

INTRODUCING KETTLEBELL LIFTING THERAPY



Kettlebell lifting therapy- is the modality of the remedial exercises, which has specific properties rather than usual benefits, common for other remedial exercises. My present goal is to present this new approach and thus, put the ground for this new modality.

Kettlebell lifting therapy uses of the kettlebells- metal ball shaped handled devices, which are designed for exercises and sport competition. Kettlebell lifting now is worldly popular type of sport, well known in Europe, Asia, and Australia and since 2000th - in North America. The author of this modality- champion of kettlebell lifting of Ukraine (1984) Registered Massage Therapist Dmytro Bryushkov who wishes to introduce this helpful tool for own colleges.

1. What is the kettlebell?

The kettlebell or girya (Russian: гиря) is a traditional Russian cast iron weight looking somewhat like a cannonball with a handle (look at the left)

2. Which specific properties are making up the kettlebell lifting beneficial for health? What are advantages compare with traditional weights (barbells, dumbbells, gym machines)?

The single centre of gravity, relatively small size of this weight and ball shaped body are



making up a kettlebell as extremely convenient and safe weight lifting device, which allows endless freedom for movement, especially, with one hand. Some athletes, practicing with kettlebell juggling, are able to demonstrate this property (look at below). Such ability allows performing pendulum- like movements in the different planes, when the muscles of the upper limb are minimally contracting. This movement produces successful traction in the joints much efficiently, than as example, with dumbbell, when freedom of the movement is restricted by elongated shape of this device. Traction of the joints is proved to be extremely helpful for prevention and treatment of osteoarthritis, frozen shoulder syndrome (especially frozen and

thawing stages) and other similar condition.

Relatively moderate and little weight kettlebells (common sizes of the exercising kettlebells are 16, 24 and 32 kg, but the recent time big variety- from 4 to 40+ kg kettlebells are available) may be successfully used for muscular endurance and even cardiopulmonary endurance exercises. Kettlebell lifting may be also used for traditional isotonic strengthening exercises, regardless these exercises are usually involving much bigger number of the muscles, than exercises with gym machines, thus they are less specific for selective muscle strengthening.

Kettlebell lifting may be used even for the complex general rehabilitation of the people who suffer with different types of addictions. Such way, the author of this article completely quitted smoking and never returned to it within more than 25 years. Kettlebell lifting exercises turned out to be more important issue. As well, I personally new a few drug addicted people, who had a few years of drug dependency, but easily quitted this danger habit after involving in kettlebell lifting. Definitely, the last practice is not related to massage therapist competency, but still may be used by psychotherapists and social workers.

A big kettlebells advantage is also their small size, which allows keeping them even in the little apartment rooms. No heavy platform is needed for exercises and 1.5 x 2 m space is quite enough to exercises. Compact kettlebell size allows taking them easily even in a little car, when going for camping and continue exercises being far away from home.

3. Some conditions, when kettlebell lifting therapy may be extremely helpful

- Frozen shoulder and osteoarthritis of the large upper limb joints (shoulder, elbow and wrist joint complexes)

First, multiple- plane movements of the upper limb in relatively relaxed position (pendulum- like movements) stretch the joint capsule, limited by adhesions and help to restore range of motion in the affected joint.

Second, joint traction accompanied with such movements improves circulation of the synovial fluid in the joint, prevents cartilage degeneration and helps to restore its structure, which is common in the hypo- mobile joints.

Third, these exercises are helpful for the muscles, crossing the joint. It improves their strength and such way, may be very useful for maintains the joint stability when A- ROM of the joint is improved (this is especially important for gleno- humeral joint, where instability may develop after long time disuse, followed by successful joint mobilization).

Case study:

The patient V, retired, 68 years old had complains on limitation of the movements of her left arm, difficulty to reach her back with this hand and difficulty to reach high shells with this arm. She did not have any medical attention within 7 months, when such complains appeared.

At the time of assessment (August 15, 2008) some clinical findings:

- **A- ROM** of the (L) shoulder joint: flexion was 100°, abduction- 90°, lateral rotation- 70°, medial rotation was 50° (right shoulder is not affected)
- **PFc- ROM** for the limited movements: all are hard capsular
- **AR- ROM** of the (L) shoulder movements: muscular grade 4
- **DTR** (bicipital and triceps brachii) : not affected
- **Dermatome** testing: not affected
- **Palpation:** multiple trigger points were found at infraspinatus, subscapularis and supraspinatus muscles at (L)
- **Special test:** scapulo- humeral rhythm is changed to 1: 1 at the left

Treatments included 30 min session (the longer time was poorly tolerated by a patient due to the coronary heart disease), every second day, and 7 sessions totally. Massage techniques included general (moderately deep); trigger points therapy; stretches and high grade joint mobilization for (L) shoulder (inferior, dorsal and ventral glides were applied). After the 2nd session, the patient was taught to perform kettlebell related remedial exercises: first, static kettlebell traction without

of lifting (a 16 kg kettlebell was used) and second, kettlebell swing with 4 kg kettlebell. Both exercises were tolerated well and did not cause any cardiac complications. Traditional hydrotherapy modality was used every day (modified to warm temperature thermophore application above the (L) scapula). By the time of the termination of the treatment (August 29, 2008) the patient felt good improvement (she was able to reach a high shelf by her (L) arm at the level only 7 cm below than non-affected arm), her own dressing became more comfortable. When she was reassessed, good improvement (but not perfect yet) was seen:

- **A- ROM** of the (L) shoulder joint: flexion was 160°, abduction-170°, lateral rotation-80°, medial rotation was 70°
- **Palpation:** single trigger points was found at subscapularis muscle at (L)
- **Special test:** scapulo- humeral rhythm is changed to 1.7: 1 at the left

Rest tests and assessment results were not changed.

Next reassessment (only observing) was performed on December 21, 2008, using only visual information, obtained via Skype communication system (the patient lives in Ukraine). The patient demonstrated complete normalising of the A- ROM at the (L) shoulder and returning back to the complete physical independency.



Above: Kettlebell swing (the kettlebell weight is 4 kg)
Below: static kettlebell traction without of lifting (16 kg)

Note: kettlebell swing must be performed within the currently available A- ROM, even before limitation, otherwise in may case the damage, as ballistic stretch

- **Strains of the muscles of the upper limb, especially rotator cuff**

Pendulum- like movements of the upper limb or possible, low limb (when the kettlebell is tightened to the foot) may be also helpful for the

treatment of the 1st- 2nd degree of strains, because mild traction, accompanied with multiple range movements produces proper alignment of the muscle/tendon fibres at the site of injury and helps to remove idle collagen fibres, which are not related to the common stress application. Besides, it also prevents adhesion formation, preserves movement awareness, help to maintain joint health and muscle strength. The exercise, as kettlebell traction without of lifting (look at the left) is commonly used for early subacute and possible acute (grade 1 strain only), if the client feels comfortable to do it. Other exercise (kettlebell multi- range swing) may be indicated to late subacute and chronic stage.

Case study:

The patient B, elite kettlebell lifter, 31 years old, had a 1st grade of the strain of his @ infraspinatus tendon. When was assessed, no A- ROM limitation were found, AR- ROM demonstrated some pain at the resisted lateral rotation at @ and local tenderness was found in the infraspinatus tendon near its insertion. Painful arch test also demonstrated some pain at the 80-100° of scaption (abduction through the scapular plane at the right side).

The patient was educated to perform kettlebell traction without of lifting (the kettlebell 32 kg was used) and kettlebell swing with 16 and later- 24 kg were used. The patient had too busy job schedule and was not able to attend massage therapy treatments. In 2 weeks he did not feel any pain in his @ shoulder, and in 3 weeks successfully participated in the Cross- World kettlebell championship (he become a winner among the light weight athletes and lifted the absolute Canadian record in the kettlebell snatch).

□ **Usage of the kettlebell exercises for the weight- control programs**

Some of the kettlebell lifting exercises (ex. snatch of the kettlebell(s), long cycle lift) are applying resistance on majority muscles in the human's body and if relatively moderate or little weights are used, the big energy burning is common (as example, one time snatch o the 24 kettlebell requires 235 to 330 joules (56 to 78 cal) of kinetic energy (total energy, which includes dissipating heat may be far more). Multiple repetitive movements, applied in any exercise mode (continues, intermittent, cyclic and cyclic- intermittent) may lead to significant weight drop (as example, the author of this article managed to drop 8 kg of his weight within 6 months, using high repetitions multiple sets exercises (as a least, 15- 20 sets 2- 3 times per week). Dietary control was used the same time, but the same diet turned out to be absolutely helpless a few years ago, when it was not accompanied with high repetition exercises.

The kettlebell exercises may be very helpful for much bigger variety of the condition rather that listed in this article. Careful research, performed by skilled health care professionals will be helpful to achieve this goal.

4. General approach for using kettlebell lifting therapy

As remedial exercise modality, kettlebell lifting therapy may be advised by Registered Massage Therapists as homecare (at the resent time, 5- 10 lb kettlebells are widely sold in Canadian Tire, Wall mart and in many other North America stores, prices from \$ 9 to 16 CAD. The kettlebells of the bigger weight may be purchased online, as <http://www.ultimatelyfit.com/>. The last ones are commonly used by physiotherapists and kinesiologists for clinic treatment).

Generally, before advising kettlebell exercises, the therapist should perform routine steps, the same, as for other remedial exercises designation:

- a) Assess needs- what functions are affected and how they affect client's life?
- b) Develop plan- establish goals for expected functional outcome
- c) Implement plan- once the plan of care is established, use procedures and techniques that will fulfill the plan and meets the goals
- d) Evaluate plan- compare original data with current data at frequent intervals. Identify goals have been meet, those that need modification, or new goals according to changes in the patient or his or her lifestyle

It is important to mention, regardless the kettlebell lifting is considered to be the public domain, usage of the kettlebell lifting therapy is related to treatment of the different health problems and requires competency of the well educated health care professionals. Careful assessment, proper

designing of the exercises and understanding all consequences of the applied remedial exercises are impossible without of proper medical education and need to be limited by practicing such health care professionals, as kinesiologists, registered massage therapists, physiotherapists, medical doctors and other registered health care professionals. Presence of the own kettlebell lifting experience is also very desirable for such practice.

In conclusion, I would like to mention, that at the present time some health care professionals and rehabilitation clinics are already using the kettlebell lifting therapy as the safe and effective method for the treatment of certain medical conditions. To make this modality even more effective, we need to introduce this method to all related health care professionals and study results.

Some other advices: for such exercises, as pendulum- like movements more commonly used the kettlebells with weight 4- 9 kg (10- 20 lb), and number of repetition may vary from 8- 12 up to 15-20, depends on the patient age and fitness level. Elderly, weakened individuals and kids may use very light kettlebells (2.5- 4.5 kg or 5- 10 lb) and keep the minimal (6- 10) number of repetitions. Total number of sets per day may start from 1- 2 and progress to 3-6 and even more (for physically fit persons). For strong people, especially athletes, the weight may be 12- 16 kg (25- 35 lb) and even more and number of repetition may reach 30- 35 and more. It is definitely, strictly individual and must be carefully designed for every patient. It is important to start with lesser load and fewer repetitions and slowly progress to higher number.

Kettlebell traction may include exercise with any weight, heavy enough to be stable on the floor while exercise (no kettlebell lifting is expected). While traction, the upper limb should be maximally relaxed and the traction should mostly provided by the trunk position (lining backward). The exercise duration is usually 30- 60 seconds or until the filing of the tension in the joints is disappearing (but not shorter, than time before); the desirable number of sets per day- 3. For both exercises, it is also important to keep correct posture (extended back and maximally relaxed upper limb) and proper breathing, the same way, as while any other strengthening exercises.

Meanwhile, the health care professionals, who are going to study and use such modality, should understand that **information above**- it is a **guideline only** and many different considerations are possible.

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