



The Shoulder Extensors

Purpose:

Designed to **improve strength and function of the shoulder extensors** [Posterior Deltoid & Triceps Brachii – long head, Latissimus Dorsi, Teres Minor, Teres Major, Infraspinatus] in addition to **maintenance of glenohumeral (shoulder) joint health** and movement.

The load placed upon the shoulder extensors during this exercise is moderate. Gravity and the length of the lever i.e. the straight arm with the weight [Powerball®] at the end provide resistance to the movement. However, it is limited by the fact that the range of shoulder extension possible [from the start position] is not large.

*NOTE: This exercise incorporates **Thumb, Finger Flexors and Extensors & Wrist Flexors and Extensors** exercises as both the finger and wrist flexor and extensor muscles are required to maintain a firm grip on your Powerball®. It is the additional movements that recruit the other muscles in this exercise.*

Useful For:

Anyone who needs or wants to improve the strength or maintain the condition of the shoulder extensors. Suitable for enhancing a wide variety of sports activities, especially those involving “back-hand” movements, such as; bowling, cricket, softball, baseball (especially batting), javelin, pole-vault, climbing, gymnastics, boules, etc.

In the non-sporting arena, anyone involved in manual work or overhead work e.g. plumbers, painters, electricians, carpenters, plasterers etc.

Can be utilised as part of rehabilitation, recovery and maintenance following:

- **Sub-acromial bursitis**
- **Shoulder Impingement syndrome**
- **[Recovery from] dislocated or sub-luxated shoulder**
- **Adhesive Capsulitis [Frozen Shoulder] ***
- **Triceps strain**
- **[Posterior] Deltoid strain**

Let's Begin

- 1 Grip Powerball® firmly in the palm of the hand and secure by gripping with thumb and four digits. We recommend that you get Powerball® moving in the usual way before assuming the start position - if you don't know how to, check out the **Getting Started** page on **Powerballs.com** for videos & instructions.
- 2 Begin with your arm fully straightened and down by your side. The orientation of the palm is not crucial for this exercise and can be alternated between either palm facing leg; palm facing forward; palm facing backward or a combination of all three, depending on your own physical preference - albeit you'll likely find it easier to perform this exercise with the palm facing backward as illustrated in figure 1 and figure 2 below.



figure 1 & 2 - The Starting Position

- 3 Extend the shoulder by moving your arm backward while spinning at a moderate pace and keeping the arm as straight as possible (figure 3). Continue as far backward as you can comfortably achieve.

NOTE: Avoid bending forward at the waist to increase the movement.

Because this exercise also utilises the effect of gravity, the extension movement should be slow and the arm should also be returned slowly to the start position. This challenges the muscles on both the upward and downward movement.

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figure 3 - Finish Position [extended arm]

Recommended Guideline Programme

Initial Session: 3 X 30 seconds with a 1 minute break between each one. Use this session to establish the RPM at which you are challenged but can still maintain a solid grip on Powerball®.

Progression:

- Week 1:** 3 X 30 seconds with a 1 minute break between each one on **alternate days**.
- Week 2:** 3 X 30 seconds with a 1 minute break between each one **daily**.
- Week 3:** 3 X 60 seconds with a 1 minute break between each one on **alternate days**.
- Week 4:** 3 X 60 seconds with a 1 minute break between each one **daily**.

Further progression can be achieved by increasing the frequency, repetitions or Powerball® spin speed and duration.

Caution: Because of the variety of shoulder problems that can be encountered you should seek the advice of a healthcare professional or rehabilitation specialist before using this exercise to address specific shoulder problems. When recovering from a shoulder dislocation care should be taken not to push the boundaries of the range of movement.

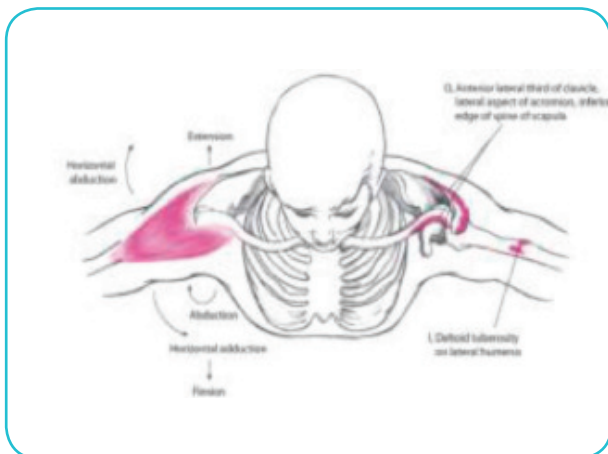
** Also, extreme care is needed in rehabilitation of adhesive capsulitis to avoid aggravating the joint capsule and triggering a recurrence.*

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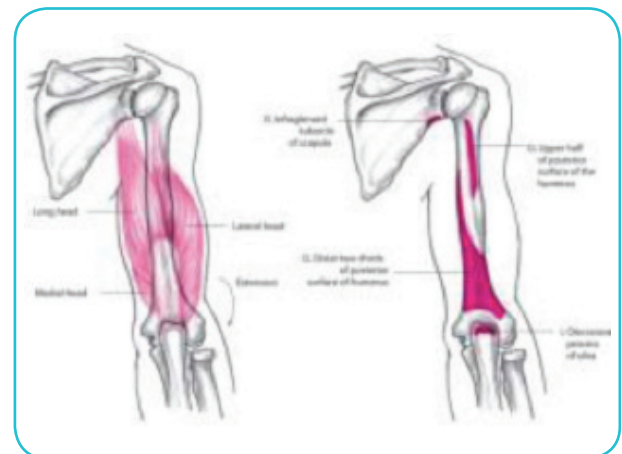
If you are experiencing pain or discomfort, consult a qualified healthcare practitioner before embarking on this exercise. Some muscle fatigue is to be expected with this exercise much in the same way your muscles might react to a gym workout. However, if you experience actual pain, you should reduce the exercise frequency, repetitions or duration.

If the pain persists or increases, you should discontinue the exercise and consult a healthcare professional.

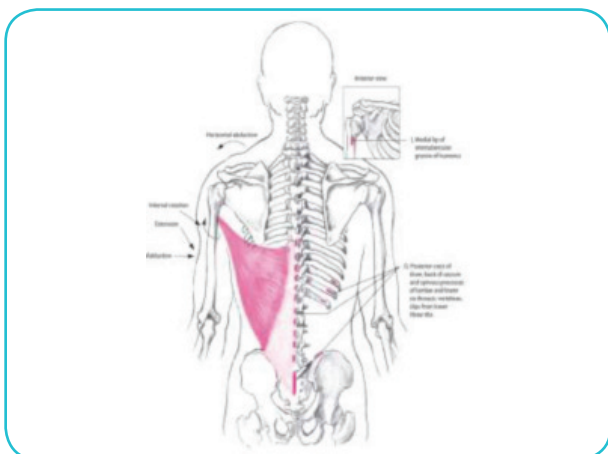
Muscles involved in this exercise



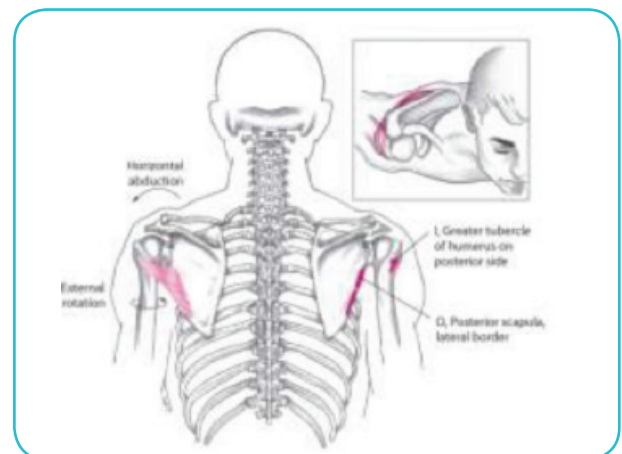
Deltoid Triceps



Trachii

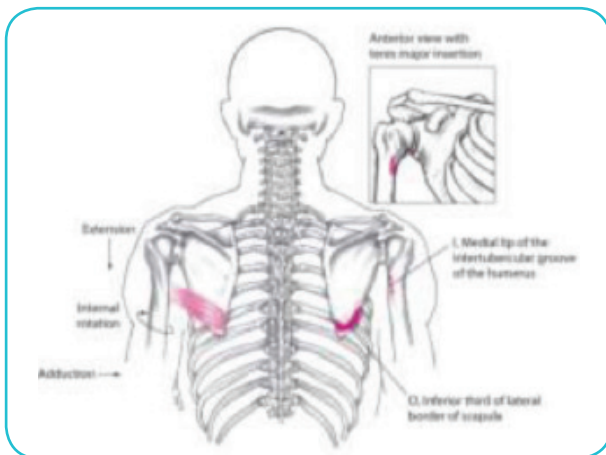


Latissimus Dorsi

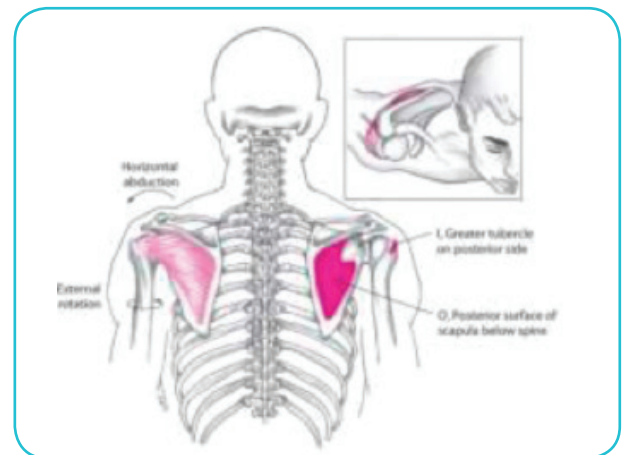


Teres Minor

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Teres Major



Infraspinatus



Remember

You are looking to achieve a smooth, progressive spin which will test your fingers by requiring them to grip Powerball® firmly as the speed increases; if you have strong, injury-free fingers, you may find that 5,000 - 6,000rpm isn't challenging the muscles sufficiently. Therefore simply increase the spin speed until you arrive at a point where there is gentle fatigue building in the tissue and you're having to work hard to maintain that firm grip around the shell to avoid dropping Powerball®. Holding this state for 30 - 60 seconds will produce definite results.



Learn More

As always, progress is achieved by following a regular exercise programme, further details regarding usage frequency, repetition and spin technique can be found on our website powerballs.com.



Important

Should you experience any pain or discomfort when exercising with Powerball® or in general, speak to your physio or qualified healthcare practitioner to get the best advice and support.