



# MyoWave Knee Screening Report

For: Jane Doe

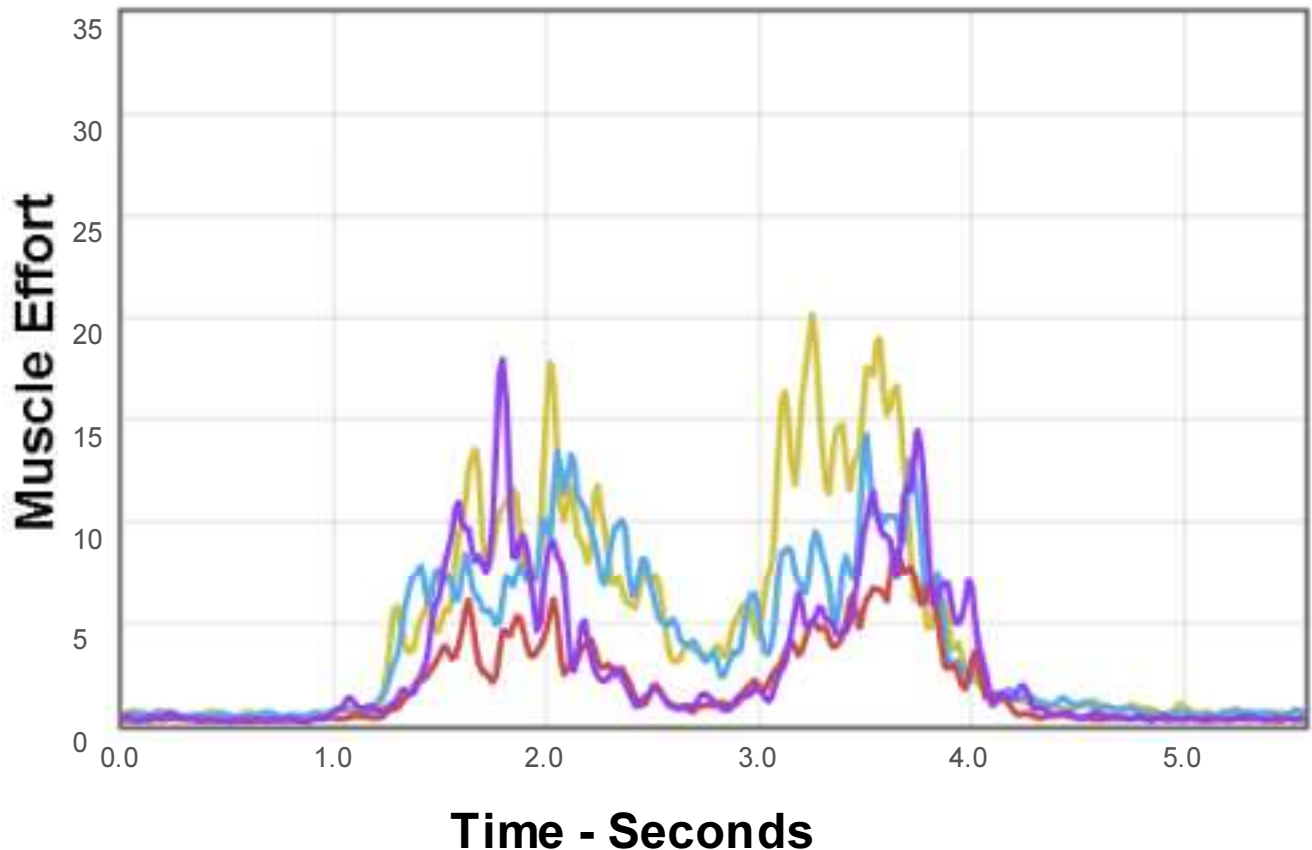
12 December 2011

Prepared by: Kay Riley

## Evaluation Form

	<b>Left</b>	<b>Right</b>
1. Step-up exercise could be completed at 10" step height	0	0
2. Muscle effort (all four muscles) not at zero before or after exercise	0	0
3a. VL during step-up Ratio values: [18/10]		
3b. VL during step-down Ratio values: [20.2/10.2]	0	0
4. VL/BF ratio < 2.5 throughout step-up Ratio values: [1.27/3.3]	1	0
5. VL/BF ratio < 3 throughout step-down Ratio values: [1.89/2.9]	1	0
6. BF/SR ratio > 1 throughout step-up Ratio values: [2.27/0.62]	2	0
7. BF/SR ratio > 1 throughout step-down Ratio values: [1.5/0.49]	1	0
8. VM substantially less than VL during step down Ratio values: [1.63/0.93]	0	0
9: Muscle effort begins at different time points	1	1
10. Muscle effort ends at different time points	1	1
11. Muscle activity not reduced during one-legged stance phase	0	0
12. Spiking or oscillating activity evident in muscle recording	0	0
13. Left/Right VL muscle activity not equal Ratio values: [20.2/10.2]	1	1
<b>Total Score:</b>	<b>8</b>	<b>3</b>

■ L - Vastus Lateralis ■ L - Vastus Medialis ■ L - Sartorius ■ L - Biceps Femoris



## CLIENT INFO

**ID:** 8557743088

**Name:** 56, O A

**DOB:**

**Gender:** Female

**Height:** 5' 5"

**Weight:** 174 lbs

## EVENT INFO

**Exercise Name:** Osteoarthritis Step Up

**Exercise Date:** 6/21/2011

## COMMENT

Left Leg: 13.5cm / 11.5cm

Right Leg: 12.5cm / 12cm

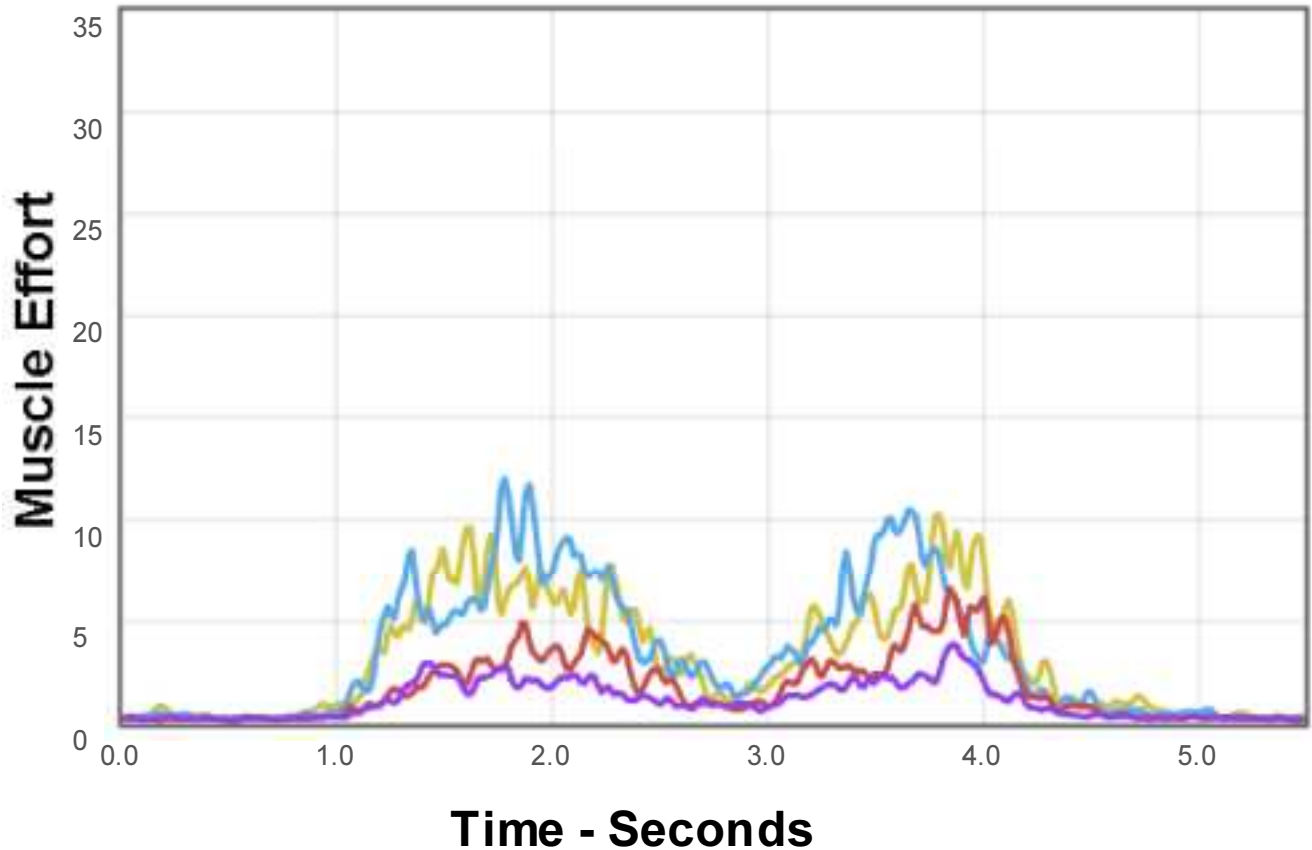
LK: Aches, underneath knee

RK: Fine

RK: Replacement 2008

The Sonostics MyoWave reading is a depiction and analysis that applies only to the time, circumstances and specific exercises during which the activity of specific muscles was monitored, processed and depicted by the MyoWave system. If these depictions suggested a muscle imbalance condition, they may be subject to change or re-interpretation at a different time and circumstance and with different exercises. These depictions and conclusions drawn from them are a report of muscle activity, not a diagnosis of physical condition. In cases where, for a specific subject and muscle set, the depiction indicates the possibility of muscle imbalance, the subject may benefit from consulting with persons qualified and certified in the fields of physical therapy, exercise therapy, athletic training, orthopaedic medicine, chiropractic, or related, licensed professional fields.

■ R - Vastus Lateralis ■ R - Vastus Medialis ■ R - Sartorius ■ R - Biceps Femoris



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## **Recommendations**

### **Right leg**

Your right leg has an imbalance score of 3. This represents a slight muscle imbalance.

It appears that you have been favoring your right knee since your knee replacement in 2008, so you have generalized weakness in your right leg.

In particular, your quadriceps are weak when extending your knee. This means you will have trouble supporting yourself on your right leg while descending stairways.

*Quadriceps strengthening exercises for this leg will be beneficial*

### **Left Leg**

Your leg has an imbalance score of 8. This represents a significant muscle imbalance.

The dominant feature in your left leg muscle recordings is the very high level of hamstring muscle activity at the beginning of the step-up and at the end of a step-down. This is typically an indication of the gluteus muscles being weak.

*Hip extension exercises are recommended.*

### **Goals**

*Try to complete the recommended exercises at least every other day. Consider returning for a follow-up evaluation 2-3 months from now.*

## **Recommended Quadriceps Exercise 1**

### ***Seated Leg Extension (with or without resistance band)***

#### **Step 1**

Sit in a chair and keep the body straight.

#### **Step 2**

Straighten the leg, with foot flexed, and try to bring it up until the leg is parallel to the floor.

#### **Step 3**

Lower the leg back down, lightly touching the heel to the floor, and repeat 16-20 times before switching sides.

You'll feel this in the front of the thighs as well as in the hip flexors of the working leg.



*You may, after becoming comfortable with this exercise, want to progress to using ankle weights during the exercise, or a resistance band. To use a resistance band, wrap the band around the ankle of the leg you are working, and then around the leg of the chair.*

## **Recommended Quadriceps Exercise 2 – More advanced**

### ***Forward Lunge***

#### **Step 1**

Stand with your feet together. Engage your abdominal muscles to stabilize your spine.

#### **Step 2**

Slowly lift one foot off the floor and find your balance on the standing leg.

Try not to move the standing foot and maintain balance without wobbling.

Pause, and hold this position briefly before stepping forward.

The raised foot should land on the heel first.

Slowly shift your body weight onto the front foot, placing it firmly on the floor.

Avoid the tendency to tilt or sway the upper body and try not to move the forward foot.

#### **Step 3**

As you step forward into the lunge, lower your hips toward the floor.

Continue lowering your body to a comfortable position or until your front thigh becomes parallel with the floor and your shinbone is in a slight forward lean.

During the movement, slightly bend forward at your hips. Keep the back straight.

#### **Step 4**

Firmly push off with the front leg, activating both your thighs and butt muscles to return to your upright, starting position.

*We suggest you first learn how to perform single leg-stands on the ground before performing a forward lunge.*



## **Recommended Hip Extension Exercise 1**

### **Step 1**

Lay face down with your palms on the floor under your forehead.

### **Step 2**

Straighten your leg then lift it a few inches off the ground with your toe pointed. Lower your leg to the floor with your knee remaining straight.

### **Step 3**

Repeat 10-15 times before switching legs.

*If your floor is not carpeted, an exercise mat is helpful for this exercise.*

