



XC World Digest

The Official Newsletter Of American Cross Country Skiers

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Number 1



The Island At The Top of the World

Tromsø, Norway -- MWC2027

Photo Credit: MWC2027 O.C

MWC2027: Tromsø/Norway

The Island At The Top of The World

AXCS Trip Dates: February 23 - March 5

Location: 1,148km north of Oslo and 350km north of the Arctic Circle. Yep, this really is “the island at the top of the world”!

Pronounced: Trum-suh

Recommended USA Trip Dates: **Depart the USA on February 23, arrive in Norway February 24.** Return date depends on your choice of post-MWC options. (Event Program begins Thursday, February 25 and ends the evening of Thursday, March 4). March 5 is the day after the last competition.

Best Travel Plan: Direct international flights from several European gateway airports on specific days of the week plus multiple daily direct flights to/from Oslo’s Gardemoen Airport (VCE). This October, Icelandic Air is beginning direct service between Reykjavík and Tromsø which will likely shorten the travel time a great deal for North American skiers. Regardless of your air travel choice to/from Tromsø, it is a whopping 10-15 minute shuttle bus ride from the airport to any lodging in the city.

Every year AXCS tends to rave about all the positives of a particular MWC destination. This year the destination speaks for itself.

Imagine a skier’s paradise that offers a natural smorgasbord reminiscent of the Southern Alaska Coast, Iceland, and the Norwegian fjords.

Imagine a vibrant city of nearly 80,000 encompassing an entire island with a 360-degree backdrop of spectacular mountains, fjords, and coastal bluffs.

Imagine a first-class ski venue in the heart of the city with beautiful trails amidst a natural park nearly the exact same size as NYC’s Central Park.

Imagine countless additional ski adventures in nearby trail systems with endless views in every direction.

*Getting a picture in your mind?
We are only getting started folks.*

Tromsø: Closer Than You’d Think

Although the far north locale might seem daunting from a travel logistics perspective, Tromsø is actually very accessible due to it’s rapid rise as a “must do” tourism destination to a worldwide audience. It is perfectly reasonable to get a reasonable air ticket package from USA

gateways to/from Tromsø in as few as 3 flights. Once there, the minimal ground shuttle pretty much means once you are wheels down -- you are ready to rock n’ roll.

Skiing is literally the heart of Tromsø

Straddling the high point of the Tromsø island, the Charlottenlund Recreational Park and the Tromsø Ski Stadium together comprise the race venue for the MWC2027.

The location of multiple national Norwegian ski events over the years and the core of most race events in the region, the Park has very sophisticated infrastructure

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set-up including a massive multi-use building that will be a universal waxing, changing, and team area.

An incredibly unique feature in the Tromsø Ski Stadium is the Tromsøbadet swimming and wellness facility located right next to the start/finish area. You can actually soak in a hot pool while watching the races!

Featuring a switchback maze of trails through an Arctic forest, the terrain “Goldilocks perfect” for master skiers — not too hard and not too easy. Residential neighborhoods surround the park in every direction, which gives the park a comfortable, “at home” feel. But when you get any one of the many vista spots, the astounding views of surrounding mountains and waterways remind you this is no normal playground.

It’s very possible to walk a couple kilometers from AXCS hotels in the downtown to neighborhood trailheads to get onto the ski trails. But given a fairly robust climb/descent up or down city streets in likely mid-winter conditions — it will often prove easier to opt for short (5-10min one-way) rides on the event shuttle system.

Co-organizers are the Midnight Sun Marathon Foundation and the Tromsø Skiklubb. The former providing considerable world-class event experience (the June Midnight Sun running Marathon weekend has grown to over 10,000 participants), while the Skiklubb provides the community-wide manpower. Suffice it to say this is also a much larger population base to recruit volunteers and event staff compared to recent MWC locations.

The welcoming energy of Tromsø locals is also a big draw. The city is home to the University of Tromsø (reportedly the world’s northernmost university) and there



AXCS Suggested Trip Schedule 2027 Masters World Cup

Tuesday, February 23 -- Depart USA
(arrive to Norway Wednesday, Feb 24)

Thursday, February 25 -- Unofficial Training

Friday, February 26 -- Official Training

Saturday, February 27 -- 20/15/10km CL (AM)
& FS (PM) middle distance races

Sunday, February 28 -- 10/5km CL (AM) &
FS (PM) short distance races

Monday, March 1 -- Rest Day Adventures

Tuesday, March 2 -- 4 x 5km Relays

Wednesday, March 3 -- 30/20/15km
Freestyle long distance races

Thursday, March 4 -- 30/20/15km CL distance
races + Closing Party/Banquet

Friday, March 5 -- Return to USA or more fun!

is definitely a college-town feel in the city. When you add in the natural inclination in Norwegian culture to get outdoors as much as possible, you’ve got a city that is really excited about hosting the Masters World Cup.

Snow and Weather

Given its proximity to the North Atlantic, Tromsø has relatively mild average temperatures in the winter and enjoys a healthy amount of average snow despite its latitude well into the Arctic Circle. That said, the Charlottenlund Recreational Park does have some snowmaking equipment for low spots and there are a couple different emergency venues in nearby mountains should the MWC2027 hit a rough winter.

More To Do Than You Can Imagine

The Tromsø downtown core features a fun mini-cosmo-

Continued on the next page.

politan vibe with an eclectic mix of traditional Norwegian architecture and very modern cityscapes along a walkable and comfortable waterfront. Tourism plays a big role in the local economy year-round, so you have a huge array of museums, shopping, restaurants, and points of interest to keep skiers and non-skiers busy all week long.

Every tourism photo of the Tromsø area shows off the surrounding mountains, ridges, and highland areas offering up their distinctly Arctic flair with dramatic contrasts to the interlaced bays and fjords. But what you usually don't see in the promotional photos are the hundreds of kilometers of groomed trails (yes, you read that right — hundreds of kms) in the surrounding countryside outside the main Tromsø island.

So while the city park trail system will be regularly humming with MWC energy, for this MWC trip you will have loads of other ski options at your disposal the entire trip. Local buses can be used to access trailhead skiing or point-to-point routes. They might be at the edge of the map, but locals are quite proud of their on-line real time grooming report system so skiers can know every day where fresh grooming is on the menu. Yee-haw!

Aside from skiing and the considerable attractions in the Tromsø city center, the sky (quite literally) is the limit in terms of how many other things there are to see and do outside. Local waterways remain largely unfrozen in winter so there are all manner of boat-based tours and adventures available. The surrounding mountains offer dogsled tours and off track ski touring routes galore.

And did we mention the high probability of seeing Northern Lights over the MWC2027 week?

You may seriously run out of memory space on your devices taking pictures.



Photo: MWC2027

What are my options for added adventures combined with the MWC2027?

MWC2027 organizers are working on a potential option to move an annual Tromsø ski marathon on nearby trail systems not used for the MWC to the weekend immediately following the MWC2027 closing. This is not a locked-in offer, but if it happens it'll provide another amazing race option for MWC skiers to consider.

Oslo, Norway in itself is an amazing travel attraction for many folks to spend a few days before/after the MWC2027 and also provides a convenient skiers gateway to even more pre/post-MWC adventures in places like Lillehammer/Sjusjøen, Beitostolen, etc.. If you can stick around for a full extra week, the Holmenkollen World Cup Festival (XC, jumping, combined) comes to Oslo March 12-14, 2027.

The FIS Nordic World Championships will take place in Falun/SWE exactly when the MWC2027 is taking place. So folks that wanted to catch a couple days of elite races either at the beginning, middle, and/or end of the Nordic Worlds could do so via a relatively simple and affordable travel sequence using Stockholm.

Finally, the Swedish Vasaloppet week (events from Feb 28 - March 7) is also the same week as MWC2027 week which opens open similar early/late extra travel options as the Nordic Worlds.

AXCS MWC2027 Lodging Package Info

April updates coming via e-Blasts/xcskiworld.com

AXCS will have member's-only Lodging Packages using two or more high-rise downtown hotels. Our early picks are **The Clarion Hotel The Edge** (4 star option and the location of most MWC social events and the 3-star **Thon Polar hotel** which is a three-star hotel a short walk away from The Clarion allowing for a lower price point. AXCS may add additional hotel options over the coming spring weeks with pricing in between the two listed.

Note: For MWC2027, AXCS is listing the prices for the lodging packages based on a 9 night stay. Even more so than most years, due to the super easy ground airport transportation equation, it

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is totally OK to shorten or lengthen your stay at any USA hotel to fit your individual plan. For those wishing to arrive a bit earlier or stay later, USA hotels will have different timelines and policies for MWC rates on special dates. AXCS will get a custom quote when skiers firm up your specific plan.

Team USA Lodging Packages

Note: AXCS has confirmed basic pricing for both our choice of best 4 star and 3 star options for this trip. But as of press time AXCS is still confirming our room counts. Other hotels possible. Updates will follow the Digest via e-MasterBlast emails & on xcskiworld.com.

The Clarion Hotel The Edge -- 4 star

Ceremonies held here, right in the core of downtown along the Tromsø waterfront.

Double — NOK 24.000 per person 9 night package (includes lodging, half board meals)

Single — NOK 38.400 for single 9 night package (includes lodging, half board meals, all fees & taxes)

Thon Polar Hotel -- 3 star

A 5-7 minute downtown Tromsø walk from The Clarion.

Double — NOK 18.600 per person 9 night package (includes lodging, half board meals)

Single — NOK 26.700 for single 9 night package (includes lodging, half board meals)

Independent Lodging

USA skiers can stay at different hotels than the AXCS preliminary options, but it is wise to check with JD at the AXCS Office before making a retail booking. AXCS has special MWC-pricing at any hotel listed on the official website that members cannot get on your own.

If you want to set up a rental apartment or house on your own, that is (as always) perfectly OK. The MWC2027 organizers have made it clear that they do not have any relationship with private short-term rentals (*short term rentals are apparently a bit of a point of local angst as with many tourism locations worldwide*).

Those folks that set up your own apartment (or any

other "independent lodging" outside of the AXCS Lodging Package will (as usual) be asked to contribute a **MWC2027 "Fair Share" amount of \$60** per registered racer in your party. The "Fair Share" contributions help AXCS cover the annual expenses attached to Team USA participation at the MWC events. Skiers in the lodging packages have their proportional "Fair Share" amounts built-in to the AXCS Travel Package cost.

Other Estimated Costs Per Person

Air Transportation

Winter 2027 prices vary with a big range of \$700-1800 depending on your USA gateway & flight sequence.

Airport Ground Transportation (\$0-30 per person)

The Tromsø OC has been working on including the short airport shuttle in the racer package. But regardless, this is a minimal roundtrip cost of just a few minutes.

Note: Unless you really want to roam the countryside outside the island, there is no need for a rental car.

Bag Fees (\$200-300)

Depends on your flights and airline status.

MWC Race Entry (220 or 250 EUR)

If you register by New Years Eve, MWC race entry is just 220 EUR.

Travel Insurance (\$75-150)

AXCS strongly recommends getting some kind of travel insurance for MWC trips.

See the next page for step-by-step MWC2027 sign-up info....

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

Many AXCS have been using the services of **Erin Rountree**, from the Sun Valley, Idaho area since the retirement of Diana Lynn Rau. If you prefer using a "live" travel agent for international travel, this is a great option.

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

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
- > Post exercise meals should include fluid intake.

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

A forest ranger at Yosemite National Park once remarked on why it is hard to design the perfect garbage bin to keep bears from breaking into it: "There is considerable overlap between the intelligence of the smartest bears and the dumbest tourists".

Printed Digest continued from page 3.

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The problem with this "rescue plan" scenario to bring back a print edition Fall Digest are two sticking points.

First, these days we are really struggling to retain members let alone recruit new folks to join AXCS. As always, help from existing members this spring and summer would go a long way towards reversing that trend.

The second challenge is that we typically do not see much in the way of new or renewing membership activity in the summer. But if we could recruit 50-100 new members (or get some former members back) as we wrap up the ski season this spring and as we enter next fall -- that could change the picture. Once again, we need help from all of you, our existing members to get out there and talk up AXCS membership as a "must have" for every USA master.

If we do need to go with an on-line Fall Digest, AXCS will be joining a long list of organizations that already operate mostly or exclusively with digital media. For example, many alumni associations with colleges/universities and many non-profits bigger than AXCS operate with either a hybrid print/digital or full digital member publication delivery system. Very few members would find the likely change revolutionary, many will be OK with the change, and some of you may actually prefer a digital format.

Any members that have strong feelings about this proposed change are welcome to contact the AXCS Office and share your thoughts. Further, AXCS would really appreciate any members that have experience with digital publications sharing knowledge about cost-effective digital publication software (Mac-based please) and/or tips/techniques that could produce a better output this fall.

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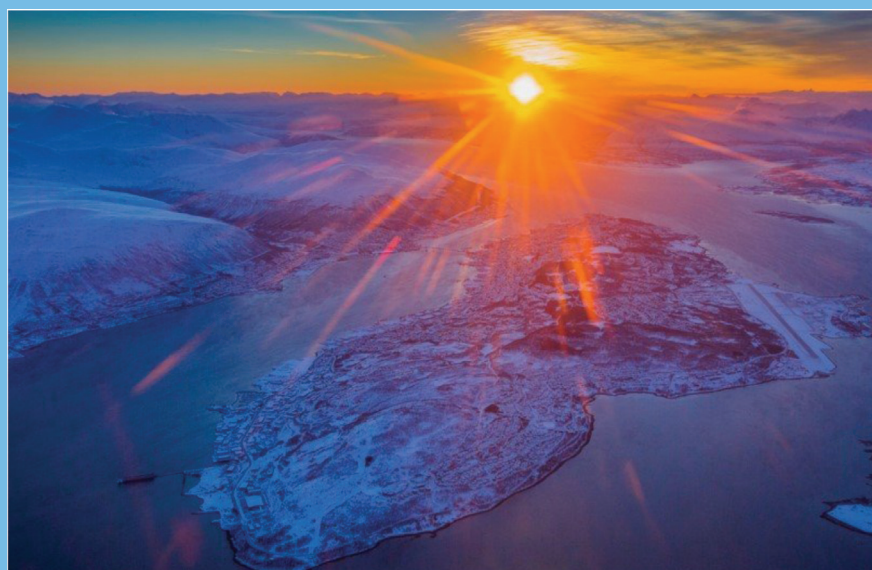


Photo: MWC2015, Women's F6-F7 Start

MWC2027 Tromsø, Norway

February 23 - March 5, 2027

(Suggested AXCS Trip Dates)



Yes, "trip of a lifetime" does apply on this one!



From USA The 2025/26 Season Re-cap

Written by AXCS National Director J.D. Downing

Around the XC ski world, the 2025/26 ski season served up a buffet of sometimes amazing, sometimes bizarre, and occasionally just plain head scratching stuff. Each Spring Digest, AXCS traditionally tries to summarize each season to serve as a bit of historical record of events and milestones within masters XC skiing and the general XC ski nation/world.

Broken Record Time: A Historic (For All The Wrong Reasons) Winter

Winter 2025/26 in the USA was, like so many winters in the past couple decades — totally a matter of location, location, location. Alaska saw loads of snow all winter. The greater Upper Midwest had a reasonably good winter overall. New England and Mid-Atlantic states went up and down, but mostly had a good winter.

But the Western half of the lower 48 -- ouch. Like absolutely historic levels of ouch. 20-30% of normal snowfall ouch. The potential for the gates of Mordor opening up come wildfire season ouch. You get the idea.

Talking to Canadians during the MWC2029 inspection visit in early March, a similar picture emerged north of the border. Feast or famine depending on location. Same with Europe.

Unfortunately the overall story here is nothing new. We've been riding the roller coaster of winters gone wild for long enough that it has become a "new normal" to expect some kind of crazy as soon as the leaves start changing in the fall.

Further, as most AXCS member can imagine, the continuation of the snow saga doesn't bode well for our sport over the long term. The good news is that XC skiing is pretty darn resilient. The less good news is that we will most likely have no choice to be resilient indefinitely.

MWC2026 Sappada!

From the very first planning sessions within the World

Masters Association meetings, the 2026 Masters World Cup (MWC2026) trip promised to be an amazing experience. Spoiler alert — that's exactly what we got.

Combining the dramatic beauty of the eastern Dolomites, the charm of the Sappada and Forni Avoltri villages, two (!) fun-filled roller coaster race systems, and the built-in Italian cultural tendency to be amazing hosts would have been enough for most of Team USA. But when you add a couple fortunate fresh snow deposits over the week and a trip finale featuring the start of a little thing called the 2026 Winter Olympics — yeah, this proved a great MWC.

With an official count of 130 USA racers plus a robust number of USA supporters along for the ride, the USA turnout for the MWC2026 wasn't just good — it beat out the host Italians for the largest national contingent!

With USA skiers mostly flying in/out of Venice, there were more than a few skiers that added on that cultural theme park to their trip either at the start or end of the adventure. Our arrival day buses out of the Venice airport generally worked seamlessly — at least at lower elevations. A couple of the early buses hit a welcoming snowstorm as we climbed into the mountains, but ulti-

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Photo Credit: K. Seaward

mately the travel went quite well albeit with a few folks missing some ski bags. Luckily this also worked out in coming days.

The early ski days saw Sappada showing off it's scenic highlights and with fresh snow on top of a solid man-made base, skiers would enjoy excellent snow coverage the entire trip. Although early conditions tended to be a bit tricky with kick wax, compared to the feast/famine spring conditions in 2025 the skiing was overall really good regardless of everyone's chosen technique. We were also very fortunate to have the fresh coat of snow on our arrival as Sappada had been struggling with their natural snow coverage for weeks leading up to the MWC2026.

Describing the main Sappada race courses as a roller coaster was pretty much on point as the local organizers fit in a ton of terrain on a relatively small area of local pastures and parks. The courses also doubled-back several times giving above-average spectating options.

In the department of "folks had to deal with it", shortly after arrival the race jury had to make a couple decisions that more and more MWC race organizers are confronting in some form.

First, it became clear after just one training day that many of the green loop skiers were going to have a difficult time navigating the planned 5km due mostly to the layout of several downhills. The younger and more nimble green loop skiers were mostly comfortable on the 5km, but there was enough skepticism from skiers and National Directors as to overall racer safety that the jury made the decision to switch to a green 2.5km loop for the entire event. This meant skiers in all the green loop categories would double their lap counts (e.g. the opening 10km went from 2 laps to 4 laps).

The second jury decision wasn't so much a decision as an acceptance of no other alternative. In the months prior to the MWC2026, using a very sophisticated snow-making system for such a small venue, organizers made a great deal of artificial snow and spread it to fully cover the basic 7.5km loop that was used in some form for all MWC2026 races. Although the original plan was to also spread manmade snow over an additional 2.5km out-back section to provide a planned 10km extended loop, organizers both ran short on the weather and resources

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necessary for that added section plus they hit some real world challenges of an on-going timber harvest on that 10km extension. So the end decision was made to stick with all planned MWC2026 races using the 7.5km loop. Once again, this increased loop counts, but overall skiers rode out the situation very well.

One item that your loyal National Director noted from the race course and jury decision discussions is that the World Masters Association does need to have a serious future discussion with regards to parity between genders in terms of discrepancies in race distances between age/gender categories. With all younger elite and recreational events going to even parity with race distances, it is unquestionably a reasonable discussion whether or not the Masters World Cup should also go down the same ski trail. Please find a preview of this topic on page 22 with a call for members to please voice your opinion if you feel strongly either way.

From the jump, Team USA performances were quite strong across the gender/age groups. For the event week, Team USA collected 62 medals (17 gold, 20 silver, 25 bronze). Team USA also won the F05 women's relay gold and snagged a whopping 4 additional bronze relay medals (3 women's and the M6 men's).

As so often is the case, our USA women crushed both classic and skate results race after race. With 21 MWC

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Photo Credit: S. Galinat

trips under my belt as USA National Director, I've said countless times that a huge reason for the consistency of USA women's results is our numbers. On a percentage basis, both the USA and Canada simply have more masters women taking part in the Masters World Cup. Within those strong numbers, we are also fortunate to have a lot of very talented athletes — several with remarkable racing backgrounds. As an endurance coach in three sports every year, I can say with 100% confidence that the combination of depth and talent is always a recipe for long-term success.

Not to be outdone, the USA men also featured numerous daily highlights results. The depth in the men's races is a serious challenge in Europe, but on any given day we annually have USA guys that can go out there and mix it up with the best on the planet. USA does tend to have more guys that prefer to skate which seems to be an increasing trend in our recent USA contingents. But that could be more a reflection of snow conditions in many USA locations in recent years rather than a true actual trend within our male skiers. Any thoughts from members on this topic would be welcome for future issues of the Digest.

It also should be said that local organizers as well as skiers from other nations often remarked on the positive energy flowing from the entirety of Team USA throughout the MWC2026. AXCS has had an organizational priority over the past two plus decades to encourage master skiers within a "big tent" of ability, experience, and fitness levels to take part in the Masters World Cup as often as possible. It's no secret that as AXCS National Director, I'm never going to get rich doing this gig. But it is far beyond any financial reward to see skiers of so many backgrounds — from former Olympians to I've-barely-have-ever-raced-before-folks — take part in the MWC with huge smiles on their faces.

Off the races courses, the famous Italian hospitality was on display everywhere. From a huge fireworks display at the Opening Ceremony to a multi-hour Closing Banquet — one thing you know you are going to get at an Italian MWC is a good time when the lights go down.

The morning after the aforementioned Closing Banquet, nearly 70 team USA skiers switched gears from the AXCS-led MWC2026 trip to the Lumi Experiences-led Olympic Weekend* add-on tour. The asterisk you see to the right is due to the International Olympic Committee festering (quite late in the game) over the use of

the Olympic name used in a professional tour package. Some could say that the IOC perhaps has bigger fish to fry in terms of priorities, but I'll let other folks debate that point.

Suffice it to say that everyone on the Lumi Experiences 3-day tour had a great time. We traveled by bus over to Seiser Alm for a wonderful afternoon of skiing and soaking up even more incredible mountain scenery. A lovely dinner and a stay at a completely brand new hotel (we were literally the very first guests!) transitioned the next morning into a pleasant two-bus journey over/back watching the women's Olympic skiathlon race. Saturday evening featured a walking tour of downtown Bolzano followed by another amazing dinner. Then we loaded up the buses Sunday to watch the guys Olympic skiathlon followed by another scenic drive to our Venice airport hotels. Three busy days seriously packing in activities (vacation harder people!), but everyone came away with big smiles and true appreciation of Garrett Kuzzy and his merry band of tour guides at Lumi Experiences.

Molte Grazie Italia!

Jessie D's Ride Into A Snowy Sunset

There are no words that can adequately describe the race career of Jessie Diggins. The sheer intensity of her racing style, the record-breaking results, the demons she has battled every stride from uber-talented junior to the absolute best female skier on the planet -- someone should make a movie. Oh right, they already did. If

Continued on the next page.

Photo Credit: John Gravlin



you have not already, please check out the documentary "Threshold" on Peacock. Overall a decent job chronically Jessie's life and career.

Whereas the USA XC ski scene has enjoyed a few superstars over the years, Jessie represents our nation's summit of individual XC success.

In what was by all accounts a relatively tough set-up for her conditions-wise at the 2026 Milan Cortina Games (warm conditions being Jessie's kryptonite), being able to claim a bronze medal in the 10km skate plus two other top 8 results -- as Adam Sandler might sardonically say, "that ain't shabby".

The Lake Placid World Cup lovefest just prior to Digest press time put a bow on this most transcendent of elite ski careers. In her final World Cup season, Jessie "only" claimed the distance and overall World Cup titles for the fourth time (each globe) while also hauling home the Tour de Ski overall title for the third time.

Those that know Jessie know full well that even though she is now retired from the elite Nordic scene, Jessie is going to keep going and going and going at something soon enough. It is an absolute certainty Jessie's considerable motor is just waiting to warm up for her next max effort challenge.

50 Years Later -- The Boys Are Back

It may be one of the most fitting part of the Milan Cortina Games storylines that as Jessie was exiting the picture two USA men with big futures jumped (and back-flipped!) into the frame front and center.

AXCS members are no doubt well aware that Ben Ogden's sprint silver medal and the silver Ogden also earned in the team sprint relay along with Gus Schumacher — ending a half century drought in Olympic hardware for USA men since Bill Koch's lone silver for USA guys back in 1976.

But hopefully members are also aware that Ben and Gus are hardly Cinderella stories. These guys have been emerging talents since they were juniors. They just needed the right time and right place to be really recognized. No better time than the Olympics! Ben and Gus also have a bunch of talent around them on the USA men's team. Here we go boys!

-- End --

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Photo Credit: Odd Osland



From Planet Earth Training In Outdoor Chaos

The following is an original article by AXCS National Director and XC Oregon Coach/Director **J.D. Downing** originally appearing in the free XC Oregon E-News (to sign-up for future e-news, just email jd@xcoregon.org).

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Although most Nordic skiers are well aware of what outdoor chaos now means in terms of the quality and quantity of snow to ski on in any given week of the modern winter, less discussed impacts are the implications for personal training and event preparation now and into the future.

Every master skier that has put a good amount of time into getting prepared for Nordic events is familiar with days that you either have to deal with the weather of the day or shift things around in your training plan to fit extreme storms, lack of snow or other snow/weather situations. This is, after all, a winter sport. So it's always been part of the equation that there are going to be times that what's going on outside the window impacts our winter training/fitness plans.

But as both a coach and a master skier myself, I can state without qualification that the amount of weather, weather events, and indirect impacts on training and races in both the on-snow and dryland seasons have been steadily increasing.

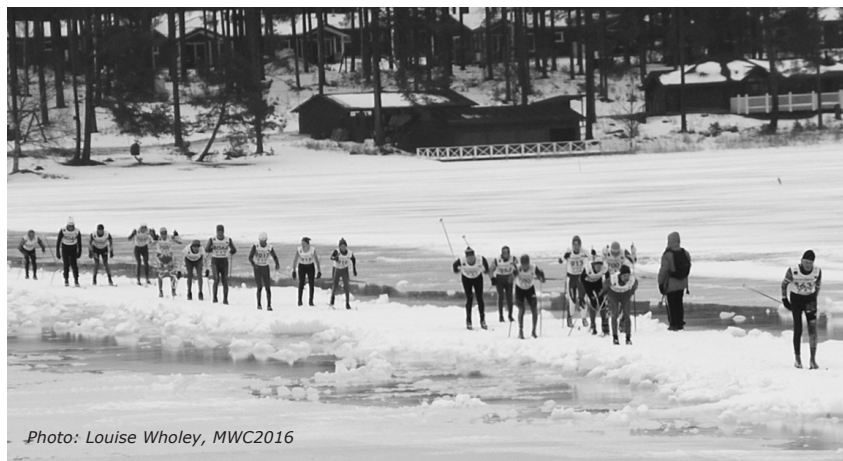


Photo: Louise Wholey, MWC2016

Whereas a decade or two ago you might have to adjust one workout per week on average due to some type of weather event or extended trend. Nowadays, my calculations are that it is more often 2-3 times a week on average that training has to be dramatically adjusted due to more extreme outdoor issues. Worse, these adjustments are hardly limited just to our winter seasons.

Dryland season in the western half of North America is increasingly impacted by massive forest fires that can directly impact air quality on and off for up to a 3-4 month span. Excessive heat, extreme humidity, extreme rain, flooding, mudslides, hail, wind storms, tornado threats, and even indirect impacts from major weather events such as amped-up hurricanes hundreds of miles from home are steadily impacting Nordic skiers trying to maintain a regular training program.

Of course, things really get interesting when snow should be on the ground. The 2025/26 winter season once again featured winners and losers with who saw consistent white stuff. The really weird feature of this past winter was that nearly the entire western U.S. had an exceptionally poor or (at best) wickedly uneven winter. When popular western ski locations as high as 6000-9000 feet from the Pacific to the Rockies are barely able to offer groomed skiing over an entire winter -- that's a really, really, really weird situation folks.

Now it's easy enough to shrug off one tough winter as an anomaly even if it does impact nearly half of the geographic XC ski nation. But few master skiers would argue that these days the real outlier winter is when everyone across the continent gets at least enough snow to play on from at least December to early March.

Without snow, it is pretty dang hard to be a skier effectively preparing for events. It is also pretty dang hard to keep on-snow events going when organizers have to cancel or modify things every other year or every few years or whatever the case may be.

When we are geeked up for a great ski season and look-

Continued on the next page.

ing forward to specific ski events, but enough snow to ski on in normally snowy spots becomes far from anything you can count on -- or you are expending weekly energy dancing around extreme weather events -- it's just a matter of time before we lose steam even for something we love as much as Nordic skiing.

The greater problem of climate chaos is well beyond the scope of this article. But I can offer some near-term suggestions for those finding themselves at risk of losing the motivational or logistical battles when it comes to climate chaos and XC ski training.

Anticipate change, always be flexible.

Particularly in the winter months when every day of skiing is increasingly precious, the days of assuming you are going to have good skiing or viable weather on most the days you want to get in important workouts are over.

As both a coach and occasional master athlete, I am now firmly in the habit of continuously looking 5-7 days ahead in year round forecasts so I can anticipate when and where I may need to shift things around in advance. I'd rather crowd a couple intensity or distance sessions than take a risk on emerging negative weather or snow conditions screwing up training plans. The key nowadays is to play percentages and know when you simply have to get out there and get work done or else be left wishing later on you had done so when things go sideways.

Operate in shorter micro and macro-cycles.

Once upon a time it was possible to talk with master skiers about training weeks in terms of 7 day weeks and 28 day months. Now we are far better off operating in shorter time spans and often a big reason why is directly because of outdoor chaos. If you are suddenly facing a block of dryland time with wildfire smoke or "historic" heat waves -- you need to be able to figure out some short micro-cycles where you can maybe escape for a few days of smoke-free exercise. Same goes in the winter where the challenge is usually just getting on snow, but increasingly can also mean super cold or warm temps, constant storms of all flavors, and/or finding snow to ski that is good enough quality to make training worth the time and effort.

Have alternative plans to fit different situations.

It is now a fact of a master skier's life that you will have days year-round that you simply cannot get in the type of workout you'd prefer. Instead of sulking, start developing a list of "plan B" workouts that you can do in any season and within any weather/outdoor event scenario. Indoor sessions, workouts in weather-protected locations, shorter intensity or strength workouts that limit your exposure to nasty conditions -- be creative, be determined, and get it done.

Celebrate the good days.

The world we now inhabit no longer offers up the guarantee of magical ski days or glorious dryland training in the quantity we remember or wish was still the case. So it's on all of us to truly celebrate the days when we can look around and be completely blown away by an awesome gift of perfect conditions any time of year for our outdoor fun. We can no longer take such days for granted.

-- End --



One of the great gifts of sports is learning how to fail in public. People never go to the gym because they're scared of looking stupid, never share their writing because they're scared of judgment, never open their heart because they're scared of rejection. Sports train you to face your fear.

-- James Clear, author of "Atomic Habits"



From Norway **Don't Stress This Summer**

Written by legendary Norwegian masters guru **Bjorn Arvnes**. *Note: This article has previously been used by AXCS media. But because Bjorn Arvnes really is a legendary masters guru, the content is just as applicable today as it was over a decade ago.*

*Translation and summary
by **Inge Scheve** exclusively for AXCS media.*

Whether you are satisfied with the winter season now over or not -- don't stress this summer. Everyone needs more or less of a break after a long season.

Back in the fall, everyone looked forward to pulling the skis off the shelf and to get started moving on snow. We set goals for the winter -- some of which were attained and some that were far from realized.

This time of year we need to objectively evaluate those goals and how the winter went so we can do better in our own eyes next winter.

For the majority of masters correct technique is everything. Accordingly, the largest improvement will be refining technique issues, which we spent the first part of the winter season working on. This training can help avoid bonking somewhere around midways in a 50K.



Photo: MWC2022 Canmore/CAN (John Gibson)

Focus on Base Training

During the summer months, I still recommend focusing on base training rather than keeping track of time. Don't count minutes and seconds, in fact, don't worry about time at all. Just "hurry slowly" into a base fitness season.

Assuming you analyzed your season carefully, there are identified areas that need work. Be it conditioning -- as experienced on the uphill last season where you ran out of steam -- or excellent training ruined by sub-par wax jobs, you know where you need to improve.

No matter what, be honest and set attainable goals. If you mean business, there are no short cuts, only long-term hard work.

Also consider your day-to-day life last season. If you didn't perform to your potential, frequent colds, stress or other long-term ailments could be to blame. If you lacked in energy, it's futile to expect your body to perform at its peak or deliver top results.

Several elements influence your performance: The number of training hours may not be the variable that produces better skiers. Examine the whole picture -- maybe things can be done differently and more relaxed?

Natural Intervals

I have always been the opinion that training should be fun, summer and winter. During the summer season, we often engage in multiple activities and do some type of natural intervals as often as possible.

Roller skiing is not the most important part of summer training. Consider a few good bike rides, both for the nature experience and commuting as well as to break a good sweat. Alpine hiking is also excellent training.

Don't feel guilty for "slacking". Masters in particular need to prioritize recovery.

Continued on the next page.

Regardless of activity, stretch well both before and after workouts. Don't let your muscles go into hibernation. You have to treat them well to avoid injury.

Improvise a little this summer -- do something new. Experiment, but don't completely forget the basic training guidelines.

On Endurance

General summer activities can replace some ski, run and roller ski distance days. To build endurance, the majority of the work should be at easier heart rates over the time you have available.

Long Slow Distance (1 hour 30 -- 2 hours 30): One to two sessions per week. Ideal for biking sessions during which more terrain can be covered. Keep it slow enough to chat. With long hikes and/or runs: use skiwalk techniques on longer uphill.

Interval Sessions (1 hour): One session per week. Higher intensity than LSD ("long slow distance). Medium long intervals (four to seven minutes) and equally long recovery. No more than threshold. This works the heart and increases the time your body can sustain work at threshold pace.

Strength sessions: Both general and specific strength can be done at a gym, in circuit routines, or on rollerskis (specific).

Competition/Pace: A race or time trial on an occasional basis (every 6-8 weeks) over the spring/summer/fall. At minimum this is good as fuel for your ski training.



Photo: Odd Osland

"Barebones" Plan For Advanced skiers

June -- July:

LSD: 1-2 days/ week, 1 hour to 2 hours 30 per session.
Bike, hike, run, paddle, whatever.

Intervals: 40 - 80 minutes per session, 1 day/ week.

Option #1: 45 minutes natural intervals

Option #2: 45 minutes rollerski

Option #3: Swimming, rowing, biking, games
(soccer, team handball, ultimate frisbee...)

August:

LSD: 1-2 days/ week, 1 hour to 3 hours per session.

Bike, rollerski, hike, run, paddle, whatever.

Strength/ Alternative activities: gym sessions, aerobic, swimming etc.

Intervals: 1 day/ week, 45 - 80 minutes per session.

See June - July options plus.....

Option #4: Skiwalk/ -bounding 3 - 5 reps each 3 - 6 minutes.

Option #5: Timetrial 45 minutes once per month

-- End --

What I learned from not winning the 2023 Tour de Ski....

Listen to your own body - you're the only one living in it.

Trust your plan and the (people) who know you. It's ok to ask for what you need. Sometimes that's a hug or a shoulder to cry on. Sometimes that's different wax on your skis. Sometimes it's a rib adjustment from your PT. Whatever it is, you have to be willing to ask for it - don't assume people can read your mind.

You're allowed to have feelings. It's ok to feel heartbroken, frustrated, disappointed. The way to move through it is to acknowledge and process those feelings so you can also feel gratitude, joy, peace.

One thing that helps is to fully enjoy and be in the moment with the successes of your teammates.

I'll never be done learning, but that's what makes life interesting!

-- Jessie Diggins



From the XC Ski World

Questions About Masters Age/Gender Race Parity

*The following has been prepared by AXCS National Director **J.D. Downing** not so much as an article as a Q & A with background provided where impacted members are encouraged to provide feedback and ideas in coming months.*

Question: Should the Masters World Cup move towards complete race distance parity between age/genders categories?

Before we get too deep into the question above, it's best to list where things are right now with the MWC race distance structure as well as a bit of recent historical background.

Here are the race structures used for all the MWC2026 races in Sappada/ITA this past winter.

Men M 01-06 (aged 30-59)
20 km, 10 km, 30 km Blue course

Men M 07-09 (aged 60-74)
15 km, 10 km, 30 km Blue course

Men M 10-13 (aged 75 and over)
10 km, 5 km, 15 km Green course

Women F 01-06 (aged 30-59)
15 km, 10km, 30 km Blue course

Women F 07-08 (aged 60-69)
15 km, 10 km, 20 km Blue course

Women F 09-13 (aged 70 and over)
10 km, 5 km, 15 km Green course

The current age/gender distance schedules were tweaked starting in 2023 mostly to reflect the belief within the majority of the WMA Board that we were stretching some skiers too thin with the previous total kilometer count. Feedback from male skiers 30-59 years was that the previous calendar of a 30km, 10km,

and 45km was too ambitious given (all-too-often-these-days) limited snow time, the reality of missed work/family time, and the abundance of major loppet events closer to home that many skiers annually prioritize.

WMA did not change the calendar at all effective 2023 for the other age/gender categories. This was based on polling and consistent messaging from skiers in the other age/gender categories that they were mostly happy with the schedule "as is".

As many members are aware, on the elite FIS World Cup there has been a gradual implementation over the past few years towards full gender parity with race distances — including at the World Championships and at the recent 2026 Winter Olympics. That movement towards race distance parity has also trickled down into the USA junior ranks and the two collegiate associations.

It is very notable that within the elite FIS scene there is not universal agreement with how the elite race community views race distance parity. Skiers and coaches have been quite vocal with their opinions for and against the movement into parity — and those opinions do not always line up the way an outsider might suspect. Regardless, we are now at a point where entire World Cup calendars and full Olympic slates are completed with the

Continued on the next page.



Photo: Muffy Ritz MWC2006

exact same distances for both men and women. The last time we checked, the world was still spinning.

OK, so let's get back to the question presented here. Should the Masters World Cup move towards race distance parity between genders?

With female skiers in the younger age block (women 30-59 years) race distance parity would only require WMA to shift the opening middle distance races from 15km to a 20km. This is a pretty minor change and organizationally wouldn't really move the needle either way (easier or harder) because the middle tier of age/gender categories still would have middle distance 15km races. So the key issue is whether or not a clear majority of women in those categories prefer the status quo or would prefer an added 5km tacked onto their MWC week.

For AXCS, this is a true mystery as the association has heard minimal input from women in this youngest age block whether the majority prefers a 15km or a 20km middle distance MWC schedule. Any skiers that would like to send in your opinions are very welcome and encouraged to do so. Please email axcs@xcskiworld.com

Once we move into the F07, F08, and F09 categories is where things get really interesting.

Women in their 60s are currently racing 20km for the long distance MWC races compared to 30km for men in their 60s. Otherwise the schedules are the same for middle and short distances (15km and 10km respectively). This schedule was in place for a number of years prior to the 2023 changes and input from female skiers in their 60s has been consistently favorable.

Within USA contingents, there has not been any consistent messaging along the lines of "I wish we also were skiing a 30km" from our many USA women in their 60s. It is certainly true that no entity — not WMA, not AXCS, not any other national masters association worldwide — is regularly polling skiers to make sure they are happy with the MWC schedule design. But over the decades AXCS has found that when master skiers are truly unhappy about something, they don't tend to be shy about voicing opinions. For example, when it wasn't apparent where toilets were in Sappada at the start of competition, that was a source of near-instantaneous concern from many USA skiers. *(Enough toilets were there, a bunch of them just had lacked signage as to location.)*

So once again a sub-question is on the floor for our current and soon-to-be F07 and F08 skiers (ages 60-69) — would you prefer to have a 30km instead of a 20km as the MWC distance race? Please email axcs@xcskiworld.com

The final point of focus — what to do about the F09 category — is the one that raises the most outcry no matter which direction folks favor.

Currently F09 women (ages 70-74) are assigned the green course age/gender block and associated race distances five years earlier than men at the exact same ages. So the F09 women race a schedule of 10km, 5km, and 15km while the M09 men are racing 15km, 10km, 30km. This is by far the biggest difference between the age/gender categories with 25km total kilometers separating the two categories.

With the F09 situation, both WMA and AXCS have indeed done official and casual polling over the years with amazingly inconclusive results every time. In short, when AXCS has gotten 20 replies from impacted (or soon to be impacted) F09 women, there has consistently been a near matching number of women that prefer either the status quo or parity with the M09 men.

But just because the past efforts to get input from skiers didn't yield a conclusive trend doesn't mean AXCS shouldn't try once again. So it would be wonderful if we could get input from women close to the F09 category and in that category now (let's say any female 68-74 years in 2026). Your feedback would be greatly appreciated. Please email axcs@xcskiworld.com.

-- End --





From Norway **Dealing With Time Constraints**

*The following is a translated and summarized version of an article by **Håvard Skorstad**.*

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

Translation note: The author here is a former professional cross-country racer that joined the ranks of average master skiers putting in three to six workouts per week while holding down a full-time job and juggling family in addition to training for performance.

Create your own training program

Regardless of whether you are a full-time, professional ski racer, or train a couple of days per week aiming for a few citizen races, it's easy to fall prey to a monotonous training pattern consisting of the same workouts and the same volume week after week. Designing a varied training program can help counter this trap. However, formal training programs also create new challenges. Everyone has a different starting point. Some work a lot of hours, others have limited access to snow. Try to design your own training program based on your unique situation. This will not only help with variety and purpose in your day to day training, but also force you to learn more about your own training and the training process.

Getting started

First, determine your goal. This can be to ski as fast as possible at a specific event. Beware of focusing solely on result, as you can't influence how fast other racers are going to ski. Next, identify how to reach your goal. In order to do so, consider what the event demands of the participants. Focus on areas where you want to improve.

For instance, if the race course is a fairly complex loop consisting of both sustained climbs and longer flat double-pole sections, and will take two to three hours to complete, you need a training program that will prepare you for this. Summary: You'll need endurance strength for double-poling, cardio fitness for the sustained hills,

and you'll need to keep it together for at least two hours.

Keep it simple

These three components can be trained in three weekly sessions: one roller ski workout focusing on double-poling for endurance strength, one specific foot intensity workout with ski poles and moosehuf intervals for cardiovascular fitness, and one longer, easy distance workout (your choice of running, biking or roller skiing) for basic endurance.

Periodization

Until recently, the general rule for cross-country skiers was to train lots of easy volume and a couple of harder workouts per week. However, the past few years a new trend has emerged, focusing on training blocks. Using this model, some weeks will be low in volume but higher in intensity and others will focus more on logging high volume. This model can be useful also for masters racers, but use extreme caution with intensity. It's easy to overdo it. So rather than jumping into the full-monty block with 15-18 intensity workouts in 8-10 days like the national teams do, aim for three to four intensity workouts during a week with low general life stress. Follow up with a low intensity week with higher volume. Designing your training program around blocks also makes it easier to incorporate more variety and avoid monotony.

Summary

Focus on the easy components, strive for periodization and consider designing your training program in blocks for added variety and better effect.

-- End --

No amount of anxiety makes any difference to anything that is going to happen.

-- Alan Watts



From USA

Training Parameters For 70+ Athletes

*The following is an original article by AXCS National Director and XC Oregon Coach/Director **J.D. Downing** originally appearing in the free XC Oregon E-News (to sign-up for future e-news, just email jd@xcoregon.org).*

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for the XC World Digest.*

Athlete: *I'm looking for training plans tailored to experienced skiers over 70. I'm realizing as I age, my old habits of training need adjustment, especially a structured kind of approach. Any suggestions?*

Coach Reply Notes:

As someone that works with an incredibly diverse range of master skiers every winter, I can safely say that there are really very few fundamental differences between what skiers 70+ are doing these days compared to skiers a decade or two younger. So a lot of the time, a 70+ skier could use similar masters training plans as "junior masters" and have things go quite well — provided a few very important adjustments are made....

1.) Typically skiers 70+ add recovery time whether it be between intervals and/or between training/fitness sessions viewed as harder efforts. The amount of added recovery time, regardless whether we are talking about minutes or days, varies a great deal based on individual circumstances. The overall age of the skier will also play a big role.

A reasonable example of added recovery between intervals can be seen in a basic 4 repeats x 4 minute workout. A skier in their 50s might use 2-3 minute recovery between each interval. By comparison, a 70+ skier might need 4-5 minutes of recovery between intervals. Every skier will be different.

The amounts of days recovery needed between harder workouts would have similar spacing differences. A 50-something might have no problem doing intensity workouts with 2 easier days in between. By comparison, a 70+ skier might need 3-4 days spacing. Again, every skier will be different. Learn to know thyself.

2.) The importance of a complete training diet is heightened as we age. In particular, regular strength shifts from "a very good idea to have in the mix" to an absolute mandatory component of the 70+ skier fitness matrix.

Whereas a younger master might get away a more casual approach to gym, circuit, or specific strength, 70+ skiers tend to need to fit in strength on a much more regular basis. This due to the unending battle against the natural loss of muscle mass.

Note that longer and harder strength sessions aren't necessarily the best idea. For some 70+ skiers, the best approach might be more frequent strength of modest duration, but with a lot of variety. Heavier or higher resistance loads might be great for some folks and perhaps questionable for others. Individual differences and careful experimentation can play a huge role in determining the most productive strength plan for each skier. The bottom line is that strength absolutely has to be a big part of weekly fitness/training for every 70+ skier.

70+ skiers also need to maintain regular intensity, longer easy base work, and technical training. How much of each depends on the skier and individual goals.

3.) Productive fitness/training activities in the dryland months vary enormously for 70+ age athletes. So when you adopt training plans for your needs, 70+ folks need to recognize what activities give them the best return on investment. It's perfectly OK to be you. Don't pretend to be someone you aren't.

Continued on page 27, right column.



Photo: NM2005

The only real weight in my travel system comes via the small three part Swix portable vise I carry. Overall this system generates so little excess wax that it can be applied on a table in a hotel room!

There are other skiers using similar methods at MWC. I see no reason why some of the products of other companies would not work as well or better using this temperature specific and manual method of using multiple brushes. As a customer of Caldwell Sport, a collaborator with Star Wax, I have worked with inspiration from their fleecing system.

There is one big caveat here. No wax manufacturer, distributor and least of all serious racer wants to leave potential lying on the wax table. Applied according to instructions the modern waxes from multiple companies can be remarkable and this simple travel system is probably not going to get that full potential from the wax! From my own experience, I offer the following: I have used Star liquid Wet 31 on occasion at MWC and Suzanne has reported good skis. The first time I used it on our home course 60 miles east of Seattle I applied it with a long haired fleece at high rpm's, Suzanne was astounded! "What did you put on my skis?!!"

Nonetheless, this system has proved capable of delivering for its adherents. It has produced competitive skis in most instances. It is easily transportable. It can be adapted for use in a wide variety of physical spaces, not dependent on electric outlets or requiring a formal waxing bench. For me, the aging partner to an enthusiastic ski racer eight years my junior, it has enabled my active participation in the fun of the great event that is Masters World Cup!

-- End --



70+ Training continued from page 25.

Example: Some folks are still regularly using running as a training method at least part of most activity weeks well into their 70+ years. But other skiers the exact same age will have completely stopped running decades earlier and switched to exclusively hiking, biking, and/or paddling.

There's loads of other examples of top performing skiers 70+ that haven't been on a pair of roller skis for years (maybe even decades). Then you can find other 70+ folks rolling every dryland season without issues. The key isn't what you are doing, but really that you've figured out an activity mix that works for you. And then be prepared to adjust as necessary while you continue your life's journey.

Most training plans can be adjusted to fit your preferred aerobic activity or activities.

-- End --

Use That Snow To The Very End!

Given how precious our time on snow is these days, one can make a case that it is every master skier's obligation to "suck the marrow out of every ski season" when it comes to the final weeks of available white stuff.

That said, ski conditions and fun factor skiing in the spring can vary enormously. There is a point where every skier needs to know when it's best to call the party over. So there's a balance act at play here.

One of many fun ideas masters can employ in the spring on the last of your local snow is a personal multi-event challenge. The basic idea is to dream up a route that will require you do several different activities -- with a mandatory XC ski "leg". Ideally you want something point-to-point, but a big loop works. If the logistics just are too daunting, then just create loops from a set point. In addition to the XC ski portion, you can use any type of cycling, running, hiking, paddling/SUP -- even swimming if you can manage cold water.

This can be just an easy long session or a 1x per year personal time trial. It's ideal if friends join you, but it can also be a great solo adventure.



From France

Marathon Technique: Adapt & Adjust Your Style

*The following is a translated and summarized version of an article by **Yannick Jeannerod** originally appearing in the French XC ski magazine **Ski de Fond**, No. 45, Winter 2010-11. This article has also been used previously in AXCS media.*

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

Dry or wet snow, courses exposed to sun or in the shade, slanted courses, steep descents... Marathon skiers frequently encounter all or some of these factors over the course of a race. Changing conditions and terrain require the ability to adapt and adjust technique. Mastering multiple techniques not only makes the race more enjoyable, but increased efficiency also leads to faster skiing and can considerably improve your final placement.

Multiple techniques

For the average skate skier, technique variations include V1, V2 and V2 alternate. Which to use depends on terrain and resistance, as well as the skier's efficiency, proficiency, strength and balance. For instance, an Olympic-level skier can handle a faster technique in tougher terrain than a less experienced skier. Furthermore, the choice of technique also depends on the distance and the length of a climb, which in marathon events can be substantial and requires a different technique than "as seen on TV."

Adaptations

Cyclists have developed grace and finesse to overcome the challenges of a race course, and they use different gears for different kinds of terrain. Similarly, skiers develop an infinite amount of adaptations to each technique in order to address variable conditions: tempo/turnover rate, involvement of arms, level of upper body/core engagement and so on. The different techniques are the skiers' gears. For instance, V2 is developed for flats and gently climbing terrain but you'll find several versions of the V2. The one used for gentle climbs is

different from the V2 technique used at the end of a sprint final or the V2 technique on short, steep climbs. And while V1, V2 and V2 alternate are the most common techniques for marathon skiers, there are plenty of variations to all of them that are worth adding to the repertoire: No-pole skating for downhill terrain, no-pole skating while pumping the arms like a speed skater adds propulsion on downhill and easy terrain, and "half-skate" steps on steeply canted slopes are some examples.

Aim for efficiency: milk the glide phase

Particularly for marathon skiers, capitalizing on the glide phase is utterly important. In order to get the most from each glide, it's important to focus on improving balance.

Balance allows you to glide longer, especially at high speed, and therefore ski faster. It is interesting to note the variety in tempo and rhythm in elite skiers, who are capable of differentiating between the work phase (contracting the arms, leg propulsion) and the rest phase (glide). This concept is particularly obvious when watching elite skiers do the V2 alternate: they generally execute a short and intense work phase and then profit from the work by milking the glide to both sides.

Continued on the next page.



Photo: Worldloppet (AUT)

To train this technique, ski with a group of good long-distance skiers and try to make the effort as “easy” as possible.

Improving balance also allows skiers to clear various obstacles faster and more graciously including banked, steep descents at high speed and passing other racers in tricky places without risking limbs or equipment. Observe elite skiers in these situations: they handle varying snow conditions and speed changes, negotiate turns without using their poles but rely on balance and weight transfer to shift all of their weight onto one ski even in tricky terrain.

Coordinate your moves in drafting situations
Skiing in a pack has many benefits – the drafting advantage should not be underestimated, especially in long-distance racing. You’ll get biggest benefits from drafting in fast conditions and on long open flat section where the glide phase is emphasized. Similarly, long uphill climbs and in very cold/dry snow, you’ll notice the least benefits from drafting.

Because marathon skiers often ski in packs to capitalize on the drafting advantage, it’s important to work on coordination. To get the most out of drafting, you need to stay as close as possible to the skier in front of you. That requires the ability to coordinate your moves to the other skiers in the group, so that you don’t cause a group crash. Practice skiing in a group, to get comfortable with the peloton environment and practice all the different techniques and adjustments you might encounter in a marathon. Finally, it’s important to find a peloton that is at the same level, a speed you can maintain.

Realizing your potential

- Design your own time trial course – ideally not too far from home, and roughly 6 kilometers distance. Invite friends and make it your baseline test to see how you measure to a group of skiers you train/race with regu-

larly. If possible, have someone follow in a vehicle to identify which sections/type of terrain you fall back and where you excel. Use this feedback to train those weaknesses and learn where you can conserve energy.

- Aim for fluid motions: The most fluid skiers waste the least energy. To maximize/increase fluid motions, learn to anticipate changes in tempo and turnover by scanning the terrain ahead and adjust your technique accordingly. Along the same lines: maximize the glide & ski big to increase efficiency.
- Finally, consider etiquette: when skiing in a pack, find a group of the same level, and take turns at the front. Nobody likes the skier who only sits back and never pulls. Lead in the terrain where you are strong, sit back where you need the assistance. And afterwards, support everyone in the group & give credit to your race companions!

-- End --

Self-Defense In The Heat

Active adults 50+ are among those most likely to suffer when training in high heat conditions. Heat exhaustion isn’t just for the couch potato set! Symptoms? Dizziness, faintness, and nausea. Cool, moist skin is common with either a flushed or pale look. May lead to vomiting if severe...death if left untreated! Some Tips:

- * Avoid high-fat, high-protein foods before heading outside in really hot weather.
- * Water is your friend, try and drink a half hour before going outside and take a bottle with you even on short workouts. 32 ounces or more if going outside for 60 minutes plus.
- * Use a sports drink. The electrolytes will help replace minerals lost in sweat and the sweetness will generally help encourage you to drink more and more often.
- * Avoid alcohol and caffeine.
- * Wear loose, lightweight clothing.

Source: Bottomline Health, Mary Hardy, MD.



Photo: MWC2017 - Klosters, SUI

MWVC2027 Sappada/ITA

Photos: S. Galinat, K. Seaward, A. Stanek, R. Corkran, D. Lauri, AXCS



+ 2026 Milan Cortina Olympic Fun





From Norway, Finland, & Canada **Masters World Cups** **Thru 2029!**

Written by
AXCS National Director **J.D. Downing**

This past winter at the MWC2026 in Sappada, I had dozens of conversations with USA skiers about coming MWC events and the overall future of the MWC as an event. Some members may remember an article on this exact topic appearing in the Spring 2025 AXCS Digest. So if you have one of those copies around you can refresh the past discussions (*or if you want, you can just go to the handy member's-only [xcskiworld.com/Kern](https://www.xcskiworld.com/Kern) page to see the Spring 2025 digital issue - page 14*).

Last year's article focused on the many macro challenges and issues impacting the future of the Masters World Cup both in terms of the USA deliberately skipping a scheduled hosting slot in 2028 and also the overall viability of the MWC. It's interesting stuff for those that love the event, but perhaps not the most fun reading given the scope of future challenges and scale of issues.

This spring we'll focus on several developments over the past year that provide clarity on event hosts up until 2029 — with at least a conceptual plan emerging for the years to follow past that point.

MWC2027 is a locked-in guaranteed great time

As AXCS has raved about earlier in this Digest issue, there is a whole lot to love about the coming MWC2027 in Tromsø, Norway. You know you want to go. It's just a matter of making a commitment folks!

Yes, AXCS knows the dates create a dilemma for you American Birkie loyalists. Everyone is fully aware some of you have decisions to make. However, it is possible to get to Tromsø post-Birkie and do both MWC distance events (plus possibly the relay!). That's a potentially fun option to think about if you can race both techniques.

Aside from that dimension, all signs point towards a big USA contingent in Norway next winter, an incredible

place to visit, and a bucket list adventure/experience for one and all.

MWC2028 is now officially combined with the ***2028 Winter World Masters Games*** ***in Lahti, Finland -- January 2028***

For the first time ever, the World Masters Association will be joining forces with the Winter World Masters Games and the cross-country ski events at the Games hosted by Lahti will incorporate what promises to be a mostly-normal MWC program. A few minor tweaks may be necessary to fit into the considerable footprint of the 5,000-participant WWMG, but the potential of this historic combined effort will be well worth any minor compromises.

As of press time, WMA just completed a working visit to Lahti by our Technical Vice-President to finalize race course designs and determine preliminary logistics. Given the rich skiing history and experience of the local Lahti organizers, there is 100% confidence within the WMA Board that this is going to be a true MWC racing

Continued on the next page.



Photo: S. Hickman/Laurie MWC2024

experience set in one of the truly iconic global Nordic venues.

With fantastic skiing options in every direction, dozens of other sports going on throughout the event week, and the opportunity to visit nearby Helsinki and other area attractions — this is going to be a super exciting MWC. Exact mid/late-January 2028 dates for Nordic Skiing are being finalized now.

MWC2029 isn't completely official yet for Canmore, Canada, but it just needs a rubber stamp approval this September

Your loyal AXCS National Director spent a few days in Canmore recently to do the official WMA bid inspection of new changes in town since the wildly-successful MWC2022. Let's just say things up in Canmore are even better than a few years ago (if you can imagine that)!

Over the past couple years, a brand new, multi-million dollar event complex has been created in the 1988 Olympic biathlon venue side with huge upgrades to the race stadium "floor" making the entire stadium area almost double the size as the MWC2022. What's more, Canmore continues to upgrade their already considerable snowmaking capacity and now have the ability to guarantee as much as 7.5km of masters-perfect ski trails regardless of what Mother Nature has in store.

All the wonderful attributes and attractions that made the MWC2022 so popular with skiers around the world are primed to once again welcome the XC ski world. Hopefully this time without the one year delay and health issue backdrop of a pandemic!



The WMA Board will vote in September to rubber stamp the Canmore MWC2029 bid.

***Looking past 2029:
Here is where things get really interesting***

The entity that runs the Winter World Masters Games — World Masters Sport (formerly International Masters Games Association or IMGA) will begin hosting the WWMG events every two years starting in 2030. Up until the Lahti 2028 WWMG, previous winter events were spaced 4-5 years apart. Further, World Masters Sport has reportedly been researching either Lillehammer/NOR or Sapporo/JPN as the location for the 2030 WWMG.

With either of those potential venues likely to be announced in the coming year and assuming a successful partnership with the 2028 WWMG, the WMA Board would be perfectly comfortable renewing the partnership with the Games format and the Masters World Cup in 2030.

This partnership makes perfect sense if you think about it. WMA has all the looming challenges and issues described in the Spring 2025 Digest making it harder and harder to find quality destinations for exciting and well-attended MWC events. By contrast, the WWMG has huge numbers because of the sheer scale of the event, but has struggled in the past to captivate the cross-country ski community. With the WWMG moving to every two years, marketing conflicts between the two organizations would be inevitable. By using Lahti 2028 as a "proving ground" for a lasting partnership, we collectively may have a logical ski trail forward for masters cross-country skiing into the future.

-- End --

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From Norway

Getting The Most Out Of Your Dryland Training

*The following is a translated and summarized version of an article by former Norwegian World Cup superstar racer and current ski coach **Trude Dybendahl Hartz** originally appearing in **Norsk SkiSport**, No 6, 2008. This article has also been used previously in AXCS media.*

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

Double pole technique has evolved tremendously over the past years. It's particularly the evolution of the sprint events that has propelled these changes in the technique. Not only the brute force, but also the turn-over rate has contributed to the changes.

These days, skiers aim to move all of their body weight over the poles before planting, use the force of the fall onto the poles to generate power, especially through the early phases of the poling cycle. They are also careful to avoid poling too deep as their hands pass their legs in the second half of the cycle. This technique activates the entire core: abs, shoulder, chest, back and arms as well as all the stabilizing muscles in the torso.

Checklist for roller ski workouts

While double pole skiing in easy terrain, be aware of the following as you plant your poles.

1. Check in with the soles of your feet - locate where the bulk of your weight is centered. Is most of the weight evenly distributed all over your foot, on the back half or the front part?

Notes to 1: If your weight is distributed evenly over your foot, you don't get over your poles with enough of your body weight at the time you plant your poles. This robs you of getting the most out

of the energy you generate, and the small tricep muscle gets the bulk of the job of propelling you forward.

2. Be aware of how you position your hips - are you sticking your butt out? If so, you are arching your lower back a bit much.

Notes to 2: If your butt is sticking out because you arch your lower back early in the poling phase, you likely never got far enough forward before planting. You probably bend too much in the elbows and hips.

3. How do you plant your poles - at a good angle or closer to 90 degrees?

Notes to 3: If you plant your poles at a steep angle, you probably plant fairly close to your feet and don't capitalize on the power you generate. This happens because you don't get far enough forward on your poles before planting, and you miss out on the power. You end up too far back toward the end of the poling cycle.

Continued on the next page



Photo: Craftsbury Ski Marathon

Once you've identified your weak points, you can get after the good stuff. Consider these drills when roller skiing in easy terrain.

- a. Try to mobilize all of your body weight forward to where you feel the most pressure on the front half of your foot when your poles hit the surface.
- b. Plant your poles at least a foot ahead of your feet. This will help you plant at an angle closer to 90 degrees than 45.
- c. Focus on activating your core to better generate power.
- d. Make sure you flex your knees and ankles slightly as your hand pass your legs. That makes it easier to maintain the power from the poles into the ground all the way through the cycle, which ends when your hands are just behind your legs. Exactly where you end the cycle depends on desired speed and effort level.

Double-poling is a perfect roller ski drill. Make sure you get forward on your poles and activate your core. This also delivers a "free" strength workout, and you'll recognize all kinds of small muscles that are activated throughout the cycle. All of this contributes to generate power and speed.

-- End --



Photo: MWC2007 Mark Johnson

Physiological Changes and Nutritional Priorities For Masters Athletes

What Do We Know About Masters Athletes?

Loss In Muscle Mass -- Beginning after age 40 the rate of decline has been shown to be roughly 0.5% to 1% per year. Regular exercise and strength training can prevent or slow this decline. No one has perfected stopping the aging process entirely with exercise. But you certainly minimize the physiological effects compared to a sedentary lifestyle.

Aerobic Capacity -- The bad news? Up to a 10% decline per decade has been shown in research to date. Good news? As with loss of muscle mass, you might not stop the aging process, but you certainly can slow the decline with continued high fitness and training levels.

Dietary Needs -- Master athletes absolutely need to adjust their diets when training and racing at levels that require increased energy needs. But the key for these same athletes is to constantly adjust downwards when the physical load isn't as great. Master athletes also need to pay attention to diets high in antioxidants which may help with recovery and performance. Think deep-colored fruits and veggies (raspberries, blueberries, tomatoes, broccoli, kale, etc.). In general master athletes should focus on diets high in whole grains, leaner protein, and healthier fats (monounsaturated and polyunsaturated should dominate).

Hydration -- Often as people get older they may not hydrate as well as they should. A water bottle at work that is drained and filled several times a day is a good goal. Same with 1-2 water bottles during and after every workout (with or without adding athletic drink mix).

Source: Original article by Stella Lucia Volpe, Ph.D., R.D., L.D.N., FACSM appearing in ACSM's Health & Fitness Journal, Vol. 14/No. 1.





From Minnesota, USA **Bold Not Old**

*The following is an original essay contributed by AXCS member **Peter J. Dorsen**, M.D., LADC. Many thanks to Peter for this addition to the XC World Digest.*

AXCS welcomes original pieces like this from our members that paint a picture of different parts of the XC ski nation, world -- and/or feature you and others out-sidendoing interesting stuff large and small.

To contribute something for future AXCS media projects, email the AXCS Office at jd@xcskiworld.com

The demanding sport of cross country ski racing is incorrectly viewed as a youthful challenge and not for an octogenarian like me. Is it agism? I'm thrilled now being in the "80 and over" class at ski marathons, a rare perk of growing older. Competition has thinned. Experience tells me. it's not always how well you race, but who shows up.

Where did my competition go? Some went south (Skiers Heaven). Some winter in Sanibel. Some can't get a pass from their nursing home, and some can't fit a Depends diaper in their racing suit.

Statistics confirm we will not go away but will grow in number. In North America alone, according to estimates from the United States Census, those over 65 will escalate from 43.1 million in 2012 to an estimated 83.7 million by 2050. Those over 85 are the fastest growing segment of the U.S. population. There will be more 80-year-old racers on the starting line.

I laugh remembering the start of one big race. As the



Photo: Norwegian Birkie

national anthem reverberated through subzero chilled air, I turned to an equally psyched up younger guy ready on the track next to me. We both shiver in our micro thin long underwear and our Lycra racing suits. "How old are you?" I ask, "I'm 30, and you?" Experiencing mutual pre-race jitters, I answer proudly, "I'm 81." With a head turn that could cause whiplash, he exclaims, "Wow, I want to be like you when I'm 80." I laugh, "I want to be like you at 30."

"Five, four, three, two one. Go!" I watch the young bucks disappear into the woods ahead. This isn't my first rodeo. I'm in slomo. Stay Zen. Senior pace. Don't bonk. Don't quit. Gotta' finish, I wince at the finish, "Here comes Peter Dorsen from Eagan. He's the oldest racer out here today."

My goal (besides finishing) is to dispel myths about aging to the high school kid from Bemidji, a fourth my age swishing easily alongside skiing his first Korteloppet. In this year's Mora, Minnesota 51K Vasaloppet, I am skiing side-by-side in the first kilometer with a fit woman also huffing and puffing. Between she explains between breaths that she is a college professor and mother with two young kids. "I skied for Dartmouth. I'm thrilled to be back at it." She compliments my energy. "Don't talk, just breath," I advise her. We laugh as I ski by.

I am passed many times as I slog the five times around the 6.5K man-made hard and icy loops of the Loppet, with screeching downhill and Everest-like climbs. Three hours and 16 minutes later, I proudly take my medal. I'm first. No one else showed up. That makes me 2d and 3d also. My hope since my return to ski competition in my mid-60s, has not just been for personal affirmation but also to show young ins that an older man or woman can continue to fulfill later life bucket lists and grow old(er) younger.

Several years back I won the classic and skate Loppet marathons back-to-back Saturday and Sunday (no one else was crazy enough to do it). At the awards ceremony I waited and waited through all the younger class

Continued on the next page.

winners, but then I wasn't called up. My biggest loss was failing to show newbies that skiing can be a lifelong sport. Sure, my ego hurt as well.

Regardless of temperature or snow conditions, I wake up at 5:30 six days a week, drive 25 minutes to the man-made ski loops at Battle Creek, and I am on snow by seven in the morning when sane skiers are still in REM sleep. I classic ski around pristine man-made ski tracks for my morning workout. A few graceful skate skiers soar by. I watch the moon setting and the sun rising. It's a quick "Good morning" to ski guru, Ahvo. We shoot off in our own exercise direction.

The message is: don't quit now! All summer and fall, I 'hikejor' (like skikjoring without snow) with my standard poodle, Willow, on a nine-foot bungee over the hilly trails off Galaxie in Lebanon Hills. I keep it fun. I don't run up the hills as much as I once did. I just stride with ski poles over the challenging terrain. I love the quiet. As I do on my morning ski.

I avoid concrete: no bikes, blades, or roller skis: too many crashes. I have my own strength training routine of hand weights. No gym. I do incline leg lifts and crunches at 45 degrees on a roller board that I also use to maintain upper arm strength. Come spring and summer, I solo wilderness hike in the BWCA (but try not to get lost). I camp and fish on canoe trips into the Superior National Forest with Nada, my partner. I love to fast paddle around local lakes in my kayak.

Sometimes, when I chance glance at an older man, I may see a distant look in his eyes. A few are now stooped over from the weight of the world on their shoulders. Some appear less spry. I may not see a happy bounce in their step. I know that maintaining fitness seems to improve how I think and remember. The hell with growing older. It's changing the focus from the past to the present and why not the future.... like winning your next age group up.

Expect inevitable medical challenges. After years of endurance sports, hips, knees, and shoulders just wear out. Heart issues like atrial fibrillation (Afib) can limit higher end exercise. Miraculously, my 20-year-old stents are still open. Against the odds, my short bout with Afib hasn't recurred.

Start, maintain, or even exercise hard (like high intensity interval training (HIIT)). It's safe even with most heart

or lung problems. Just by doing repeats getting up and down several times a day off your Lazy Boy (joke) can help maintain proximal muscle strength vital for activities of daily living. Regular exercise can enhance fitness into your 60s, 70s, 80s, and beyond. I'm the coach for my ninety-four-year-old dearest friend's half-hour walks at the Mall of America using Nordic poles always followed by coffee at Caribou. His and my goal is that he will not fall again as he did several months back carrying groceries from the supermarket.

Winning medals are frosting on the cake. It's a societal myth that any of us my age must be 'over-the-hill'. Fight agism! Try soaring over beautiful trails all seasons of the year. Just as it maintains our body, exercise can be your time for positive reflection. Enjoy every minute of your life regardless of the perplexities of aging.

Dr. Peter Dorsen is a retired internist and alcohol & drug counselor who has written Dr. D's Handbook for Men Over 40: A Guide to Health, Fitness, Living, and Loving in the Prime of Life (Wylie & Sons, 2000), Up from the Ashes: One Doc's Struggle with Drugs and Mental Illness (Ingram Spark, 2018). His current book, Men Over 60: Don't Quit Now! is now on sale. Dorsen lives with Nada, Samantha, and their standard poodle, Saidie, in Eagan, Minnesota.



Photo: Peter Dorsen



Written by
AXCS National Director **J.D. Downing**

From USA **Downhill Positions**

At the MWC2026 in Sappada we generally enjoyed very good ski conditions, but we did have a couple days of quite firm snow for at least part of the racing window where most skiers were being moderately to very careful on the faster downhills, all depending on individual circumstances.

As a coach, I prefer to acknowledge when skiers are “on edge” with regards to downhills in particular snow/weather conditions and encourage safe stances and approaches depending on what is going to work best for each skier.

At MWC events, I am very familiar with “the full individual skiing story” with some folks and with others — much less familiar with skier tolerances, background, physical situations, etc.. So with the former group, my tendency with downhills in “edgy” conditions is to only offer very general encouragement. In short, I don’t want to be advising someone that really struggles with balance and speed to suddenly do a Lindsey Vonn “full send” on fast, firm snow. That’s a recipe for bad ends.

Later in the MWC the snow transitioned into softer top layers and then packed powder situations that was enormously more user-friendly. On a couple of these days I transitioned my encouragement and advice to skiers to urge all those able and willing to do so to be as aggressive as possible in seeking speed on several extended descents. The conditions were much less intimidating so “going for it” could offer a big return for minimal risk. In a very tight and low tuck position, skiers could produce tens of meters in additional free glide past where other skiers (some even with perhaps better skis) were shifting into poling motions.

By the closing ceremony I was convinced that a good number of masters are just not familiar with relative tuck positions at their disposal that are available to us all. Most skiers are familiar with the basic “ready-for anything” downhill stance with the hands in front and

low. Most folks also appreciate the benefits of an aerodynamic stance (provided it feels safe). But I’m continually seeing a big range in understanding what is possible in terms of gliding downhill position on straight shot downhills.

I’ve assembled a few pictures here to show some of the more common gliding downhill positions. Hopefully this will give folks that are confused about relative positions a better understanding of the options at your disposal. Please note that these photos are focused on situations with relatively straight downhills where you aren’t going in/out of sharp turns (that might change some of the positions and is worth a separate discussion). *Thanks to member Janey Purvis helping with the photos.*

Skier standing too upright & non-aero

This is NOT a particularly useful downhill position. I’m far too upright and my hands are too far away from my face. My ankles/knees have essentially zero flex to help with downhill stability & balance. I also have too much weight flat across my feet (or worse, on my heels) which is also less stable. In short, this position does me little to no good on most gliding downhill sections.



Continued on the next page.

A proper “standing tuck” position (right photo)

When coaches refer to a standing tuck, this is the basic idea. My hands are in front of the face and my torso is angled forward to provide a modest aerodynamic benefit. I’ve got a light flex to my knees/ankles (there would be more flex if I was actually in motion). Weight is hedged to the forward half of the feet. In crowds, approaching turns, /and/or when a skier wants an aero position, but doesn’t want to (or physically cannot) commit to a true tucked position -- a standing tuck is very useful and effective tool.



Basic tuck position (left photo)

This is the most common fully tucked position. I’ve lowered my torso from the standing tuck to the point where my elbows are resting on my quads. The hands in front of the face and slope of the body forward are now very pronounced to provide a great deal of aero benefit. The flex of the knees and ankles are now very obvious. When there is a fairly straight downhill and I’m comfortable with my control over my skis (or a classic track to ride in), it’s hard to beat a basic tuck for speed and control.

“The Jessie” tuck position (right photo)

This slightly more extreme tuck was Jessie Diggins’ signature attack position her entire career. More than not, her results proved it’s worth. The main difference from a basic tuck is that I’ve dropped my elbows in front of and below my knees. This position requires more physical flexibility and situational comfort. For many masters, this position would be used only in very comfortable snow or riding a straight classic track. But if/when you can manage it, the Jessie is tucking turned up to eleven.



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Hurry Slowly This Spring

There's a lot going on right now outside of the XC ski world. There's a lot of noise, a lot of stress, just a whole lot of stuff.

Laying out our personal activity mix for spring and summer weeks should not add to our personal carrying load of all this "stuff".

Norwegian master guru Bjorn Arvnes is famous for using "hurry slowly" as a great tool to center ourselves at moments just like now.

Staying fit and active year-round isn't just a good idea for XC ski performance, it's pretty much a lifelong mandate for all masters health and wellness. But we cannot and must not allow ourselves to allow our fitness and training sessions to be absorbed by the other stuff in life.

Sure, exercise is a wonderful stress relief tool. But there is a huge difference between allowing a hike, bike, run, paddle, etc. to naturally center our mind/body/spirit -- versus constantly working out to slay demons. Appreciate that difference.

If you already have set goals for next winter, hurry slowly allows you to begin work on that plan at a sensible pace. If you still are working on your plans for next winter, hurry slowly means exactly what it sounds like. Get it done. But do it right.

Stay healthy & get out there everyone!