

PHYSIOLOGY OF WORKOUTS – HOW THEY AFFECT YOUR RUNNERS.

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PRESENTATION OBJECTIVES:

1. UNDERSTAND THE ENERGY PRODUCTION TRAINING CHART.
2. UNDERSTAND THE ORIGINS OF ENERGY PRODUCTION CHART.
3. DECIDE WHICH CAPACITY YOU WANT TO DEVELOP PRIMARILY FOR THE ATHLETE.
4. DETERMINE YOUR ATHLETE'S FITNESS LEVEL.
5. USE THE VARIOUS SUB-CHARTS TO IDENTIFY DESIGN WORKOUTS.

ENERGY PRODUCTION TRAINING CHART

Tinman Endurance Coaching, LLC		<u>Energy Production Training Chart</u>					
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% VO2 max	Reference Time	Speed (ATP-PC)	Speed Endurance (Buffering)	Anaerobic Glycolysis	VO2 max	Aerobic Stamina	Aerobic Endurance
160%	:03.2						
155%	:04.9						
150%	:07.3	1					
145%	:10.9	2					
140%	:16.4	3	1				
135%	:24.6	4	2				
130%	0:37	5	3	1			
125%	0:55	4	4	2			
120%	1:23	3	5	3	1		
115%	2:04	2	4	4	2		
110%	3:07	1	3	5	3	1	
105%	4:40		2	4	4	2	
100%	7:00		1	3	5	3	1
95%	14:46			2	4	4	2
90%	31:10			1	3	5	3
85%	1:05:46				2	4	4
80%	2:36:11				1	3	5
75%	3:34:45					2	4
70%	4:55:16					1	3
65%	7:39:09						2
60%	10:23:01						1

Effectiveness Scale: 5 = Very High, 4 = High, 3 = Moderate, 2 = Low, 1 = Very Low

MUSCLE FIBERS ENERGY CHART

Tinman Endurance Coaching, LLC	<h2 style="text-align: center; color: red;">Muscle Fibers Energy Chart</h2> <p style="text-align: center;">By Tom Schwartz</p>					
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Engery Production Labels =>	Speed (ATP-PC)	Speed Endurance	Anaerobic Glycolysis	VO2 max	Aerobic Stamina	Aerobic Endurance
Muscle Fiber Types	Endurance					
2X	3	4	5	2	1	0
2AX	2	3	4	5	1	0
2A	1	2	3	4	5	0
1	0	1	2	3	4	5
Muscle Fiber Types	Power					
2X	4	5	3	2	1	0
2AX	3	4	5	2	1	0
2A	2	3	4	5	1	0
1	1	2	3	4	5	2
Muscle Fiber Types	Speed					
2X	5	4	3	2	1	0
2AX	4	5	3	2	1	0
2A	3	4	5	2	1	0
1	2	3	4	5	1	0
Effectiveness Scale: 5 = Very High, 4 = High, 3 = Moderate, 2 = Low, 1 = Very Low						

FACTORS TO CONSIDER BEFORE PRESCRIBING WORKOUTS

- 1. FITNESS LEVEL OF THE ATHLETE**
- 2. STAGE OF PERFORMANCE DEVELOPMENT**
- 3. NEED FOR FRESHNESS OR FATIGUE**



SPEED WORKOUTS

Speed Training
(ATP-PC Capacity)
By Tom Schwartz

% VO2 max	Reference Time	Rating Scale	Number of Reps	Rep Times	Recovery Time
150%	:07.3	1	3-6 reps	0:03.6	3-9 min.
145%	:10.9	2		0:05.3	
140%	:16.4	3		0:08.1	
135%	:24.6	4		0:12.4	
130%	:36.9	5		0:18.6	
125%	:55.3	4		0:27.1	
120%	1:23.0	3		0:38.1	
115%	2:04.4	2		0:51.2	
110%	3:06.7	1		1:05.8	

Effectiveness Scale: 5 = Very High, 4 = High, 3 = Moderate, 2 = Low, 1 = Very Low

SPEED ENDURANCE WORKOUTS

Speed Endurance Training (Buffering Capacity) By Tom Schwartz

% VO2 max	Reference Time	Rating Scale	Number of Reps	Rep Times	Recovery Time
140%	0:16.4	1	3-6 reps	0:08.1	2.5-7.5 min.
135%	0:24.58	2		0:12.4	
130%	0:36.9	3		0:18.6	
125%	0:55.3	4		0:27.1	
120%	1:23.0	5		0:38.1	
115%	2:04.4	4		0:51.2	
110%	3:06.7	3		1:05.8	
105%	4:40.0	2		1:20.7	
100%	7:00.0	1		1:34.2	
Effectiveness Scale: 5 = Very High, 4 = High, 3 = Moderate, 2 = Low, 1 = Very Low					

ANAEROBIC GLYCOLYSIS WORKOUTS

Anaerobic Glycolysis Training

By Tom Schwartz

% VO2 max	Reference Time	Rating Scale	Number of Reps	Rep Times	Recovery Time
130%	:36.9	1	3-6 reps	0:18.6	2-6 min.
125%	:55.3	2		0:27.1	
120%	1:23.0	3		0:38.1	
115%	2:04.4	4		0:51.2	
110%	3:06.7	5		1:05.8	
105%	4:40.0	4		1:20.7	
100%	7:00.0	3		1:34.2	
95%	14:46.2	2		2:27.7	
90%	31:09.9	1		3:43.0	

Effectiveness Scale: 5 = Very High, 4 = High, 3 = Moderate, 2 = Low, 1 = Very Low

VO₂ MAX WORKOUTS

VO2 max Training By Tom Schwartz

% VO2 max	Reference Time	Rating Scale	Number of Reps	Rep Times	Recovery Time
120%	1:23.0	1	3-6 reps	0:38.1	1.5-4.5 min.
115%	2:04.4	2		0:51.2	
110%	3:06.7	3		1:05.8	
105%	4:40.0	4		1:20.7	
100%	7:00.0	5		1:34.2	
95%	14:46.2	4		2:27.7	
90%	31:09.9	3		3:43.0	
85%	1:05:46	2		5:35.3	
80%	2:36:11	1		10:03.1	

Effectiveness Scale: 5 = Very High, 4 = High, 3 = Moderate, 2 = Low, 1 = Very Low

AEROBIC STAMINA WORKOUTS

Aerobic Stamina Training

By Tom Schwartz

% VO2 max	Reference Time	Rating Scale	Number of Reps	Rep Times	Recovery Time
110%	3:07	1	3-6	1:05.8	1-3 min.
105%	4:40	2		1:20.7	
100%	7:00	3		1:34.2	
95%	14:46	4		2:27.7	
90%	31:10	5		3:43.0	
85%	1:05:46	4		5:35.3	
80%	2:36:11	3		10:03.1	
75%	3:34:45	2		11:55.9	
70%	4:55:16	1		15:57.1	

Effectiveness Scale: 5 = Very High, 4 = High, 3 = Moderate, 2 = Low, 1 = Very Low

AEROBIC ENDURANCE WORKOUTS

Aerobic Endurance Training					
% VO2 max	Reference Time	Rating Scale	Number of Reps	Rep Times	Recovery Time
100%	7:00	1	3-6	1:34.2	.5-1.5min.
95%	14:46	2		2:27.7	
90%	31:10	3		3:43.0	
85%	1:05:46	4		5:35.3	
80%	2:36:11	5		10:03.1	
75%	3:34:45	4		11:55.9	
70%	4:55:16	3		15:57.1	
65%	7:39:09	2		24:04.3	
60%	10:23:01	1		25:22.7	
Effectiveness Scale: 5 = Very High, 4 = High, 3 = Moderate, 2 = Low, 1 = Very Low					