The ABC’s of Battling Ropes for the Personal Trainer

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Battling Ropes & Mechanical Energy

• First Law of Thermodynamics!
  – “The increase in the internal energy of a
    thermodynamic system is equal to the amount of
    heat energy added to the system minus the work
    done by the system on the surroundings.”
  – Energy is neither created nor destroyed!

• Significant amount of potential and kinetic
  energy present within the different Battling
  Ropes systems
Battling Ropes System

- Physiological effects
  - Work output
  - Oxygen consumption and CV endurance
  - Aerobic emphasis vs. anaerobic emphasis
  - Lactate production and tolerance
  - Neuromuscular adaptations
- Psychological effects
  - Hypnotic effect
  - Mental toughness

Battling Ropes System Components

- Velocity Wave
- Strength
- Pole
- Storm surge
- Chain reaction (separate system)

Battling Ropes Training Techniques

- Grips
  - Underhand or normal
  - Overhand
  - Doubled end grip
  - Four finger
Battling Ropes Training Techniques

• Wave techniques
  – Underhand Wave
  – Overhand Wave
  – Double arm
  – Single arm
  – Power wave
  – Figure 8
  – Tsunami

• Wave techniques
  – Outer Circles
  – Inner Circles
  – S wave
  – Bull Whip
  – Rope Crossovers
  – Storm surge

Battling Ropes Training Techniques

• Body positions
  – Standing
    • Static squat
    • Dynamic squatting
    • Static lunge
    • Single leg
  – Kneeling
  – Seated
    • Floor, stability ball, Bosu ball, wheelchair
  – Supine

Battling Ropes Training Techniques

• Complex movements
  – “Dynamic Specific Actions”
  – Overhead mace swings
  – Walk ins
  – Manipulating the pile
  – Overhead squatting
  – Lateral stepping
  – Hopping
### Battling Ropes

**Strength System**
- Military Press
- Iron Cross
- Press into Iron Cross
- Bent over Row
- Chest Fly
- Front Squat
- Backward Lunge

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**Pole System**
- System based on friction between surface and rope
  - Wrap rope around a smooth surfaced pole
    - 4 to 8 inch diameter pole works best
    - Single, double, triple, quadruple wraps
  - Body position
    - Standing, side lying, supine, prone plank,
  - Increased rope diameter increases friction
- Front Squat
- Backward Lunge

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**Battling Ropes Circuits**
- Cardiovascular emphasis + muscular endurance
  - Complete rope circuits
    - Every station includes a different ropes exercise/drill
  - Alternate station circuits
    - Ropes stations set as every other station mixed in with traditional and non-traditional calisthenics/modalities
  - Running circuits
    - Incorporate slow running as an active recovery after every station (client never gets rest)
  - Sports-specific circuits
Battling Ropes Circuits

- Anaerobic endurance
  - Rope sprint circuits
    - Shorten station durations (<20 sec) and complete with maximal effort
  - Interval training circuits
    - Set specific reps to be completed
    - Set exercise and rest intervals
  - Hybrid circuits
    - Mix ropes exercises with traditional resistance training lifts and plyometric exercises
    - "Battling ropes" challenge matches

FIT Approach to the Ropes

- Frequency
  - Daily training
    - Closely monitor intensity
  - 2 to 3 high intensity sessions per week
    - Allow for adequate recovery between intense sessions
  - Advanced training sessions
    - Singles vs Doubles vs Triples

FIT Approach to the Ropes

- Intensity
  - Simple to manipulate
  - Cadence or wave frequency controls intensity level
  - Length of the rope (40, 50, 60 to 100 feet)
  - Diameter of the rope
    - Changes mass
  - Mass of the rope
  - Type of rope composition
    - Nylon, polydacron, cotton blend, manila
  - Body position
FIT Approach to the Ropes

• Time
  – 10 second intervals to 30 minutes straight
  – Various Intervals
  – Work output (reps completed)
  – Work:Rest ratios
    • 1:3
    • 1:2
    • 1:1
    • 1:0.5
    • No Rest!

You Tube Video Library

• Search Mike Martino
• http://www.youtube.com/user/MartinoBattlingRopes?feature=watch
• A compilation of videos demonstrating standardized techniques focusing on proper biomechanics promoting safe and efficacious movements

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Battling Ropes Sample Workouts

Beginner Ropes Circuit

Station 1: Standing double arm wave with 50 foot 1.5” rope
Station 2: Standing power wave with 50 foot 1.25” rope
Station 3: Standing overhead clockwise swings with 13 foot 1.25” rope
Station 4: Kneeling double arm overhand wave with 50 foot 1.5” rope
Station 5: Standing single arm figure 8’s with 50 foot 1.25” rope
Station 6: Standing overhead counter clockwise swings with 13 foot 1.25” rope

Work-to-Rest ratio can be 20-40 sec. on and 20-60 sec. off! Start with 20 sec. stations and progress 5 sec. every 1-2 weeks! You can also increase the frequency of the rope movement!

Intermediate Ropes Circuit

Station 1: Standing overhead clockwise swings with 13 foot 1.25” rope
Station 2: Seated double arm wave with 50 foot 1.5” rope
Station 3: Walk-ins with 50 foot 1.25” rope
Station 4: Standing overhead counter clockwise swings with 13 foot 1.25” rope
Station 5: Standing overhand power wave with 60 foot 1.5” rope
Station 6: Standing crossover wave with 50 foot 1.5” rope
Station 7: Standing double arm wave with 60 foot 1.5” rope

Work-to-Rest ratio can be 30-60 sec. on and 10-30 sec. off! Start with 30 sec. stations and progress 5 sec. every 1-2 weeks! You can also increase the frequency of the rope movement!

Advanced Ropes Circuit

Station 1: Standing power wave with 50 foot 2” rope
Station 2: Manipulating the pile with 50 foot 1.5” rope
Station 3: Standing overhead swings with 17 foot 1.25” rope
Station 4: Standing double arm wave with 40 foot 3” rope
Station 5: Walk-ins with 50 foot 1.5” rope
Station 6: Standing overhand power wave with 60 foot 1.5” rope

Work-to-Rest ratio can be 30-60 sec. on and 10-30 sec. off! Start with 30 sec. stations and progress 5 sec. every 2 weeks! You can also increase the frequency of the rope movement!
Cardiovascular Ropes Circuit

Station 1: Standing power wave with 50 foot 1.5” rope
Station 2: Standing double arm wave with 60 foot 1.5” rope
Station 3: Run 1/8th mile at predetermined pace (45-60 sec. per lap)
Station 4: Standing power wave with 50 foot 1.25” rope
Station 5: Standing overhand power wave with 60 foot 1.5” rope
Station 6: Run 1/8th mile at predetermined pace (45-60 sec. per lap)
Station 7: Walk-ins with 50 foot 1.25” rope

No rest between stations and repeat the entire circuit 2-6 times! Each station can range from 60 sec. to 3 min. The running distance will need to be increased to match the duration of the stations (i.e. Run 3 min. when the stages are 3 min.).

Hybrid Ropes Circuit

Station 1: Standing power wave with 50 foot 2” rope
Station 2: 30 lb. medicine ball partner passes with 20 yard lateral shuffle
Station 3: Walk-ins with 50 foot 1.5” rope
Station 4: Standing overhead clockwise swings with 17 foot 1.25” rope
Station 5: Walking lunge with 18 lb. medicine ball trunk rotations
Station 6: Standing overhead power wave with 60 foot 1.5” rope
Station 7: Walk-in-out overhead squats with 50 foot 1.25” rope
Station 8: Standing crossover wave with 40 foot 3.5” rope
Station 9: 12 lb. medicine ball single arm alternating rotational punch throws
Station 10: Standing overhead counter clockwise swings with 17 foot 1.25” rope
Station 11: Standing “all out” sprint power wave with 50 foot 1.25” rope
Station 12: Standing double arm wave with 60 foot 1.5” rope

This circuit is usually done with partners so one individual will rest during the ropes stations but not the partner stations! They do these stations two times in a row! Each station can last 30-60 sec.

Battling ropes can offer endless combinations of training programs. We have incorporated the ropes into various settings including: mixed martial arts, basketball, cross-country, swimming, softball, football, and baseball. They can be used with pretty much any population because you control the intensity by manipulating the frequency.
MMA Battling Ropes Sample Workouts by Mike Martino, PhD

* These are advanced routines and will cause some severe discomfort to the participants! Watch each individually closely as they begin to fatigue!

**Circuit #1**

<table>
<thead>
<tr>
<th>Station 1:</th>
<th>Standing power wave with 60 foot 1.5”rope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Station 2:</td>
<td>Ground and pound dummy station (alternate total body shots)</td>
</tr>
<tr>
<td>Station 3:</td>
<td>Standing double arm wave with 50 foot 2” rope</td>
</tr>
<tr>
<td>Station 4:</td>
<td>8 punch sequence (jab, cross, hook, uppercut, uppercut, hook, hook, cross)</td>
</tr>
<tr>
<td>Station 5:</td>
<td>Seated power wave with 50 foot 1.5” rope</td>
</tr>
<tr>
<td>Station 6:</td>
<td>Pummeling for speed with eyes closed and gloves on</td>
</tr>
<tr>
<td>Station 7:</td>
<td>Kneeling double grip double arm overhand wave with 50 foot 1.5” rope</td>
</tr>
<tr>
<td>Station 8:</td>
<td>Standing 30 pound medball chest passes</td>
</tr>
</tbody>
</table>

Each station is 60-120 seconds in duration! No rest in between stations! You sprint from one station to the next! Alternate hands on punch sequence on bag! You can add to this circuit by running a specified distance in between each station. We run a 1/8th of a mile each time and go through this twice. The total work time can range from 15-30 minutes with no rest.

**Circuit #2**

<table>
<thead>
<tr>
<th>Station 1:</th>
<th>Standing overhead clockwise mace swings with 17 foot 1.5”rope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Station 2:</td>
<td>Kettlebell hip swings with 50-70 lb bell (20-30 per 30 sec)</td>
</tr>
<tr>
<td>Station 3:</td>
<td>Manipulating the pile with 50 foot 1.5” rope</td>
</tr>
<tr>
<td>Station 4:</td>
<td>Alternating 10-12 lb medball punch throws to wall (15-20 reps)</td>
</tr>
<tr>
<td>Station 5:</td>
<td>Walk-ins with 50 foot 1.5”rope</td>
</tr>
<tr>
<td>Station 6:</td>
<td>Lateral partner shuffles with 30 lb medball passing (fast)</td>
</tr>
<tr>
<td>Station 7:</td>
<td>Standing overhead counter clockwise mace swings with 17 foot 1.5”rope</td>
</tr>
</tbody>
</table>

Each station should be 30-60 seconds in duration. No rest in between stations!

**Circuit #3**

<table>
<thead>
<tr>
<th>Station 1:</th>
<th>Standing power wave with 50 foot 2”rope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Station 2:</td>
<td>Ground and pound kneeing station (alternate 4 knees and 4 hammer fists)</td>
</tr>
<tr>
<td>Station 3:</td>
<td>Bull whip with 60 foot 1.5”rope (Right arm 1 min Left arm 1 min)</td>
</tr>
<tr>
<td>Station 4:</td>
<td>30 yard repeating sprints (10 accelerate 10 sprinting 10 decelerate)</td>
</tr>
<tr>
<td>Station 5:</td>
<td>Standing double arm wave with 40 foot 3.5”rope</td>
</tr>
<tr>
<td>Station 6:</td>
<td>Thai combos (jab, cross, inside kick, thigh kick)</td>
</tr>
<tr>
<td>Station 7:</td>
<td>Walk-ins with 50 foot 1.5” rope</td>
</tr>
<tr>
<td>Station 8:</td>
<td>Grappling station</td>
</tr>
</tbody>
</table>

Each station should be 2 minutes in duration! This circuit really hurts if you add the 1/8th of a mile runs in between each station!
# BODYPLEX Milledgeville Battle Bells Class Progressions

**Small Group Personal Training Class**

<table>
<thead>
<tr>
<th>Difficulty Level</th>
<th>Battling Ropes</th>
<th>Kettle Bells</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.25” single arm wave no leg action</td>
<td>Double arm hip swings</td>
</tr>
<tr>
<td>1</td>
<td>1.25” single arm wave w/leg action</td>
<td>Single arm hip swings</td>
</tr>
<tr>
<td>1</td>
<td>1.25” double arm wave no leg action</td>
<td>Standing press</td>
</tr>
<tr>
<td>1</td>
<td>1.25” double arm wave w/leg action</td>
<td>Figure 8’s thru legs</td>
</tr>
<tr>
<td>1</td>
<td>1.25” Power wave</td>
<td>Dead lifts</td>
</tr>
<tr>
<td>2</td>
<td>1.5” single arm wave no leg action</td>
<td>Single arm hip swings*</td>
</tr>
<tr>
<td>2</td>
<td>1.5” single arm wave w/leg action</td>
<td>Turkish get up</td>
</tr>
<tr>
<td>2</td>
<td>1.5” double arm wave no leg action</td>
<td>Alternating arm hip swings</td>
</tr>
<tr>
<td>2</td>
<td>1.5” double arm wave w/leg action</td>
<td>Single arm high pulls</td>
</tr>
<tr>
<td>2</td>
<td>1.5” Power wave</td>
<td>Standing extreme compromise</td>
</tr>
<tr>
<td>2</td>
<td>1.25” single/double arm outer circles</td>
<td>Single arm cleans</td>
</tr>
<tr>
<td>2</td>
<td>1.25” single/double arm inner circles</td>
<td>Crossfit Russian hip swings</td>
</tr>
<tr>
<td>2</td>
<td>1.25” Bull whip</td>
<td>Single KB Romanian dead lift</td>
</tr>
<tr>
<td>2</td>
<td>1.25” single arm figure 8</td>
<td>Single arm push press</td>
</tr>
<tr>
<td>2</td>
<td>1.25” S wave</td>
<td>Single arm snatch</td>
</tr>
<tr>
<td>2</td>
<td>1.25” double arm figure 8</td>
<td>Single arm jerk</td>
</tr>
<tr>
<td>3</td>
<td>13’ x 1.25” mace swing</td>
<td>Combos (swing &amp; clean)</td>
</tr>
<tr>
<td>3</td>
<td>1.25” rotational crossover</td>
<td>Goblet squat</td>
</tr>
<tr>
<td>2</td>
<td>1.25” Bull whip</td>
<td>Stepping extreme compromise</td>
</tr>
<tr>
<td>3</td>
<td>Kneeling 1.25” double arm waves</td>
<td>Double arm press</td>
</tr>
<tr>
<td>3</td>
<td>1.5” Lateral step w/double arm wave</td>
<td>Single arm deadlift</td>
</tr>
<tr>
<td>3</td>
<td>1.5” single arm figure 8</td>
<td>Double KB Romanian dead lift</td>
</tr>
<tr>
<td>3</td>
<td>25-35’ x 1.5” Tsunami</td>
<td>Single arm squat &amp; push press</td>
</tr>
<tr>
<td>4</td>
<td>2” double arm wave no leg action</td>
<td>Double KB hip swings</td>
</tr>
<tr>
<td>4</td>
<td>2” double arm wave w/leg action</td>
<td>Single arm bottoms up clean</td>
</tr>
<tr>
<td>4</td>
<td>Kneeling 1.5” double arm waves</td>
<td>Double arm presses</td>
</tr>
<tr>
<td>4</td>
<td>Seated 1.5” double arm waves</td>
<td>Combos (swing, clean, press)</td>
</tr>
<tr>
<td>4</td>
<td>1.25” walk ins</td>
<td>Double KB squat</td>
</tr>
<tr>
<td>4</td>
<td>1.5” double arm figure 8</td>
<td>Double arm high pulls</td>
</tr>
<tr>
<td>4</td>
<td>1.5” rotational crossover</td>
<td>Single arm front raise snatch</td>
</tr>
<tr>
<td>4</td>
<td>25-35’ x 2” Tsunami</td>
<td>Single arm side raise snatch</td>
</tr>
<tr>
<td>4</td>
<td>1.5” S wave</td>
<td>Double arm squat &amp; push press</td>
</tr>
<tr>
<td>4</td>
<td>Towel wave</td>
<td>Double KB Sumo dead lift</td>
</tr>
<tr>
<td>5</td>
<td>2” Power wave</td>
<td>2 KB snatch</td>
</tr>
<tr>
<td>5</td>
<td>2” Bull whip</td>
<td>2 KB clean and jerk</td>
</tr>
<tr>
<td>5</td>
<td>2” S wave</td>
<td>Single arm bottoms up snatch</td>
</tr>
<tr>
<td>5</td>
<td>1.5” walk ins</td>
<td>Double arm combos</td>
</tr>
<tr>
<td>5</td>
<td>Carpet wave</td>
<td>Double KB overhead squat</td>
</tr>
<tr>
<td>5</td>
<td>1.5” manipulate the pile</td>
<td>Double arm cleans</td>
</tr>
<tr>
<td>5</td>
<td>50’ x 2” Tsunami</td>
<td>Combos (swings, c &amp; p, snatch)</td>
</tr>
</tbody>
</table>