

# THE POLE DANCING THERAPIST



# OVERHEAD SHOULDER ENGAGEMENT



# **Contents** Page

## Introduction

In this PDF I will teach you how to engage your shoulders when in a straight arm overhead position. We are often taught that shoulders 'back and down' is the 'one rule fits all', but this is simply incorrect. Following this advice when performing overhead arm movements can cause pain and injury.

Who is this PDF for?

Those that want to gain a deeper insight into the technical side of pole dance and have an interest in anatomy and biomechanics.

Simply being told to change behaviours often is not good enough, I believe the key to change is to learn and understand why.

Thank you for your interest in learning from The Pole Dancing Therapist!



# Glossary

There are a few technical terms in here, but do not let this put you off! Here is a short glossary that you can refer back to if needed.



Acromion (process) – the bony part right on the top of your shoulder

Glenoid (fossa) - the 'socket' of the shoulder joint

#### Humerus (head) - the 'ball' of the shoulder joint

Humerus - the upper arm bone

Scapula - the shoulder blade

Thoracic (spine) - the upper back

All biomechanical terms will be explained in detail in this PDF



# Types of Overhead Shoulder Engagement

#### Pushing

Pushing movements include any position where the arm(s) are under the body and pushing the body up, away from the floor. For example, the bottom arm in 'arms only' positions needs to push the body up to engage.

#### **Biomechanics**

- Upward Rotation of Scapula
- Shoulder Elevation
- External Shoulder Rotation

Real life cue: "Push the floor or pole away and rotate your armpit towards your nose"





### Pulling

6

Pulling movements include positions where you are pulling up to stop your body dropping to the floor. An example of this is a spin, where your inside arm is pulling your body up.

#### **Biomechanics**

- Upward Scapula Rotation
- External Shoulder Rotation

### Real life cue:

"Mid-range shrug (try shrugging your shoulder fully up by your ear and fully pulled back and down – we want to be in between those points!) then rotate the armpit towards your nose"





### Biomechanics

### Upward Shoulder Rotation

Scapulothoracic rhythm - this is the movement of the shoulder blade on the rib cage



To bring the arms in to the full overhead position, we need 180° of shoulder flexion.

The humerus (arm bone) can only move up to 180° by allowing the scapula (shoulder blade) to



upwardly rotate.

If we do not allow the scapula to upwardly

rotate, then the glenoid fossa (socket of the joint which is directly attached to the scapula) will not sit under the head of the humerus. This is needed to create a stable platform for the joint.

The 'back and down' cue prevents the scapula from upwardly rotating by squeezing the shoulder blades together and therefore, effecting the stability of the joint which has many negative implications on your technique and on the body.

Another very important reason for allowing upward rotation is because it allows the acromion process (the bony part of on the top of the shoulder) to drift upwards. This creates space for the head of the humerus and therefore, prevens subacromial inflammation (widely known as shoulder impingement) which can be cause by the acromion process and the head of the humerus hitting together.

#### Shoulder Elevation

Shoulder elevation can be thought of as 'shrugging' the shoulders up to your ears. This can be done with the arms in any position – overhead or otherwise.



#### External Shoulder Rotation





External rotation is important as this is the position we need to fully engage the shoulder when the arm is overhead. An easy way to cue external rotation, when the arm is overhead, is rotating your armpit towards your nose. Remember this should be done whilst maintaining an upwardly rotated and elevated position of the scapula.

Let's say it altogeter now.... "When overhead, shoulders back and down is NOT the answer!"

### Anatomy

The mid and lower fibres of the trapezius are situated between the shoulder blades, and the serratus anterior (the punching muscle!) are responsible for controlling upward rotation of the scapula.



Trapezius



Serratus Anterior

The posterior rotator cuff, the back of the shoulder, is repsonible for external rotation of the shoulder.





The levator scapulae, rhomboids and upper trapezius are responsible for elevating (shrugging) the shoulders.



10

### **Common Problems**

### Trapezius Dysfunction

Weakness in the mid and lower trap is common. The most common causes are due to office work (or similar), stress or a rounded posture. In these cases, the upper traps become over worked and the mid and lower sections become more and more lazy due to being constantly stretched.



The upper, middle and lower portions of the trapezius

#### Serratus Anterior Weakness

One of the roles of the SA is to pull the scapula in to the ribs. If the SA is weak then the scapula lifts off the rib cage. The picture below illustrates how the shoulder blades can lift up when there is weak musculature around them.



Type 1, 2 and 3 shoulder dyskinesis

### Reduced Thoracic Mobility

Thoracic mobility in particularly important for pole dancers, as overhead athletes. The higher your arms needs to be for specific activity, the more thoracic motion is needed.



Flat thoracic spine



Arched thoracic spine





No, my shoulders have not magically become more flexible, I have just utilised the upper back to create more range of movement overall. Some positions, such as bridge pose, require a mix of upper back flexibility as your shoulders will only get so far on their own.





Tight, or short, lats prevent the arms from getting to the full 180° of shoulder flexion that we need for pole by pulling on the humerus and preventing it from moving further.



### Posterior Rotator Cuff Weakness

External shoulder rotation activates the posterior rotator cuff, amongst other muscles. The posterior rotator cuff can become weak due to a rounded posture, similar to the mid and lower traps.





13

Picture 1 shows a realistic version of what 'rounded shoulders' look like. Picture 2 shows a slight correction into a neutral shoulder position. The aim is to not force yourself into a good posture, but to strengthen the relevant muscles so you no longer have to think so hard about it. Only then will your body will naturally sit in a neutral position.

# Top 6 exercises

14

# Seated Rows

Mid and lower traps



#### Tips

You can put your resistance band around anything, it does not have to be in this seated position.

Squeeze the shoulder blades together first, then pull the arms back whilst keeping the elbows tucked into your sides.

# Overhead Punches

Upward rotation





Tips

Allow the shoulder blade to upwardly rotate by shrugging the shoulder up towards your ear

# <u>Shoulder press ups</u>

Serratus anterior



### <u>Tips</u>

Keep your elbows straight throughout this movement Make sure to use your full range of movement and don't let your shoulders drift up to your ears.

# External Rotation

Posterior rotator cuff





#### Tips

Let the elbow drift forward slightly so it is not in line with the shoulder

Use the elbow as your rotational point and do not let your shoulder drop forward

# Thoracic Rotation

thoracic mobility





#### Tips

Keep the shoulders back and down throughout

The resistance band is optional, it adds a strength element to an otherwise mobility driven exercise

## <u>Overhead Stretch</u>

lat length and thoracic mobility.



### Tips

Make sure you are following the biomechanical positions discussed in this file for overhead shoulder positioning. The final picture shows a regressed version of this stretch

18

Thank you for reading!

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