



































MUSCULAR CONDITIONING MATRIX								
PHASES	RECOVERY [2 weeks]	BASE [20 weeks]		INTENSITY [16 weeks]	PEAK [2 weeks]	RACE [10 weeks]		
EXERCISE	Anatomic Adaptation [4 weeks] 1-2x15 reps @ 50% max 2:0:1 count	Hypertrophy [10 weeks] 2-4x10 reps @ 75% max 5:1:4 count	Maximum Strength [8 weeks] 4-6x4 reps @ 80% max 2:0:1 count	Conversion			Maintenance [10 weeks] 2x15 reps @ 50% max	
	Power [8 weeks] 2-4x5 reps @ 70%max dynamic	Power- Endurance [8 weeks] 1-2x25 reps @ 50%max 1:0.5 count	Speed [2 weeks] 1-2x20 reps @ 10%max fast	Choose (6)	Choose (5)	Choose (2)		Choose (4)
Weights General Strength	Choose (6)	Choose (8)	Choose (8)	Choose (6)	Choose (5)	Choose (2)	Choose (4)	
 Lat Pull-downs	2x15	4x10	6x4	4x5	2x25	2x20	3x15	
 Military Press Front Press	2x15	4x10	6x4	4x5	2x25		3x15	
 Arm curls	2x15	4x10	6x4	4x5			3x15	
 Tricep dumbbell extensions	2x15	4x10	6x4					
 Bench press	2x15	4x10	6x4	4x5	2x25		3x15	







	Incline Row	2x15	4x10	6x4	4x5			
	Dead lift	2x15	4x10	6x4	4x5			
	Overhead press	2x15	4x10	6x4	4x5	2x25	2x25	3x15
	High pulley curl	2x15	4x10	6x4	4x5			
	Pulley arm crosses and raises	2x15	4x10	6x4				
	Single Leg Squats	2x15	4x10	6x4	4x5			
	Cable adductions leg	2x15	4x10	6x4				
	Lunges	2x15	4x10	6x4	4x5	2x25		3x15

	Split Squats	2x15	4x10	6x4	4x5			
	Leg Press	2x15	4x10	6x4	4x5			3x15
	Squats full	2x15	4x10	6x4	4x5	2x25		
	Upright rowing	2x15	4x10	6x4	4x5			
	Dumbbell shrugs	2x15	4x10	6x4				
	Lateral and front dumbbell raise	2x15	4x10	6x4				
	Overhead triceps pulls	2x15	4x10	6x4	4x5	2x25	2x25	3x15
	Calisthenics	<i>Choose (4)</i>	<i>Choose (4)</i>	<i>Choose (4)</i>	<i>Choose (2)</i>	<i>Choose (4)</i>	<i>Choose (1)</i>	<i>Choose (2)</i>
	Push ups	10	50			100		50
	Chin ups	5	4x10	6x4		20	20	15

	Pull ups	2	4x10	6x4		15		10
	Crunches	20	50			50		30
	Chin ups (weighted)			6x4	4x5			
	Sit-ups (modified with poling)	10	50			100	2x50	50
	Leg raises (lying, vertical)	20	100			100		50
	Vertical pushups			6x4	4x5			
	Sit-ups (twisting)	10	50			100		20
	Sit-up (inclined)		20					

	A,B,Cs	1 min	2 min	2 min				1 min
	Heart Pushups		4x10	6x4	4x5	50		
	Clap push ups			6x4	4x5		2x20	
	Dumbbell Pushups		30	20	10			
	Ski Specific Exercises	<i>Choose (2)</i>	<i>Choose (4)</i>	<i>Choose (4)</i>	<i>Choose (4)</i>	<i>Choose (4)</i>	<i>Choose (2)</i>	<i>Choose (1)</i>
	Pull and return on rubber tubing	1x10	2x50	2x50	2x50	4x50	2x10	
	Hip return with rubber tube	1x10	2x50	2x50	2x20	4x20	2x10	
	Box one-leg step-ups	1x5	2x10	3x5	4x4			
	Roller-board			1x20	2x20	2x50	4x20	2x20
	Modified ski pull downs	1x5	2x20	2x20	2x20	4x20	2x10	
	Reverse pulley arm raise	1x20	2x20	2x20	2x20	4x20		

	Warrior variants	2min	2min	2min	2min	2min	2min	2min
	Downward facing dog	1min	1min	1min				
	A Plank	1min	2min	3min				
	The Sun salutation	1min	1min	1min				
	Combine into a pushup	1x5	2x10	3x4				
	Skiing positions (Skating and Classic)	1x each	2x each	3x each	1x each	1x each	1x each	1x each
	Fluidity and Range of Motion (Soft work)	<i>Choose (2)</i>	<i>Choose (2)</i>	<i>Choose (2)</i>	<i>Choose (4)</i>	<i>Choose (5)</i>	<i>Choose (2)</i>	<i>Choose (2)</i>
	Full-range of motion by circling joints	1 min	5 min	2 min	2 min	2 min	1 min	1 min

	Balance on one leg and stretch quadriceps	1 min	2 min	2 min	2 min	2 min	2 min	2 min
	Balance with one leg out to the side	1 min	2 min	2 min	2 min	2 min	2 min	2 min
	Ankles rotations	1 min	1 min	1 min	1 min	1 min	1 min	1 min
	Glute stretch cross-over	1 min	2 min	2 min	2 min	2 min	2 min	2 min
	Dryland Strength-endurance (Outdoors)		<i>Choose (1)</i>	<i>Choose (2)</i>				
	Roller Ski Legs only (all techniques)		6x5min	10x2min				
	Roller Ski Arms only		6x5min	10x2min				
	Slow skiing with deep knee bend		10min	10min				
	Ski with loose pack		30min	30min				
	One leg glide on skis			5 min	5 min			
	On-snow Strength-endurance (Outdoors)				<i>Choose (1)</i>			
	Legs only (all Skate and				20x1min			

	Classic techniques)							
	Arms only (double pole and step double poll)				20x1min			
	Classic (Diagonal on skate skis)				20x1min			
	Slow skiing with deep knee bend				10min			
	Ski with loose pack				20 min			
	Speed Training (Outdoors)		<i>Choose (1)</i>	<i>Choose (1)</i>	<i>Choose (1)</i>	<i>Choose (2)</i>	<i>Choose (1)</i>	<i>Choose (1)</i>
	Microbursts (ski specific from rolling start)		5x10sec	10x10sec	20x10sec	30x10sec	20x5sec	10x10sec
	Accelerations (from stop)				20x10sec	30x10sec	20x5sec	10x10sec
	Downhill sprints				20x10sec	30x10sec	20x5sec	10x10sec
	Free space sensitivity drills					1x50	2x100	

NOTES:

STRENGTH AND POWER

Strength represents the maximum sustained forces that an athlete can exert, whereas, power is a product of acceleration of forces. Power-endurance is developed in skiing; one stroke at a time, every second, for hours on end.

Speed training often suggests the maximum speed obtained in a short sprint. Pace refers to a sustainable speed for a given distance and time. Tempo is the cycle time of a technique or turnover. A few 4 to 6 repetitions of high-resistance, builds strength. Fifty, explosive plyometric contractions with medium resistance, trains power. Speed refers to how fast one can move against little resistance.

Base strength has to be adapted to skiing through specific power-endurance training. The level of force, movement velocity, and joint angles of the exercises should correspond to those of skiing.

General strength training includes:

- Isometric exercises using static contractions;
- Isotonic exercises produce contractions throughout a range of motion, in various angles;
- Isokinetic exercises combine static and dynamic contractions;
- Calisthenics are great muscular exercises that use the natural surroundings and your own body mass to create resistance. There is a fortuitous aerobic component as resultant of sustained and repetitive muscular action. Strength is transformed into sport-specific power through natural power training methods.

- Plyometrics develop explosive reactive power by rapidly switching between loading and release. Similarly, a muscle will contract more forcefully and rapidly if stretched the instant before the contraction. In practice, incorporate ski-bounding and agility exercises into your training regime.

An athlete should recover the affected muscle groups for 24 hours after a heavy muscular workout.