

## Shoulder Pain

Shoulder pain is one of the most common complaints that patients come to see me with. With this in mind, I thought it would be useful to explain some of the fundamental reasons why shoulder pain arises. I'm not going to go into the varying diagnoses – as this would take too long - but rather will discuss the most common presentation. In any case, most shoulder problems arise because of the same basic problem; which bit of the shoulder it affects first depends on many factors: the mobility of the spine, and other associated joints; the curves of the spine; level and type of exercise done both currently and in the past (if any); what you spend your day doing; levels of stress and/or anxiety; past injuries etc.



The shoulder "complex" is essentially made up of four joints: one at each end of the collar bone (clavicle); the ball and socket joint; and the joint between the shoulder blade (scapular) and the rib cage (an atypical joint because the joint is one of bone articulating with muscle – rather than another bone - overlying the chest wall). The first rib is also shown in the diagram on the left, sweeping forwards underneath the collar bone. Also shown in grey in the diagram is an array of ligaments that bind the joints together.

Adding to the complexity of the shoulder is a multitude of muscles that act on the various joints to coordinate movement between them. Many of you – especially if you are sporting – will have heard of the rotator cuff muscles. These are quite short muscles that act on the head of the humerus (the ball in the socket at the top of your arm) both to move it (mostly in rotation movements), and to stabilise it (by forming a cuff over it). These muscles are commonly torn or inflamed due to overuse or strain in sports, especially those involving throwing, or overhead movements, such as in swimming. But even in people who don't play sports, these muscles are a common cause of pain due to their becoming shortened and fatigued – more about that later. Other muscles, for example the levator scapula and trapezius muscles are instrumental in moving the shoulder blade. Both of these muscles are a common site of pain in the top of the shoulder and around the top and inside of the shoulder blade, and importantly they attach to the joints of the neck, giving rise to pain here too.

But why do these muscles and joints become dysfunctional in so many of us? It comes back to the fact that the majority of us fail to maintain a good posture, be it standing, sitting, or working at the computer. That poor posture tends to be a "slumped posture" in which failure to engage the abdominal muscles results in a curved back from tailbone to base of neck – the shoulders move forward, and the head pokes forward as a consequence. The position this posture puts the shoulder in is not the one required for smooth functioning of the complex of joints and muscles that it comprises. Many other factors contribute – including the ones I listed in the first paragraph. Thus, someone with a scoliosis (a side-to-side curve in the spine, rather than an exaggeration of the front-back curves) may have a complicated postural pattern, in some cases making them more prone to a problem with one shoulder or the other.

With the shoulder in an anterior position, muscles and ligaments at the front of the shoulder tend to shorten and tighten, while those around the back of the shoulder are stretched. These stretched muscles are the ones that tend to fatigue first because they are doing their normal job of moving various bones, but in a stretched position, which puts them at a mechanical disadvantage. Fatigued muscle equals painful muscle. Similarly, the rotator cuff muscles fatigue; these tend to give rise to pain at the tip of the shoulder and the top of the arm. The joints can also become restricted and painful because they are unable to move freely, due to both their position

and traction from tight muscles acting on them. Pain and restriction in any part of the shoulder quickly starts to affect other parts of the shoulder complex, the neck, and upper back.

As I said at the beginning of the article, this is something of a simplification. Shoulder dysfunction is classically difficult to get to the nub of, and therefore often difficult to treat. In the case I have discussed above, in which the problem is the position of the shoulder (the most common presentation I see), it is critical to treat the front of the shoulder, and related areas of the spine, and not just rub the bit that hurts – though doing so will give temporary relief. It is also why I prescribe stretches for the front of the shoulder and arm to the majority of my shoulder patients. Provided you can raise your arm above shoulder height you can try the following stretch for yourself; you'll probably be surprised at how tight it feels across your chest and in the front of your arm. And, I expect that if you have a problem shoulder, it will feel most tight on that side.

1. Stand perpendicular to a wall, your feet about twelve inches from it.
2. Now, with the arm straight, place the palm of your hand flat on the wall behind you, so that your straight arm makes an angle of 45 degrees above the horizontal.
3. If your chest is now turned towards the wall somewhat, try to return it to your starting position (perpendicular to the wall), or if you have more flexibility, turn your chest away to the opposite side. You can also push your shoulder in towards the wall for additional stretch, if you are able.
4. Hold for roughly 40 seconds, or until the discomfort/stretch eases.
5. Repeat on the opposite side, and repeat the whole exercise up to five times a day.