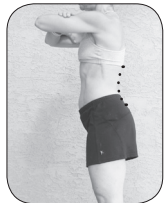


IDENTIFY + CORRECT POSTURE

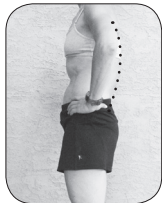
Finding a neutral posture and activating your core requires a lot of concentration at first, but once you have it locked in all that is required is a moment to re-set. Choose something to remind you to set up, like your phone ringing or reaching the end of a row while planting, and soon your core will be solid whenever you need it.

1 FIND NEUTRAL:

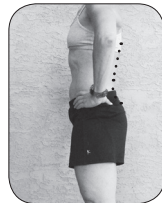
- Begin by imagining that a string tied to the top of your head is pulling upward.
- Keep your head level and shoulders and chest down and relaxed. The length comes through your spine.
- Place one hand on the front of your hipbone and the other halfway up your fly. Your pubic bone should be in the same plane as your hips, neither behind it as most women stand, nor in front as most men do.



Hyperextension



Pelvic thrust forward



Neutral

2 USE YOUR CORE to hold your corrected posture:

- Do this by drawing your lower abdomen in and up slightly. Your muscles should tighten without any hollowing or bracing. Make sure that you can still take a deep breath and move your rib cage; it's only your lower abdomen that should be doing the work.

3 ADD THE PELVIC FLOOR:

- The final step is to add the pelvic floor. This muscle can be hard to isolate, but having a strong pelvic floor has lots of benefits (it's the same muscle that contracts during orgasm). To learn how to contract your pelvic floor try and stop the flow while urinating. Once you know how the movement feels you can practice it any time as there is no outward sign that you are exercising this muscle.
- Try this on those long drives to the block: Do 5 slow contractions, holding for a count of 5 each time, and then 10 fast contractions. If you need to lift something heavy, or are moving quickly through slash, activate your pelvic floor for increased strength and stability!

PRE-SEASON PREPARATION

Always begin core exercises with a neutral spine. If you do core work without correcting posture you **WILL INCREASE THE SHEAR FORCE ON YOUR SPINAL DISCS**. These are not big powerful exercises; your goal is to teach your muscles to work from the neutral position for maximal stability and strength. But it's easy to get sloppy - so cue this one up daily. The exercises can be done anywhere; you do not need any special equipment.

REFLEX TRAINING EXERCISES *Do them everyday.*

- Lie on the floor with knees bent, feet flat on the floor, spine in neutral.
- Hips squared, hip bones parallel and even.
- Low back has just enough space to slide in your fingers. Use a rolled up facecloth beneath your lower back to give you just a little curve.
- Chest relaxed and shoulders down (away from ears).
- Face pointing straight up at the ceiling.
- **ACTIVATE YOUR CORE** by slightly pulling your lower belly in and up and contracting your pelvic floor. Keep these muscles switched on for all core exercises.



- 1 Lift arms straight up to the vertical, then bend them slightly, bringing your hands down to near your ears. Keep elbows shoulder width apart and arms parallel, don't let them open up. There should be no movement in your low back and pelvis. Return to arm straight position. Repeat 20x.

- 2 With your spine in neutral and core activated place your hands on your hip bones. There should not be any movement at all in your hips as you slowly lift one foot about 6" off the floor. Lower it back down and then lift the other foot. Repeat 20x.



- 3 If you can do the above exercise without hip movement then keep the right foot up in the air (bent-knee) and then lift the left foot off the ground as well. Return the right foot to the ground, then the left. Repeat 10x leading with the right and 10x leading with the left.

- 4 If you can do the two foot bent-knee lift without hip displacement then once you have both feet in the air, straighten the right leg, and then the left, hold 5 sec before reversing the sequence. Repeat 10x each side.



- When you are ready, do any of the above with your **BOOTS ON** for extra challenge.

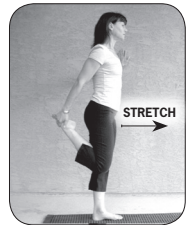
STRETCH to BALANCE YOUR MUSCLES

Tight hip flexors, hamstrings and glutes can make it harder to stay in spinal neutral. These big muscles are key to being able to plant a lot of trees, and they are all hung off of your pelvis and spine. We only have space here for a few stretches but visit www.selkirk.ca/treeplanting to view the online version of this pamphlet for a more comprehensive list. For pain free planting equalize your flexibility side to side before you head to camp. Rolling your butt, hamstrings and IT band with a foam roller or tennis ball is also helpful.

NOTE: Doing these stretches without correct spinal alignment and core activation will increase shear stresses on your back

1 HIP FLEXOR STRETCH:

Hold your ankle. Keep your knees together and push forward at the hips but be sure to keep your spine in neutral. Pull up on your foot and push your hips forward to increase the stretch.



2 GLUTE STRETCH:



Put both hands underneath your right thigh and pull your left leg in toward your chest keeping your neutral posture. Then switch legs.

PULL RIGHT LEG INTO CHEST

STRENGTHEN YOUR CORE to PROTECT YOUR BACK

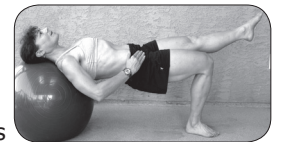
NOTE: Doing these exercises without correct spinal alignment and core activation will increase shear stresses on your back

1 PLANK:

Plank from your elbows or straight arms. Use a mirror to avoid sway back or shrugged shoulders. If this gets too easy, lift one arm or one leg off the ground, or place your hands or feet on a Swiss ball or other unstable surface. 3x daily (30 sec hold, 20 sec rest) until planting season.

2 SUPINE BRIDGE:

To start touch your hands to the floor for stability. As you progress place your hands on your hip bones to ensure no movement. The more your back is on the ball, the easier it is. If you don't have a ball, a chair or stool will work too. Keep your hips in line with your knees and stable before you try lifting one leg. 3x daily (30 sec hold, 30 sec rest).



MAINTAIN

Once you are planting your body will be under a heavy load; planting postures, bag weight, sitting during long commutes to the block and moving boxes of trees means that your back will need some special care to remain pain free.

- **ACTIVATE:** Whenever you have a moment reset spinal neutral and activate your core. You can do this standing, sitting or lying down.
- **WARM-UP:** When you are sleeping your spinal discs fill up with fluid, it takes about 30 min of standing for gravity to squeeze it back out. When plumped up, your discs are like full water balloons, much more easily damaged (herniated). This makes stretching movements like touching your toes dangerous first thing in the morning. Give your spine a break when you wake by doing only gentle core activations that act like muscle reminders for the rest of the day.
- **TECHNIQUE AND GEAR:** The stress on your spine depends on your posture while planting, in combination with your bag and shovel set up. Overreaching, twisting while bent, or bending without using your knees are all sources of back injuries. Review "A tree Planter's Guide to Reducing Musculoskeletal Injuries" * <http://fpi.na5.acrobat.com/tree-planters/> for good planting techniques, bag placement on your body and shovel length.
- **EVENING RESTORATION:** Make sure to realign and relax your spine at the end of the day. Gently stretch out the tired and shortened muscles of the hips and butt to their original length. (See PREPARATION and online version at www.selkirk.ca/treepplanting). The preseason activation exercises are also perfect for relaxing when you are lying in your tent or on the floor watching TV.
- **EAT RIGHT AND STAY HYDRATED:** When blood sugar rises and falls your nervous system doesn't work as well and the reflexes that protect your joints don't kick in as fast. Making sure you eat frequent small snacks that are high in complex carbs and lean protein will keep your muscles and your nervous system fuelled up for peak performance. For more information on the Power Planting Diet see www.selkirk.ca/treepplanting. Dehydration can cause a lot of the same problems as hypoglycemia. Take extra water with you every day, even when the weather is cold, and especially when it warms up. Plan on at least 500 ml/hour and when the temperatures rises use a rehydration fluid or add a pinch of salt and baking soda to your fluids.
- **SLEEPING POSTURE:** Place a pillow or rolled sweater under your knees if you sleep on your back, tuck it between your knees if you sleep on your side. These positions will keep your spine and pelvis aligned throughout the night.

WARNING SIGNS

DON'T WAIT FOR YOUR BACK TO SPASM!!

Watch for early indications of back fatigue or misalignment and correct them immediately before they PROGRESS and END YOUR SEASON.

+ BEFORE you spasm you may notice:

- Tight hamstrings, or rope-like sensation running from pelvis to knee.
- Pinching, burning or tightness in back or glute muscles.
- Tightness in low or upper back.

+ TREATMENT

- Seek FIRST AID for direction and documentation.
- An oral or topical anti-inflammatory, analgesic or muscle relaxant (Arnica, A535, Tiger Balm) can give some pain relief and help relax muscles in spasm. But pain is an important warning sign, just because you have successfully blocked pain doesn't mean it's okay to keep loading the injured joint.
- Lie on your back with your feet up on a chair for 10 min. Relax into neutral posture and activate your core.
- Apply heat for 15 to 20 minutes at a time. Moist heat works better than dry heat.
- Reassess your technique, are you overreaching? Consult "A tree Planter's Guide to Reducing Musculoskeletal Injuries" *
- FIND SPINAL NEUTRAL and ACTIVATE YOUR CORE! These early signs are usually referral pains from low back muscles being overworked. By tightening the core while moving and working, you encourage the low back muscles to load share with other stabilizers.
- Balance muscle tension around your pelvis by stretching the tight muscles, and activating the loose ones.
- Massage tight muscles. Get a friend to get in deep and release trigger points with a racket or tennis ball.
- Get a referral to a qualified massage therapist or physiotherapist.

+ BRACING + BACKS:

- There are a few different low back and sacroiliac braces out there. Before you spend your money it's important to fully understand the cause of your back problem. A trained professional can help assess the necessity and type of brace you may need. The most recommended treatment for back issues is still addressing your posture.

+ RED ALERTS to STOP PLANTING

Stop planting if you feel any of the following in your back, down your leg or into your foot:

- Numbness
- Severe pain
- Burning
- Tingling
- Weakness
- Pain increasing in intensity

THE DESPERATE PLANTER'S LAST CHANCE:

BACK-UP YOUR BACK

One of the most common causes of planters losing a season is a back injury. In fact, much of the chronic pain felt in other joints arises due to poor spinal stability. Before you worry about stretching and strength, it's essential to line up your spine and pelvis, and wake up the nerve reflexes that will protect you when your joints are under load.

This pamphlet will show you how to maintain a neutral spine and activate key postural muscles to keep your back healthy all year long. You can find more good exercises, stretches and in depth info for first-aiders in the online version: www.selkirk.ca/treepplanting.



KEY DOs + DON'Ts

- Cue up spinal neutral and core activation hourly.
- Replace your bag belt with a backpack hip belt and unbreakable seat belt clasp, and adjust your bags to sit on your hips.
- Shoulder straps are for balance and stability more than for carrying weight.
- Don't bag heavier than 15% of your body weight. Shorter, lighter bag-ups will get you higher production on most terrain, and let you plant just as hard the next day.
- Keep your spine in neutral and your core activated when lifting anything heavy. Squat from the knees and use your legs to lift the weight rather than lean over and stress your back.
- Do some evening restoration.
- Pay attention to warning signs.

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