

## So Long, Sore Shoulders!

*Arm-strengthening poses protect the shoulders—if you do them correctly. Discover a common cause of sore shoulders and start finding relief today.*

By DOUG KELLER

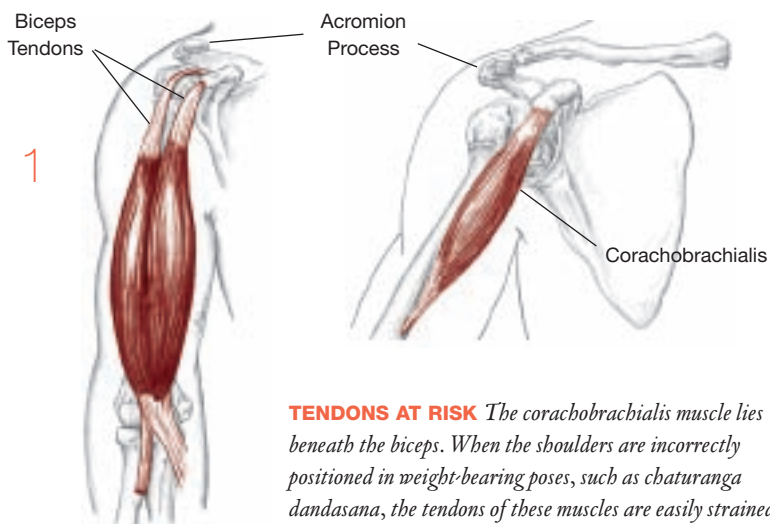
Flexible *ashtangis* and other hatha yoga enthusiasts often suffer from dull, persistent pain at the fronts of the shoulders. Why? This type of soreness occurs when we overtax our shoulders in demanding poses such as *chaturanga dandasana* (four-limbed staff pose). If our shoulders are incorrectly positioned in such weight-bearing poses—and they often are—the tendons attaching the biceps to the fronts of the arm bones can be strained

and may even begin to tear. The injury is a form of tendonitis called biceps tendonitis (Fig. 1). This, in turn, may put strain on the rotator cuff, the group of muscles and tendons that stabilize the shoulder. Here are some tips to help you protect your biceps, develop proper shoulder alignment, restore structural integrity to your shoulders, and perform poses like *chaturanga* and plank safely and effectively.

### IDENTIFYING GOOD ALIGNMENT

Let's start with a little experiment, exploring shoulder alignment without putting weight on the arms. This will help you feel the many muscles involved without distraction. To begin, stand with your

arms extended forward at shoulder height, wrists flexed at 90 degrees, and arms parallel (as if you were pantomiming plank pose from a standing position) (Fig. 2a). Draw your shoulders back so that they are in the same plane as your ears. Now bend your elbows, bringing the tops of your hands straight back toward the fronts of your shoulders. Notice how the shoulders inevitably hunch forward to some degree; you will feel some strain or tension at the fronts of your shoulders (Fig. 2b). Many students actually come into *chaturanga dandasana* this way, descending straight down from plank pose (or even jumping back from *uttanasana*, the standing forward bend) with their shoulders too close to their



**TENDONS AT RISK** *The coracobrachialis muscle lies beneath the biceps. When the shoulders are incorrectly positioned in weight-bearing poses, such as *chaturanga dandasana*, the tendons of these muscles are easily strained.*

hands. When the shoulders hunch forward (dropping toward the floor in chaturanga) the pectoral muscles must do nearly all the work, and this strains the fronts of the shoulder capsules.

Here is a way to feel the proper action. Once again, extend your arms forward and draw your shoulders back in line with your ears. Keep your shoulders firmly in this position and then bend your elbows to 90 degrees. Your elbows should be at waist level and your forearms parallel to the floor (Fig. 2c). This is the correct position for the arms, with the shoulders still in line with your ears rather than rounding forward. Feel the muscles under and around your shoulder blades working to draw your shoulder blades firmly onto your back like magnets. These are the muscles that hold the shoulder blades in place, to complement the pushing action of the pectorals and triceps. If you disengage these muscles, your shoulders will immediately drop forward. >>



2a

**STANDING PLANK**

*With your arms extended forward at shoulder height and your wrists flexed, draw your shoulders back until they are in line with your ears.*



2b

**MISALIGNED CHATURANGA**

*Draw your hands in toward your shoulders and notice how the shoulders bunch forward. In this position, the pectorals overwork, straining the joint.*



2c

**ALIGNED CHATURANGA**

*From standing plank, bend your elbows and draw your hands to waist level. Feel the muscles working under and around your shoulder blades.*

### ACTIVATING KEY SHOULDER MUSCLES

This next series of exercises activates a few key muscles in the shoulders and upper body, builds strength and integrity, and can help heal rotator cuff injuries. For the first exercise, start by lifting your arms out to the sides. Bend your elbows to 90 degrees so that your forearms are parallel to the floor, your fingers are pointing forward, and your palms are facing down (Fig. 3a). In this and each of the movements that follow, your elbows must remain at shoulder height or even slightly

higher. They must also remain in line with your ears; do not let them drift back behind the torso. Keeping this alignment through the exercise is actually its most important challenge. If you are tight in the levator scapulae and upper rhomboids, and weak in the upper trapezius because of sloping shoulders, your elbows will drop below and behind the shoulders as the shoulders creep upward and forward. If that happens, realign yourself by relaxing your shoulders down away from your ears. Your shoulders will feel

broader and the sides of your neck more relaxed. Your upper trapezius muscles are doing the work of holding your shoulders up, reducing the load on the deltoid and levator scapulae muscles at either side of your neck.

Keeping your shoulders and elbows in the same plane as the central axis of your body, rotate your arms until your fingers point straight up toward the ceiling (Fig. 3b). Your elbows are still bent at 90 degrees and your palms are facing forward. Check your alignment in a mirror. As you rotate your arms up to this position, notice how your shoulder blades move down your back, away from your ears. Feel how the muscles around and even underneath your shoulder blades firm, pressing your shoulder blades into your back. The bottom tips of the shoulder blades will press toward your back ribs, encouraging a lift and opening in the chest.

Now for the fun part. While keeping your arms in exactly this alignment, bent at 90 degrees, rotate your palms inward toward your ears, even drawing your little fingers toward each other and thumbs away from each other (Fig. 3c). While doing this, flex your biceps (actually, it will be hard *not* to), drawing the energy of that contraction from your inner elbows toward your armpits. This action of the inner biceps (and coracobrachialis, an arm adductor, see Fig. 1) serves to secure the heads of the arm bones in the shoulder joints, strengthening and protecting the tendons at the fronts of the shoulder capsules. This action will help steady the shoulders for what follows.

Keeping the inner biceps engaged, rotate your hands and forearms outward, so that your palms face away from your ears (Fig. 3d). Again, draw your little fingers toward each other and your thumbs

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away from each other. The muscular contraction draws energy from the little fingers and outer forearms through your triceps and the backs of your shoulders (infraspinatus and teres minor, two rotator cuff muscles) and into the muscles of

the shoulder blades themselves. Keep your chest open and notice that the shoulder blades are not pressing toward each other. They don't pinch or close like elevator doors; they stay where they are and hug the back.

Now extend your arms to either side, as in *virabhadrasana II* (warrior II). Feel how your arms receive more support from the action of the shoulder blades, and less from the deltoids—though the deltoids will still be working. If you lose



**ALIGN YOUR ARMS** by bending your elbows at shoulder height, keeping your forearms parallel to the floor. Don't let your elbows fall below or draw behind the shoulders.

**ROTATE YOUR UPPER ARMS** toward the ceiling while keeping your elbows in line with your shoulders. This action moves your shoulder blades down your back.

**ROTATE YOUR PALMS INWARD** while engaging your biceps, feeling the contraction from your inner elbows to your armpits. This action stabilizes your shoulder joints.

**ROTATE YOUR PALMS OUT** while keeping your inner biceps engaged. This action presses your shoulder blades into your back without pinching them together.

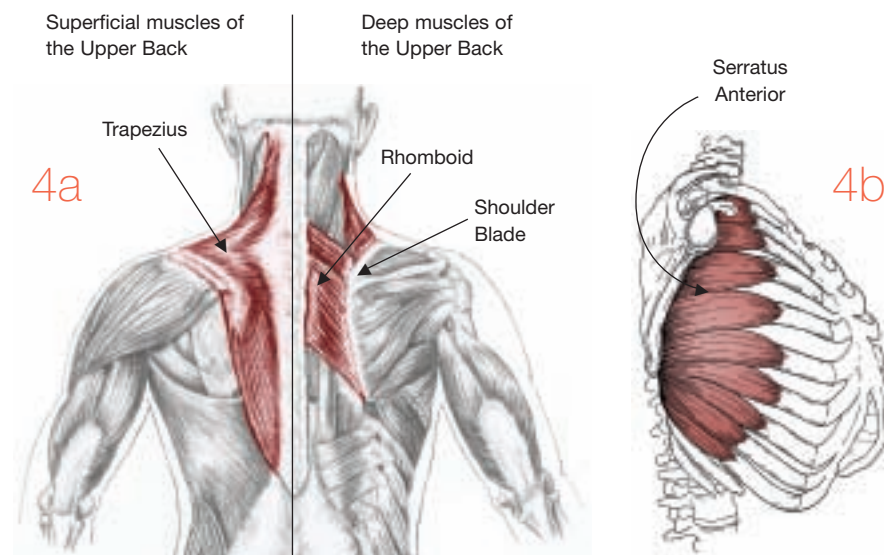
the support of these muscles in the shoulder blades, you can regain it by simply rotating your palms to face upward. Reach up through your little fingers, and feel the outer edges of your shoulder blades firm into your back, supporting the weight of your arms. Maintain that firmness as you turn your palms to face down once again.

If you repeat this series two to three times and then hold your arms extended for four to five breaths, you may be surprised at how much work is required of the shoulders. This exercise is a good preparation for extending your arms in the lateral poses, such as *trikonasana* (triangle pose) and *virabhadrasana II*, and it will help protect (or heal) the rotator cuffs.

The third step of this exercise activates the trapezius muscles (Fig. 4a), which play an important role in stabilizing the shoulder blades on the back, balancing the action of an important set of “pushing” muscles called the serratus muscles, which are involved in *chaturanga dandasana* and related poses. The serratus anterior muscles attach to the ribs at the sides of the chest and connect underneath the shoulder blades (Fig. 4b).

When they contract, they pull the shoulder blades forward, effectively helping us to push through the arms. In conjunction with the pectoral muscles of the front body, they help hold us steady in a simple plank pose. When the serratus muscles are weak, the shoulder blades will “wing out” or lift away from the ribs as we push through the arms in plank pose. This leads to tightness and strain at the fronts of the shoulders, especially from the action of the pectorals.

While the serratus anterior muscles play a large role when we push our shoulders forward, the trapezius and rhomboid muscles help us to pull our shoulders back. Thus these two sets of muscles work in dynamic opposition to each other. They, along with the “posterior” portion of the serratus muscles, are the glue holding the shoulder blades to the back when we exert force through the arms, protecting the fronts of the shoulders from injury by overexertion. *Chaturanga dandasana* is an exercise in learning how to balance the “pushing” muscles (serratus anterior, triceps, and pectorals) and the “pulling” muscles (serratus posterior, trapezius, and rhomboids). >>



**THE TRAPEZIUS AND RHOMBOID** muscles pull the shoulder blades back toward the spine. These muscles protect the fronts of the shoulders from injury by holding the shoulder blades onto the back when we exert force through the arms.

**THE SERRATUS ANTERIOR** muscles attach to the sides of the ribs and connect underneath the shoulder blades. When contracted, these muscles pull your shoulder blades forward and round your upper back.





5a

**PLANK PREP ON THE EXHALE** *With a straight spine, press through your arms to engage the serratus anterior muscles. This action will slightly round your upper back and draw your shoulder blades away from each other.*



5b

**PLANK PREP ON THE INHALE** *With a straight spine, slowly pull your upper back toward the floor to engage the serratus posterior muscles, which draws your shoulder blades toward each other.*

**REDISCOVERING CHATURANGA  
DANDASANA**

We can now move toward a better practice of chaturanga dandasana, bringing this newfound awareness and strength with us. A good place to start is from a simple hands and knees position. In this particular exercise, keep the spine straight and neutral (maintaining a natural inward curve of the lumbar spine) and the arms straight as well. The only movement occurs at the shoulder blades.

As you exhale, press through your arms to raise your upper back—at a place between your shoulder blades—toward the ceiling, but without letting your upper back round significantly (Fig. 5a). Expect only a slight upward movement; as you press through your arms, your shoulder blades slide away from each other on your upper back, and your arms rotate inward slightly. Here

you are using your serratus anterior muscles; concentrate on feeling the movement of your shoulder blades, which is the point of this exercise.

As you inhale, still without bending your elbows or arching your lower back, lower your chest—moving from the same place between your shoulder blades—toward the floor (Fig. 5b). Do it slowly and with control, firming your shoulder blades gently into your back as your chest

release, and you can consciously engage the trapezius as a whole. Your arms should remain straight throughout this exercise, and your spine should not arch or round.

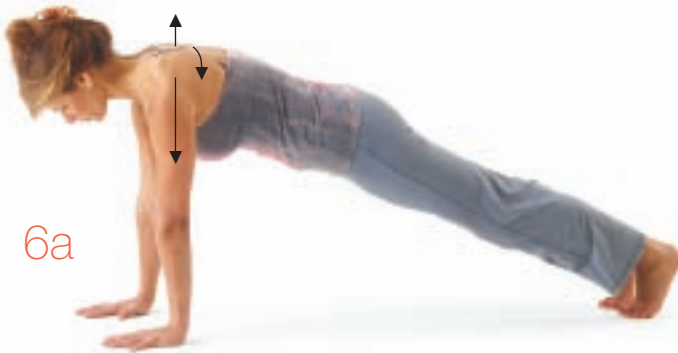
**Plank Pose**

To increase the challenge, do the very same exercise in plank pose. In this case, you will feel your thighs and abdominals (particularly the obliques) working to

*When the serratus muscles are weak, the shoulder blades “wing out” or lift away from the ribs as we push through the arms in plank pose. This leads to tightness and strain at the fronts of the shoulders.*

opens with the in-breath. Your arms will rotate out somewhat as the lower tips of your shoulder blades squeeze toward each other from the action of the lower trapezius. As you lower with control, the serratus anterior muscles progressively

support the plank-like quality of your torso as you work with your shoulders. Keep your arms straight, and actively draw your shoulder blades flat on your back as you raise and lower your chest (Figs. 6a and 6b). >>



6a

**PLANK POSE ON THE EXHALE** *Press your arms firmly into the floor as you actively draw your shoulder blades away from each other.*



6b

**PLANK POSE ON THE INHALE** *Strongly engage your thigh and abdominal muscles as you slowly draw your upper back toward the floor.*



7a

**HALF PLANK POSE** While balancing on your knees, engage your lower abdominals to keep your body in a straight line and tuck your tailbone to minimize the arch in your lower back.



7b

**HALF CHATURANGA** Draw your shoulder blades into your back ribs as you bend your elbows. Lower no more than halfway to the floor and hug your elbows toward the sides of your body.

### Half Chaturanga

Now that we've strengthened the serratus muscles along with the trapezius, we can move toward the challenges of chaturanga dandasana itself. As an intermediary step, start on your hands and knees once again. Lift your feet and cross your ankles, so that you are balanced on your knees (but not on your kneecaps). Shift your upper body forward until you have a straight line from your knees to your shoulders—a mini-plank (Fig. 7a). Engage your lower abdominals to minimize the arch in your lower back. Your spine should stay steady and straight at all times.

Draw your shoulders back, bringing your shoulder blades flat on your back, as in the previous exercise. Keep your shoulders in line with your ears as you bend your elbows to lower your upper body *at most* halfway to the floor (the line from knees to shoulders will be at 45

degrees to the floor) (Fig. 7b). Hug your elbows toward the sides of your chest and only go as far as you can without letting your lower back arch or your shoulders tip forward. In this variation, you will not be able to come to a full chaturanga position in the upper body. This exercise focuses on keeping the shoulders in place by firming the shoulder blades into the back.

### Chaturanga Dandasana

The full pose starts from the plank position. Lower the chest toward the floor enough to bring your shoulder blades firmly on your back. While bending your elbows, you will need to shift your body forward, keeping your thighs and abdominals firm and steady, your elbows near your waist, and your forearms nearly vertical to the floor. Your shoulders should remain in line with the central axis of your body, and your upper arms

parallel to the floor (Fig. 8a).

This takes a great deal of strength and coordination between the thighs and the abdominals, but the real challenge is to hold your shoulder blades firm and steady on your back while recruiting the serratus muscles to steady your shoulders as you lower yourself down to chaturanga dandasana. If the serratus muscles do not oblige, your elbows will wing out to the sides and you'll lose the strength of the trapezius muscles, which are holding your shoulder blades steady on your back (Fig. 8b).

Chaturanga dandasana presents a significant challenge and test of true shoulder strength and integrity. If you jump into it too quickly, relying on your chest and arm strength, you risk injury. But if you approach it progressively and mindfully, you will succeed in cultivating a strong and open-hearted posture, without the pain that comes from pushing. +



8a

**CHATURANGA DANDASANA** While bending your elbows, shift your body forward, keeping your elbows near your waist and your shoulder blades firm against your back. Make sure to keep your forearms nearly vertical to the floor.



8b

**INCORRECT CHATURANGA DANDASANA** If your upper back muscles are weak, your shoulders will round as you lower into the pose, straining the tendons at the fronts of your shoulder joints.