race once a month. This can be 30 to 50 minutes long. It is best to use the same course every time so that you can mark your relative progress and/or development (both internal and external conditions can and will change) over time.

Remember to listen to your body's signals and take more rest days rather than fewer to maintain a level of energy which makes your training effective.



Photo: MWC2014

Suggested Program For September (training a minimum of 3 days per week)

Remember to stretch out well after every workout!
Every fourth week: time trial 30 to 50 minutes.

Day 1: Intervals on foot

Warm-up 15 minutes

Alternative 1

Ski-walking in a steep uphill, 4-6 times 4-6 minutes.

Ski bounding 4-7 times 15 seconds

Alternative 2

Speed-play (fartlek). Intervals of varying lengths in variable terrain. 30-60 minutes.

Day 2: Intervals

Warm-up 15 minutes

Alternative 1

Roller Ski: even, hard speed for 30-60 minutes.

Follow with Technique training.

Alternative 2

Natural intervals in variable terrain 30-50 minutes

Follow with Strength training 10 minutes

Day 3: Distance Training

Even, easy pace for up to several continuous hours.

If you would like to do an shorter workout of one to one and a half hours you should increase speed somewhat.

If you would like to do a couple more days of training throughout the week, you can fill your days with the following activities: Strength, aerobics, spinning, swimming, or a distance workouts.

-- End --

If I can do all those things, and cross that finish line and look back and go, that was it. That was my best effort and that was everything I had, then that will be success...And it doesn't have to be a medal – it'd be great if it is. It will be fine if it isn't because I know that whether or not you have a medal is not within your control. You can't control anyone's effort but yours..

-- Jessie Diggins



From USA

Speed & Reaction Time

Written by Dr. Peter Dorsen

*The following is an exclusive contribution from AXCS member Dr. Peter Dorsen of an entire chapter from his upcoming book **Men over 60: Don't Quit Now!***

Men over 60: Don't Quit Now! is about the challenges of aging. The book highlights an inevitable decline in cardiac performance as we age. It's about other issues of getting aging: retirement, invisibility versus invincibility, concerns about: "the end of the road," maintaining the joy of sex, emotional challenges, and other issues of concern facing both the super fit and those about to engage in exercise.

*Dorsen, a retired physician and drug counselor, has written several books including **Dr. D's Handbook for Men Over Forty: a Guide to Health, Fitness, Living and Loving in the Prime of Life** (Wylie & Sons, 1999). He lives in Eagan Minnesota.*

AXCS Editor's Note: Although the title of the book this contribution is taken from is directed at men over 60, certainly there's more than a few items in this excerpt that apply to women over 60!

*"There is more to life than increasing its speed."
-- Mahatma Gandhi*

Here's a no brainer, who goes fastest, the old guys or the young guy? Depends how long the race is. Why is that you may ask? Young guys have more fast-twitch muscle fibers. The over-60 set have more slow twitch fibers, ergo, they are faster off the block for the 100, we can hold our own at the longer distances into the 40s. There is more awareness now how set excels in speed and those of us over 50-- like you and me-- excel in endurance. Athletes over 40 have taken their share of medals in marathons. We need to adjust to our strong suit faster is not always better. This book's message is advocating consistency. We still can hold our own in endurance sports.

Nowhere better was the innovation in the mid 70's of

jogging. The movement put balance and fun to the aftermath of the Cold War. It became a wonderful opportunity for the young and old to attain cardiovascular fitness. first man who made running popular, healthful, and desirable was running guru, Jim Fixx. America was receptive and bought more than a million copies of his book, *The Complete Book of Running*. Overnight, his book leaped onto the New York Times Best Sellers list. Fixx, in his books and on television talk shows, extolled the benefits of physical exercise and how it could extend life. The jogging movement was born.

The other savant of the thrill grabbing a pair of running shoes and taking to the pavement was Dr. George Sheehan, an eminent cardiologist from Rumson, N.J.. Sheehan was as much a philosopher as a champion master skier. His running manifesto, *Running and Being: The Total Experience* (1978) was also a runaway best seller. He warned about retirement: "There are those of us who are always about to live. We are waiting until things change, until there is more time, until we are less tired, until we get a promotion, until we settle down--until, until, until. It always seems as if there is a major event that must occur in our lives before, we begin living."

He and Fixx popularized the form of exercise called "jogging," promising health, pleasure, and spirituality-- the Zen of running. Their passion reached the young & old.

Not just a writing guru, Dr. Sheehan not only broke the five-minute mile record for men over 50 but took off on a personal mission for better health. His thoughts were

Continued on the next page.



Photo: MWC2011

apocryphal. America, young and old took to the streets. As his prostate cancer Ten years later, despite that his prostate cancer had metastasized to his bones, he ran despite pain and discomfort. He only stopped when his strength gave out.

With a twinkle in his eyes, the thin and kindly running doctor advised, "Don't be concerned if running or exercise will add years to your life. Be concerned with adding life to your years." His parting words were apocryphal: "Humans come with a 75-year-old (body)." Ironically, he died a week short of this age. he kept running, speaking, and writing.

Both running gurus were reputed to have attended the Mayo Clinic for medical evaluations. Shortly afterward, George began treatment for the prostate cancer discovered there. He listened, was treated, and his life was extended. Fixx may not have heeded medical advice to have further medical tests for suspected coronary artery disease. Unfortunately, earlier obesity and associated medical challenges did not evolve as his apparent vigor had.

Fixx's demise was a sudden cardiac arrest while jogging on a rural Vermont road. The autopsy revealed three almost totally blocked coronary arteries. He had not listened to medical advice for intervention of a life-threatening condition. The jogging both Fixx and Sheehan had implicit virtue, but It is still vital to listen to your body as I fear Fixx did not.

If you have any risk factors like a family history of heart disease, diabetes, hypertension. obesity, hypercholesterolemia, and are over 60, a physical could prolong your life. In my case, doctors had chosen to treat my long-standing borderline elevated total cholesterol levels (over 200mg.%). I developed painful but correctable angina. Tests revealed I had correctable coronary occlusions. Mine were discovered in time. After finding the blockage, my cardiologist immediately implanted[pd1] stents. Regrettably, Fixx's did not. Two stents have provided 10 more active years for me & I am still counting

United we sit, so says avid athlete, Odd Oslund. Society needs to get off its butt and, alone or in groups, get active. As we creep past 60, the goal must not be about achieving speed but, instead, develop or maintain a pattern of consistency.

On my morning run-- although for a shorter distance

and at a lesser height, I feel like I am flying. After all, running is one of few sports in when both feet are off the ground at one time. I have discovered the perfect antidote for whatever ails me: stress, ennui, boredom, a house of noisy grandchildren. There may be some restraints still to shake off: sending kids to college; earning for retirement. The story goes on and on and can refuse to quit if you chose to. After I met this humble running hero following one of his lectures, Dr Sheehan (or "George" as he asked me at the time him to call him) was the quintessential runner, thinker, but primarily DOER. Imagine you are him as you set out for a run. I do.

Dr. Sheehan did not spend unnecessary time waiting for retirement. He retired early to run, write, and motivate. His passion for running was for George Sheehan life itself. He lived life to the fullest but always in his own terms. Regardless of the season-- the wind or cold blowing through his hair—he ran. His determination reminds me of the warning, "Men live lives of quiet desperation." George gave up a thriving medical career as a cardiologist to run, write, read, and speak relentlessly. His goal was to offer a multitude of running neophytes his vision how running could improve the quality of life as it had for him.

Age knows no limits. I have watched examples such as the Italian cross-country good medal relay champion Maurilio De Zolt, affectionately known as "The Cricket," --five-foot plus some loose change. De Zolt. He took gold at 43. He competed in cross-country skiing internationally from 1977 to 1997. At 43, De Zolt was the strong first leg on the 4X10 Italian relay team at the 1994 Winter Olympics in Lillehammer that trounced the

Continued on the next page.



Norwegians on their own turf by less than a tenth of a second. Norway went into shock after being beaten in their national sport by Italians.

I want Maurilio's élan. We are both short....and fast. I too want to be the fastest skier in my age group. Reality bite One: With age there is a dwindling number of competitors in my age group. Reality bite two: it is not how good an athlete you are, but who shows up race day. Over 60, he looks younger than most men half his age. When asked on an interview after he had retired from competition what he attributes his long success to as a racer? He laughs, "Red wine and pasta." Spoken like a true Italian.

Most men over 60 do have the juice to begin exercising after an appropriate medical check-up. My running coach answered my question of how to excel. "Take a chance." "Smell the flowers." "Crest don't rest." "Start strong and finish stronger." Starting slow but be persistent. Let your motor run a bit as you check your balance, flexibility, and strength. They should all fit nicely together. There are no limits that are not possible by adhering to a realistic exercise program that may defy societal misconceptions of our ability. Do not hesitate to consult a certified exercise specialist.

Once we pass 50, response and reaction time do slow. I am aware when I ski race, for instance, I need to set my expectations around my own age group. However, I still recall the shock, even sadness, when a friend over 60, realized he could no longer break into the first 100 in a prestigious race that he had consistently managed over the past decades.

SJ Perelman described so aptly how age affects us in



Under the Spreading Atrophy before academics coined the word, "sarcopenia." With proper nutrition, strength, and speed training, we have a better chance of closing the aging gap or, at least, keep up with our aging friends.

There is one shocking story after another of someone in their late seventies, who, we suspect, thought he could cross a set of railroad tracks quickly enough to avoid an oncoming train. I keep asking myself, did he think he could outrun the train? Reaction time slows. We may have less attuned visual or auditory cues. Studies show that individuals over 60 compensate in favor of safety. They are certainly more careful than testosterone-laden younger drivers. Over 60, we must avoid cognitive errors that result in accidents and can be avoided. Think first, step second.

Cognitive behavioral skills—let us call a greater awareness of our speed and reaction time. By doing so, we can prevent avoidable consequences. How fast we can react over 60 may make the difference between crossing the train tracks intact or becoming an engine ornament.

Tad Friend, in a recent New Yorker article, tells how the elders at the "...other side of the squash court time-lapsed before me...graying and thickening, face shields, elbow sleeves, and knee braces." He notices, among the 14 guys in their 70's, only two can still sprint. Like my observations of the 85-plus group in most races: No Entrants. The winner by default is age.

As balance and mobility diminish, self-confidence can as well. As a result, many no longer wish to participate. But there is always some 90-year-old Chinese lady from Queens who still manages to run a credible Boston Marathon. Oh, she always takes her age group...of two.

At our age, what is the difference between a nice trip to the supermarket and a driving accident? Neurobiological changes can cause response delay, compromised speed, and reaction time. Does thirsting to ski race suggest I have a death wish? I may just be choosing one of the two ways I want to die. The disastrous fall and subdural a few years back suggest the one choice, in a ski race or of a lesser possibility, in the sack, hopefully, not after being caught by an irate husband. I do not want a slow, painful, or lingering death.

My colleague, Ernie, a general surgeon of excellent repute, told me he had recently retired. As we chatted, he

Continued on the next page

looked at his hands as he answered my question," Why did you stop as a surgeon?" He quietly answered my question, "I didn't think I could take the risk any longer. I decided to retire at the top of my skill set."

"How young are you?" I asked. His answer surprised me because he looked 60. "I'm 77." But then, my friend then told me how he has rediscovered himself, by adapting to what he perceived could be potential limitations. He described how he has turned a liability into an asset. "I supervise on a part-time basis a Suboxone and methadone program at a drug treatment clinic. He may no longer trust his hands, but his success at a new parttime medical challenge has made him stay vital. Others needed a not-so-subtle nudge to lay down the stethoscope.

As we age, our response time slows. Accepting this can be difficult. Taking longer to get a job done as quickly as our younger co-workers can be humiliating and threaten job security especially when it affects our employer's bottom line. A higher pay scale for an older employee with longevity compared with a more affordable up-and-coming new colleague an employer can start at a lower pay scale may be in with the new, out with the old. Judged by our age and societal perceived limitations can spell move-over-time. More about retirement in the next chapter.

Understanding the complexities of the new computerized technology can be a deal breaker for someone over 60. Many older physicians faced with the new electronic medical record (EMR) retire early. As an intern at Johns Hopkins Bayview, I remember documenting through many endless night's histories and physicals on my small portable typewriter.

Fast forward in careers after I had left medicine in my early 60's, I applied & was hired to do chemical health assessments as a licensed alcohol and drug counselor at a treatment program. I struggled getting up to speed with the new templates I used for the evaluations. In my own mind, I developed speed and efficiency. But, alas, not fast enough for my supervisor. At the end of my first week, the person from human services who had hired me, called apologetically, and broke the bad news for this oldster, "The clinic is letting you go. It just doesn't seem to be working out." A more accurate but illegal announcement might have been, "You're fired old guy!"

Men over 60 do show variability in mastering new intellectual challenges. One 65-year-old competitor-- active and fit--continues to blow away younger competitors. His successes contradict most statistics. The reality of aging can be hurtful and, as in the cases I describe humiliating. Later, my friend, despite Herculean accomplishments, has had to accept the challenge of aging... the speed of turning it over.

Aging affects individuals differently. Dr. Michael DeBakey had a career spanning 75 years. He pioneered innovative and life-saving surgical procedures well into his 80's. Jascha Heifetz, considered by many the greatest violinist of all time, adapted to his evolution by turning to teaching and social causes. Wilhelm Kempff, the renowned pianist of his day, excelled from for 65 and into his 80's. The longevity Kempff demonstrates is an amalgamation of fine motor skills, coordination, and speed. By his own admission, he practiced endlessly. These maestros advocate, "Practice, Practice, Practice."

Such examples of enduring cognitive-behavioral abilities are an endorsement for sweat and repetition. I hate the word luck. Certainly, great genes and a gift can complement exhausting practice. The DeBakey's, the Heifetz's, the Kempff's bring many components to their remarkable longevity. Persistence and discipline account to much of their success. Let us call it refusing to give up.

About to undergo the repair of two cataracts, for a fleeting moment, I wondered if I should entrust my cataract surgery to the youthful 77-year-old ophthalmologist I had chosen. Not acquiring points for tact, I asked him how he felt about his abilities at 77. His assurance be-

Continued on page 34. left column.



Photo: MWC2022 Canmore/CAN (John Gibson)



From Norway

The ABC's (and Ds) About Sports Nutrition

*The following is a translated & summarized version of an article originally appearing in **Norsk SkiSport**, No. 6, 2010 and with the following AXCS translation summary appearing in the AXCS Spring Digest 2011.*

*Translation and summary by **Inge Scheve** exclusively for the XC World Digest.*

High-volume training and preparing for the competition season: You dress according to the weather, you are religious about changing out of sweaty clothes as soon as the workout is over, and make sure you get recovery between workouts. Nutrition is a vital part of recovery, but how diligent are you with your diet?

There are 13 vitamins, divided into two main groups: water soluble (nine – eight B-vitamins and vitamin C) and fat soluble (four: A, D, E and K). SkiSport consulted Anu Koivisto, a physiologist specializing in clinical nutrition with the Norwegian Olympic Development Center (Olympiatoppen) in Oslo. She points out that all vitamins are important in the right amounts.

“Water soluble vitamins cannot be stored in the body, but have to be supplied daily. If you get more water soluble vitamins than you need, the body simply gets rid of the excess through urine. Fat soluble vitamins are stored in the body over time, and this is why you should

avoid getting more than you need of these for sustained periods of time,” Koivisto says.

Why We Need Vitamins

Vitamins are nutrients that, among other things, regulate metabolism of fat, proteins, carbohydrates and minerals and trace nutrients. Since the body cannot create vitamins, the body relies on a steady supply of vitamins through the daily diet or nutritional supplements. How much we need depends on age, gender and activity level.

“Nutritional needs vary with age. Generally speaking, the population is divided into four categories: infants, toddlers/preschool-age children, children under the age of 13, adolescents and adults. For most vitamins, adolescents and adults need more than children due to larger body mass. Physical exercise increases the need for certain vitamins and minerals. Physical exercise increases the overall metabolism, but athletes who eat enough food to cover their energy needs can generally get enough of these nutrients through their regular diet,” says Koivisto.

Deficiency

We only need a small amount of vitamins to cover our daily needs. For some nutrients there are even upper limits for daily intake. However, if we don't get enough vitamins over time, it can lead to deficiencies and overall decrease in health: frequent infections, slower healing and recovery, stunted growth in children, lack of energy and decreased appetite. According to the Norwegian Council on Health and Nutrition, the average Norwegian diet supplies sufficient amounts of all core nutrients.

But how do we know that we cover our needs?

By eating enough food, vary our food choices and follow the simple nutritional guidelines:



Photo: The Center/XC Oregon

Continued on the next page

1. Choose nutrient-dense foods (whole grains, lean proteins, foods that are low in saturated fat and added sugars)
2. Eat fish at least three times per week, including fatty fish such as salmon.
3. Eat at least five servings of fruits and vegetables per day.

"These are the most important guidelines for making sure you get enough vitamins. Those who are concerned about their needs and whether their diet stacks up can consult a clinical nutritionist for a complete analysis," says Koivisto.

There are currently no tests or procedures that 100 percent accurately can determine your nutritional status. Some vitamin levels can be identified in blood work, but for most of the vitamins and nutrients there are no accurate methods, given that there are so many factors that influence the vitamin levels in the blood stream and these levels vary a lot. But you can get a nutritional analysis of your food intake. This gives us a picture of an athlete's meal patterns, food choices, micro and macro nutrient intake, Koivisto explains.

"When we analyze at an athlete's overall nutritional status, we combine several different methods," Koivisto says, noting that this includes blood work, measure height and weight, consider body mass index (BMI), and

look for various physiological indication of deficiencies.

Koivisto points out that per today, there are no indications that alternative methods such as hair analysis are accurate in determining vitamin status.

Water soluble and fat soluble vitamins

The various vitamins have different functions in the body, but all vitamins are organic compounds that the cells in the body rely on. However, when preparing food it's worth noting that water soluble vitamins are more easily diluted in the cooking process than fat soluble vitamins (A and D). To retain as much of the vitamins as possible, it is important to prepare the food as quickly and carefully as possible. Choose preparation methods such as steaming or stir-frying over long boiling/simmering.

Vitamin A is most plentiful in fatty fish, fish liver and fish oil. Some vitamin A is present in vegetables that are high in carotene, including red, yellow and orange bell peppers, carrots and other brightly colored produce. These carotenes are then metabolized into vitamin A in the intestines and therefore these foods also represent good sources of vitamin A.

Vitamin D can be produced by the body when skin is exposed to direct sunlight. Additionally, vitamin D is present in some foods. The main function of vitamin D is to facilitate the absorption of calcium. Calcium is important for bone strength and teeth. Vitamin D deficiency can lead to weakened bones and teeth. The biggest dietary sources of vitamin D are fatty fish, fish liver, fish oil and fortified milk and margarine. Sun exposure does not pose a risk of vitamin D overdose, but too much sun can cause other health problems, such as skin cancer.

Daily Needs

If skiers eat a varied diet, and additionally take a spoonful of fish oil and a multivitamin, do they run a risk of vitamin A and D overload? Or is it enough to take a spoonful of fish oil/fish oil supplement?

"Recent studies indicate that the vitamin D intake both among elite athletes and in the general population is lower than the recommended daily intake (RDI), even though most people eat a fairly balanced diet," Koivisto says. "The reason we're low on vitamin D is that there



Continued on the next page

is only a limited number of foods that supply significant amounts of vitamin D, and that's why we recommend everyone take fish oil daily. One half tablespoon cod liver oil is enough, or an equivalently dosed fish oil supplement," she says.

Koivisto warns that taking a multivitamin that contains 100 percent of the RDI of vitamin A and D in addition to fish oil might pose a risk of vitamin A and D overload. Especially too much vitamin A can be harmful over time. Koivisto only recommends a multivitamin supplement to individuals who run an increased risk of deficiencies – for example people who eat very little, have a very unbalanced diet and during training camps and competitions where athletes don't have the usual access to nutritious foods.

"Those who need a multivitamin can choose one that doesn't contain A and D, so that it can be combined with fish oil without running the risk of overdosing on A and D. For athletes who eat enough food and a balanced and varied diet, I see no need for a multivitamin supplement," Koivisto concludes.

Types of Nutritional supplements

The Norwegian Olympic Development Center (Olympiatoppen) classifies supplements into three categories: sports nutrition, erogenous supplements and vitamin/mineral supplements.

Sports nutrition supplies significant amounts of energy in form of carbohydrates, proteins and fats. These are products such as sports drinks, energy bars and energy gels.

Erogenous supplements are formulated to increase performance. Examples include caffeine, creatine and bicarbonate.

Vitamin/mineral supplements should not replace a varied, balanced diet based on fresh fruits and vegetables, whole grains and lean proteins, but can be useful in athletes with a proven deficiency in these nutrients or during periods of increased needs for vitamins and mineral.

For instance, young athletes who are still growing, athletes who are doing long/intense/heavy training that requires more energy than they can easily cover through normal foods, women who have particularly heavy periods or young athletes who have just moved

into their own place and perhaps are eating too much frozen pizza.

Minerals: Important Nutrients

Minerals are important, especially for building and maintaining healthy bones. Additionally, both the nervous system and the muscles need minerals to function optimally. There are two categories of nutritional minerals – macro minerals, which we need large amounts of, are building blocks for the body. Calcium and magnesium are two examples. The other category is trace minerals or micro nutrients. We only need small amounts of these – such as iron, zinc, selenium and chromium. Some of these minerals, especially iron, are very important for endurance athletes.

-- End --

Photo: MWC2022 Canmore/CAN (John Gibson)



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current AXCS members only!***



From Germany **Performance & Aging**

*The following is a translated and summarized version of an article by **Ulrich Schneider**, Head Physician for the German national cross-country team. The original article appeared in Nordic Sports Magazine, March/April 2007 and with the following translation summary appearing in the AXCS Spring Digest 2009.*

Translation and summary by Inge Scheve exclusively for the XC World Digest.

A lot of people don't start a regular training program until middle age, or they return to physical activity after several years without training. For most of them, the health benefits of physical activity and personal well-being are the main attraction. Several studies indicate that endurance athletes have longer life expectancies than their unfit peers.

Older athletes tend to favor endurance sports. These activities are based on moderate exertion, in contrast to other sports that require much higher levels of speed and intensity.

Although amazing performances are regularly found in all age brackets, performance and capacity decline with age. However, the training principles for older individuals are fundamentally the same as for younger athletes.

First, improvement in endurance sports is based on gradual and controlled adjustment to increasing training loads. This is even more important with age, as recov-

ery time increases. Peak performance usually happens in their 20s and into their early 30s. From this point, performance and capacity gradually decreases by the decade.

Maximal oxygen uptake, or VO₂ max, is a good indicator of fitness. Oxygen from the air is required to release energy into the working muscles. Oxygen uptake is a function of the cardiovascular system. Starting in the early 30s, oxygen uptake decreases by 8-10 percent per decade. Also, max heart rate is a determining factor for peak performance.

As a very general rule of thumb, max heart rate is 220-your age in years, although individual variations can be significant. The formula does make the point that age influences max heart rate, indicating that the heart's ability to supply oxygen-rich blood to the muscles decreases with age.

At the same time, age-related processes in the muscles contribute to decrease the VO₂ max and thereby decrease performance. Most noticeably, total muscle mass decreases by about 2 kilos per decade as a result of aging processes in the body. This muscle decrease particularly affects the type-II fast-twitch muscle fibers. Additionally, with age and decreasing muscle mass, body fat percentage increases, even if body weight remains the same. Finally, lung function decreases with age, and bones become more brittle and less resistant to training loads.

All of these processes can be slowed down by consistent exercise. The decline in VO₂ max can be reduced by 4-5 percent through physical activity. Weight training and endurance-based resistance training can reduce the loss of muscle mass. But how much training can slow the degeneration or even increase performance in older athletes has not yet been established.

The conclusion is that age-related changes in the human body do lead to decreased performance and capacity, but that these processes can be significantly curbed by consistent exercise.

-- End --



Photo: K. Murdoch, MWC2009



From USA (possibly the XC world)

Roller Ski Route Hall of Fame Round Valley Road (California)

AXCS proudly offers up our latest addition to the roller ski route "hall of fame" submitted by members nationwide. As a reminder, the goal here is sharing some amazing roller routes that are fun to read about, even some that aren't always practical to enjoy due to location, road restrictions, or other factors.

This submission comes from no other than Far West living legend Carolyn Tiernan. For those that don't know Carolyn, she is one of those easy-going West Coast skiers that also happens to have a collection of Masters World Cup and National Masters hardware so big it'd take a full Digest issue to list everything (a lot more additions to that collectin taking place at the recent Canmore MWC2022).

Round Valley Road near Bishop, California in the Eastern Sierra Nevada

"This road has near perfect pavement, great views and visibility and nearly no traffic. I skied 9 miles the day the picture was taken and saw a total of 3 cars. It is mostly flat with a few rolling hills - good for double pole workouts. It is one of many roller ski options in our area," says Carolyn.



Carolyn adds, "If one is into big hills, there are also 3,000-5,000ft climbs. The Canadian Black-jack ski team and their paralympians are regular visitors here in the fall. The occasional Norwegian ski team member has also been spotted here. Come check it out!"

Add your favorite route to the Hall of Fame

The focus of here is epic, ultimate, awesome roller routes. It's fantastic if you have a favorite 10km of pavement trail nearby, but we are looking for some amazing scenery, incredible vistas, historical fun facts, amazing length of safe rolling potential in one route — you get the idea. If you have not personally rolled a given route, to be eligible for the Hall of Fame, you have to know someone that has rolled the route. So it's not fair to submit rolling down Main Street USA at Disneyland. No one has ever done it.

If a given route is no longer possible to roll (example: the pavement is too rough or roller skiers are no longer allowed) this being a "hall of fame" you can still submit the route — but we want a fun story attached to it!

Send in a write-up about really amazing roller ski routes whenever the mood strikes -- there's no deadline. This is an open invitation that we'd like to make an regular feature in the Digest. Just email jd@xcskiworld.com. Links to public resource websites or a personal blog about the route are great, but we'd really like to include a picture or two to show off your discovery.

We'll print your submissions in future Digest articles like this one for the future enjoyment of our members.

Final note — yes, epic international roller ski routes are also fully possible for submission.

-- End --



From Norway **Hoofing Towards Winter**

*The following is an original article by **Inge Scheve** reprinted with permission from SkiAktiv.no exclusively for the XC World Digest. This version appeared in the in the AXCS Summer Digest 2014.*

Moosehoofing is the perfect dryland training for cross-country skiers, but the training method is also an excellent workout for other endurance athletes, and is easily performed even in slimy fall conditions.

Berit Gjeltten, who won the Birkebeiner-Triple Competition (combined best time in the Birkie ski race, the Birkie trail run and the Birkie mountain bike race in the same calendar year), is a masters' coach in Trondheim and an avid hooper.

"Moosehoofing with ski poles is the perfect training method whether you're a cyclist, a cross-country skier, a runner or all of the above. The hoofing motion activates all major muscle groups, and it's easy to get your heart rate up," Gjeltten explains.

"Personally, I moosehoof and run a lot in the fall, because its so easy to do even if the weather is a little rough. And if you have spiked trail shoes, you can get around anything, she says.

Endless opportunities

Gjeltten points out that moosehoofing is a very efficient training method that lends itself to countless varieties of intervals and intensity workouts. Your imagination is the only limit.

"The workout doesn't have to take all evening. I often do 5 times 4-minute intervals, 6 times 3 minutes, 5 times 8 minutes or something along those lines. I also like pyramid intervals, which makes it easier to stay motivated through the intensity. Try 2-3-4-4-3-2 minutes," Gjeltten suggests.

Variety is everything, and don't forget strength. Gjeltten is also diligent about varying her workouts in terms of training method, intensity and duration.

"So while I've done a lot of running and moosehoofing, I've also added some bike rides and roller ski workouts. And of course, strength on top of that," she says.

"Upper-body strength is something a lot of us could benefit from doing more of, so try to put in a little strength-block with extra focus on just this before the snow flies. And while you're at it and in the gym, why not add a spinning class afterward and you've just done a killer workout combo," she grins.

Community is key

It's important to find exercise programs that you enjoy and look forward to, and a training community contributes tremendously to the enjoyment factor in inclement fall weather and limited daylight.

"For a lot of us, it can be harder to get out the door when it's dark and rainy outside. So make sure you do something you enjoy. Even though training is supposed to be hard sometimes, it shouldn't be something you dread," Gjeltten says.

"And sometimes, you're just better off headed to the gym anyway, if slimy tree leaves, bad weather and traffic turns the great outdoors into an injury trap," Gjeltten says, noting that its particularly important to consider routes & conditions wisely when roller skiing.

"But sometimes, just knowing that your friends are waiting for you down at the track is all it takes to get out into the night. And training with a group of friends

Continued on page 34, right box.



Photo: XC Oregon



From USA

Time Crunch Training Do's & Don'ts

*The following is an exclusive article written by
J.D. Downing originally posted on xcskiworld.com.*

Perhaps the most unifying characteristic of cross country skiers during the fall months is the incomprehensible shortage of time available to train or improve fitness versus what we'd all like to accomplish as we head into the skiing months.

Every season I run into skiers of all ages that sheepishly admit that they just weren't able to make time for the kinds of fitness-enhancing activities that would make their ski season more enjoyable and/or successful (even when racing isn't the goal). The amusing aspect of these "confessions to the coach/instructor" is that so many skiers know exactly where their body is going to complain once they get on snow. They know exactly what they need to improve in order to either go faster or have more fun (or both). They also often know the kinds of activities that would really help the whole situation!

So how do we fix the problem?

Here is a list of important training/conditioning do's and don'ts with an emphasis on the kind of "real world" situations and limitations that nearly all of us face on a daily and weekly basis.

Don't Buy Into "No Pain, No Gain"

Many masters think that the only way to improve fitness or race results on limited time is to blast away at Mach 10 everytime you exercise. In fact, going hard all the time (even when you just "workout" a couple a times a week) is one of the easiest ways to ruin your ski season...as well as your love for the sport over time.

Better: Vary your easy and harder workouts...particularly if you have racing aspirations. Go hard when you have the juice to do so. Go easier (and ideally longer) when that is the better plan for the day. This applies no matter how much you train.

Do prioritize your workouts

When we don't have all the time we'd like for ski training we've got to prioritize the most important workouts on the schedule. My recommended priority list for masters is as follows...

- 1.) Strength:** Anywhere from 10-45 minutes per session. Emphasis on important skiing muscle regions such as the shoulders, hip/groin and lower back/stomach.
- 2.) Long Distance:** At least once per week. This can range from 1.5 up to 6 hours depending on skiing goals, fitness, health, etc.. Methods include run/hike, roll, cycling, paddling or a combination of several methods.
- 3.) Ski Specific Exercise:** Mostly skiwalking/bounding, ski machines, and roller skiing. Note that roller skiing has great benefits for specific strength training even if you need to keep it super simple for safety (see #1).
- 4.) Technique & Balance Exercises:** Done at any intensity. Important even when you consider yourself too skilled for rudimentary drills on foot or rolling.
- 5.) Intensity:** At least once a week at heartrate zones higher than your distance pace.

Why is intensity last on the list? Simply because most

Continued on the next page.



Photo: Skifire (Argentina)

masters tend to train in mid-level intensities as a matter of course. You might be doing so within an actual ski specific fall training routine. Or it could happen as a by-product of racing/training in other sports. Regardless, what the majority of masters do not regularly add in fall fitness and training is most often #'s 1-4.

Do make the most of your limited time

You've got 45 minutes to squeeze in a workout during your lunch hour but you have 3-4 training priorities you'd like to get in that day. What do you do?

One suggestion is a "mixed-bag" approach...a quick warm-up jog/walk and light stretch, 10-15 minutes of strength exercises, maybe 5 minutes of plyometrics/speed, another 10-15 minutes specific foot exercises, light cool-down and stretching. Another approach would be substituting a short distance walk/run or even roller ski combined with specific strength and/or technique.

Bottomline: Regardless of what you do, when you are short on time (and who isn't these days?), have a defined plan and actively incorporate at least two of the five critical training focus groups into every workout.

Don't make excuses

Find ways to utilize what you have to work with rather than worry about what you don't have. Here's some ideas from my college days in the California farmland trying to be nationally competitive in Nordic skiing (2 hours from snow in the winter and no hills).

Short grassy embankments next to campus buildings became pole bounding areas with stadium steps and even railroad overpasses served as interval "hills". Since good trail running locations were scarce but I had miles of great bike trails, I substituted more than an average amount of roller skiing. When roller skiing, I'd use headwinds, weight vests and slow skis for resistance on speed and strength sessions to substitute for the hilly terrain that was miles from campus.

Bottomline: Be creative! Great training options are right under your nose.

Don't Think Even 30 Minutes Isn't Enough Time

If all you have is 30 minutes...that is enough time to get in a great workout if you are organized, motivated, and don't waste a second!

Some quick workout ideas that can fit in a half hour...

- * 30 minute skiwalking in a hilly area working on one technique point on every uphill.

- * Jog/walk warm 5 minutes; circuit strength 20 minutes using a local park, a hotel gym, your garage (basically wherever); jog/walk cool down 5 minutes.

- * 10 minutes easy warm-up, 5 x 2 minutes intervals with 1 minute recovery in whatever training method is fastest to implement on that day (walk, run, bound, roll, bike, paddle, swim), 5 minute cool down.

Bottomline: You might not have time for roller or snow skiing in this time crunch window but you can get something positive in. Do it!!!

Final thought: Don't forget to be good to yourself.

If you just got up early on a weekend morning and treated your body to a couple hour hike or roller ski..... you deserve a reward! Have fun everyone!!!

I really have a hard time with people who voice opinions, especially negative ones, while not being involved in the process to make things better.

– Nils Eriksson, Pacific NW junior alpine skiing & soccer coach



Photo: P.J. Hill

Speed & Reaction continued from page 25.

came my reassurance. "I feel 100 percent," he told me with a smile. He repaired both cataracts flawlessly.

There is variability of response rates for those over 60. Although, on a micro level, this is about evidence-based data. What is my eye doctor's success rate? How does he fare in the OR, or more importantly, how do his patients fare? What do the OR nurses have to say about him? I know his record is flawless Lest I fall prey to the same ageism I have experienced. Bob's repetitive and enduring successful cataract surgeries and skill set confirm his abilities. Bob tells me he knows when he will stop.

My professional musician friends tell me that they attribute their successful performances and artistic skills to hard, long practice and performing. They tell me that although they may be in the twilight of their careers, they practice more not less. Experts attribute continuing stellar artistic performances to brain plasticity in an older performer that is very much enhanced by long practice sessions.

There are other ways aging artists keep achieving. Some find joy by complementing professional artistry with joyous passions. Julia Bogorad-Kogan, a long-time St Paul Orchestra (SPCO) flutist, has danced ballet for decades. Chuck, Ullery, now retired from his chair as the SPCO principal bassoonist, has taken to weight training and aerobic activities he is certain have enhanced his strength, vitality, and contentment.

What we who are over 60 should be concerned about is how fast we can react to an errant driver fantasizing he is Mario Andretti chooses to run a red light while we are in the middle of the intersection. Aware of the inevitable changes of how I will react to a distracted driver, I let others weave around me. I drive slower and more defensively. I try not to react when another speedster Mario hangs on my back fender. I avoid using my cell phone except for navigation but, even that, carefully.

Dr. Art Leon explains that the brain has plasticity that compensates for the sensorimotor decline from aging. When is it time to get the car keys away from an increasingly frail mother or grandparent? Such an allusion of agelessness may be a liability. An intervention to confirm cognitive or physical competency can be a painful act of love for a concerned family. Unexplained accidents, getting lost while out driving, brittle diabetes or failing the vision screening at the DMV are realistic

reasons for grandpa to surrender his driver license. At a certain age, the department of motor vehicles may require an updated driving test.

"Driving represents freedom, mobility, and autonomy." Spirduso notes; "Driving an automobile is a psychomotor skill.... that most adolescents passionately desire to learn and that almost all aging adults dread...."

Driving a vehicle is a psychomotor skill that requires perceptual ability, vigilance, short-and long-term memory, and motor programming." If all else fails, give a call when your 90-year-old grandmother has taken the car out to visit the casino.

-- End --



Hoofing continued from page 31.

turns the workout into happy hour as well. And a lot of us find it easier to push ourselves just a little more when were training with a group," she adds.

Scheduling dramas – no more

A workout doesn't have to take all evening, Gjelten points out. She knows how to take advantage of opportunities in the schedule.

"You can get a lot done in 45 minutes. Depending on you work situation and where you live, you can also turn your commute into a workout, and feel free to think beyond riding to work. Think roller skiing or running, and maybe add a detour on the way home if you have time," Gjelten suggests.

Too far to ride, roll or run? Drive or take the bus part way and run, roll or ride the last stretch.

"The really tough ones even set their alarm before they have to and squeeze in a workout before the day starts," Gjelten says, adding that recovery is also an important part of the overall program.

"Keep in mind that you have to sleep too. Don't burn the candle in both ends all the time," she concludes.

-- End --



American XC Skiers: Your Association Annual Summary

submitted by National Director J.D. Downing

Thanks to continued strong support from membership across the nation, AXCS had another fairly normal financial year even with at least half the membership year still greatly impacted by the pandemic.

2021/22 Fiscal Year membership came in just below 800 members (actual 799). As anticipated, AXCS had a nice "bump" in membership given the "home" MWC2022 in Canmore. As in the past, the real trick is now keeping many of you folks that joined for the MWC2022 year around to enjoy benefits and support the association in 22/23!!!

Net between operating income and expenses ended up with a (\$5,187.42) shortfall. This "loss" was entirely due to continuation of the separate WMA/MWC administration contract in a year with little MWC revenue. The deficit for FY21/22 was anticipated and covered by cash reserves set aside for WMA/MWC expenses.

The overall budget for 22/23 has been approved by the AXCS Board of Directors and will be fairly conservative in terms of anticipated membership. Although we have excellent numbers for the MWC2023 and members continue to be very happy with association benefits, AXCS has learned it is best to anticipate a tightening of member numbers in years following a NorAm MWC.

The internal fund dedicated to World Masters Association business and future Masters World Cup expenses continues to be in excellent shape. It is projected to grow in 22/23 given the Seefeld trip size.

Maintaining and bolstering membership ranks remains the #1 priority for the association in the coming year. Recruiting new members remains a perpetual challenge and word of mouth is our best advertising. Please help!

You can point new members to xcskiworld.com where they can join on-line with no added processing fees in less than 5 minutes. Everyone that is in our membership database by early November will be mailed a 2022 Fall Digest issue so make that a great target for your ski buddies!

See you out there everyone!

21/22 AXCS Financial Summary

Inflows

Interest Earned	70.20
Membership Dues	27,567.62
Total MWC Trip Incoming	245.00
Public Contributions	6,615.41

Total Inflows **34,498.23**

Outflows

Administrative Services	(14,000.00)
Event Travel:	
Admin-Office	(10.00)
Admin-Services	(10,000.00)
Ground Transport	(911.45)
Entry Fees	(235.50)
Misc. Expenses	(135.75)
Lodging	(186.29)
MWC Trip Returns	(0.00)
Trip Insurance	(63.88)

Total Event Travel **(11,532.87)**

Internet/Digital Media	(2498.62)
Office	(84.89)
Postage	(175.15)
Printing	(5,636.29)
Services	(801.93)
Taxes & Government Fees	(103.95)

Total Outflows **(39,685.65)**

Net Inflows/Outflows **(5,187.42)**

Reminder: Deficit for the year was anticipated due to the ongoing need for MWC/WMA representation and workload even with minimum revenue from MWC2022. The ample reserve funds for MWC/WMA expenses completely covered this shortfall.

Confirm Your AXCS Membership Status For The Coming 2022/2023 Ski Year

On the list below, find your last/first name(s) and the date your AXCS membership expires.

All the membership expiration dates are formatted to end on Halloween. So what you are looking for is the last two numbers next to your name.

Example: Diggins Jessie 103126

If you see your name and 1031any-year except 22 -- that means you have at least one more year good on your membership. So you are all set for the coming year. Thank you! Go enjoy a cool refreshing beverage.

However, if you see your name & 103122 in bold, your membership expires in just two months! PLEASE RENEW AS SOON AS POSSIBLE!!!!

For those that will have expiring memberships soon, please renew before the end of September to save AXCS the cost of sending you a postal reminder!

You can renew on-line right now with no added fees at xcskiworld.com (3-year renewal is always your best value!) You'll also find the check-in-the-mail info on the same "Join Now" xcskiworld.com link.

Abraham	Peter	103122
Adams	Jon	103123
Agre	Gauvin-Chadwick	
	Jim & Brenda	103122
AIKEN	Andy	103122
Ajax	Thomas	103123
Algeo	Tyler-Chris	103123
Allan	Michael	103123
Allison	Kelly	103124
Alsager	Mary	103122
Anderberg	Carl	103122
Anderson	Gary	103124
Anderson	David	103124
Andrews	Sheldon	
	Andy & Katharine	103123
Anholm	James	103123
Antolak	Kathi	103124
Antonson	Joan	103123
Apte	Suneel	103123
Arians	Alison	103122
Arians	Ben	103122
Arias	Josie	103122
Arky	Liz	103122
Atkey	Warren	103122
August	Ron	103123
Aunan	Tommy	103123
Baggett	Art	103123
Baic	Milan	103122
Baic	Nickola	103125
Baic	Berkshire Ivanka	103124
Baker	Karen Jean	103125
Baker	Bad Bob & Sharon	103122
Baker	Sam	103123
Banks	Jane & Murray	103123
Barkman	Russ	103123
Barnevik	McKeige Marie	10312064
Barrette	Kim S.	103124
Bart	Bradley	103122
Bartling	Peter	103123
Bartol	Dave	103122
Barton	Dawn	103123
Battles	Cara	103124
Bauder	Donald	103124
Bauer	Nancy	103124
Beaman	Doug	103124
Beattie	Chris	103122
Beatty	John	103122
Beck	Cole	103124
Becker	Lew	103123
Bednorz	Janna	103124
Beebe	Allen	103123
Bengtson	Keith	103122
Bengtson	Gray	
	Lindsey & Travis	103122
Bennett	Stephen	103123
Berg	Doug	103123
Berg	Patrick	
	Steve & Heather	103123
Bernardin	Lisa	103123
Berry	Terry	103122
Berry	Ryan	103124
Berryman	Orion	103122
Biddiscombe	Rob	103123
Bier	Jerry	103122

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Bjerkness	Brent	103123
Bladel	Randal & Julie	103122
Blake	Cameron	103124
Blatt	Kenneth	103122
Boduch	Doug	103122
Bogar	Mike	103124
Bond	Susan & Wendell	103122
Bontrager	Carl	103124
Bookstrom	Art	103124
Booska	Mark	103123
BORGNES	Arne M.	103123
Bostrom	Bruce & Sonja	103122
Bourassa	Wagar	
	Michael & Ann	103123
Bourne	Jonathan	103122
Bourret	Lucy	103122
Bovard	Ralph	103124
Boveng	Peter	103122
Bowen		
	David & Magdalena	103125
Bowman	Dave	103123
Bradlee	Robert	103122
Brassill	Bersvendsen	
	Sally & Odd-Aage	103123
Breasted III	James	103124
Breen	Andrea	103122
Briggs	Nancy	103122
Brockman	Shannon	103123
Brodhead	Campoli	
	John & Gina	103122
Brooks	Erik	103124
Brower	Patrick	103122
Brumbaugh	Ernie	103123
Brush	Brian	103122
Burak	Sue	103122
Burke	Jack	103122
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Did You Know?

...women are more sensitive to skin damage by the sun? Estrogen is being shown in research studies to increase the vulnerability of women's skin particularly in vulnerable places such as the nose, lips and earlobes. Just another reason to make sure to put on that sunscreen as well as protective lip products all year round!

Source: Physician and Sportsmed.

...use of weight lifting belts can actually slow the development of abdominal and lower back muscles...both key to XC skiing? Physicians and weight-lifting instructors now recommend not wearing belts unless you are lifting very heavy weights...something no skier should be doing unless you've built up to such a level over many months of progressive work.

Source: Physician and Sportsmed.

..."there is evidence that the number of injuries that occur, as well as the extent of muscle damage, is greater in people who exercise with low muscle glycogen levels. When glycogen stores are depleted, coordination is likely to be impaired. This may, in part, explain the increased injury rate."

Source: Ronald Maughan, Ph.D. University Medical School, Foresterhill Aberdeen, Scotland.

Enjoy the process of the search without succumbing to the pressure of the result. Trust your gut, keep throwing darts at the dartboard. Don't listen to the critics and you will figure it out.

— Will Farrell, actor

2017 University of Southern California Graduation Address

American Cross Country Skiers
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Bend, OR 97709 USA

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Photo: XC Oregon/The Center

Labor Day to Thanksgiving

Step #1.) Make the summer/fall transition to the amount of ski specific exercise you will buy into. The honest reality is that not every skier — even those with ambitious ski goals — will suddenly start racking up tons of roller ski or ski walking/bounding hours as summer turns to fall. But if you can set up a week-to-week plan for gradually introducing ski specific time mixed into your “other” exercise activities over these twelve weeks, you are very likely to be pleased with the outcome when December arrives.

Step #2.) Figure out how much general and specific strength you will regularly put into an average week and set goal targets (and rewards!) for the Labor Day to Thanksgiving time period. If getting in regular strength is a challenge, goal targets (for example: total number of strength minutes per week) keep you accountable plus rewards can be a great way to incentivize hitting your targets. Remember: improving ski specific strength levels is one of the biggest performance game changers for skiers.

Step #3.) Do an inventory of your dryland gear (rollers if you have them, bounding poles, even running/walking shoes). Replace what needs to be replaced now so it's not an excuse all fall. Rinse and repeat the process with all your ski gear. Skis, boots, poles, accessories, waxes, wax equipment, even clothing. With the bigger stuff, you want to be ready to place orders with retailers absolutely no later than the end of September if you want the best (or any) selection. Otherwise, know what you want and what you need so you are ready to jump when gear arrives.

Have a safe summer-into-fall everyone!