

Schomberg Chiropractic Wellness Centre

Dr. Carla Day, B.Sc., D.C., CAFCI

17250 Hwy. 27, Unit 4, Schomberg, Ontario, L0G 1T0

Tel: (905) 939-7569, Fax: (905) 939-0783

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Topics Covered

Week 1: Technique and Biomechanics

Week 2: Warm-up and Cool-down

Stretching

Cross Training

Week 3: Gait

Choosing Proper Footwear

Custom Orthotics

Week 4: Motivation

Goal Setting

Building Your Program

Week 5: Sports Injuries

Week 6: Sports Nutrition

Week 7: Running and Chiropractic

Week 8: Running Apparel and Gadgets

Warm and Cold Weather Running

Week 9: Race Tips

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BIOMECHANICS

Stay Upright

- Head, shoulders, hips, and feet should line up in a straight line
- Stay relaxed (especially shoulders)

Head and Neck

- Stay upright
- Your body will follow your head, so if you drop your head your body will lean forward
- Try not to hunch shoulders forward

Chest Forward

- Keeping head and shoulders upright with chest forward makes breathing easier
- Lungs can be used to maximum capacity

Arms

- Keep your shoulders relaxed
- Do not clench your fists
- Keep your arms bent at approximately 90 degrees
- Let your arms swing naturally. They will keep the timing and the rhythm of the run smooth.

Hips Forward

- Try to keep your hips and pelvis tucked under your body

The Foot Plant

- Keep it natural and comfortable for you
- Do not try to change your gait
- Make sure you are wearing the proper running shoes for your gait

Stride Length

- Stride length is distance covered /step
- Do what comes naturally. Let your legs choose their own stride
- Trying to increase your stride length can slow you down and increase chance of injury

Breathing

- Use belly breathing; it uses your lower diaphragm so your lungs can inflate fully.

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BIOMECHANICS

Eyes and Ears

- Listen to your feet hitting the ground. Try to run as quietly as possible and stay light on your feet.
- Watch the road ahead and try to minimize your bounce. A shuffling gait is much more efficient.

Hills

Uphill

- Try to maintain stride frequency
- Shorten stride
- Swing your arms; it helps to maintain leg speed
- Stay upright with chest out
- Look parallel to the surface of the hill. The hill will appear flatter.
- Power comes from your legs

Downhill

- Lean forward slightly and use gravity to increase your pace with no additional effort.
- Increase stride slightly
- Stay relaxed
- Do not lean back; it slows you down and increases risk of injury.

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Warm-up

- To prepare your body for exercise and prevent injury
- The best way to warm-up is to do the planned activity only much more slowly for several minutes. For example walk briskly before you run.

Cool-down

- A cool-down helps your body transition from exercise to rest.
- Helps blood flow slow more naturally, which prevents it from pooling in the muscles
- Prevents dizziness or nausea

Stretching

- Flexibility is an important component of fitness and well-being.
- Helps to prevent injuries
- Best done when your muscles are warm at the end of the work out

- Stretching should be done slowly, without bouncing
- Stretch to the point of feeling tension, but not pain
- Hold the stretch for 30 seconds
- Stay relaxed and don't hold your breath

Cross-Training

- Promotes whole body fitness
- Improves the efficiency of the cardiovascular system
- Reduces risk of injury
- Adds variety so you don't get bored
- Allows one group of muscles to rest and repair while you work on another group of muscles
- Great examples include: swimming, cycling, walking/hiking, cross country skiing, snowshoeing.
- Resistance/strengthening exercise is also an important form of cross training to strengthen muscles and prevent injury.

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Gait

Normal Pronation:

- Medium arches
- Knees stay neutral with bending
- Need a shoe with moderate control

Overpronation:

- Low to medium arches
- Feet/ankles roll inward too much
- Knees move inward with bending
- Wear out outer sole of shoe and inside of forefoot
- Typical injuries: knee pain, IT band, Plantar fasciitis
- Need a shoe that provides motion control/stability

Supinators:

- High arches
- Feet do not roll in enough
- Knee moves outward with bending
- Wear out outside of shoe
- Typical injuries: pain on outside of shin/knee
- Need shoe that provides cushioning

Picking out Shoes:

- Bring your old runners with you
- Bring running socks with you
- Bring orthotics with you
- Change shoes every 400-600 miles or 6 months
- Shop in the afternoon. Feet accumulate fluid through the day.

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Building Your Program

- Your body will only adapt to unaccustomed stress. Therefore if you want greater training adaptations your running program must become progressively more difficult.
- Increase your training load by increasing your duration, frequency and intensity.
- More is not always better. A common error is too much too soon.
- Rest is important to allow your body to recover and adapt to the stresses of training.
- Inadequate rest leads to poor performance and injury.
- Harder training sessions require more rest.
- Alternate hard and easy days
- Do not increase your mile by more than 10% per week.
- Walk breaks extend your limits of endurance (brisk pace, increase stride to stretch muscles)

Base Training

- 50 % of training program
- Builds endurance
- Prepares cardiovascular system for future demands
- Volume is the key (not intensity)
- Talk test

Strength Training

- 35% of yearly training
- Improves speed and endurance
- Should not be started until you have developed an adequate base
- Example: Hill training/repeats

Speed Training

- 15% of yearly training
- Fine tuning when preparing for a race
- 6-8 weeks before a race
- Only after adequate base and strength training (1 year of running and 4-6 weeks of hill training)
- Example: Interval training (short periods of faster running)

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Goal Setting

- Plan and schedule daily workouts (pay yourself first)
- Be flexible within your schedule
- Vary your workouts
- Do not look at people around you. Look at where you are and start a program of improvement from that point.
- Keep a log (distance, time, weather, how you felt)
- Set an ultimate goal and several smaller goals

Short-term:

- Run regularly
- Make daily fitness a part of your lifestyle

Long-term:

- Performance goal for the season (distance goal, time goal, race)
- Something that will keep you motivated to continue training throughout the year
- Choose a goal that seems slightly out of reach but achievable

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Running Injuries

1. Achilles Tendonitis

-Pain at the back of the heel and possibly into calf

Causes

- Overpronation/Supination
- Improper shoes
- Inadequate warm-up
- Dramatic increase in exercise (duration, frequency or intensity)
- High mileage without enough rest

2. Iliotibial Band Syndrome

-Pain along lateral knee and lateral thigh

Causes

- Running on the shoulder of the road, which puts excess pressure on the downhill leg.
- Increasing distance too quickly
- Inadequate warm-up
- Tightness in ITB
- Bow legs

3. Plantar Fasciitis

- Pain along bottom of foot, especially toward the heel
- Pain is most noticeable in the morning and at the beginning of activity

Causes

- Flat feet or high arches
- Overpronation/Supination
- Improper or worn running shoes
- Running on forefoot
- Hills

4. Shin Splints

- Pain on the front of the shin (anterior shin splints)
- Pain along the inside of the shin (posterior shin splints)

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Causes

- Overpronation
- Muscle imbalance
- Tight Calves
- Improper or worn running shoes
- Running on the balls of the feet (toe running)
- Rapid increase in speed or distance

5. Chondromalacia Patella (Runner's Knee)

- Pain and swelling of the knee
- Accounts for 25% of overuse injuries

Causes

- Overpronation
- Muscle imbalance (quadriceps)
- Repeated Trauma

Treatment

Short-term

- R.I.C.E. (rest, ice, compression, elevation)
- Reduce running (distance and intensity) for 7-10 days
- Avoid hills
- Re-evaluate training habits
- Stretching and progressive strengthening program
- Chiropractic therapy including: soft tissue therapy, joint mobilization/manipulation, ultrasound, acupuncture

Long-term

- Determine shoe requirements and buy appropriate shoes
- Correct biomechanical alterations of feet using orthotics (overpronators/supinators)
- Replace shoes every 400-600 miles or 6 months
- Continuous stretching program
- Do not ever increase distance by more than 10% per week
- Preventative check-ups and treatments

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Running Clothing and Gadgets

-Layering is the key

Underwear

- Most important thing is a good sports bra
- Use a sports glide/Vaseline to prevent chafing (upper arms, thighs, bra line, shoulder straps)

Base Layer

- Synthetic fabrics that wick moisture (top and bottom)
- No cotton (cotton absorbs moisture and can cause chafing)

Middle Layer

- Fleece works well in cold weather

Outer Layer

- Jacket that is windproof and breathable
- Waterproof or water resistant
- Vents along back or under arms
- Reflective stripes

Hats

- Winter -50% of body's heat is lost through the head so cover it
 - Fleece is a good material (wicks moisture and is breathable)
- Summer –Baseball cap in a breathable fabric provides protection from sun and rain

Mittens/Gloves

- Mittens are warmer than gloves
- Layer gloves and then mittens

Sunglasses

Watches

- Time, distance (GPS), pace, heart rate monitor

Heart Rate Monitor

- Heart beats per minute
- Target where you want your heart rate to be and work accordingly

Water Belts

- Stay hydrated during the run
- Have pouches for gels, money, ID

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NUTRITION

Water

- Drink 8-10 glasses of water a day (in addition to what you drink during exercise)
- When in doubt drink more water
- Do not wait until you are thirsty
- Take water with you on your runs (even in the winter)

Carbohydrates

- Best source of energy for exercise
- Should make up 55-65% of total energy intake
- Think of carbohydrates as the main part of your meal and proteins as the condiment
- Try to consume complex carbohydrates (whole grains)
- Simple carbohydrates give a quick energy boost followed by low energy
- Complex carbohydrates provide the body with a slower, steady energy

Proteins

- Building blocks of the human body
- Help body with repair and regeneration
- 10-15% of total calorie intake
- Complete proteins: meat, eggs, dairy
- Incomplete proteins: legumes, nuts

Fats

- Less than 30% of daily calorie intake
- Try to consume unsaturated fats: olive oil, avocados, salmon, tuna

Vitamins and Minerals

- Start with a healthy, balanced diet
- Add a good quality multivitamin to ensure you are meeting your nutritional requirements

Energy Replacement

- Carbohydrate depletion is the most common causes of fatigue during prolonged exercise
- Approximately 1 ounce (25-30 g) of carbohydrate for every hour of running (equivalent to ½ - 1 energy bar per hour of running)

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Hot and Cold Weather Running

Hot Weather Running

- Take water on all runs. Drink 2 cups every 15 minutes.
- On long runs (longer than 1 hour) use an electrolyte drink.
- Adjust the distance and intensity of your run based on temperature.
- Run early mornings if possible
- Wear moisture wicking clothing (cotton holds moisture and causes chafing)
- Use runner's glide/Vaseline to prevent chafing (upper arms, thighs, bra line, and shoulder straps)
- Minimize coffee before you run. If you do have coffee, drink an extra glass of water.
- Wear a light coloured, breathable cap
- Be aware of heat exhaustion and heatstroke. Symptoms include: hot and cold flashes, cold skin, dizziness, decrease rate of perspiration, headache, confusion, or disorientation.

Cold Weather Running

- Take time to warm up adequately
- The colder the day, the less intense your workout should be.
- Run the first half of your run into the wind.
- Wear reflective clothes
- Do not work on speed in slippery conditions
- Take water with you on all runs longer than 30 minutes
- Do not use sudden accelerations or decelerations
- Turn corners slowly to avoid falling
- Run with a training buddy or group
- Run in well-travelled and well-lit areas
- Bring a cell phone
- Use winter shoe grips for added traction
- Be aware the signs of hypothermia. Symptoms include: incoherent, slurred speech, clumsiness, and poor coordination
- Layering is the key to dressing properly (see section on clothing)

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Chiropractic and Running

What is Chiropractic?

Chiropractic is based on the scientific fact that you are a self-healing organism controlled and regulated by your nervous system. The nervous system is composed of two main parts, the brain and the spinal cord. The spinal cord allows the brain to send messages to the body, and the body to send important information to the brain. Nerves run from the spinal cord, through the spinal bones or vertebrae and supply every cell, tissue, organ, and muscle in the body. If there is improper motion or position of the spinal bones it can irritate or cause interference to the surrounding nerves. This is called a subluxation. If left uncorrected this interference to the nervous system can affect the function of the tissues they control, causing malfunction and disease.

How do you get subluxations?

Subluxations are usually the result of physical, emotional, or chemical stress to the body. Subluxations resulting nerve interference may be present in your body for long periods of time before any obvious symptoms are present.

There are many different sources of physical stress which can result in nerve interference. These include:

- Stresses and strains of every day living such as housework, gardening, running, desk work
- Improper lifting and bending
- Injuries from falls, auto accidents, or sports
- Micro injuries from repetitive motion
- Poor posture
- Prolonged muscle tension
- Even injuries in young children from birth trauma and all those bumps and falls we take as we grow up

Subluxation and Running

Running is an excellent form of exercise for your whole body and cardiovascular system, but it does put extra stress on your spine (especially your low back and pelvis). Therefore it is very important to have regular spinal check-ups to make sure your body is functioning properly. Many recreational and pro athletes have regular chiropractic check-ups to keep them in top shape.

Spinal Check-up

Chiropractors are experts of the spine, muscles, and nervous system. People often come to a chiropractic office when they have a significant health problem that is affecting their life. However, a preventative approach is always recommended. Spinal check-ups should be part of a healthy lifestyle such as exercise, proper nutrition, sleep, dental check-ups, etc.

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Race Tips

The Week Before

- Taper your mileage and intensity
- Rest as much as possible
- Stay well hydrated
- Reduce alcohol and caffeine
- Get some extra sleep

The Day Before

- Hydrate-carry water with you throughout the day
- High carbohydrate breakfast
- Eat early in the evening and a moderate portion
- Go with meals that you have used in training (not the time to try something new or exotic)
- Pick up your race kit and check out starting area
- Check that you have all your race gear ready-shoes, shorts, shirt, cap, socks, vaseline, race #, water bottle, timing chip, watch

Morning of Race

- Get up 2 hours before race
- Eat foods you have used throughout training (ex. oatmeal, bagel with peanut butter, banana)

Racing Tips

- Relax
- Keep your Pace! Start slow
- Drink at water stations
- Positive thinking and visualization
- Stay on the inside corner of a turn
- Your primary goal should be to finish smiling and upright
- Don't forget to cool down and have something to eat and drink

After the Race

- Keep moving to flush muscles
- Warm bath with Epsom Salts
- Take next day off running

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5k/10k Group

Hill Training (Repeats):

- Pick a hill with an incline of 8-10% and a length of approximately 400 metres.
- Warm up and cool down with a 2-3 km run.
- Run hard up the hill (maximum effort).
- Easy down the hill (walk or light jog).
- Focus your eyes on the top of the hill (it won't appear as steep).
- Concentrate on form (erect posture with chest out).

-Builds strength and endurance

Fartleks:

- Change of pace runs of various distances.
 - Continuous running with bursts of fast running followed by light jogging.
 - Example: run between light poles (first pole fast, intense running, second pole light jog).
- Builds strength and speed. Teaches to shift gears between training speed and race speed.