The Use of Medicine Balls for Speed and Power Development

The greatest struggle the speed and power coach face is the transfer of their athletes' strength to the specifics of the sport. There is much anecdotal evidence suggesting that many athletes make great gains in strength in the weight room environment, but relative percentage improvements out in the field fall far behind expectations. Many new training modalities have been used to aid in strength conversion, among them, towing and plyometrics. A training modality that was in vogue in Australia 20 years ago, and has just started to make a revival is the use of medicine balls to transfer strength gains to speed and power movements.

Medicine balls come in a range of sizes and materials, ranging from 0.5-20kgs or more. The traditional medicine ball is made from vinyl or leather covering a combination of sawdust, sand and padding material. New technology has lead to the latest development that of the rubberised medicine ball. Medicine balls have an advantage over other types of weighted implements in that they are easy to throw and catch. They are soft and will do less damage than a weighted shot or dumbbell if accidentally dropped on an athlete. They can be also used in a variety of training situations, both inside and outside the weight room environment.

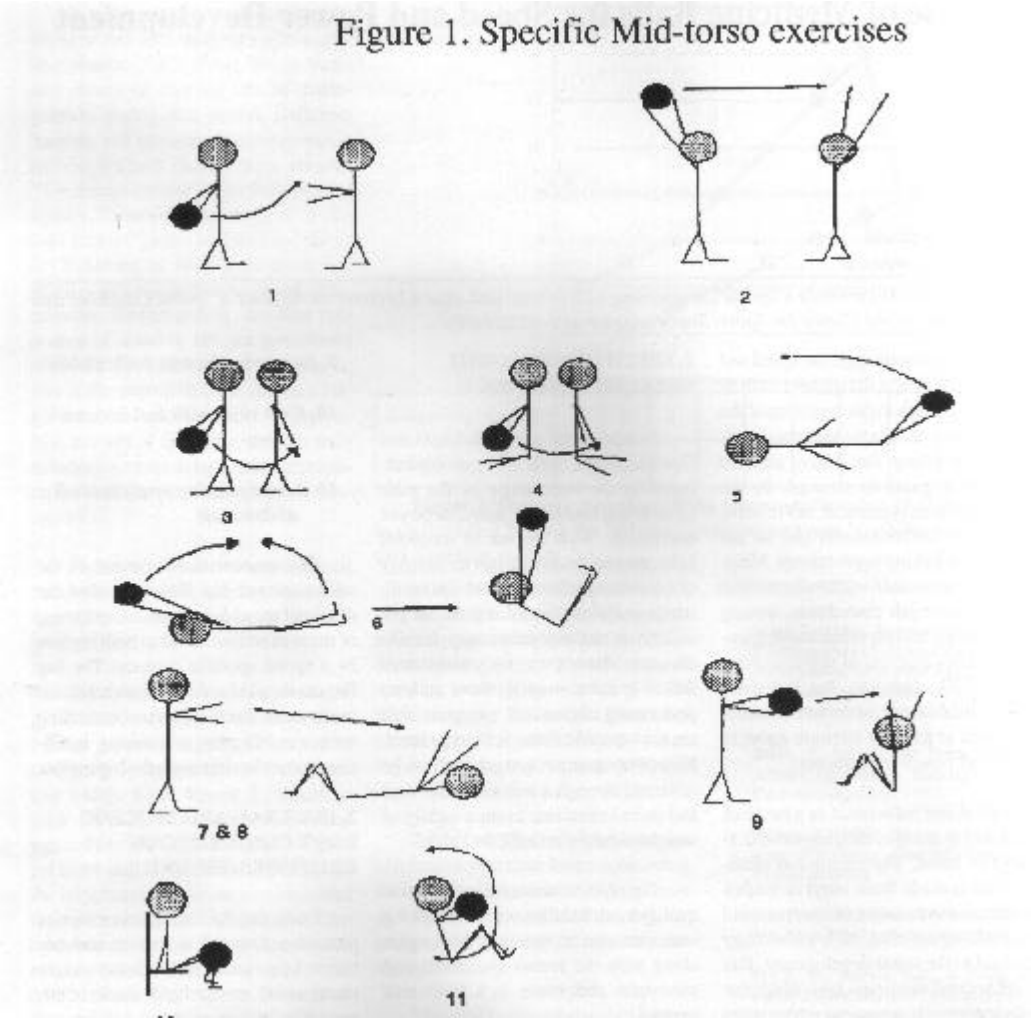
For the speed and power athlete, medicine balls can be used in the following ways. A large number of specific mid-torso exercises are done using a range of different sized medicine balls. General and specific body conditioning exercises (both isolations and multi-joint exercises) and sprint specific activities can also be performed.

1. SPECIFIC MID-TORSO EXERCISES (FIGURE 1)

With the use of medicine balls, the coach can increase the number of exercises performed, and can easily increase the number of repetitions per session in an enjoyable way for the athletes. It is not good training methodology to have athletes performing abdominal exercises that are non-specific to the activity at hand. Mid-torso strength conversion can be achieved through a series of individual and paired exercises using a variety of weighted medicine balls.

The Oblique musculature is vital in quality trunk stability and the following exercises aim to develop this region along with the rectus abdominis and transverse abdominis in a functional manner.

Figure 1. Specific Mid-torso exercises



1. Standing twisting passes

2. Overhead passes

3. Rotational passes

4. Seated twisting passes

5. Supine ball raise with legs

6. V-sit with ball

7. Situps with ball catches legs grounded

8. Situps with ball catches, legs off ground

9. Isometric abs with ball catches

10. Knee raise with ball between knees

11. Seated twisting medicine ball abdominals

The correct development of the mid-torso and hip flexors is vital for maximal speed development, and many of these exercises develop both regions in a speed specific manner. The hip flexors should be able to contract maximally with the mid-torso controlling such a contraction minimising inefficient movement through the hip region.

A new use for the ball is to assume a pushup position with either the hands or feet on the ball, the athlete is then asked to perform a variety of leg/arm raise activities whilst staying balanced. This exercise is quite advanced and is a good indicator of improved mid-torso stability as the athlete becomes more stable with time. (Figure 2)

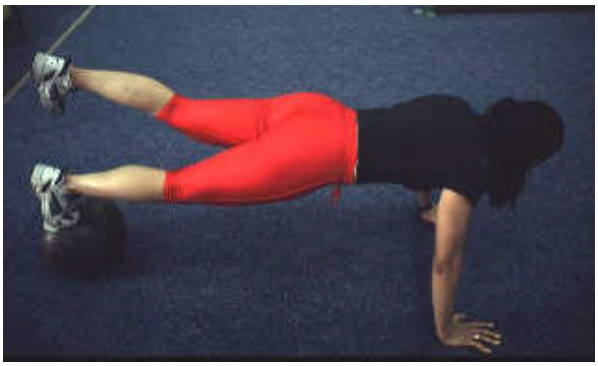
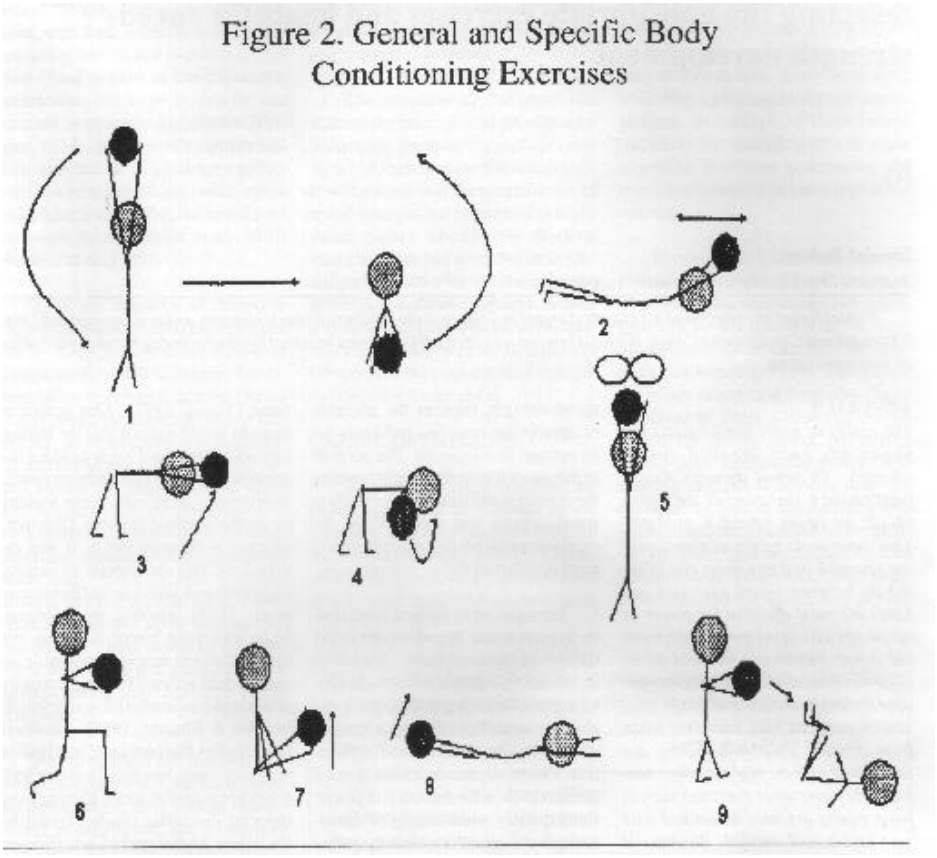


Figure 2.

2. GENERAL AND SPECIFIC BODY COND1TIONING EXERCISES (FIGURE 3)

I use the following exercises as part of a dynamic warm-up and between training sets either in the weight room or out on the field, track, court. etc.



1. Big circles

2. Head circlesltouches in prone

3. Prone Medball raises (over head)

4. Prone Medball raises (side)

5. Overheadfigure of eight

6. Medball lunges/Side lunges

7. Hipflexor raises

8. Hip extensor raises

9. Medball kicks

All these exercises are designed to strengthen specific body parts or develop general body strength and condition. The range of weights used varies from 1-4kgs depending on the exercises and the strength level of the athlete.

1 have found these exercises particularly beneficial in situations where the athlete does not want to do weights (or their parents do not want their son / daughter to do weights). It has been quite easy to convince them (rather their parents) that this is a great alternative to weight training. Whilst in the long term strength gains will plateau, in the short term the athlete can continue to do strength work without even realising they are actually doing strength training. This example can be extended to the situation where as a coach you are dealing with pre-adolescent children. These children can be performing a wide variety of strength activities for many years using medicine balls, before they ever need to be introduced into a weight room environment.

3. SPRINT SPECIFIC ACTIVITIES

Another use of medicine balls is in sprint specific exercises. With a lot of our conditioning sprint work, it is more enjoyable to do these activities incorporating medicine balls into the program.

In the '**Ball push from chest and sprint**' activity the athlete stands with the ball at chest height, and performs the initial part of a standing long jump and attempts to push the ball as far as they can. Immediately following the explosive jump, the athlete sprints after the ball concentrating on body position and usually stride rate (cadence). This activity can be repeated with good recoveries between repetitions (speed and power development), or can be performed with only walk back recovery and becomes a very specific muscular endurance training session for sprint/ power athletes. This activity in its endurance form is usually performed after all the quality training has been concluded in any training session. This exercise can be modified to have the athlete throw the ball like a caber and sprint, or throw in a rotation fashion (like hammer) and sprint. I have added exercises such as landing in a push-up position after the throw, 1-2 push-ups and then sprint out of this position to the ball. The variations of these exercises are only limited by the coach's imagination. I use these exercises

after most sprint/power sessions, and if an athlete is looking flat during a session, 1 use these to supplement training once I stop their high intensity work. This training is good for basic conditioning, and strength endurance in specific muscle groups such as the hip and knee extensors.

In a team situation I have used medicine balls as part of a relay. The athletes in each team have to carry the balls in certain positions (eg. overhead, out in front of body, etc) and run to a certain spot. Upon placing the ball down they run back and the next athlete has to sprint out and retrieve the ball in the same fashion. Once again the variations on these activities are only limited by your creativity.

I use the latest in medicine ball technology that of rubberised medicine balls. They have an advantage over the traditional leather medicine balls in that they are waterproof and do not lost their shape. They do not tear open, they are easy to grip even when wet, and they roll quite well if needed for that type of activity. They come in a range of sizes (each size is in a different colour). For information on purchasing these rubberised medicine balls, contact MuscleMania International on 612 9541 0038.