

General Guidelines for Strength, Flexibility, Aerobic Training

STRENGTH

The purpose of strength training is to increase the strength of the skeletal muscles. This will help in the prevention of injury and prepare a base from which increased speed and power can be developed.

Definitions:

Repetition: The performance of one complete movement of an exercise.

Set: The performance of a prescribed number of repetitions.

Speed: The velocity or intended velocity of movement.

- a). Slow: 2s concentric , 3s eccentric.
- b). Moderate: 1s concentric, 2s eccentric.
- c). Fast: as fast as possible concentric, controlled eccentric.

Concentric: The lifting part of the movement.

Eccentric: The lowering part of the movement.

Guidelines:

- Train only where it is marked on your training plan.
- Take 2-3 minutes rest between each of the sets unless otherwise instructed (Full recovery between sets).
- Always move through a full range of motion.
- Warm up by doing light stretching prior to training.
- Perform your sets to the point of technical failure. Often this will involve using a weight that you could do for one or two repetitions more than the prescribed number.
 - Always use proper technique. If you are unsure of an exercise ask a qualified instructor to demonstrate the exercise or give us a call.

FLEXIBILITY

Objectives: 1. Increase overall flexibility of major joints.

2. Decrease the risk of injury.

Notes:

1. Movements should be performed slowly and 'felt' as you move through the motion

2. Go until you feel a stretch in the muscle, hold for the specific time limit and then try to go a little further. Hold this new position and then try and go a little further. Repeat this motion until you can not go any further

3. You should **never** feel pain as you stretch.

AEROBIC TRAINING ZONES

The purpose of proper aerobic training is to increase recovery between, shifts, games, practices and training. The following heart rate zones and speed zones are used to monitor intensity levels. When using a treadmill, remember to set it at a 2% incline. When running outside, add 0.6mph to your outdoor speeds.

AEROBIC – Speed zones for Running

Zone	Range	Heart Rates	Speed (mph)
Z1: Low Sub Threshold	Low		
	Mid		
	High		
Z2: High Sub Threshold	Low		
	Mid		
	High		
Z3: Red Lining	RTA		
Z3: Threshold Endurance	TE		
Z4: Over and Under	O&U		
Low Power Intervals	LPI		
Z5: High Power Intervals	HPI		

AEROBIC – Watt zones for Cycling

Zone	Range	Heart Rates	Power (Watts)
Z1: Low Sub Threshold	Low	110 – 115	90 – 100
	Mid	116 – 121	100 – 110
	High	122 – 125	110 – 120
Z2: High Sub Threshold	Low	126 – 139	120 – 140
	Mid	140 – 152	140 – 160
	High	153 – 166	160 - 185
Z3: Red Lining	RTA	--	185 – 205
Z3: Threshold Endurance	TE		195
Z4: Over and Under	O&U	169 – 174	205 – 250
Low Power Intervals	LPI		--
Z5: High Power Intervals	HPI	175 +	250 - 275

AEROBIC Training Zones

The purpose of proper aerobic training is to increase recovery between, shifts, games, practices and training. The specific heart rate, power or speed zones are used to monitor intensity levels.

Low Sub Threshold (LST):

Fat loss, improvement of aerobic fitness, & recovery between hard workouts -

Continuous for at least 30 min. & eventually over 40 min. Longer duration is important when building an aerobic base.

High Sub Threshold (HST):

Intermediary zone - (to do before RTA): Increase intensity so that your heart rate is around the top of your zone for 5 - 10 min. then recover back down at a heart rate at the bottom of your zone, then go up again while keeping a good technique. RTA can also be done continuously like LST.

Red Lining (RTA):

Red Lining zone - To train removal of lactic acid and increase anaerobic threshold: Increase intensity to the top of your zone for 5-10 min. Then recover back down at a heart rate at the bottom of your zone, then go up again and so on, until you cannot go up again while keeping a good technique (40-60 min.).

Over and Under (O&U):

Over and Under - Reduction of lactic acid accumulation at intensities higher than lactate threshold: Climb up to a HR at the top of your zone for 2-4 minutes and then recover back at a HR close to the bottom of your LST Zone 1 for 1-2 minutes. Repeat until you cannot maintain a proper technique when going at the top of your zone.

High and Low Power Intervals (HPI and LPI):

Aerobic Interval Training - Lower production of lactic acid and increase removal from high lactic acid concentration: Same as O&U but climb to a HR within your LPI or HPI zone for 1-2 mins.

Aerobic Training Program

For the period of: August 16th to September 12th, 2004

Jason Roy

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sun
16 Swim – 60' W-up 10' HZ2 – 40'R Low Z1 – 15'R	17 Low Z1 – 45'B Low Z1 – 45'R (brick)	18 Swim – 60' W-up 10'B HZ2 – 60'B HZ2 – 20'R	19 Low Z1 – 60'B Low Z1 – 30'R (brick)	20 Swim – 60' Mid Z1 – 65'R	21 Z1/2 – 90'B	22 OFF
23 Swim – 60' W-up 10' HZ2 – 40'R Low Z1 – 15'R	24 Low Z1 – 45'B Low Z1 – 45'R (brick)	25 Swim – 60' W-up 10'B HZ2 – 60'B HZ2 – 20'R	26 Low Z1 – 60'B Low Z1 – 30'R (brick)	27 Swim – 60' Mid Z1 – 65'R	28 Z1/2 – 90'B	29 OFF
30 Swim – 60' W-up 10' HZ2 – 45'R Low Z1 – 15'R	31 Low Z1 – 45'B Low Z1 – 45'R (brick)	Sept 1 Swim – 60' W-up 10'B HZ2 – 60'B HZ2 – 20'R	2 Low Z1 – 60'B Low Z1 – 30'R (brick)	3 Swim – 60' Mid Z1 – 65'R	4 Z1/2 – 90'B	5 OFF
6 <i>Book Assessment #2</i> Swim – 60' Z1 – 30'R	7 Low Z1 – 30'B Low Z1 – 30'R (brick)	8 Swim – 60' Z1 – 30'B	9 Low Z1 – 45'B Low Z1 – 30'R (brick)	10 Swim – 60' Z1 – 30'R	11 Z1 – 60'B	12 OFF

STRENGTH TRAINING PROGRAM

PHASE: Strength Maintenance

ST1-Strength	Sets	Reps	CORE	Sets	Reps
None until post-September race					

STRENGTH TRAINING TIPS

- Exercises do not include warm-ups. Use 1 set at a lower intensity (50%) of working weight before beginning your set.
- Perform your weights in a circuit style by moving between the exercises in the order listed.
- The key is to complete each set within **15-20 seconds**.
- Allow **2 minutes rest between circuits**.

ST1

		Date:							
		Weight:							
Exercise:									

CORE

		Date:							
		Weight:							
Exercise:									