KAATSU USER MANUAL
KAATSU USER MANUAL

Including KAATSU Protocols for
Training, Recovery, Rehabilitation, Fitness, and Wellness

Rev. 03/17

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KAATSU GLOBAL, INC.

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KAATSU Master

The KAATSU Master is a robust, handheld, portable 1,134g (2.5 lbs.) touch-screen device used by Certified KAATSU Specialists who work with individual or multiple Clients for physical training and strength-building purposes. The KAATSU Master provides amounts of compressed air to inflatable KAATSU Air Bands that are strapped around the upper arms or upper legs of the Clients.

The KAATSU Master precisely controls and monitors inflation to the KAATSU Air Bands in order to optimally moderate blood flow in the arms and legs at different levels for low-intensity exercise appropriate to each individual as part of a muscle training, sports-specific or rehabilitation program.

The KAATSU Master contains powerful dual air compressors so the KAATSU Air Bands on each limb can be inflated to different pressures. There are several controls in the device and in the software that allow for the immediate deflation of the KAATSU Air Bands. It can create pressure as high as 500 SKU (Standard KAATSU Units).

The KAATSU Master can be used with standard electrical outlets or run continuously for 2.5 hours on a rechargeable battery. It has memory capacity to store information on 200 individual KAATSU sessions for up to 300 users. This data includes the specific pressures used, the amount of time spent doing KAATSU, the capillary refill time, and the type of exercises, can be uploaded to and analyzed at the KAATSU Performance database (www.KAATSUperformance.com).

The KAATSU Master can be automated for specific individual workouts through the KAATSU Cycle function. The maximum time for KAATSU can also be set on both the arms (15 minutes) and legs (20 minutes).

Personal information is displayed on a touch screen that also enables viewing of video files.

The KAATSU Master can work with both KAATSU Air Bands and KAATSU Aqua Bands.
KAATSU Nano

The KAATSU Nano is a handheld, portable 263g (9.7 oz.) touch-screen device that works with both KAATSU Air Bands and KAATSU Aqua Bands. This is an auxiliary lightweight device to be used by one individual at a time while they remain connected to the KAATSU Nano throughout their exercises. It is convenient for outdoors and travels easily including perfect for use airplanes. It is intended for use by the Certified KAATSU Specialists who work with individual users in a KAATSU studio or with players at a workout site.

The KAATSU Nano provides amounts of compressed air to inflatable KAATSU Air Bands that are strapped around the upper arms or upper legs of users. The KAATSU Nano precisely controls and monitors inflation to the KAATSU Air Bands in order to optimally moderate blood flow in the arms and legs at different levels for low-intensity exercise appropriate to each individual as part of a muscle training, sport-specific or rehabilitation program.

The KAATSU Nano contains dual air compressors so the KAATSU Air Bands on each limb can be inflated to different pressures. It can create pressure as high as 400 SKU (Standard KAATSU Units). There are several controls in the device and in the software that allow for the immediate deflation of the KAATSU Air Bands.

The KAATSU Nano can be used with standard electrical outlets or run continuously for 2.5 hours on a rechargeable battery.

The KAATSU Nano has memory capacity to store information on 10 individual KAATSU sessions for up to 10 users. This data includes the specific pressures used, the amount of time spent doing KAATSU, the capillary refill time, and the type of exercises, can be uploaded to and analyzed at the KAATSU Performance database (www.KAATSUperformance.com).

The KAATSU Nano can be automated for specific individual workouts through the KAATSU Cycle function. The maximum time for KAATSU can also be set on both the arms (15 minutes) and legs (20 minutes).

Personal information is displayed on a touch screen that also enables viewing of video files.

The KAATSU Nano can work with both KAATSU Air Bands and KAATSU Aqua Bands.

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KAATSU Air Bands

The KAATSU Air Bands come in 3 sizes: small, medium and large for both the arms and legs. The KAATSU Arm Bands are shorter and thinner than the longer and wider KAATSU Leg Bands. Controls on both the KAATSU Master and KAATSU Nano allow for different amounts of compressed air when using the KAATSU Arm Bands versus the KAATSU Leg Bands.

The KAATSU Arm Bands and KAATSU Leg Bands can be inflated to different pressures by the KAATSU Master (up to 500 SKUs) and the KAATSU Nano (up to 400 SKUs). The KAATSU Air Bands can be disconnected from the KAATSU Master and the KAATSU Nano so that the users can workout independently from the devices.

The KAATSU Air Bands are specifically constructed to inflate only towards the limb during KAATSU training or rehabilitation. Velcro on the inside holds the KAATSU Air Bands in place.

The KAATSU Air Bands are sold with 2 Arm Bands and 2 Leg Bands, but only one pair of bands (either arms or legs) can be used at one time. The KAATSU Air Bands should be placed as close as possible to the proximal ends of the limbs and placed over clothing, not on bare skin. The KAATSU Air Bands are connected to either the KAATSU Master or KAATSU Nano via translucent Air Tubes and Connectors.

The KAATSU Air Bands can be immediately deflated by various controls on both the KAATSU Master and KAATSU Nano. Alternatively, the bands can be easily removed by pulling the Velcro tabs to take off.

Appropriate Sizes of KAATSU Air Bands

KAATSU Air Bands are available in 3 sizes: Small, Medium and 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.
Arm Size

› Small: 18–28 cm (7.06–11.02 inches)
› Medium: 28–38 cm (11.02–14.96 inches)
› Large: 38–48 cm (14.96–18.89 inches)

Leg Size

› Small: 40–50 cm (15.74–19.68 inches)
› Medium: 50–60 cm (19.68–23.62 inches)
› Large: 60–70 cm (23.62–27.55 inches)

If you exceed 48 cm in circumference on your upper arms or 70 cm in circumference on your upper legs, then special order KAATSU Air Bands are recommended.
### Equipment

Each KAATSU Master and KAATSU Nano comes with 2 translucent connector tubes, a recharge power adapter, a micro SD card, and a set of 4 KAATSU Air Bands including 2 arm and 2 leg bands.

### Equipment Preparations

Before you begin, please charge the KAATSU Master for at least 2 hours. The unit has a lithium ion battery that will keep the unit charged for approximately 2½ hours of continuous use. There is a 4-step battery power indicator located on the upper right corner of the screen.

Occasionally, if the unit runs too low on battery power and shuts off, you may need to reset the unit. To reset the KAATSU Master, insert an end of a paper clip or similarly sized pin into the small pinhole located between the DC IN and micro SD slot on the side. This will reset the device so the unit can be recharged.

### Before Starting the KAATSU Master and KAATSU Nano

Insert the translucent air tubes into the left and right holes on the face of the KAATSU Master. The translucent air tubes go into the sides of the KAATSU Nano.

Then connect the left white connector at the end of the translucent air tube to the Left KAATSU Air Band and the right white connector at the end of the translucent air tube to the Right KAATSU Air Band. Each KAATSU Air Band is marked either L (left) or R (right) with its size indicated with an S (small), M (medium), or L (large).
Placement of the KAATSU Air Bands

Place the KAATSU Air Bands on the arms or legs with the connector tubes pointing down, towards either the wrist or the ankles. The KAATSU Air Bands should be placed as high on the arms or legs as possible in order to enable as much blood pooling in the limbs as possible.

Pressures

There are 2 types of pressures used with KAATSU: the Base SKU and the Optimal SKU. SKU stands for Standard KAATSU Units.

Base SKU

The Base SKU is the initial tightness of the KAATSU Air Bands when they are first manually placed on the limbs. The Base SKU for the KAATSU Master is recommended to be between 40–50 SKUs for competitive athletes, 30–40 SKUs for healthy adults and 20–30 SKUs for the older weaker individuals. The Base SKU for the KAATSU Nano is between 30–40 SKUs for competitive athletes, 20–30 for healthy adults and 10–20 for the older or weaker individuals.

Optimal SKU

The Optimal SKU is the resulting tightness of the KAATSU Air Bands when they are inflated with air. The Optimal SKU can vary greatly from day to day in the same individual, as well as, between individuals.

As each individual becomes more experienced with KAATSU, their Optimal SKU’s increase. The correct Optimal SKU is, first, not so high as to occlude blood flow and, second, high enough such that one achieves a profound “disturbance of homeostasis” in the exercising muscle over the course of the exercises.

One can confirm that Optimal SKU by 3 steps:

1. coloration
2. pulsation
3. 3-point exercises

Coloration: At the Optimal SKU, KAATSU Clients should always have a present capillary refill. The coloration of their skin on their limbs should be pink or beefy red.

Pulsation: At the Optimal SKU, KAATSU Clients should feel pulsations under the Air Bands.

3-point Exercises: At the Optimal SKU, KAATSU Clients should achieve muscle contraction failure in three sets of the exercises performed. Muscle contraction failure can be noted by inability to do another contraction. In a series of
3 sets, the KAATSU Client should not be able to do the same number of repetitions, but instead, the number of repetitions in each set decreases. By doing a reduced frequency of contractions, the KAATSU Client knows the Optimal SKU is reached. There is a simultaneous deterioration of form of the exercise as the KAATSU Client uses other muscles to perform the exercise. The KAATSU Client also alternatively feels a “burning” in the exercising muscle.

In general, the Optimal SKU for one’s legs is higher than the Optimal SKU for one’s arms.
How KAATSU Can Be Used

Elite Competitive Athletes

› KAATSU Cycle is used as a warm-up for a hard workout and as a warm-down and recovery from a heavy weightlifting session.

› KAATSU Air Bands are used in sports specific movements to improve strength and speed.

› KAATSU Aqua Bands are used for aquatic activities and recovery from a dryland workout.

Young Adult Weekend Warriors

› KAATSU Cycle is used as a brief, convenient off-day training regimen that can be done at work, home or school.

› KAATSU Air Bands are used with simple exercises to improve strength and speed when recovering from injuries.

› KAATSU Aqua Bands are used for short swimming distances in the water or aqua-jogging to increase stamina and speed.

Aging Baby Boomers

› KAATSU Cycle is used to relieve stress while in a seated position at work, home or traveling.

› KAATSU Air Bands are used with stretching, Pilates, yoga and calisthenics to get a quick, fullbody, low-impact workout.

› KAATSU Aqua Bands are used for aqua-walking or aquarobics in the water to increase range of motion and improve muscle tone.

Injured Individuals

› KAATSU Cycle can be used while in cast, sling or wheelchair or on crutches or in a boot with the approval of a physician.

› KAATSU Air Bands can be used with simple movement to maintain muscle mass and strength during rehabilitation.

› KAATSU Aqua Bands can be used in water to increase range of motion during aqua-therapy.
Recommended Regimen

› KAATSU Clients should always be well-hydrated.

› There should never be any occlusion; KAATSU Clients should always have pink or beefy red palms on arms and flushed legs.

› KAATSU Clients should never exceed a 15-minute maximum KAATSU session on arms and a 20-minute maximum KAATSU session on legs.

Recommended Frequency

› Do KAATSU 2–3 times per week for Weekend Warriors or Aging Baby Boomers.

› Do KAATSU 3–4 times per week for Injured Individuals.

› Do KAATSU frequently for Elite Competitive Athletes as KAATSU in incorporated into their normal routine.

Equipment

› KAATSU can be used with the same motions, movements and equipment that are currently used by the Elite Competitive Athletes, Weekend Warriors, Baby Boomers and Injured Individuals.

› There is no need to change the workout exercises.

› Elite Competitive Athletes should push themselves and “go to failure” in sets of 3
Illustrations
for KAATSU Cycle
Set-Up and Exercises
Arm Positions
Leg Positions
Hand Clenches
Bicep Curls
Tricep Extensions
Toe Curls
Toe Raises
Heel Raises
Leg Curls
Quarter Squats
Vein Distension
KAATSU Do’s and Don’ts

Do’s

1. Correctly place the KAATSU Air Bands on the limbs every time.

2. Check Base SKU (pressure) and find Optimal SKU (pressure) before with every KAATSU session. Optimal Pressure is one that is not so high as to occlude, but high enough to get that “KAATSU Fatigue/Failure Feeling” during exercise.

3. Release the KAATSU Air Bands if you feel something is not right. If you feel lightheaded or if you have an unusual pain on one side or the other, stop and continue on another day.

4. Do 3–5 different exercises during KAATSU Training (e.g., hand grips, arm curls, tricep extensions). Each exercise should comprise 3 sets of 20–30 repetitions (or until you reach failure), with 20 seconds rest between sets.

5. Rest one minute between exercises.

6. Do try to get that “KAATSU Fatigue/Failure Feeling” during most sessions. Remember “Failure is Success” with KAATSU.

7. Do hydrate before, during and after each KAATSU Training session.

Don’ts

› Do not ever fully occlude blood flow. Signs of this are collapsed veins, no pulse at the wrist, pale palms and skin, severely delayed (>6 seconds) capillary refill.

› Do not have Air Bands inflated for more than 15 minutes on the arms or 20 minutes on the legs. The KAATSU Nano will deflate the KAATSU Air Bands when the maximum time is reached.

› Do not lift heavy weights when doing KAATSU.
Step By Step Instructions

1. **Charge the Unit:** Charge the unit to get a full charge. You can tell if you have a full charge by looking in the upper right hand corner of the screen and seeing 4 stacked bars on the screen below.

2. **Power On:** Press the Power On button for 2–3 seconds to power on the device.

3. **Confirm the User Agreement:** After you confirm the User Agreement, the main screen on comes:

4. **Enter Passcode:** The default passcode is 0000.

   **Important Note:** You can change the default passcode to any four digit number you want it to be, but you cannot change it until you enter your KAATSU Specialist ID number in SYSTEM SETTINGS. If and when you decide to change the 4-digit passcode for your unit, make it something that is easy for you to remember but difficult for others to guess.

5. **Put On the KAATSU Air Bands:** Place KAATSU Arm Bands in the proper place on both arms; R Air Band on the right arm and L Arm Band on the left arm. The S stands for small size; M stands for medium size; L stands for large size.

   Connect the Connectors from the device to the KAATSU Arm Bands. The rubber inflation tube should be pointed downward and on the outside of your arm. Proper band placement, tension and the Base SKU (pressure) is one of the important points of properly doing KAATSU. If you begin by getting placement correct, the rest will follow. Get in the habit of doing it exactly the same way in exactly the same position every time. The location for the arms...
should be in that relative thin area between the end of your deltoid and the beginning of the biceps muscle.

The tension and pressure should feel symmetric from side to side. Tighten the KAATSU Air Bands on each side so the SKU value matches both right and left sides plus or minus 2. For example, if the SKU Value is 15 on the left side, the SKU Value on the right side should be within 13 (on the low side) to 17 (on the high side).

To put on the KAATSU Arm Bands yourself, place the wider Arm Band end through the plastic buckle and hold the end of the larger Velcro (with the KAATSU logo) in the same hand. That is, if you put on the left Arm Band, then use your left hand to hold the larger end of the Velcro. Use your opposite hand to adjust the tension by pulling on the smaller end (without the KAATSU logo). Then lay the smaller end on to the main band where the Velcro catches. Then wrap the larger end over and around.

6. **Check Base SKU:** You should be on the screen below to check the Base SKU (pressure). Verify that it is on ARMS in the upper left of the screen and that BOTH is checked with the blue square a little below that (as in the illustration).

Next press the CHECK SKU button and the base pressure of each KAATSU Arm Band will appear in blue in the Left and Right boxes.

If the blue numbers are close or and symmetric, hit CONTINUE to move to the next screen (shown below). If the numbers do not match or are very different from each other (e.g. 6 vs. 13), hit RELEASE, adjust the tightness of the bands and repeat until the numbers are equal or nearly equal.

This may take some practice.

7. **Finding Optimal Pressure:** Now if you are doing KAATSU for the first time, one has to guess where Optimal SKU (pressure) will be. Work with your KAATSU Specialist to find this Optimal SKU. For the KAATSU Cycle, you can go a little higher because you will only be at that maximum for 20 seconds.
8. **KAATSU Cycle:** Press the SET BOTH SKU button and enter your Optimal SKU. Press ENTER to start the KAATSU Cycle. Then select either HALF CYCLE or FULL CYCLE.

The FULL CYCLE is 8 cycles of 20 seconds of pressure on followed by 5 seconds of pressure off. Each subsequent cycle increases by 10 SKU’s.

That is, in the case the Optimal SKU is 100 SKU, then the FULL CYCLE is:

- Cycle 1: 30 SKU for 20 seconds, then 5 seconds off
- Cycle 2: 40 SKU for 20 seconds, then 5 seconds off
- Cycle 3: 50 SKU for 20 seconds, then 5 seconds off
- Cycle 4: 60 SKU for 20 seconds, then 5 seconds off
- Cycle 5: 70 SKU for 20 seconds, then 5 seconds off
- Cycle 6: 80 SKU for 20 seconds, then 5 seconds off
- Cycle 7: 90 SKU for 20 seconds, then 5 seconds off
- Cycle 8: 100 SKU for 20 seconds, then 5 seconds off

If you are only doing the KAATSU Cycle, you can repeat the sequence 2 or 3 times. If you are using the KAATSU Cycle as a warm-up for a KAATSU Training session, go back to the Home Page and press KAATSU TRAINING.

9. **Half Cycle:** The HALF CYCLE on the KAATSU Cycle is only 4 cycles. That is, in the case the Optimal SKU is 100 SKU, then the HALF CYCLE is:

- Cycle 1: 70 SKU for 20 seconds, then 5 seconds off
- Cycle 2: 80 SKU for 20 seconds, then 5 seconds off
> Cycle 3: 90 SKU for 20 seconds, then 5 seconds off

> Cycle 4: 100 SKU for 20 seconds, then 5 seconds off

**KAATSU Training:** The KAATSU Training screen is similar to the one for KAATSU Cycle. Confirm that it is set on ARMS and BOTH. Since you have already confirmed checking the Base SKU during KAATSU Cycle, you can press CONTINUE. Or if you like, you can CHECK SKU, just to confirm that Base SKU (pressure) is the same.

On the screen below, hit SET BOTH SKU to input the Optimal SKU as long as you had good (<3 seconds) Capillary Refill during Pressure On towards the end of the KAATSU Cycle.

**10. Capillary Refill:** Press CAPILLARY REFILL TIME to input what your capillary refill is (e.g. 3 seconds).

**11. Time of Training:** Press TIME OF TRAINING to input your maximum training time (up to 15 minutes) as your maximal time of training. This value can range from 1–15. When the value is reached, the KAATSU Air Bands will deflate.

**12. Exercise Type:** If you want to record what kind of session you are doing, press EXERCISE TYPE, scroll down to find your choice and choose it.

Now you are ready to hit the KAATSU button and begin your exercises. The screen below appears:
The device is intended to stay connected through the entire KAATSU session. However, you can untether (disconnect) yourself and do your normal exercises.

However, if you are untethered, then you will not be able to record the precise session length. Also, if you disconnect, you should press STOP or HOME in order to stop the compressors.

13. **Stop:** If you need to STOP, hit the STOP button. If you are finished with your KAATSU session, press the Stop or HOME buttons.

14. **Power Off:** If you are finished and want to turn Power Off, hold the Power button down until the POWER OFF screen appears.

15. **Legs:** The sequence is essentially the same for the Legs.

Generally speaking, Optimal Pressure is higher in the legs than the arms. Remember to toggle the ARM/LEG button in order to choose legs.

Note that Base Pressure goals are 20 SKU’s for legs, where Arms are 10 SKU’s, but the same symmetry from right to left is desired.
**Key Points for KAATSU Training**

› Always remain well hydrated before and during the entire KAATSU session.

› Always start each KAATSU session with the KAATSU Cycle (i.e., 8 cycles of 20 seconds pressure on + 5 seconds pressure off with sequentially increasing pressure).

› First start KAATSU on the arms and then do KAATSU on the legs.

› Never simultaneously put on or use the KAATSU Air Bands on the arms and legs.

› Always and frequently check the Capillary Refill Time on the exercising limb is within 3 seconds. Confirm that the color of the limbs remains either pink or beefy red.

› The veins may become distended (i.e., pop out) during KAATSU.

› Users may feel a slight tingling in the fingers or toes during KAATSU.

› Always immediately stop KAATSU and remove the KAATSU Air Bands if there is any occlusion, numbness, or paleness (i.e., whiteness, grayness or blueness) in the limbs.

› Always immediately stop KAATSU and remove the KAATSU Air Bands if any lightheadedness is experienced. Lie down with the legs elevated if necessary.

› If undergoing rehabilitation from injury or surgery, never push the joints or the limbs to the point of pain.

› Do not exceed 15 minutes of KAATSU on the arms or 20 minutes on the legs.

› Keep rest short between sets and between exercises. Rest 20 seconds maximum between sets or 60 seconds maximum between exercises. This can be modified as necessary.

› Select exercises, movements or loads that allow slow and steady performance of a good number of repetitions (e.g., 30–40 in first set, 20–30 in the second set, >15 in the third set).

› Do 3–4 sets of each exercise and then continue with a different exercise. If only one limb is being exercised at a time, first do 3–4 sets on that limb and then proceed with 3–4 sets on the other limb.
› Reach maximum effort (or go to muscular or technical failure) within each set.

› KAATSU should be implemented with the understanding of your physician or physical therapist and can be incorporated with your physical therapy.

› KAATSU can be performed with exercise equipment.

› Conduct movements slowly, steadily and with good range of motion unless the user is performing a specific athletic movement (e.g., swinging a golf club, swinging a bat, throwing a ball, cycling, swimming, practicing race starts or jumps). In these cases of athletic movements, move at the speed in which the user wants to perform.

› Try to reach muscular failure or technical failure during each set of each exercise.

› The dual combination of Base SKU pressure and Optimal SKU pressure is a critical element of KAATSU. If the Base SKU is low, the Optimal SKU will be higher. Conversely, if the Base SKU is high, the Optimal SKU will be lower. The Base SKU (i.e., manual tightening of the KAATSU Air Bands) in combination with Optimal SKU (i.e., inflation of the KAATSU Air Bands) is critically important to set the pressures necessary to achieve maximum benefits from KAATSU.

› KAATSU Air Band placement is critically important. The KAATSU Air Bands can only be used in two locations: above the biceps and triceps, but below the deltoids near the armpit in the arms, and above the quadriceps and hamstrings near the groin on the legs. Muscle contraction in the limbs temporarily squeezes venous blood past the KAATSU Air Band on the limbs.

› KAATSU is defined as “blood flow moderation training”, not blood flow restriction training (BFR) or Occlusion Training or Tourniquet Training.

› The term “restriction” in BFR or Occlusion Training or Tourniquet Training implies that blood is reduced or restricted going OUT of the limb.

› The term “occlusion” implies that the blood flow is restricted or stopped from going IN the limb.

› In contrast, the interaction of the blood flow both in and out of the limb during the KAATSU Cycle and KAATSU Training is vitally important to realize the benefits, safety and efficacy of KAATSU.

› KAATSU is a means to safely moderate blood flow both in and out of the limbs. KAATSU slows the venous outflow that leads to backing up and engorging the limbs in blood. This is why the KAATSU...
Cycle is important; the vascular system must be warmed up first before starting KAATSU Training.

› Do 3-4 sets of each exercise that is performed to either muscular or technical failure. If the Optimal SKU is set correctly, the duration (or repetitions) of each set should be reduced. That is, if set #1 is 1 minute in duration (or 30-40 repetitions), then rest for a maximum of 20 seconds and continue with set #2. KAATSU users should reach their muscular or technical failure before 1 minute or 30-40 repetitions in Set #2. Rest should be no more than 20 seconds before set #3 begins. In set #3, KAATSU users should reach their muscular or technical failure in a shorter time duration or fewer repetitions in Set #2.

› The veins in the limbs may become distended (i.e., pop out) during KAATSU Training.

› Users may feel a slight tingling in their fingers or toes during KAATSU Training. This is acceptable, but KAATSU should be immediately stopped if there is any occlusion, lightheadedness, or numbness or whiteness in the limbs.

› KAATSU should be implemented with the understanding of the user’s physician.

› Wait at least 72 hours after a surgery to start KAATSU Training with the approval of the user’s physician.
Do’s and Don’ts of Training, Recovery, and Rehab

Do’s

› Always hydrate well before, during and after each KAATSU Training session.

› Always do KAATSU Cycles first, before proceeding with KAATSU Training.

› Always breathe throughout the KAATSU exercises. Count repetitions out loud.

› Always place the KAATSU Air Bands at the correct location on the upper and lower limbs.

› Always check Base SKU and find Optimal SKU before with every KAATSU session. Optimal Pressure is one that is not so high as to occlude blood flow, but high enough to engorge the limbs in blood, create a pink or red color to the skin in the limb, get distended veins, and achieve the “KAATSU Fatigue/Failure Feeling” during exercise.

› Always release the KAATSU Air Bands if the user feels something is not right. If the user feels lightheaded or if the user has an unusual pain on one side or the other, immediately stop.

› Always frequently check the Capillary Refill Time (CRT) throughout the KAATSU session.

› Always confirm the CRT is always less than 3 seconds in duration.

› Do 3-5 different exercises during a KAATSU session. Each exercise should comprise 3-4 sets until muscular or technical failure with 20 seconds rest between sets.

› Try to get the “KAATSU Fatigue/Failure Feeling” during the session.

› Use the KAATSU Cycle and the KAATSU 3-point Exercises to warm-up and to help determine the optimal SKU pressure or as a form of basic exercise for both the arms and legs.

› The veins in the limbs may become distended (i.e., pop out) and users may feel a slight tingling in their fingers or toes during KAATSU Training.

Don’ts

› Do not ever partly or fully occlude blood flow. Signs of this occlusion are collapsed veins, no pulse at the wrist, pale palms and skin, or severely delayed (>6 seconds) capillary refill time.

› Do not do KAATSU for more than 15 minutes on the arms or 20 minutes on the legs.
> Do not simultaneously use the KAATSU Air Bands or Aqua Bands on the arms and legs.

> Do not lift heavy weights when doing KAATSU or experience occlusion, numbness, lightheadedness, whiteness, paleness in the limbs.

> Do not place the KAATSU Air Bands on the body other than the upper arms or upper legs.

> Do not do KAATSU if you are pregnant, under medical treatment, have cancer, hypertension, fractures, muscle ruptures, or any acute diseases without the prior approval of your physician

> Do not do KAATSU if you are undergoing cardiac rehabilitation or have any of the following conditions: acute myocardial infarction, unstable angina, ventricular tachycardia or severe arrhythmia, serious case of cardiac insufficiency (NYHA class IV), serious aortic stenosis, acute pulmonary embolism or lung infarction, acute myocarditis or pericarditis, or acute vena cava dissociation.

> KAATSU is recommended to those who at least 14 years of age. This recommendation is unrelated to the safety of KAATSU; rather, it is due to a small number of overly ambitious coaches can push young children too much or too far with a new training modality. As children develop in their teenage years, KAATSU can be prudently incorporated into their training regimens—without the pressure of performing at maximal levels before they reach puberty.
Applying KAATSU Air Bands on the Limbs

The KAATSU Air Bands are pneumatic bands specifically engineered and designed to be used with KAATSU devices and inflated with compressed air to specific amounts based on KAATSU protocols with the KAATSU Master, KAATSU Nano, KAATSU Cycle, KAATSU Golf, KAATSU Compressor Unit via the KAATSU Mobile App, and other KAATSU devices.

Placement of the KAATSU Air Bands

› The KAATSU Air Bands that are strapped around the upper arms or upper legs.

› On the arms, the KAATSU Air Bands are placed above the biceps and triceps and below the deltoid muscles near the armpit, but not too high to cause impingement of the nerves.

› On the legs, the KAATSU Air Bands are placed high up on the leg near the groin, above the quadriceps and hamstring muscles.

› The KAATSU Air Bands should be placed as close as possible to the proximal ends of the limbs and placed over clothing, not on bare skin.

› It is important to sit properly with good posture in a chair when placing the KAATSU Air Bands on the arms and on the legs.

› The user should sit upright in a chair and place their hands on their lap with the palms of their hands facing upwards.

› The user should not press the KAATSU Air Bands on the arms against their torso. If the KAATSU Air Bands are pressed against the torso, the KAATSU SKU levels (pressures) will be falsely increased.

› Similarly, the user should not press the KAATSU Air Bands on the legs against the seat of the chair. The user should sit forward and the hips should be barely sitting on the chair so the KAATSU Air Bands are not pressed against any part of the chair. If the KAATSU Air Bands are pressed against the chair, the KAATSU SKU levels (pressures) will be falsely increased.

› After the KAATSU Air Bands on the arms, check the SKU values on both the left and right sides. Also check the Capillary Refill Time by firmly pressing the thumb into the palm of the hands. On the legs, check the Capillary Refill Time (CRT) by firmly...
pressing the thumb into the quadriceps above the knees.

- Modify the placement or tightness of the KAATSU Air Bands, if the CRT is longer than 3 seconds. If the CRT is less than 3 seconds, continue to proceed.
- If the Base SKU levels are more than 5 SKUs different on either side, manually adjust the KAATSU Air Bands so both sides are within 5 SKUs of each other on the left and right sides. Ideally, the user should have equal SKU levels on both sides.
- The user should also subjectively confirm that the tightness feel the same on both sides.

Structure of the KAATSU Air Bands

- The KAATSU Air Bands are specifically constructed to inflate only towards the limb during KAATSU training or rehabilitation.
- Velcro on the inside holds the KAATSU Air Bands in place.
- The KAATSU Air Bands are connected via translucent Air Tubes and Connectors.
- The KAATSU Arm Bands are shorter and thinner than the longer and wider KAATSU Leg Bands.

Purpose of the KAATSU Air Bands

The KAATSU Air Bands optimally moderate blood flow in the arms and legs at different levels during exercises or movements appropriate to each individual as part of a muscle training, sports-specific or rehabilitation program.

Pressure in the KAATSU Air Bands

- The left and right KAATSU Air Bands can be inflated to different pressures (between 0 – 500 SKU) with dual air compressors within the KAATSU units.
- The unit of measurement is called SKU (Standard KAATSU Units). There are several controls in the device and in the software that can immediately deflate the KAATSU Air Bands.
- The maximum time to use the KAATSU Air Bands is 15 minutes on the arms and 20 minutes on the legs.

Use of the KAATSU Air Bands

- The KAATSU Air Bands can either remain tethered (connected) to the KAATSU units in order to perform KAATSU Cycles (i.e., pressure on followed by pressure off) or be untethered (unconnected) to the KAATSU units in order to perform KAATSU Training in any venue (e.g., gym, field, pitch, pool,
outdoors, hotel, home, office).

> The veins in the limbs may become distended (i.e., pop out) during KAATSU Training.

> Users may feel a slight tingling in their fingers or toes during KAATSU Training.

**Appropriate Sizes of KAATSU Air Bands**

> KAATSU Air Bands are available in 3 sizes: Small, Medium and Large.

> To select the proper size, measure the circumference of the top of the arm (right by the armpit) and the circumference of the top of the leg (right alongside the groin). Those circumferences will determine the appropriate size for your KAATSU Air Bands.

> If 48 cm in circumference is exceeded on the upper arms or 70 cm in circumference on the upper legs, then special order KAATSU Air Bands are recommended.

**Proper Arm Sizes**

> Small: 18–28 cm or 7.06–11.02 in

> Medium: 28–38 cm or 11.02–14.96 in

> Large: 38–48 cm or 14.96–18.89 in

**Proper Leg Sizes**

> Small: 40–50 cm or 15.74–19.68 in

> Medium: 50–60 cm or 19.68–23.62 in

> Large: 60–70 cm or 23.62–27.55 in
Identifying and Applying Appropriate Pressure

Identifying the appropriate KAATSU pressure (measured in SKU or Standard KAATSU Units) is a combination of the following:

› **Level 1**: Select the appropriate KAATSU Air Band size (i.e., small, medium or large)

› **Level 2**: Tighten at the appropriate Base SKU (i.e., manually tighten the KAATSU Air Bands)

› **Level 3**: Identify the Optimal SKU (i.e., inflate the KAATSU Air Bands)

**Level 1**

› The KAATSU Air Bands are available in 3 sizes: Small, Medium and Large.

› To select the proper size, measure the circumference of the top of the arm (right by the armpit) and the circumference of the top of the leg (right alongside the groin). Those circumferences will determine the appropriate size for your KAATSU Air Bands.

› If you exceed 48 cm in circumference on your upper arms or 70 cm in circumference on your upper legs, then special order KAATSU Air Bands are recommended.

**Proper Arm Sizes**

› **Small**: 18–28 cm or 7.06–11.02 in

› **Medium**: 28–38 cm or 11.02–14.96 in

› **Large**: 38–48 cm or 14.96–18.89 in

**Proper Leg Sizes**

› **Small**: 40–50 cm or 15.74–19.68 in

› **Medium**: 50–60 cm or 19.68–23.62 in

› **Large**: 60–70 cm or 23.62–27.55 in

**Level 2**

› The basic guidelines for the Base SKU are primarily based on age and general physical fitness. There are individual exceptions, but these guidelines have proven safe and effective over the decades and among millions of individual sessions by users of all ages, abilities and physical abilities:

› The Base SKU is the pressure after manually tightening the KAATSU Air Bands on the upper arms or upper legs. The pressure can be manually adjusted by either tightening or loosening the KAATSU Air Bands.
Air Bands. The SKU levels on the left and right side should be within 5 SKU.

- There should be no occlusion, no numbness, and no whiteness in the limbs at all. Numbness may result in an inappropriate placing of the KAATSU Air Bands where the bands may be pressuring against a nerve. Whiteness, grayness, blueness or an unnatural paleness in the limbs is due to occluding or cutting off the arterial flow (i.e., flow from the torso to the limbs). This must be avoided at all times.

- The veins in the limbs may become distended (i.e., pop out) during KAATSU Training.

- Users may feel a slight tingling in their fingers or toes during KAATSU Training.

**Recommendations for Base SKU**

**Recommended Base SKU for Arms on the KAATSU Master:**

- 10–20 SKU for older and middle age adults with less-than-average level of fitness
- 20–30 SKU for older and middle age adults with an average level of fitness
- 30–40 SKU for young and middle age adults with a good level of fitness
- 40–50 SKU for teenagers, young adults and adults with a high level of fitness
- 50+ SKU for elite athletes or those with extraordinarily high levels of fitness

**Recommended Base SKU for Legs on the KAATSU Master:**

- 20–30 SKU for older and middle age adults with less-than-average level of fitness
- 30–40 SKU for older and middle age adults with an average level of fitness
- 40–50 SKU for teenagers, young adults and adults with a high level of fitness
- 50–60 SKU for elite athletes or those with extraordinarily high levels of fitness

**Recommended Base SKU for Arms on the KAATSU Nano:**

- Less than 10 SKU for older and middle age adults with less-than-average level of fitness
- 10–15 SKU for older and middle age adults with an average level of fitness
- 15–20 SKU for young and middle age adults with a good level of fitness
- 20–25 SKU for teenagers, young adults and adults with a high level of fitness
- 25+ SKU for elite athletes or those with extraordinarily high levels of fitness
Recommended Base SKU for Legs on the KAATSU Nano:

- 10–15 SKU for older and middle age adults with less-than-average level of fitness
- 15–20 SKU for older and middle age adults with an average level of fitness
- 20–25 SKU for teenagers, young adults and adults with a high level of fitness
- 25–30 SKU for elite athletes or those with extraordinarily high levels of fitness

The recommended Base SKUs on the KAATSU Master and KAATSU Nano are different because the size of the compressors in each of these units.

KAATSU Color

KAATSU Color should result when the appropriate Base SKU is applied. That is, a pinkness or rosiness in most individuals or a beefy redness for active adults or athletes will result in the palms of the hands or quadriceps on the legs.

Level 3

After the Base SKU is applied by manually tightening the KAATSU Air Bands, then the KAATSU Air Bands are inflated to the Optimal SKU.

Identification of the Optimal SKU

This process will take 5–10 minutes to do properly and may take 2–3 sessions to get precisely right.

1. On the arms, start inflating the bands to a level of 100 SKU. On the legs, start inflating the bands to a level of 150 SKU.

2. Ask the user if (1) they are comfortable, (2) they feel any numbness, and (3) they can feel their pulsation under the bands while the KAATSU Specialist checks their Capillary Refill Time (i.e., CRT).

3. If the user is comfortable and without numbness, check their Capillary Refill Time (CRT) by firmly pressing your thumb into the palm of their hands (if the KAATSU Air Bands are on the arms) or into their quadriceps muscles above their knee (if the KAATSU Air Bands are on their legs).

4. Release and see how quickly the blanched (white) area returns to normal color. If this Capillary Refill Time (CRT) is less than 3 seconds, this is safe. If this CRT is more than 3 seconds, then the KAATSU Air Bands are inflated too tightly. They should be immediately released.

5. The KAATSU Specialist asks the KAATSU user if they can feel any pulsation under the bands. If the user cannot feel any
pulsation, release the pressure and increase the SKU by 10 SKU for the arms and by 20 SKU for the legs.

6. At the increased SKU pressure (e.g., 110 SKU on the arms or 120 SKU on the legs), the KAATSU Specialist repeats this process and questioning: (1) Are you comfortable? (2) Do you feel any numbness? (3) Do you feel a pulsation under the bands?

7. The KAATSU user may or may not feel any pulsation under the bands at low pressures. In that case, the KAATSU Specialist continues to increase the SKU pressure by increments of 10 SKU in the arms and 20 SKU in the legs.

8. This process continues until the user feels a strong pulsation under the bands. At the point where the pulsation begins to feel weaker, then the bands have been inflated too much. That is, if there is a strong sense of pulsation at 200 SKU, but there is a less strong sense of pulsation at 210 SKU, then the appropriate SKU pressure is 200 SKU.

9. To confirm that this initial Optimal SKU pressure is appropriate, do a series of KAATSU 3-point Exercises for both the arms and legs. The KAATSU 3-point Exercises for the arms involve 3 sets of Hand Clenches, Biceps Curls and Triceps Extensions. The KAATSU 3-point Exercises for the legs involve Toe curls, Toe Raises, and Heel Raises (or for more fit individuals, Heel Raises, Standing Leg Curls, Sitting Leg Extensions, Leg Lunges or Non-lock Squats).

10. During the 3 sets of these exercises, the KAATSU Specialist asks the user to do a set of 25-40 repetitions of each exercise (Hand Clenches + Biceps Curls + Triceps Extensions on the arms or Toe curls, Toe Raises, and Heel Raises or Heel Raises, Standing Leg Curls, Sitting Leg Extensions, Leg Lunges or Non-lock Squats on the legs).

11. If the user can do 3 sets of 25-40 repetitions of each exercise without going to failure, then the Optimal SKU pressure is too low. However, if the user can only do a decreasing amount of repetitions of each exercise before going to failure, then the Optimal SKU pressure is appropriate. For example, if the user can only do 30 Biceps Curl repetitions on the first set, 20 repetitions on the second set, and only 15 repetitions on the third set before becoming fatigued, then the Base SKU and Optimal SKU pressures are appropriate.

Important Points

› Individuals of all ages and abilities will find that they will be able to accommodate, acclimate and adapt to increasing Optimal SKU pressures rather quickly between their first KAATSU and subsequent KAATSU sessions.
> The higher the Base SKU, the lower the Optimal SKU will be. It is the combination of the Base SKU and the Optimal SKU that is the critical pressure.

> There can and will be daily variations of up to +/- 20–30 SKU in the same individual.

> The anticipated Optimal Pressure is primarily a function of age, fitness and limb circumference.

> One’s ‘physiologic’ age can be similar to or different from one’s chronological age. For example, the elderly may have stiff, damaged arteries and should use relatively low pressures. Similarly, the more fit the user is, the higher the Optimal SKU will be with the same Base SKU.

> Regarding limb circumference/cross sectional area, the larger the extremity is, the higher the pressure will generally be. So arm SKU levels can be 50–100 SKUs lower than leg SKU level. If the user has the more muscle compared to fat in their extremity, the user will generally be able to handle higher pressures.

> KAATSU, users try to find the optimal amount of venous outflow impediment so that otherwise easy exercises become unsustainable.

> KAATSU Training also leads to the immediate secretion of IGF-I (insulin-like growth factor 1) which lowers blood glucose level.
KAATSU 3-Point Exercises

The KAATSU 3-point Exercises are a highly efficient form of blood flow moderation exercise for both the arms and legs.

Important Points

› KAATSU 3-point Exercises are a fundamental part of the standard KAATSU protocol for both the arms and legs.

› It can be done anywhere anytime after setting the appropriate Base SKU and identifying the Optimal SKU pressure.

› Individuals of all ages and abilities can go to muscle exhaustion within minutes without use of weights while doing the KAATSU 3-point Exercises.

› KAATSU 3-point Exercises can either be used to help determine the Optimal SKU pressure or as a form of basic exercise for both the arms and legs.

› KAATSU 3-point Exercises can be performed while the user is either tethered (connected) or untethered (disconnected) to the units.

› The veins in the limbs may become distended (i.e., pop out) and users may feel a slight tingling in their fingers or toes during KAATSU Training.

KAATSU 3-point Exercises for Arms

› KAATSU 3-point Exercises for arms include:

• 3 sets of Hand Clenches
• 3 sets of Biceps Curls, and
• 3 sets of Triceps Extensions

› Each set of exercises should be done at least 3 times each with a maximum of 20 seconds rest between each set. Ideally, the number of repetitions for each exercise decreases before the user reaches muscular or technical failure (or fatigues).

• Muscular failure is defined when the user cannot move the muscle anymore.

• Technical failure is defined when the user starts to do improper technique (movement) due to an increasing sense of fatigue. At this point, the set is stopped.

› That is, an ideal set would be 25–40 repetitions on set #1, 15–25 repetitions on set #2, and 5–15 repetitions on set #3. Even if only 1–2 repetitions are completed on the last set, this failure signal sent to...
the central nervous system is one of the goals of KAATSU.

KAATSU 3-point Exercises for Legs

› Standard KAATSU 3-point Exercises for legs include:
  • 3 sets of Toe Curls (while sitting with good posture on a chair)
  • 3 sets of Toe Raises (while sitting with good posture on a chair), and
  • 3 sets of Heel Raises (while sitting with good posture on a chair)

› Alternatively, Advanced KAATSU 3-point Exercises for the legs can include the following for more fit users:
  • 3 sets of Heel Raises (either sitting or standing)
  • 3 sets of Sitting Leg Extensions
  • 3 sets of Standing Leg Curls
  • 3 sets of Leg Lunges
  • 3 sets of Non-lock Squats
  • Advanced KAATSU 3-point Exercises Leg curls can be performed while standing and holding onto a chair or balancing against a wall.

› The Non-lock Squats (or “chair touches”) are performed non-stop while bending the knees to touch a chair and then popping back up without locking the knees. Ideally, the squats are “non-lock” (partial extension) so that the muscles are constantly engaged and there is no rest while the knees are “locked” straight (in a full extension). This will build up fatigue and lactic acid more quickly.

Recommended Base SKU
Pressures for the KAATSU 3-point Exercises

Base SKU for Arms on the KAATSU Master:

› 10–20 SKU for older and middle age adults with less-than-average level of fitness
› 20–30 SKU for older and middle age adults with an average level of fitness
› 30–40 SKU for young and middle age adults with a good level of fitness
› 40–50 SKU for teenagers, young adults and adults with a high level of fitness
› 50+ SKU for elite athletes or those with extraordinarily high levels of fitness

Base SKU for Legs on the KAATSU Master:

› 20–30 SKU for older and middle age adults with less-than-average level of fitness
› 30–40 SKU for older and middle age adults with an average level of fitness
› 40–50 SKU for teenagers, young adults and adults with a high level of fitness

› 50–60 SKU for elite athletes or those with extraordinarily high levels of fitness

Base SKU for Arms on the KAATSU Nano:

› Less than 10 SKU for older and middle age adults with less-than-average level of fitness

› 10–15 SKU for older and middle age adults with an average level of fitness

› 15–20 SKU for young and middle age adults with a good level of fitness

› 20–25 SKU for teenagers, young adults and adults with a high level of fitness

› 25+ SKU for elite athletes or those with extraordinarily high levels of fitness

Base SKU for Legs on the KAATSU Nano:

› 10–15 SKU for older and middle age adults with less-than-average level of fitness

› 15–20 SKU for older and middle age adults with an average level of fitness

› 20–25 SKU for teenagers, young adults and adults with a high level of fitness

› 25–30 SKU for elite athletes or those with extraordinarily high levels of fitness

Determination of Optimal SKU Pressures

The KAATSU 3-point Exercises can either be used to help determine the Optimal SKU pressure or as a form of basic exercise for both the arms and legs. After the Base SKU (manually applied pressure) is established, then the KAATSU 3-point Exercises is a means to determine if the Optimal SKU (inflated pressure of the pneumatic bands) is appropriate.
KAATSU Cycle

The KAATSU Cycle is the first and fundamental modality of KAATSU Training and should be performed first. During KAATSU Cycle, the KAATSU Air Bands remain connected to the KAATSU equipment.

Uses of the KAATSU Cycle

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

› The KAATSU Cycle is a convenient form of blood flow modulation activity that requires no physical movement. It can be done anywhere (e.g., office cubicles, airplane seats, sofas at home, desks at school, in an airplane) anytime (e.g., before, during or after workouts), on the arms and separately on the legs with or without movement.

› Physical movement during KAATSU Cycle can be done if desired.

› The KAATSU Cycle is good 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 (e.g., 3 sets of Hand Clenches, 3 sets of Biceps Curls, and 3 sets of Triceps Extensions on the arms or 3 sets of Toe Curls, 3 sets of Toe Raises, and 3 sets of Heel Raises on the legs or alternatively, 3 sets of Heel Raises, 3 sets of Leg Extensions, 3 sets of Leg Curls, 3 sets of Leg Lunges, and 3 sets of Nonlock Squats on the legs).

Cycle 20

› The standard KAATSU Cycle is referred to as Cycle 20. That is, 8 cycles of 20 seconds of inflated pressure (i.e., pressure on) followed by 5 seconds of pressure release (i.e., pressure off).

› The full KAATSU Cycle is 3 minutes 20 seconds in duration and can be repeated...
as desired with an SKU pressure as appropriate for each individual. During the KAATSU Cycle the pressures in the arm and leg bands increases incrementally on each of the 8 cycles.

- The half KAATSU Cycle is only 4 cycles and is 1 minute 40 seconds in duration.

- 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. Therefore, if the SKU pressure in the KAATSU Cycle is inputted as 200 SKU, then the 8 cycles are as follows:
  - 130 SKU of pressure for 20 seconds followed by 5 seconds of pressure off, then
  - 140 SKU of pressure for 20 seconds followed by 5 seconds of pressure off, then
  - 150 SKU of pressure for 20 seconds followed by 5 seconds of pressure off, then
  - 160 SKU of pressure for 20 seconds followed by 5 seconds of pressure off, then
  - 170 SKU of pressure for 20 seconds followed by 5 seconds of pressure off, then
  - 180 SKU of pressure for 20 seconds followed by 5 seconds of pressure off, then
  - 190 SKU of pressure for 20 seconds followed by 5 seconds of pressure off, then
  - 200 SKU of pressure for 20 seconds followed by 5 seconds of pressure off.

Cycle 40

In addition to Cycle 20, there is also Cycle 40 or 8 cycles of 40 seconds of pressure on followed by 10 seconds of pressure off. While the Cycle 20 session is 3 minutes 20 seconds in duration, the Cycle 40 session is 6 minutes 40 seconds in duration. Cycle 40 can be repeated as desired.

Cycle 60

There is also Cycle 60 or 8 cycles of 60 seconds of pressure on followed by 20 seconds of pressure off. Cycle 60 is 10 minutes 40 seconds in duration and can be repeated as desired.

Important Points

- Cycle 20 or Cycle 40 or Cycle 60 can be repeated as desired up to 15 minutes on the arms and up to 20 minutes on the legs.

- On the KAATSU Master, users can select their Optimal SKU pressure between 0 SKU
and 500 SKU. As the pressure increases, the amount of venous blood flow back to the torso decreases and the exercise becomes more difficult as a result.

- On the KAATSU Nano, users can select the Optimal SKU pressure between 0 SKU and 400 SKU. As the pressure increases, the amount of venous blood flow back to the heart decreases and the exercise becomes more difficult as a result.

- The veins in the limbs may become distended (i.e., pop out) and users may feel a slight tingling in their fingers or toes during KAATSU Training.

Examples

If a user selects 200 SKU in the KAATSU Cycle 20 mode on the arms, the user will experience the following pressures that continue for a duration of 3 minutes 20 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 user selects 150 SKU in the KAATSU Cycle 60 mode on the legs, the user will experience the following pressures that continue for a duration of 6 minutes 40 seconds:

- Cycle #1: 40 seconds of 160 SKU pressure on followed by 10 seconds of pressure off (0 SKU)
- Cycle #2: 40 seconds of 180 SKU pressure on followed by 10 seconds of pressure off (0 SKU)
- Cycle #3: 40 seconds of 200 SKU pressure on followed by 10 seconds of pressure off (0 SKU)
› Cycle #4: 40 seconds of 220 SKU pressure on followed by 10 seconds of pressure off (0 SKU)

› Cycle #5: 40 seconds of 240 SKU pressure on followed by 10 seconds of pressure off (0 SKU)

› Cycle #6: 40 seconds of 260 SKU pressure on followed by 10 seconds of pressure off (0 SKU)

› Cycle #7: 40 seconds of 280 SKU pressure on followed by 10 seconds of pressure off (0 SKU)

› Cycle #8: 40 seconds of 300 SKU pressure on followed by 10 seconds of pressure off (0 SKU)
KAATSU Training

KAATSU Training (alternatively known as KAATSU Performance, KAATSU Fitness, KAATSU Wellness, or KAATSU Aqua) is the most intense form of full-body blood flow moderation exercise.

- It can be done anywhere anytime and involves a full range of movements used in physical therapy, resistance training, or sports specific activities including throwing, agility drills or running.

- Individuals of all ages and abilities, from beginners to professionals, can go to muscle exhaustion within minutes without use of weights or any resistance other than body weight.

- In KAATSU Training, individuals can do the movements of their choice as they overlay their exercise with KAATSU arm or leg bands on.

- If performed properly, KAATSU Training results in no soreness, a feeling or immediate recovery, and elevated energy levels.

- The higher the Base SKU, the lower the Optimal SKU will be. It is the combination of the Base SKU and the Optimal SKU that is the critical to set correctly.

- There can and will be daily variations of up to +/− 20−30 SKU in the same individual in the Optimal SKU if the Base SKU is consistent.

- The Optimal Pressure is a function of age, fitness, and limb circumference.

- In general, the highest pressures generally occur between ages 20–30 and decrease for younger and older individuals. But higher Base SKU and Optimal SKU pressures will be seen after continued and repeated KAATSU Training.

- In general, the fitter the subject is, the higher the optimal pressure from the same base pressure will be.

- Regarding limb circumference/cross sectional area, the bigger the extremity is, the higher the pressure will be. Arm SKU pressures may be 50–100 SKUs lower than leg SKU pressures.

- If a user is starting KAATSU for the first time, it is always better to start conservatively with lower pressures than recommended. Once the user becomes accustomed to KAATSU, then higher pressures can be used.
> Users may feel a slight tingling in their fingers or toes during KAATSU Training. This is acceptable, but KAATSU should be immediately stopped if there is any occlusion, lightheadedness, or numbness or whiteness in the limbs.

> The veins in the limbs may become distended (i.e., pop out) during KAATSU Training.
KAATSU Cycle Unit

In the 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

› 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 20 includes 8 cycles @ 15 SKU Base pressure + increasing to a maximum of 100 Optimal SKU pressure over a duration of 3 minutes 20 seconds.

The sequence is as follows:

• Cycle #1: 20 seconds of 30 SKU pressure on + 5 seconds of pressure off (0 SKU)
• Cycle #2: 20 seconds of 40 SKU pressure on + 5 seconds of pressure off (0 SKU)
• Cycle #3: 20 seconds of 50 SKU pressure on + 5 seconds of pressure off (0 SKU)
• Cycle #4: 20 seconds of 60 SKU pressure on + 5 seconds of pressure off (0 SKU)
• Cycle #5: 20 seconds of 70 SKU pressure on + 5 seconds of pressure off (0 SKU)
• Cycle #6: 20 seconds of 80 SKU pressure on + 5 seconds of pressure off (0 SKU)
• Cycle #7: 20 seconds of 90 SKU pressure on + 5 seconds of pressure off (0 SKU)
• Cycle #8: 20 seconds of 100 SKU pressure on + 5 seconds of pressure off (0 SKU)

Cycle 40

› 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 40 includes 8 cycles @ 20 SKU Base pressure + increasing to a maximum of 150 Optimal SKU pressure over a duration of 6 minutes 40 seconds.

The sequence is as follows:
- Cycle #1: 40 seconds of 80 SKU pressure on + 10 seconds of pressure off (0 SKU)
- Cycle #2: 40 seconds of 90 SKU pressure on + 10 seconds of pressure off (0 SKU)
- Cycle #3: 40 seconds of 100 SKU pressure on + 10 seconds of pressure off (0 SKU)
- Cycle #4: 40 seconds of 110 SKU pressure on + 10 seconds of pressure off (0 SKU)
- Cycle #5: 40 seconds of 120 SKU pressure on + 10 seconds of pressure off (0 SKU)
- Cycle #6: 40 seconds of 130 SKU pressure on + 10 seconds of pressure off (0 SKU)
- Cycle #7: 40 seconds of 140 SKU pressure on + 10 seconds of pressure off (0 SKU)
- Cycle #8: 40 seconds of 150 SKU pressure on + 10 seconds of pressure off (0 SKU)

Cycle 60

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.

Cycle 60 includes 8 cycles @ 25 SKU Base pressure + increasing to a maximum of 200 Optimal SKU pressure over a duration of 10 minutes 40 seconds.

The sequence is as follows:
- Cycle #1: 60 seconds of 130 SKU pressure on + 20 seconds of pressure off (0 SKU)
- Cycle #2: 60 seconds of 140 SKU pressure on + 20 seconds of pressure off (0 SKU)
- Cycle #3: 60 seconds of 150 SKU pressure on + 20 seconds of pressure off (0 SKU)
- Cycle #4: 60 seconds of 160 SKU pressure on + 20 seconds of pressure off (0 SKU)
- Cycle #5: 60 seconds of 170 SKU pressure on + 20 seconds of pressure off (0 SKU)
- Cycle #6: 60 seconds of 180 SKU pressure on + 20 seconds of pressure off (0 SKU)
- Cycle #7: 60 seconds of 190 SKU pressure on + 20 seconds of pressure off (0 SKU)
- Cycle #8: 60 seconds of 200 SKU pressure on + 20 seconds of pressure off (0 SKU)
Points to Remember

- 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 a combination of the Base SKU and the Optimal SKU.
- The veins in the limbs may become distended (i.e., pop out) during KAATSU Training.
- Users may feel a slight tingling in their fingers or toes during KAATSU Training. This is acceptable, but KAATSU should be immediately stopped if there is any occlusion, lightheadedness, or numbness or whiteness in the limbs.
KAATSU Terminology

**Air Bladder:** the pneumatic bladder inside the KAATSU Air Bands and KAATSU Aqua Bands that inflate and deflate in specific amounts (Standard KAATSU Units) controlled by the KAATSU Master, KAATSU Nano or KAATSU Cycle equipment.

**All-out:** to exercise or do KAATSU Training with maximum effort.

**Base Pressure:** the compression of the non-inflated KAATSU Air Bands and KAATSU Aqua Bands when the Air Bands are first manually affixed to the limbs. Also known as Base SKU and measured in SKU (Standard KAATSU Units).

**Base SKU:** the compression of the non-inflated KAATSU Air Bands and KAATSU Aqua Bands when the Air Bands are first manually affixed to the limbs. Also known as Base Pressure and measured in SKU (Standard KAATSU Units).

**BFM or Blood Flow Moderation:** BFM is the generic term for KAATSU Training.

**BFR or Blood Flow Restriction:** also known as occlusion training or tourniquet training. Blood flow restriction in the limbs is caused by the tightening of knee wraps, ropes, tubing, or blood pressure cuffs around the limbs. BFR is not KAATSU Training.

**Biceps Curl:** any type of weight training or resistance exercises or KAATSU Training that target the biceps branchii muscle where the hands are raised towards the shoulders until the forearms are vertical with the elbows and upper arm remaining close to the body.

**Capillary Refill Time:** the time in seconds taken for color to return to an external capillary bed (e.g., in the palm of the hands or above the knee on the quadriceps) after pressure is applied by a thumb on the skin to purposefully cause temporary blanching.

**Central Nervous System:** the complex of nerve tissues in the brain and spinal cord that controls the activities of the body.

**CNS:** an acronym for Central Nervous System.

**CRT:** an acronym for Capillary Refill Time that is used in the KAATSU Master, KAATSU Nano or KAATSU Cycle equipment interface.

**Cycle 20:** an 8-step process of releasing and applying pressure on either the upper arms or upper legs. One cycle includes the application of pressure for 20 seconds and the subsequent release of pressure for 5 seconds. There are 8 cycles in the Cycle 20 process that takes 3 minutes 20 seconds in duration with a Base SKU.
of 15 and an Optimal SKU of 100. This function is in the KAATSU Master, KAATSU Nano and KAATSU Cycle equipment.

**Cycle 40:** an 8-step process of releasing and applying pressure on either the upper arms or upper legs. One cycle includes the application of pressure for 40 seconds and the subsequent release of pressure for 10 seconds. There are 8 cycles in the Cycle 40 process that takes 6 minutes 40 seconds in duration with a Base SKU of 20 and an Optimal SKU of 150. This function is in the KAATSU Cycle equipment.

**Cycle 60:** an 8-step process of releasing and applying pressure on either the upper arms or upper legs. One cycle includes the application of pressure for 60 seconds and the subsequent release of pressure for 20 seconds. There are 8 cycles in the Cycle 60 process that takes 10 minutes 40 seconds in duration with a Base SKU of 25 and an Optimal SKU of 200. This function is in the KAATSU Cycle equipment.

**Distention of veins:** when veins become more visible and pop out of limbs

**Disturbance of homeostasis:** the state when the body’s natural internal environmental variables become disturbed and feedback is initiated to the central nervous system due to the engorgement of blood caused by KAATSU Training.

**Go to failure:** to continue exercising or moving until maximum effort has been reached and no more movement can be done or repetitions can be repeated. In contrast to technical failure, this local failure occurs in isolated movements like biceps curls or leg extensions.

**Hand Clenches or Hand Grips:** a KAATSU 3-point Exercise where the hand is opened and closed to work the muscles of the hands and forearms. It is part of the 3-point Exercises for the Arms.

**Heel Raises:** an exercise where the heels are raised from the floor while either sitting down or standing up. It is part of the 3-point Exercises for the Legs.

**KAATSU:** a Japanese trademark meaning "additional pressure", the original form of blood flow moderation training, rehabilitation and recovery invented and developed by Professor Sir Yoshiaki Sato, M.D., Ph.D.

**KAATSU Air Bands:** specialized pneumatic bands that are affixed to the arms or legs with Velcro. The air bladder inside the Air Bands are inflated and deflated by the firmware of the KAATSU Master, KAATSU Nano and KAATSU Cycle equipment.

**KAATSU Aqua Bands:** specialized pneumatic bands that are used around the upper arms and upper legs for KAATSU Aqua, a form of KAATSU Training that can be performed in swimming or therapy pools.
KAATSU Aqua or KAATSU Aqua Training: blood flow moderation training or rehabilitation performed in the water in the form of swimming, aqua-therapy or other forms of aquatic exercises performed with KAATSU Aqua Bands.

KAATSU Arm Bands: specialized pneumatic bands that are used around the upper arms for KAATSU Training.

KAATSU Color: the resultant pinkness, rosiness or beefy redness in the skin in the limbs due to the engorgement of blood during KAATSU Training.

KAATSU Cycle: (1) brand name of KAATSU equipment, or (2) a means to warm-up the body for KAATSU Training with the KAATSU Master, KAATSU Nano or KAATSU Cycle equipment. It is a type of KAATSU Training, therapy and recovery that involves either a 4 or 8 step process of releasing and applying pressure on the limbs at increasing levels of compression.

KAATSU Dose: the appropriate Base SKU and Optimal SKU that is specific for a given individual based on their age, physical condition, and amount of KAATSU Training experience.

KAATSU Instructor: an individual certified by KAATSU Japan Co., Ltd. to have studied and passed the KAATSU Specialist certification examination.

Kaatsu-Joatsu: Japanese words that mean “pressure on – pressure off” during the KAATSU Cycle modality.

KAATSU Leg Bands: pneumatic bands that are used around the upper legs for KAATSU Training.

KAATSU Master: a portable 1134g (2.5 lbs.) touch-screen device that provides specific amounts of compressed air to the KAATSU Air Bands while recording and monitoring various data including Base SKU, Optimal SKU, time of KAATSU training, type of training, and Capillary Refill Time (CRT).

KAATSU Master Instructor: an individual certified by KAATSU Japan Co., Ltd. to have studied and passed the KAATSU Specialist certification examination and completed the highest level of KAATSU Training in Japan.

KAATSU Nano: a portable handheld 263g (9.7 oz.) touch-screen device that provides specific amounts of compressed air to the KAATSU Air Bands while recording and monitoring various data including Base SKU, Optimal SKU, time of KAATSU Training, and capillary refill time.

KAATSU Pressure: the compression of the KAATSU Air Bands or KAATSU Aqua Bands around the limbs as measured in SKUs or Standard KAATSU Units.

KAATSU Protocols: the standard KAATSU procedures and know-how that enable safe and effective KAATSU Training and rehabilitation for individuals of all ages and conditions that were developed by Professor Sir Yoshiaki Sato, M.D., Ph.D. in 1960s and 1970s.
KAATSU Specialist: an individual certified by KAATSU Global, Inc. to have studied and passed the KAATSU Specialist certification examination.

KAATSU Training: the original form of blood flow moderation training, rehabilitation and recovery invented and developed by Professor Sir Yoshiaki Sato, M.D., Ph.D.

Leg Curls: an exercise to primarily work the hamstring by raising the foot backwards to the gluteus maximus. It is part of the alternative 3-point Exercises for the Legs.

Muscular Failure: the point in KAATSU Training or rehabilitation where no continued movement or additional exercise can be performed.

Non-lock Exercises: exercises where there is only partial extension of the limbs so the muscles are always engaged during KAATSU Training.

Occlusion training or Tourniquet training: blood flow restriction training to the limbs caused by the tightening of knee wraps, ropes, tubing or blood pressure cuffs around the limbs. Also known as BFR training or tourniquet training. Occlusion training or tourniquet training is not KAATSU Training.

Optimal Pressure: the compression of the inflated KAATSU Air Bands after the Air Bands have been inflated according to the KAATSU protocols. Also known as Optimal SKU and measured in SKU (Standard KAATSU Units).

Optimal SKU: the compression of the inflated KAATSU Air Bands after the Air Bands have been inflated according to the KAATSU protocols. Also known as Optimal Pressure and measured in SKU (Standard KAATSU Units).

Petechiae: bleeding under the skin that can occur from broken blood vessels. It appears as tiny pinpoint red dots on the skin of the upper arm in some people as a result of KAATSU Training.

Piri piri: a Japanese word meaning tingling, a physical sensation in the fingers that occurs when the capillaries are fully engorged with blood during KAATSU Training.

Pulsation: the rhythmical throbbing of an artery that is felt under the KAATSU Arm Bands or KAATSU Leg Bands.

Rep or Repetition: a motion or exercise (such as a bicep curl or push-up) that is repeated and counted during KAATSU Training.

SKU: Standard KAATSU Unit, approximately equivalent to mmHg as measured by the original KAATSU Air Sensor for the KAATSU Air Bands.

Squat: an exercise that trains primarily the muscles of the thighs, hips, gluteus maximus, quadriceps, and hamstrings by bending the knees and hips to lower the torso and returning to the standing position. It is part of the alternative 3-point Exercise for the Legs.

Technical failure: the point in KAATSU Training or rehabilitation where muscular movement
can be performed but the proper technique is poor or lost or where the original form and/or speed are compromised. Indicators include loss of movement quality, loss of correct posture, asynchronous breathing, increased or unnecessary tension, and decrease in repetition frequency.

**Tourniquet training:** blood flow restriction training to the limbs caused by the tightening of knee wraps, ropes, tubing or blood pressure cuffs around the limbs. Also known as BFR training or occlusion training. Tourniquet training or occlusion training is not KAATSU Training.

**3-point Exercises:** a set of 3 different exercises that help indicate the Optimal SKU and can form the basis of KAATSU Training or serve as a warm-up.

**3-point Exercises for Arms:** a set of 3 different exercises for the arms that include 3–4 sets of Hand Clenches, 3–4 sets of Biceps Curls, and 3–4 sets of Triceps Extensions. The Hand Clenches can be done with hand grips if desired. The Biceps Curls can be done with light weights if desired. The Triceps Extensions can be done with light resistance if desire.

**3-point Exercises for Legs:** a set of different exercises for the legs that include 3–4 sets of Toe Curls (performed without shoes), Toe Raises and Heel Raises. These exercises can also alternatively include Leg Extensions, Leg Curls, or Non-lock Squats.

**Toe Curls:** an exercise that works the toes and feet when the toes are curled under the foot. It is part of the 3-point Exercises for the Legs.

**Triceps Extension:** a strength-building exercise that stimulate the triceps in the upper arms. It is part of the 3-point Exercises for the Arms.
Re-Conditioning With KAATSU After Injuries or Surgery

KAATSU can be performed to quickly and effectively re-condition with KAATSU and avoid muscular atrophy after injuries or surgery.

Equipment

› Use either the KAATSU Master or KAATSU Nano or KAATSU Cycle together with the KAATSU Air Bands and/or KAATSU Aqua Bands.

› Because KAATSU has systemic effects, it is recommended to do KAATSU both on the arms first and then the legs no matter when the injury or surgery is located.

Important Points

› Be well-hydrated before and during KAATSU.

› Always follow KAATSU protocols (i.e., always have Capillary Refill Time within 3 seconds with no occlusion, no lightheadedness, or no numbness or whiteness in limbs).

› Always start with the KAATSU Cycles on both the arms and legs.

› Proceed with KAATSU 3-point Exercises (first on arms and then on legs) or KAATSU Training (on either arms and/or legs) or physical rehabilitation exercises.

› KAATSU can be done daily, even twice per day during rehabilitation or recovery from injuries.

› Use a high Base SKU and the highest Optimal SKU that is safe and falls within the standard KAATSU guidelines.

› Never experience pain in the joint, tendon, bone or injured areas while doing KAATSU.

› Always use the correct form in any movements.

› Rest between sets and between exercises should be no more than 20 seconds.

› If you can do over 40 repetitions in any set before reaching failure, then the Base SKU and Optimal SKU are too low. Increase the Base SKU or Optimal SKU so ideally the number of repetitions on the first set is 30 repetitions before failure.

› Always breathe throughout the KAATSU exercises.
A disturbance of homeostasis will occur and muscular discomfort will be significant, partly due to lactate build-up.

KAATSU Aqua Bands can be used in a therapy pool or swimming pool to augment the recovery if aquatherapy is also incorporated in the athlete’s rehabilitation program.

**Frequency**

2–3 times per week minimum, but sometimes more frequent if desired/possible.

**KAATSU Cycle Regimen (Standard):**

1. Tighten to the appropriate Base SKU pressure.
2. Identify the Optimal SKU pressure (e.g., 200 SKU).
3. Do 1–2 sets of the standard KAATSU Cycle (i.e., 8 cycle of 20 seconds on + 5 seconds off).
4. Proceed to either Advanced KAATSU Cycle or KAATSU 3-point Exercises on arms.

**KAATSU Cycle Regimen (Advanced):**

**Option 1**

1. Tighten to the appropriate Base SKU pressure.

**Option 2**

1. Tighten to the appropriate Base SKU pressure.
2. Identify the Optimal SKU pressure (e.g., 200 SKU).
3. Purposefully increase SKU to a higher pressure level than Optimal SKU (e.g., 260 SKU).
4. Do 1–2 sets of the Advanced KAATSU Cycle at this higher level as possible (i.e., 8 cycle of 20 seconds on + 5 seconds off)

**Option 3**

1. Tighten to the appropriate Base SKU pressure.
2. Identify the Optimal SKU pressure (e.g., 200 SKU).
3. Purposefully increase SKU to a slightly higher pressure than the Optimal SKU (e.g., 260 SKU).
4. Do 1-2 sets of the Advanced KAATSU Cycle for longer at this higher level as possible (i.e., 8 cycle of 60 seconds on + 20 seconds off).

KAATSU 3-point Exercise for the Arms:

1. Tighten to the appropriate Base SKU pressure.

2. Identify the Optimal SKU pressure (e.g., 200 SKU).

3. Do 3 sets of the Hand Clenches (the number of repetitions should decrease with each subsequent set)

4. Do 3 sets of Biceps Curls

5. Do 3 sets of Triceps Extensions

6. Proceed to KAATSU 3-point Exercises for the legs

KAATSU 3-point Exercises for the Legs:

1. Tighten to the appropriate Base SKU pressure.

2. Identify the Optimal SKU pressure (e.g., 200 SKU).

3. Do 3 sets of the Toe Curls (the number of repetitions should decrease with each subsequent set)

4. Do 3 sets of Toe Raises

5. Do 3 sets of Heel Raises

   Alternative exercises: Do 3 sets of Heel Raises, Leg Extensions, Leg Curls and Non-lock Squats.

KAATSU Training for either Arms or Legs:

1. Tighten to the appropriate Base SKU pressure.

2. Identify the Optimal SKU pressure (e.g., 200 SKU).

3. Do the recommended therapy (e.g., walking, resistance training, stretching, mobility exercises, rehabilitation)

Important Notes

- As users become stronger and more accustomed to KAATSU, their ability to handle higher pressures for longer periods becomes readily apparent, but the user should always start off conservatively. The body will acclimate well, but at the beginning, users should always err on the side of lower pressures.

- The number of repetitions should decrease with each subsequent set.
> If a user walks on a treadmill or AlterG machine, the total time should be limited to 20 minutes.

> If a user is doing physical therapy with KAATSU Air Bands on their arms, the duration should be limited to 15 minutes.

> Users can do both arms and legs (but not simultaneously) during the same session.

> The veins in the limbs may become distended (i.e., pop out) during KAATSU Training or rehabilitation.

> Users may feel a slight tingling in their fingers or toes during KAATSU Training. This is acceptable, but KAATSU should be immediately stopped if there is any occlusion, lightheadedness, or numbness or whiteness in the limbs.
Pre-Conditioning With KAATSU Before Surgery

KAATSU can be performed to quickly and effectively pre-condition before surgery.

Equipment

Use either the KAATSU Master or KAATSU Nano together with the KAATSU Air Bands (both arm and leg bands).

Preparation

› Be well-hydrated before starting and doing KAATSU.

› Always follow KAATSU protocols (i.e., always have good Capillary Refill Time faster than 3 seconds with no occlusion and no numbness or paleness in limbs).

› Always start with the KAATSU Cycle (i.e., 8 cycles of 20 seconds pressure on + 5 seconds pressure off).

Key Points

› KAATSU can be done daily, even twice per day during rehabilitation or recovery from injuries.

› KAATSU should be done on both the arms and legs for the optimal systemic effects, regardless of where the injury is.

› Use an appropriately high Base SKU and the highest Optimal SKU that is safe and falls within the standard KAATSU guidelines.

› Always start with at least 2–3 KAATSU Cycles on arms and legs.

› Do not release the air in the KAATSU Air Bands throughout the entire pre-conditioning workout (unless, of course, you feel numbness or become lightheaded).

› Never experience pain in the joint, tendon or bone while doing KAATSU. If so, stop immediately and stop doing this specific movement.

› Always use the correct form in any movements.

› The rest between sets and between exercises should be no more than 20 seconds maximum.

Protocols

1. Start with the KAATSU Cycle on the arms at an appropriate Base SKU and average Optimal SKU (e.g., if the Optimal SKU is 250 SKU, start with an SKU of 220–230). Do 1 – 2 more KAATSU Cycles on the arms as a warm-up.
2. Set the appropriate Base SKU and identify the Optimal SKU on the arms. Do either the KAATSU 3-point Exercises for the Arms or a specific upper body workout with the KAATSU Arm Bands on. If the KAATSU 3-point Exercises are performed, do (1) 3 sets each of Hand Clenches (optionally with hand grips), (2) 3 sets each of Biceps Curls (optionally with light resistance), and (3) 3 sets each of Triceps Extensions (optionally with light resistance). Each set should be done until muscular failure or technical failure, with a reduced number of repetitions in each set.

3. Remove KAATSU Arm Bands and place KAATSU Leg Bands on to begin the KAATSU Cycle on the legs.

4. Do one normal KAATSU Cycle (i.e., 8 cycles of 20 seconds pressure on + 5 seconds pressure off).

5. Do 3 – 5 modified KAATSU Cycles of 60 seconds pressure on + 20 seconds pressure off at the highest Base SKU and Optimal SKU as possible.

6. Do the KAATSU 3-point Exercises for the legs or 3 sets of (a) Heel Raises, (b) Standing Leg Curls, (c) Leg Lunges, or (d) Non-lock (partial extension) Squats (both one-leg and two-leg if possible), and walking or other recommended movements as recommended by the physical therapist.

Reminders

- If the user can do over 40 repetitions before reaching muscular failure, then the Base SKU and Optimal SKU pressures are too low. Increase the Base SKU or Optimal SKU pressures so ideally the number of repetitions on the first set is 25–40 repetitions before failure.

- Always breathe throughout the KAATSU exercises and remain well hydrated.

- Always go to muscle failure on each set. On the last set of each exercise, muscular failure should come quickly.

- A disturbance of homeostasis will occur and muscular discomfort will be significant.

- Because KAATSU has systemic effects, it is recommended to also do KAATSU on the arms in addition to the legs.

- The veins in the limbs may become distended (i.e., pop out) during KAATSU Training.

- Users may feel a slight tingling in their fingers or toes during KAATSU Training. This is acceptable, but KAATSU should be immediately stopped if there is any occlusion, lightheadedness, or numbness or whiteness in the limbs.
Core and Lower Back Exercises

> Although KAATSU Air Bands are only placed on one’s upper arms and upper legs, its effects are felt and seen throughout the body, including the core and lower back.

> Many individuals are not motivated to do planks, crunches and other forms of abdominal work. Instead, they can do a number of simple KAATSU to strengthen their core and lower back.

> Core and lower back exercises can comprise of the entire KAATSU training session for the day. Alternatively, core and lower back exercises can be an addition to the KAATSU training.

> Core and lower back exercises can be done before, during or after the KAATSU training sessions, but they are more effective done after KAATSU training.

> After the KAATSU Air Bands are removed, the secretion of human growth hormones peaks within 15 minutes. With the flow of an increased amount of growth hormones in the body’s vascular system, this is the ideal time to do core and lower back exercises.

Core and Lower Back #1 Exercise

1. Manually tighten the KAATSU Air Bands on the legs at the appropriate Base SKU.

2. Inflate the KAATSU Air Bands on the legs to the Optimal SKU.

3. Sit straight up in a chair or sofa with the hips near the edge.

4. Slowly exhale and slowly lean forward, tightening the abdominal muscles as strongly as possible until the stomach is close to the legs.

5. Hold and then slowly inhale air on the return to a sitting position with good posture.

6. Repeat as desired.

Core and Lower Back #2 Exercise

1. Manually tighten the KAATSU Air Bands on the legs at the appropriate SKU.

2. Inflate the KAATSU Air Bands on the legs to the Optimal SKU.

3. Stand on one foot, balancing only on one leg for as long as possible.
4. When balance is lost, rest for 10–20 seconds and repeat two more times.

5. After 3 times, balance on the other foot.

6. This act of balancing will create instability in the core and will help strengthen the stomach and lower back.

Core and Lower Back #3 Exercise

1. Manually tighten the KAATSU Air Bands on the legs at the appropriate Base SKU.

2. Inflate the KAATSU Air Bands on the legs to the Optimal SKU.

3. Place a book on the head and walk slowly until the book falls off.

4. Rest 10–20 seconds and repeat the walk again two more times with the book on the head.

5. Walking straight slowly, especially on an uneven surface like a sandy beach, will create instability in the core and will help strengthen the stomach and lower back.

Core and Lower Back #4 Exercise

1. Manually tighten the KAATSU Air Bands on the legs at the appropriate Base SKU.

2. Inflate the KAATSU Air Bands on the legs to the Optimal SKU.

3. Stand on one foot while holding a water bottle in each hand.

4. Hold the water bottle in outstretched arms and stand as long as possible on one leg.

5. When balance is lost, rest 10–20 seconds and repeat two more times.

6. After 3 times, balance on the other foot.

7. In order to make this exercise more difficult, move outstretched arms left and right, and up and down in an asymmetric manner while balancing on one foot.

Core and Lower Back #5 Exercise

1. Manually tighten the KAATSU Air Bands on the legs at the appropriate Base SKU.

2. Inflate the KAATSU Air Bands on the legs at the Optimal SKU.

3. Do planks as usual.

4. Alternatively, tighten the KAATSU Air Bands on the arms at the Optimal SKU and do planks as normal.

Core and Lower Back #6 Exercise

1. Tighten the KAATSU Air Bands on the legs at the appropriate Base SKU.

2. Inflate the KAATSU Air Bands on the legs at the Optimal SKU.
3. Lie on the back and slowly bring one leg one up to the stomach and hold. Grab knee with arms and stretch the back.

4. Repeat as desired.

5. Continue to lie on the back and slowly pull both legs up to the stomach and hold. Grab knees with arms and stretch the back.

6. Repeat as desired.

Core and Lower Back #7 Exercise

1. Tighten the KAATSU Air Bands on the legs at the appropriate Base SKU.

2. Inflate the KAATSU Air Bands on the legs at the Optimal SKU.

3. Lie on the back and slowly lift the hips off the floor and hold. Bring hips to ground and repeat as desired.

Core and Lower Back #8 Exercise

1. Tighten the KAATSU Air Bands on the legs at the appropriate Base SKU.

2. Inflate the KAATSU Air Bands on the legs at the Optimal SKU.

3. Lie on the back and slowly lift both feet off the ground and hold. Repeat as desired.

4. Lie on the back, lift both feet off the ground, and kick the feet slightly off the ground. Repeat as desired.
Increasing Biceps Muscle Size and Strength

Some KAATSU users want to know the best way to quickly increase their biceps girth (size) with KAATSU.

Preparation

› Be well-hydrated before and during KAATSU.
› Understand and follow the standard KAATSU protocols (i.e., always have good Capillary Refill Time faster than 3 seconds with no occlusion and no numbness).
› Always start the session with the KAATSU Cycle (i.e., 8 cycles of 20 seconds pressure on + 5 seconds pressure off).

Key Points

› Do KAATSU training 2–3 times per week.
› Use an appropriately high Base SKU pressure and the highest Optimal SKU pressure that is safe and falls within the standard KAATSU guidelines (i.e., good Capillary Refill Time with no occlusion and no numbness or no paleness in the limbs).
› The entire biceps-focused workout is no longer than 15 minutes.
› Do not release the air in the KAATSU Air Bands throughout the entire workout (unless, of course, you feel numbness or become lightheaded).
› Users may feel post-workout fatigue if the sessions are extraordinarily intense.

Protocols

1. Start with the KAATSU Cycle at an average Base SKU and average Optimal SKU (e.g., if your Optimal SKU is 250 SKU, start with an SKU of 220–230).
2. Use Hand Grips to do one set of hand clenches until muscular failure, enabling the lactic acid to being accumulating.
3. Use light weights (e.g., 5 lbs./2.5 kg dumbbell) to do biceps curls slowly and deliberately until muscular failure is reached.
› If the user can do over 60 repetitions before reaching failure, then the KAATSU Base SKU and Optimal SKU pressures are too low. Increase the Base SKU and/or Optimal SKU pressures so ideally the number of repetitions on the first set is 30–40 repetitions before failure.
> After the first set of 30–40 repetitions, set the dumbbells down and rest for approximately 15 seconds.

> Start the second set of Biceps Curls. It is ideal if muscular failure comes before 20 repetitions.

> Set the dumbbells down and rest for approximately 15 seconds.

> Start the third set of Biceps Curls. It is ideal if muscular failure comes before 10 repetitions.

> Set the dumbbells down and rest for approximately 15 seconds.

> Start the fourth and last set of Biceps Curls. Muscular failure should come quickly after only a few repetitions. The discomfort should be quite significant.

> Return to the hand grips and do one set of Hand Clenches until muscular failure. The discomfort should be extreme.
Doing KAATSU In An Airplane

KAATSU Cycle can be done on either short flights or long intercontinental flights. KAATSU Cycles can be done in any seat whether in economy class or business class, aisle seat or middle seat.

The cabin in an airplane is an environment similar to that of a mountain at 2,600 meters in altitude. That is, the blood oxygen level decreases as it does while doing high-altitude training. KAATSU Training increases blood oxygen level and decreases a factor that help blood clots to form while it increases a factor that dissolves the thrombus. Regularly doing KAATSU Training helps maintain vascular elasticity that can help prevent clot formation.

Key Points:

› Hydrate well before starting and during KAATSU. For example, drink at least one water bottle or juice within 30 minutes of starting the KAATSU Cycle.

› Apply KAATSU Air Bands on arms first.

› Manually tighten to the appropriate Base SKU pressure.

› Start conservatively with a low Optimal SKU pressure in the KAATSU Cycle mode.

› Always do the KAATSU Cycle as a warm-up.

› Repeat the KAATSU Cycle 2–4 times as desired while doing simple exercises like Hand Clenches, Biceps Curls, typing on a laptop, or performing isometric movements in the seat (e.g., firmly pressing the palms of the hands together or pressing the hands downwards against the thighs) as desired for a 10–15 minute upper body workout.

› Switch to KAATSU Air Bands on the legs if desired.

› Do simple exercises like Leg Extensions, flexing the feet or doing isometric movements within the chair. Repeat 2–4 times as desired for a lower body workout.

› Adhere to all standard KAATSU protocols apply: maintain good Capillary Refill Time (i.e., CRT within 3 seconds) and always feel a sense of pulsation under KAATSU Air Bands.

› NEVER fall asleep with the KAATSU Air Bands on.

› NEVER apply the KAATSU Air Bands so tightly that there is numbness or
occlusion in the hands or feet or the skin becomes white, gray or blue. In these cases, immediately stop KAATSU and immediately remove the KAATSU Air Bands.

- During early morning flights, it is a great way to become more alert.
- During red-eye, long continental flights, or intercontinental flights, it is a good way to prepare for a meal or take a nap.
- It is much more difficult in an economy class seat to put on the KAATSU Air Bands on the legs, but it can be done with a little bit of effort and, ideally, an empty seat on one side or the other.
Achieving Maximum Muscle Hypertrophy In the Chest

➢ For chest toning, always do the KAATSU Cycle first after setting the appropriate Base SKU pressure and identifying the Optimal SKU pressure.

➢ Then do the KAATSU 3-point Exercises on the arms (i.e., 3 sets of Hand Clenches, followed by 3 sets of Biceps Curls, followed by 3 sets of Triceps Extensions).

➢ Then do 3 sets of push-ups done slowly to muscular failure. Rest no more than 20 seconds between each set, trying to go to failure—or close to it—on each set if possible.

➢ Try to then not eat and only drink water in small sips (2 ounces every 10 minutes) for 90 minutes after the KAATSU sessions.

➢ Select loads that enable the user to do a good number of repetitions (e.g., 30–40 in first set, 20–30 in the second set, >20 in the third set, >10 in the fourth set).

➢ Focus on handling higher pressures rather than the absolute amount of weight being lifted

➢ Remain well hydrated before and during the entire KAATSU session and always follow standard KAATSU safety protocols (e.g., always have Capillary Refill Time faster than 2–3 seconds with no occlusion and no numbness).

➢ If a user can do over 60 repetitions before reaching failure, then the Base SKU pressure and Optimal SKU pressure are both too low. Increase the Base SKU or Optimal SKU pressures so ideally the number of repetitions on the first set is 30–40 repetitions before failure.

➢ The veins in the limbs may become distended (i.e., pop out) during KAATSU Training and users may feel a slight tingling in their fingers or toes during KAATSU Training. This is acceptable, but KAATSU should be immediately stopped if there is any occlusion, lightheadedness, or numbness or whiteness in the limbs.

Post-Workout Sensations

➢ User will feel very pumped up after each KAATSU session.

➢ User may feel post-workout fatigue if the sessions are extraordinarily intense.

➢ User can do 2–3 times per week, but not more frequently.
Achieving Maximum Muscle Hypertrophy In the Legs

Important Points

› In order to achieve bigger size in legs, always start with KAATSU Cycles after setting the appropriate Base SKU pressure and identifying the Optimal SKU pressure.

› Rest no more than 30 seconds between each set and each exercise.

› Try to go to failure—or close to it—on each set if possible.

› Focus on handling higher pressures rather than the absolute amount of weight being lifted.

› Remain well hydrated before and during the entire KAATSU session and always follow standard KAATSU safety protocols (e.g., always have Capillary Refill Time faster than 2–3 seconds with no occlusion and no numbness).

› Select resistance loads that enable the user to complete a good number of repetitions (e.g., 30–40 in first set, 20–30 in the second set, >20 in the third set, >10 in the fourth set). If the user can do over 60 repetitions before reaching failure, then the Base SKU pressure and Optimal SKU pressure are both too low. Increase the Base SKU or Optimal SKU pressures so ideally the number of repetitions on the first set is 30–40 repetitions before failure.

› The veins in the limbs may become distended (i.e., pop out) during KAATSU Training and users may feel a slight tingling in their fingers or toes during KAATSU Training. This is acceptable, but KAATSU should be immediately stopped if there is any occlusion, lightheadedness, or numbness or whiteness in the limbs.

› Leg Lunges, Step-ups and other leg exercises are alternatives to the 4 exercises below.

Bodyweight Exercise Sequence:
Squats + Leg Extensions + Leg Curls + Heel Raises

1. Do Non-lock (partial extension Squats until muscle failure in set #1, ideally between 30–40 repetitions. Rest no more than 30 seconds.

2. Do Non-lock (partial extension Squats until muscle failure in set #2, ideally between 20–30 repetitions. Rest no more than 30 seconds.
3. Do Non-lock (partial extension Squats until muscle failure in set #3, ideally around 10 repetitions. Rest no more than 30 seconds.

4. Do Non-lock (partial extension Squats until muscle failure in set #4, 1-3 repetitions is sufficient. Rest no more than 60 seconds, but do not release air from the pneumatic KAATSU bands around upper legs.

5. Do Leg Extensions until muscle failure in set #1, ideally between 30-40 repetitions. Rest no more than 30 seconds.

6. Do Leg Extensions until muscle failure in set #2, ideally between 20-30 repetitions. Rest no more than 30 seconds.

7. Do Leg Extensions until muscle failure in set #3, ideally around 10 repetitions. Rest no more than 30 seconds.

8. Do Leg Extensions until muscle failure in set #4, 1-3 repetitions is sufficient. Rest no more than 60 seconds, but do not release air from the pneumatic KAATSU bands around upper legs.

9. Do Leg Curls until muscle failure in set #1, ideally between 30-40 repetitions. Rest no more than 30 seconds.

10. Do Leg Curls until muscle failure in set #2, ideally between 20-30 repetitions. Rest no more than 30 seconds.

11. Do Leg Curls until muscle failure in set #3, ideally around 10 repetitions. Rest no more than 30 seconds.

12. Do Leg Curls until muscle failure in set #4, 1-3 repetitions is sufficient. Rest no more than 60 seconds, but do not release air from the pneumatic KAATSU bands around upper legs.

13. Do Heel Raises until muscle failure in set #1, ideally between 30-40 repetitions. Rest no more than 30 seconds.

14. Do Heel Raises until muscle failure in set #2, ideally between 20-30 repetitions. Rest no more than 30 seconds.

15. Do Heel Raises until muscle failure in set #3, ideally around 10 repetitions. Rest no more than 30 seconds.

16. Do Heel Raises until muscle failure in set #4, 1-3 repetitions is sufficient. Rest no more than 60 seconds, but do not release air from the pneumatic KAATSU bands around upper legs.

Post-Workout Sensations

- User will feel very pumped up after each KAATSU session.
- User may feel post-workout fatigue if the sessions are extraordinarily intense.
- User can do 2-3 times per week, but not more frequently.
Toning Hips and Legs

Important Points

› In order to tone the hips and legs, always start first with KAATSU Cycles after setting the appropriate Base SKU pressure and identifying the Optimal SKU pressure.

› Rest no more than 20 seconds between each set and each exercise.

› Be well hydrated before and during KAATSU Training.

› Always follow standard KAATSU safety protocols (e.g., always have Capillary Refill Time faster than 3 seconds with no occlusion or no lightheadedness, and no numbness or whiteness in the feet or legs).

› The user can simply walk, do bodyweight exercises, or do balancing exercises with the KAATSU Air Bands on the legs. Can do KAATSU Walking daily, but it is recommended to do KAATSU at least 2–3 times per week.

› Alternatively, the user can select resistance loads that enable the user to do a good number of repetitions (e.g., 30–40 in first set, 20–30 in the second set, >20 in the third set, >10 in the fourth set). If the user can do over 60 repetitions before reaching failure, then the Base SKU pressure and Optimal SKU pressure are both too low. Increase the Base SKU or Optimal SKU pressures so ideally the number of repetitions on the first set is 30–40 repetitions before failure.

› Do not exceed 20 minutes of KAATSU on the legs.

Walking

› After completing 1–2 KAATSU Cycles and identifying the Optimal SKU pressure, walk with good posture for up to 20 minutes.

› Walking can be down outside, on a treadmill, or inside an office, gym or home.

› Walking with a book on the head will force good posture and a slow, steady gait.

Balancing Exercises

› Balance on one foot for as long as possible. When the user loses balance, try balancing again on the same foot.

› Continue for up to 10 minutes or until balance is lost 3 times. At 10 minutes or when balance is lost 3 times, then switch balancing to the other foot.
› Continue for up to 10 minutes or until balance is lost 3 times on the other foot.

› If balancing on one foot is too easy, balance with water bottles or light weights in each hand. Steadily move the water bottles or light weights with the hands in an asymmetric manner (e.g., left hand pointing forward + right hand pointing downwards or left hand to the side and right hand forward).

› If balancing is too difficult in the beginning, simply walk in place until leg strength and balancing improves.

**Bodyweight Exercise Sequence:**

**Squats + Leg Extensions + Leg Curls + Heel Raises**

1. Stand up and do Non-lock (partial extension Squats until muscle failure in set #1, ideally between 30-40 repetitions. Rest no more than 30 seconds.

2. Do Non-lock (partial extension Squats until muscle failure in set #2, ideally between 20-30 repetitions. Rest no more than 30 seconds.

3. Do Non-lock (partial extension Squats until muscle failure in set #3, ideally around 10 repetitions. Rest no more than 30 seconds.

4. Do Non-lock (partial extension Squats until muscle failure in set #4, 1-3 repetitions is sufficient. Rest no more than 60 seconds, but do not release air from the pneumatic KAATSU bands around upper legs.

5. Do Leg Extensions while sitting until muscle failure in set #1, ideally between 30-40 repetitions. Rest no more than 30 seconds.

6. Do Leg Extensions while sitting until muscle failure in set #2, ideally between 20-30 repetitions. Rest no more than 30 seconds.

7. Do Leg Extensions while sitting until muscle failure in set #3, ideally around 10 repetitions. Rest no more than 30 seconds.

8. Do Leg Extensions while sitting until muscle failure in set #4, 1-3 repetitions is sufficient. Rest no more than 60 seconds, but do not release air from the pneumatic KAATSU bands around upper legs.

9. Do Leg Curls while standing until muscle failure in set #1, ideally between 30-40 repetitions. The user can hold onto a chair or against a wall if balance is a problem. Rest no more than 30 seconds.

10. Do Leg Curls until muscle failure in set #2, ideally between 20-30 repetitions. Rest no more than 30 seconds.
11. Do Leg Curls until muscle failure in set #3, ideally around 10 repetitions. Rest no more than 30 seconds.

12. Do Leg Curls until muscle failure in set #4, 1-3 repetitions is sufficient. Rest no more than 60 seconds, but do not release air from the pneumatic KAATSU bands around upper legs.

13. Do Heel Raises while standing until muscle failure in set #1, ideally between 30-40 repetitions. Rest no more than 30 seconds.

14. Do Heel Raises until muscle failure in set #2, ideally between 20-30 repetitions. Rest no more than 30 seconds.

15. Do Heel Raises until muscle failure in set #3, ideally around 10 repetitions. Rest no more than 30 seconds.

16. Do Heel Raises until muscle failure in set #4, 1-3 repetitions is sufficient. Rest no more than 60 seconds, but do not release air from the pneumatic KAATSU bands around upper legs.

Alternative Exercises

› Leg lunges, cycling on a stationary bicycle, walking on a treadmill, or working out on a StairMaster or other such indoor equipment.

› Stretching.

Post-Workout Results

› Legs will become slimmer and toned without excess muscle hypertrophy.

› User may feel refreshed, exhausted and/or energized after each KAATSU session.

› User may feel post-workout fatigue if the sessions are extraordinarily intense.

› User can do 2-3 times per week, but not necessarily more frequently.
Doing KAATSU with Users Who Have Cerebral Palsy

General KAATSU Guidelines

> Always be well hydrated before and during KAATSU.

> Always monitor physiological changes during KAATSU. Increase or decrease the pressure as necessary. SKU levels can vary slightly between KAATSU sessions.

> Select exercises or movements that enable the user to do about 10 repetitions.

> Start conservatively: 2 times per week and then gradually increase frequency per week.

> Start with arms first and then do KAATSU on legs then. In some cases, it is important to work on the weaker limb only until both limbs have the same mobility.

> Initially if one limb is significantly weaker or has significantly less range of motion than the other limb, then only do KAATSU on the weaker limb at first.

> Users will likely be able to gradually tolerate increasingly higher pressures as they continue.

> Always follow KAATSU protocols (i.e., frequently check Capillary Refill Time is within 3 seconds with no occlusion or no lightheadedness, or no whiteness or no numbness in the limbs)

> The color of the hands, arms, feet and legs should always be either pink or a beefy red.

> Start with KAATSU Cycles (i.e., 20 seconds pressure on + 5 seconds pressure off in sequentially increasing pressure).

> Tighten the KAATSU Air Band snugly on the limbs.

> Never simultaneously use the KAATSU Air Bands on the arms and legs.

> Do not exceed 20 minutes on the legs or 15 minutes on the arms.

Applying SKU Pressure

> Manually tighten the KAATSU Air Bands to the appropriate Base SKU.

> Inflate the KAATSU Air Bands to the Optimal SKU.

> Strictly adhere to all KAATSU protocols.
How To Start

> Turn on the KAATSU Nano by holding down the POWER ON button for 3 seconds until it comes on.

> Select KAATSU CYCLE > CONTINUE > KAATSU

> Connect the translucent tubes to the white connector on the KAATSU Air Bands. Make sure to hear a “click” when attaching the connectors to the bands.

> Place the KAATSU Air Bands on the arms, above the biceps and below the shoulder/deltoid muscles near the armpits. The bands should be placed snugly on the arms so fingers cannot easily slip under the KAATSU Air Bands.

> The palms of the hands should start turning pink or even red. The KAATSU Air Bands are on too tight if the hands turn white, gray or blue.

> If the bands are on too tight, the Capillary Refill Time (CRT) will be longer than 3 seconds. In this case, loosen the KAATSU Air Bands.

> To check the Capillary Refill Time, firmly press the thumb into the palms of both hands and release. The temporary white spot on the palms should quickly fill back with blood and turn pink (or red).

> After the bands are on snugly, click on KAATSU CYCLE.

> Then click on CONTINUE and KAATSU to begin KAATSU CYCLE

> To change the SKU pressure, click on SET LEFT SKU. Enter a number as appropriate. After entering the desired number, select ENTER.

> Frequently confirm that the user’s CRT remains below 3 seconds.

> Click FULL CYCLE. The KAATSU equipment will automatically rotate through 8 cycles of 20 seconds of pressure followed by 5 seconds of no pressure. This FULL CYCLE will take 3 minutes 20 seconds.

> Repeat this KAATSU FULL CYCLE as desired.

Arm Protocols

1. Properly place the deflated KAATSU Air Bands around the arms. Then confirm the proper CRT is less than 3 seconds on both palms.

2. Start with the KAATSU Cycle at the appropriate Optimal SKU.

3. Exercise, stretch, and/or perform physical therapy with slow, steady motions.

The KAATSU Cycles and exercises should take no more than 15 minutes to complete.
Leg Protocols

1. Properly place the deflated KAATSU Air Bands around legs. Then confirm the proper CRT (Capillary Refill Time) is less than 3 seconds on both legs.

2. Start with the KAATSU Cycle at the appropriate Optimal SKU.

3. Exercise, stretch, and/or perform physical therapy with slow, steady motions.

   The KAATSU Cycles and exercises should take no more than 20 minutes to complete.
Reducing Jetlag and Battling Insomnia

Important Points

› Do KAATSU Cycles in the airplane or before takeoff at the airport in order to help reduce jetlag.

› Do KAATSU Cycles and KAATSU Wellness Exercises in hotel room if possible before going to bed.

› Always start first with KAATSU Cycles after setting the appropriate Base SKU pressure and identifying the Optimal SKU pressure.

› Rest no more than 20 seconds between each set and each exercise.

› There is no need to go to failure with these protocols; the goal is to become relaxed.

› Remain well hydrated before and during the entire KAATSU session.

› Always follow standard KAATSU safety protocols (e.g., always have Capillary Refill Time faster than 2-3 seconds with no occlusion and no numbness in the feet or legs after setting the appropriate Base SKU and Optimal SKU pressures).

Jetlag Exercises

1. Place the KAATSU Air Bands on your upper arms.

2. Do 1-2 KAATSU Cycles, ideally within 30-60 minutes of going to bed.

3. Do 20-30 Forward Shoulder Rolls in a steady motion and relax for 20 seconds while breathing deeply.

4. Do 20-30 Backward Shoulder Rolls in a steady motion and relax for 20 seconds while breathing deeply. Repeat Forward Shoulder Rolls and Backward Shoulder Rolls if desired.

5. Slowly roll the head forwards and backwards. Then slowly roll the head to the left and then to the right. Then slowly roll the head in a clockwise direction and then in a counterclockwise direction. Skip this exercise if rolling the head forwards, backwards, left, right, clockwise or counterclockwise causes dizziness.

   Alternately stretch the triceps muscles on left and right arms while breathing deeply.

6. Alternately stretch the deltoid muscles on left and right shoulders while breathing deeply.
7. Stretch the upper body or torso as desired.

8. Place the KAATSU Air Bands on your upper legs, if desired.

9. Do 1–2 KAATSU Cycles.

10. Walk in place, walk around room, do Leg Lunges, or do balancing exercises with the KAATSU Air Bands on the legs. Remove KAATSU Air Bands and prepare for sleep.
Developing Leg Speed, Size, and Stamina

Football, soccer, basketball players, speed skaters, and rowers all need and desire leg power and drive.

Below are a few examples of very intense KAATSU sessions that can be used to develop speed, stamina and power in your thighs and hamstrings.

Leg speed, size and strength Exercises include squats, leg curls, leg lunges, calf raises, and use of a slide board.

Key Points

► Focus on doing “non-lock exercises” where the knees are never fully extended and the muscles are constantly engaged with the KAATSU Air Bands on.

► Keep the rest period between sets and between exercises to 20 seconds maximum.

► Be well-hydrated before and during KAATSU training.

► Build the lactate levels to the highest levels possible.

► Do 3–4 sets of each exercise until muscular or technical failure (maximum effort).

► Failure on each set should be reached earlier and earlier (i.e., 24–40 repetitions on the first set in each exercise; >20 reps on second set; >10 reps in his third set; 1–2 reps on fourth set.

Exercise #1, Squats

1. Manually tighten the KAATSU Air Bands on your legs at your appropriate Base SKU.

2. Inflate the KAATSU Air Bands on your legs to your Optimal SKU.

3. Do 4 sets of deep, quick non-lock squats until muscular failure where the knees are kept at less than 90° throughout the sets, with no more than 20 seconds between each set.

Exercise #2, Leg Curls

Do 4 sets of quickly paced leg curls until muscular failure where the legs were kept at less than 90° throughout the 4 sets, with no more than 20 seconds between each set.

Exercise #3, Leg Lunges

Do 4 sets of deep walking leg lunges where athlete “walks” forward with (or without) a
bar bell resting on the shoulders (or dumb bells in his hands), with no more than 20 seconds between each set.

**Exercise #4, Calf Raises**

Do 4 sets of calf raises with weights on the shoulders and toes in a starting position elevated above the heels (i.e., while standing on a small step or a step board) so the calves are worked, with no more than 20 seconds between each set.

**Exercise #5, Slide Board**

Skate back and forth on a slide board in a deep squat, occasionally with weights resting on his shoulders, with no more than 20 seconds between each set.
Using KAATSU to Recover from Broken Ribs

For optimal results, do KAATSU training on all four limbs. First do KAATSU training on the arms and then proceed with KAATSU training on the legs:

**Arms**

1. Manually tighten the KAATSU Air Bands on the arms to the appropriate Base SKU.
2. Inflate the KAATSU Air Bands on the arms to the Optimal SKU.
3. Do the KAATSU Cycle function at the Optimal SKU.
4. Start with two KAATSU 20 Cycles (i.e., 8 cycles of 20 seconds of pressure on followed by 5 seconds of pressure off in sequentially increasing pressures). The automatic KAATSU 20 Cycles are 3 minutes 20 seconds in duration.
5. Do 3–5 manual KAATSU 60 Cycles (i.e., 60 seconds of pressure on followed by 20 seconds of pressure off) while doing the KAATSU 3-point Arm Exercises (i.e., 3 sets each of Hand Clenches, then Biceps Curls, and then Triceps Extensions).

   Constantly confirm the CRT (Capillary Refill Time) on the palms of the hands remains faster than 3 seconds.

Never occlude blood flow to the arms. Never feel numbness while doing KAATSU or allow the hands or arms to turn white, gray or blue. In these cases, immediately release pressure and take off the KAATSU Air Bands.

There should always be a pink color or a beefy red color on the hands and arms when doing KAATSU Cycle or KAATSU Training.

6. Remove the KAATSU Air Bands on the arms; apply the KAATSU Air Bands on the legs.

**Legs**

1. Manually tighten the KAATSU Air Bands on the legs to the appropriate Base SKU.
2. Inflate the KAATSU Air Bands on the legs to the Optimal SKU.
3. Do the KAATSU Cycle function at the Optimal SKU level.
4. Start with two KAATSU 20 Cycles (i.e., 8 cycles of 20 seconds of pressure on followed by 5 seconds of pressure off in sequentially increasing pressures). The automatic KAATSU 20 Cycles are 3 minutes 20 seconds in duration.
5. Do 3–5 manual KAATSU 60 Cycles (i.e., 60 seconds of pressure on followed by 20 seconds of pressure off) while doing the KAATSU 3-point Leg Exercises (i.e., 3 sets each of Toe Curls, then Toe Raises, and then Heel Raises. Alternatively, do 3 sets each of Heel Raises, then Leg Curls or Leg Extensions or Leg Lunges, and then Non-lock Squats).

Constantly confirm that the CRT (Capillary Refill Time) on the quadriceps above both knees remains faster than 3 seconds.

Never occlude blood flow to the legs. Never feel numbness while doing KAATSU or allow the legs to turn white, gray or blue. In these cases, immediately take off KAATSU Air Bands.

There should always be a pink color or a beefy red color on the feet and legs when doing KAATSU Cycle or KAATSU Training.

Alternatively walk or do other exercises or rehabilitation movements that do not cause discomfort or pain in the injured area.
Using KAATSU to Recover from Broken Fingers

For optimal results, do KAATSU training on all four limbs. First do KAATSU training on the arms and then proceed with KAATSU training on the legs.

Arms

1. Manually tighten the KAATSU Air Bands on the arms to the appropriate Base SKU.
2. Inflate the KAATSU Air Bands on the arms to the Optimal SKU.
3. Do the KAATSU Cycle function at the Optimal SKU.
4. Start with two KAATSU 20 Cycles (i.e., 8 cycles of 20 seconds of pressure on followed by 5 seconds of pressure off in sequentially increasing pressures). The automatic KAATSU 20 Cycles are 3 minutes 20 seconds in duration.
5. Do 3–5 manual KAATSU 60 Cycles (i.e., 60 seconds of pressure on followed by 20 seconds of pressure off) while doing the KAATSU 3-point Arm Exercises (i.e., 3 sets each of Hand Clenches if possible, then Biceps Curls, and then Triceps Extensions).
6. Constantly confirm the CRT (Capillary Refill Time) on the palms of the hands remains faster than 3 seconds.

Legs

1. Manually tighten the KAATSU Air Bands on the legs to the appropriate Base SKU.
2. Inflate the KAATSU Air Bands on the legs to the Optimal SKU.
3. Do the KAATSU Cycle function at the Optimal SKU.
4. Start with two KAATSU 20 Cycles (i.e., 8 cycles of 20 seconds of pressure on followed by 5 seconds of pressure off in sequentially increasing pressures). The automatic KAATSU 20 Cycles are 3 minutes 20 seconds in duration.

Never occlude blood flow to the arms. Never feel numbness while doing KAATSU or allow the hands or arms to turn white, gray or blue. In these cases, immediately release pressure and take off KAATSU Air Bands.

There should always be a pink color or a beefy red color on the hands and arms when doing KAATSU Cycle or KAATSU Training.

6. Remove the KAATSU Air Bands on the arms and apply the KAATSU Air Bands on the legs.
5. Do 3–5 manual KAATSU 60 Cycles (i.e., 60 seconds of pressure on followed by 20 seconds of pressure off) while doing the KAATSU 3-point Leg Exercises (i.e., 3 sets each of Toe Curls, then Toe raises, and then Heel Raises. Alternatively, do 3 sets each of Heel Raises, then Leg Curls or Leg Extensions, and then Non-lock Squats). Constantly confirm that the CRT (Capillary Refill Time) on the quadriceps above both knees remains faster than 3 seconds.

Never occlude blood flow to the legs. Never feel numbness while doing KAATSU or allow the legs to turn white, gray or blue. In these cases, immediately and take off bands.
Using KAATSU to Recover from Broken Toes

For optimal results, do KAATSU training on all four limbs. First do KAATSU training on the arms and then proceed with KAATSU training on the legs.

Arms

1. Manually tighten the KAATSU Air Bands on the arms to the appropriate Base SKU.

2. Inflate the KAATSU Air Bands on the arms to the Optimal SKU.

3. Do the KAATSU Cycle function at the Optimal SKU.

4. Start with two KAATSU 20 Cycles (i.e., 8 cycles of 20 seconds of pressure on followed by 5 seconds of pressure off in sequentially increasing pressures). The automatic KAATSU 20 Cycles are 3 minutes 20 seconds in duration.

5. Do 3–5 manual KAATSU 60 Cycles (i.e., 60 seconds of pressure on followed by 20 seconds of pressure off) while doing the KAATSU 3-point Arm Exercises (i.e., 3 sets each of Hand Clenches if possible, then Biceps Curls, and then Triceps Extensions).

Constantly confirm the CRT (Capillary Refill Time) on the palms of the hands remains faster than 3 seconds.

Never occlude blood flow to the arms. Never feel numbness while doing KAATSU or allow the hands or arms to turn white, gray or blue. In these cases, immediately release pressure and take off KAATSU Air Bands.

There should always be a pink color or a beefy red color on the hands and arms when doing KAATSU Cycle or KAATSU Training.

6. Remove the KAATSU Air Bands on the arms and apply the KAATSU Air Bands on the legs.

Legs

1. Manually tighten the KAATSU Air Bands on the legs to the appropriate Base SKU.

2. Inflate the KAATSU Air Bands on the legs to the Optimal SKU.

3. Do the KAATSU Cycle function at the Optimal SKU.

4. Start with two KAATSU 20 Cycles (i.e., 8 cycles of 20 seconds of pressure on followed by 5 seconds of pressure off in sequentially increasing pressures). The automatic KAATSU 20 Cycles are 3 minutes 20 seconds in duration.

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5. Do 3–5 manual KAATSU 60 Cycles (i.e., 60 seconds of pressure on followed by 20 seconds of pressure off) while doing the KAATSU 3-point Leg Exercises (i.e., 3 sets each of Heel Raises, then Leg Curls or Leg Extensions, and then Non-lock Squats if possible).

Constantly confirm that the CRT (Capillary Refill Time) on the quadriceps above both knees remains faster than 3 seconds.

Never occlude blood flow to the legs. Never feel numbness while doing KAATSU or allow the legs to turn white, gray or blue. In these cases, immediately and take off bands.

There should always be a pink color or a beefy red color on the feet and legs when doing KAATSU Cycle or KAATSU Training.

Alternatively walk or do other exercises or rehabilitation movements that do not cause discomfort or pain in the injured area.
How to Use KAATSU When the Maximum Pressure Levels Are Reached

Occasionally, a KAATSU user reaches the maximum SKU pressure on the KAATSU units (e.g., 400 SKU on the KAATSU Nano or 500 SKU on the KAATSU Master). That is, the Optimal Pressure cannot go higher and apply additional pressure.

In this case, deflate and manually re-tighten the KAATSU Air Bands as a higher Base SKU pressure, and do KAATSU again.

KAATSU is based on two different pressures: the Base SKU and the Optimal SKU. The Base SKU is the pressure applied when the KAATSU 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 between the KAATSU Air Bands and the limb of the user.

It is important to initially tighten the KAATSU 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 Base SKU 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
> Above 30 Base SKU: In some limited cases among extremely fit athletes with sufficient KAATSU experience, the Base SKU can be higher than 30 SKU as long as the Capillary Refill Time is faster than 3 seconds and there is no numbness or whiteness in the limbs.

For the KAATSU Master, the Base SKU guidelines are:

> 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

> Above 60 Base SKU: In some limited cases among extremely fit athletes with sufficient KAATSU experience, the Base SKU can be higher than 55 SKU as long as the Capillary Refill Time is within 3 seconds and there is no numbness or whiteness in the limbs.

Once the Base SKU levels are sufficiently high, it is almost impossible to do sustained exercises or rehabilitation movements at the maximum SKU levels (e.g., 400 SKU on the KAATSU Nano or 500 SKU on the KAATSU Master).
How to Gain Leg Strength and Speed With KAATSU Aqua

Depending if you are a competitive swimmer (healthy or injured), a triathlete, a masters swimmer (healthy or injured), a water polo player, or a land-based athlete interested in working out in the pool, there are a number of kicking sets that athletes can do in a swimming pool or therapy pool or Endless Pool.

Applying SKU Pressure

1. Manually tighten the KAATSU Air Bands to the appropriate Base SKU.

2. Inflate the KAATSU Air Bands to the Optimal SKU.

3. Strictly adhere to all KAATSU protocols.

Pool kicking sets to develop speed

1. 1 x 25 easy + 1 x 25 fast

2. 1 x 25 easy + 1 x 50 fast

3. 1 x 25 easy + 1 x 75 fast

4. 1 x 25 easy + 1 x 100 fast

Pool kicking sets to develop stamina

1. 1 x 25 easy + 30 seconds vertical kicking (hands in water)

2. 1 x 25 easy + 30 seconds vertical kicking (hands out of water)

3. 1 x 25 easy + 30 seconds vertical kicking (wrists out of water)

4. 1 x 25 easy + 30 seconds vertical kicking (elbows out of water)

How to Gain Leg Strength and Speed With KAATSU Aqua

Pool kicking sets to develop strength

› 10 x 25 kicking with KAATSU Aqua Bands (2 butterfly, 2 backstroke, 2 breaststroke and 4 freestyle)

› 3 sets of vertical kicking with KAATSU Aqua Bands until mouth goes below surface of water

› Aqua-walking, aqua-jogging or aqua-running with KAATSU Aqua Bands in waist-deep water
3 x 60 seconds of treading water (eggbeater) with KAATSU Aqua Bands

Challenging pool kicking sets

- Swim with shoes in open water trying to keep a streamlined body position
- Vertical kicking with shoes in the pool
- Vertical kicking holding liter bottles filled with water
- Push off wall underwater and try to go as far as possible underwater while holding a kickboard in outstretched arms
- Two people face each other and hold one kickboard between them in the vertical position. Each kick vigorously against each other, in the opposite direction, until they have moved 5 meters
How to Improve Speed, Stamina, and Strength With KAATSU Aqua

Applying SKU Pressure

1. Manually tighten the KAATSU Air Bands to the appropriate Base SKU.
2. Inflate the KAATSU Air Bands to the Optimal SKU.
3. Strictly adhere to all KAATSU protocols.

Swimming Equivalent of the Dryland Tabata Method

1. Swim or sprint across the pool with either KAATSU Aqua Bands on the arms or legs (approximately 20 seconds of swimming).
2. Rest 10 seconds and repeat 8 times.

Swimming Equivalent of German Volume Training

1. Do 10 x 50 swims at the fastest possible average speed with 10 – 20 seconds rest.
2. Do one set butterfly, one backstroke or breaststroke, another set butterfly, and the final set freestyle.
3. Do 1 – 5 deck-ups at the end of each 50; after the swim is finished, pull body out of the water and then sink back into the water.

Swimming Equivalent of Extended Set Training

1. Swim a 25 at an average 200m pace. Rest 10 seconds.
2. Swim a 50 at an average 400m pace. Rest 10 seconds.
3. Swim a 75 at an average 1000m pace. Rest 1–2 minutes
4. Repeat this ladder 5 times freestyle followed by 5 more times with a different stroke if possible.

Swimming Equivalent of Barbell Complexes

1. Do a 100m swim fast, pull body out of the water without resting, and do a series of push-ups, lunges or squats to failure.
2. Alternatively, if there is a 1-meter diving board in the pool, do pull-ups on the diving board while hanging in the water. If it is not convenient to pull body out of the pool, do vertical kicking as an alternative.
3. Do 5 sets of these swimming sets, at least one of each stroke. Finish with a 50m swim all-out, do a deckup without resting, and the most difficult dryland exercise.

Important Points

› KAATSU Aqua Bands can be used differently depending on whether the bands are used for with masters swimmers, triathletes 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.

› The sets can be done alternatively with the arm bands and leg bands on alternative days.

› 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.

› In each set, each swimmer should swim with their own Optimal SKU.

› 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).

› 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.

› 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:

  · 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.

  · Swimming is an activity where breathing is different and less efficient than on land. 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.
• Swimming is an activity where there is almost never a “pumping out” of the lactate like there is with exercises like Biceps Curls. That is, when athletes are doing Biceps Curls with KAATSU Air Bands on land, the limbs become saturated with blood and lactate. The arms’ pumping action 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.

• 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.

Examples of sets with KAATSU Aqua Bands

› 10 x 25 with a 20-second rest

› 10 x 50 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
Making Weight with KAATSU

Combative athletes who need to make their competitive weight classes augment their traditional training with KAATSU Training. In order to make their desired weight class, they do the following:

1. Conduct a standard workout followed by a standard KAATSU Training session.

2. Drink no more than 2 fluid ounces of water for every 10 minutes over a 90-minute period.

3. Resist the temptation to eat.

4. Eat moderately as normal during the rest of the day.
KAATSU Stretching

Applying SKU Pressure

› Manually tighten the KAATSU Air Bands to the appropriate Base SKU.

› Inflate the KAATSU Air Bands to the Optimal SKU.

› Strictly adhere to all KAATSU protocols.

Types of KAATSU Stretching

KAATSU Stretching can be done two different ways:

1. stretch while being tethered (connected) to the KAATSU equipment and using the KAATSU Cycle, or

2. stretch while being untethered (unconnected) to the KAATSU equipment and using the Optimal SKU pressure.

Important Points

› Older users or those individuals undergoing rehabilitation can simply stretch as the KAATSU Air Bands are inflated during the KAATSU Cycle mode and relax during the 5-second rest (deflated) intervals.

› These uses do not or cannot due to age or other ailments do the KAATSU 3-point Exercises because it is too stressful. For these users, stretching with the KAATSU Cycle is sufficiently effective.

› Conversely, younger or healthy KAATSU users can inflate to their Optimal SKU and stretch before and/or after their KAATSU workouts. Stretching with the inflated bands serves to help keep the muscles limber and avoid muscle hypertrophy that some individuals and endurance athletes do not want.

› Unlike KAATSU Training for muscle hypertrophy, KAATSU users who are stretching do not need to go to fatigue. They are simply stretching the muscles that are engorged in blood.
Multiple Users Simultaneously Doing KAATSU

Some KAATSU Specialists, trainers, therapists or coaches lead classes, teams or groups of KAATSU users where multiple users simultaneously do KAATSU.

Important Points

› Teach users to properly place the KAATSU Air Bands on their own arms and legs at their appropriate Base SKU and proper Optimal SKU pressures. This enables the KAATSU Specialist, trainer or coach to quickly inflate each user’s KAATSU Air Bands to their individual Optimal SKU.

› Require the users to know their proper Base SKU and Optimal SKU well. Users should always memorize their own Base SKU and Optimal SKU levels, especially how these levels can fluctuate from day to day. This enables the coach to quickly check their Base SKU and to inflate to the Optimal SKU.

› Teach and require users to frequently check their own Capillary Refill Time (CRT) throughout each session; athletes must always follow and understand KAATSU safety protocols.

› 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). Doing KAATSU among multiple users is more efficient because inflation time is significantly reduced with the KAATSU Master.

Use of Equipment

› If KAATSU Air Bands are shared among user, the users can be separated into 2 groups: users who use the KAATSU Arm Bands and users who use the KAATSU Leg Bands. Therefore, one set of Air Bands are be used simultaneously by 2 athletes.

› Encourage users to purchase their own KAATSU Air Bands. If the team or clinic or organization purchases a KAATSU Master or KAATSU Nano, the users can purchase and manage their own individual KAATSU Air Bands.

Protocols

1. Take time to set the appropriate Base SKU and identify the Optimal SKU with each user in individual sessions.
2. In a group setting, have the users put on the KAATSU Air Bands on their own limb.

3. Ask each user to check the Capillary Refill Time (CRT) of their teammate, co-worker or colleague in the Base SKU (non-inflated) and the Optimal SKU (inflated) modes.

4. Ask each user to continue checking their CRT during the KAATSU training session.

5. The KAATSU Specialist, trainer, coach or therapist can then inflate each user to their own individual Optimal SKU level.

6. After 15 minutes or when the KAATSU training is completed, the users can switch their arm bands for leg bands or vice versa.
Using KAATSU In A Hotel Room

General Guidelines

› Always be well hydrated before and during KAATSU.

› Always monitor physiological changes during KAATSU. Increase or decrease the pressure as necessary.

› Start with arms first and then do KAATSU on legs.

› Always start with Standard KAATSU Cycles (i.e., 8 cycles of 20 seconds of pressure on + 5 seconds of pressure off at sequentially increasing pressures).

› Always strictly follow KAATSU protocols (i.e., frequently check for Capillary Refill Time within 3 seconds and confirm no occlusion, no lightheadedness, and no whiteness or no numbness in the limbs).

› Color in hands, arms, legs and feet should remain either pink or a beefy red, but never blue, white or gray.

› Never simultaneously use the KAATSU arm bands and KAATSU leg bands.

› Do not exceed 20 minutes on the legs or 15 minutes on the arms.

› The veins in the limbs may become distended (i.e., pop out) during KAATSU Training.

› Users may feel a slight tingling in their fingers or toes during KAATSU Training. This is acceptable, but KAATSU should be immediately stopped if there is any occlusion, lightheadedness, or numbness or whiteness in the limbs.

Applying SKU Pressure

1. Manually tighten the KAATSU Air Bands to the appropriate Base SKU.

2. Inflate the KAATSU Air Bands to the Optimal SKU.

Possible Arm Exercises

› Do KAATSU Cycles while watching television or typing emails.

› Do KAATSU 3-point Exercises (i.e., Hand Clenches + Biceps Curls + Triceps Extensions). For more resistance, use filled-up water bottles with the Biceps Curls and Triceps Extensions.

› Push-ups or other body weight exercises, shoulder pressures with water bottles, or any exercises with resistance bands.
Stretches of various sorts or Shoulder Rolls and Neck Rotations

Possible Leg Exercises

- Do KAATSU Cycles while watching television or typing emails.
- Do KAATSU 3-point Exercises (i.e., Toes Curls + Toe Raises + Heel Raises or Leg Curls + Leg Extensions + Non-lock Squats).
- Push-ups, planks or other body weight exercises, shoulder pressures with water bottles, or any exercises with resistance bands.

Core and Lower Back Exercise #1

1. Stand on one foot, balancing only on one leg for as long as possible.
2. When balance is lost, rest for 10-20 seconds and repeat two more times.
3. After 3 times, balance on the other foot.

Core and Lower Back Exercise #2

1. Place a book on the head and walk slowly until the book falls off.
2. Rest 10-20 seconds and repeat the walk again two more times with the book on the head.

Core and Lower Back Exercise #3

1. Stand on one foot while holding a water bottle in each hand.
2. Hold the water bottle in outstretched arms and stand as long as possible on one leg.
3. When balance is lost, rest 10-20 seconds and repeat two more times.
4. After 3 times, balance on the other foot.
5. In order to make this exercise more difficult, move outstretched arms left and right, and up and down in an asymmetric manner while balancing on one foot.

Core and Lower Back Exercise #4

1. Lie on the back and slowly bring one leg one up to the stomach and hold. Grab knee with arms and stretch the back. Repeat as desired.
2. Continue to lie on the back and slowly pull both legs up to the stomach and hold. Grab knees with arms and stretch the back. Repeat as desired.

Core and Lower Back Exercise #5

1. Lie on the back and slowly lift the hips off the floor and hold. Bring hips to ground and repeat as desired.
Core and Lower Back #6 Exercise

1. Lie on the back and slowly lift both feet off the ground and hold. Repeat as desired.

2. Lie on the back, lift both feet off the ground, and kick the feet slightly off the ground. Repeat as desired.

Additional Opportunities in Hotels

> KAATSU equipment can be used with every exercise machine in a hotel fitness room—except the large dumbbells or heavy weights (e.g., spin on the stationary or recumbent exercise bicycles walk or run on the treadmills, use elliptical cross-trainers).
KAATSU In the Office and Work Cubicles

General Guidelines

› Always be well hydrated before and during KAATSU.

› Always monitor physiological changes during KAATSU. Increase or decrease the pressure as necessary.

› Ideally, start with the arms first and then do KAATSU on legs. However, KAATSU can be performed on only the arms or only the legs if desired.

› Always start with Standard KAATSU Cycles (i.e., 8 cycles of 20 seconds of pressure on + 5 seconds of pressure off at sequentially increasing pressures).

› Always strictly follow KAATSU protocols (i.e., frequently check for Capillary Refill Time within 3 seconds and no occlusion, no lightheadedness, and no whiteness or no numbness in the limbs).

› Color in hands, arms, legs and feet should remain either pink or a beefy red, but never blue, white or gray.

› Never simultaneously use the KAATSU arm bands and KAATSU leg bands.

› Do not exceed 20 minutes on the legs or 15 minutes on the arms.

Applying SKU Pressure

1. Manually tighten the KAATSU Air Bands to the appropriate Base SKU.

2. Inflate the KAATSU Air Bands to the Optimal SKU.

The veins in the limbs may become distended (i.e., pop out) during KAATSU Training.

Users may feel a slight tingling in their fingers or toes during KAATSU Training. This is acceptable, but KAATSU should be immediately stopped if there is any occlusion, lightheadedness, or numbness or whiteness in the limbs.

Arm Exercise Options

› Do KAATSU Cycles while talking on the telephone or typing emails.

› Do KAATSU 3-point Exercises (i.e., Hand Clenches + Biceps Curls + Triceps Extensions). For more resistance, use filled-up water bottles during the Biceps Curls and Triceps Extensions.

› Do push-ups against a chair or against the wall, shoulder pressures with water bottles, stretches of various sorts, or Shoulder Rolls and Neck Rotations.
Leg Exercise Options

> Do KAATSU Cycles while talking on the telephone, pacing in the office, or typing emails.

> Do KAATSU 3-point Exercises (i.e., Toes Curls + Toe Raises + Heel Raises or Leg Curls + Leg Extensions + Non-lock Squats).

> Place a book on the head and walk slowly until the book falls off. Repeat the walk again two more times with the book on the head.

> Stand on one foot, balancing only on one leg for as long as possible. When balance is lost, rest and repeat two more times. After 3 times, balance on the other foot. Hold water bottles to make this exercise more difficult. Move outstretched arms left and right, and up and down in an asymmetric manner to make this exercise even more difficult.
Doing KAATSU with Multiple Sclerosis

Individuals with multiple sclerosis (MS) can do KAATSU. Individuals with multiple sclerosis fatigue early, but are otherwise normal.

Important Points

- Perform exercises that are safe to do (e.g., to prevent falling off spinning bikes or slipping off Bozu balls).
- Rhythmically contract muscle mass distal to (below) the KAATSU Air Bands.
- Exercise the affected muscle mass to the extent the individual can, regardless if it is distal to the KAATSU Air Bands or not.
- Exercises with KAATSU Air Bands can include push-ups, leg squats, hip raises (on back), holding a weight ball and moving side to side, walking, or any kind of resistance training.
- Users should always be well hydrated and never feel numbness in the limbs or experience lightheadedness.
- Users should always have a rosy or pink KAATSU color in their limbs due to blood engorgement.
- As the user becomes stronger and more accustomed to KAATSU, they can handle higher pressures for longer periods, but the user should always start off conservatively. The body will acclimate well, but at the beginning, the user should always error on the side of lower pressures.

Regimen

1. Manually tighten the KAATSU Air Bands to the appropriate Base SKU.
2. Inflate the KAATSU Air Bands to the Optimal SKU.
3. First start with 1–2 KAATSU Cycles (i.e., 8 cycles of 20 seconds on + 5 seconds off in sequentially increasing pressure).
4. Do KAATSU 3-point Exercises (arms: Hand Clenches + Biceps Curls + Triceps Extensions or legs: Toe Curls + Toe Raises + Heel Raises or Sitting Leg Extensions + Standing Leg Curls + Non-lock Squats).
5. Do KAATSU Training using body weight exercises, resistance bands, myriad exercise equipment, stationary bicycles, treadmills, walking, stretching, mobility exercises, etc. This should be limited to 15 minutes on the arms and 20 minutes on the legs.
6. The number of repetitions should decrease with each subsequent set in KAATSU Training.
7. Users can do arms and legs during the same session, but the arms and legs should not be done simultaneously.

Frequency:
2-3 times per week minimum, but sometimes, greater frequency may lead to fatigue.
KAATSU for Soccer Players

Important Points

› Always be well hydrated before and during KAATSU.

› Always monitor physiological changes during KAATSU. Increase or decrease the pressure as necessary. SKU levels can vary slightly between KAATSU sessions.

› Users will be able to gradually tolerate increasingly higher pressures as they continue.

› Always follow KAATSU protocols (i.e., have check for Capillary Refill Time within 3 seconds and experience no occlusion or lightheadedness, or whiteness or numbness in the limbs)

› Color in the hands and arms should always be either pink or a beefy red.

› Never simultaneously use the KAATSU Air Bands on the arms and legs.

› Do not exceed 20 minutes on the legs or 15 minutes on the arms.

Regimen

1. Manually tighten the KAATSU Air Bands to the appropriate Base SKU.

2. Inflate the KAATSU Air Bands to the Optimal SKU.

3. Start with KAATSU Cycles.

The veins in the limbs may become distended (i.e., pop out) during KAATSU Training.

Users may feel a slight tingling in their fingers or toes during KAATSU Training. This is acceptable, but KAATSU should be immediately stopped if there is any occlusion, lightheadedness, or numbness or whiteness in the limbs.

Arm Exercises

› KAATSU 3-point Exercises (i.e., Hand Clenches + Biceps Curls + Triceps Extensions) performed to muscular failure.

› Body weight exercises, resistance exercises or other upper body exercise performed to muscular failure or technical failure.

Leg Exercises

› KAATSU 3-point Exercises (i.e., Heel Raises + Leg Curls + Non-lock Squats) performed to muscular failure.
› Body weight exercises, resistance exercises, band walks (sideways, forwards, backwards using resistance bands at ankles), lunges, step-ups/steps, split jumps, box jumps, or other lower body exercise performed at Optimal SKU to muscular failure or technical failure (including single- or double-leg movements).

› Jogging, running, sprinting at Optimal SKU.

› Juggling, passing, dribbling at Optimal SKU.

› Stretching.
KAATSU for Basketball Players

Important Points

› Always be well hydrated before and during KAATSU.

› Always monitor physiological changes during KAATSU. Increase or decrease the pressure as necessary. SKU levels can vary slightly between KAATSU sessions.

› Users will be able to gradually tolerate increasingly higher pressures as they continue

› Always follow KAATSU protocols (i.e., have check for Capillary Refill Time within 3 seconds and experience no occlusion or lightheadedness, or paleness or numbness in the limbs)

› Color in the hands and arms should always be either pink or a beefy red.

› Never simultaneously use the KAATSU Air Bands on the arms and legs.

› Do not exceed 20 minutes on the legs or 15 minutes on the arms.

› The veins in the limbs may become distended (i.e., pop out) during KAATSU Training.

› Users may feel a slight tingling in their fingers or toes during KAATSU Training.

This is acceptable, but KAATSU should be immediately stopped if there is any occlusion, lightheadedness, or numbness or whiteness in the limbs.

Regimen:

1. Manually tighten the KAATSU Air Bands to the appropriate Base SKU.

2. Inflate the KAATSU Air Bands to the Optimal SKU.

3. Start with KAATSU Cycles.

Arm Exercises

› KAATSU 3-point Exercises (i.e., Hand Clenches + Biceps Curls + Triceps Extensions) performed to muscular failure.

› Body weight exercises, resistance exercises, shooting, passing, dribbling, or other upper body exercise performed to muscular failure or technical failure.

Leg Exercises

› KAATSU 3-point Exercises (i.e., Heel Raises + Leg Curls + Non-lock Squats) performed to muscular failure.
> Body weight exercises, resistance exercises, band walks (sideways, forwards, backwards using resistance bands at ankles), lunges, step-ups/steps, split jumps, box jumps, or other lower body exercise performed at Optimal SKU to muscular failure or technical failure (including single- or double-leg movements).

> Jogging, running, sprinting, or agility drills at Optimal SKU.

> Shooting, passing, dribbling, or rebounding at Optimal SKU.

> Stretching.
KAATSU Golf

General Guidelines

> Keep rest short between sets and between exercises. Rest 20 seconds maximum between sets or 60 seconds maximum between exercises. This can be modified as necessary.

> Select exercises, movements or loads that allow performance of a good number of repetitions (e.g., 30–40 in first set, 20–30 in the second set, >15 in the third set).

> Do 3 sets of each exercise and then continue next 3 sets with a different exercise.

> Reach maximum effort (or go to muscular or technical failure) within each set.

> Always remain well hydrated before and during the entire KAATSU session.

> Always start with standard KAATSU CYCLE 20 (i.e., 8 cycles of 20 seconds pressure on + 5 seconds pressure off with sequentially increasing pressure).

> Conduct movements slowly, steadily and with good range of motion. However, if doing golf swings, swing at the normal speed.

> Never push joints or limbs to the point of pain.

> Always follow KAATSU protocols (i.e., have Capillary Refill Time within 3 seconds with no occlusion or lightheadedness, and no paleness or no numbness in limbs).

> Immediately release and remove KAATSU Air Bands if there is any numbness or lightheadedness, or the skin color becomes pale or white. Lie down with the legs elevated if necessary.

> First start KAATSU on the arms and then do KAATSU on the legs.

> Never simultaneously put on or use the KAATSU Air Bands on the arms and legs.

> Do not exceed 15 minutes of KAATSU on the arms or 20 minutes on the legs.

> Frequently check your CRT (i.e., Capillary Refill Time). Confirm that the color of the limbs remains either pink or beefy red.

> The veins may be distended (i.e., popping out) during KAATSU Golf.

> Users may feel a slight tingling in their fingers or toes during KAATSU Golf.
KAATSU should be implemented with the understanding of the user’s physician.

How To Start

1. Turn on KAATSU GOLF by holding down the POWER ON button for 2–3 seconds until it comes on.

2. Select the preferred level of KAATSU CYCLE (i.e., #1–5)

3. Put the white connector tubes on the black KAATSU Air Bands. Make sure to hear a “click” when attaching the connectors to the KAATSU Air Bands.

4. Place the KAATSU Air Bands on the upper arms, above the biceps and below the deltoids, near the armpits. The KAATSU Air Bands should be placed snugly so a finger cannot be easily slipped under the bands when it is against the skin.

5. The palms of the hands should start turning pink or even a redness. The KAATSU Air Bands are on too tight if the hands turn white, gray and blue or you feel numbness.

6. If the KAATSU Air Bands are on too tight, the Capillary Refill Time (CRT) will be longer than 3 seconds. In this case, loosen the KAATSU Air Bands on the arms.

7. To check the CRT, firmly press the thumb into the palms of both hands and release. The temporary white spot on the palms should quickly fill back with blood and turn pink (or red).

8. After the KAATSU Air Bands are on snugly, click on CHECK SKU.

9. Look at the real-time blue numbers that should be between 10–50 SKU depending on the user’s age and condition.

10. The numbers on the left and numbers on the right should be within 5 SKU of each other.

11. Press CONTINUE.

12. Press SET BOTH SKU. Input the user’s Optimal SKU and press ENTER.

13. Always confirm that the user’s CRT remains below 3 seconds.

14. Press CYCLE.

15. The KAATSU equipment will automatically go through 8 cycles of 20 seconds of pressure followed by 5 seconds of no pressure in sequentially higher SKU pressures.

16. Repeat as desired to 15 minutes doing stretching or strength-training exercises or taking swings.

Arm Workout Protocols

1. Properly place the deflated KAATSU Air Bands around the upper arms. Then
check SKU levels and confirm the proper CRT (Capillary Refill Time or less than 3 seconds).

2. Start with the KAATSU Cycle 20 (i.e., 8 cycles of 20 seconds on followed by 5 seconds off at increasingly higher SKU levels) at the appropriate Base SKU and Optimal SKU.

- Base SKU can vary between 10-30 SKU depending on the age and condition of the user.
- The user can stretch or do simple motions during the CYCLE as they wish.

3. Stretch or do 3 sets of the KAATSU 3-point Exercises (i.e., 3 sets of Hand Clenches + 3 sets of Biceps Curls + 3 sets of Triceps Extensions).

- Rest while there is the KAATSU Air Bands are deflated.
- Move while the KAATSU Air Bands are inflated.

Leg Workout Protocols

1. Properly place the deflated KAATSU Air Bands around the upper legs. Then check SKU levels and confirm the proper CPR (Capillary Refill Time or less than 3 seconds).

2. Start with the appropriate KAATSU Cycle level.

- Base SKU can vary depending on how the user feels or their condition.
- Users can do muscle contractions or perform simple motions during the KAATSU Cycle as they wish.
- Higher SKU levels are usually tolerable on the legs compared to the arms in most cases.

Sample KAATSU GOLF Exercises

- Place the club over the shoulders and twist left and right slowly and steadily at the hips, either with KAATSU Air Bands on the arms or the legs).
- Use the club to do shoulder presses or other rotating shoulder exercises with KAATSU Air Bands on the arms.
- Stretch legs, back and sides with the KAATSU Air Bands on the legs.
- Do Non-lock Squats, forward Leg Lunges and/or Heel raises with the KAATSU Air Bands on the legs.
- Do Biceps Curls and/or Triceps Extensions holding the club with the KAATSU Air Bands on the arms.
> Take golf swings with the KAATSU Air Bands on either the arms or the legs.

> Do balancing drills with the KAATSU Air Bands on the legs.

> Perform a variety of stretching exercises with the KAATSU Air Bands on either the arms or the legs.
KAATSU Atrophy Avoidance

General Guidelines

› Keep rest short between sets and between exercises. Rest 20 seconds maximum between sets or 60 seconds maximum between exercises. This can be modified as necessary.

› Select exercises, movements or loads that allow performance of a good number of repetitions (e.g., 30–40 in first set, 20–30 in the second set, >15 in the third set).

› Do 3 sets of each exercise and then continue next 3 sets with a different exercise.

› Reach maximum effort (or go to muscular or technical failure) within each set.

› Always remain well hydrated before and during the entire KAATSU session.

› Always start with the KAATSU Cycle (i.e., 8 cycles of 20 seconds pressure on + 5 seconds pressure off with sequentially increasing pressure).

› Conduct movements slowly, steadily and with good range of motion.

› Never push joints or limbs to the point of pain.

› Always follow KAATSU protocols (i.e., have Capillary Refill Time within 3 seconds with no occlusion or lightheadedness, and no paleness or no numbness in limbs).

› Immediately release and remove KAATSU Air Bands if there is any numbness or lightheadedness, or the skin color becomes pale or white. Lie down with the legs elevated if necessary.

› First start KAATSU on the arms and then do KAATSU on the legs.

› Never simultaneously put on or use the KAATSU Air Bands on the arms and legs.

› Do not exceed 15 minutes of KAATSU on the arms or 20 minutes on the legs.

› Frequently check your Capillary Refill Time and confirm that the color of the limbs remains either pink or beefy red.

› The veins may be distended (i.e., popping out) during KAATSU.

› Users may feel a slight tingling in their fingers or toes during KAATSU.

› KAATSU should be implemented with the understanding of your physician or physical therapist and can be incorporated with your physical therapy.

› Continue to use both standard exercise equipment and cutting-edge products
such as Alter G treadmill; this will augment the benefits of KAATSU.

How To Start

1. Turn on the KAATSU Master by holding down the POWER ON button for 3 seconds until it comes on.

2. Press KAATSU CYCLE.

3. Place the white connector tubes on the black KAATSU Air Bands. Make sure to hear a “click” when attaching the connectors to the bands.

4. Place the KAATSU Air Bands on the upper arms, above the biceps and below the deltoids/shoulders, near the armpit. The KAATSU Air Bands should be placed snugly so a finger cannot be easily slipped under the bands when it is against the skin.

5. The palms of the hands should start turning pink or red when the KAATSU Air Bands are snugly put on. The KAATSU Air Bands are on too tight if the hands feel numb or turn white, gray and blue.

6. If the KAATSU Air Bands are on too tight, the Capillary Refill Time (CRT) will be longer than 3 seconds. In this case, loosen the KAATSU Air Bands on the arms. To check your CRT, firmly press the thumb into the palms of both hands and release. The temporary white spot on the palms should quickly fill back with blood and turn pink (or red).

7. After the bands are on snugly, click on CHECK SKU.

8. Look at the real-time blue numbers that should be between 10–50 SKU depending on the user’s age and condition.

9. The numbers on the left and numbers on the right should ideally be within 5 SKU of each other.

10. Press CONTINUE.

11. Press SET BOTH SKU. Input the Optimal SKU and press ENTER.

12. Always confirm that the user’s CRT remains below 3 seconds.

13. Press FULL CYCLE.

14. The KAATSU Cycle mode will automatically proceed through 8 cycles of 20 seconds of pressure followed by 5 seconds of no pressure.

15. Repeat this KAATSU FULL CYCLE 2–3 times as desired.

16. Continue to KAATSU TRAINING.

17. Press CONTINUE

18. If the user’s SKU level is appropriate, then press KAATSU to begin KAATSU Training.
19. If the user’s SKU level to too low or too high, then press SET BOTH SKU to reset to an appropriate pressure.

20. Limit KAATSU Training to 15 minutes maximum on the arms and 20 minutes maximum on the legs.

Always be well hydrated and never feel lightheadedness or numbness or have a skin tone that is pale while doing KAATSU.

Arm Workout Protocols to Maintaining Strength

1. Properly place the deflated KAATSU Air Bands around the upper arms. Then check SKU levels and confirm the proper CRT (Capillary Refill Time).

2. Start with the KAATSU Cycle (i.e., 8 cycles of 20 seconds on followed by 5 seconds off at increasingly higher SKU levels) at the appropriate Base SKU and Optimal SKU.

   · Do either the KAATSU 3-point Exercises, stretch or do simple motions during the KAATSU Cycle.

3. Repeat the KAATSU Cycle mode as desired.

   · The entire KAATSU session can utilize the KAATSU Cycle mode in the beginning. KAATSU Training can begin as desired.

4. Do 3 sets of each of the KAATSU 3-point exercises at the Optimal SKU (i.e., Hand Clenches + Biceps Curls + Triceps Extensions).

   · Use Hand Grips or squeeze balls to perform Hand Clenches to muscular failure if necessary.

   · Aim for 30+ repetitions of Hand Clenches on the first set. Rest 20 seconds maximum.

   · Aim for 20+ repetitions of Hand Clenches on the second set. Rest 20 seconds maximum.

   · Aim for 10+ repetitions of Hand Clenches on the third set. Rest 20–60 seconds maximum.

   · The user can use water bottles or light weights while doing the Biceps Curls slowly and steadily as desired.

   · At the top of the Biceps Curls, momentarily squeeze/contract the biceps and then release as the hands fall slowly to the waist.

   · Aim for 20+ repetitions of the Biceps Curls on the second set. Rest 20 seconds maximum.

   · Aim for 10+ repetitions of the Biceps Curls on the third set. Rest 20–60 seconds maximum.
· Aim for 30+ repetitions of Triceps Extensions on the first set. Rest 20 seconds maximum.

· The user can use light loads or resistance while doing the Triceps Extensions slowly and steadily as desired.

· Muscular failure should come fairly easily during the Triceps Extensions if the SKU levels are appropriate.

· Aim for 20+ repetitions of the Triceps Extensions on the second set. Rest 20 seconds maximum.

· Aim for 10+ repetitions of the Triceps Extensions on the third set. Rest 20–60 seconds maximum.

5. Remove the KAATSU Arm Bands and place on the KAATSU Leg Bands.

If the user can do over 60 repetitions before reaching failure on the first steps, then the Base SKU and Optimal SKU levels are too low. In this case, increase the Base SKU and/or Optimal SKU so ideally the number of repetitions on the first set is 30–40 repetitions before muscular failure.

Always go slow and steady in order to avoid muscle atrophy.

Leg Protocols to Maintain Strength

1. Properly place the deflated KAATSU Air Bands around the upper legs. Then check SKU levels and confirm the proper CPR (Capillary Refill Time) on the quadriceps.

2. Start with the KAATSU Cycle (i.e., 8 cycles of 20 seconds on followed by 5 seconds off) at the appropriate Base SKU and Optimal SKU.

   · The Base SKU can vary depending on how the user feels.

   · The user can do muscle contractions or simple motions during the KAATSU Cycle as desired.

   · Higher SKU levels are usually tolerable on the legs compared to the arms in most cases.

3. Repeat the KAATSU Cycle 2–3 times as desired.

4. Users can do normal leg rehabilitation exercises, but they should not do anything that hurts or damages the injured area. Make sure to do 3 sets focusing on one particular muscle group (e.g., 3 sets of leg raises with ankle weights).

   · Alternatively, the user can do 3 sets of each of the KAATSU 3-point exercises at the Optimal SKU (i.e., Toe Curls, Toe Raises, Heel Raises or Leg Curls, Leg Extensions, Leg Lunges, Non-lock Squats).

5. Do either KAATSU Cycle 60 or KAATSU Training.
• If the user does KAATSU Cycle 60, place the highest SKU level they can safely withstand. Continue this pressure for 60 seconds. Then rest for 20 seconds and repeat. Repeat 60 seconds of pressure on followed by 20 seconds of no pressure for 3–5 times.

• If the user does KAATSU Training, they can rehabilitate as they wish for 5–15 minutes with the KAATSU Leg Bands on.
KAATSU for A Sore or Painful Back

General Guidelines

› Keep rest short between sets and between exercises. Rest 20 seconds maximum between sets or 60 seconds maximum between exercises. This can be modified as necessary.

› Select exercises, movements or loads that allow performance of a good number of repetitions (e.g., 30-40 in first set, 20-30 in the second set, >15 in the third set).

› Do 3 sets of each exercise and then continue next 3 sets with a different exercise.

› Reach maximum effort (or go to muscular or technical failure) within each set.

› Always remain well hydrated before and during the entire KAATSU session.

› Always start with the KAATSU Cycle (i.e., 8 cycles of 20 seconds pressure on + 5 seconds pressure off with sequentially increasing pressure) on the arms and then do KAATSU Cycle on the legs.

› Conduct movements slowly, steadily and with good range of motion.

› Never push joints or limbs to the point of pain.

› Always follow KAATSU protocols (i.e., have Capillary Refill Time within 3 seconds with no occlusion or lightheadedness, and no paleness or no numbness in limbs).

› Immediately release and remove KAATSU Air Bands if there is any numbness or lightheadedness, or the skin color becomes pale or white. Lie down with the legs elevated if necessary.

› First start KAATSU on the arms and then do KAATSU on the legs.

› Never simultaneously put on or use the KAATSU Air Bands on the arms and legs.

› Do not exceed 15 minutes of KAATSU on the arms or 20 minutes on the legs.

› Frequently check your Capillary Refill Time and confirm that the color of the limbs remains either pink or beefy red.

› The veins may be distended (i.e., popping out) during KAATSU.

› Users may feel a slight tingling in their fingers or toes during KAATSU.

› KAATSU should be implemented with the understanding of your physician or physical therapist and can be incorporated with your physical therapy.
> Continue to use both standard exercise equipment and cutting-edge products such as Alter G treadmill; this will augment the benefits of KAATSU.

Protocols

1. Start with the KAATSU Cycle on the arms at the appropriate Base SKU and Optimal SKU.

2. Do 3 sets of the KAATSU 3-point Exercises at the Optimal SKU (Hand Clenches + Biceps Curls + Triceps Extensions).

3. Remove KAATSU Air Bands on the arms and place on the legs

4. Do the KAATSU Cycle on the legs at the appropriate Base SKU and Optimal SKU.

5. Users can do muscle contractions or simple motions during the KAATSU Cycle as desired.

6. Higher SKU levels are usually tolerable on the legs compared to the arms in most cases.

7. Do 3 sets of KAATSU 3-point Exercises at the Optimal SKU including (1) simple muscle contraction of upper leg, Toe Curls, Toe Raises, Heel Raises, Standing Leg Curls, Sitting Leg Extensions, Non-lock Squats depending on the extent of the back pain or soreness.

Alternative Exercises

> User can walk for 5-15 minutes with the KAATSU Air Bands on legs at the appropriate Base SKU and Optimal SKU.

> Lie on the back with KAATSU Air Bands on legs. Slowly bring one leg one up to the stomach and hold. Grab knee with arms and stretch the back. Repeat as desired.

> Continue to lie on the back and slowly pull both legs up to the stomach and hold. Grab knees with arms and stretch the back. Repeat as desired.

> Stand up straight and try to elongate the body. Repeat as desired.
KAATSU to Recover from a Hamstring Pull

General Guidelines

› Keep rest short between sets and between exercises. Rest 20 seconds maximum between sets or 60 seconds maximum between exercises. This can be modified as necessary.

› Select exercises, movements or loads that allow performance of a good number of repetitions (e.g., 30–40 in first set, 20–30 in the second set, >15 in the third set).

› Do 3 sets of each exercise and then continue next 3 sets with a different exercise.

› Reach maximum effort (or go to muscular or technical failure) within each set.

› Always remain well hydrated before and during the entire KAATSU session.

› Always start with the KAATSU Cycle (i.e., 8 cycles of 20 seconds pressure on + 5 seconds pressure off with sequentially increasing pressure) on the arms and then do KAATSU Cycle on the legs.

› Conduct movements slowly, steadily and with good range of motion.

› Never push joints or limbs to the point of pain.

› Always follow KAATSU protocols (i.e., have Capillary Refill Time within 3 seconds with no occlusion or lightheadedness, and no paleness or no numbness in limbs).

› Immediately release and remove KAATSU Air Bands if there is any numbness or lightheadedness, or the skin color becomes pale or white. Lie down with the legs elevated if necessary.

› First start KAATSU on the arms and then do KAATSU on the legs.

› Never simultaneously put on or use the KAATSU Air Bands on the arms and legs.

› Do not exceed 15 minutes of KAATSU on the arms or 20 minutes on the legs.

› Frequently check your Capillary Refill Time and confirm that the color of the limbs remains either pink or beefy red.

› The veins may be distended (i.e., popping out) during KAATSU.

› Users may feel a slight tingling in their fingers or toes during KAATSU.

› KAATSU should be implemented with the understanding of your physician or physical therapist and can be incorporated with your physical therapy.
 › Continue to use both standard exercise equipment and cutting-edge products such as Alter G treadmill; this will augment the benefits of KAATSU.

Protocols

1. Start with the KAATSU Cycle on the arms at the appropriate Base SKU and Optimal SKU.

2. Do 3 sets of the KAATSU 3-point Exercises at the Optimal SKU (Hand Clenches + Biceps Curls + Triceps Extensions).

3. Remove KAATSU Air Bands on the arms and place on the legs.

4. Do KAATSU Cycles on the legs at the appropriate Base SKU and Optimal SKU.

5. Users can do muscle contractions or simple motions during the KAATSU Cycle as desired.

6. Higher SKU levels are usually tolerable on the legs compared to the arms in most cases.

7. Do 3 sets of KAATSU 3–point Exercises at the Optimal SKU including (1) simple muscle contraction of upper leg, Toe Curls, Toe Raises, Heel Raises, Standing Leg Curls, Sitting Leg Extensions, Non-lock Squats depending on the extent of the hamstring pain or soreness.

Alternative Exercises

 › User can walk for 5–15 minutes with the KAATSU Air Bands on legs at the appropriate Base SKU and Optimal SKU.

 › Lie on the back with KAATSU Air Bands on legs. Slowly bring one leg one up to the stomach and hold. Grab knee with arms and stretch the back. Repeat as desired.

 › Continue to lie on the back and slowly pull both legs up to the stomach and hold. Grab knees with arms and stretch the back. Repeat as desired.

 › Stand up straight and try to elongate the body. Repeat as desired.

Cycle 60

 › If no movement is possible, then repeat KAATSU Cycle 20 or attempt KAATSU Cycle 40 or KAATSU Cycle 60.

 › If no movement is possible, then the entire leg workout can utilize the KAATSU Cycle 20 (plus the Cycle 40 or Cycle 60 mode).

 › KAATSU Cycle 40 mode is 8 cycles of 40 seconds on followed by 10 seconds off at the Optimal SKU.

 › KAATSU Cycle 60 mode is 8 cycles of 60 seconds on followed by 20 seconds off at the Optimal SKU.
> If only one leg is capable of movement, then the user can modify the exercises as desired or required (e.g., do one-leg squats), but the inflated leg bands should be on both legs.
KAATSU for Cross Country Skiing or Running

General Guidelines

› Keep rest short between sets and between exercises. Rest 20 seconds maximum between sets or 60 seconds maximum between exercises. This can be modified as necessary.

› Select exercises, movements or loads that allow performance of a good number of repetitions (e.g., 30–40 in first set, 20–30 in the second set, >15 in the third set).

› Do 3 sets of each exercise and then continue next 3 sets with a different exercise.

› Reach maximum effort (or go to muscular or technical failure) within each set.

› Always remain well hydrated before and during the entire KAATSU session.

› Always start with KAATSU Cycle on the arms and then do KAATSU Cycle on the legs.

› Always follow KAATSU protocols (i.e., have Capillary Refill Time within 3 seconds with no occlusion or lightheadedness, and no paleness or no numbness in limbs).

› Immediately release and remove KAATSU Air Bands if there is any numbness or lightheadedness, or the skin color becomes pale or white. Lie down with the legs elevated if necessary.

› First start KAATSU on the arms and then do KAATSU on the legs.

› Never simultaneously put on or use the KAATSU Air Bands on the arms and legs.

› Do not exceed 15 minutes of KAATSU on the arms or 20 minutes on the legs.

› Frequently check your Capillary Refill Time and confirm that the color of the limbs remains either pink or beefy red.

› The veins may be distended (i.e., popping out) during KAATSU.

› Users may feel a slight tingling in their fingers or toes during KAATSU.

› KAATSU should be implemented with the understanding of your physician or physical therapist and can be incorporated with the user’s physical therapy.

› Continue to use both standard exercise equipment and cutting-edge products such as Alter G treadmill; this will augment the benefits of KAATSU.

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> KAATSU can be used slightly differently during off-season training, pre-season training, in-season training, and the championship season.

> KAATSU Training can be used for the final 10–20 minutes of workouts to closely replicate the physiological and psychological stress that is experienced in a hard competition.

**Stamina Protocols**

> Users can start at their appropriate Base SKU and 50% of their optimal SKU. Ask the athlete to do a certain distance (e.g., between 45 to 120 seconds). If they cannot make the distance, then lower the Optimal SKU. If they can make the distance, then increase the pressure to 55% or 60% of Optimal SKU.

> On every subsequent interval, they will reach failure sooner.

> Over the season, the users can adapt and withstand a higher and higher percentage of their optimal SKU.

> Leave the longer distance training for non-KAATSU workouts. Focus on KAATSU when the athlete is working on intervals, pacing and sprinting at the end of a race or for going uphill.
KAATSU for Track and Field Athletes

General Guidelines

› Keep rest short between sets and between exercises. Rest 20 seconds maximum between sets or 60 seconds maximum between exercises. This can be modified as necessary.

› Select exercises, movements or loads that allow performance of a good number of repetitions (e.g., 30–40 in first set, 20–30 in the second set, >15 in the third set).

› Do 3 sets of each exercise and then continue next 3 sets with a different exercise.

› Reach maximum effort (or go to muscular or technical failure) within each set.

› Always remain well hydrated before and during the entire KAATSU session.

› Always start with KAATSU Cycle on the arms and then do KAATSU Cycle on the legs.

› Always follow KAATSU protocols (i.e., have Capillary Refill Time within 3 seconds with no occlusion or lightheadedness, and no paleness or no numbness in limbs).

› Immediately release and remove KAATSU Air Bands if there is any numbness or lightheadedness, or the skin color becomes pale or white. Lie down with the legs elevated if necessary.

› First start KAATSU on the arms and then do KAATSU on the legs.

› Never simultaneously put on or use the KAATSU Air Bands on the arms and legs.

› Do not exceed 15 minutes of KAATSU on the arms or 20 minutes on the legs.

› Frequently check your Capillary Refill Time and confirm that the color of the limbs remains either pink or beefy red.

› The veins may be distended (i.e., popping out) during KAATSU.

› Users may feel a slight tingling in their fingers or toes during KAATSU.

› KAATSU should be implemented with the understanding of your physician or physical therapist and can be incorporated with your physical therapy.

› Continue to use both standard exercise equipment and cutting-edge products such as Alter G treadmill; this will augment the benefits of KAATSU.
KAATSU can be used slightly differently during off-season training, pre-season training, in-season training, and the championship season.

KAATSU Training can be used for the final 10–20 minutes of workouts to closely replicate the physiological and psychological stress that is experienced in a hard competition.

Use of KAATSU by Sprinters (100m, 200m, 400m runners and hurdlers)

- Pre-workout warm-up & stretching with KAATSU Cycle mode
- Post-workout cool-down/recovery with KAATSU Cycle mode
- Practice starts in the KAATSU Training mode (going to technical failure—not muscular failure)
- Strength training in the KAATSU Training mode (going to muscular failure)
- Slow, warm-up pace runs at 60–70% of Optimal SKU under KAATSU Training mode
- Rehabilitation as necessary, including use of KAATSU Aqua in aqua-therapy sessions
- Recovery after hard workouts, including post-workout KAATSU Cycles

Use of KAATSU by Throwers (hammer thrower, discus thrower, shot putters)

- Pre-workout warm-up & stretching with KAATSU Cycle
- Post-workout cool-down or rehabilitation with KAATSU Cycle
- Spins (throws) in KAATSU Training mode (going to technical failure—not muscular failure)
- Strength training at Optimal SKU under KAATSU Training mode (going to muscular or technical failure)
- Rehabilitation as necessary, including use of KAATSU Aqua in aqua-therapy sessions
- Recovery after hard workouts, including post-workout KAATSU Cycles

Use of KAATSU by Distance Runners (3000m, 5000m, 10,000m, marathon runners)

- Pre-workout warm-up & stretching with KAATSU Cycle
- Training runs at 60–70% of Optimal SKU under KAATSU Training mode. Run until muscular or technical failure. Physiology adapts and performance improves as vascular elasticity improves.
› Rehabilitation as necessary, including use of KAATSU Aqua in aqua-therapy sessions.

› Recovery after hard workouts, including post-workout KAATSU Cycles.
KAATSU for Muscle, Bone, Ligament, and Tendon Recovery

General Guidelines

› Keep rest short between sets and between exercises. Rest 20 seconds maximum between sets or 60 seconds maximum between exercises. This can be modified as necessary.

› Select exercises, movements or loads that allow performance of a good number of repetitions (e.g., 30–40 in first set, 20–30 in the second set, >15 in the third set).

› Do 3 sets of each exercise and then continue next 3 sets with a different exercise.

› Reach maximum effort (or go to muscular or technical failure) within each set.

› Always remain well hydrated before and during the entire KAATSU session.

› Always start with KAATSU Cycle on the arms and then do KAATSU Cycle on the legs.

› Always follow KAATSU protocols (i.e., have Capillary Refill Time within 3 seconds with no occlusion or lightheadedness, and no paleness or no numbness in limbs).

› Immediately release and remove KAATSU Air Bands if there is any numbness or lightheadedness, or the skin color becomes pale or white. Lie down with the legs elevated if necessary.

› First start KAATSU on the arms and then do KAATSU on the legs.

› Never simultaneously put on or use the KAATSU Air Bands on the arms and legs.

› Do not exceed 15 minutes of KAATSU on the arms or 20 minutes on the legs.

› Frequently check your Capillary Refill Time and confirm that the color of the limbs remains either pink or beefy red.

› The veins may be distended (i.e., popping out) during KAATSU.

› Users may feel a slight tingling in their fingers or toes during KAATSU.

› KAATSU should be implemented with the understanding of your physician or physical therapist and can be incorporated with the user’s physical therapy.

Protocols

› Do KAATSU Cycle 20 at the appropriate Base SKU and Optimal SKU.
> Do KAATSU Cycle 60 on the appropriate Base SKU and Optimal SKU on the injured limbs, legs.

  • KAATSU Cycle 60 mode is 8 cycles of 60 seconds on followed by 20 seconds off at the Optimal SKU.

  > Users can do muscle contractions or simple motions during the KAATSU Cycle 20 and Cycle 60 as desired.

  > Higher SKU levels are usually tolerable on the legs compared to the arms in most cases.
What Do Growth Hormones Do?

KAATSU Training is a catalyst that leads to the secretion of a significant amount of growth hormone. The release of growth hormone after KAATSU Training leads to an anabolic cascade that influences the growth and maintenance of target tissues. It is said that growth hormone slows the natural aging process and has a wide variety of positive effects.

Advantages

› Increases skin elasticity
› Enhance immune function
› Reduce fat
› Increase bone density
› Improve exercise capacity
› Reduce recovery time from injury or surgery
› Increase in muscular strength
› Increase in muscular size
› Repair of muscle tears
› Repair of ligament tears
› Optimized metabolism
Simultaneous Activation of Both Slow Twitch and Fast Twitch Muscles

Of the various types of muscle fibers in the human body, slow twitch muscle fibers and fast twitch muscle fibers are the best-known classifications among athletes and the general public.

With KAATSU equipment, the amount of oxygen supplied to the working muscles in the limbs is reduced. As a result, fast twitch muscles are activated earlier compared to normal conditions.

Characteristics of Slow Twitch Muscle Fibers

Slow twitch muscle fibers are activated for endurance with a low load exercise like walking. These fibers do not become larger even if they are trained. The fibers require prolonged training to strengthen and are energized by an enzyme in the body. It uses oxygen and fat in the body as energy.

Characteristics of Fast Twitch Muscle Fibers

Fast twitch muscle fibers are activated for instantaneous power when a heavy load is imposed on the body. These fibers get larger when trained. The fibers fatigue easily and cannot be used for sustained exercise. It uses sugar in the body as energy.

Process

1. Slow twitch muscle fibers are activated soon after KAATSU Training begins.

2. Since blood flow is modified, oxygen, which slow twitch muscles need to function, runs short in early stages of KAATSU Training.

   This condition, equivalent to exercise with a heavy load, is created with KAATSU Training.

3. Fast twitch muscle fibers start to activate under this condition even if there is not a heavy load being used.

4. This leads to a simultaneous stress on both the slow twitch and fast twitch muscles because the slow twitch muscles do not receive sufficient oxygen.

5. When all the multiple working muscles are fatigued in early stages, lactic acid is produced in large volume.

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6. Lactic acid stimulates receptors in the muscles that results in signals sent to the pituitary gland that subsequently results in the secretion of a significant amount of growth hormone that peaks approximately 15 minutes after KAATSU Training is completed.