



# *Andre Metzger*

Andre Metzger was inducted in the Class of 2017 as a Distinguished Member of the National Wrestling Hall of Fame. Metzger has been a KAATSU Master Specialist for nearly four years and has seen great results on himself and his wrestling athletes who he coaches at the University of North Texas.

**KAATSU  
MAGAZINE**  
VOLUME 1: ISSUE 5

# **KAATSU EQUIPMENT**

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# THE LETTER FROM THE EDITOR



## THE FIRST TIME I SAW

Andre Metzger, he was limping and complaining of his various aches and pain from his feet to his shoulders. But he was concurrently the most fit and capable wrestler of his age heading to the US Olympic Trials despite being in his 50's.

Andre listened intently and immediately took to KAATSU. Within days, he was reporting pain relief and improved range of motion. Over the years, he has used KAATSU in a wide variety of applications on aging Baby Boomers to his championship wrestling team members. From his northern Texas base of operations, there is no greater advocate than Andre who has weathered - and overcome with KAATSU - all kinds of injuries while wrestling with elite athletes less than half his age.

KAATSU can be used with all kinds of training and rehabilitation equipment from AlterG treadmills to Power Plates and everything in-between including resistance bands and squeeze balls. KAATSU

Specialists often state, "KAATSU is icing on the ice. It provides an added value and an overlay of your current training regimen and rehabilitation therapy."

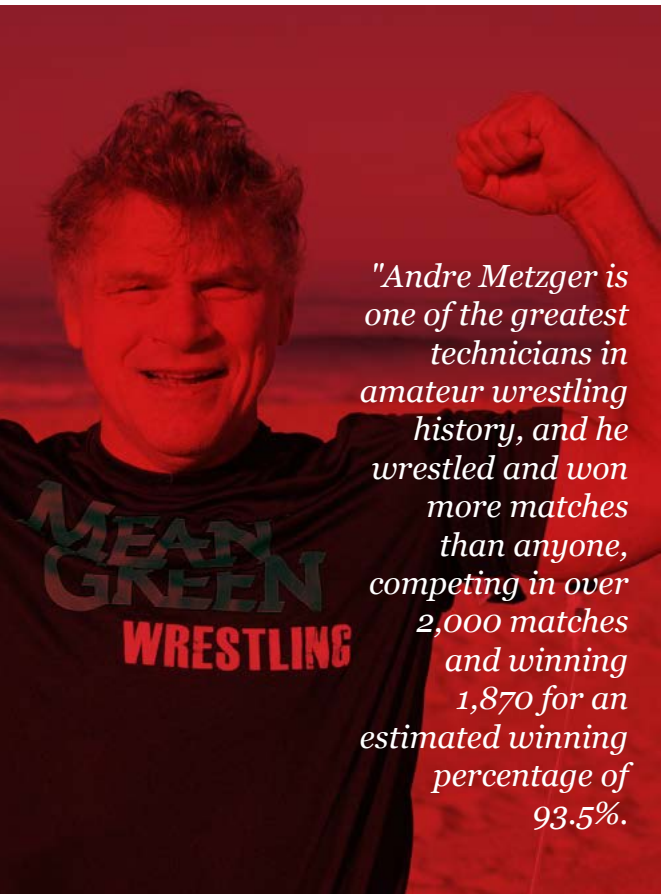
Like Andre, the employees of KAATSU Global and KAATSU Specialists around the world in 32 countries enjoy teaching KAATSU protocols and applications to people of all ages, abilities and backgrounds. This digital magazine is one means of sharing this information and various stories and experiences of KAATSU users with many others. Thank you very much for your interest and support.

*Steven Munatones*

Steven Munatones, CEO & Co-founder  
KAATSU Global, Inc.  
Huntington Beach, California, U.S.A.

# ANDRE METZGER

## Wrestling Hall Of Famer, On KAATSU



*"Andre Metzger is one of the greatest technicians in amateur wrestling history, and he wrestled and won more matches than anyone, competing in over 2,000 matches and winning 1,870 for an estimated winning percentage of 93.5%."*

**A**ndre Metzger was inducted in the Class of 2017 as a Distinguished Member of the National Wrestling Hall of Fame.

Metzger has been a KAATSU Master Specialist for nearly four years and has seen great results on himself and his wrestling athletes who he coaches at the University of North Texas.

He is a legendary high school wrestler from Michigan who won two NCAA titles for the University of Oklahoma and was a freestyle World medalist winning numerous international events over the course of his career.

His Hall of Fame induction reads as follows, "Andre Metzger is one of the greatest technicians in amateur wrestling history, and he wrestled and won more matches than anyone, competing in over 2,000 matches and winning 1,870 for an estimated winning percentage of 93.5%."

He was a state champion at Cedar Springs High School in Michigan and was the first wrestler to win five junior national titles, capturing three freestyle and two Greco-Roman championships.

Before beginning his career at the University of Oklahoma, he wrestled in the 1979 World Championships and won a bronze medal to become the youngest American to medal in the World Championships at 19 years old.

He was a two-time NCAA champion and a four-time All-American for Oklahoma, winning

titles in 1981 and 1982 after finishing second in 1980 and fifth in 1979.

Metzger was the United States Senior Greco-Roman champion in 1980 and a five-time U.S. Freestyle Champion, winning titles in 1979, 1982, 1984, 1986 and 1987. Metzger won gold medals at the Pan American Games in 1979 and 1987 while capturing silver medals at the World Cup in 1980, 1986 and 1988 and at the World Games in 1986. He was an alternate to Distinguished Member Nate Carr on the 1988 Olympic Freestyle team and defeated at least six Olympic gold medalists during his career.

He returned to the mat in 2012 at the age of 52 and competed for a spot on the U.S. Greco-Roman team.

Metzger was an assistant coach at Indiana University, University of North Carolina and Villanova University from 1983-88 and currently is the head coach at the University of North Texas as well as a member of the coaching staff for the Bombers of Frisco Wrestling Club."

Metzger describes below how KAATSU helps his collegiate wrestlers at the University of North Texas and the Bombers of Frisco Wrestling Club make weight before their bouts.

Metzger uses a KAATSU Nano and KAATSU Air Bands on his wrestlers' arms and legs (separately) with the appropriate Base SKU (compression) and Optimal SKU (compression) - while taking care to monitor their fluid intake.

# MONITORING WITH MASIMO



"One of the best physiological monitoring devices that we use with KAATSU Master and KAATSU Nano is the WIFI-enabled Masimo MightySat™ Fingertip Pulse Oximeter," said KAATSU Global CEO Steven Munatones.

"We can simultaneously track and archive the oxygen level in KAATSU user's blood, their pulse, the number of breaths per minute, a measure to understand how well hydrated they are, and another data point that indicates changes in blood circulation. We use the Masimo on ourselves and with our athletes."

The five specific parameters that can be tracked noninvasively include the following data points:

1. SpO2 or Oxygen Saturation is the oxygen level in your blood that

indicates changes due to your heart or lung function, oxygen use by your body, or altitude. It is a percentage of hemoglobin in the blood that is saturated with oxygen.

2. PR or Pulse Rate is the number of your heart pulses per minute that indicates your overall fitness or exertion levels.
3. RRp™ or Respiration Rate is the number of breaths per minute that indicates how well your heart and lungs function or how quickly you recover from exercise. It is a measurement of respiration rate based on changes in the plethysmographic waveform. The unit of measure is respirations per minute (RPM).
4. PVi® or Plethysmograph Variability Index is the variation in perfusion index

over your breathing cycle, which may indicate changes in hydration, breathing effort, perfusion, or other factors. The Plethysmographic Waveform displays your real-time pulse pressure waveform. To properly measure your PVi®, you should lay down relaxed in a horizontal position and take it at the same time of the day in the same position.

5. PI or Perfusion Index is the strength of your blood flow to your finger that indicates changes in blood circulation. It is the ratio of the pulsatile blood flow to the non-pulsatile blood in peripheral tissue used to measure peripheral perfusion. The Perfusion Index values ranges from 0.02% for a very weak pulse to 20% for an extremely strong pulse.

# Details And Differences Between

## KAATSU AND KAATSU AQUA

**K**AATSU Aqua Bands can be used differently depending on whether the bands are used for with masters swimmers or fitness swimmers or competitive elite swimmers.

In general, the more competitive the swimmer, the higher the pressures. But finding the Optimal SKU (compression) is a function of many factors including whether the bands are on the legs or arms, the percentage of body fat, the tolerance level of high lactate levels, and the amount of experience using KAATSU.

But in general, the intensity of feeling while doing KAATSU Aqua is greater in the water compared to KAATSU done on dryland. The reasons why include the following:

1. Because the body is in the horizontal position while swimming and the body is floating in the water. Therefore, the relative pressure within the veins and capillaries are greater in this situation than on dryland, especially while swimming quickly.
2. Swimming is an activity where breathing is different and less efficient than on land. That is, even great swimmers breathe differently while swimming than while exercising on land. Therefore, there is an even greater hypoxia in the limbs in the water than on land.
3. Swimming is an activity where there is almost never a “pumping out” of the lactate like there is with exercises like biceps curls. In other words, when the athlete is correctly doing biceps curls with KAATSU Air Bands on land, the limbs become saturated with blood and lactate. But the pumping action of the curls naturally forces some blood and lactate out of the muscle, past the KAATSU Air Bands. But when one is swimming freestyle, backstroke or butterfly, this “pumping out” of the lactate does not occur so effectively. The arms are simply swinging around the body (over and below the water surface) in a rather static position. Therefore, more lactate stays in the muscle...and therefore discomfort comes earlier.
4. Because swimming is such a technical sport, even slight changes in the head or body or knee or elbow positions can dramatically change the speed of the swimmer. So when the swimmer starts to feel the lactate building, their technique quickly deteriorates and speed significantly decreases.

Coaches want their swimmers to swim with as best technique as possible. Therefore, swimming with KAATSU Aqua Bands is generally and best limited to 25-50 meter distances - performed at top speed and with as best technique as possible.

Swimming sets for competitive elite swimmers can be done towards the end of their workouts and can be limited to breakouts (10-15 meter practices of turns off the wall), 25-meter or 50-meter swims of high intensity.

Examples of sets with KAATSU Aqua Bands include:

- 10 x 25 with a 20-second rest
- 10 x 40 swims in a 25-yard or 25-meter pool where a strong pace is maintained for the first lap followed by a strong turn and breakout. Swim easy to the wall after the breakout.
- 5-10 x racing starts with KAATSU Aqua Bands or until technical failure is reached. Followed by 2-3 racing starts without bands.
- 5 x 25 of each stroke (butterfly, backstroke, breaststroke and freestyle) with a 20-second rest
- 8 x 15-meter race-pace breakouts of each stroke (butterfly, backstroke, breaststroke and freestyle) with a 20-second rest
- 8 x 50 (or 4 x 100) pulling with hand paddles and/or buoys with arm bands
- 8 x 50 race-pace kicking with or without a kickboard with leg bands
- 8 x 30-second vertical kicking sets with leg bands
- 8 x vertical jumps off the bottom of the pool with leg bands

#### NOTES:

1. The sets can be done alternatively with the arm bands and leg bands on alternative days.
2. If there is sufficient time within a workout, the sets above can be done first with the arms bands and then with the leg bands.
3. In each set, each swimmer should swim with their own Optimal SKU.
4. The swimmer should take additional rest and/or temporarily release the air in the KAATSU Aqua Bands when technical failure is reached (where technical failure is judged by a breakdown of proper swimming technique).





# Slow Hand Clenches With KAATSU Balls

**K**AATSU Specialists Robert Heiduk and Marek Joschko from KAATSU Germany wisely use soft KAATSU Balls with the KAATSU Cycle modality.

The soft KAATSU Balls helps clients, patients and athletes do hand clenches at the correct speed (i.e., slowly) during the KAATSU 3-point exercises.

KAATSU users should do hand clenches, biceps curls and triceps extension slowly and steadily during the KAATSU 3-point exercises.



# KAATSU + Resistance Bands = Great Upper Body Workout



**U**no Gomes, Founder and CEO of Let's Band in Malta, shows how to use resistance bands with KAATSU for a great upper body workout.

Standard KAATSU protocols calls for the athlete to do 3-4 sets of each exercise. There should be between 15-20 seconds of rest between each set. If the appropriate Base SKU and Optimal SKU is set, the athlete will reach failure at a decreasing number of repetitions on each subsequent set (e.g., 25 reps on the first set, 15 reps on the second set, 5-10 reps on the third set).



Failure to move the limbs - either muscular or technical - is important in order to send a failure signal through the central nervous system to the brain. This will elicit a cascade of positive physiological reactions in the body.

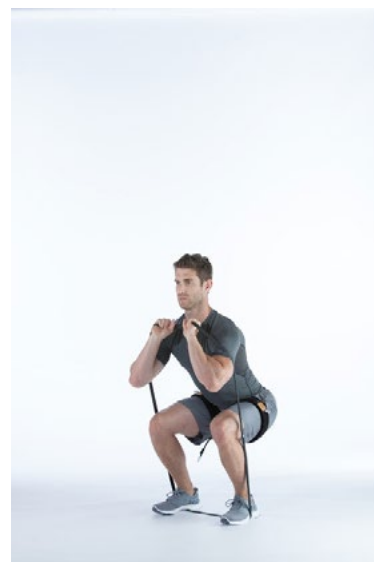
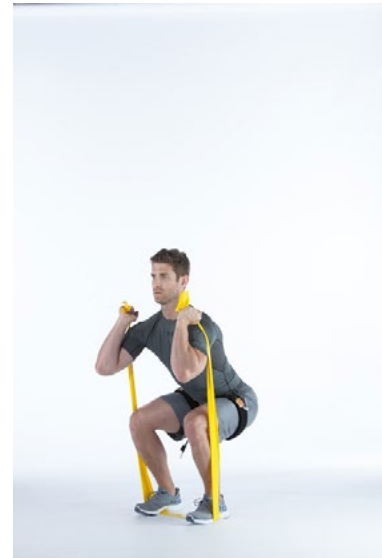
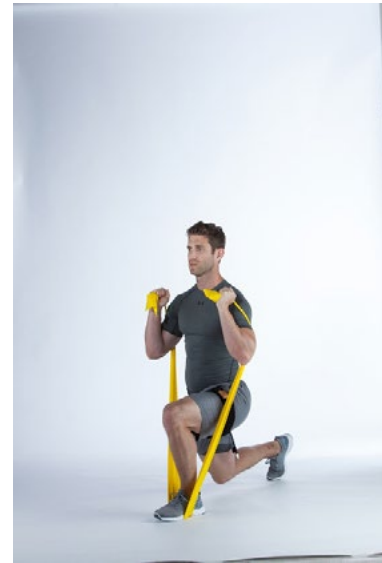
# KAATSU + Resistance Bands = **Great Lower Body Workout**



**U**no Gomes, Founder and CEO of Let's Band in Malta, shows how to use resistance bands with KAATSU for a great lower body workout.

Standard KAATSU protocols calls for the athlete to do 3-4 sets of each exercise. There should be between 15-20 seconds of rest between each set. If the appropriate Base SKU and Optimal SKU is set, the athlete will reach failure at a decreasing number of repetitions on each subsequent set (e.g., 25 reps on the first set, 15 reps on the second set, 5-10 reps on the third set).

Failure to move the limbs - either muscular or technical - is important in order to send a failure signal through the central nervous system to the brain. This will elicit a cascade of positive physiological reactions in the body.





*...the use of a KAATSU Master makes the coach's work much easier (compared to using a KAATSU Nano) and doing KAATSU among multiple users becomes more efficient because inflation time is significantly reduced.*

## Simultaneously Doing KAATSU WITH MULTIPLE USERS

**S**ome KAATSU Specialists lead classes or groups of KAATSU users where they must simultaneously do KAATSU among multiple users.

This is how they do it:

1. Teach athletes to put on the KAATSU Air Bands: Teach athletes to properly put KAATSU Air Bands on their own arms and legs at their proper Base SKU. This enables their coach or trainer to quickly inflate the KAATSU Air Bands to each athletes' Optimal SKU.
2. Require athletes to know their proper Base SKU and Optimal SKU: athletes should always know their proper Base SKU and Optimal SKU, especially how it can fluctuate from day to day. This enables the coach to quickly check their Base SKU and to inflate to their Optimal SKU.
3. Require athletes to always check their CRT: athletes must always follow and understand KAATSU safety protocols.
4. Use a KAATSU Master: with more than 10 athletes simultaneously doing KAATSU, the use of a KAATSU Master makes the coach's work much easier (compared to using a KAATSU Nano) and doing KAATSU among multiple users becomes more efficient because inflation time is significantly reduced.
5. Encourage athletes to purchase their own KAATSU Air Bands: if the team or clinic or organization purchases a KAATSU Master or KAATSU Nano, the athletes can purchase and manage their own KAATSU Air Bands.
6. If KAATSU Air Bands are shared among athletes: athletes can be separated into 2 groups: those who use the KAATSU Arm Bands and those who use the KAATSU Leg Bands. Therefore, one set of Air Bands are be used simultaneously by 2 athletes.

# How Do You Use THE KAATSU CYCLE?



**T**he new KAATSU Cycle unit enables blood flow moderation exercise that involves 8 cycles of a set amount of pressure.

The KAATSU Cycle can be used as (1) a warm-up for KAATSU performance training, (2) a part of rehabilitation, (3) a form of recovery, and/or (4) serve as an entire workout in itself.

It can be done anywhere – at the office, at school, in an airplane, at home, or before and after a hard workout.

There are two basic types of KAATSU Cycles: (1) the KAATSU Cycle function on the KAATSU Master unit and KAATSU Nano unit, and (2) the KAATSU Cycle functions on the KAATSU Cycle unit.

The KAATSU Full Cycle on the KAATSU Master unit and KAATSU Nano unit consist of 8 cycles of 20 seconds of pressure on followed by 5 seconds of no pressure. This KAATSU Full Cycle is 3 minutes and 20 seconds long. It can be repeated as the user wishes up to 20 minutes. The KAATSU Short Cycle on the KAATSU Master unit and KAATSU Nano unit consist of 4 cycles of 20 seconds of pressure on followed by 5 seconds of no pressure. This KAATSU Short Cycle is 1 minute and 40 seconds long. It can be used as a warm-up before or as a cool-down after a traditional training session.

On both the KAATSU Full Cycle and KAATSU Short Cycle, the pressure starts at a low level and gradually increases by 10 SKUs on the arms - or by 20 SKUs on the legs until the optimal pressure is reached on the last cycle.



The KAATSU Cycle is great for exercising in the office, exercising without the need to change out of your work clothes, exercising without the worry about perspiration, exercising in your airplane seat or on long rides in a car, bus, or train, reducing atrophy when injured or in a cast, sling, or brace, warming up for a traditional workout, cooling down from an intense workout or weight-training session.

During the KAATSU Cycle, users can simply sit still while reading, watching television, writing emails, playing games, stretching, yoga, doing isometric exercises or doing the standard KAATSU 3-point exercises. The KAATSU 3-point exercises on the arms includes 3 sets of hand grips, 3 sets of bicep curls, and 3 sets of tricep extensions. The KAATSU 3-point exercises on the legs includes 3 sets of toe curls, 3 sets of toe raises, and 3 sets of heel raises, or alternatively 3 sets of squats, leg extensions, or leg curls.



On the KAATSU Master and on the KAATSU Nano, there is only one level of KAATSU Cycle. It is called CYCLE 20 or 20 seconds of pressure on followed by 5 seconds of pressure off. The pressure gradually increases by 10 SKU on each subsequent cycle on the arms and the pressure gradually increases by 20 SKU on each subsequent cycle on the legs.

On the KAATSU Master, the KAATSU Specialist or the KAATSU user can select their preferred SKU pressure from 0 – 500 SKU. As the pressure increases, the amount of venous blood flow back to the heart decreases and the exercise becomes more difficult.

On the KAATSU Nano, the KAATSU Specialist or the KAATSU user can select the preferred SKU pressure from 0 – 500 SKU. As the pressure increases, the amount of venous blood flow back to the heart decreases and the exercise becomes more difficult.

For example, if a KAATSU user selects 200 SKU in the KAATSU Cycle mode on their arms, the KAATSU user will experience the following protocol that continues for a total of 3 minutes 40 seconds:

Cycle #1: 20 seconds of 130 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

Cycle #2: 20 seconds of 140 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

Cycle #3: 20 seconds of 150 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

Cycle #4: 20 seconds of 160 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

Cycle #5: 20 seconds of 170 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

Cycle #6: 20 seconds of 180 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

Cycle #7: 20 seconds of 190 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

Cycle #8: 20 seconds of 120 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

If a KAATSU user selects 300 SKU in the KAATSU Cycle mode on their legs, the KAATSU user will experience the following protocol that continues for a total of 3 minutes 40 seconds:

Cycle #1: 20 seconds of 160 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

Cycle #2: 20 seconds of 180 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

Cycle #3: 20 seconds of 200 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

Cycle #4: 20 seconds of 220 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

Cycle #5: 20 seconds of 240 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

Cycle #6: 20 seconds of 260 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

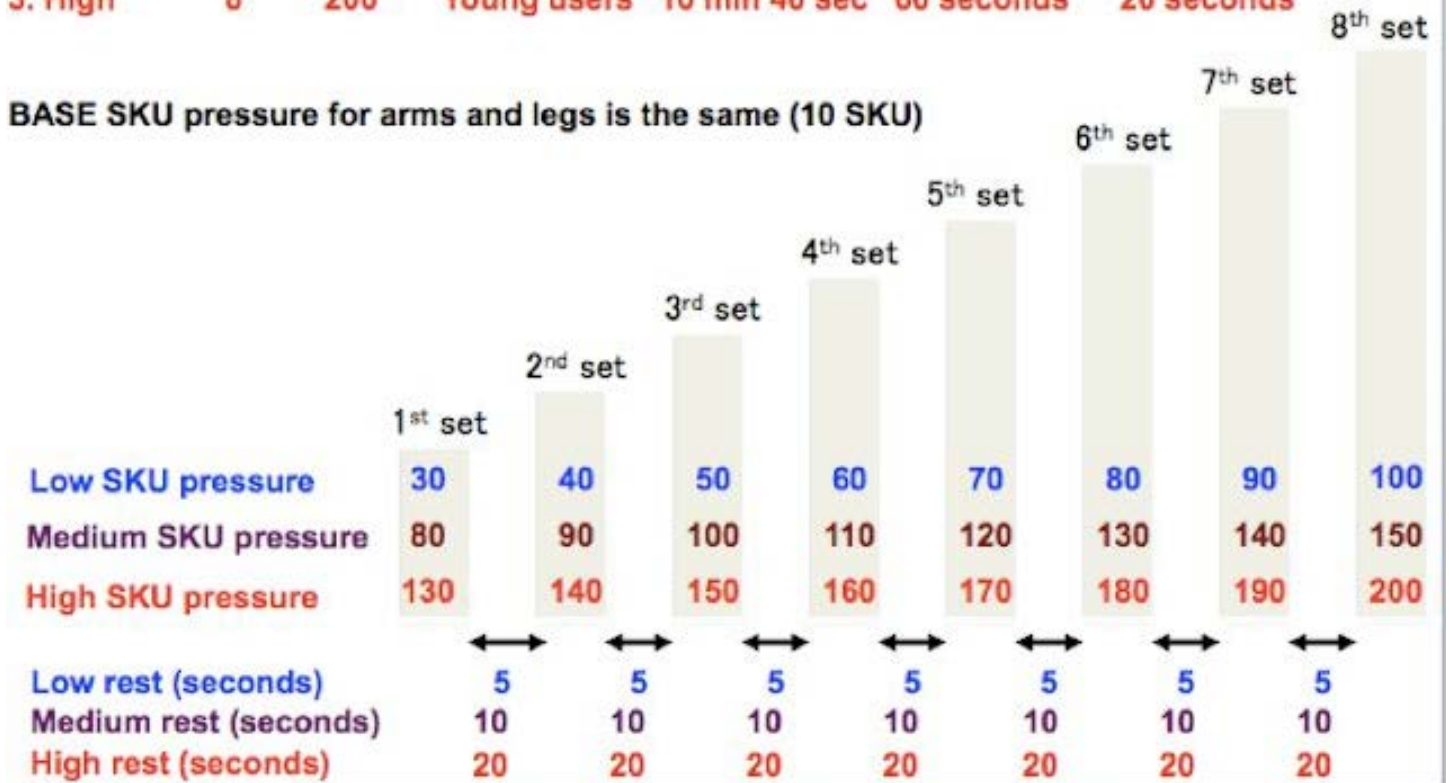
Cycle #7: 20 seconds of 280 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

Cycle #8: 20 seconds of 300 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

**KAATSU CYCLE PRESSURE AND TIMING SUMMARY**

OPTION	CYCLES	SKU	AGE	TOTAL TIME	KAATSU ON	KAATSU OFF
1. Low	8	100	Older users	3 min 20 sec	20 seconds	5 seconds
2. Medium	8	150	Middle-aged	6 min 40 sec	40 seconds	10 seconds
3. High	8	200	Young users	10 min 40 sec	60 seconds	20 seconds

BASE SKU pressure for arms and legs is the same (10 SKU)



In the new specialty KAATSU Cycle unit, there are 3 levels of KAATSU Cycle:

- Low or CYCLE 20 for older users or individuals with the lowest level of fitness: 20 seconds on + 5 seconds off
- Medium or CYCLE 40 for middle-age users or individuals with an average level of fitness: 40 seconds on + 20 seconds off
- High or CYCLE 60 for younger users or individuals with the lowest level of fitness: 60 seconds on + 20 seconds off

CYCLE 20 provides the lowest and shortest amount of pressure and is meant for older KAATSU users (i.e., those over the age of 50) or those individuals with the lowest level of general fitness. CYCLE 20 can be done more than once and repeated up to 15 minutes in total.

CYCLE 40 provides the medium amount of pressure and is meant for middle-age KAATSU users (i.e., those over the age of 30) or those individuals with an average level of general fitness. CYCLE 40 can be done more than once and repeated up to 15 minutes in total.

CYCLE 60 provides the highest amount of pressure and is meant for younger KAATSU users (i.e., those younger than 30 years) or those individuals with the highest level of general fitness. CYCLE 60 can be done more than once and repeated up to 15 minutes in total.

If you or the users are in any doubt, it is always better to start conservatively with lower pressures than recommended above. Once the user becomes accustomed to KAATSU - which will be very quickly - then higher pressures can be used.

The Base and Optimal pressure for each KAATSU Cycle is shown above in

a chart and summarized below:

- CYCLE 20: 8 cycles @ 15 SKU Base pressure + increasing to 100 SKU Optimal pressure
- CYCLE 40: 8 cycles @ 20 SKU Base pressure + increasing to 150 SKU Optimal pressure
- CYCLE 60: 8 cycles @ 25 SKU Base pressure + increasing to 200 SKU Optimal pressure

The duration for each KAATSU Cycle is below:

- CYCLE 20: 3 minutes 20 seconds
- CYCLE 40: 6 minutes 40 seconds
- CYCLE 60: 10 minutes 40 seconds

In summary, pressures during a CYCLE 20 session are shown below:

Cycle #1: 20 seconds of 30 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

*“There is an overlay of ‘physiologic’ age that modifies the chronological age. That is, for elderly users who may have stiff, damaged arteries, use relatively low pressures.”*

Cycle #2: 20 seconds of 40 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

Cycle #3: 20 seconds of 50 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

Cycle #4: 20 seconds of 60 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

Cycle #5: 20 seconds of 70 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

Cycle #6: 20 seconds of 80 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

Cycle #7: 20 seconds of 90 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

Cycle #8: 20 seconds of 100 SKU pressure on followed by 5 seconds of pressure off (0 SKU)

Pressures during a CYCLE 40 session are shown below:

Cycle #1: 40 seconds of 80 SKU pressure on followed by 10 seconds of pressure off (0 SKU)

Cycle #2: 40 seconds of 90 SKU pressure on followed by 10 seconds of pressure off (0 SKU)

Cycle #3: 40 seconds of 100 SKU pressure on followed by 10 seconds of pressure off (0 SKU)

Cycle #4: 40 seconds of 110 SKU pressure on followed by 10 seconds of pressure off (0 SKU)

Cycle #5: 40 seconds of 120 SKU pressure on followed by 10 seconds of pressure off (0 SKU)

Cycle #6: 40 seconds of 130 SKU pressure on followed by 10 seconds of pressure off (0 SKU)

Cycle #7: 40 seconds of 140 SKU pressure on followed by 10 seconds of pressure off (0 SKU)

Cycle #8: 40 seconds of 150 SKU pressure on followed by 10 seconds of pressure off (0 SKU)

Pressures during a CYCLE 60 session are shown below:

Cycle #1: 60 seconds of 130 SKU pressure on followed by 20 seconds of pressure off (0 SKU)

Cycle #2: 60 seconds of 140 SKU pressure on followed by 20 seconds of pressure off (0 SKU)

Cycle #3: 60 seconds of 150 SKU pressure on followed by 20 seconds of pressure off (0 SKU)

Cycle #4: 60 seconds of 160 SKU pressure on followed by 20 seconds of pressure off (0 SKU)

Cycle #5: 60 seconds of 170 SKU pressure on followed by 20 seconds of pressure off (0 SKU)

Cycle #6: 60 seconds of 180 SKU pressure on followed by 20 seconds of pressure off (0 SKU)

Cycle #7: 60 seconds of 190 SKU pressure on followed by 20 seconds of pressure off (0 SKU)

Cycle #8: 60 seconds of 200 SKU pressure on followed by 20 seconds of pressure off (0 SKU)

In summary, there are some important points to remember:

\* The KAATSU Cycle has pre-set pressures and time durations. \* The higher the Base SKU, the more challenging the Optimal SKU will feel. \* The lower the Base SKU, the easier the Optimal SKU will feel. \* The critical pressure is the combination of the Base SKU and the Optimal SKU.

Regarding age, the highest pressures generally occur between ages 20-30 and decrease for older individuals. Dr Jim Stray-Gundersen, the Chief Medical Officer of KAATSU Global, explains, "There is an overlay of 'physiologic' age that modifies the chronological age. That is, for elderly users who may have stiff, damaged arteries, use relatively low pressures."

Regarding relative fitness, the fitter the subject is, the higher the pressures can be. That is, a more fit individuals or those who have been doing KAATSU for some time can increase from the Cycle 20 to the Cycle 40 to the Cycle 60.



# What Are The Differences Between **KAATSU** And **BFR**?

Differences between KAATSU and Blood Flow Restriction Training (BFR)

KAATSU (Japanese meaning: additional pressure)			Non-KAATSU BFR Methods	
Physiologically accurate term: "Blood Flow Moderation", patented by Dr. Yoshiaki Sato		Definition	Various modalities & terminology: Blood Flow Restriction (BFR), occlusion training, tourniquette training	
KAATSU Master	KAATSU Nano	KAATSU Cycle	Monitoring	None
Sensor-monitored Pneumatic Air Bands - high standardization - inflate with empirical data - movement is not restricted - proven safe after millions of sessions		Bands	Elastic Wraps, Straps, Bands - no standardization - variation of elasticity - variation of length and tightness - abuse for other purposes	
Base SKU	Optimal SKU	Pressure	- no differentiation - inconsistent recommendations	
High - daily variable to meet individual needs - dependent on individual's age & fitness level		Individualization	Low - no individualization - no consensus	
High - daily variable - ability to measure and store individual data		Accuracy	Low - not variable - no ability to measure or store data	
Standardized protocols		Training	No consensus	
Protocols for performance training, recovery, therapy, resistance training		Applications	resistance training	
Since 1966 with 300.000+ daily sessions		Experience	Unknown	



Many people ask about the differences between KAATSU and occlusion (tourniquet) training or BFR (Blood Flow Restriction) training.

Robert Heiduk, a sports scientist at the University of Bonn, Germany summarized differences between KAATSU and BFR in the chart above.

The first certified KAATSU Specialist in Germany, Heiduk will present his findings and recommendations of KAATSU training and about KAATSU equipment (including the KAATSU Master, KAATSU Nano,

KAATSU Cycle and KAATSU Air Bands) at the strength and conditioning conference, Athletik-Konferenz on September 5th-6th 2015.

Heiduk's presentation will serve as the official KAATSU premiere in Germany.

He will also host a 90-minute pre-conference KAATSU introduction workshop on Friday, September 4th at the University in Bonn. Strength and Conditioning specialists, physios and speakers will also participate.

For more information, contact [robert@eisenklinik.de](mailto:robert@eisenklinik.de) and visit [www.athletikkonferenz.de/](http://www.athletikkonferenz.de/).

**KAATSU**

**Traditional  
Strength Training**

**High metabolic  
Stress**

Low metabolic  
Stress

Low mechanical  
tension

**High mechanical  
tension**

**Different responses in**  
Muscle fibre recruitment  
Mechanotransduction  
Muscle cell damage  
Disturbance of homeostasis  
Hormonal response characteristics  
Muscle cell swelling  
Anabolic pathways  
Production of Nitric Oxide  
Recovery time



## What Differs Between **KAATSU** And Traditional Strength Training?

**M**any people ask about the differences between KAATSU and traditional strength training.

Robert Heiduk, a sports scientist at the University of Bonn, Germany summarized the main physiological differences in the chart above.

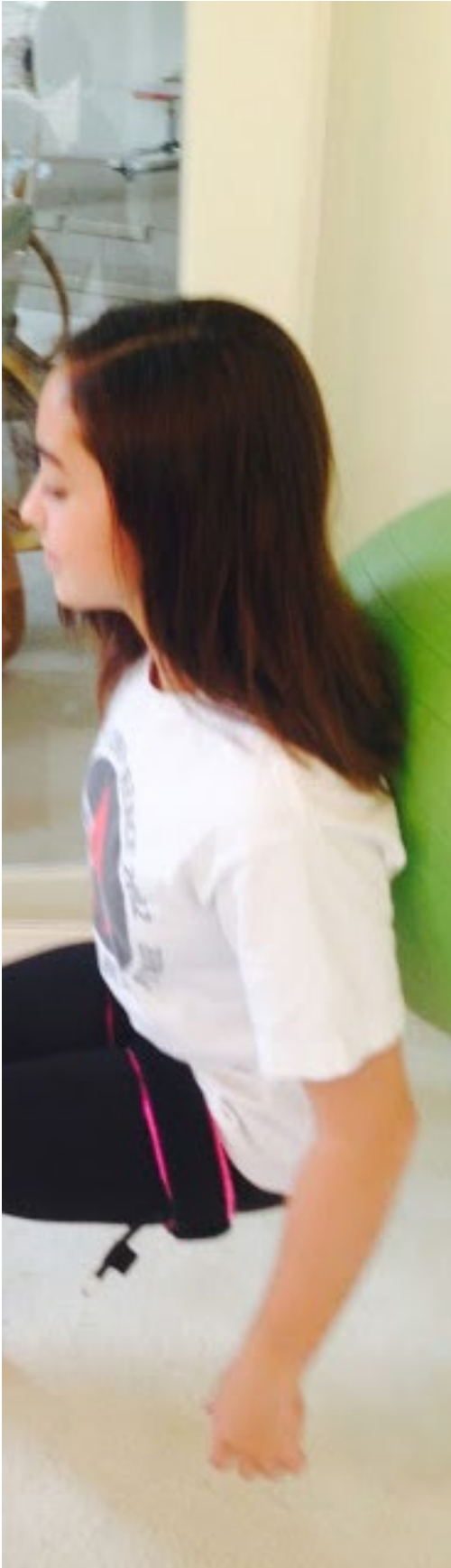
The first certified KAATSU Specialist in Germany, Heiduk will present his findings and recommendations of KAATSU training and about KAATSU equipment (including the KAATSU Master, KAATSU Nano, KAATSU Cycle and KAATSU Air Bands) at the strength and conditioning conference, Athletik-Konferenz on September 5th-6th 2015.

Heiduk's presentation will serve as the official KAATSU premiere in Germany.

He will also host a 90-minute pre-conference KAATSU introduction workshop on Friday, September 4th at the University in Bonn. Strength and Conditioning specialists, physios and speakers will also participate.

For more information, contact [robert@eisenklinik.de](mailto:robert@eisenklinik.de) and visit [www.athletikkonferenz.de/](http://www.athletikkonferenz.de/).

# What Happens When You Max Out On The KAATSU?



**S**ituation: Occasionally, a KAATSU client maxes out on the KAATSU Nano at 400 SKU (Standard KAATSU Unit). That is, their Optimal Pressure reaches 400 SKU and they cannot go higher (i.e., apply more pressure).

In these limited cases, the KAATSU clients feel that they can safely apply more pressure and workout at a higher pressure. But the maximum SKU on the KAATSU Nano is 400 SKU, so they max out.

What should they do?

There is a simple solution in these limited cases.

Short Answer: Deflate, manually re-tighten Air Bands as a higher Base pressure, and try again.

Long Answer: KAATSU is based on two different pressures: the Base SKU and the Optimal SKU. The Base SKU is the pressure applied when the Air Bands are manually tightened on the limbs as the first step. Quite often, this Base SKU is not optimally set and is too loose - especially if a finger or two can be put in-between the Air Bands and the skin of the client.

It is vitally important to initially tighten the Air Bands so the Base SKU is in the appropriate range for the clients. These ranges are dependent upon the clients' age, physical condition and experience with KAATSU, but on the KAATSU Nano, these are the general guidelines:

\* Below 10 Base SKU: for very weak or elderly patients first doing KAATSU

\* 10-15 Base SKU: for weak individuals or elderly individuals with KAATSU experience

\* 15-20 Base SKU: for middle-age or semi-active individuals with KAATSU experience

\* 20-25 Base SKU: for younger or active individuals with KAATSU experience

\* Above 25 Base SKU: for athletes in good physical condition

In some very limited cases among extremely fit athletes with sufficient KAATSU experience, the Base SKU can be north of 30 as long as the capillary refill time is within 3 seconds and there is no numbness or whiteness in the limbs.

For the KAATSU Master, the general guidelines are as follows:

\* Below 20 Base SKU: for very weak or elderly patients first doing KAATSU

\* 20-30 Base SKU: for weak individuals or elderly individuals with KAATSU experience

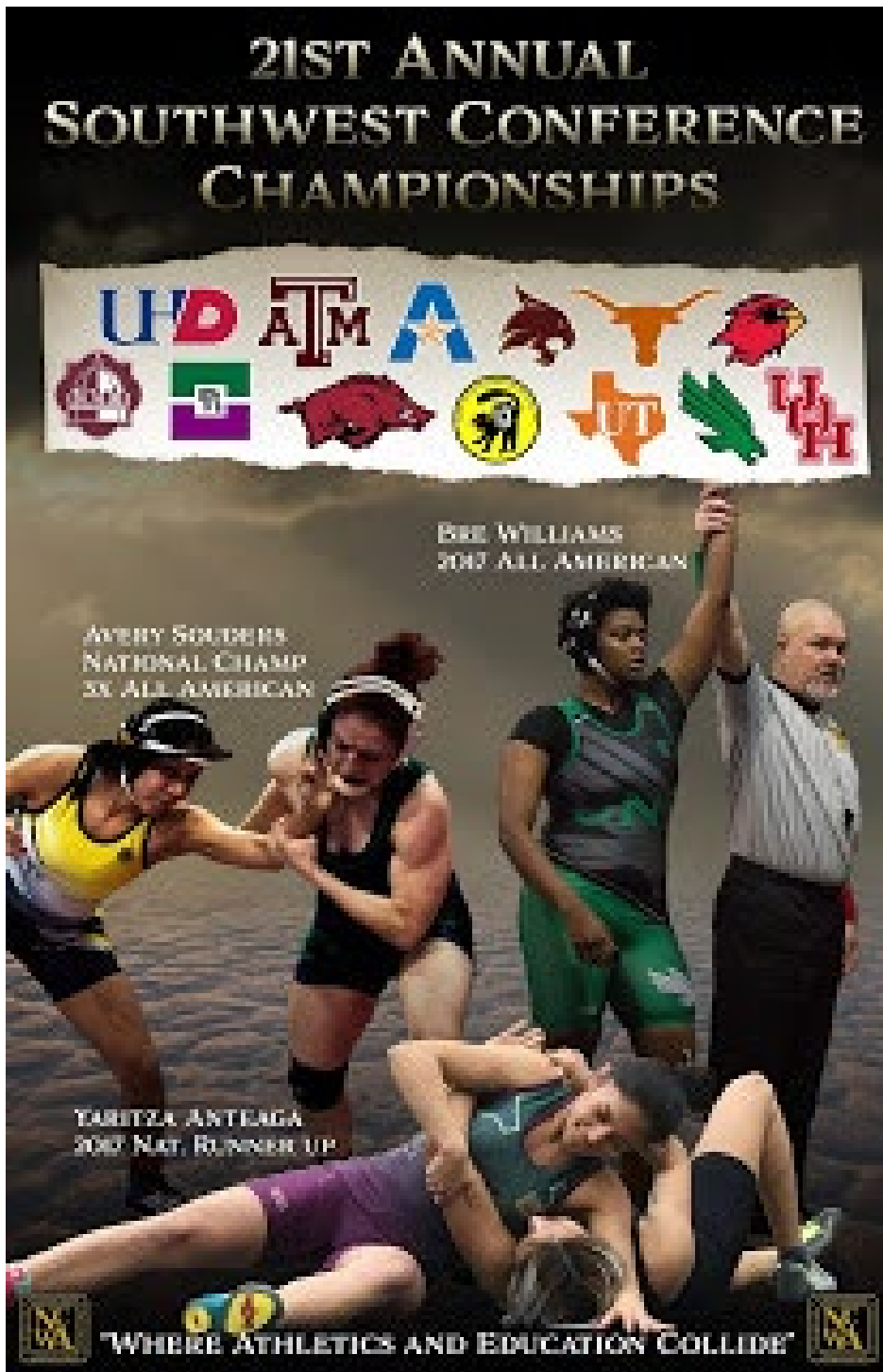
\* 30-40 Base SKU: for middle-age or semi-active individuals with KAATSU experience

\* 40-50 Base SKU: for younger or active individuals with KAATSU experience

\* Above 50 Base SKU: for super athletes in great physical condition

In some very limited cases among extremely fit athletes with sufficient KAATSU experience, the Base SKU can be north of 55 as long as the capillary refill time is within 3 seconds and there is no numbness or whiteness in the limbs.

# In Connection With KAATSU



**A**ndre Metzger, coach of the rapidly up-and-coming wrestling team at the University of North Texas, regularly uses KAATSU with his team's training and rehabilitation. He knows that KAATSU equipment can be used in conjunction with:

- \* AlterG treadmills
- \* regular treadmills
- \* exercise bikes
- \* resistance bands
- \* very light weights
- \* water bottles
- \* hand paddles and fins in a pool
- \* home gyms
- \* Bosu balls
- \* ab machines & ab rollers
- \* rowing machines
- \* elliptical machines
- \* step machines
- \* jump ropes
- \* golf clubs and baseball bats

# KAATSU In The News

KAATSU is has received recognition and coverage in prominent and prestigious publications.



## "Can You Work Out Less, Get More Results?"

By Eleanor Warnock and Rachel Bachman  
The Wall Street Journal



*With Kaatsu, people do a light workout while wearing pressurized belts, first on the upper arms and then on the legs.*

▶▶▶ [Click HERE...](#)

## "Could the Kaatsu Workout Be the Most Efficient Exercise?"

By WSJ Video  
The Wall Street Journal



*Japanese bodybuilder Yoshiaki Sato says he has a way for Hollywood's aging action stars to stay as youthful and fit as ever.*

▶▶▶ [Click HERE...](#)

# MilitaryTimes

A TEGNA Company

## "Kaatsu training is blowing fitness researchers' minds"

By Jon R. Anderson, Staff Writer  
MilitaryTimes



*Read the article and discover why so many people are so excited about KAATSU Training.*

▶▶▶ [Click HERE...](#)

# Outside

## "You Should Probably Try This Japanese Blood-Flow Routine"

By Devon Jackson, Staff Writer  
OutsideOnline.com



*Footballers of both kinds have caught on. Here's what you need to know.*

▶▶▶ [Click HERE...](#)

### Customer Service:

Call Toll-Free International +1-888-410-6350

e-mail: [info@kaatsu-usa.com](mailto:info@kaatsu-usa.com)

# NEXT-GENERATION

AVAILABLE  
IN Q2 2018

# KAATSU MASTER 2.0



- ◆ **Designed for performance, recovery, rehabilitation and wellness applications**
- ◆ **Touch-screen tablet offers personalized KAATSU Cycle options**
- ◆ **Dual air compressors enable each limb to be simultaneously inflated to different pressures**
- ◆ **WIFI connectivity enables automatic storage of user data in the KAATSU Cloud**

[www.kaatsu-global.com](http://www.kaatsu-global.com)

**AVAILABLE  
IN Q2 2018**

# NEXT-GENERATION **KAATSU MASTER 2.0**

[www.kaatsu-global.com](http://www.kaatsu-global.com)

The new **KAATSU Master 2.0** is the fourth-generation **KAATSU** device that enables **real-time monitoring and archiving of user's physiological data.** The **2.0** is ideal for use by **individuals, corporations, organizations, physical therapy clinics, universities, hospitals, and teams.**

2.0 is combined with the Masimo MightySat™ Finger Pulse Oximeter and a wrist blood pressure monitor that capture and archive your oxygen saturation, pulse rate, Perfusion Index, Pleth Variability Index and blood pressure readings in real-time.

## FEATURES

- Designed for performance, recovery, rehabilitation and wellness applications
- Touch-screen tablet offers personalized and comprehensive KAATSU Cycle options
- Dual air compressors enable each limb to be simultaneously inflated to different optimally pressures
- WIFI connectivity enables real-time monitoring and automatic storage of data in the KAATSU Cloud
- Video feedback and interaction with KAATSU Master Specialists for real-time consultation
- Access to KAATSU Cloud where user information is automatically uploaded and archived
- Rechargeable battery
- Used with both the KAATSU Air Bands or KAATSU Aqua Bands
- Band pressure up to 500 SKU (Standard KAATSU Units)
- Reimbursable with CPT codes

## BENEFITS

- effective muscle toning
- improved circulation
- faster recovery from competition or vigorous workouts
- anti-aging benefits
- improved speed
- enhanced stamina
- increased strength
- greater range of motion
- significant time savings
- convenience - exercise anywhere anytime
- offers 6 levels of the KAATSU Cycle

## PACKAGE

2.0 comes with 4 sets of KAATSU Air Bands or KAATSU Aqua Bands (Small, Medium, Large or Extra Large) and certification for KAATSU Specialists

## DATA MONITORING

Masimo MightySat™ Fingertrip Pulse Oximeter and a Wrist Blood Pressure Monitor measures and monitors the following data during exercise or rehabilitation:

- Pulse Rate (PR) or the number of heart pulses per minute indicates your overall fitness and exertion levels
- Oxygen Saturation (SpO2) or the oxygen level in the blood indicates changes due to your heart or lung function, oxygen use by your body, and altitude
- Perfusion Index (PI) indicates the strength of blood flow to the finger as blood circulation changes
- Respiration Rate (RRp) or the number of breaths per minute indicates how well your heart and lungs are functioning and how quickly you recover from exercise
- Pleth Variability Index (PVi) or the variation in perfusion index over your breathing cycle which may indicate changes in hydration, breathing effort, perfusion or other factors.
- Blood Pressure (BP) indicates your systolic blood pressure and diastolic blood pressure.

## 2.0 ALSO MEASURES AND ARCHIVES ADDITIONAL INFORMATION INCLUDING:

- KAATSU Time (KT) or the amount of time spent doing KAATSU per session
- Capillary Refill Time (CRT) or the amount of time in seconds that it takes for your capillaries to refill with blood
- KAATSU Exercise (KE) or the type of exercise, movement or rehabilitation you do with KAATSU
- KAATSU Cycle Function (KCF) or the specific type of KAATSU Cycle (e.g., Cycle 20 or Customized Cycle)

## BAND SIZES

KAATSU Air and Aqua Bands are available in 4 sizes: Small, Medium, Large and Extra Large. Measure the circumference of the top of your arm (right by your armpit) and the circumference of the top of your leg (right alongside your groin). Those circumferences will determine the appropriate size for your KAATSU Air Bands.

## ARMS

**Small:** less than 18 cm (7.06 inches)

**Medium:** 18 - 28 cm (7.06 - 11.02 inches)

**Large:** 28 - 38 cm (11.02 - 14.96 inches)

**Extra Large:** 38 - 48 cm (14.96 - 18.89 inches)

## LEGS

**Small:** less than 40 cm (15.74 inches)

**Medium:** 40 - 50 cm (15.74 - 19.68 inches)

**Large:** 50 - 60 cm (19.68 - 23.62 inches)

**Extra Large:** 60 - 70 cm (23.62 - 27.55 inches)