

KAATSU®



**KAATSU
MAGAZINE
VOLUME 2: ISSUE 5**



KAATSU BABY BOOMER

E D I T I O N

CONTENTS

4



**KAATSU
TO OFFSET
SARCOPENIA**

8



**THE RADICAL
RECONDITIONING
OF BABY BOOMERS**

11

**DOING KAATSU
WITH CANCER**

13



**SLIMMING YOUR
LEGS WITH KAATSU**

17

**RELIEVING
BACK PAIN,
STRENGTHENING THE
BACK WITH KAATSU**

20

**HOW DO I USE MY
KAATSU CYCLE 2.0
FOR MY LEGS AND
CORE?**

25

**HOW DO I USE MY
KAATSU CYCLE 2.0
FOR MY ARMS?**

26

**USING MASIMO
MIGHTYSAT™
FINGER PULSE
OXIMETER WITH THE
KAATSU CYCLE 2.0**

29

**KAATSU
SPECIALIST SERIES:
INTRODUCTION TO
THE KAATSU CYCLE**

38

**KAATSU SPECIALIST
SERIES: MUCH MORE
THAN MUSCLES**

43

**KAATSU INTERVIEW
ON SUPER HUMAN
RADIO**

59

**KAATSU ANKLE
SPRAIN PROTOCOL**

61

**PAST, PRESENT
AND FUTURE OF
KAATSU**

67

SWIMMING HELPED ME SURVIVE, KAATSU HELPED ME TO THRIVE

THE LETTER FROM THE EDITOR



KAATSU WAS INVENTED in 1966 and the KAATSU Cycle was conceived in 1973 by Dr. Yoshiaki Sato. While the overall online impression of KAATSU is apparently focused on muscle building, Dr. Sato always envisioned KAATSU to be a revolutionary way to maintain health and wellness throughout one's lifetime.

Dial forward to 2020 and myriad applications of KAATSU are becoming more widely known and accepted. In fact, most of KAATSU users around the world, but especially in Japan and the United States, are people over the age of 50 with many users in their 80's and 90's and a wonderfully enthusiastic user of 104 years.

This KAATSU Magazine is all about uses, applications and protocols that are ideal for people over the age of 50.

While these Baby Boomers can enjoy and benefit from these applications of KAATSU, so do younger Olympic, professional, collegiate and high school athletes and special operators in the U.S. military, from Navy SEALs to Army Rangers and Green Berets.

Any and all of these applications can be performed with the next-generation KAATSU Master 2.0 or KAATSU Cycle 2.0 or the first generation KAATSU Nano.

Enjoy.

Steven Munatones

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

KAATSU TO OFFSET SARCOPENIA

KAATSU inventor Professor Sir Dr. Yoshiaki Sato, M.D., Ph.D. and University of Tokyo Hospital cardiologist Toshiaki Nakajima, M.D., Ph.D. determined the optimal means to prevent sarcopenia using KAATSU.



Sarcopenia is the loss of muscle mass and is a major problem especially among older individuals.

Among both males and females, muscle strength decreases with age and muscle volume quickly decreases (0.45 kg per year) as individuals age past 50 years old. That is, fast twitch muscle fiber decreases on average to 50% by the age of 80 years.

To prevent it, physicians and physiologists

understand that high-intensity resistance exercise (e.g., weight training or body weight exercises) is required. But this type of training is usually not possible - or desired - by the elderly.

But with KAATSU, individuals up to the age of 104 [see below] can perform low-load or no-load, non-impact exercise with KAATSU equipment following the KAATSU Cycle modality to induce muscle

hypertrophy and strengthen muscle even with short-term, low-intensity exercise. With the KAATSU Air Bands or KAATSU Aqua Bands, the KAATSU no-load, non-impact exercise physiologically and safely equals high-intensity, high-load training. In both



cases (KAATSU and high-intensity, high-load training) the muscle and brain are stimulated to induce muscle hypertrophy and strength including fast twitch muscle fibers.

Elderly KAATSU users are strongly recommended to use repeated (3-6) KAATSU Cycles on first their arms and then subsequently on their legs. Ideally, this is done sometime in the morning or afternoon. Users can then do a few KAATSU Cycles on either their arms and/or legs during the evening hours, optimally less than hour before bedtime.

The KAATSU Master 2.0 is the next-generation device to be used safely and effectively by users over the age of 50 years.

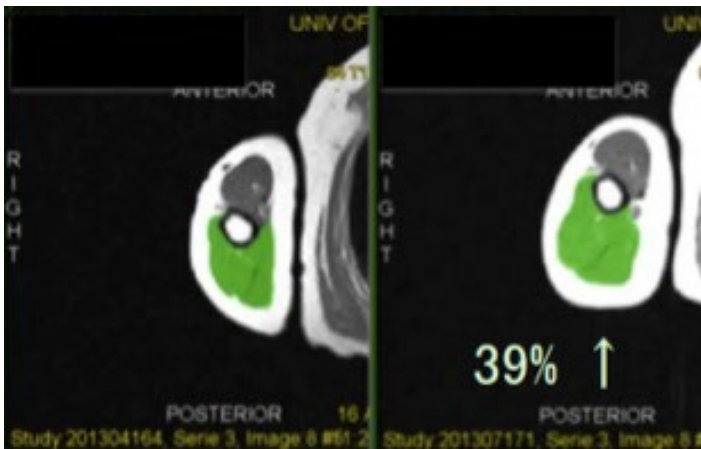
There are 5 general levels of pressure (Levels 1 - 5) that are increasingly higher,

but are based on decades of use by elderly patients in Japan and are judged safe by Japanese cardiologist.

Dr. Nakajima reported the significant increase in cross sectional area of thigh with MRI in the *Scandinavian Journal of Medicine & Science in Sports* (2014 Oct;24(5):799-806). He also explained how the increase in muscle strength and mass leads to improvement of life function tests like getting up and out of a chair or bed.

Similar results were realized in the arms (biceps and triceps) among the group of elderly patients [see before-and-after effects of a 71-year-old subject on left].

Dr. Nakajima explains the process leading up to muscle hypertrophy due to traditional resistance training. "Typically, an individual needs to perform at



least 65% of 1RM to create mechanical stress, metabolic stress, Hormone (catecholamine) secretion, Growth factor, Cytokine (IL-6), nerve factor, local circulation, hypoxia and cell swelling that leads to adaptation and an increase in protein synthesis and decrease in protein degradation.

In contrast, KAATSU leads to several mechanisms that cause KAATSU's hypertrophic effects: recruitment of fast twitch muscle fibers, increase in Growth Hormone and IGF-1 (Insulin Growth Factor), amino acid uptake, increase in protein synthesis and a decrease in myostatin."

He described the process. "Maintenance of skeletal muscle mass is dependent on the relationship of muscle protein balance - protein synthesis and breakdown. A negative protein balance induces muscle atrophy, whereas a positive balance induces muscle hypertrophy.

After muscle disuse, during long-term bed rest and simulated models of non-bearing activity, severe skeletal muscle atrophy develops due to altered protein metabolism leading to decreased muscle contractile protein content.

To prevent this, resistance exercise, an established and potent stimulus for enhancing muscle protein synthesis and subsequent muscle hypertrophy, is traditionally used.

Conversely, skeletal muscle is a plastic organ that adapts its mass to the different conditions by affecting pathways that regulate protein and cellular turnover. Repetitive KAATSU appears to be a novel stimulus for skeletal muscle to induce a net positive protein balance and prevent atrophy especially with patients with orthopedic diseases or injuries or those with disuse syndrome, sarcopenia and cachexia (weakness and wasting of the body due to severe chronic illness)."

The video below shows the before-and-after effects of KAATSU Cycle on a 104-year-old female.

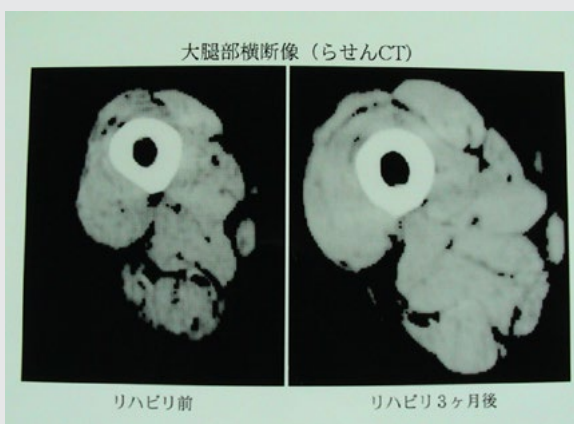
Visionary physicians like Dr. Sato and Dr. Nakajima are leading the way on how best to utilize KAATSU to combat sarcopenia (loss of muscle tissue as a natural part of the aging process) while addressing a host of other wellness and health issues. For example, 104-year-old female patient in Kawasaki, Japan shows what is possible with KAATSU under the guidance of her physician Dr. Odagiri and Dr. Sato.



The patient was bedridden and uncommunicative for two months with severe dementia. She was transferred from her local hospital to Odagiri Hospital where she was treated with KAATSU. Initially for the first month, she simply did KAATSU Cycle as she remained in bed. Gradually, she became communicative and was able to get out of bed. Eventually, over the course of two months, she was able to do a variety of exercises and found herself wishing to live to be 200 years old [see English translation in video above].

During the Japanese-language video, she was asked how old she is and she answers as 104, holding a document confirming her age and birth date. She is shown doing a variety of exercises with her KAATSU Air Bands on (at an Optimal SKU level of 120).

Her doctors also documented her muscle gains in her upper legs (quadricep + hamstring) via before-and-after comparative computed tomography scans (3 months apart):



For a brief explanation of the mechanisms involved in doing KAATSU among elderly patients, visit [here](#).



THE RADICAL RECONDITIONING OF BABY BOOMERS

As 75.8 million American Baby Boomers either transition from the end of their careers or are in full or partial retirement, many of them have spent their most recent years raising children, financing college educations, paying for weddings, and culminating their careers. These pressures have played havoc with their fitness levels.

Previously over-stressed, overworked, and under-exercised, the Baby Boomers are now facing much more free time. But with their higher body fat percentages, lowered muscle mass, and lessened aerobic capacities, getting back into shape is not easy. A change of lifestyle and a change in mindset are required. But this is easier said than done.

KAATSU, a revolutionary form of blood flow moderation training developed in Japan, is used daily by hundreds of thousands of individuals over the age of 50 in Japan. "KAATSU can present an easy-to-implement catalyst for individuals over the age of 50 to return to their former selves," says Paul Grzymkowski, the former president of Gold's Gym Franchising and now an avid fan of KAATSU. "10,000 Baby Boomers in America will celebrate their 65th birthday every day for the next 2 decades (3,650,000 new Baby Boomers per year). This is a huge market for every fitness professional to consider."

A 65-year-old man or woman sees the rest of their life much differently than they did at the age of 25 or 35. The quality of life is their focus, but it is at this time that their muscles have faded and various ailments have begun.

"We must recondition the 26% of the total U.S. population in innovative ways, using modalities that are self-sustaining and much more low-impact than what we used to do in our youth or even mid-age," added Grzymkowski. "Heavy barbells and dumbbells are not necessary ideal equipment to serve as a catalyst to whipping Baby Boomers into shape. Aerobics, spinning, and elliptical machines are also not for everyone. We have to look for something even more revolutionary."

Grzymkowski, a 67-year-old veteran of the fitness industry, has spent his lifetime around barbells, dumbbells, and spinning bikes. But he has substituted the iron of

his youth for the pneumatic bands used by his counterparts in Japan.

"I have not changed - I love feeling pumped when I exercise. When I feel my biceps bulge or my quads burn, it recalls my strength of former years. But I am doing this and changing my body shape without heavy weights. I am doing it with pneumatic bands and the KAATSU equipment that are used so effectively by senior citizens in Japan and elite athletes around the world. When I do use weights during my KAATSU workout I tend to use light dumbbells or weight plates of no more than 5-pounds."

KAATSU is a Japanese word that means 'additional pressure' in English.

KAATSU is done with pneumatic bands that are inflated to safe levels by a mobile electronic touch panel device. The bands are a proven means to safely modify the blood flow in the limbs during exercise. This modification leads to pooling of blood in the muscles that leads to significant human growth hormone secretion and a literal tricking of the brain into thinking the body into building muscle.



KAATSU athletes of all ages – from 14 to 104 - and abilities, including Olympians and professional athletes, perform simple exercises to generate a muscle pump: hand clenches and bicep curls with or without light weights or heel raises or leg curls while standing up.

Photos shows 66-year-old marathon swimmer and author Diana Nyad and 67-year-old Paul Grzymkowski working out with KAATSU.

In 2014 when he had first started using KAATSU with his patients and clients, Dr. Jim Stray-Gundersen wondered if KAATSU was safe and effective for a patient who had survived a bout of breast cancer.

DOING KAATSU WITH CANCER



Dr. Yoshiaki Sato, the inventor of KAATSU, answered him with an emphatic yes. "Of course, every patient should check with their own physician. Fundamentally, if a patient is allowed to do exercise by their physician, then they can safely do the KAATSU Cycle with the assistance of an experienced KAATSU Master Specialist."

The American Cancer Society reports that exercise is important when it comes to cancer: "Exercise may lower cancer risk by helping control weight and strengthen the immune system, and it can boost quality of life during cancer treatment."

A 2016 study from researchers at the American Cancer Society and the National Cancer Institute linked exercise with a lower risk of 13 specific types of cancer.

The study was published May 16th in JAMA Internal Medicine.

The study found that "leisure-time physical activity was associated with a significantly decreased risk of not only these 3 cancers, but also esophageal cancer, liver cancer, stomach cancer, kidney cancer, and myeloid leukemia. In addition, physical activity was strongly associated with a decreased risk of

multiple myeloma, a blood cancer, as well as cancers of the head and neck, rectum, bladder, and lung (in current and former smokers)."

Walking 20 minutes per mile is considered moderate intensity. The American Cancer Society recommends that adults get at least 150 minutes of moderate intensity or 75 minutes of vigorous activity each week (or a combination of these). The organization suggests that these recommendations can be reached by walking for 30 minutes 5 days per week during your lunch break.

Dr. Sato lectures frequently about how KAATSU enables moderate exercise to be achieved with less time and lower intensity - an especially important factor for the aging Baby Boomer population. "The onset of cancer is related to the weakening of immunity. Growth hormone, which is secreted in large amounts with KAATSU, has an effect on improving immunity. Unless your own physician recommends no exercise or physical activity, then KAATSU is often done by cancer

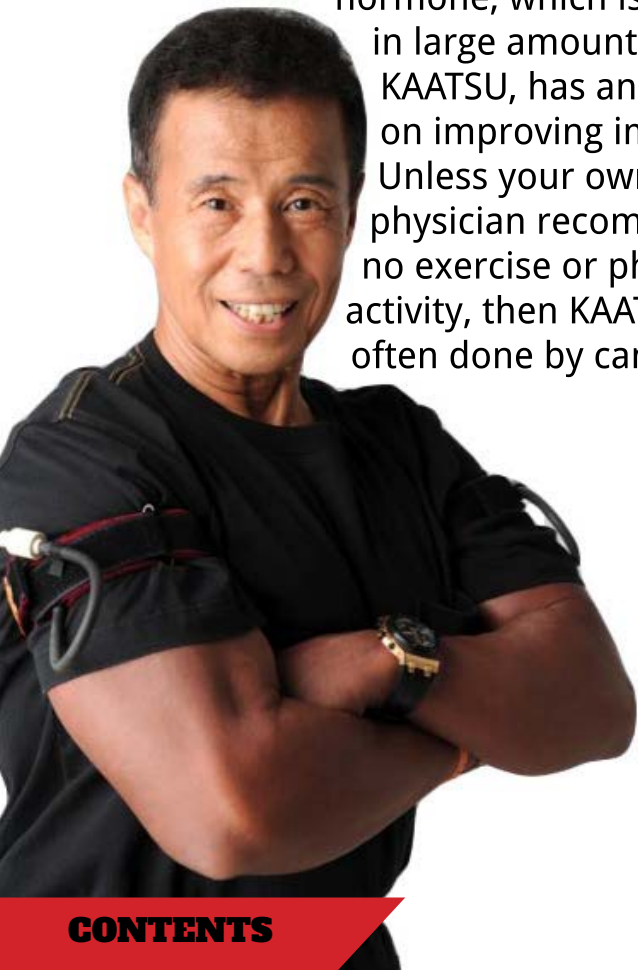
patients or cancer survivors."

He recalled the experiences of two patients. "When KAATSU was performed by a patient with ovarian cancer metastasized to the lung, the tumor marker - immunosuppressive acidic protein which is a factor that weakens immunity - was significantly reduced.

In addition, Teruo Sugihara, a Japanese professional golfer, developed prostate cancer at the age of 60 years. He succeeded in reducing the size of the tumor with diet and KAATSU.

KAATSU can be performed in short duration - up to 20 minutes at a time - no matter what your age or gender. You can do KAATSU with no special facilities or equipment; just walking casually with KAATSU leg bands."

If patients are particularly weak, deconditioned, significantly overweight, or unmotivated to do any kind of vigorous exercise including doing KAATSU Walking outside, they can comfortably do the standard KAATSU 3-Point Exercises in the KAATSU Cycle mode in the comfort of their home or office.



SLIMMING YOUR LEGS WITH KAATSU

Many individuals are initially attracted to KAATSU due to cosmetic reasons and weight loss goals. They simply want to lose weight or tone their bodies in some way.



Dr. Yoshiaki Sato, the inventor of KAATSU, writes that thigh muscles are strengthened and legs can be slimmed especially when people are overweight and they experience swelling or have loose skin in their lower body. Swelling is relieved by promoting blood circulation - which is what KAATSU can achieve for people.

In order to strengthen your inner thighs, you can spin on a stationary bicycle or casually do KAATSU Walking for 10-20 minutes - or do these following

exercises 10 - 20 times each.

Dr. Sato explains, "You can lie flat on your back on the floor with your hands clasped behind your head. Lift your legs together straight up from the floor. Concentrate on the muscles of your inner thigh and open your legs as widely as possible and then slowly close them 10-20 times.

It will not be easy in the beginning, but your legs will gradually get stronger.

When the veins and capillaries are engorged

in blood, it takes incrementally more energy for our vascular system to expand and contract. When more energy is used, more calories are burned which is why daily KAATSU usage leads to effective body toning."

If this is not possible in the beginning, you can do simple KAATSU Walking (i.e., walking comfortably with the KAATSU Leg Bands on) for up to 20 minutes - or even more simply the KAATSU 3-Point Exercises for the Legs.

These simple exercises have been performed safely and effectively among millions of individual KAATSU sessions among people of all ages and abilities with myriad physical conditions or ailments.

The KAATSU Air Bands should be placed snugly on your legs. Snugly means that you can put one finger between the KAATSU Air Bands and your skin - but not two or three fingers. If you can put two or three fingers between the bands and your skin, the bands should be manually tightened a bit more.

Dr. Sato continues, "You can also stand straight with your arms placed on your hips. Spread your legs wider than your shoulders and stand with your toes pointed outward. While exhaling, lower your hips slowly as low as you can safely go. Then return to your standing position in order to strengthen the muscles of your inner thighs.

Alternatively, you can stand straight with your arms placed on your hips. Spread your legs wider than your shoulders and turn your toes inward. Lower your hips as much

as safely possible to the level where your knees touch each other. Then slowly return to the standing position in order to strengthen the muscles of your outer thighs."

KAATSU 3-point Exercises are a fundamental part of the standard KAATSU protocol for your legs.

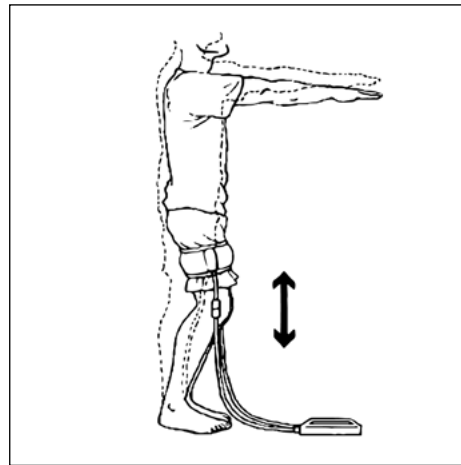
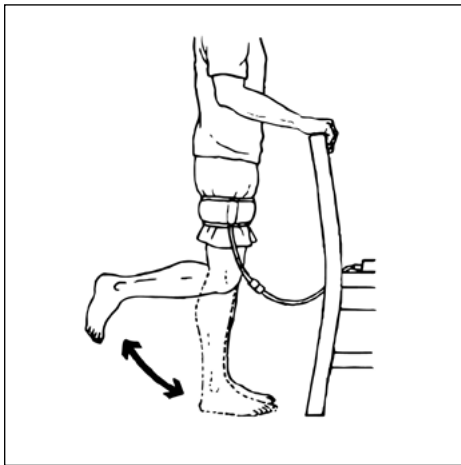
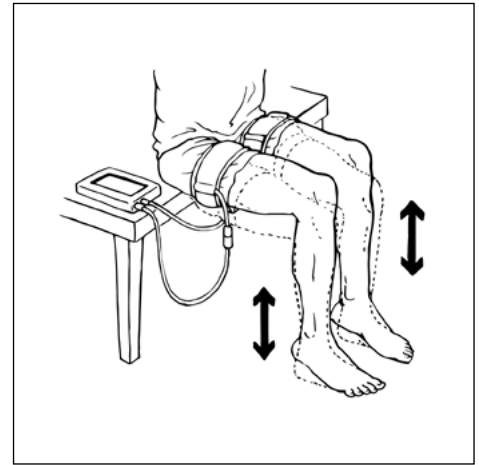
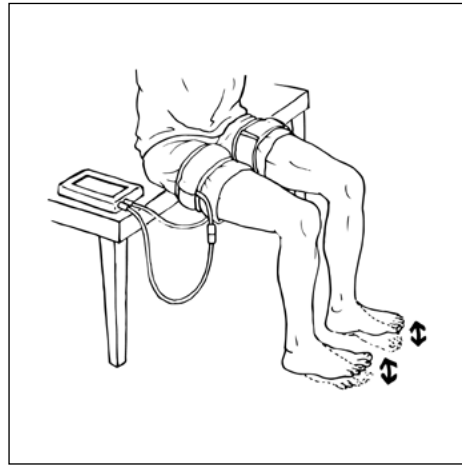
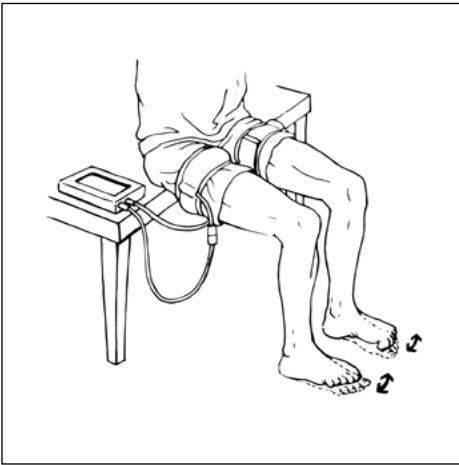
Dr. Sato first established and fine-tuned the KAATSU 3-point Exercises during the 1970s for individuals of all ages and from all backgrounds whether they are athletes or de-conditioned overweight individuals. These simple exercises have been performed safely and effectively among millions of individual KAATSU sessions among people of all ages and abilities with myriad physical conditions or ailments.

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 (read a more detailed explanation here).

Alternatively, especially for Baby Boomers and adults who are being reconditioned back to a state of wellness through a simple exercise program, the KAATSU 3-point Exercises can consist of their entire KAATSU training program.

When the KAATSU 3-point Exercises are performed, the exercises can be performed either on a KAATSU Master or a KAATSU Nano or a KAATSU Cycle unit. The KAATSU 3-point Exercises can be performed while the user is either tethered (connected) or untethered (disconnected) to the units.



KAATSU LEG 3-POINT EXERCISES

The KAATSU 3-point Exercises for the legs are either defined as Standard or Advanced.

The Standard KAATSU 3-point Exercises for the legs involves toe curls, toe raises, and heel raises. These are all performed while the user is seated comfortably with good posture on a chair. In general, these are preferred for older or less fit individuals or those just starting an exercise program or KAATSU.

The Advanced KAATSU 3-point Exercises for the legs are alternatively used by more fit or active individuals or for those individuals with more experience in KAATSU. These 3 basic exercises includes heel raises, leg curls and squats. The heel raises can be done while sitting or standing. The leg curls can be performed while standing and holding onto a chair or balancing against a wall. The squats (or "chair touches") can be performed while bending the knees to touch a chair and then popping back up.

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.

Each set of exercises should be done 3-4 times each with a maximum of 20 seconds between each set. Ideally, the number of repetitions for each exercise decreases before the user reaches muscular or technical failure (or fatigues).

That is, an ideal set would be 25-30 repetitions on set #1, 10-15 repetitions on set #2, and 5-10 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 ARM 3-POINT EXERCISES [illustrations posted [here](#)]

The KAATSU 3-point Exercises for the arms involves hand clenches, bicep curls and tricep extensions. Each set of exercises is done 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.* But users do not have to go incredibly hard. It can be casual movement and muscle toning and body slimming can be achieved.

That is, an ideal set would be 25-30 repetitions on set #1, 10-15 repetitions on set #2, and 5-10 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.

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



RELIEVING BACK PAIN, STRENGTHENING THE BACK WITH **KAATSU**



KAATSU[®]

CYCLE

2.0 EXERCISE, RECOVER AND REHABILITATE. ANYTIME. ANYWHERE.

Back pain is one of the most common ailments and complaints people experience, especially as they age, gain weight or become increasingly sedentary.

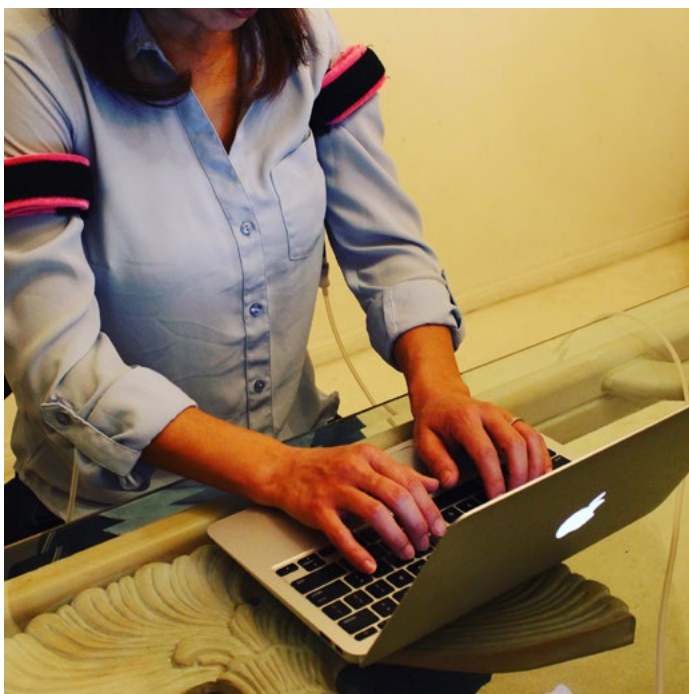
Back pain comes in myriad forms: muscle ache, shooting/stabbing pain, pain/numbness/tingling radiating down the legs, increasing pain with bending, lifting, standing or walking, or pain that improves with reclining.

Whether the back pain is caused by muscle or ligament strain, bulging or ruptured disks, arthritis, scoliosis, or osteoporosis, KAATSU users often find relief by doing the following movements and protocols using the KAATSU Cycle 2.0 unit and the KAATSU Air Bands:



KAATSU CYCLE ARM WARM-UP

- » Snugly place KAATSU Air Bands on your upper arms and do 3-5 KAATSU Cycles at progressively higher pressures.



- » Start at a low(er) pressure (e.g., GROUP LOW) on your first KAATSU Cycle and then increase your pressure (e.g., GROUP MEDIUM, GROUP HIGH, PRO LOW) on the subsequent Cycles.
- » You can do simple movements of your arms that can include writing emails and sewing to non-weighted biceps curls and triceps extensions.

KAATSU CYCLE LEG WARM-UP

- » Remove KAATSU Air Bands from your arms and snugly place KAATSU Air Bands on your upper legs.
- » Do 3-6 KAATSU Cycles at progressively higher pressures on your legs.
- » Start at a low(er) pressure (e.g., GROUP LOW) on your first KAATSU Cycle and then increase your pressure (e.g., GROUP MEDIUM, GROUP HIGH, PRO LOW) on the subsequent Cycles.
- » You can do some or all of these simple movements:

- Sit up straight (as possible) in a chair, non-slouched with good posture your feet flat on the floor, shoulders back and torso engaged, looking forward while breathing comfortably.
- Stand up straight (as possible) and pace comfortably back and forth in your room. If you do this in a fitness room or gym, take off your shoes and walk on yoga mats or any other kind of soft, spongy surface.
- Stretch your lower back and legs in any number of ways. One particularly effective stretch is to slightly elevate your toes off the ground and bend forward at your waist, letting your arms hang to your feet. There is no need to strain yourself, just bend over comfortably.
- Do the [KAATSU 3-Point Exercises for your Legs](#) (see [here](#) including Toe Curls, Toe Raises, Heel Raises, Standing Leg Curls, and Quarter Squats).



- With your feet shoulder width apart, stand comfortably while slightly bending your knees and holding water bottles in both your hands down at your sides. Lean slightly forward at an angle while maintaining a straight back. Do not move your hips while you lift your arms forward as high as possible. Repeat 5-10 times.

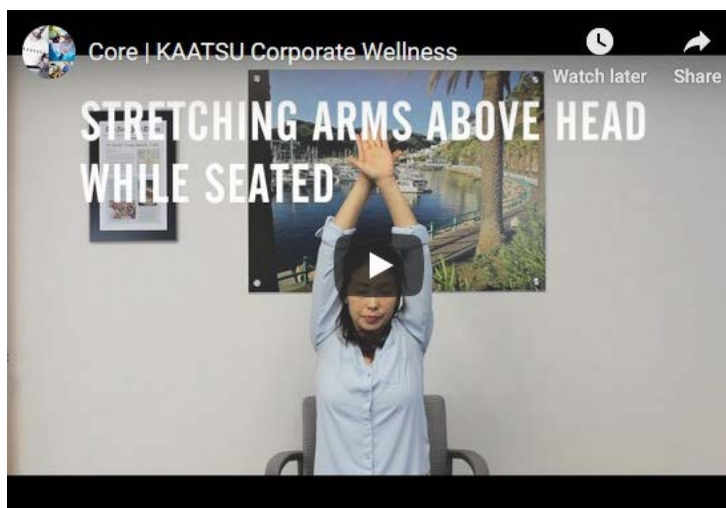
KEY POINTS

- » Be very well hydrated before and during the KAATSU Cycles.
- » The color of your skin on your arms and legs should be a pinker or redder tone than normal while doing KAATSU. This indicates that your blood circulation is improved with the KAATSU Air Bands on.
- » Remove immediately if your skin becomes clammy or cold or you feel lightheaded.
- » You will quickly feel fatigue, much more quickly than if you did the same exercise without KAATSU Air Bands on your arms.
- » Repeat this exercise daily or, if so motivated, twice per day (both in the morning and afternoon or evening).
- » Place the KAATSU Air Bands snugly on your limbs. Snugly means that you can put one finger between the KAATSU Air Bands and your skin - but not two or three fingers. If you can put two or three fingers between the bands and your skin, the bands should be manually tightened a bit more.



- » Your back should gradually feel looser and more flexible. As this feeling improves, you can increase your pressure levels and range of motion - but it should all be done gradually and comfortably.

HOW DO I USE MY KAATSU CYCLE 2.0 FOR MY LEGS AND CORE?



After people receive their new KAATSU Cycle 2.0, they often ask for guidance and look for specific exercises to do.

Q1. How do I use the KAATSU Cycle 2.0?

Q2. What exercises should I do?

Q3. How am I supposed to workout?

The answers and recommendations entirely depend on what goals you are looking to achieve.

C1. I just want to get fit.

C2. I want to get stronger.

C3. I don't want my back to always hurt.

Each of these goals can require a number of specific exercises performed daily under the guidance of a personal trainer. Or, alternatively and strategically, you can easily use the KAATSU Cycle 2.0 for systemic gains in strength, muscle tone, flexibility and mobility.

Let's assume that you prefer to work on your legs and core. In this case, you can put aside your KAATSU Air Bands for your arms for the moment and simply focus on using the longer and thicker KAATSU Air Bands for your legs.

Wrap the KAATSU Air Bands around your upper legs as high up on your groin as possible. You should wrap the bands around your legs while you are sitting comfortably in a chair. The bands should be placed on snugly so you can barely put a finger between the bands and your skin.

GROUP

	CYCLE	SKU	CYCLE	SKU
LOW	1	80	5	120
	2	90	6	130
	3	100	7	140
	4	110	8	150

	CYCLE	SKU	CYCLE	SKU
MEDIUM	1	130	5	170
	2	140	6	180
	3	150	7	190
	4	160	8	200

	CYCLE	SKU	CYCLE	SKU
HIGH	1	230	5	270
	2	240	6	280
	3	250	7	290
	4	260	8	300

PRO

	CYCLE	SKU	CYCLE	SKU
LOW	1	180	5	220
	2	190	6	230
	3	200	7	240
	4	210	8	250

	CYCLE	SKU	CYCLE	SKU
MEDIUM	1	280	5	320
	2	290	6	330
	3	300	7	340
	4	310	8	350

	CYCLE	SKU	CYCLE	SKU
HIGH	1	330	5	370
	2	340	6	380
	3	350	7	390
	4	360	8	400

1. Click on G (GROUP) on the face of the KAATSU Cycle 2.0 and L (LOW) on the top side of the unit to start the unit. The unit will automatically go through 8 repetitions of 30 seconds of pressure followed by 5 seconds of rest. The pressure starts at 80 SKU (Standard KAATSU Units) and increases each repetition by 10 SKU, ending on 150 SKU (see chart above). This will continue to 4 minutes and then automatically stop.
2. For the next cycle, click on G (GROUP) and the face of the KAATSU Cycle 2.0 and M (MEDIUM) on the top side of the unit to start your second cycle.
3. For the next cycle, click on G (GROUP) and the face of the KAATSU Cycle 2.0 and H (HIGH) on the top side of the unit to start your second cycle. You can continue increasing your pressure as you wish (e.g., PRO LOW, PRO MEDIUM, PRO HIGH).
4. During these cycles, you are simply walk ("KAATSU Walking") or do the KAATSU 3-Point Exercises. The Standard KAATSU 3-Point Exercises for the legs include Toe Curls (as you sit comfortably without your shoes on), Toe Raises (as you sit comfortably without your shoes on), and Heel Raises (as you sit comfortably). The Advanced KAATSU 3-Point Exercises for the legs include Standing Heel Raises (as you stand comfortably), Leg Curls (as you stand comfortably and raise one leg to your buttocks as you hold onto a chair or the wall), and Quarter Squats (as you squat slowly and comfortably up and down).
5. You can also do any number of stretches or calisthenic exercises.
6. For improved balance, you can wear the bands as you balance on one leg or walk with a book on your head. You can also pace back and forth on a soft yoga mat or walk barefooted on the sand.
7. If you want to do more difficult exercises, you can do Lunges with one leg until you reach muscular failure (and then switch legs), Burpees, or lie flat on your back and raise your feet slightly off the ground.
8. You can also do Step-ups on a box at your fitness gym, walk or jog on a treadmill, or use a spinning bicycle or recumbent bicycle for 10-15 minutes, alternatively modifying intensity.
9. For less-intensive exercises, you can simply sit straight up in a chair or couch with your hips near the edge. Slowly exhale and slowly lean forward, tightening your abdominal muscles as strongly as possible until your stomach is close to your legs. Hold and then slowly inhale air on your return to a sitting position with good posture. Repeat as desired.

Although it is not intuitive, the KAATSU Air Bands on your upper legs will result in healthful systemic effects that are felt and seen throughout your body, including your core and upper body.

Most individuals are not motivated to do planks, crunches and other forms of abdominal work. Instead, KAATSU users can do a number of simple KAATSU exercises to strengthen their lower back and tighten their core.

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

CORE & LOWER BACK #3 EXERCISE

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

CORE & LOWER BACK #6 EXERCISE

1. Tighten your KAATSU Air Bands on your legs at your appropriate Base SKU.
2. Inflate your KAATSU Air Bands on your legs at your Optimal SKU.
3. Lie on your back and slowly lift your hips off the floor and hold. Bring your hips to the ground and repeat as desired.

CORE & LOWER BACK #4 EXERCISE

1. Manually tighten your KAATSU Air Bands on your legs at your appropriate Base SKU.
2. Inflate your KAATSU Air Bands on your legs at your Optimal SKU.
3. Do planks as usual.
4. Alternatively, tighten the KAATSU Air Bands on your arms at your Optimal SKU and do planks as normal.

CORE & LOWER BACK #5 EXERCISE

1. Tighten your KAATSU Air Bands on your legs at your appropriate Base SKU.
2. Inflate your KAATSU Air Bands on your legs at your Optimal SKU.
3. Lie on your back and slowly bring one leg one up to your stomach and hold. Grab your knee with your arms to stretch your back.
4. Repeat as desired.
5. Continue to lie on your back and slowly pull both your legs up to your stomach and hold. Grab your knees with your arms to stretch your back.
6. Repeat as desired.

CORE & LOWER BACK #7-9 EXERCISES

CORE & LOWER BACK #7 EXERCISE

1. Tighten your KAATSU Air Bands on your legs at your appropriate Base SKU.
2. Inflate your KAATSU Air Bands on your legs at your Optimal SKU.
3. Lie on your back and slowly lift both your feet off the ground and hold. Repeat as desired.
4. Lie on your back, lift both your feet off the ground, and kick your feet slightly off the ground. Repeat as desired.

CORE & LOWER BACK #8 EXERCISE

1. Tighten your KAATSU Air Bands on your legs at your appropriate Base SKU.
2. Inflate your KAATSU Air Bands on your legs at your Optimal SKU.
3. Lie on your back and slowly pandiculate (i.e., stretch and stiffen your trunk and limbs, extending your toes, feet, arms and hands as you do upon waking).
4. Repeat as desired.

CORE & LOWER BACK #9 EXERCISE

1. KAATSU Aqua Sit-ups are used by competitive aquatic athletes with a Bosu Ball.
2. Start horizontal in the water while grabbing onto a Bosu Ball; then climb on top of the Bosu Ball. Do 3 sets to failure.



HOW DO I USE MY KAATSU CYCLE 2.0 FOR MY ARMS?



After people receive their new KAATSU Cycle 2.0, they often ask for guidance looking for specific exercises to do.

Q1. How do I use the KAATSU Cycle 2.0?

Q2. What exercises should I do?

Q3. How am I supposed to workout?

The answers and recommendations entirely depend on what goals you are looking to achieve.

C1. I just want to get fit.

C2. I want to get stronger.

C3. I want to reduce the pain in my shoulders.

Each of these goals can require a number of specific exercises performed daily under the guidance of a personal trainer. Or, alternatively and strategically, you can easily use the KAATSU Cycle 2.0 for systemic gains in strength, muscle tone, flexibility and mobility.

The easiest and most convenient form of KAATSU exercises for the upper body are the Standard KAATSU 3-Point Exercises

for the arms. As you turn the KAATSU Cycle 2.0 on, simply do repeated sets of Hand Clenches (i.e., repeatedly and slowly opening and closing your hands while spreading out your fingers), Biceps Curls (i.e., with a clenched fist, bring your hand slowly and repeatedly up towards your shoulder), and Triceps Extensions (i.e., with a clenched fist, move your hand slowly and repeatedly downwards and backwards).

You can also do any number of upper body stretches or calisthenics including standing close to a wall and pushing your body away from the wall (i.e., Wall Push-ups). You can do the Wall Push-ups during the 30 seconds when the KAATSU Air Bands are inflated with air - and then rest while the bands are deflated. You can also do Desk Push-ups or Regular Push-ups, which will be significantly more difficult, depending on the level of intensity that you wish.

The Masimo MightySat™ Fingertip Pulse Oximeter can be used with the KAATSU Master 2.0 and KAATSU Cycle 2.0 for a wide variety of purposes.

"One of the best physiological monitoring devices that I have ever used is the Bluetooth-enabled Masimo MightySat™ Fingertip Pulse Oximeter," said Steven Munatones.

USING MASIMO MIGHTYSAT™ FINGER PULSE OXIMETER WITH THE KAATSU CYCLE 2.0



"I can simultaneously track and archive the oxygen level in my blood, my pulse, the number of breaths per minute, a measure to understand how well hydrated that I am, and other data points that indicate changes in blood circulation and heart rate recovery.

The Masimo is used with athletes of all abilities to help them understand their bodies better and help them improve and with individuals of all ages who may be recovering from injuries or simply want to improve their level of wellness."

So how can you combine the use of the Masimo MightySat™ Fingertip Pulse Oximeter with the KAATSU Cycle 2.0 and other KAATSU equipment including the KAATSU Master 2.0?

Six specific parameters that can be tracked noninvasively while simultaneously using either the KAATSU Master 2.0 and KAATSU Cycle 2.0 to obtain a wide variety of physiological real-time data:

"It is best to put the Masimo MightySat™ on your non-dominant ring finger," explains Munatones. "So if you are right-handed, put the MightySat™ on your ring finger (i.e., the fourth finger of your hand, located between your little finger and your middle finger).

Also, it is best to sit down comfortably while you are measuring these parameters while using the Masimo MightySat™.

1. [SpO2](#) or [Oxygen Saturation](#) is the oxygen level in your blood that indicates changes due to your heart or lung function, oxygen use by your body, or altitude. It is a percentage of hemoglobin in the blood that is saturated with oxygen. The unit of measure is percentage (%).

"In layman's terms, you want to see this SpO2 percentage increase over time," explains Munatones. "The higher the percentage of Oxygen Saturation, the better. That is, ideally you want 100% SpO2, but the important goal is to see increases in your percentage, both over time and before and after using KAATSU. So, for example, if your SpO2 is at 96% or 97% before you start KAATSU, it is ideal to see your SpO2 to slightly increase to 97% or 98% after a KAATSU session. This indicates a healthful improvement."

2. [PR](#) or [Pulse Rate](#) is the number of your heart pulses per minute that indicates your overall fitness or exertion levels at any time. The unit of measure is beats per minute (bpm).

"In layman's terms, you want to see this pulse rate - or the number of heart pulses per minute decrease over time, during any specific exercise or while you are simply sitting at rest," explains Munatones. "In general, the lower your pulse during exercise or rest, the better. So, for example, if your heart rate is 85 as you are doing a set of squats, it would be great to see this pulse rate fall to 75-80 beats per minute over time, an indication that your heart and cardiovascular fitness level are improving."

3. [RRp™](#) or [Respiration Rate](#) is the

number of breaths per minute that indicates how well your heart and lungs function or how quickly you recover from exercise. It is a measurement of respiration rate based on changes in the plethysmographic waveform. The unit of measure is respirations per minute (RPM).

"In layman's terms, you want to see your Respiration Rate to decrease over time, during any specific exercise or while you are simply sitting at rest," explains Munatones. "In general, the lower your Respiration Rate during exercise or rest, the better. So, for example, if your Respiration Rate is 18 as just sit at rest, it would be great to see this rate fall to 12-15 breaths per minute over time, an indication that your breathing efficiency is improving."

4. [PVi®](#) or [Plethysmograph Variability Index](#) is the variation in perfusion index over your breathing cycle, which may indicate changes in hydration, breathing effort, perfusion, or other factors. The Plethysmographic Waveform displays your real-time pulse pressure waveform.

"In layman's terms, your PVi® is a bit more difficult to track and understand its actual implications of health, but it is one indication of the level of hydration in your thoracic cavity (or chest cavity). To properly measure your PVi®, you should lay down relaxed in a horizontal position and take it at the same time of the day in the same position," explains Munatones.

5. [PI](#) or [Perfusion Index](#) is the strength of your blood flow to your finger that indicates changes in blood circulation.

It is the ratio of the pulsatile blood flow to the non-pulsatile blood in peripheral tissue used to measure peripheral perfusion. The Perfusion Index values ranges from 0.02% for a very weak pulse to 20% for an extremely strong pulse.

"In layman's terms, you want to see your Perfusion Index decrease as you do KAATSU, doing any type of exercise or while you are simply sitting at rest," explains Munatones. "In general, a decrease up to 50% of your first reading is an excellent indication that you are reaching your Optimal SKU (Standard KAATSU Unit). As the Perfusion Index falls from, let's say 5% to 2%, this means you are nearing the peak tightening pressure of your KAATSU Air Bands. So, for example, as you increase the pressure from Group Low to Group Medium to Group High and Pro Low levels, the Perfusion Index should gradually fall. There will always be a lot of fluctuation in this Index, but the most important data to understand is its downward trend to up to 50% of the level in which you started."

6. The Heart Rate Recovery Calculator can track the heart's ability to return to normal levels after vigorous physical activity. Fitness level and proper heart function are measured by the recovery phase. A heart that is fit will recover at a quicker rate than a heart that is not accustomed to regular exercise. The first minute of recovery is the most crucial. After exercise, your heart rate experiences an abrupt drop during the first minute. This recovery period can indicate cardiovascular fitness level.

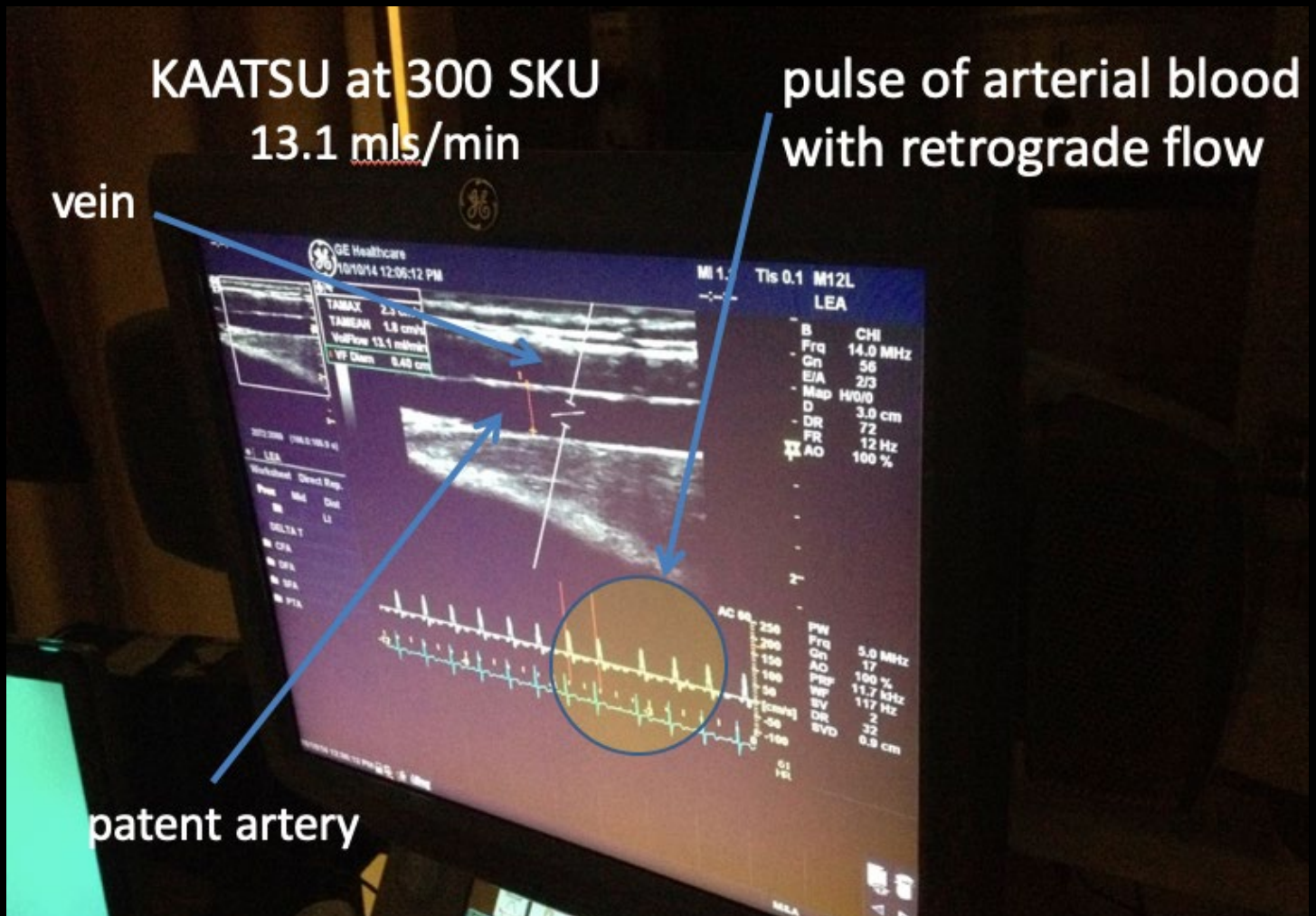
"In layman's terms, a lower recovery heart rate should follow vigorous exercise, doing any type of exercise, either comfortable exercise or vigorous exercise," explains Munatones. "The Masimo's Heart Rate Recovery Calculator is used by putting on the MightySat™ on one of your fingers right after a bout of exercise and then using your Masimo mobile app on your smartphone. After 60 seconds, you will receive your percentage score.

In general, a higher percentage score is better, meaning that your heart is able to recover better, faster after a bout of exercise or KAATSU. So, for example, as you finish your exercise and you receive a higher percentage 60 seconds later, this means your heart is getting stronger and is able to recover faster. This is an excellent indication of improved health."

For more information about the [Masimo MightySat™ Fingertip Pulse Oximeter](#), visit [here](#) or listen to world champion Michael Andrew above.



KAATSU SPECIALIST SERIES: INTRODUCTION TO THE KAATSU CYCLE



When many people first hear about and become interested in KAATSU, they Google "KAATSU". The resultant Google search often lists many BFR (Blood Flow Restriction) products.

It is reasonable for most of these individuals to equate KAATSU with BFR and vice versa - which is what the savvy online marketers of BFR want.

"One way to get around this confusion is to input the Japanese symbols for KAATSU which is 加圧 - or for KAATSU Training which is 加圧トレーニング," advises Steven Munatones. "But inputting Japanese kanji characters on an English keyboard or on their smartphone is difficult or impossible for most people. So the best way to find out correct and non-misleading information about KAATSU is to go directly to the KAATSU website (www.kaatsu-global.com) or blog (www.kaatsublog.com) or any of its social media platforms like Facebook, Twitter or Instagram.

While the information is entirely in Japanese, others can review the original KAATSU website: www.kaatsu.com. Interested consumers can also copy-and-paste 加圧 - or 加圧トレーニング (Japanese for KAATSU Training) into YouTube and there will be plenty of videos and explanations about KAATSU."

Some of the questions that BFR users send into the KAATSU website include the following:

Q1. Owens Recovery Science sells PTS Personalized Tourniquet System for Blood Flow Restriction and talks about limb occlusion pressure. Why doesn't KAATSU go to full occlusion or restrict blood flow to the degree recommended by BFR advocates?

A1. The reason why KAATSU does not use full occlusion as a standard to perform BFR is because we do not believe it is necessary or optimally effective for most individuals. KAATSU equipment was designed based on 10 years of working with hundreds of cardiac rehabilitation patients per year (i.e., those who dealt with strokes, heart attacks, heart bypass surgery) at the University of Tokyo Hospital under the guidance of experienced cardiologists. This is where the KAATSU equipment design and protocols were tested and researched - under the guidance of cardiologists and Dr. Yoshiaki Sato using MRI, ultrasound, and blood analyses with mass spectrometers. After a decade of testing and research comparing everything from partial to full occlusion and various degrees of modifying venous flow, we believe KAATSU equipment and protocols

are optimally designed; we based this on thousands of sessions with thousands of subjects (patients) in controlled setting where many parameters were accurately measured, compared and tested. The modification of venous flow does not need to be extreme [see image above] in order to serve as the catalyst for significant hormonal secretion and metabolite production that is optimal for recovery, rehabilitation and athletic performance.

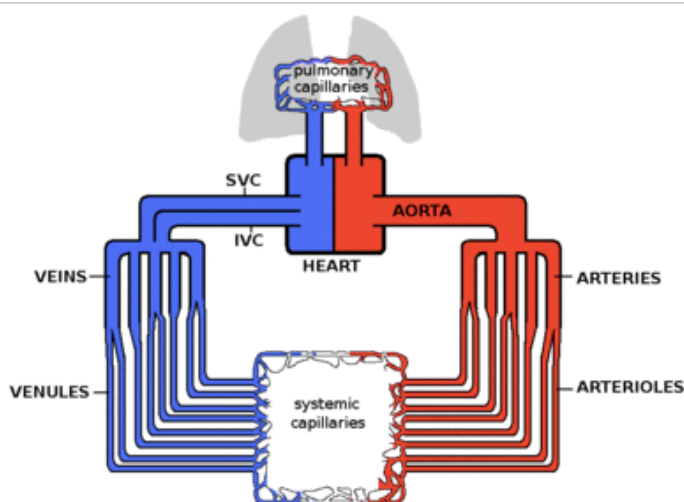
Q2. Other BFR products are FDA approved. Is KAATSU FDA approved?

A2. While some companies make claims or infer its own products are FDA approved, this is not true. KAATSU equipment has also not submitted documentation for FDA clearance, but neither have other BFR companies as of 2019. FDA registration of equipment is not the equivalent of FDA approval. FDA registration is a relatively easy process that does not have the same medical, scientific or legal meaning as FDA clearance (or FDA approval in common vernacular).

Q3. Other BFR products have Doppler devices. Why doesn't KAATSU have a Doppler device?

A3. The Doppler devices that KAATSU used were used during its research phase, but since arterial flow is not occluded and venous flow is only slightly modified, there is absolutely no need for use of a Doppler device with KAATSU equipment. The only time that the Doppler was used was with KAATSU was during the research and testing phase of

KAATSU where experienced technicians and cardiologists were studying the effects of KAATSU. In contrast, it is logical that a Doppler device is necessary when there is full occlusion or anything near this degree of pressure with BFR devices. The use of Doppler is necessary in these cases with BFR - when the user is doing easy stretching or vigorous aerobic movements, is an active teenager or a sedentary Baby Boomer, or takes myriad medications.



Q4. What is the difference between arterial flow and venous flow?

A4. Arterial flow is the blood flow from the torso into the limbs (arm and legs) via arteries. Venous flow is the blood flow back to the torso from the limbs (arm and legs) via veins.

The heart is the driver of the circulatory system, pumping blood through rhythmic contraction and relaxation. The rate of blood flow out of the heart (often expressed in L/min) is known as the cardiac output.

Blood being pumped out of the heart first enters the aorta, the largest artery of the body.

It then proceeds to divide into smaller and smaller arteries, then into arterioles, and eventually capillaries, where oxygen transfer occurs. The capillaries connect to venules, and the blood then travels back through the network of veins to the right heart. The microcirculation (via the arterioles, capillaries, and venules) constitutes most of the area of the vascular system and is the site of the transfer of O₂, glucose, and enzyme substrates into the cells. The venous system returns the de-oxygenated blood to the right heart where it is pumped into the lungs to become oxygenated and CO₂ and other gaseous wastes exchanged and expelled during breathing. Blood then returns to the left side of the heart where it begins the process again.

Q5. Wider cuffs are always used with BFR products, but KAATSU uses flexible, elastic, pneumatic thin air bladders that is said to cause nerve damage. Is that true?

A5. That is an absolutely false claim. If the Department of Defense, the Department of Veteran Affairs, many universities and hospitals, and professional and Olympic athletes regularly use KAATSU, there is no possibility of approving KAATSU equipment or using KAATSU protocols if there were any risk of nerve damage - or other misleading claims made by BFR advocates. KAATSU equipment is

being used many people over the age of 50 - up to 104 years old. The KAATSU equipment's primary feature is the Cycle mode which automatically shuts off after 4 minutes and allows for deflation every 30 seconds. These protocols are based on the decades of research and testing under the supervision of physicians of various disciplines and researchers with PhD who are under the obligation to report any untoward issue during their KAATSU research.

It should be noted that wide tourniquets and wide blood pressure cuffs are not properly used with the KAATSU equipment. KAATSU equipment is strictly limited to use with the patented, proprietary elastic, flexible pneumatic air bands. Using wide tourniquets with KAATSU equipment would be an intentional misuse of the KAATSU equipment. The pneumatic KAATSU bands serve to stimulate the optimal hormonal and metabolite response in the human body.

Q6. When should the KAATSU Cycle be used? When should the KAATSU Training mode be used?

A6. As with tactical athletes (i.e., special operators in the US military), collegiate athletes and professional athletes, we recommend that KAATSU Cycles are repeatedly used both before and after every workout and competition as well as during every workout (as possible). If there is a problem with insomnia or travel that requires crossing time zones, then the KAATSU Cycle is also best used within an hour of bedtime.

The KAATSU Cycle can be used every day whether you are at your home, traveling on business, or heading to a competition. Athletes, corporate executives, special operators in the military, and aging Baby Boomers can use KAATSU effectively no matter where they are: in the office, at home or during travel.

Q7. Does KAATSU equipment change pressure with increased hypertrophy?

A7. KAATSU equipment changes pressure upon movement by the limb in real time, it changes with hypertrophy, and it changes slightly and gradually every 30 seconds depending on what parameter you set.

Q8. As KAATSU increases the elasticity of the vascular system, muscle tissue tends to build more easily and rapidly regardless of the individual. So how do you perform KAATSU without building excess muscle mass?

A8. Because KAATSU inventor Dr. Sato was a bodybuilder in his youth, building muscle was important to him. Many (or most?) current online references to KAATSU and BFR refer to muscle building, but this one outcome is just one of myriad possible outcomes. Because many young(er) men post information about BFR with the goal of building the muscles of their upper body (note: it is only occasionally about building lower body strength or girth), the Internet is overflowing with BFR experts talking about muscle building with BFR.

But muscle building is only one of the many goals of KAATSU. What can be seen online vis-a-vis KAATSU is very incomplete

and only tells a small sliver of KAATSU outcomes. In 1973, Dr. Sato got injured and broke his ankle and he realized the additional - and in many ways - the most important aspects of KAATSU: rehabilitation and recovery.

Rapid rehabilitation from injuries to bones, muscles, ligaments and tendons, and recovery from surgeries and accidents are critical outcomes for many. The use of the KAATSU Cycle is essential to achieving these outcomes.

Also, KAATSU is ultimately more beneficial because one of its primary benefits is increasing vascular elasticity. For any aerobic athlete (e.g., skiers, runners, swimmers, rowers, triathletes), or weight-based athletes (e.g., wrestlers, boxers, MMA fighters, powerlifters, martial artists), this increased vascular elasticity helps in 3 primary ways:

1. Improvement in stamina because the delivery of arterial blood to the working muscles is improved and made more effective) and the return of venous flow from the working muscles enables a faster dissolution of lactic acid.
2. Improvement in power output (however that is measured in a variety of sports) because the working muscles are more efficient with increased vascular elasticity, especially at the capillary level.
3. Recovery from vigorous workouts enable increased performance in training over the long run.

For injured individuals, the hormonal and metabolite production and improved vascular elasticity are the goals of KAATSU - not muscle-building.

But even with a healthy, young athlete or an older woman recovering from surgery, there is no need for them to build muscle mass with KAATSU if they do not want. KAATSU users can stretch and do specific athletic or therapeutic movements with KAATSU in order to get better - without increasing mass.

They do not need to lift weights or do strength-building exercises with KAATSU - this WILL increase their muscle mass and tone. The KAATSU Cycle enables athletes or those recovering to become more powerful in their movements without the addition of adding muscle mass.

Q9. How do you properly size the KAATSU Air Bands?

A9. Below shows proper sizing of the KAATSU Air Bands for the arms and legs:

ARMS:

- » Small: circumference of upper arm is less than 11.5 inches (29 cm)
- » Medium: circumference of upper arm is between 11.5 -14 inches (29-35 cm)
- » Large: circumference of upper arm is between 14 - 16.5 inches (35-42 cm)
- » Extra Large: circumference of upper arm is between 16.5 - 21 inches (42-54 cm)

LEGS:

- » Small: circumference of upper leg less than 16 inches (40 cm)
- » Medium: circumference of upper leg is between 16 - 21 inches (40-53 cm)
- » Large: circumference of upper leg is between 21-26 inches (53-66 cm)
- » Extra Large: circumference of upper leg is between 26-32 inches (66-81 cm)

To measure your arms, measure the girth above your biceps just below the deltoids. To measure your legs, sit on the edge of a chair and measure the girth as high in the groin as possible.

Q10. What is the best way to use the KAATSU Cycle 2.0?

A10. You can use the KAATSU Cycle 2.0 unit for both the KAATSU Cycle mode and the KAATSU Training mode. The KAATSU Cycle mode is an 8-stage series of 30 seconds of inflation of the KAATSU Air Bands followed by 5 seconds of deflation of the KAATSU Air Bands. At each stage, the inflated pressure is slightly higher (by 10 SKU). The duration of this 8-stage

series of pressure-on and pressure-off is 4 minutes of total pressure.

The physiologic mechanism of the pressure-on and pressure-off is essential to KAATSU.

You can repeat the KAATSU Cycle of 8 stages as you wish up to 6 times.

There are 6 pre-set pressure levels on the KAATSU Cycle 2.0 [shown below]. The lowest pressures are selected by pressing the G (GROUP) button on the front face of the KAATSU Cycle 2.0 unit. The highest pressures are selected by pressing the P (PRO) button on the top side of the KAATSU Cycle 2.0 unit.

GROUP

	CYCLE	SKU	CYCLE	SKU
LOW	1	80	5	120
	2	90	6	130
	3	100	7	140
	4	110	8	150
MEDIUM	1	130	5	170
	2	140	6	180
	3	150	7	190
	4	160	8	200
HIGH	1	230	5	270
	2	240	6	280
	3	250	7	290
	4	260	8	300

PRO

	CYCLE	SKU	CYCLE	SKU
LOW	1	180	5	220
	2	190	6	230
	3	200	7	240
	4	210	8	250
MEDIUM	1	280	5	320
	2	290	6	330
	3	300	7	340
	4	310	8	350
HIGH	1	330	5	370
	2	340	6	380
	3	350	7	390
	4	360	8	400

Within the G and P levels, there are also L (LOW), M (MEDIUM) and H (HIGH) pressure settings.

So the lowest possible pressure is GROUP LOW (represented by GL). It is followed by GROUP MEDIUM (represented by GM), GROUP HIGH (represented by GH), PRO LOW (represented by PL), PRO MEDIUM (represented by PM), and PRO HIGH (represented by PH).

As the KAATSU Cycle 2.0 unit is working, there are a series of letters and numbers shown on the LED display screen:

- » GL1 means GROUP LOW setting on the 1st stage
- » GM2 means GROUP MEDIUM setting on the 2nd stage
- » GH3 means GROUP HIGH setting on the 3rd stage
- » PL4 means PRO LOW setting on the 4th stage
- » PM5 means PRO MEDIUM setting on the 5th stage
- » PH6 means PRO HIGH setting on the 6th stage
- » after the 8th stage has been completed, the unit automatically shuts off

You can repeat the same setting - or increase or decrease the pressure settings as you see fit.

The most highly recommended protocol is to start on GROUP LOW and then proceed gradually upwards on the pressure setting levels. Some users go all the way up to PRO HIGH level, but this level is not for everyone.

Any workout or movements (outside a pool) can be done in the KAATSU Cycle mode.

Q11. What if I would like to do the KAATSU Training mode?

A11. If you would like to do the KAATSU Training mode, then untether (i.e., disconnect) the translucent connector tubes after you have inflated the KAATSU Air Bands. You should limit your use of the KAATSU Training mode to no more than 10 minutes.

Q12. How do I switch from the KAATSU Cycle mode to the KAATSU Training mode - and vice versa?

A12. Put the unit in the neutral position (where neither the GROUP or PRO buttons are lit). Only the center button (ON/OFF button) should be lit. From this neutral position, press the LOW button on the top side of the unit for 3 seconds. The LED display should automatically change from CYCLE to TRAINING.

The TRAINING mode is pre-set to 200 SKU. You can change this pre-setting upwards or downwards as you see fit. If you press the GROUP button once, you will decrease the pre-set of 200 SKU by

10 SKU (to 190). If you press the GROUP button two times, you will decrease the pre-set of 200 SKU by 20 SKU (to 180). Each press decreases the SKU by 10.

Conversely, if you press the PRO button once, you will increase the pre-set of 200 SKU by 10 SKU (to 200). If you press the PRO button two times, you will increase the pre-set of 200 SKU by 20 SKU (to 220). Each press increases the SKU by 10.

The maximum SKU level is 400 SKU.

When you would like to switch back from the KAATSU Training mode to the KAATSU Cycle mode, press the LOW button again

when the front face buttons are in the neutral position.

Q13. Can I do KAATSU more than twice per week?

A13. Yes, you can do the KAATSU Cycle mode up to twice daily. The more KAATSU Cycles you do, generally the faster you will rehabilitate and the greater your vascular elasticity will become.



KAATSU CYCLE 2.0

BENEFITS



KAATSU is the ultimate bio hack for health, rehabilitation and recovery.

Invented in 1966 by Dr. Yoshiaki Sato of Tokyo, Japan, and protected by 47 patents, KAATSU next-generation equipment and protocols have a unique and unprecedented safety track record with over 20 million individual KAATSU sessions in 48 countries around the globe.

Backed by over 50 years of expertise, KAATSU Global is excited to introduce the latest advancement in health and wellness, the KAATSU Cycle 2.0.

Fitting in the palm of your hand or in your pocket, the KAATSU Cycle 2.0 is the most advanced, most portable, easiest-to-use compression device in the world. In combination with a precise algorithm-controlled limb pressure, KAATSU's narrow, elastic bands yield to muscle contractions, providing safe and effective exercise and rehabilitation for users of all ages and from all walks of life, from Olympic champions to disabled individuals.

KAATSU users have a full range of motion providing complete control and the opportunity for a wide variety of movements and training.

From elite athletes and soldiers to aging Baby Boomers and busy executives, KAATSU Cycle 2.0 is the next-generation training and rehabilitation device used around the world.

KAATSU
IS USED BY



KAATSU SPECIALIST SERIES: MUCH MORE THAN MUSCLES



A quick Google search of KAATSU will result in plenty of young men and bodybuilders focusing a muscle building.

This result - however desirable by those who want big biceps - is like purchasing a car for its radio. The car offers so many more benefits than simply listening to music. Similarly, KAATSU offers so many more benefits than building biceps.

Depending on the protocols and pressures used, KAATSU is useful for:

1. Improving stamina
2. Improving speed
3. Increasing strength
4. Increasing size
5. Improving sleep
6. Improving recovery
7. Improving metabolism

KEY POINTS

IMPROVING STAMINA:

- » In order to improve stamina, do KAATSU during aerobic exercise (e.g., running, jogging, walking, swimming, rowing, high intensity training, cycling, boxing) after an initial warm-up with KAATSU Cycles.
- » Be very well hydrated before and while wearing KAATSU Air Bands.
- » Select a specific distance/duration (e.g., 100 meters in a pool or 1 km on land or a 3-minute round), a relatively low SKU pressure for you (e.g., 150 SKU), and a pace/interval time (e.g., 5 sets of 100m swim every 2 minutes or 3 repeats of 1 km jogging every 4 minutes).
- » Do this set within your normal workout routine.
- » At the beginning, it is best to be very conservative and select parameters that you can achieve without maximum effort.

- » Repeat this set at least 3 times per week until the pace/intensity becomes relatively easy with your given distance, pace/interval, and pressure.
 - » When the set can be performed moderately well, then slightly increase your SKU pressure and repeat the set at least 3 times per week (over the course of weeks) until the increased pace/intensity also becomes relatively easy.
 - » Continue increasing your pace/intensity and SKU pressure over a series of weeks or months.
 - » Always recover by doing KAATSU Cycles after your workout.
 - **Note 1:** you can think of this as high-altitude training. Every time that you increase the SKU pressure, it is similar to training at the same pace/interval over the same distance/duration at higher and higher altitudes.
 - **Note 2:** you can use this basic concept whether you are an Olympic runner or an older person simply trying to improve your stamina to climb a mountain or complete a local race.
- IMPROVING SPEED:**
- » In order to improve speed, do KAATSU Training during sprint sets after an initial warm-up with KAATSU Cycles.
 - » Be very well hydrated before and while wearing KAATSU Air Bands.
 - » Select a specific distance (e.g., 20 - 200 meters), a relatively high SKU pressure for you (e.g., 250 SKU), and an intensity level.
 - » Do this KAATSU Training set within your normal workout routine.
 - » At the beginning, it is best to be conservative and select parameters that you can achieve with moderate effort.
 - » Repeat this set at least 3 times per week until your desired speed becomes achievable given your distance, pressure, and intensity.
 - » When you are satisfied with your speed levels, then slightly increase your SKU pressure and repeat the set at least 3 times per week (over the course of weeks or months) until your speed has reached the next plateau.
 - » Continue increasing your intensity and SKU pressure over a series of months.
 - » Always recover by doing KAATSU Cycles after your KAATSU Training workout.
 - **Note 1:** you can think of this as a means of maintaining your speed in a race. Every time that you increase the SKU pressure, it is similar to moving at the same speed later and later in the race.
 - **Note 2:** you can use this concept whether you are an Olympic runner or an older person trying to improve your speed in the game of tennis or basketball or swimming.

INCREASING STRENGTH:

- » In order to increase strength, select a specific move or weight and a relatively high SKU pressure for you (e.g., 250 SKU) after doing an initial warm-up with 3-4 KAATSU Cycles.
 - » Be very well hydrated before and while wearing KAATSU Air Bands.
 - » Do 3-4 sets of the specific movement that you wish to improve upon - or do 3-4 sets with a very light weight (1-10 kg) that you wish to improve upon - with KAATSU Air Bands on.
 - » Do many repetitions on the first set (e.g., 30-80). This first set is called Priming The Pump.
 - » Rest 20-30 seconds (only). Note that your muscles will be fatigued and you will not be fully recovered.
 - » Do as many repetitions as you can on the second set (e.g., 15-30). This total number of repetitions should be fewer than the first set.
 - » Rest 20-30 seconds (only). Note that your muscles will be fatigued and you will not be fully recovered.
 - » Do as many repetitions as you can on the third set (e.g., 5-15). This total number of repetitions should be fewer than the second set.
 - » Rest 20-30 seconds (only). Note that your muscles will be fatigued and you will not be fully recovered.
 - » Do as many repetitions as you can on the fourth set (e.g., 1-5). This total number of repetitions should be fewer than the third set.
 - » The second, third and fourth sets will be difficult and your muscles will be fatigued.
 - » But these sets are critical for building strength.
 - » Do this set within your normal workout routine.
 - » Repeat this set at least 3-4 times per week.
 - » When you are satisfied with your strength levels, then slightly increase your SKU pressure and repeat the same protocols at least 3 times per week (over the course of months) until your strength has reached the next plateau.
 - » Always recover by doing KAATSU Cycles after your workout.
- **Note:** move relatively quickly while doing KAATSU.

INCREASING SIZE:

- » In order to increase size, select a series of specific exercises centered around that body part (e.g., biceps or glutes) after doing an initial warm-up with 3-4 KAATSU Cycles.
- » Be very well hydrated before and while wearing KAATSU Air Bands.

- » Do 3-4 sets of each specific exercise for that body part.
- » Slowly do many repetitions on the first set (e.g., 30-80). Contract your muscles in both the positive and negative directions. This first set is called Priming The Pump.
- » Rest 20-30 seconds (only). Note that your muscles will be fatigued and you will not be fully recovered.
- » Slowly do as many repetitions as you can on the second set (e.g., 15-30). Contract your muscles in both the positive and negative directions. This total number of repetitions should be fewer than the first set.
- » Rest 20-30 seconds (only).
- » Slowly do as many repetitions as you can on the third set (e.g., 5-15). Contract your muscles in both the positive and negative directions. This total number of repetitions should be fewer than the second set.
- » Rest 20-30 seconds (only).
- » Slowly do as many repetitions as you can on the fourth set (e.g., 1-5). Contract your muscles in both the positive and negative directions. This total number of repetitions should be fewer than the third set.
- » Rest 20-30 seconds (only) and move onto your next exercise.
- » The second, third and fourth sets will be difficult and your muscles will be fatigued and may start to quiver.
- » Do this set within your normal workout routine.
- » Repeat this set at least 3-4 times per week.
- » When you are satisfied with your increased size, then slightly increase your SKU pressure and repeat the same protocols at least 3 times per week (over the course of months) until your size has reached the next plateau.
- » Always recover by doing KAATSU Cycles after your workout.

IMPROVING SLEEP:

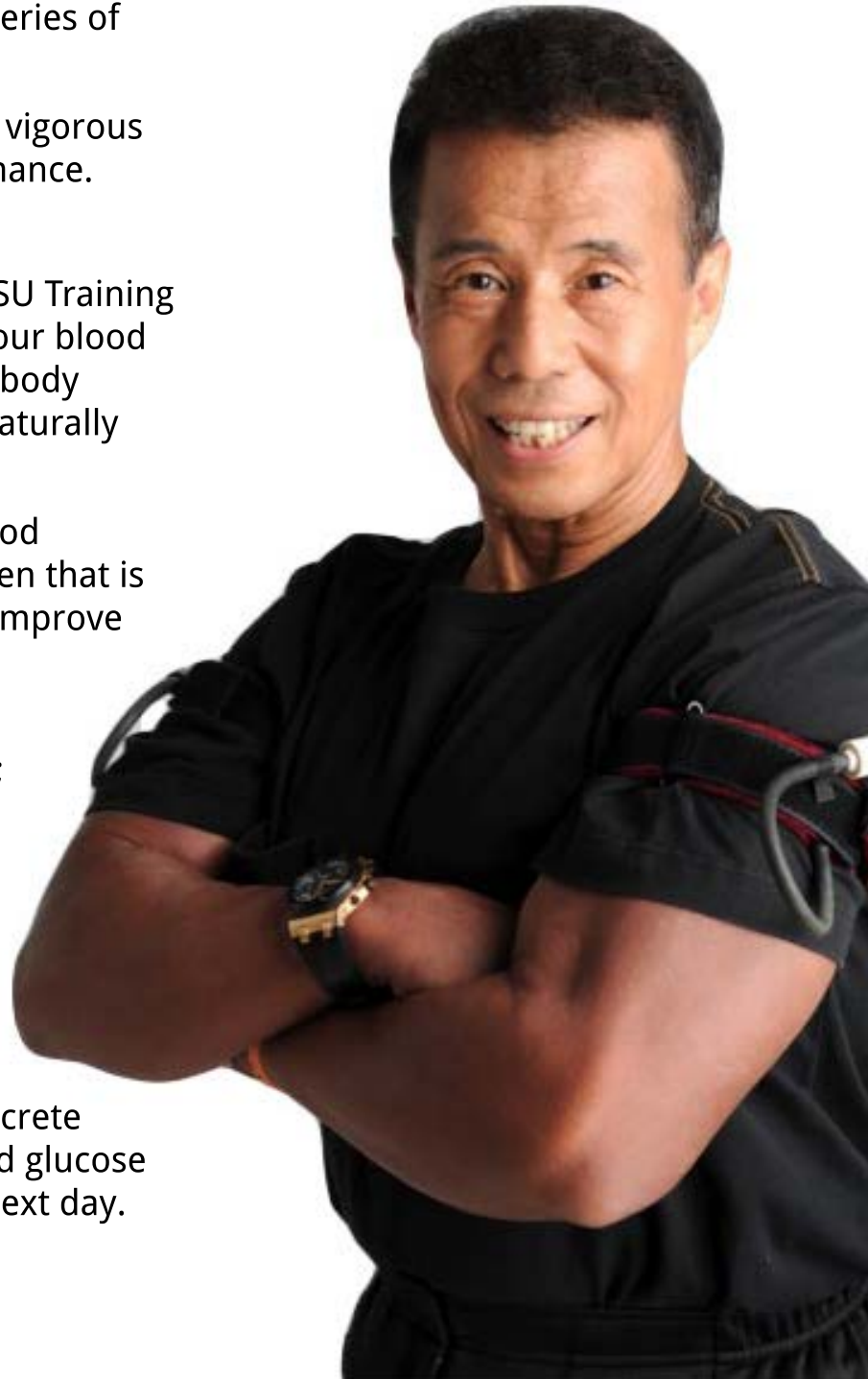
- » In order to improve sleep, select a relatively mild SKU pressure for you while doing 3-4 KAATSU Cycles.
- » You can keep the same pressure on 3-5 KAATSU Cycles, or you can slightly increase the SKU pressure on each subsequent KAATSU Cycle.
- » As you are doing the KAATSU Cycles, you can do shoulder rolls (forwards and backwards), head rotations, or simply stretching - nothing vigorous with KAATSU Air Bands on.
- » Do this protocol ideally within 1 hour of your planned bedtime.
- **Note:** this is especially helpful when you cross time zones or must get up very early.

IMPROVING RECOVERY:

- » In order to improve recovery, do a series of 3-6 KAATSU Cycles at a comfortable SKU levels.
- » Be very well hydrated before and while wearing KAATSU Air Bands.
- » Stretch and walk slowly (even with the KAATSU Air Bands on your arms) or simply sit comfortably while doing these series of KAATSU Cycles.
- » Repeat this recovery set after each vigorous training session or athletic performance.

IMPROVING METABOLISM:

- » While doing KAATSU Cycle or KAATSU Training while standing or sitting upright, your blood is shifted to the lower part of your body by gravity while the blood flow is naturally increased.
- » Increased blood flow improves blood circulation and the volume of oxygen that is carried to the cells is increased to improve the metabolism.
- » Diabetes is a disease in which insulin is not produced sufficiently; subsequently, levels of glucose in the blood are above normal.
- » While doing KAATSU Cycle, insulin-like growth factor I - which lowers blood glucose levels, is secreted.
- » KAATSU serves as the catalyst to secrete IGF-I and immediately lowers blood glucose level; the effect remains until the next day.



KAATSU Training Special Feature...



Carl Lanore Interviews Dr. Jim Stray-Gundersen

KAATSU INTERVIEW ON SUPER HUMAN RADIO

Carl Lanore of Super Human Radio interviewed Dr. James Stray-Gundersen about KAATSU on October 12th 2015.

...it's Super Human Radio with your host, Carl Lanore.

Carl Lanore: Hey, hey welcome back to another episode of Super Human Radio. We have a great show planned for you today. We're going to be covering quite a few really important subjects. We're going to be joined by Dr. Jim Stray-Gundersen to talk about KAATSU training. There's a lot of discussion about KAATSU, a lot of misinformation out there.

There isn't a single person on the planet that knows more about it, even above and beyond the Japanese scientist that discovered it than Dr. Jim Stray-Gundersen, so we'll have some good questions and answers for him.

We started talking about KAATSU training in early 2006 I did my first discussion with a Japanese scientist and ever since then it has really intrigued me and everybody else out



Dr. Jim Stray-Gundersen works with an athlete at the U.S. Ski Team headquarters in Park City, Utah, using a revolutionary new training device developed in Japan dubbed Kaatsu.

(Photo: Courtesy of Jim Stray-Gundersen)

there. We're going to get to the bottom of KAATSU training today with Dr. James Stray-Gundersen. How you doing Dr. Gundersen?

Dr. Stray-Gundersen: Very good, thanks Carl.

Carl Lanore: Let me just give a brief highlight of your CV here because it's very impressive.

Dr. Stray-Gundersen: [chuckles] Sure.

Carl Lanore: Well you're a general surgeon, which qualifies by the way to run for president now.

Dr. Stray-Gundersen: [laughs]

Carl Lanore: University of Southwestern Medical School, Associate Professor in Exercise Science and Human Performance for the past 18 years; four Olympic games as physician or physiologist; twenty

world championships at various sports physician, physiologist; altitude expert. We were just talking about the role of hypoxia and remodeling of fat cells in leptin sensitivity. World renowned anti-doping expert and involved in many sports to advance performance legally and ethically, NFL, ABA, FIFA, I mean your list goes on-and-on.

Why did you look at – what made you interested in

KAATSU training first of all?

Dr. Stray-Gundersen: Well it kind of goes back away. As you pointed out my initial education was as a general surgeon, but after I finished my general surgery residency I ended up doing some post-doctorate fellowships in cardiovascular physiology and another one in human nutrition. I kind of or I did fall in love with the idea of using the medicines of exercise and nutrition to promote health and fitness. And that wasn't really aligned with taking

paradigm shifter in terms of how we can safely and effectively improve health and fitness in humans.

Carl Lanore: So KAATSU was first written about in a paper from some Japanese scientists who were looking at KAATSU. Correct me if I'm wrong because it's been awhile, but they were looking at KAATSU not necessarily for performance, but as a therapeutic aid to recovering from an injury and avoiding the muscle loss generally seen from an injured limb, right?

you end up adapting to the exercises that you've done, but you've tricked the brain. Normally to get this kind of hormonal release you have to be lifting really heavy loads and exhausting yourself and with KAATSU you can do it with very light loads and in a short period of time. So it ends up being a very efficient way of doing this. Then there's applications for whether it's seniors who can't lift very heavy weights in the first place or someone who's injured, say someone who's torn

“Look this is what builds muscle. It doesn't matter if you're using heavy weight with low reps, it doesn't matter if you're using light weight with high reps, what matters is that this condition is occurring in the muscle.”

out gallbladders. So I ended up having a career as you pointed out in academic medicine and doing various research projects. But the key thing to all of these things is looking forward to how to optimize human health and fitness.

About four years ago I got introduced to KAATSU. It just struck me as one of those things that is a real

Dr. Stray-Gundersen: Right. Right here is the essence of KAATSU. So basically what we do is with very light weights that can be done by anybody whether they have an injury or not, we end up being able to do maximal strength training exercise. So that exercise then mitigates any atrophy that might be happening, but it also sets up a kind of hormonal situation where

their ACL and they're coming back from an ACL tear, but this is a way to exercise their quads to get that muscle mass back.

Carl Lanore: So and you know I've often thought what I'm about to say but I've never said it on the show, there's always this discussion about what builds bigger muscles?

Dr. Stray-Gundersen: Yeah.

Carl Lanore: And there's the group out there that says you know heavier loads and the group that says higher reps and the reality is that it can be either if you stimulate a phenomenon which I can only use the word "muscular congestion." Depending on when you were able – where in that dynamic of exercise that your performing whether it's heavy weight or higher reps, you know lower reps with heavy weights or higher reps with lighter weight, if the muscles getting congested that is where it appears that the intramuscular growth factors and switches that seem to be exploited by KAATSU really say, "Look this is what builds muscle. It doesn't matter if you're using heavy weight with low reps, it doesn't matter if you're using light weight with high reps, what matters is that this condition is occurring in the muscle." Am I off base on that?

Dr. Stray-Gundersen: No. I would just kind of phrase it a little differently. I would say that what KAATSU does is it impedes the blood flow out of the muscle such that the muscle when it's exercising it can't get its normal recovery that blood flow allows. And because it can't recover a profound disturbance of homeostasis is induced in this muscle. This disturbance of homeostasis and I know that's a little bit of a mouthful, but this disturbance of homeostasis is when for example the oxygen levels in the muscles go down or the pH does down, which means that the environment is becoming more acidic or various electrolyte gradients are coming out of spec if you will and there is a variety of these things that happen when a muscle is exercising and it can't get recovered.

This contraction becomes unsustainable and then that unsustainable contraction sends a signal up into the brain saying, "Holy mackerel guys you got to help me out here." We're aware of that feeling cortically by a hard effort or a feelings of fatigue or feelings of congestion and a variety of these things such that we end up sending the brain this

This disturbance of homeostasis and I know that's a little bit of a mouthful, but this disturbance of homeostasis is when for example the oxygen levels in the muscles go down or the pH does down, which means that the environment is becoming more acidic or various electrolyte gradients are coming out of spec if you will and there is a variety of these things that happen when a muscle is exercising and it can't get recovered.

signal. It's usually only in both cases like you know 20-miles out on a long run or by lifting 300-pounds squats and doing that kind of thing where you'd get to these situations where the disturbance of the homeostasis in the muscle has been so profound that these kind of messages to the brain are screaming out for help.

Then the brain responds by an outpouring of a hormonal milieu that maybe milieu that may be best illustrated by increases in growth hormone or profound increases in growth hormone from this exercise. Then that healing anabolic hormonal response out of the brain is then responsible for all this rebuilding process and healing process and then we go from there. Under normal circumstances whether it's with the marathon or whether it's Olympic weightlifting that muscle has been damaged by this stuff. But in the case of KAATSU we haven't damaged the muscle, we've just fooled the brain into thinking all hell was breaking lose.

Carl Lanore: Aaaaah interesting.

Dr. Stray-Gundersen: Okay? And so then you adapt – instead of having to dig yourself out of this hole you just can start increasing strength and fitness right off the bat.

Carl Lanore: Oh man okay so two things that jump out of me big time here that I did not understand and this is really great stuff. You're right because we talk about the net synthetic response of exercise in building muscle and we know that if damage is negative 10 and growth is positive 12, you have a net influence of 2 on the growth of muscle. What you're saying is damage is zero, so whatever the growth impetus is that is a positive X whatever that is.

Dr. Stray-Gundersen: Right.

Carl Lanore: So you're really building on a foundation of already ready to grow muscle as opposed to previously damaged muscle.

Dr. Stray-Gundersen: Exactly. So we've altered the balance. We've really decreased those negative

stimuli to a minimum and we've maximized because this is a maximal signal, we've maximized adaption healing response. And so you know you just tilted the teeter-totter and all of a sudden you know off you go getting stronger and fitter right off the bat and you've done it with really low weights.

Carl Lanore: Okay.

Dr. Stray-Gundersen: So anybody can do it.

Carl Lanore: Okay now wait a minute because we're going to get into the weight loads in a second. Now the other misunderstanding I've been under is that the increase in growth factors, mechano growth factor which I think is IGFE or 1E or something like that, all these things happen in the muscle exclusively than systemically. Am I incorrect? Is it just being what's the word I'm looking for, trapped and concentrated in the muscle, but it's actually produced systemically?

Dr. Stray-Gundersen: Well there's a couple of things, there's both local effects and systemic effects.

Carl Lanore: Okay.

Dr. Stray-Gundersen: So imagine we have a muscle exercising and its blood flow is not a happy camper, it can't recover the muscle as well as it would like too. So then there are various sort of near-term hormones that are in the tissue itself or in the surrounding tissue that end up sending signals that do a variety of things. Like they essentially try to repair this damage that's being done. There's various cytokines that are locally released that do things like turn on protein metabolism, they prepare cell-surface receptors such that they will be responsive to any systemic hormones that are coming along. Those sorts of things are all done at a local level.

Then because this signal of this disturbance of homeostasis has been sent up into the brain it has caused among other things the pituitary to release a lot of growth hormone. This growth hormone then goes among other places to the liver where it stimulates the production of IGF-1. Then IGF-1 then goes out throughout the whole the whole circulation. It

then where there are cell receptors that have been up-regulated or turned-on such that they will be receptive to these anabolic stimuli, then those tissues that have been exercised end up further amplifying their production of proteins and trying to repair what damage was done. The nice little thing about this is that the damage wasn't done, we just fooled the brain into thinking it was.

Carl Lanore: This is brilliant. Then obviously the brain gets – the body gets to work in super compensating and preparing for the possibility of another one of these muscular onslaughts and it increases the muscle size and we're going to talk about obviously it influences hypertrophy, but we're going to talk about strength in a second.

Carl Lanore: You know everybody talked about work smarter not harder. Lee Haney used to say, "Stimulate, don't annihilate."

Dr. Stray-Gundersen: There you go.

Carl Lanore: It sounds to

me like KAATSU is the gold standard for those who want to work smarter not harder. But let's talk about two things when we come out of the break. Let's talk about the load, because what I see people doing with KAATSU is instead of using a light weight they use heavier and heavier weights and try to bridge the strength and muscle hypertrophy gap.

Dr. Stray-Gundersen: Yeah, don't need too. [chuckles]

Carl Lanore: But also I want to talk about what KAATSU is not good for, if there is anything and then we will talk more about training styles.

In the meantime if you're anxious to get information you can go to the website KAATSU-global.com. I'm going to spell it for you, it's: K-A-A-T-S-U hyphen or dash depending on what part of the country you're from, global.com. They're giving away a free four megabyte report on lots of the things that we're talking about here. You need to go there and get that.

We talk about advanced training techniques like statics and negatives.

There may not be anything more advanced than KAATSU, but you have to understand how to use it, because like all things that really work it can backfire on you too and we'll talk about that in the show too.

We're talking about KAATSU training right now with Dr. James Stray-Gundersen. I have to thank a listener from Budapest, Hungary for putting this show together today and that's Peter Lakatos.

A lot of the things that we're talking about here today if you want to get a little deeper into it you can go to the website, KAATSU-global: K-A-A-T-S-U hyphen G-L-O-B-A-L.com and download their report and obviously communicate with them there if you want to try to adapt this to your own training.

So first things first the weights that people use must it be light weight or is there an advantage to doing some sort of progressive loading when you're doing KAATSU?

Dr. Stray-Gundersen: Yeah Carl this is really an important point. We're paradigm shifting here.

We're thinking about using impeded blood flow or modified blood flow plus low weights, light weights, easy weights to send this signal to the brain. So we're using the muscles that are you know normally when we think about training we think about we're training the muscles that we're exercising. This is we're using the muscles that are being exercised in contute to send this signal that causes the whole body to adapt.

So one of the things about in terms of the loads we absolutely don't want to use heavy loads because that ends-up becoming a combination of modifying the blood flow and using heavy weights can produce damage to the muscle fibers. So we always want to stay on the side where we're doing really light weights like you know two-pounds arm curls or we can do things with partial body weight like push-ups or –

Carl Lanore: Yeah I was just going to say that. It sounds to me like if you want to do KAATSU look a lot of us going to the gym with our training buddy, his name is

Ego and the last thing we want to do is grab a pair of two-pound dumbbells and have 19-inch arms and people go, "What's that about?"

You know when I was a kid there were guys in the neighborhood that would buy a Camaro, put a Phase 3 hood on it, put Mickey Thompson 50-Series tires on the back, put you know traction bars on it and they had a four cylinder or a six cylinder and we used to call that a "pig."

Dr. Stray-Gundersen: [laughs]

Carl Lanore: So you know a lot of us guys we have an ego, we're going to go in and lift heavy. It sounds to me that KAATSU would best suited for bodyweight training.

Dr. Stray-Gundersen: Yes it is. So you can do all the KAATSU exercises and you can get a really good KAATSU effect without any additional weights or devices or anything. Now that's not to say that we're going to have to throw out all the weight racks we have at home. The idea is that particularly for strength-oriented sports,

let's say alpine skiing or Olympic lifting or football or these sorts of things where strength is critical and let's say standard weight training has always been part and parcel of getting fit for those sports.

What we do or what we recommend at the U.S. Ski Team where I'm working is that we have the athletes do 90% of their normal weight workout. So to induce a little fatigue but they save the riskier lifts to trying for KAATSU. So we don't want anybody doing maximal squats or these bench presses where they might drop the weight, where they might hurt their back or that kind of thing, but we do all the other stuff.

Then after that workout then they come in and they do a KAATSU session. That really polishes it off, because now the muscles are already fatigued, it's already giving them a little bit of a signal and then we hammer it with this KAATSU program that really takes it over the edge, but does so safely. There's no heavy weights involved. We're able to get people where they just can't do one more

pushup. So then what we're doing is we're getting the traditional training plus we're getting what I think of as frosting on the cake by doing that KAATSU session.

Carl Lanore: Okay so the traditional training is going to influence neuromuscular adaptation which gives us strength and instead of doing some you know other type of 20-rep scheme thing just do a KAATSU movement at the end to kind of influence hypertrophy.

Dr. Stray-Gundersen: Yeah. One of the things to think about is you know in various forms of training whether it's strength training or endurance training or all of these things you know there's not that many times in a week where you can really take it to max.

Carl Lanore: Right.

Dr. Stray-Gundersen: And what KAATSU does is again frosting on the cake of all of the other training that's been going on and you just back-off that training just a little bit and you let the KAATSU session end up being those maximal workouts. And because

you're not getting the damage that's normally associated with it then for one thing you recover a lot quicker and you're ready to go the next day. You can actually add on more maximal sessions a week than you otherwise could.

All this stuff going back to that initial thing you were talking about where we're shifting the balance between the negative effects of training and the positive effects of training. And so what we're doing is we're cutting down on the negative effects, adding onto the positive effects, getting a more robust adaptation and fitter and stronger and faster and everything.

Carl Lanore: I want to talk a little bit about the way that you occlude and how critical this is. I know the original studies they were using blood pressure cuffs so they could actually measure in milligrams of mercury just how much pressure was being applied.

Today guys go into gym and literally tie ropes around their upper arms that have no give whatsoever and are

choking the muscle up. There's a big difference between doing this right and doing this wrong. Can we talk about that when we come back from the break?

Dr. Stray-Gundersen: Absolutely. Carl Lanore: We're talking with Dr. James Stray-Gundersen. We're talking about KAATSU training. This is the definitive interview on KAATSU training because there's a lot of misinformation out there.

Dr. Stray-Gundersen: Absolutely.

Carl Lanore: Yeah there is and it's not one of those things that if you get bad information you just won't grow, you can actually hurt yourself. One of the things that people need to be careful about is the level of occlusion or restriction and there's differences in that terminology in the science. Then what they consider vascular occlusion and vascular restriction are vastly different. One seems to still have some compensatory blood flow in-and-out of the muscle. The other seems to stop it completely. How do people determine how far to go or

is that something that you offer at the website? Do you offer the actual cuffs and how to use them?

Dr. Stray-Gundersen: Yeah Carl these are great questions. Let me take a moment and kind of describe some of the history here. Dr. Sato really invented KAATSU training in 1966 or that was when he had a little epiphany about how to do this. He then took about 30 years of tying bicycle tires around his arms, judo belts, what have you and kind of learned the hard way and from experience how to do this stuff right.

At the same time kind of little bits of these secrets were leaking out of Japan and into primarily the bodybuilding world and a number of other things. While Dr. Sato really didn't explain himself well a lot of these other people saw what he was doing or at least at the time. Then they had big ideas about what they thought he was doing and went and tried a bunch of stuff for themselves.

So if you think of this area of blood flow restriction as one big thing around

the world and there's our whole variety of things that kind of come into that circle, KAATSU is a subset of that. It's really only safe and only really effective when it's done the way Dr. Sato says. So there's a variety of protocols that are very important in terms of how you get these things done right and done safely.

So for example that is the primary reason why we have basically these instruments that allow us to very carefully judge what the right amount of impediment of blood flow is or the right amount of modification.

There's another aspect to this. So the way that we use these bands or the stuff that goes around the arms and the legs is that there's an air bladder in there and this air bladder we can very finely change what the pressure is in there. And what we do then is we kind of go through a set of pressures where we then check to see whether we're seeing the right kind of physical signs that we have not occluded, but that we have impeded blood flow such

that the exercises that will be done will produce problems or not problems but failure, fatigue, send a signal up into the brain.

Carl Lanore: Okay.

Dr. Stray-Gundersen: So it's very critical the two big things and this is one of the things that the KAATSU protocols are very good for is that we absolutely don't want to occlude.

If we do occlude that's the thing that can lead to severe muscle damage or sometimes blood clots or a variety of other complications. Usually pretty much everywhere where we've seen these kind of complications it's because people are either not even doing KAATSU at all or they're doing it incorrectly. So what is critical is getting the right equipment, getting the right education, and then doing this and applying it in the right way.

Carl Lanore: Now there are people out there who are going to try it obviously and they're not going to want to buy things to try it.

Dr. Stray-Gundersen: Right. Carl Lanore: Is there kind of a rule of thumb that look if the muscle is

occluded and you're going to feel this severe pump, you're going to feel this accumulation of lactate build up rather quickly, is it kind of like something that we say, "Look if you're starting to fail and feel these things in the first couple reps you're too tight. You're shooting for a 10 to 15 rep where you start to experience this." Is there anything that we can give some safe advice on that or is it something that they must follow exactly what you offer at the website?

Dr. Stray-Gundersen: Yeah it's very difficult –

Carl Lanore: I know you're probably reluctant, I know you're reluctant to give that kind of broad scope statement being within the medical but you know.

Dr. Stray-Gundersen: No, no I think I can address it to some extent. What I would say is that it's not easy to get to the right level of blood flow modification without using the devices.

Carl Lanore: Yeah.

Dr. Stray-Gundersen: So what happens and believe me Dr. Sato has

tried over the years to do this in a way where it's just a matter of throwing on some belts and he's come to the conclusion that you need to have this education and you need to have the equipment to make it work right.

Carl Lanore: Right.

Dr. Stray-Gundersen: Now so and most of the time or I should say all of the time when we're figuring out where it is that somebody needs to have these pressures we're taking it a step at a time, we're undershooting in the first place and then we're checking things and then sometimes you have to do sets of exercises to see if you get this fatigue or failure in the proper number of reps. So standard KAATSU exercises end-up being usually three sets of the same exercise and usually we go about 25-to-30 reps in the first set, 20-to-30 second pause, then usually it ends-up producing failure in 20-to-25 reps on the second set, again a 30-second pause and then usually failure comes pretty quick in the 15-to-20 rep range. That's when you know you have it just right. It means

that you put the bands on in such a way and the pressures are set in such a way that you get failure in the period of those sets with very light weights or something like pushups or just getting up and out of a chair.

Carl Lanore: Okay, okay. Now are there any muscles that are not good candidates because of where they are, because of kinesiology, because of where the blood flow comes from, that are not good candidates for KAATSU? Dr. Stray-Gundersen: Well this is one of the unique things about KAATSU. So one of the things it is a critical step so you know if there is one thing to say never occlude. The next thing to say is always put the bands in the correct places, which is kind of just below the deltoid and just above the bicep on the arms and pretty much high up on the legs as far as you can go. That then produces this impediment of blood flow for all of the muscles that are distal to these bands.

So when that happens then were using as many muscles as possible to get that signal up into

the brain to produce that systemic effect. However, all muscles that are getting exercise those muscles their cell-service receptors get turned on and everything else and so they're receptive to this systemic hormonal anabolic response that's coming down the line. So what happens is we make a point of we want to exercise the muscles so that we get that fatigue signal that had their blood flow impeded, but we also want to exercise other muscles that are involved in any of these exercises.

So for example like if we want to get glutes firing their blood flow is just perfectly fine, but the hamstrings and the quads they're blood flow is impeded. So we want to setup a situation where we're getting exercise in all these muscles and even though the glutes don't have their blood flow impeded they're still getting the benefit. Same with also –

Carl Lanore: But wait a minute, but wait a minute, but technically they do and just stay with me because I'm obviously not up on this, but when I used to

use some form of KAATSU for my upper arms what I also found was that while the blood flow is being restricted in my biceps and triceps predominately and obviously the forearms because they're downstream.

Dr. Stray-Gundersen: Right.

Carl Lanore: But the muscles upstream are also experiencing some form of occlusion in the way that the blood that normally passes through them is kind of being trapped backed-up It's kind of like look when you clog a drain nothing on either side of the clog works very well, so my pecs used to get a really good pump and my shoulders used to get a really good pump when I was focusing on my biceps and triceps.

Dr. Stray-Gundersen: Yeah. You're absolutely right, your pecs and your deltoids and your shoulder muscles are all getting a really good influence, but their blood flow is just fine thank you very much.

Carl Lanore: Okay.

Dr. Stray-Gundersen: And so here's one of the things. So let's say

that we're going to do a bench press or let's say we're going to try to do a pushup. Let's say it's a pushup, you're using your forearm muscles, you're using your biceps, mainly you're using your triceps, but you're also using your pecs. So the pecs their blood flows happy camper, but the triceps they're the weak spot because they're blood flow impeded and they're starting to fail and they're sending a signal to the brain saying, "Hey guys I'm failing. I need to have a better percentage of my maximal ability to go forward." And the brain then says, "Okay well we got to really whip that horse and get those pushups going so we'll send out a signal to all of the muscles involved in the activity to work harder." And so those pecs are getting the same kind of whip if you will that the triceps are and even though they don't really need it. So then you end up getting this exercise benefit for the pecs as well as the triceps and everything else.

Carl Lanore: So the reality is in order to achieve the proper what's the word I'm

looking for, not occlusion but, ah, um, isn't this funny I just forgot my own - I got lost. But the bottom line is that in order to get the proper affects from this you really to just be able to get high up on the thighs where they attach into the groin area and between the tri and the upper arms below the shoulder muscles, that's it, that's everything. So you don't have to worry about occluding pectoral muscles or anything else.

Dr. Stray-Gundersen: Right. So point number one, get the bands in the right place. Point number two, modify the pressure and do little tests so that you have the proper amount of blood flow impediment and never occlude. Then point number three is use simple, easy weights, simple movements to get those muscles to fatigue and send that signal up into the brain that then releases the hormonal response.

Carl Lanore: Okay.

Dr. Stray-Gundersen: And it's really that safe and that simple if you do it that way and you know so you know there's tons of people

that think that one's good, ten is better, well all that stuff is not the way to do KAATSU.

Carl Lanore: Okay. So now we're going to take a commercial break and I have some questions I've always wanted to ask about certain supplements and their influence on the results of KAATSU and hopefully you'll have some opinions and perspectives on this.

We're talking right now with Dr. James Stray-Gundersen and the website is KAATSU-global: K-A-A-T-S-U hyphen global.com. If you go there and you place an order, well first of all you get a free report there, number one, so go and get that, but if you do want to buy some of the bands and items they offer if you mention this radio show, Super Human Radio, you'll get a 10% discount. This is good through for 30 days, so it's October 12th today if you're listening to this show late, if it's 30 days after that that coupon code is no longer available.

We're talking with Dr. James Stray-Gundersen. We're talking about

KAATSU training. If you are a personal trainer and you want to add the certification and the equipment to your repertoire of offerings you need to go to KAATSU-global.com: K-A-A-T-S-U hyphen global.com. This is a very, very serious science here. This is not where you put some ropes or bands around your client's arm.

The equipment gives read-back, it gives feedback and it explains what you're doing right, what you're doing wrong. It allows you to guide – you know and this is something really not just for the average person, but for those professionals out there who are bodybuilders who want to try to take their body to a different level that they just can't get with the type of training they're doing now. I have a feeling that KAATSU will open amazing opportunities for growth in those individuals.

So real quick two topics I want to cover and then we can wrap it up with whatever else you want to talk about. Certain supplements seem to influence this phenomenon either in a

positive or negative aspect I'm thinking. I don't know if this is true that's why I'm asking you.

Beta-alanine has been shown to quench hydrogen ions, allowing endurance athletes to train longer without the burn so to speak, the lactate buildup. Would that be a non-starter, a not a good supplement to use if you're looking to use KAATSU?

Dr. Stray-Gundersen: No, I think beta-alanine would be great. You know let's take nutrition as a kind of general topic. I know there's lot more here. But I think the way that nutrition, whatever nutrition the person is applying that KAATSU just amplifies the effect of this. So if the nutrition is intended to build big muscle then that's what's going to happen with the combination of the nutrition that's going in and the other training that's going on, as well as that KAATSU frosting if you will.

If it's an endurance thing then that connotes a certain kind of diet and then also a certain kind of other training and then KAATSU can amplify those

sorts of things. So for example it's been shown that muscle that gets built with kind of endurance-type training ends up having the characteristics of that kind of muscle all the time. You know the athletes don't necessarily gain any weight. In sports where you don't want to gain weight you can use KAATSU in a way that combined with your nutrition and your exercise such that you don't, you don't gain weight. Where on the other hand bodybuilders or other strength kind of athletes they want to gain weight, so then their nutrition dictates kind of the way that this goes.

Now one of the things back to beta-alanine specifically just the idea that you have good intracellular buffers is still a good thing, it's just mean that the degree of impeding of blood flow needs to be a little bit greater than it otherwise would be. This is where we see these kind of things. So after you get done with your KAATSU session and you've done let's say three to five different exercises and you've gotten that failure signal at least in the third set of each one

of those exercises, then in retrospect you know you did a good job. Whether you have beta-alanine onboard, whether you don't, whether you are using creatinine or all those sorts of things they just set the stage for the muscle to adapt in a better way to a stronger stimulus.

Carl Lanore: Okay good because then you answered the question about a nitric oxide donor as well like you know L-arginine or something like that.

Dr. Stray-Gundersen: Yeah right.

Carl Lanore: Okay. What about strength? Is there any evidence that KAATSU training actually effects neuromuscular adaptation in the same way that handling heavy weight does?

Dr. Stray-Gundersen: Well I'd kind of answer it this way, you know one of the things is you get increases in strength with KAATSU within two weeks. I would say that most people think that that's just because we've gotten better motor activation, better coordination and we really haven't done anything to

the muscle itself. But that's not the case. We do get those enhancements of the motor coordination and all that kind of stuff, but we're still getting protein building going on in the muscle and as I was kind of alluding to earlier that because we haven't done the damage we don't have to dig ourselves out of this hole that takes you know four-to-six weeks.

Carl Lanore: Right.

Dr. Stray-Gundersen: We can just start going right from get-go. So I would say that the degree of skill acquisition and all those sort of things is the same with KAATSU as it is with other sorts of sports or other sorts of weightlifting.

Now let me illustrate one thing is one of the things that I love doing with all of my athletes is I ask them to put the KAATSU bands on and then they have to try to do some skill activity that they may have been doing. For example juggling a soccer ball or throwing a baseball or hitting a baseball, all these things that are highly technically oriented and with the KAATSU bands on at the right pressures

they're just horrible at it.

That does a couple of things. One is these are already well accomplished people and they don't like not being good at what they're sport is and so it forces them to focus on the very specific motor tasks that are involved. Then because they renewed their focus on these activities, plus their muscles are getting more fatigued than they otherwise would they get a really robust response. And very shortly they're on one hand juggling soccer balls really well again with the KAATSU bands on and then on the pitch they're even better than they were before.

Carl Lanore: And so then when they take the bands off since they've had to focus more and get more neuromuscular inroads and control with the bands on when they take them off they're actually even better than they were before.

Dr. Stray-Gundersen: Exactly. So here's the thing, one of the things that is a critical component of all sports is when fatigue sets in you still have to do

things and in exactly the right way whether that's catch that football or hit that jump shot or score that goal, all these things are very critical, technical things that are not done well when the individual is fatigued. KAATSU teaches you to operate under those conditions of fatigue so that you then do those things better when you don't have the KAATSU bands on.

Carl Lanore: We only have a few minutes. Are there any contraindications that someone should not get into KAATSU? Like let's say they've been diagnosed with peripheral artery disease and they don't want to put bands on their lower legs am I right about that or no?

Dr. Stray-Gundersen: The short answer is there's pretty much no contraindications to KAATSU. There's a couple of situations where we take extra care. One example for example is a woman who's had breast cancer and has had the lymph nodes in her armpit removed or the lymph nodes have been radiated, which produces a situation where generally they're

advised not to put blood pressure cuffs on their arms or get blood drawn on that side. We similarly with an abundance of caution try not to put the bands on that arm. But the other three extremities they're still good to go for KAATSU.

Carl Lanore: Right.

Dr. Stray-Gundersen: That ends up being just fine.

Carl Lanore: Oh yeah because there's actually a cross-education. We know that if you train one leg, the other leg gets something out of it anyway, so there's probably some real benefits to that.

Dr. Stray-Gundersen: Exactly.

Carl Lanore: Yeah, yeah.

Dr. Stray-Gundersen: Exactly. So you know there are things and this is part of the educational process, there are things where we have to modify exactly what we do and we don't do, but suffice it to say that there's a way to KAATSU everybody in a safe manner.

So for example you were talking about the

peripheral artery disease in let's say a senior for example. There we're not going to use very high pressures, but we don't need too because we can end-up getting that KAATSU effect with a combination of low pressures and easy exercises that work for them and doing so such that we don't damage any arteries that are already diseased.

Carl Lanore: I have to believe that the hemodynamic changes would actually be beneficial to arteries because we know that heavy load-bearing exercise over long periods of time actually makes arteries and veins more resilient, more elastic, and improves intima, thickness, and function. So I got to believe that allowing them to achieve that level of let's say almost what occurs in a Valsalva-type of a maneuver, achieve that kind of blood vascular pressure changes, but without doing a lot of strenuous work has to be beneficial to them.

Dr. Stray-Gundersen: Absolutely. Again this gets back to that key to KAATSU

which is when it's done properly there's low loads involved. You don't have to go to the extremes that you normally have to go to to get the effects to happen.

Carl Lanore: Yeah. Listen we've run out of time. This is a fantastic interview. We're happy to have Dr. Gundersen back on the air. If you have questions that we didn't cover please e-mail them to onair@superhumanradio.com and I promise we'll have him back on and cover it at a later time.

This is brilliant and the website is fantastic, KAATSU-GLOBAL.com

Whether you are an end user or you are a personal trainer you must go to that website. Download the free report, but more importantly checkout the equipment, get certified and offer KAATSU training to your clients, it's a great idea.

Listen, thanks for being on the show today Dr. Gundersen.

Dr. Stray-Gundersen: Oh, you're more than welcome.

Carl Lanore: Take care.

DR. STRAY-GUNDERSEN ON LOCAL AND SYSTEMIC MECHANISMS OF KAATSU:



KAATSU ANKLE SPRAIN PROTOCOL

When young athletes or older individuals sprain their ankle, whether they are a high school varsity player or an aging Baby Boomer, an NBA athlete or a military veteran, the standard KAATSU Ankle Sprain protocol is as follows:

1. Do KAATSU Cycle twice a day (e.g., mid-morning and late afternoon) on the injured leg for optimal (fastest) results.
2. Start off with the first KAATSU Cycle (running a total of 3 minutes 20 seconds) at a low (conservative) Base SKU and Optimal SKU pressures (e.g., 20 SKU and 200 SKU respectively on the KAATSU Nano*).
3. Continue with a second KAATSU Cycle at a higher Base SKU** and higher Optimal SKU (e.g., 25 SKU and 250 SKU).
4. Continue with a third KAATSU Cycle at a higher Optimal SKU (e.g., 300 SKU).
5. Continue with a fourth KAATSU Cycle at a higher Optimal SKU (e.g., 350 SKU) if the individual remains comfortable and the Capillary Refill Time (CRT) remains under 3 seconds.
6. Continue with a fifth KAATSU Cycle at a higher Optimal SKU (e.g., 400 SKU) if the individual remains comfortable and the CRT remains under 3 seconds.
7. Finish off the KAATSU session by doing the KAATSU Cycle also on the other three healthy limbs, if time permits.
8. As the individual improves and recovers, continue the KAATSU Cycle on a weekly basis for maintenance and other benefits.

ADDITIONAL RECOMMENDATIONS:

1. The individual should be well-hydrated before and during KAATSU for maximum benefit.
2. The individual should sit comfortably while doing the KAATSU Cycle. Alternatively, they can repeatedly contract and relax their quadriceps during the KAATSU Cycle on the 2nd - 5th KAATSU Cycles.
3. Frequently check their CRT as the Optimal SKU increases on the 2nd to 5th KAATSU Cycles by firmly pressing a thumb in their quadriceps above the patella (or down by the ankles if they are wearing longer pants).



Unit weighs 3.5 ounces and measures 3.6” x 2.25” x 1”

4. The goal is to first warm-up the small capillaries in the lower leg with the lower Base SKU and lower Optimal SKU levels and then engorge the capillaries in the leg with blood (“pooling”) with increasingly higher pressures while doing slight movement.**
5. KAATSU can be done in combination with any other physical therapy treatments.
6. Ideally, the KAATSU Air Band should first be placed only on the injured limb. Then the individual can continue KAATSU on both legs and also subsequently on their arms (e.g., by doing the KAATSU 3-Point Exercises***).

**** If you use the KAATSU Master, these same pressure levels would be a Base SKU of 40 and an Optimal SKU of 200. This is because the air compressors are larger on the KAATSU Master. Of course, use lower pressures as dictated by the individual’s physiological responses and conditions.***

***** When you change the Base SKU from a lower pressure to a higher pressure, you must manually re-adjust the KAATSU Air Bands on the limb.***

****** The KAATSU 3-Point Exercises on the arms include a set of Hand Clenches + a set of Biceps Curls + a set of Triceps Extensions. The KAATSU 3-Point Exercises on the legs include a set of Heel Raises + a set of Leg Curls + a set of Non-lock Quarter Squats (note: in the case of non-ankle sprains).***

PAST, PRESENT AND FUTURE OF KAATSU

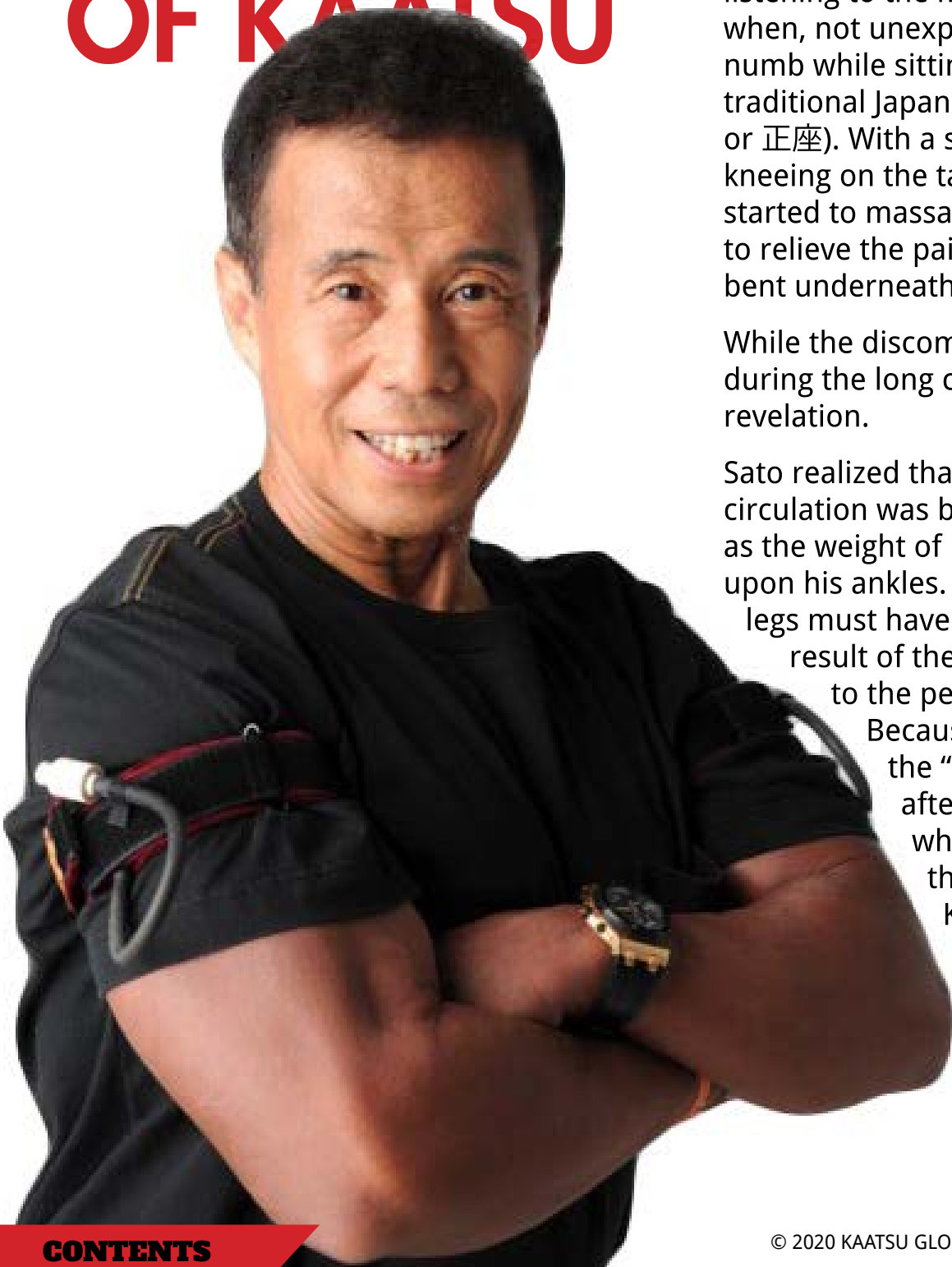
THE MOMENT OF DISCOVERY

In the fall of 1966, Yoshiaki Sato was 18 years old. He was attending a Buddhist memorial service and listening to the monk chanting sutras when, not unexpectedly, his legs went numb while sitting on the floor in the traditional Japanese position (“seiza” or 正座). With a straight back while kneeling on the tatami mat floor, he started to massage his calves in order to relieve the pain as his legs were bent underneath him.

While the discomfort continued during the long ceremony, he had a revelation.

Sato realized that his blood circulation was blocked in his calves as the weight of his body was directly upon his ankles. He reasoned that his legs must have gone to sleep as a result of the reduced blood flow to the periphery of his legs.

Because his calves had the “pumped up” feeling after he experienced while bodybuilding, this was the initial KAATSU moment of inspiration where the original idea of blood flow moderation training began.



The swelling and hardness in his calves led to Sato asking himself the key question that began KAATSU.

“I wonder if purposefully constricting blood flow could artificially replicate the physiological conditions of hard training. If this were true, could benefits be realized by only lifting no loads or only light loads instead of heavy weights?”



The answer would be answered in the positive.

YEARS OF QUIET EXPERIMENTATION

Over the next seven years between 1966 and 1973 in the quiet of his own house, the young man from Tokyo diligently experimented on himself by applying different bicycle tubes, ropes and bands at different pressures on different parts of his body. He methodically kept track of what type of bands and

pressures worked and what experiments did not.

As a monk in his local Buddhist temple, he began to see results that could not be explained given the physiological knowledge of the day. But the resulting effects of KAATSU were clear, although the medical explanations did not come for another decade.

After detailed and documented trial and error, Sato gradually developed effective protocols to safely restrict blood flow and enable muscle growth. His self-research on his own body led him to determine what length and width of bands are ideal and the optimal degree and locations to apply KAATSU pressure in various activities.

MOMENT OF PROOF

By 1973 on his own body, Sato gradually developed the details and fine-tuned the protocols of KAATSU as it continues to be practiced. At the age of

25 he went on a ski trip when he badly fractured his ankle and torn the ligaments around his knee. The injuries were diagnosed and his own father, a local doctor, told Sato that it would take six months to heal.

With a plaster cast on his leg, Sato rehabilitated himself with his KAATSU bands applied to his upper leg. Because he could not withstand the discomfort of keeping the bands on for the usual duration, he released the bands and repeatedly tightened the bands while doing isometric exercises for 30 seconds on and a few seconds off three times per day.

The results of his regimen – now known as the KAATSU Cycle – surprised him to a certain extent, but really shocked his doctors because not only did his muscles not atrophy, but he fully recovered within six weeks.

YEARS OF CONFIRMATION

Word spread locally of Sato's unheard of recovery. Demand for his new approach built rapidly around Tokyo, so Sato opened the Sato Sports Plaza in Fuchu where the KAATSU Japan headquarters still exists.

Sato conducted KAATSU on local people of all ages and abilities over the next decade. Injured patients, healthy athletes, older people and younger adults flocked to his office. While applying KAATSU to thousands of clients, Sato learned what worked best for people with various kinds of afflictions and injuries and from all walks of life between 1973 and 1982.

MIND — BODY — SPIRIT CONNECTION

Sato observed that KAATSU enabled the human body to improve and heal itself most effectively and most efficiently than any other therapy or modality.

He also encouraged people to focus mentally on their injured body part while doing KAATSU and observed how the intake of



food and water before and after KAATSU also led to positive results. The mind-body-spirit connection was clearly evident.

PATENTING KAATSU

In 1994, Sato applied for his first patents in Japan (Patent No. 2670421), U.S.A. (Patent No. 6149618), and Europe (UK, Germany, France, Italy with 94206403.0) as he produced and commercialized the first KAATSU Training bands. He worked on injured professional golfers and Japanese Olympians as his reputation grew.

Introduction of the KAATSU Instructor Certification Program

In 1997, Sato introduced the KAATSU Instructor educational program in Japan where his defined protocols were shared with coaches, trainers, physical therapists and physicians throughout Japan. Over 3,000 KAATSU Instructors were certified and hundreds of more experienced KAATSU Special Instructors were licensed. These instructors conducted tens of thousands of KAATSU sessions annually and safely without complications.

Media attention and public acceptance grew in Japan after KAATSU was named one of the collaborative projects of the University

of Tokyo Hospital's 22nd Century Medical and Research Center in 2000.

Sato also began to offer an ischemic circulatory physiology course at the University of Tokyo Hospital and conducted joint development work with the Japan Manned Space Systems Corporation.

KAATSU RESEARCH

Beginning in the mid-1990's, Sato began joint research with Professor Naokata Ishii of the Department of Life Sciences, Graduate School of Arts and Sciences, at the University of Tokyo. Other researchers in Japan, including cardiologists Dr. Nakajima and Dr. Morita at the University of Tokyo Hospital, started to explore the benefits of KAATSU and various research results were submitted to peer-review publications.

KAATSU

INTERNATIONALIZATION

In 2014, KAATSU Global was established in Huntington Beach, California and the Center for KAATSU Research at the Harvard Medical

School was started in Boston, Massachusetts. Dr. Sato and his partners, Steven Munatones, Richard Herstone, David Tawil, retired Navy SEAL Captain John Doolittle, Robert Heiduk in Germany, Péter Lakatos in Hungary and many others began expansion to the markets in the North America, South America, Oceania, Europe and Asia. Eventually, KAATSU Global developed the next-generation products that were also sold to and distributed by Dr. Sato in Japan.

KAATSU FUTURE

Future applications and the third generation of KAATSU products are currently being explored in the military, medical, sports performance and corporate wellness markets in the United States with plans for further expansion in Asia, South America, Europe, and Oceania.

While KAATSU has expanded to 32 countries as of 2018, there are also an increasing number of knock-offs and imitators that use KAATSU copyrighted materials and

attempt to design products around KAATSU patents as the global market continues to grow.

SUMMARY TIMELINES

1966: Dr. Sato developed the concept of KAATSU when he was sitting on his heels during a Buddhist ceremony.

1966-1972: Dr. Sato experiments on himself and develops the basic KAATSU methodology through years of trial and error.

1973: Dr. Sato breaks his ankle during skiing and uses KAATSU Cycle to rehabilitate himself quickly.

1973-1982: Dr. Sato begins to offer KAATSU to others.

1983-1994: Dr. Sato continues to improve know-how to apply KAATSU through increasingly wider application to people and basic research.

November 1993: Dr. Sato applies for first patent of KAATSU in Japan (Patent No. 2670421).

June 1994: Dr. Sato applies for first patent of KAATSU in the United States (Patent No. 6149618).

August 1994: Dr. Sato applies for first patent of KAATSU in the United Kingdom, Germany, France and Italy (94306403.0).

1995: KAATSU receives recognition after being used on the Japanese bodybuilding champion Toshio Konuma.

1996-1999: Dr. Sato begins joint research with Professor Naokata Ishii, Department of Life Sciences, The University of Tokyo.

1997: Various research results are released at academic conferences in Japan.

2000: Research results are published in various academic journals.

2001: Research results are announced by the Japanese Society of Clinical Sports Medicine.

September 2001: KAATSU and KAATSU Aqua are tested at Golden West College in California, first time outside of Japan.

2004: Japan KAATSU Training Society is established.

June 2004: The study of KAATSU is initiated in the University of Tokyo Hospital's 22nd Century Medical and Research Center.

June 2004: Research results are published by the Japanese Association of Rehabilitation Medicine.

October 2004: KAATSU Training and ischemic circulatory physiology course is established at the University of Tokyo Hospital.

April 2005: Joint development agreement is signed with the Japan Manned Space Systems Corporation.

August 2005: Advanced medical research & development cluster is launched at the University of Tokyo Hospital.

October 2005: KAATSU Master Mini is developed and launched in Japan.

April 2006: The University of Tokyo offers a course in Sport and Exercise Biometrics at its Graduate School of Frontier Science.

August 2006: Joint research begins with JAXA and the University of Tokyo into KAATSU implementation into space.

December 2006: KAATSU Training Research Institute Co., Ltd. is launched.

July 2007: Research on KAATSU begins at Rutgers University, University of Oklahoma, West Point, University of Texas and Indiana University Purdue University.

May 2008: KAATSU Master is launched.

August 2008: American College of Sports Medicine signs co-research project with Dr. Sato.

April 2009: Dr. Sato is appointed as Knight Commander of the Order of St. John of Jerusalem.

September 2009: Joint development agreement is signed with Jilin University and the State General Administration of Sports in China.

April 2010: Genetic research starts at the Research Institute of Sports Science of the State General Administration of Sports in China. December 2013: Dr. Sato starts to work with United States Ski & Snowboard Association in Park City, Utah.

February 2014: KAATSU Global, Inc. is established in California.

February 2014: KAATSU is used by American Olympic Nordic combined skiers at the 2014 Winter Olympic Games in Sochi, Russia.

September 2014: New KAATSU Master and KAATSU Nano are launched in the United States.

2016: Drs. Sato, Ishii, Nakajima and Abe publishes the book, KAATSU Training: Theoretical and Practical Perspectives, in English.

2016: KAATSU is widely used by Olympic athletes at the 2016 Summer Olympic Games in Rio de Janeiro, Brazil.

2017: KAATSU is used by personnel in the Department of Defense and Special Operations Command in the United States military.

2018: KAATSU is used by athletes in the NFL (National Football League), NBA (National Basketball Association), MLB (Major League Baseball), NHL (National Hockey League), MLS (Major League Soccer) and NCAA Division I, II and III institutions in the United States.

2018: KAATSU is used by personnel in the Israeli Defense Forces.

2018: KAATSU is used by paraplegics and quadriplegics for the first time outside of Japan.

2019: KAATSU is distributed in 47 countries and 50 American states including at the Department of Veterans Affairs (VA).

June 2019: Robert Heiduk publishes the book, KAATSU – The Pressure Training From Japan – New perspectives in sport, therapy and health promotion, in English and German.

June 2019: Dr. Nakajima and Dr. Sato publishes the book, University of Tokyo Hospital 22nd Century Medical and Research Center KAATSU Training & Ischemic Circulatory Physiology Course Summary from 2004 - 2014, in English.

July 2019: Next-generation KAATSU Master 2.0 is launched in the United States, Europe, and Middle East.

September 2019: Next-generation KAATSU Cycle 2.0 is launched in the United States, Europe, and Middle East.



SWIMMING HELPED ME SURVIVE, KAATSU HELPED ME TO THRIVE



Photo shows Munatones with the pneumatic KAATSU Air Bands on his arms inflated to 100 SKU pressure, doing 25-yard swims at light intensity.

On May 12th 2016, Steven Munatones had a heart attack (i.e., ventricular fibrillation arrest, atypical thrombus, and a myocardial infarction in the left anterior descending artery) at his home.

After he awoke from the induced coma, Arctic Sun protocol, and a stent implanted in his left artery and was released from Hoag Hospital in Newport Beach, California, Munatones wrote in June 2016 [here], "Perhaps, I will never get back to that same previous swimming speed and intensity...it may take me a while – perhaps a long time or perhaps never – to have the requisite self-confidence to swim in the Pacific Ocean or to do a fast main set of freestyle or butterfly in the pool. But those limitations – short-term or long-term – are perfectly acceptable to me."

Dial forward three years as Munatones has been doing KAATSU Cycles nearly every day as the primary form of his cardiac rehabilitation.

"I never thought I would get back to my previous level of fitness," the 57-year-old mentioned. "But I have clearly surpassed it. Swimmers can easily and objectively measure one's level of fitness based on the pace and intervals that we swim in a pool. Just recently, I was able to hold a pace of 1:09-1:12 per 100 yards for fifty consecutive 100-yard freestyle swims in a set described by swimmers as 50x100 @ 1:15 in a 25-yard pool. I was not able to do that before.

I have not changed my diet, dryland training, or amount of swimming that I normally do. However, this test set was a clear and objective measure that my aerobic conditioning has improved as I get older - as long as I continue to do daily KAATSU Cycles."

Munatones described his heart attack that occurred at his home. "I was at my home, heading to the kitchen for breakfast, and I just collapsed. I do not remember anything for 9 days, but on that morning, my 17-year-old rescued me. He did hands-only CPR while my wife was talking to the 911 operators. The paramedics came, took over, and took me to Hoag



Hospital in Newport Beach [California].

I was immediately treated by the emergency room staff, operated on by cardiologist Dr. Lee Carter who put a stent in my LAD (left anterior descending) artery. After telling my wife that I would likely have severe neurological damage, they agreed to apply the Arctic Sun protocol. I spent a few days in a hypothermic induced coma and came up in the Critical Care Unit at the hospital.

I knew it was a miracle that I lived.

Everything - the timing, the location, the 911 operator, my son, the paramedics, the ER staff and cardiologist, and the circumstances - went just right for me to live. It was a perfect storm of how best the emergency medical system works in America. Everyone involved did an outstanding job in an extremely timely manner to enable me to recover from a heart not beating and lungs not moving, and a brain hovering between life and death.

I am forever grateful for my son and his ability to remain calm and composed as I laid out on the verge of death giving CPR, and the

immeasurable skills of the paramedics, nurses and doctors who treated me.

Even before being released from the hospital and returning home, I was intent to getting back to normal as soon as possible. I knew my stress levels and heavy travel schedule had to be significantly reduced to return to a more healthful lifestyle. But I also instinctively knew that swimming and KAATSU absolutely had to become a major part of my recovery.

Swimming is what I have done all my life and KAATSU is something that I had studied how to optimally apply to cardiac rehabilitation patients at the University of Tokyo Hospital under the mentorship of cardiologists Drs. Nakajima and Morita, and Dr. Sato, the KAATSU inventor.

Now - on myself at home - was the optimal time to apply what I learned in Tokyo."

But the learned words of the medical professionals reminded him - and other cardiac patients warned



him - about swimming and pushing himself too soon and too hard:

"Take it easy."

"Don't do KAATSU."

"Certainly don't do KAATSU at least for another year."

"Focus on the prescribed cardiac rehab at the hospital."

"Don't get your heart rate

too high."

"You need to rest and take it day by day."

Munatones described his dilemma, "I was grateful for the much-appreciated advice of people who had heart attacks and those who treat them as a professional. Since they have the experience and were the medical professionals who saved

me, I listened to their advice of course. But I still craved rehabilitating through swimming and KAATSU.

While cardiac rehabilitation traditionally involves pharmaceuticals of various kinds, rest, and walking on treadmills under medical supervision, I wanted to swim and do KAATSU. I wanted to take off my shoes and get in the water; I did not want to put my shoes on and hop on a stationary bike. I wanted to get wet; I did not want to perspire in a rehabilitation clinic. I wanted to swim with my buddies; I did not want to hang around people with cardiac issues.

I also wanted to do KAATSU to augment my swimming; I knew that by carefully and gradually inducing blood pooling in my limbs with the pneumatic KAATSU bands, that would help me. I had spent years being mentored by Dr. Sato, the KAATSU inventor, and University of Tokyo Hospital cardiologists Drs. Nakajima and Morita on how to use KAATSU with cardiac rehab patients, so I was confident in what they taught me.

But I followed directions of my American doctors and very impatiently waited.

Finally, the day came in June when my wife gave me her permission to swim - and I felt that was also the go-ahead day to start KAATSU Cycles. It felt wonderful - and normal - to wake up before the sun rose and drive to the swimming pool in the dark. I could see the lights shining over the pool deck from a distance, a familiar sight. I knew my swimming buddies would park in the same spaces, walk slowly to the pool, and hop in the same lanes...as they have for decades. I knew the warm-up would be the same and the main set would be varied as usual.

I was under strict directions to keep my heart rate low and swim cautiously. That was not to be a problem. Especially when I just sat on my couch at home or was typing emails at my desk and doing repeated KAATSU Cycles. I knew the metabolic and hormonal responses as a result of KAATSU would help me recover from my heart attack and stent implant in ways that were unknown in the United States."

Munatones described how he utilized swimming as a form of cardiac therapy. "I knew that I can easily control my swimming pace and heart rate by the speed of my kick, my stroke rate (arm turnover), my breathing pattern, the

length and intensity of my breakouts, and the length or duration of swimming sets in the pool. For example, if I shifted from a 2-beat kick to a 6-beat kick, my heart rate would increase. If I increased my arm turnover, or if I breathed less frequently, or if I performed longer or faster breakouts, my heart rate would also increase.

So control over my swimming pace and heart rate was easy to manage - and I documented everything.

I wanted definitive information about my heart rate so I downloaded Cardio, the free mobile app created by the MIT Media Lab, to my iPhone. I placed my iPhone next to

the pool so I could easily grab it when I stopped to rest at the poolside. I checked my heart rate throughout the workout, but made notes during the main set when I would swim faster.

I also used the Masimo MightySat™ Fingertip Pulse Oximeter to check my pulse, respiratory rate, and heart rate recovery. All this data was invaluable and objective for how I was to conduct my swimming and KAATSU rehabilitation. Initially during Week 1, I swam very slowly, barely

kicking with a purposefully slow arm turnover. I only did open turns rather than flip turns and I stopped frequently. I kept my swimming distance to 2,000 - 2,500 yards (1828m - 2286m) in a short-course pool and was careful to never get out of breath.

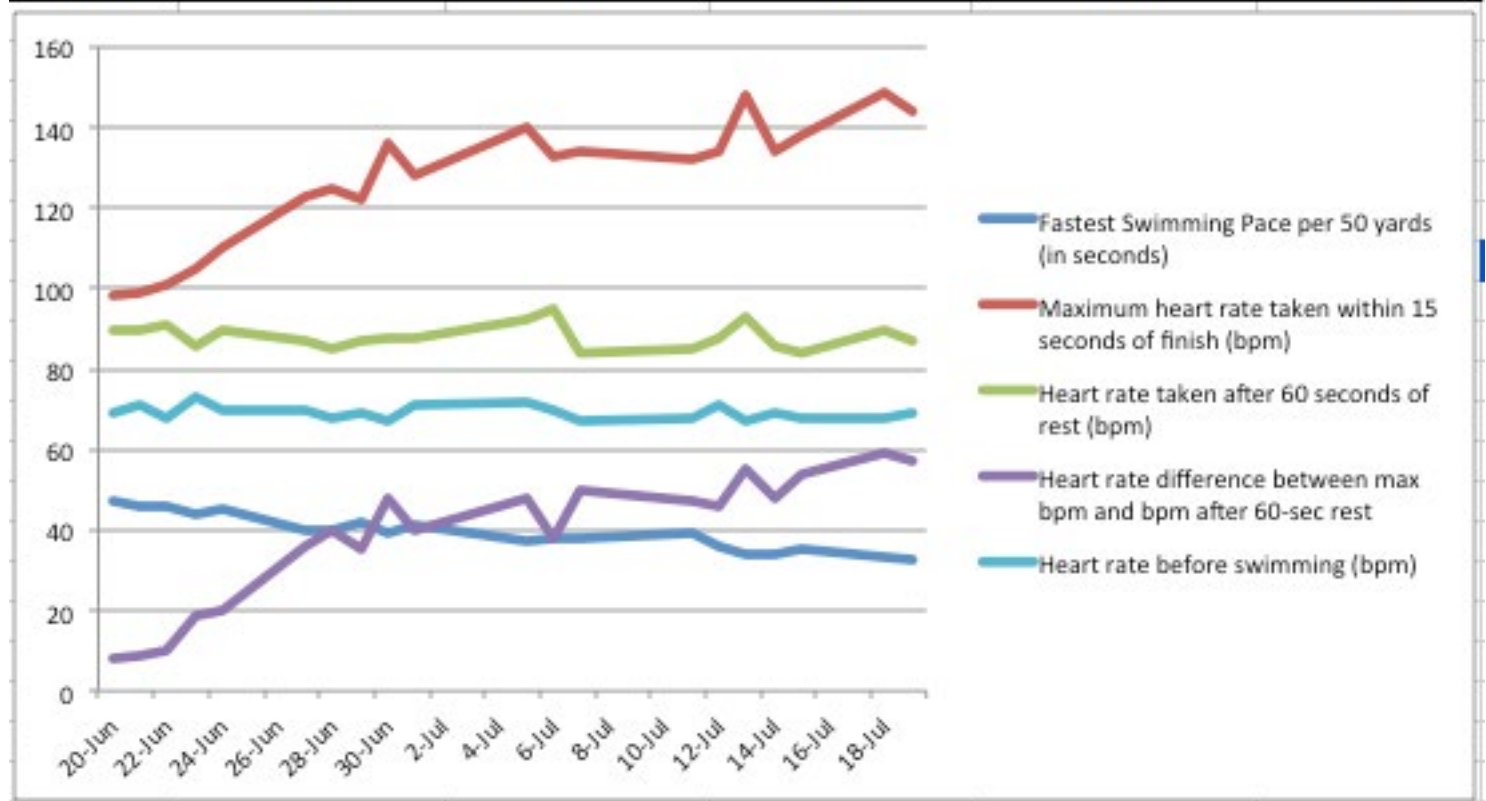
During the first five swimming sessions, I kept my heart rate or beats per minute (bpm) to under 110 bpm [see below]. It felt easy and comfortable, but I really enjoyed just being back in the water with my swimming buddies. I also

measured the same using the Masimo device while doing KAATSU Cycles at my home.

When I did the KAATSU Cycles while sitting, I noticed that my pulse rate would actually decrease the more KAATSU Cycles that I did while my oxygen saturation levels (SpO₂) would increase. Because the KAATSU Cycles helped increase my vascular elasticity, this inverse relationship between my decreased pulse rate and increased SpO₂ made sense."



Date	Fastest Swimming Pace per 50 yards (in seconds)	Maximum heart rate taken within 15 seconds of finish (bpm)	Heart rate taken after 60 seconds of rest (bpm)	Heart rate difference between max bpm and bpm after 60-sec rest	Heart rate before swimming (bpm)
20-Jun	47	98	90	8	69
21-Jun	46	99	90	9	71
22-Jun	46	101	91	10	68
23-Jun	44	105	86	19	73
24-Jun	45	110	90	20	70
27-Jun	40	123	87	36	70
28-Jun	40	125	85	40	68
29-Jun	42	122	87	35	69
30-Jun	39	136	88	48	67
1-Jul	41	128	88	40	71
5-Jul	37	140	92	48	72
6-Jul	38	133	95	38	70
7-Jul	38	134	84	50	67
11-Jul	39	132	85	47	68
12-Jul	36	134	88	46	71
13-Jul	34	148	93	55	67
14-Jul	34	134	86	48	69
15-Jul	35	138	84	54	68
18-Jul	33	149	90	59	68
19-Jul	32.5	144	87	57	69



Munatones explained his approach in the pool. "I gradually increased my controlled heart rate to a maximum of 130 bpm during Week 2 and increased it yet again to a maximum of 150 bpm during Week 3 - where the maximum will be maintained for the next six months. I checked my swimming pace after a 2-3 50-, 75- or 100-yard swims, depending on our main set. I made sure to document everything so I could show my cardiologist later. Although I was trained by Dr. Sato in Tokyo, I was not completely sure what data would result and what outcomes would occur - but I had 100% confidence that KAATSU and swimming would ultimately be helpful. To check my recovery, I did pace 100-yard swims to check my speed, pulse and heart rate recovery at the end of each swim practice.

As soon as I finished a swim set, I would stand up on the shallow end of the pool and quickly grab my iPhone to check my heart rate with the Cardiio app or Masimo device. After 60 seconds of rest, I checked

my heart rate again. I had hoped that the differential between my maximum heart rate and my heart rate after 60 seconds would increase over time. I saved the data and then posted it on an Excel spreadsheet for future analysis.

During Weeks 1-3, I never got out of breath in the pool like I usually did in our main sets previously to my heart attack. Along with Dr. Lyle Nalli racing alongside me, we would push our pace to maximum exertion levels. But no longer. I was taking my aquatic rehabilitation casually and carefully in a controlled manner.

I am convinced that a lifetime of swimming with all its cardiovascular benefits helped me survive...and I thrived with the addition of KAATSU in my own form of cardiac rehab.

In addition to swimming five days per week, six weeks after my heart attack, I was also concurrently doing KAATSU, primarily on my arms, but also on my legs at least three times per week on dryland. I wanted to start KAATSU immediately after waking up from my coma, but others around me (e.g., wife) encouraged me to wait - and my cardiologist definitely did not even want me to start KAATSU.

Three weeks after my heart attack, I started doing easy and conservative KAATSU Cycles with low pressure regularly on my limbs - administered by myself in the comfort of my own home.

I am convinced that the combination of KAATSU and swimming is the ideal form of rehabilitation for my own cardiac issues. KAATSU allowed me to gain weight back (I had lost nearly 30 lbs. in the hospital), gain back my muscular strength and mass while swimming enabled me to maintain flexibility and improve my aerobic conditioning."

So much so that the 57-year-old heart attack survivor was able to 50x100 @ 1:15 holding a good swimming pace - credit, he strongly believes, to the daily regimen of KAATSU Cycles, a protocol developed by Dr. Sato and his colleagues at the University of Tokyo Hospital years ago.

Three years after his heart attack, Munatones prepared for the 50x100 @ 1:15 set by occasionally doing KAATSU Aqua burpees (1 lap butterfly + pull-ups performed to muscular failure; followed by 2nd lap freestyle; followed by 3rd lap of butterfly + push-ups on deck

performed to muscular failure; finishing with 4th lap of freestyle).

CAUTION: It is EXTREMELY important to note that Munatones had the benefit of 16 years of mentorship and guidance by experienced cardiologists in the use of KAATSU in Japan before he used KAATSU on himself as a form of cardiac rehab. Patients must discuss this application with their own cardiologists and receive the approval of their own cardiac rehabilitation therapists before attempting this application on themselves.



KAATSU CYCLE 2.0



Unit weighs 3.5 ounces and measures 3.6" x 2.25" x 1"

PACKAGE

- > Includes 4 KAATSU Air Bands (for arms + legs)
- > Rechargeable battery with USB-C charger

BENEFITS

- > Tone muscle without weights
- > Convenient: do anywhere, anytime
- > Offers access to KAATSU Performance Database
- > Offers 6 pre-sent KAATSU Cycle levels
- > Improves speed, stamina and strength
- > Incredible time saver
- > Improves circulation
- > Faster recovery
- > Enables greater range of motion
- > Reimbursable with various CPT codes
- > Offers customizable KAATSU Training pressures
- > Proven safe for users up to 104 years old

ABOUT KAATSU

KAATSU is the world-leader in blood flow moderation training and therapy. Invented in 1966 by Dr. Yoshiaki Sato in Tokyo, Japan and protected by 47 patents, our equipment and protocols have an impressive and unprecedented safety track record with over 20 million individual KAATSU sessions in dozens of countries across the globe. From elite athletes, to baby boomers, and everyone in between, KAATSU is the ultimate biohack for health and rehabilitation.

LEGAL NOTICE—DISCLAIMER Warning: KAATSU Global, Inc. cannot diagnose diseases, prescribe drugs, or recommend treatments for specific disease conditions and does not dispense medical advice. Any views and ideas expressed are opinions only and not intended to be a substitute for conventional medical advice or service. You agree that no responsibility or liability will be incurred to any person or entity with respect to any loss, damage, or injury caused or alleged to be caused directly or indirectly by the information contained within this document. If you have a medical condition, please see a licensed healthcare practitioner.

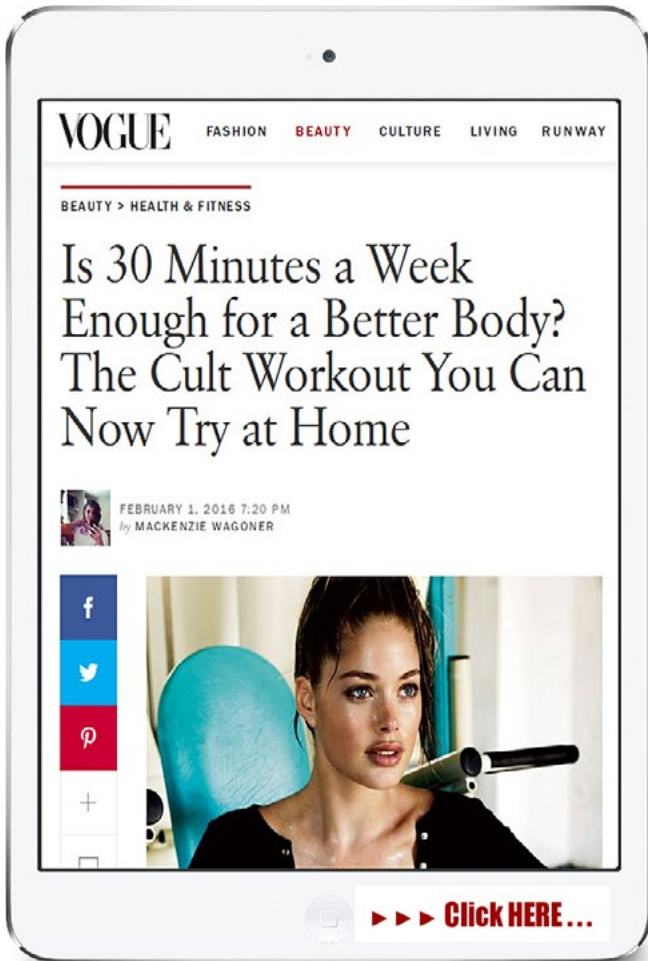
- > Exercise, recover and rehabilitate anywhere anytime
- > Offers KAATSU Cycle and KAATSU Training modes
- > Ultra compact, ultralight, durable
- > Utilizes precise, computer-controlled limb pressure on both arms, or both legs
- > The pneumatic elastic bands can be “untethered” from the KAATSU unit and are waterproof, for use in the pool
- > Utilizes original KAATSU know-how
- > US patent #9,775,619

RETAIL PRICE

- > \$899.⁹⁵ (1-yr warranty on device, 6 mo on bands)
- > \$979.⁹⁵ (2-yr warranty on device, 6 mo on bands)

KAATSU In The News

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



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

By Eleanor Warnock and Rachel Bachman
The Wall Street Journal



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

▶▶▶ [Click HERE...](#)

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

By WSJ Video
The Wall Street Journal



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

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MilitaryTimes

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"Kaatsu training is blowing fitness researchers' minds"

By Jon R. Anderson, Staff Writer
MilitaryTimes



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

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Outside

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

By Devon Jackson, Staff Writer
OutsideOnline.com



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

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KAATSU MASTER 2.0



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

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NOW**

NEXT-GENERATION KAATSU MASTER 2.0

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

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

FEATURES

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

BENEFITS

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

PACKAGE

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

DATA MONITORING

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

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

2.0 ALSO MEASURES AND ARCHIVES ADDITIONAL INFORMATION INCLUDING:

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

BAND SIZES

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

ARMS

Small: circumference of upper arm is less than 11.5 inches (29 cm)
Medium: circumference of upper arm is between 11.5 - 14 inches (29-35 cm)
Large: circumference of upper arm is between 14 - 16.5 inches (35-42 cm)
Extra Large: circumference of upper arm is between 16.5 - 21 inches (42-54 cm)

LEGS

Small: circumference of upper leg less than 16 inches (40 cm)
Medium: circumference of upper leg is between 16 - 21 inches (40-53 cm)
Large: circumference of upper leg is between 21-26 inches (53-66 cm)
Extra Large: circumference of upper leg is between 26-32 inches (66-81 cm)

LIFEFORCE IQ PRESENTS KAATSU



"Our goal is to awaken human potential by sharing precise effective tools and methods to maximize the health, happiness and performance of people who want to realize their potential," explains David Weinstein of LIFEFORCE IQ and OASIS in Boca Raton, Florida.

Weinstein was an investment banker for 35 years, specializing in biotechnology and medical companies. With that background and knowledge, combined with his lifelong interest in athletics and anti-aging, he and his wife Leidy are offering their lifestyle design via LIFEFORCE IQ.

"We continuously monitor scientific advances and are quick to adjust products and protocols to assist our clients in optimizing their lifestyles."

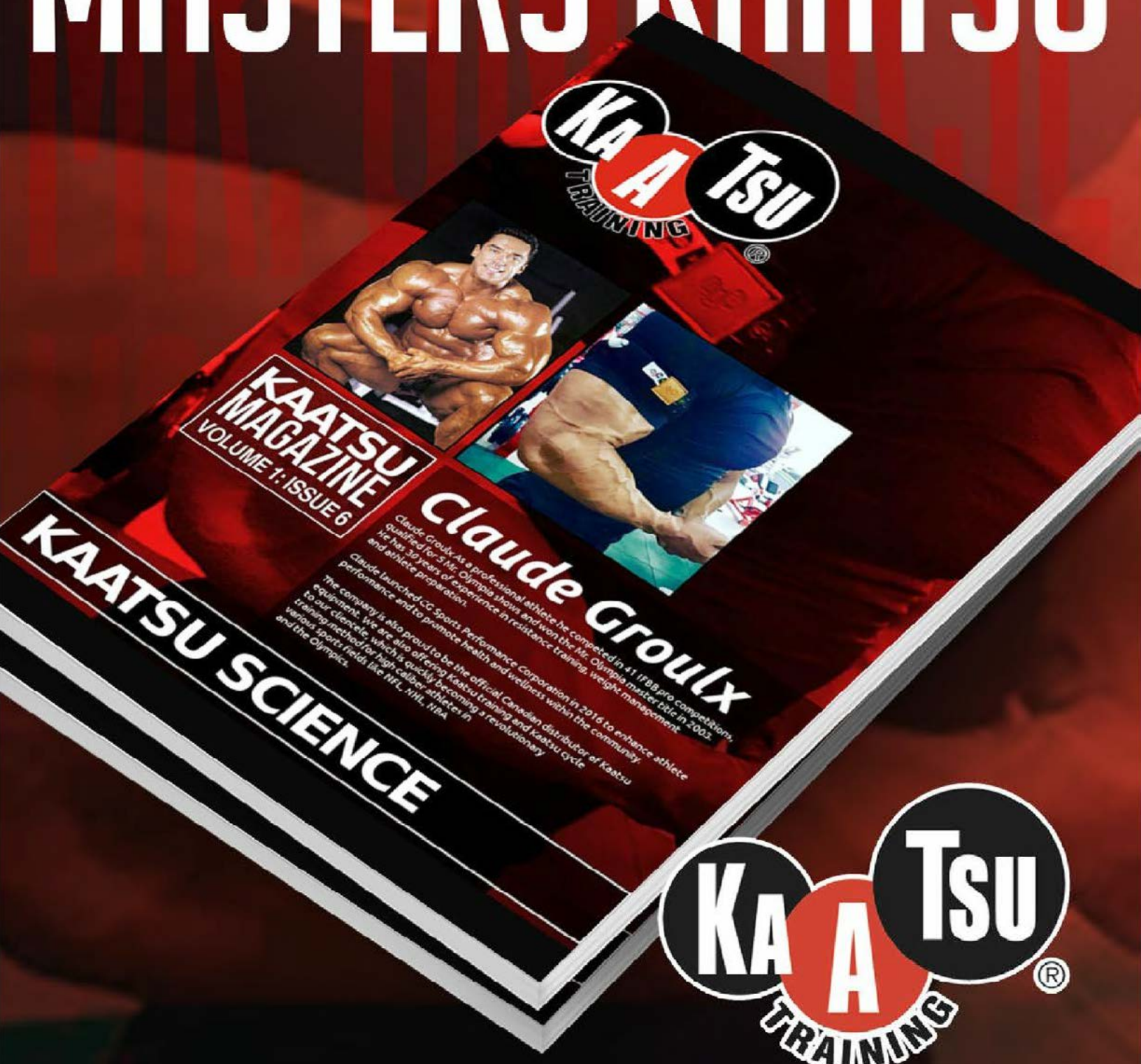
In addition to KAATSU equipment including the new 2.0 and KAATSU Aqua, the Weinstein's offer Juvent Health Micro-Impact Platform, LiveO2, Viome, Tower Garden, and One Truth 818.

For more information, [visit here](#).

For additional examples of how people of all ages have improved themselves, [visit here](#).



MR. UNIVERSE MASTERS KAATSU



KAATSU TRAINING



KAATSU MAGAZINE
VOLUME 1: ISSUE 6

Claude Groulx

Claude Groulx is a professional athlete, he competed in 41 IFBB pro competitions, qualified for 5 Mr. Olympia shows and won the Mr. Olympia master title in 2003. He has 30 years of experience in resistance training, weight management and athletic preparation.

Claude launched CG Sports Performance Corporation in 2016 to enhance athlete performance and to promote health and wellness within the community.

The company is also proud to be the official Canadian distributor of Kaatsu equipment. We are also offering Kaatsu training and Kaatsu cycle training method for high caliber athletes in various sports fields like NFL, NHL, NBA and the Olympics.

KAATSU SCIENCE

KAATSU TRAINING