

# BOSU® HIIT Extreme 2013

## 1. BOSU® HIIT Extreme Overview

### A. Purpose

Learn the science of high intensity interval training and its application to fitness and sport. Take home a variety of short, plug-n-play high intensity interval sequences that are fun, realistic and effective for all participant ability levels.

### B. HIIT Defined

High intensity interval training (HIIT) that uses relatively short, high intensity cardiovascular intervals that are alternated with less intense recovery intervals.

### C. HIIT Energy System Essentials

1. VO2 max facts
2. Improving aerobic power
3. Lactate threshold (LT)
4. Oxygen dependent vs. independent energy production

### D. HIIT: How Hard? How Long? How Often?

1. RPE: 7 – 10 (approx. 80%+ max heart rate)
2. 15 – 60 seconds intensity; 10 – 60 seconds recovery
3. HIIT workouts should not exceed 10 – 20% of total weekly volume

### E. HIIT Benefits

1. Improves endurance more than continuous training alone
2. Improves ability to raise lactate threshold and VO2 max
3. Optimizes caloric expenditure and fat utilization

### F. Progressing HIIT

1. Build endurance foundation first
2. Cardio effort increase = coordination, balance, stabilization decrease
3. Results are dependent on appropriate effort and recovery levels

### G. BOSU HIIT Extreme Interval Types

1. Rolling Intervals
2. Surge Intervals
3. Short Burst Intervals

## 2. Effort Rating Scale (RPE): 7-10 = HIIT Zones

1	2	3	4	5	6	7	8	9	10
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2 - 3: Very easy; warm up/recovery/cool down level of effort

4 - 6: Moderate; aerobic steady state level of effort

7 - 9: Hard to very hard; aerobic lactate threshold level of effort

10 +: Maximal; anaerobic level of effort, crosses lactate threshold

Interval Type	Goal	Effort/Recovery Ratio	RPE	Protocol
<b>ROLLING INTERVALS</b>	Improve aerobic power up to LT; improve recovery ability; build interval training foundation	<b>1:1:1</b> (HIIT hybrid)	<b>5-6</b> <b>6-7</b> <b>8-9</b>	3-minute sequence builds from moderate to hard to very hard in 1-minute increments; minute 1 of each sequence is the recovery segment for the previous interval

**BOSU® HIIT Extreme Rolling Intervals**

Minute 1 (RPE 5 - 6)	Minute 2 (RPE 6 - 7)	Minute 3 (RPE 8 - 9)
<p><b>1) Squat Lunge Combo</b>                      Standing beside dome;                      ½ tempo                      Rear lunge                      Side squat                      Squat on top                      Side squat other side                      Repeat for 1 minute</p>	<p>Tempo                      Side rear lunge                      Side squat                      Jump stick on top                      Side squat other side                      Repeat for 1 minute</p>	<p>Jump lunge x 2 + Over the top                      Repeat for 1 minute</p>
<p><b>2) Plank Jack Combo</b>                      Standing on floor behind PSU:                      Squat to plank                      Walk feet out/in slow                      Squat to stand                      Jump feet together                      Repeat for 1 minute</p>	<p>Squat to plank ½ tempo                      Tempo jack x 2                      Slow pushup                      Squat to stand ½ time                      Jump feet together                      Repeat for 1 minute</p>	<p>Squat to plank ½ tempo                      Tempo jack x 2                      Pushup fast x 2                      Squat to stand ½ Tempo                      Jump feet together/raise BOSU overhead                      Repeat for 1 minute</p>
<p><b>3) Step-Up-Lunge Combo</b>                      Stand in lunge position, 1 foot in center of dome, other leg in lunge w/knee on dome                      Step up 4 x R/Switch                      Step up 4 x L                      Repeat for 1 minute</p>	<p>Step up 2 x with jump                      Repeat for 1 minute</p>	<p>Alternating step up jumps                      Repeat for 1 minute</p>
<p><b>4) Straddle-Diagonal Lunge Combo</b>                      Standing astride dome:                      Straddle up R/L – diagonal lunge back R                      Repeat L                      Repeat for 1 minute</p>	<p>Jump straddle up, step down R, diagonal lunge R                      Jump straddle up, step down L, diagonal lunge L                      Repeat for 1 minute</p>	<p>Jump up/jump down                      Jump diagonal lunge R                      Jump up/jump down                      Jump diagonal lunge L                      Repeat for 1 minute</p>

Interval Type	Goal	Effort/Recovery Ratio	RPE	Protocol
<b>SURGE INTERVALS</b>	Improve steady state max at LT, which results in an ability to work at a higher % of VO2 max and LT	<b>1:1</b>	<b>8-9</b>	60-second effort with a surge during the last 15-seconds; followed by a 60-second recovery using balance and core challenges

### BOSU® HIIT Extreme Surge Intervals

Equipment: Balance Trainer = BT; Ballast Ball = BB; Med Ball = MB

Effort Interval	Balance/Core Recovery Interval
<p><b>1) Leap Frog Ballast Ball Slam (BT – BB)</b> Stand behind BT holding BB. Jump up, stick landing. Slam BB on floor in front of BT. Leap Frog over. ½ turn jump. Repeat other direction</p> <p><b>Surge:</b> Lift BB overhead, jump higher, slam harder</p>	<p>Stand on dome holding BB. Squat and rotate, touching the BB to floor beside the BT. Repeat to the other side</p> <ul style="list-style-type: none"> <li>• Vary the intensity by adding an overhead lift</li> </ul>
<p><b>2) Straddle Down Touch Down (BT-BB)</b> Stand on BT holding BB. Jump straddle down, touch BB on BT, jump up/touch BB R/L side of BT</p> <p><b>Surge:</b> Lift BB overhead, jump higher</p>	<p>BT PSU holding a plank with feet straddling the BB. Slowly walk feet up to BB</p> <ul style="list-style-type: none"> <li>• Vary the intensity by jumping up and/or down</li> </ul>
<p><b>3) Across the Dome Lateral Leap (BT)</b> Standing beside the BT, lateral leap, lateral over the top</p> <p><b>Surge:</b> Add two quick ski jumps to side + BIG over the top</p>	<p>Side lying balance with hands in a variety of positions</p> <ul style="list-style-type: none"> <li>• Vary the intensity by holding a soft fitness ball in a variety of positions</li> </ul>
<p><b>4) Side Squat Quick Feet (BT)</b> Side Squat quick feet run 1-2-3 over the top laterally</p> <p><b>Surge:</b> Jump side squat side to side</p>	<p>Stand Dome side performing a 1-legged balance while moving the Soft Fitness Ball in a variety of positions.</p> <ul style="list-style-type: none"> <li>• Vary the intensity by visually tracking the ball</li> </ul>

Interval Type	Goal	Effort/Recovery Ratio	RPE	Protocol
<b>SHORT BURST INTERVALS</b>	Improve power above LT, at VO2 max and at LT with all out efforts; improve ability to repeat hard efforts and recover quickly	<b>2:1</b>	<b>9 – 10+</b>	20-seconds all out effort followed by 10-seconds of complete recovery; one cycle = 4 minutes (repeat sequence of 4 drills 2x) <b>OR</b> 30-seconds all out effort followed by 15 seconds complete recovery; one cycle = 6 minutes (repeat sequence of 4 drills 2x)

**BOSU® HIIT Extreme Short Burst Intervals**

Equipment: Balance Trainer = BT; Ballast Ball = BB; Med Ball = MB

<b>1) 20/10 Intervals (BT)</b>	<b>2) 20/10 Intervals (BT)</b>
a. Quick switch jumps + leap up	a. 1-2-3 over the dome quick feet
b. Straddle tuck jumps	b. Knee hop/jump switch
c. Alt 1-legged jump stick/1-legged plank	c. PSU plank diagonal jumps
d. Alternating side power squat	d. Jump fwd/straddle jump touch/quick feet

<b>3) 30/15 Intervals (BT - MB)</b>	<b>4) 30/15 Intervals (BT – MB)</b>
a. Knee hop mountain climber switch	a. PSU burpie/jack/lift BT overhead
b. X-over fast runs	b. Bulgarian jump lunge
c. Forward jump straddle down/shuffle back	c. Freestyle jumps
d. Knee hop straddle down	d. Lateral leap + 2 runs (from behind)

**Sequencing Options for Variety:** a/b/c/d + a/b/c/d = 1 cycle  
a/b + a/b + c/d + c/d = 1 cycle  
a/a + b/b + c/c + d/d = 1 cycle  
Mix and match to create endless options!

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