

# Branch & Center News

## *Tucson JCC*

*All About Power by Shelley Russell*

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Let's face it, most of us don't have the time or the energy to commit to long cardio workouts. Hence the growing popularity of the time-efficient 30-minute sessions. But, how can we ensure that we get the most bang for our buck in 30 minutes? Studies have shown that EPOC (Excess Post-Exercise Oxygen Consumption) is driven by intensity, not volume. Since the number of calories we burn is dependent upon the amount of oxygen we consume, let's add intensity to our short training sessions!



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Intensity is achieved by training with power. To train with power, we need to target our fast-twitch muscle fibers and their anaerobic energy systems. This can be done with a carefully planned HIIT (High Intensity Interval Training) format. I say, "carefully planned" because if enough time between intervals is not allowed for the anaerobic energy systems to replenish their ATPs, the purpose of the training is defeated due to diminished power output.

So, what's an appropriate HIIT format for power training? VIIT (Variable Intensity Interval Training) is a type of HIIT protocol that combines HIIT and CV (Cardiovascular) conditioning. This type of training targets the anaerobic energy systems using 30-second all-out power efforts followed by active recovery at a comfortable but challenging intensity. To understand the benefits of this type of training, it helps to understand how the anaerobic energy systems work. During the first few seconds of an all-out effort, our muscles use their immediate energy source, ATP (Adenosine Triphosphate), which is located on the myosin heads of the contractile proteins of the muscle fibers. Energy is released when ATP is broken down to ADP (Adenosine Diphosphate), Pi (Inorganic Phosphate) and H<sup>+</sup> (Hydrogen Proton). As the effort continues, CP (Creatine Phosphate) is split by the enzyme, creatine kinase, and the energy released from that reaction is used to resynthesize ATP from ADP and Pi. When CP is depleted, anaerobic glycolysis takes over, breaking down glucose into pyruvate. Pyruvate converts to lactate by taking on the H<sup>+</sup> produced during glycolysis, preventing the environment from becoming too acidic. Lactate is pushed from the muscle cells into the blood to be buffered. When we reach the point of breathlessness after our 30-second all-out effort, we know we have used our anaerobic systems because expiration of CO<sub>2</sub> is a result of our buffering system.

So, what's the benefit of training this way? When we train

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anaerobically, our body oxidizes fat more rapidly, preparing for an eventual increase in its' usage. This rapidity equates to more calories being burned. Additionally, during active recovery of the anaerobic systems, we use our aerobic system to replenish ATPs. This is the only system in which fat is burned. It is comprised of the mitochondria, which encompasses the Krebs cycle, i.e. the fat-burning fireplace. Our muscle cells contain anywhere from 400-2000 mitochondria. Mitochondria have their own DNA and will adapt to VIIT by getting 35% bigger and replicating by 5-50%. More fat-burning factories and more calories burned by training consistently with power for just 30 minutes sounds pretty good to me!

### **Shelley's 30/30s**

Shelley has taken her 20+ years of experience designing and teaching group fitness classes and has created time-efficient semi-private training sessions. In each of her 30-minute sessions, she focuses on one of the main components of physical fitness (cardio, muscular strength, functional strength and flexibility):

### **SPIN 30!**

Designed for participants who want to get the most bang for their buck in 30 minutes of cardio training, this class uses Heart Zones technology to target the aerobic and anaerobic energy pathways. Each participants' heart rate zones are customized and updated as they get more fit. Participants not only learn what zones to target during intervals in this VIIT class, but also how to enter their heart rate data into their phones to use (with an external heart rate monitor) in any other cardio class. This class is perfect for those looking to boost their metabolism for increased weight loss.

### **BP 30!**

Created from the popular Les Mills Body Pump class, this 30/30 session focuses on building upper body and core strength - a perfect addition for those participants already training their lower body in Indoor Cycling and/or other cardio classes or on cardio equipment. Correct form, proper load and progression of load is easily monitored in this small group format. Building muscle burns more calories, so this class is another perfect addition for those looking to lose weight.

### **TRX 30!**

Based on the principle of, "time under tension," this advanced workout puts complete body strength to the test with work to the point of failure. Focused on functional

training for activities of daily living, this is a perfect addition for those participants looking to strengthen and challenge the major muscles of their core.

### **RST 30!**

One of the most important, but often overlooked components of physical fitness is recovery and flexibility. This class combines foam rolling and stretching along with glute and core conditioning. This class is perfect for anyone looking to ease hip, shoulder and/or knee joint pain, condition post-pregnancy pelvic floor muscles and/or accelerate recovery from tough workouts.

For information on the days and times of Shelley's 30/30s sessions, or to sign up for a package of 8 which can be used for any class, please visit the JCC web site: [Shelley's 30/30s](#)

### **Author Bio**

*Shelley Russell is an ACE-Certified Personal Trainer and Fitness Instructor and has been teaching in the fitness industry for over 20 years. She holds Level I and II certifications in Threshold Training from Heart Zones Inc., a company specializing in advancing fitness through heart rate technology. To get a taste of VIIT and anaerobic power training, check out Shelley's Heart Zones Spinning classes and her 30/30 semi-private sessions ([details below](#)).*

*Recently, Shelley was featured nationally as a "Health Club Hero" by Heart Zones, Inc. Follow this link to learn more about how she uses Heart Zones technology to maximize training results in her classes: [Health Club Hero](#)*

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