CROSS COUNTRY SKIING AND PILATES

Cross country skiing is not only a great way of enjoying the outdoors in the winter but also a nice full body workout. There are three main muscle groups used when cross country skiing; upper body, core and legs.

In the upper body the swinging action of the poles to push off the snow involves the triceps, back of the upper arm, biceps front of the upper arm and pectoralis major, chest muscles, are used. The triceps and biceps work together when using a diagonal cross country ski stride. When planting both poles in the snow to push off, mostly the biceps are used. When using the skate ski technique, the triceps are mostly used. The pectoralis major muscles are used when using the pole planting technique. The latissimus dorsi muscles are used, mostly in the double pole planting technique.

In the lower body, the gluteus maximus, largest muscles of the buttocks, are used quite a bit in cross country skiing especially in the skate skiing technique, to extend the hip and rotate the leg outwards. The constant pushing off with the legs to gain forward movement involves various muscles of the legs. For example when using the diagonal cross skiing technique the gastrocnemius muscle, calf muscle, is used to both plantar flex the ankle “point your toe” and to flex the knee. This muscle is used quite vigorously in diagonal cross-country skiing. The sartorius muscle, thin muscle running diagonally from the upper part of the outside of the thigh to the lower inside of the thigh is used in the diagonal and skate skiing techniques to help abduct the leg, i.e. move the leg away from the body. The rectus femoris, one of the four muscles making up the quadriceps, is also used to flex the hip and extend the knee.

The abdominal muscles, the rectus abdominus extending from the ribs to the pelvis, are used quite a bit in cross country skiing, especially in the double pole plant technique.

A combination of reformer and matwork will help target all the muscle groups used most when cross country skiing. Matwork targeting the abdominal and the reformer used to target the lower body, arms and chest.
Benefits of Strong Abs

Mention Pilates to most people and core strength, strong abs and improved posture are some of the comments people give. These are some of the benefits of Pilates. So what are the benefits of having strong abdominal muscles aside from the aesthetic reasons?

**Improved posture.** Stronger and tighter abdominal muscles will help pull the stomach in making standing straight and upright easier. As a result your spine will be in a better position improving your posture. This will give the appearance of being taller and more confident.

**Less risk of lower back injury.** Many people walk around with back pain. Most of it in the lower and mid back region. While many reasons for back pain exist, most of it is due to weak abdominal muscles and extra weight around the stomach. The body will naturally be in a better position taking pressure off of the back when fat is lost around the midsection and abdominal muscles are tightened. As a result, less risk of injury and less back pain.

**Less pressure on joints.** Strong abdominal muscles can help stabilize your body. Increased stability means less pressure on the joints. This means less problems with injuries due to joint problems and less pain in the joints.

**Improved endurance and power.** Strong abdominals will help increase endurance and power for all sports and daily activities.

Bad vs. Good Posture

Your skeleton is to your body, as a foundation is to a house. Exercising for appearance alone without considering posture is like decorating a house that has fundamental foundation flaws. Your house may be decorated with all the latest fabrics and designs but eventually the house is going to fall down. Correcting the various muscular imbalances in a body to help correct posture is of greater value than just toning muscles for the sake of appearance alone. To correct faulty posture shortened muscles must be stretched and long and weak muscles must be shortened and strengthened. Poor posture can have surprisingly adverse affects on our lives. Everyone can benefit from better posture. The average office worker who spends the majority of their day in front of a computer may develop upper cross syndrome, (head and neck protrude forwards), they may also experience pain in the low back, hip, shoulders, knee and ankle as well as many other discomforts including breathing and low energy.

**Less risk of hernias.** A weak abdominal wall is one of the largest reasons for hernias. Strengthening the abdominal muscles will reduce the risk of developing a hernia.

**Decreased risk of developing heart disease, high blood pressure, high cholesterol, and diabetes.** By working the abdominal muscles body fat is being burnt. The less body fat you have the lower your risk of developing these diseases.

For those that do display upper cross syndrome, their head and neck seem to be ahead of their body, shoulders are rounded and the shoulder blades are “winging”. Clients with upper cross syndrome may complain of headaches, neck pain, rotator cuff problems and pain in the mid back region.
Types of Neck Pain

Non-specific neck pain: when a “stiff” and painful neck develop for no apparent reason. Perhaps due to sitting in a draft or twisting in a funny position e.g. while gardening. The cause of this type of pain isn’t known. This is the most common type of neck pain and usually disappears within a few days.

Whiplash: Usually follows a rear-end collision in a car (the body is carried forward, the head flips back. As the body stops the head is thrown forward.) The pain and stiffness is usually delayed after whiplash. Most people who suffer whiplash do not have any major damage and usually feel better within a few weeks or months.

Tension: Most muscles relax completely when they are not being used. Some muscles, however, have to work all the time to keep your body upright. These are known as “anti-gravity muscles”. The muscles at the back of your neck are such muscles. They have to be always tensed in order to keep your head from falling forwards. When these muscles work too hard, neck pain and tension headaches can result. People who are worried or under stress will often tighten their muscles more than necessary to hold their head up. Tension headaches are common and more often than not mistaken for migraines.

Cervical spondylosis: Over time, through everyday use, the discs and facet joints of the spine become worn. The discs become thinner causing spaces between the vertebrae to become narrower. “Spurs” of bone (osteophytes) may also form at the edges of the vertebrae and facet joints. This is a form of osteoarthritis but is also known as “cervical spondylosis”.

People with poor posture:

1. Experience greater stress on their joints and muscles surrounding their joints
2. Are more susceptible to injury.
3. May suffer ailments such as low back pain, chronic neck tension/pain, headaches, rotator cuff problems, pain in the mid to upper spine, knee or hamstring strain.
4. More often than not poor posture is the reason why, regardless how many visits to the chiropractor or osteopath you make a joint seems to keep coming out of alignment causing pain.

People with good posture:

1. Have better alignment which translates into less injury
2. Better balance, agility and overall physical performance
3. Quicker recovery from exercise or physical exertion
4. Feel more energetic.

Refer to Issues 1-5 for more on posture and types of posture.

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These changes may cause pain. Either from the linings of worn joints from stretched ligaments. Bulging discs or osteophytes may pinch nerve roots causing pain or numbness that travels into the arm. When the vertebral artery is pinched, the blood supply to the area of the brain controlling balance is reduced which may lead to dizziness. It is rare, but in severe spondylosis the spinal cord can be squeezed causing weakness and numbness in the arms and legs.
There are so many pains out there. Some of the more common ones are back pain, knee pain and neck pain. What exactly is neck pain? What causes neck pain? What can be done about it? Most experience neck pain at some point in their life.

What can cause neck pain?
- poor posture e.g. sitting at a desk or computer for prolonged hours, poor standing posture, sitting at a too low desk, anything that will encourage a forward head posture, stretching neck muscles
- injury, trauma, mechanical or muscular problem
- trapped nerve caused by a bulge in one of the discs between the vertebrae
- arthritis of the neck
- worry or stress
- falling asleep in an awkward position or sleeping on a too soft or on the wrong thickness of pillow

What does neck pain feel like?
- pain in the neck area
- pain may radiate down to the shoulder, between shoulder blades, out into the arm, hand or up into head causing headaches
- sore, tense muscles in the neck that feel hard to the touch

What to do about neck pain?
- Bed rest isn’t necessary. Stay as active as possible, try to keep up with a regular routine and normal everyday activities.
- If a neck collar has been prescribed, try not to use it for more than a day or two.
- Neck pain lasting for a longer period of time should be brought to the attention of a doctor or physical therapist.

Additional symptoms to neck pain such as, a co-existing illness, tenderness or pain in the neck bones (cervical vertebrae), pain gets worse despite treatment, one or both arms become affected e.g. persistent numbness, weakness or clumsiness, may mean a more serious underlying problem than just neck pain.

Acute pain at the base of the skull may disappear without treatment. This is probably the best kind of neck pain. Otherwise,

Possible treatments for, or means of alleviating neck pain:
- Chiropractic treatment or physiotherapy and pain-relieving medication may be sufficient for short-term problems.
- For longer-term pain (3 months or greater) some options are, chiropractic treatment, exercise, physiotherapy, postural advice, acupuncture
- Exercise can help restore range of movement, promote strength and ease localized stiffness.
- Learning to relax neck muscles can also help.