



# RESEARCH STUDY

## A STUDY OF CHANGES IN FLEXIBILITY WITH MPULSE 3 in 1 FULL SPECTRUM INFRARED SAUNA THERAPY

Conducted at Auburn University at Montgomery  
Michele Olson, PhD and Professor of Exercise Science



### Summary

Participants (n = 12) completed a protocol of rest for 20 minutes and stretching for 10 minutes as follows:

- In a typical training room environment – 70 degrees, 50% humidity
- In an mPulse 3 in 1 full spectrum infrared sauna using mid and far infrared wavelengths

Each participant completed both stretching protocols in random order with 48 hours separating the sessions.

### Stretches:

- Single leg hamstrings stretches seated holding each for 20 seconds 10 reps each leg.
- Single leg hamstring stretches standing and holding each for 20 seconds 10 reps each leg
- Seated double leg hamstring and low back stretch holding each for 20 seconds 10 reps

### Changes in acute low-back and hamstring flexibility/ROM:

#### Typical environment:

Right Leg/Hamstring – Change	=	+.64 inches
Left Leg/Hamstring – Change	=	+.74 inches
Seated Lowback/Hamstrings – Change	=	+1.0 inch(es)

#### Infrared environment:

Right Leg/Hamstring – Change	=	+1.95 inches
Left Leg/Hamstring – Change	=	+1.45 inches
Seated Lowback/Hamstrings – Change	=	+2.15 inches

### Results:

The study showed doing the same stretching routine while in the sauna versus in a conventional environment yields superior acute changes in flexibility. Both situations enhance range of motion but doing the stretch routine while exposed to the sauna elicits higher/greater/more pronounced changes in acute flexibility in the hip/hamstrings and low back. Benefits to the increased range of motion include joint mobility, less friction in the joints, enabling of joint function to diminish stiffness and joint relaxation.

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Single leg hamstrings stretches seated holding each for 20 seconds)



Single leg hamstrings stretches standing holding each for 20 seconds  
Note. Foot was on sauna bench and participants reached toward toes.



Seated double leg hamstring and low back stretch holding each for 20 seconds  
Note. Participants were sitting on sauna bench