

Indian Club Sw

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Kettlebells were a staple of physical culture training during the late 1800s and early 1900s. Professional and amateur strongmen depended on their versatile movements to supplement the heavy multi-joint lifts that they did for challenge and display activities. Towards the end of 1990s and into the 21st century Indian clubs, another classical training tool, enjoyed a similar rebirth as a functional training system. Indian clubs are believed to have originated in India and used by Indian soldiers as a method of improving strength, agility, balance and physical ability.

The British brought Indian Clubs to Europe where the Germans and Czechs adopted club swinging into their physical training systems. British military forces used Indian clubs as a means of keeping their troops fit originally in India and later as part of a physical training programme for all new recruits. German immigrants brought the clubs to the United States in the mid-1800s, where they were soon introduced into both American school physical education programmes and military physical readiness training. Club swinging was popular in gentleman's gymnasiums along with fencing and gymnastics. Indian club swinging even appeared in the 1932 Olympic Games.

This short article introduces some of the benefits of Indian club swinging with lighter clubs of weights up to a few kilograms. The benefits of heavy club swinging such as the techniques performed by Indian wrestlers and Persian physical culturists using clubs weighing as much as 40kg is not covered in this article. There

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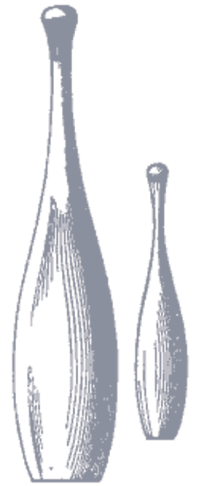
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are many styles of Indian club swinging but the basic movements around the shoulder are, in general, similar and confer the same benefits to the athlete.

Benefits of Light Indian Club Swinging

The main benefits of Indian club swinging are derived from the complex multi-joint or compound movements around the shoulders. Basic club skills offer a safe and very effective means to regain essential shoulder girdle mobility. More advanced club movements include complicated arm and footwork that contribute to overall agility, timing, and dexterity. Tommy Kono, eight times World and two times Olympic Weightlifting Champion as well as Olympic Team Coach, recommends Indian clubs for maintaining or restoring shoulder girdle mobility for lifters at every level. Indian club swinging also has other claimed benefits such as:

- Balanced development of the shoulders, arms and back.
- Increased flexibility and strength in the wrists, elbows and shoulders.
- Improves the range of motion in these joints.
- Improves co-ordination, timing and skill with the hands.
- Can be used to counteract some natural imbalances in the posture as a result of being right or left-handed.
- Can complement other types of training to increase strength, endurance, stamina and aerobic fitness.
- Some physiotherapists use very light clubs to treat some shoulder injuries.
- Some people claim that Indian club »



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swinging can be used to improve the general health and well-being of the practitioners.

However, there are very few scientific studies of this type of activity that show meaningful results. There is no doubt that armed forces over the last 200 years have seen major benefits to new recruits in gaining greater strength and mobility in the shoulders. For fitness instructors and personal trainers dealing with office workers who may have poor posture and sedentary life styles perhaps leading to weaker upper body musculature there is no doubt that Indian club swinging can be used to assist in any training program. In addition, the novelty of such a system of swinging exercises is interesting and a challenge for clients to perform. This is a

major motivator for many people where repetitive and often tedious weight training and fitness programs are abandoned after a few sessions.

How do Indian clubs work?

Indian clubs provide resistance through the lever arm as well as weight and speed. The circular swinging moves provide a multi-dimensional training tool that gives similar resistance opportunities to the kettlebell in that the Centre of Mass (COM) extends beyond the hand allowing for movements not possible with traditional resistance equipment. A comparison between the kettlebells and Indian clubs based on the more common and practical uses of each highlights the uniqueness of these tools and the adaptability to individual training programmes or needs (see table below).

Circular swinging moves provide a multi-dimensional training tool that gives similar resistance opportunities to the kettlebell



Comparison of Kettlebells with Indian Clubs

	Kettlebells	Indian Clubs	notes
Weight	Heavier	Lighter	
Lever Arm (L)	LK: Shorter distance to COM	LC: Longer distance to COM	Usually, LC > LK
Swing	Distance to COM increases (i.e. LK)	Distance to COM increases (i.e. LC)	Usually, LC > LK
Motor Unit Recruitment	HIGH	LOW-MED	
Neuromuscular Coordination	LOW	HIGH	
Range of Motion (ROM)	MED	HIGH	
Handedness	1 or 2	1 or 2	
Isotonic (concentric/ eccentric) Contraction	Yes	Yes	
Isometric Contraction	Yes	Yes	Core/stabilisers
Rotational Motion	LOW-MED	HIGH	
3D Movement	LOW-MED	HIGH	

The main differences between kettlebells and Indian clubs is that the COM of the Indian club is usually further away from the wrist than the kettlebell, creating a longer lever arm for the club (LC) than for the kettlebell (LK). Once the COM moves out of line with gravity, it generates a torque, and since LC is much greater than LK, much more torque is generated for an Indian club than an equivalently weighted kettlebell. A counter torque must be generated by the muscles supporting the joints of the upper extremities to maintain stability, and thus, the intensity of identical exercises can be increased without a concomitant increase in weight. Lighter weights allow for more complex movements by permitting a greater variety of angles and planes of motion, which also allow smaller muscles to be trained preferentially over the larger muscles that become engaged when heavier weights are used; this is particularly applicable during joint rehabilitation.

The unique resistance opportunity Indian clubs provide comes from the muscles contracting and relaxing as the club is swung around the shoulder, elbow and wrist as the athlete creates and controls the momentum of the club during a swing. Using clubs in a progressive resistance program works the muscles from a fresh and different angle (compared to 'linear' weight training) while strengthening the tendons and ligaments in preparation for heavier and more diverse resistance.

Strengthening the rotator cuff muscles is directly responsible for increased strength gains in professional weightlifters that have plateaued in their pushing exercises. Strengthening the rotator cuff also improves posture (balance between internal vs external rotators). Indian club swinging deals with a lot of shoulder motion and directly engages the rotator cuff muscles and tendons. The 'compound' moves

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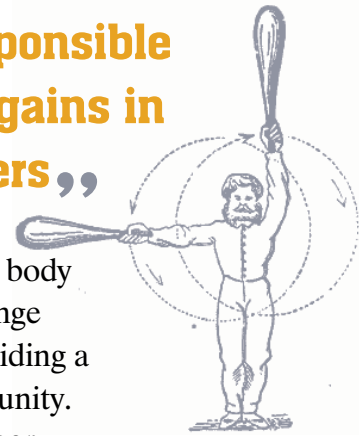
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using the clubs combined with lower body movements such as the squat and lunge can also increase the workload, providing a multi-dimensional resistance opportunity.

The heavier clubs engage the bigger muscle groups as they assist in creating and controlling the momentum of the swings. Agonist and antagonist muscles share the workload as they contract and extend during the compound moves (swings) of the clubs. An example would be the inner heart shaped swing. In this swing, which passes across the front of the body to a point of full extension to the opposite side of the body and then swings through bottom dead centre back up to the shoulder, the biceps and triceps contract and extend during the movement as the back and chest muscles contract and stretch to act as stabilisers or fixators. Stabiliser or fixator muscles provide the necessary support to assist in holding the rest of the body in place while the movement occurs. Thus, a large number of (core) muscles are brought into use throughout the swing in simply counteracting the forces generated by the weight and speed of the

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Krishen Jalli swinging a pair of Persian clubs

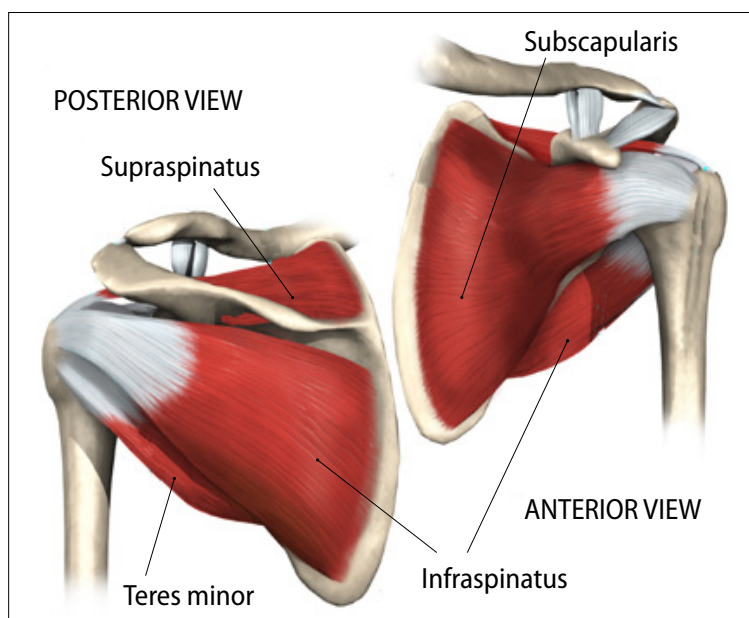


club. Increasing the speed or weight of the club increases the demands on these muscles, ligaments and tendons and adds an additional dimension to the workout.

The Shoulder Joint

The shoulder joint can be moved powerfully through a wide range of angles because of its elaborate arrangement of muscles. Most of these movements, and the muscles involved, are easily deduced: the arm can be abducted away from the body (as you would for lateral dumbbell raises) using the deltoid muscles or abducted in the opposite direction using the infraspinatus muscle. The arm can be swung toward the anterior (as in dumbbell fly) utilising the pectoral muscles or, to a more limited extent, in the opposite direction using various muscles of the back.

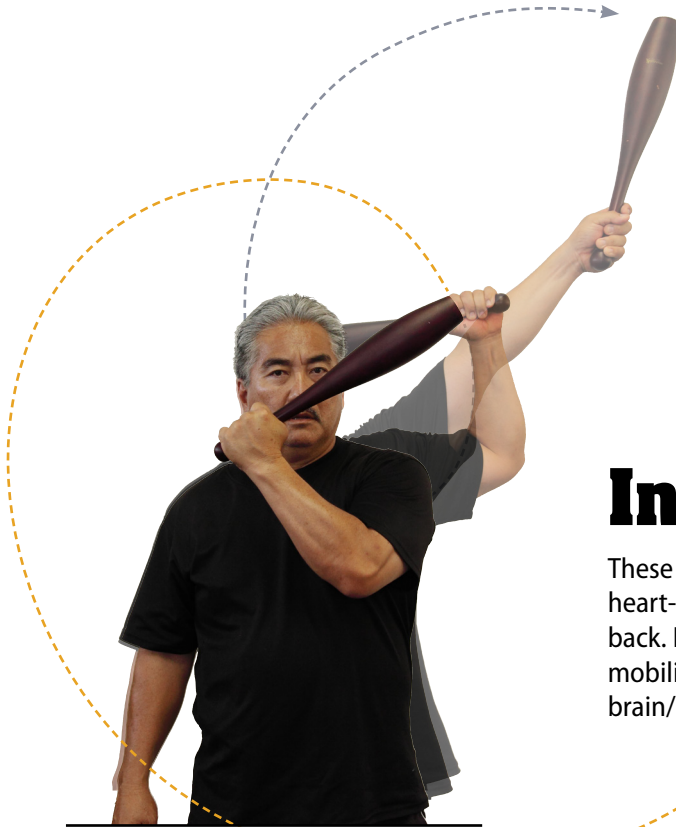
However, a unique and vital movement of the shoulder that is given very little thought, is the ability to rotate the humerus as you might if you were using a screwdriver, turning a door knob or to reach out further behind your body with a straight arm. This movement requires the coordinated use of four relatively small muscles: supraspinatus, infraspinatus, teres minor and subscapularis muscles and are collectively referred to as the ‘rotator cuff’.



They originate from the scapula (shoulder blade-which is where it gets its name) and insert onto the head of the humerus and make a vital contribution to the shoulder's ability to move through a wide range. The rotator cuff muscles are also important in maintaining shoulder joint stability and preventing dislocations. Indeed, these four small muscles are the only external rotators of the humerus, counterbalancing internal rotation generated by the much larger pectoralis major, latissimus dorsi, and teres major muscles. However, general progressive resistance training does not directly exercise the rotator cuff muscles and they are often left weakened compared to the larger and stronger muscles of the shoulder, leaving the shoulder vulnerable to injury. Indian club swinging does exercise and strengthen the rotator cuff muscles since it is activated in the various, complex, twisting movements that are required of the discipline. It can be seen that Indian club swinging has a valuable contribution to make toward the strength athlete's training regime by stabilising and strengthening the shoulder joint and preventing a common ailment in the strength sports known as rotator cuff injury where these muscles can be torn producing pain and restricted movement which can take weeks or even months to heal. In the event of a rotator cuff injury, the primary rehabilitative goal should be to strengthen these muscles for a more stable joint, while reclamation of one's full range of motion should be secondary. This will minimize the likelihood of re-injuring the joint.

British Military Style Indian Club Swinging

This style of Indian club swinging was developed from the experience of British military forces in India over 200 years ago and was a popular activity with civilians in the UK up until about the 1950s. It is »



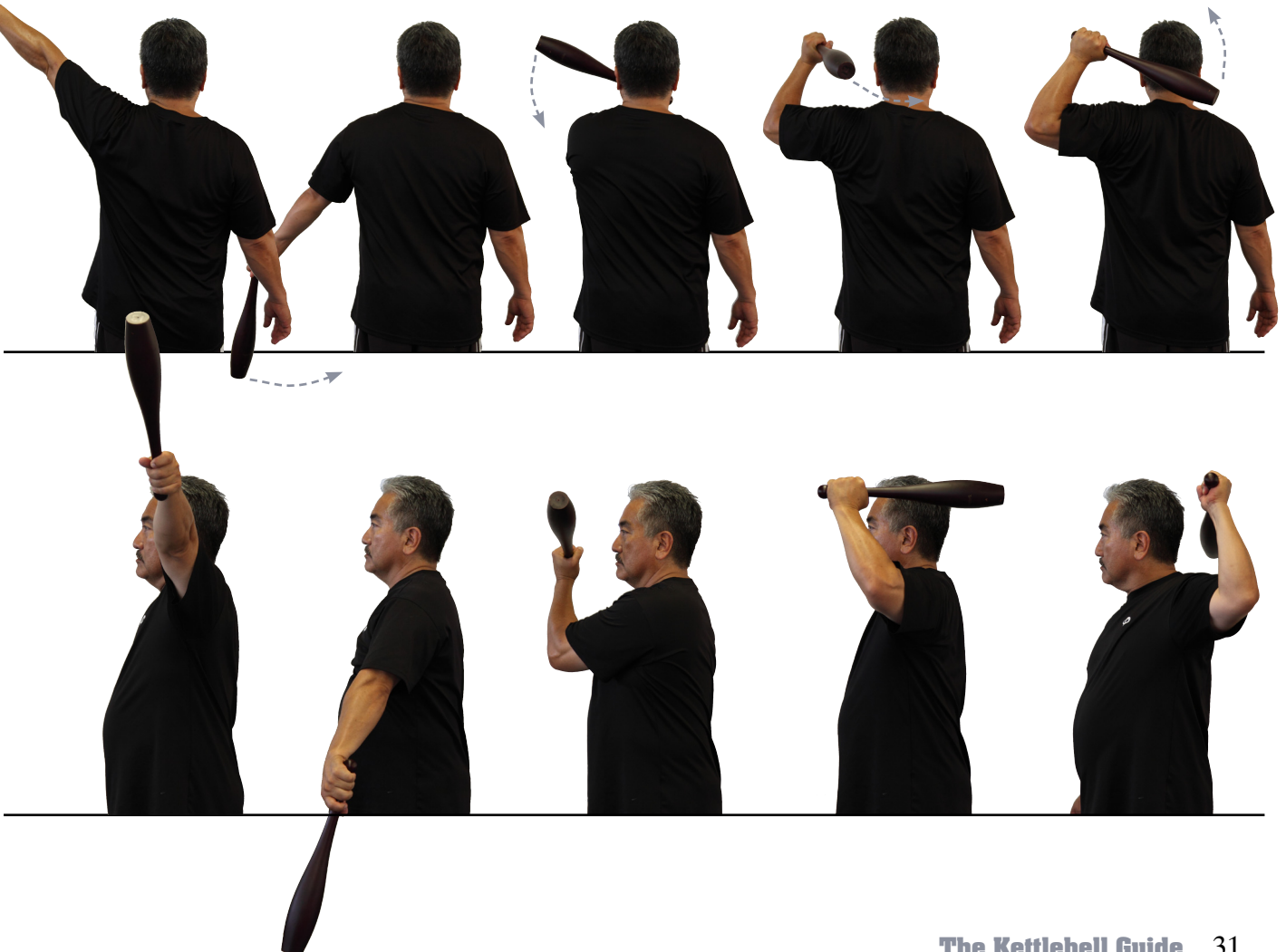
Inner heart swing

These sequential photos show the inner heart-shaped swing with the switch in the back. It involves several rotations, encourages mobility on several planes and brings in left brain/right brain activity.

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a big open style with light weight clubs of a few kilograms each, that stretches the arms and consists of a number of interesting techniques that develop from basic pendulums where a club is swung through 180 degrees or 270 degrees, to circles where the club swings in 360 degrees around the shoulder. The defining movement of this, and other styles of Indian club swinging, is the heart-shaped swings. These are complex swings involving all the joints in the arm to make a small circuit behind the shoulder with big expansive movements to a full extension of the arm. There are also hand changes, flips, tosses and throws which can be used to create combinations of pendulums, circles and heart-shaped swings. Combinations with a single club allow the athlete to create a continuous routine by swapping hands as necessary and exercising each arm equally or indeed unequally where an imbalance is being corrected. Combinations with two clubs are also possible and these offer opportunities for increased workloads in complex movements.

Conclusions

Indian clubs and kettlebells are very different training tools with potentially complementary physical benefits. The full restorative and rehabilitative possibilities

for Indian clubs have yet to be explored. There are obvious benefits in increasing range of movement in the shoulder girdle as well as strengthening the muscles and ligaments in that area. Basic moves with the clubs can be combined with traditional exercises like the squat and lunge to increase overall resistance. The unique resistance opportunities presented by kettlebells and Indian clubs provide a multi-dimensional compliment to any Progressive Resistance Program. 8

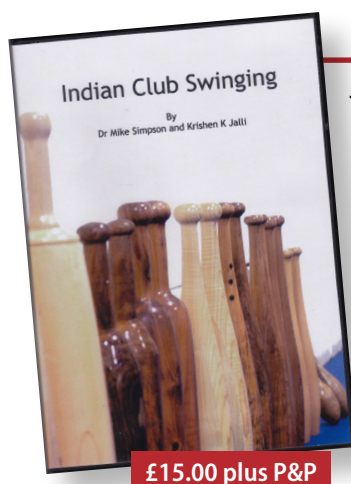
BIOGRAPHIES

Russell Ogata is a Physical Education Teacher with 20 years of experience and teaches in Hawaii. He has been Indian club swinging for 6 years and Olympic weightlifting for 15 years.

Dr Mike Simpson is an expert in the British Military style of Indian club swinging and has practised for over 20 years. Mike gives regular courses on Indian club swinging. Email: m.simpson@sheffield.ac.uk

Dr Tracey Freitas is a life science researcher and has been an avid Olympic weightlifter for 10 years.

Dr Anil Sahal is a lecturer in Neuroscience, Physiology and Anatomy and has been a practitioner of the Japanese martial arts for 29 years. He currently practises Japanese swordsmanship.



Handbook and DVD

This DVD and handbook shows you a huge range of moves including pendulums, circles, heart-shaped swings, hand changes, wrist twists, throwing, tossing and flipping clubs with weights of clubs up to 5kg. There is a special section on heavy club swinging with weights up to 20kg by Mr Krishen Jalli. A range of Indian Clubs can also be purchased here.

Dr Mike Simpson



www.indianclubswinging.co.uk