TRAINING INTENSITY ZONES

- Level 1: Long easy endurance pace. "guilt-producingly easy." Over distance workouts, recovery workouts. About 25-35 beats below Threshold.
- Level 2: Medium endurance pace. 70-80% of max heart rate. Shorter distance workouts and strength workouts. Avoid too much training in this zone.
- Level 3: Up to Anaerobic threshold. 80-90% of max heart rate. Long intervals and pace workouts. This is the intensity level of longer races (20-30K) Ski marathons are done just below this pace. Finish feeling "Euphoric not exhausted"-the tired will come later that night.
- Level 4: Race pace. 90-95% of Max heart rate. About 5k race pace-note this is different than 1k race pace! Hard intervals in the 2-5 minute range.
- Level 5: Maximum effort 95-100% of max heart rate. Effort of short speeds but heart rate wont get this high because the duration is too short. Very hard 30-80 second peaking intervals for young and fit athletes. Use this zone sparingly.

Training Priorities

- 1. One long slow distance workout every week. 2 hours or more done at level 1. Tired from the duration of the workout-not from the intensity.
- 2. One Level 3 interval or pace workout every week to build Anaerobic threshold. Lots of "on time" and relatively short recovery (1/2 work time.)
- 3. At least one day off per week and often two days off. Recovery is when we get fitter. Listen to your body.
- 4. Add short speed bursts of 10-15 seconds to ski specific workouts 1-3 times per week.
- 5.Strength is important but should never come at the expense of Cardio training. Specific strength is the most bang for the buck-double pole up-hill, skate without poles. Upper body and core should make up the majority of strength training because we use the legs so much in dryland already. For general strength you cant beat crunches, dips, and pull-ups.
- 6. The body adapts to training loads so you must change the load to keep the body adapting. Volume increases, intensity increase, amount of "on time" increases.
- 7. Recovery week every 3^{rd} or 4^{th} week. This will cut back to about $\frac{1}{2}$ of the volume of your big week.
- 8. Separate the intensities-don't always train the same speed!
- 9. Specificity matters. If you want to be fast at skiing you need to make your training as much like skiing as possible. Rollerskiing and ski walking with poles are the most specific dry land activities. Specificity is more important for intensity sessions.
- 10. Technique is 100% important. In all training work on crisp snappy movements even when going slow. The biggest technique gains can be made in body position, weight transfer, and balance/glide. Think about these things in skiing and dryland training.

Sample training plan for a week of about 10 hours of training

Monday: off

Tuesday: classic rollerski 1 hour level 1 plus: 5x 1 minute double pole uphill, 5x 1 minute single pole up hill, level 3 with 1 minute recovery. Cool down. Total about 1.5 hours

Wednesday: Skate rollerski. Warm up for 15 minutes then 5x10 seconds speed with lots of recovery then 3x7 minute level 3 intervals with 3 minute recovery, then cool down. Total about 1.5 hours

Thursday: easy hike with ski poles for 1 hour level 1 including 5x10 seconds bounding plus 30 minutes of general strength with lots of crunches, dips on a chair, "Hitlers Dog" back exercises, pull ups, pushups. Total about 2 hours.

Friday: Off or easy run with optional 10 minutes of plyometric jumps after the warm up. Total 45-60 minutes.

Saturday: 4x4 minute level 4 intervals with equal recovery. Best done rollerskiing or ski walking. Good warm up and cool down. Total about 1.5 hours.

Sunday: Over-distance workout 2- 3 hours level 1-hiking in hilly terrain, road cycling, or rollerskiing. Easy pace but tired at the end from the duration of the workout-not from the intensity. If done skate rollerskiing include 20 minutes no pole skiing with emphasis on weight transfer and glide. Total 2-3 hours.

Sample training plan for a week of about 5 hours with emphasis on the weekend

Monday: Off

Tuesday: strength at gym or home_20-40 minutes of strength mostly upper body and core.

Wednesday: OFF if necessary or: 10 minute warm up then 5-6x2 minute level 4 with equal recovery then cool down. Great if it can be rollerskiing or ski walking with poles but anything will work: treadmill running, exercise bike, swimming, etc. Total about 1 hour.

Thursday: 20-40 minute Strength at gym or home core and legs and arms. Push ups, dips, crunches, squat jumps, step ups, back raises, lunges.

Friday: off

Saturday: Skate rollerski 15 minute warm up then 15 minutes no pole, then 5x 10 seconds speed, then 4x7 minute level 3 intervals with 4 minute recovery, cool down. Total about 1.5-2 hours.

Sunday: Over- distance level 1 workout 2-3 hours. Maybe a combi workout-hike for 1.5 hours then immediately put on classic rollerskis for 1 hour of level 1 with lots of double polling. Total about 2-3 hours.

Notes: If packing most of your training into the weekend do the intensity workout on Saturday and the longer workout on Sunday if possible.

Also if you were able to do some intensity during the week you can do two long workouts on the weekend sometimes. But, in general you will get more fitness out of an intensity session than another distance session.