

## Summer Splits!

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As we watch the Olympic Trials for Gymnastics next week in San Jose, we are reminded of how important flexibility is- it touches each and every event! From artistry of leaps and jumps, to power produced by roundoffs, and step downs for toe-ons, the beauty that flexibility provides is amazing! There is no better time than summer to do the things you always wanted to do during the season when there is no time! Between routines, travel, meet preparation and school stress, who has time for extra stretching and conditioning? Now is the time! So many skills in the sport need a split position, from walkovers to leaps, from cartwheels to roundoffs. Today we are going to show you how to make your splits better by breaking down the stretch into two separate parts- the front leg and the back leg!

### Front leg:

The front leg of a split is important for so many reasons. When you get your leg up to a 90 degree angle to your body (or even to your belly button), you need to have hamstring flexibility. That is the muscle in the back of the leg that starts at your butt and goes to behind the knee (below the knee joint). The hamstring helps to bend the knee, and extend the hip- important in tumbling, leaping, kicking, etc. (Figure 1)

What happens if the hamstring is too tight:

- Front leg of leap is bent because the knee cannot straighten while the leg is high
- The front leg of a leap is not high enough
- Kip glides cannot have straight legs because of a combination of hamstring flexibility and abdominal/hip flexor strength
- Split position is "turned out" instead of square (see figure 2A from side and 2B from top)
- Walkover/handstand position (see figure 3A)
- Cannot kick high for floor choreography
- Pike jumps aren't as tight
- Hard to do bar skills like toe front dismounts and toe on skills

Most of us stretch our hamstrings in the "usual" ways- such as seated tight pike, standing with our feet together and reaching for the ground, and splits. However- when we do splits, most of us are not really square- we rotate our "Shoulders" in order to appear square. (Figure 4). But, it seems that it is more important to get all the way down than to do it properly! Hopefully, after learning about what can go wrong if you are not flexibly the right way, you will change your mind and focus on being square!

In order to get a great hamstring stretch, you have to have an "arch" to your back- if your hips roll under (frumped forward) then the hamstring actually loosens from the sit bone. Let's walk our way through how to do a great "split" hamstring stretch!

- 1) get into splits (even if they are turned out)
- 2) walk your way up to square splits, until your hips are even (perpendicular to your front leg). If you are in Left split for example, pull your left hip backwards, and your right hip forward
- 3) Now, sit up as straight as you can and slightly arch (or even just straighten) your back- you should feel this behind your thigh! (figure 5)

### Back leg:

The back leg of a split is so important in gymnastics- rhythmic, artistic, tumbling, acro, etc. The hip flexor muscles (the ones that lift your leg forward, hold it there, and kick), are stretched when the leg goes behind the body (arabesque position). There is a twist though- one of the hip flexors is also a quad (thigh) muscle- and inserts below the knee cap, so it also helps to straighten the leg! So, in order to properly stretch the hip flexor complex, you have to *both* extend the hip and flex the knee!

It is so important to make sure that our hips are flexible in order to prevent low back pain. Because of where the muscle attaches, or comes from, on the spine, tight hips combined with extreme range of motion and repetitive motion can lead to low back pain, spine fractures, and many other injuries. (Figure 6). When it is flexible, it allows for great dance, powerful roundoffs for tumbling or vault entry, and square step down positions in beam flight.

What happens if the hip flexor is too tight?

- Back leg turn out
- Crooked flight series on beam because of unsquare hips (Figure 7)
- Low back leg in split leaps
- Low back pain and other spine injuries because of where the muscle attaches to the spine!
- Lack of proper arch for tumbling, Yurchenko board-to-vault position, walkovers

When we stretch our hip, we often do it with an "arch" in our back (Figure 8). However, when we arch our back, the hips drop in the front, and shorten/loosen the hip flexor muscle that we are trying to stretch! So- properly done, we have to "un-arch" the back, or roll our hips under (posterior rotation).

First, you can stand up and try to rotate your hips. In order to do that, put your fingertips on your front hip bones, and your thumbs around the back. Now, "frump" under, or pretend like your hips are a bucket of water and you want to dump the water out backwards. Your breast bone and pubic bone should come closer together and you may even feel your abdominals working. This makes the hip flexors stretch from the top end.

Proper Split Position:

Here are the tips, after you have stretched each part separately, to getting a really good square split stretch. In figure 9, it shows an athlete with parallettes to raise the floor to her (See Figure 9).

- 1) Hips should be square
- 2) Back should be neutral- not arched, not frumped
- 3) Arms should be supported so that you are not leaning or bending at the hips
- 4) Shoulders should be in alignment with the hips

Bonus:

If you are ready to add a little more flexibility to the back leg, and you already have square splits, you can begin to work both ends of the muscles: at the hip (As we have been doing) and at the knee (where some of the muscles attach). In order to do this, you have to bend the knee. But, it has to be straight, hips square, and arms supported. This picture (Figure 10) shows a gymnast performing a stretch of the hip and thigh muscles to start training leaps like switch rings, sheep jumps, and to increase hip flexibility even more!

Summary:

So, although there is a purpose for regular old splits down as far as you can go (to stretch everything from the knee to the groin), it will not improve your true hamstring and hip flexibility, and you may even learn bad habits that carry over into leaps, tumbling, and beam skills. Stretching can be painful, so let's do it right the first time!

Hint for coaches: (\*\* maybe put this in a box shaded or something)

If your athlete cannot perform square splits to the ground, spend more time doing these breakdowns and not oversplits!

Figure 1- Hamstring Anatomy

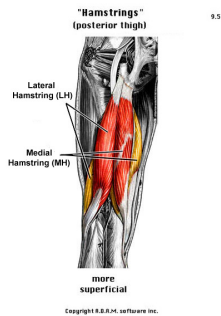


Figure 2A and B- The un-square split position



Figure 3A- Handstand turn out position, 3B- Step down - turn out position



Figure 4- attempt to square split position with shoulders



Figure 5A and B-square split hamstring stretch



Figure 6



Figure 10- 2 joint hip flexor stretch in square

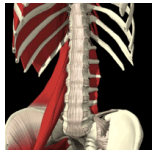


Figure 7- Unsquare step down position



Figure 8A and B-improper hip flexor stretch with arch in back



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Figure 9- correct split square with arms supported