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Team Building with Tumbling

At first I wanted to title this article *Tumbling for Ball Players* because smart ball team coaches institute tumbling as a means of improving coordination, for boosting self-confidence and decisiveness, as one more means of conditioning in the GPP (general preparation period), and for building team cohesion, which is very important in team sports. This last point—building team cohesion—applies to any team sport, and so this article is titled as it is.

Why is tumbling such a good tool for team building?

Why not more team games or picnics or barbecues?

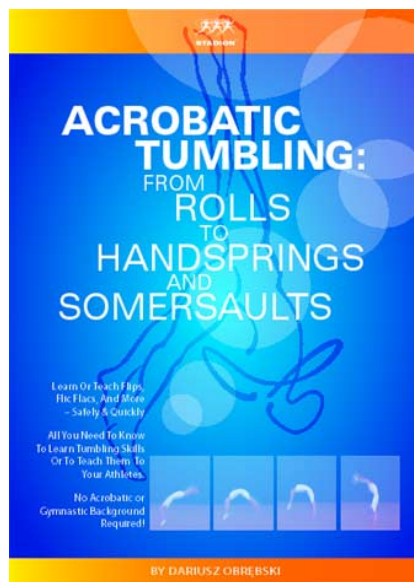
Because tumbling is more fun and a much greater challenge. The team-building part happens when fellow team members spot each other as they work on flips and flic flacs and other such daring tumbling moves. It has to happen: The athlete who learns the move entrusts his or her life and limb to the spotter or spotters, who unless they are psychopaths, respond by taking responsibility for the learner's safety and success. Both sides have to communicate about the move about to be performed and exchange feedback after every attempt. No time for stupid jokes or pranks.

For this team-building effect, the teammates have to know how to spot the tumbling moves. Here clear instruction, on both the essential points of each tumbling move and on the best and easiest ways to spot it, is crucial. Such clarity characterizes instruction on the DVD *Acrobatic Tumbling*, which was designed to be used by athletes and instructors who are not familiar with acrobatics or gymnastics. After viewing a chapter dedicated to a given move, athletes know how to learn it step by step and how to spot at every one of these

learning steps, so they can learn and practice in small groups, changing roles from learner to spotter.

So what makes tumbling superior to trust-building exercises, such as trust falls and others, that are staples of business team-building retreats? Well, the tumbling skills are challenging and fun.

Athletic boys and girls, big and small, young and old, want to learn tumbling skills, and once they have learned them, enjoy doing them. This is unlike the “trust falls” and such abstract or watered-down challenges. Imagine a ball player having to participate in such dorky activities, trying to work up enthusiasm for the “thrill” of falling into the arms of supportive teammates or for belaying each other while negotiating some mildly difficult wall.... Not likely. But flips and flic flacs are different—there is something about jumping and turning in the air that is attractive and inspires respect.



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Strength Training Errors, Flexibility, and Strength for Sports

by Thomas Kurz

This article is based on my answers to actual questions from members of the Stadion e-mail list and forum.

First, my answers to questions from a powerlifter who wants to do splits.

Question: I am 44 years old. Stopped powerlifting 5 years ago to more actively pursue TKD. I lift according to your video and have iron boots. I can almost do a front split but am far from a side split. I own several of your books and videos. I stopped martial arts training over a year ago due to hip pain. I sought the help of an applied kinesiologist as you have advised and do not experience hip pain any longer. However, when I kick, especially roundhouse, my hips ache. My kicking form is correct and has been analyzed by several high-level, competent martial artists.

My comment: How competent are those martial artists? As competent as those who caused you the hip pain in the first place? To learn the biomechanically sound form of kicks that does not cause hip pain, see [Power High Kicks with No Warm-Up!](#)

Back to the question: For more than 20 years I was a bodybuilder/powerlifter. I know they are two different disciplines. I mixed techniques from both to achieve my desired effect of both strength and size. At one time I could squat 700 lb with very good form. I never stretched when lifting. Could it be that my hips are just “too tight” and will never loosen up? Specifically:

1. Would you say that my hips are “tight” in the first place because I was able to lift so much weight? Squatting and leg strength always came naturally to me.

2. Could some sort of medical professional look at x-rays of my hips and tell if the angle of the bones are such that I should not kick? I have had x-rays taken and my AK doctor said I do not have *coxa vara*. An orthopedic surgeon stated that my hip x-rays looked fine and saw no unusual wear and tear on them.

Answer: It could be that your hips are tight—if you did not move through the full range of motion in your squats. And if so, then doing proper, deep squats should loosen up your hips.

You say you could squat 700 lb with very good form. I doubt that your form was as good as that shown by Ivan Chakarov on [Google Video](#). (Don’t pay attention to stupid comments, such as those on blowing a knee out, etc.)

If you can’t access that video, then read my description, with pictures, of a good squat form in my [column number 22](#).

If your form differed from that, then it was not very good, and therefore not helping to achieve splits.

Once again: If your hips are “tight” it is not because of how much you lifted but rather how you lifted. If you didn’t (and don’t) squat well and low, then no wonder you have trouble with splits. I wrote quite a lot about the importance of low squats for hip flexibility and strength.

Regarding checking your x-rays: It was already done—you wrote so above—and doctors’ opinions are that your hips are normal. So what do you want—an excuse?

Now, my answers to questions from a bodybuilder who also wants to do splits.

Question: I am looking for some direction and help with obtaining my front and side splits. I have purchased and watched your videos for many years but still cannot do the splits. I spoke with you a few times when you were in Cypress, CA, and have gotten great results with your program, but still no splits. Here are some parameters that you might ask:

—I am 42 years old, training off and on in martial arts for the last 25 years.

—I have been a bodybuilder since I was 2.

—I weigh 180 lb, I stand 5’7”, and I maintain around 6–12% body fat.

—I am a 2nd degree black belt in TKD.

—I am able to do the tests you reference for both the front splits and side splits.

—I normally train legs once a week with weights.

—My maximum legit squat was 505 lb. I currently maintain a 315 squat.

—I also am able to handle 135 lb in good morning lifts.

—I run three times a week, 2–4 miles a run.

I am beginning my training again and want a program to focus on side splits and

front splits. I want to tailor my lifting to support my stretching goals.

Have I made this impossible with so much weightlifting? I have watched your videos multiple times, but I am still confused. To make it worse, I have let my father-in-law watch the video, and he was doing the full splits within 12 weeks. I know it works, but I can’t seem to put the pieces in the right order, or am I simply unable to do the splits because of my lifting history? If you could direct me to the right part of the videos/books or give me a plan, I would really appreciate it. I have been struggling with getting results for over 20 years. Your help is greatly appreciated.

Answer: The simplest solution to your problem with splits is to do what your father-in-law does. Apparently he trains better than you do, so he is fitter than you are—his strength, muscular endurance, and flexibility are better than yours—and that is why he reached full splits in a few weeks. I wonder why this obvious way to get your splits hasn’t occurred to you?

Now a detailed explanation of what you do wrong:

I think that you cannot do splits because you train badly. You write that you normally train legs one time a week with weights. What is the reason for this once-a-week resistance training for legs? I suppose it is not because you follow some bodybuilding’s body-part split routine or just want to look like a cartoon character with a huge upper body on thin legs as that would be too stupid. For a very concise explanation why body-part split routines are stupid, read Alwyn Cosgrove’s articles at [alwyncosgrove.com](#).

I would not be able to lift myself from a split if I strength trained my legs only once a week. To see what I mean view the video of [1-minute split maintenance](#) posted at [stadion.com](#). I strength train my whole body twice a week with major lifts such as squats, deadlifts, military presses, and pull-ups. Strength training only once a week may maintain strength (or rather slow down its loss) for a few weeks but not for very long.

If you train legs only once a week because you lift so much and in so many reps (for example, more than six squats with

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315 lb, plus other lifts) that you need a week to fully recover between your leg strength workouts, then you are reducing your range of motion (ROM) because:

1. Lifting such tonnage with your legs as to require more than 2–3 days of rest before your legs can lift again is traumatizing the muscles of your legs. It traumatizes your muscles so much that they become stiffer, damaged by inflammation and infested with microscars rather than stronger and more pliable.

2. You do not move through your full ROM against resistance often enough. In a week, two or three workouts in which you move through your full ROM against substantial resistance would be enough—one is not. Of course, you'd have to do exercises targeting (but not necessarily isolating) muscles that are stretched in splits (that is, the thigh adductors and hamstrings).

With few exceptions, a weight or other resistance is too great if you cannot move with it through your full ROM. So, to obtain your splits you need to lower the resistance and increase the ROM.

I think your flexibility will improve if you do squats with only as much resistance as to let you move through your full ROM—that is, squats on whole feet until your hamstrings rest on your calves.

Question: But my trainer told me to squat only until the tops of my thighs are parallel to the floor. If I squat lower I'd have to take less weight.

Answer: So you would. You'd lift a less-impressive poundage but in a more-impressive way (and more functional for martial arts too). . . . Or maybe you are confused and don't know the purpose of lifting weights in sports other than powerlifting. If so, study [column number 22](#) (*Martial Arts and the Squat*) posted at [stadion.com](#).

Here are my answers to a few questions on building up muscle mass. The questions and answers deal with calf muscles, but the principles hold true for muscles of all parts of the body.

Question: I recently purchased your book *Stretching Scientifically*. It has really helped my flexibility. Because of your ex-

pertise and because I tried other flexibility programs that got me nowhere, I want to ask you about another problem I have. I have tried every exercise for the calf muscle that I can find, and I am still not able to put on mass (I do not have that problem with any other muscles in my body). Do you have any tips on how I can add some size to my calves? I am convinced they have not reached their potential. I also noticed that all my friends who have large calves are able to point their toes much farther than I can. Do you think this range of motion in the ankle is somehow related to calf mass? How can I increase my range of motion in the ankle if this is somehow related?

Answer: I will begin with the range of motion and muscle size:

1. Exercising any muscles, including those of the calves, through the full range of motion (ROM) helps to put on more mass, so your friends may have both greater ROM and greater mass in their calves because of the way they train—moving through the full ROM.

2. Fast-twitch (FT) muscle fibers are easier to stretch (easier to damage too) than slow-twitch (ST) fibers. Your friends may have a greater ratio of FT fibers to ST fibers than you.

3. If by the ability to point toes you mean pointing them down (plantar flexion), then it may be that the muscles at the front of your shin are short or tensed. This may limit your ROM in plantar flexors and perhaps keep the calf muscles from tensing fully at the top of the calf raise. This is a slim possibility explained by reciprocal inhibition. You can read about reciprocal inhibition in *Stretching Scientifically*. The range of plantar flexion can be increased by swimming with fins on, by doing exercises against elastic bands looped over the farther end of the foot and pulled down, or by sitting in seiza (the Japanese formal sitting position).

4. If by the ability to point toes you mean pointing them up (dorsiflexion), then it may be that the muscles of your calf are short or tensed.

The most effective exercises for increasing maximal strength of calves or for putting mass on them are various forms of calf raises (heel raises) that put all the calf

muscles through their full range of motion.

The calf muscles with the most mass and therefore greatest potential for growth are gastrocnemius and soleus. To put both these muscles on a stretch, do your calf raises on a step so your heel can drop below your toes, keep your knees straight, and, for the greatest stretch of the gastrocnemius, lean forward at the hip. Leaning forward with knees straight stretches not only the hamstrings but also the gastrocnemius—if you do not believe me, do it and you will feel the stretch (to isolate the soleus you have to bend the knee, as this relieves the stress on the gastrocnemius). Then rise on your toes until you fully extend your ankle, and roll forward on the big toe.

The amount of weight should be such as to let you do the movement from the greatest stretch. If you use a weight so heavy that you cannot go through the full ROM, your exercise will be less effective.

As for the number of sets and reps—it depends on the ratio of FT fibers to ST fibers in your calves. This ratio is determined genetically, but usually the soleus has more ST fibers than the gastrocnemius.

ST fibers respond best to a high number of reps with lower resistance and FT fibers to high resistance, which limits the number of reps. So a muscle with mostly FT fibers may respond well to 3–4 sets of 8–10 reps against resistance not permitting many more, while a muscle with mostly ST fibers may need sets of 15–50 reps. Even though your calf muscles work every time you stand, walk, or run, their ST fibers may not have reached their full potential. To reach it you may need to challenge them with high-rep work with resistance greater than what your calves are accustomed to in everyday life. As most human muscles are a mix of FT and ST fibers, for the best effect both high resistance with few reps and lower resistance with a high number of reps need to be done.

To tell which approach will fit you, think what you have done so far and with what result. If you did mainly high resistance at low reps and had little effect, then try adding workouts with high reps at lower resistance, and vice versa. If you do both in one workout, high resistance/low reps and low resistance/high reps, do them in that order. Make sure you move through the full

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ROM, practically stretching your calves at the bottom position, and then end the workout with static stretches. This should take care of increasing your ROM, increasing your muscles' volume, and stretching the fascia that surrounds them. (Stretching muscles is most effective when you feel the "pump"—that's when it is easiest to stretch their fascia too.)

The ways of telling how often to work out, and a simple test for determining the ratio of fast-twitch fibers to slow-twitch fibers in your legs, are in *Science of Sports Training: How to Plan and Control Training for Peak Performance*.

If no amount of rational training performed according to the principles explained in *Science of Sports Training* increases the size of your calves, then there is a possibility that the fascia surrounding, for example, the gastrocnemius is too dense, too hard to stretch, and too tight to allow the muscle to grow. In such a case the fascia may need to be slit by a surgeon so the muscle can grow.

A more serious problem with calves is when they grow really big. This happens to people who are overweight, especially those who are muscular and not just blobs of fat on thin bones. Their calves balloon from lifting throughout every day an abnormally heavy body. That would not be so bad, but these huge calves also strain easily (for example, nearly every time the overweight person runs or jumps), and each muscle tear makes the muscle more likely to tear again. This is most likely if the stocky person has a high percentage of FT fibers, including those in the calf muscles. FT muscle fibers grow quickly and are structurally weaker than ST fibers. To prevent injuries, strength training must strike the right balance between developing the FT fibers and the ST fibers. How to do this is described in *Science of Sports Training* on pages 162–165.

Now my answer to a question on functional strength for punching.

Question: My punches are too weak, and my sensei (instructor) told me to do bench presses to strengthen my chest. Which bench press is better, single arm or both arms? Pressing with both arms I can lift

more than twice what I press with either arm separately, but then the single-arm press is more like the punch.

Answer: None. The bench press is an artificial movement that does not occur in work or in sports, other than powerlifting and of course in bodybuilding workouts. (Remember that powerlifters care only about the greatest tonnage they can lift, not about power output, so they choose the lifts where humans can lift most weight, albeit slowly, and that bodybuilders exercise for the mirror, not for strength.)

As an exercise, the bench press does not strengthen one well for punching or pushing. In actual punches and pushes, one's back is not supported and the shoulder blades are not pressed against the rib cage by the bench. That makes a great difference between actions of muscles in the standing push or punch and in the bench press.

The exercises to strengthen oneself for punching and pushing are:

- a) pushing against resistance in an upright position (against a sled, flipping a huge tire, against resistance of bungee cords) and doing various push-ups;
- b) punching with resistance of bungee cords and Thera-Bands.

Bench presses cause loss of shoulder flexibility—even a few reps per workout with a weight similar to what one could lift in an overhead press (which is always substantially lower than one's bench press max) can do that. The more bench pressing one does, the greater the likelihood of rotator cuff problems due to imbalance of muscles of the shoulder girdle.

To develop useful strength of arms and shoulders and chest, do overhead lifts, with one arm and with both arms, pushing against resistance of heavy objects or of bungee cords and rubber bands—all done standing on your feet. Push-ups are also better than bench presses, especially if you do a variety of push-ups (Hindu, Tiger, military) and do them correctly. And don't neglect pulling exercises: rows, pulls, cleans, snatches, and so on.

There are two useful strength exercises done while lying down: Turkish get-up (for well-balanced strengthening of the shoulders) and pullover (for expanding the chest and straightening the upper back).

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