

TRAIL RUNNING AND SKIING PROGRAM (High Performance)							
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY *
SUMMER	Active Recovery	Intensity	Tempo	Power-endurance	Speed	Time-Trial	Endurance
	AM Easy run 30min  PM Easy x-train 30min  Strength/Weights Extra Stretching	AM Easy Run 40min  PM Warm-up 30min Natural Intervals 60min run/rollerski Plyometrics Cool down 20min  Stretching	AM Easy Run 40min  PM Warm-up 30min Track Tempo Run 60min Cool down 20min  Strength/Weights Stretching	AM Easy Run 40min  PM Warm-up 30min Roller skiing strength- endurance 60min Cool down 20min  Stretching	AM Easy Run 40min  PM Warm-up 30min Run or bike over- speed drills 30min Cool down 20min  Strength/Weights Stretching	AM Warm-up 30min Time Trial running 1- 3hrs or race Plyometrics Cool down 20min  PM X-train / bike over- distance 1hr  Stretching	AM Warm-up 30min Roller ski LSD 2-3 hrs Cool down 20min  PM Warm-up 30min Run LSD 2hrs Cool down 20min  Stretching
WINTER	Active Recovery	Intensity – Anaerobic alactic	Tempo	Intensity – Anaerobic lactic	Speed	Time-Trial	Endurance
	AM Easy Run 30min  PM Easy ski 60min Easy x-train 30min  Strength/Weights Stretching	AM Easy Run 30min  PM Warm-up 30min Short intervals skiing 30/60min Cool down 20min  Stretching	AM Easy Run 30min  PM Warm-up 30min Fartlek tempo ski or snowshoe 2hr Cool down 20min  Strength/Weights Stretching	AM Easy Run 30min  PM Warm-up 30min Long Intervals skiing 30/60min Cool down 20min  Stretching	AM Easy Run 30min  PM Warm-up 30min Over-speed pickups skiing 30min Cool down 20min  Strength/Weights Stretching	AM Warm-up 30min Time Trial ski 1-3hrs or race Cool down 20min  PM Easy Snowshoe/run 60min  Stretching	AM Warm-up 30min Skiing LSD 2-3hr Cool down 20min  PM Easy Ski LSD 2hr  Stretching

\* The day after a race go for an easy workout <2hr in the modes that you raced. Active recovery hiking or snowshoeing or classic skiing.

ULTRA TRAIL RUNNING AND SNOWSHOE/SKI PROGRAM (High Performance)							
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY *
SUMMER	Active Recovery	Intensity	Tempo	Power-endurance	Speed	Time-Trial	Endurance
	AM Easy run 30min  PM Easy x-train 30min  <i>Strength/Weights Extra Stretching</i>	AM Easy Run 60min  PM <i>Warm-up 30min Natural Intervals 1.5hr run Plyometrics Cool down 20min</i>  <i>Stretching</i>	AM Easy Run 60min  PM <i>Warm-up 30min Track Tempo Run 60min Cool down 20min</i>  <i>Strength/Weights Stretching</i>	AM Easy Run 60min  PM <i>Warm-up 30min Run with heavy pack or tire pull strength- endurance 1.5hr Cool down 20min</i>  <i>Stretching</i>	AM Easy Run 60min  PM <i>Warm-up 30min Run or bike over- speed drills 30min Cool down 20min</i>  <i>Strength/Weights Stretching</i>	AM <i>Warm-up 30min Time Trial running 2- 3hrs with pack or race Cool down 20min</i>  PM X-train / bike over- distance 1hr  <i>Stretching</i>	AM <i>Warm-up 30min Roller ski or Trek LSD 2-3 hrs Cool down 20min</i>  PM <i>Warm-up 30min Run LSD 2hrs Cool down 20min</i>  <i>Stretching</i>
WINTER	Active Recovery	Intensity – Anaerobic alactic	Tempo	Intensity – Anaerobic lactic	Speed	Time-Trial	Endurance
	AM Easy Run 30min  PM Easy x-train 60min  <i>Strength/Weights Stretching</i>	AM Easy Run 60min  PM <i>Warm-up 30min Short intervals skiing or snowshoe 30/60min Cool down 20min</i>  <i>Stretching</i>	AM Easy Run 60min  PM <i>Warm-up 30min Fartlek snowshoe 2hr Cool down 20min</i>  <i>Strength/Weights Stretching</i>	AM Easy Run 60min  PM <i>Warm-up 30min Long Intervals snowshoe 30/60min Cool down 20min</i>  <i>Stretching</i>	AM Easy Run 30min  PM <i>Warm-up 30min Over-speed pickups snowshoe downhill 30min Cool down 20min</i>  <i>Strength/Weights Stretching</i>	AM <i>Warm-up 30min Time Trial snowshoe or ski or run with pack 1-2 hrs or race Cool down 20min</i>  PM Easy run 60min  <i>Stretching</i>	AM <i>Warm-up 30min LSD ski or snowshoe 2-3hr Cool down 20min</i>  PM Easy run 1hr  <i>Stretching</i>

\* The day after a race go for a easy workout <2hr in the modes that you raced. Active recovery hiking or snowshoeing or classic skiing.

ADVENTURE RACING PROGRAM (High Performance) Trail Run, Canoe, Mountain Bike, Snowshoe, Ski							
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY *
SUMMER	Active Recovery	Intensity	Tempo	Power-endurance	Speed	Time-Trial	Endurance
	AM Easy run 30min  PM Easy x-train 30min Technical (climbing, gear, map reading etc)  Strength/Weights Extra Stretching	AM Easy Road Bike 1hr  PM Warm-up 30min Natural Intervals 60min Plyometrics Cool down 20min  Stretching	AM Easy Run 1hr  PM Warm-up 30min Track Tempo Run 60min Cool down 20min  Strength/Weights Stretching	AM Mountain Bike 1hr moderate  PM Warm-up 30min Paddle strength- endurance 60min Cool down 20min  Stretching	AM Easy Run 40min  PM Warm-up 30min Run or bike over- speed drills 30min Cool down 20min  Strength/Weights Stretching	AM Warm-up 30min Time Trial run/bike/paddle 2- 4hrs or race Plyometrics Cool down 20min  PM X-train easy over- distance 1hr  Stretching	AM Warm-up 30min Bike or Paddle LSD 2-3 hrs Cool down 20min  PM Warm-up 30min Run LSD 2hrs Cool down 20min  Stretching
WINTER	Active Recovery	Intensity – Anaerobic alactic	Tempo	Intensity – Anaerobic lactic	Speed	Time-Trial	Endurance
	AM Easy Run 30min  PM Easy ski 60min Easy x-train 30min  Strength/Weights Stretching	AM Easy Bike 1hr  PM Warm-up 30min Short intervals skiing or snowshoeing 30/60min Cool down 20min  Stretching	AM Easy Run 30min  PM Warm-up 30min Fartlek ski or snowshoe 60min Cool down 20min  Strength/Weights Stretching	AM Bike spinning moderate 60min  PM Warm-up 30min Long Intervals skiing or snowshoeing 30/60min Cool down 20min  Stretching	AM Easy Run 30min  PM Warm-up 30min Over-speed pickups snowshoe 30min Cool down 20min  Strength/Weights Stretching	AM Warm-up 30min Time Trial bike-ski- run-snowshoe 1- 3hrs or race Cool down 20min  PM Easy spinning 60min  Stretching	AM Warm-up 30min Ski or snowshoe LSD 2-3hr Cool down 20min  PM Easy Ski LSD 2hr  Stretching

- The day after a race go for a easy workout <2hr in the modes that you raced. Active recovery hiking or snowshoeing or classic skiing.

NORDIC SKIING PROGRAM (Advanced level)							
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY *
SUMMER	Active Recovery	Intensity	Tempo	Power-endurance	Speed	Time-Trial	Endurance
	Easy x-train 30min  Strength/Weights Extra Stretching	Warm-up 20min Natural Intervals Tempo Run or rollerski or ski stride Plyometrics Cool down 20min  Stretching	Warm-up 20min Tempo Run or rollerski or ski stride 60min Cool down 20min  Strength/Weights Stretching	Warm-up 20min Tempo Run or rollerski or ski stride 30min zone 1 Cool down 20min  Stretching	Warm-up 20min Tempo Run or rollerski or ski stride over-speed drills 20min Cool down 20min  Strength/Weights Stretching	Warm-up 30min Time Trial Tempo Run or rollerski or ski stride 30min+ or race Plyometrics Cool down 30min  Stretching	Warm-up 30min Tempo Run or rollerski or ski stride LSD 3hrs Cool down 20min  Stretching
WINTER	Active Recovery	Intensity – Anaerobic alactic	Tempo	Intensity – Anaerobic lactic	Speed	Time-Trial	Endurance
	Easy Run 20min Easy x-train 60min  Strength/Weights Stretching	Warm-up 30min Short intervals skiing 30min Cool down 20min  Stretching	Easy Run 20min Warm-up 30min Fartlek ski 2hr Cool down 20min  Strength/Weights Stretching	Warm-up 30min Long Intervals skiing 30min Cool down 20min  Stretching	Easy Run 20min Warm-up 30min Over-speed pickups skiing 30min Cool down 20min  Strength/Weights Stretching	Warm-up 30min Time Trial ski 2hrs with 30min of intensity or race Cool down 20min  Stretching	Warm-up 30min Skiing LSD 2-3hr Cool down 20min  Stretching

- The day after a race go for a easy workout <2hr in the modes that you raced. Active recovery hiking or snowshoeing or classic skiing.

TRAIL RUNNING, SNOWSHOEING and SKIING PROGRAM (intermediate level)							
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY *
SUMMER	Active Recovery	Intensity	Tempo	Power-endurance	Speed	Time-Trial	Endurance
	Easy x-train 30min  Strength/Weights Extra Stretching	Warm-up 20min Natural Intervals 60min run Plyometrics Cool down 20min  Stretching	Warm-up 20min Track Tempo Run 60min Cool down 20min  Strength/Weights Stretching	Warm-up 20min Run 30min zone 1 Cool down 20min  Stretching	Warm-up 20min Run or bike over- speed drills 20min Cool down 20min  Strength/Weights Stretching	Warm-up 30min Time Trial running 30min or race Plyometrics Cool down 30min  Stretching	Warm-up 30min Run LSD 2hrs Cool down 20min  Stretching
WINTER	Active Recovery	Intensity – Anaerobic alactic	Tempo	Intensity – Anaerobic lactic	Speed	Time-Trial	Endurance
	Easy Run 20min Easy x-train 60min  Strength/Weights Stretching	Easy Run 20min Warm-up 30min Short intervals skiing 30min Cool down 20min  Stretching	Easy Run 20min Warm-up 30min Fartlek ski or snowshoe 2hr Cool down 20min  Strength/Weights Stretching	Easy Run 20min Warm-up 30min Long Intervals skiing 30min Cool down 20min  Stretching	Easy Run 20min Warm-up 30min Over-speed pickups skiing 30min Cool down 20min  Strength/Weights Stretching	Warm-up 30min Time Trial ski or snowshoe 2hrs with 30min of intensity or race Cool down 20min  Stretching	Warm-up 30min Skiing-snowshoe LSD 2-3hr Cool down 20min  Stretching

- The day after a race go for a easy workout <2hr in the modes that you raced. Active recovery hiking or snowshoeing or classic skiing.

ULTRA RUNNING PROGRAM (Moderate)							
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY *
SUMMER	<i>Warmup 30min</i> 5km fast tempo on roads  Strength/Weights Extra Stretching	<i>Warm-up 30min</i> 18km rolling tempo on trails <i>Cool down 20min</i>  Stretching	<i>Warm-up 30min</i> 20km zone 2 trails <i>Cool down 20min</i>  Stretching	<i>Warm-up 30min</i> 25km tempo road <i>Cool down 20min</i>  Strength/Weights Stretching	<i>off</i>  Stretching	<i>Warm-up 30min</i> 35km fast or moderate on trails <i>Cool down 20min</i>  Stretching	<i>Warm-up 30min</i> 35km LSD on easy terrain or roads <i>Cool down 20min</i>  Stretching
WINTER	<i>Warmup 30min</i> 5km fast tempo on roads running or indoor track  Strength/Weights Extra Stretching	<i>Warm-up 30min</i> 18km rolling tempo on trails or snow shoe <i>Cool down 20min</i>  Stretching	<i>Warm-up 30min</i> 20km zone 2 roads <i>Cool down 20min</i>  Stretching	<i>Warm-up 30min</i> 25km tempo road <i>Cool down 20min</i>  Strength/Weights Stretching	<i>off</i>  Stretching	<i>Warm-up 30min</i> 35km fast or moderate <i>Cool down 20min</i>  Stretching	<i>Warm-up 30min</i> 35km LSD on easy terrain <i>Cool down 20min</i>  Stretching

- The day after a race go for a easy workout <2hr in the modes that you raced. Active recovery hiking or snowshoeing or classic skiing.

TRAIL RUNNING, SNOWSHOEING and SKIING PROGRAM (novice level)							
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY *
SUMMER	Easy x-train 30min  Strength/Weights Extra Stretching	Warm-up 20min Natural Intervals 20min running Cool down 20min  Stretching	Warm-up 20min Run 40min zone 1 Roads (flat) Cool down 20min  Strength/Weights Stretching	Warm-up 20min 20min running hill and trails Cool down 20min  Stretching	off   Stretching	Warm-up 30min Trail Run 1 hour Cool down 30min  Stretching	Warm-up 30min Trail Run LSD 2hrs Cool down 20min  Stretching
WINTER	Easy Run 20min Easy x-train 60min  Strength/Weights Stretching	Warm-up 30min Natural intervals skiing 20min Cool down 20min  Stretching	Easy snowshoe 1hr  Strength/Weights Stretching	Warm-up 30min 1hr ski Cool down 20min  Stretching	Easy Run 20min  Stretching	Warm-up 30min Ski 1 hour over hilly terrain Cool down 20min  Stretching	Warm-up 30min Skiing-snowshoe LSD 2-3hr easy Cool down 20min  Stretching

- The day after a race go for a easy workout <2hr in the modes that you raced. Active recovery hiking or snowshoeing or classic skiing.

## CARDIOVASCULAR WORKOUTS

Establishing a strong cardiovascular base requires prolonged low-intensity exercise. There are a variety highly effective cardio prescriptions:

ACTIVE REST At the low end of the scale, try ACTIVE REST by engaging in light activity just for the sake of promoting circulation and range of movement or for anatomical adaptation

10 minute very easy run    30 minute easy run    30 minute easy ski    40 minutes easy bike ride

OVERDISTANCE OVER-DISTANCE activities like day-long hikes develop the sub-aerobic base and facilitate the burning of fat.

2 hour hike in the woods    4 hour hike in the mountains    2 hour easy back country ski    2 hour easy bike ride

Often an athlete will go into a MAINTENANCE phase during the early off-season, or during a taper to lightly activates the physiology in preparation for a more specific mode.

LOW SUB-THRESHOLD DISTANCE LOW SUB-THRESHOLD DISTANCE training is often referred to as Long Slow or Steady Distance (LSD). It will form the basis for providing your aerobic base when undertaken at zone 1, and should comprise the majority of your exercise hours.

2 hour slow distance run    3 hour slow distance run    3 hour easy distance ski    3 hour easy distance bike ride    Ultra 3-5 hour zone 1 run or ski

Often an athlete will go into a MAINTENANCE phase during the early off-season, or during a taper to lightly activates the physiology in preparation for a more specific mode.

RACE PACING MEDIUM SUB-THRESHOLD INTERVALS training is designed to increase arm and leg speed on the flats. Typically 1km intervals are done at 110% to 115% of a 10km race pace with full recovery. Running is done on a track.

Pyramid 20min warm-up 2x200m 2x400m 2x600m 2x800m 2x1000m 2x400m 2x200m 10 Minute cool down	Lap Repeats 20min warm-up 2x200m 12x400m 2x200m 10 Minute cool down	Middle Distance Pyramid 20min warm-up 2x200m 1x400m 1x800m 2x1600m 1x800m 1x400m 2x200m 10 Minute cool down	Middle Distance Repeats 20min warm-up 2x200m 6x800m 2x200m 10 Minute cool down	Very Short Repeats 20min warm-up 16x200m 10 Minute cool down
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Just as stamina is developed with base workouts; significant improvement in the ability to sustain a fast pace can only be realized by CORE training workouts undertaken at race pace or within zone 3:

HIGH SUB-THRESHOLD DISTANCE INTERVALS	HIGH SUB-THRESHOLD DISTANCE INTERVALS emphasize higher tempo paced intervals at an intensity that is neither sluggish nor too difficult. This type of interval normally lasts between 10 and 30 minutes at 80% to 90% effort. This intensity typically translates to a sustained zone 3 race pace.				
	30 min warm-up 10 minutes low zone 3 race pace 20 min cool down	30 min warm-up 20 minutes low zone 3 race pace 20 min cool down	30 min warm-up 2x10 minutes high zone 3 race pace (10 min zone 1 recovery) 20 min cool down	30 min warm-up 4x5 minutes high zone 3 race pace (2 min zone 1 recovery) 20 min cool down	
THRESHOLD NATURAL INTERVALS or FARTLEK	THRESHOLD NATURAL INTERVALS or FARTLEK workouts are the single, most important type of workout that an athlete can do. Let the terrain dictate the intensity with unstructured speed play. The average intensity level is intended to be mid zone 3 with peaks into zone 4.				
	30 minutes warmup 20 minutes natural intervals low zone 3 to zone4 30 minutes cool down	30 minutes warmup 30 minutes natural intervals low zone 3 to zone4 30 minutes cool down	30 minutes warmup 40 minutes natural intervals low zone 3 to zone4 30 minutes cool down	30 minutes warmup 30 minutes natural intervals redline high zone 3 30 minutes cool down	Zone 4-5 Natural Intervals Push into zone 4 for 2min then 10sec all out zone 5 Recover at zone 3.5 and continue zone 3.9

INTENSITY workouts are what are required to reach maximum speed. They are all performed above race pace:

ANAEROBIC LACTIC INTERVALS	ANAEROBIC LACTIC INTERVALS build your anaerobic attributes on top of an aerobic foundation. Typical intervals last between 1-3 minutes with time to recover in between. The sum of all the interval times rarely will exceed 30 minutes. These intervals are great for lactic acid tolerance and are meant to be very hard.				
	30 minutes warm up 5x3 minute intervals (3 minute recovery) 30 minute cool down	30 minutes warm up 10x2 minute intervals (2 minute recovery) 30 minute cool down	30 minutes warm up 20x1 minute intervals (2 minute recovery) 30 minute cool down	30 minutes warm up 16x(30 sec zone 1,2,3,4) 30 minute cool down	

ANAEROBIC  
ALACTIC INTERVALS

POWER ANAEROBIC ALACTIC INTERVALS develop quick power and turnover using the energy locally within the muscles and the ability to replenish quickly. Intervals are kept under 30 seconds and are followed by a complete recovery. A typical workout would include 20-40 of these intervals pushed at zone 4 and zone 5 intensity levels. One very clever way of combining aerobic training and speed work is to include short 30sec pickups within a long slow distance workout.

30 minutes warm up 10x30 sec intervals (30 sec recovery) 30 minute cool down	30 minutes warm up 20x30 sec intervals (1 minute recovery) 30 minute cool down	30 minutes warm up 20x30 sec intervals (30 sec recovery) 30 minute cool down	30 minutes warm up 30x30 sec intervals (30 sec recovery) 30 minute cool down	20 minute warmup 100x10sec (recovery 10sec) 20 sec cooldown
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The reality is that most ski training is carried out at much slower velocities than race pace, and the economy of motion or technique is optimized for low velocities. However, racing requires an evolution of technique. Therefore an athlete should incorporate short bursts of speed into distance training.

OVER SPEED	Similarly, OVER SPEED training pushes the bounds of mechanical velocities and coordination with high-tempo bursts usually performed on slight down-hills.					
	30 minutes zone 1 with 5x5 second pickups on slight downhill	30 minutes zone 1 with 10x5 second pickups on slight downhill	30 minutes zone 1 with 10x10 second pickups on slight downhill	30 minutes zone 1 with 20x5 second pickups on slight downhill		

(LHD) TIME TRIALS natural interval training with a group both simulates an actual race. These can be considered long hard distance LHD

Sprint 1500m (4-6)x3.5min max speed with 10min recovery at zone 1	Super Short 5km 1x(15-20)minutes zone 3.9 flats and zone 4.2 on hills	Short Distance 10km 1x30minutes zone 3.9 flats and zone 4+ on hills	Middle Distance 20km 1hour at threshold zone 3.8-4.1	Long Distance 50km 2.5hours at high sub-threshold and threshold zone 3.5 - 4	Ultra Distance 50- 100km 3-5 hours at sub- threshold zone 2-3.5
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RACE RACES of course, have their own intense training effect that needs to be taken into account.

A SPECIFIC strength workout such as double poling up steep hills should be classed as a hard workout, especially if it involves intervals.

SPECIFIC STRENGTH POWER-ENDURANCE STRENGTH ENDURANCE	30 minutes warm up 30 minutes switching between arms only, skiing, legs only. 30 minutes cool down	30 minutes warm up 20x1minutes switching between arms only and legs only 30 minutes cool down	30 minutes warm up 30x30 sec alternating arms and legs only on difficult terrain 30 minutes cool down	30 minutes warm up 3x6minutes switching between arms and legs only on difficult terrain 30 minutes cool down	30 minutes warm up 3x10minutes Resistance training pulling tire running or on exceptionally slow skis and heavy poles or stand-up uphill cycling 30 minutes cool down
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