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PREVENTION AND TREATMENT OF TENDONITIS, & REPETITIVE STRAIN INJURY FOR TREEPLANTERS



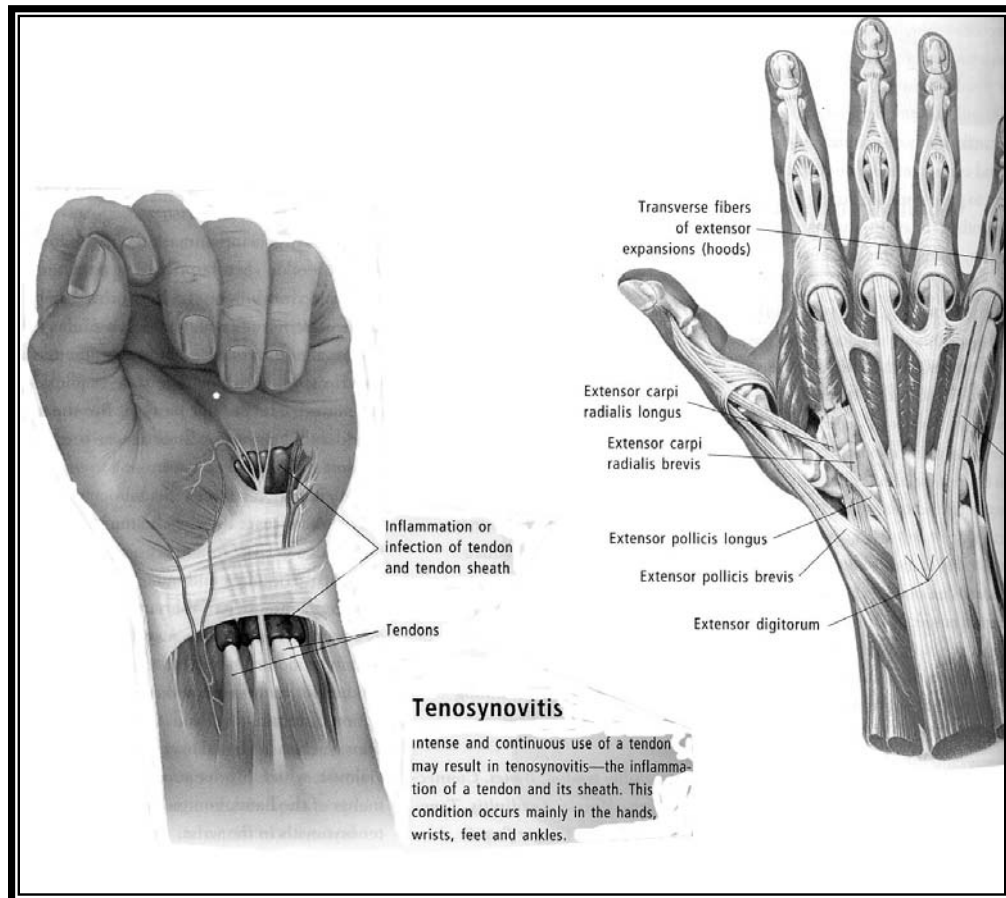
This pamphlet is part of a series commissioned by the WSCA to improve the health, longevity, and well-being of workers in the silviculture industry in British Columbia.

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Tendonitis is the primary cause of Repetitive Strain Injury (RSI), a work-related musculoskeletal injury familiar to many treeplanters. It is a painful inflammatory condition caused by strain, trauma, overstretching of the tendon and/or its surrounding sheath, or overuse of the associated joints or muscles. A Repetitive Strain Injury can develop from tendonitis due to repetition of the same movement such as gripping or twisting (like putting your shovel in the ground hundreds of times each day!). Unfortunately, tendons heal very slowly, especially following RSI's, which can take months to heal. The best approach for healing this frustrating injury is with prevention, early recognition and treatment.

Tendons are the strong connective tissues that attach muscle to bone. They are encased in thin protective sheaths through which the tendons slide as a joint is moved. The interior surfaces of these sheaths produce a lubricating fluid to allow ease and freedom of movement. When tendonitis occurs, inflammation restricts movement of the tendon in its sheath and the amount of lubrication produced which may also constrict the sheath around the tendon. This can result in pain, restricted movement, nerve compression and other related symptoms. Chronic tendonitis can also lead to small tears or ruptures in the tendon, build up of scar tissue, and other long-term ramifications.



Amongst treeplanters, Repetitive Strain Injury occurs most commonly in the wrist, but the elbow (lateral epicondylitis), ankles (Achilles tendon), knees (patellar tendon behind the knee, iliotibial tendon on the outside of knee) and shoulders may also be affected. Inflammation of the sheath through which the finger tendons run can lead to another common planting ailment known as “the Claw”. This type of RSI will respond to the same types of treatment and preventative measures as tendonitis in other areas. Unfortunately, because of the repetitive nature of planting, tendonitis is sometimes unavoidable, especially if you’ve had a previous injury.

Additionally, as your tendons age, they undergo a slow degeneration and weaken so previous RSI’s will likely make you more susceptible to further episodes of tendonitis. Also with age, cartilage loses glucosamine causing it to thin which contributes to joint pain, stiffness and also to increased susceptibility to injury.

The “ideal” approach to treating tendonitis isn’t always possible once you are in the bush working and everyone around you is cashing in while you sit in camp doing dishes. However, preventative measures, early recognition and treatment with a few days off CAN mean the difference between a lucrative season and going home early.

SIGNS THAT YOU MAY HAVE TENDONITIS:

- Joint pain...pain may be mild initially but progresses quickly to severe pain.
- Stiffness and tenderness around the affected joint.
- Overlying skin may be WARM and/or RED.
- Sharp pain on movement.
- Decreased mobility, strength and range of movement of affected joint and muscles (ie. you have a hard time holding your fork at dinner).
- Inflammation.
- Crackling noise upon movement of affected joint (this means you’ve got it bad!).
- Numbness, tingling (pins and needles) or loss of feeling in the fingers.

IMMEDIATE TREATMENT...THE USUAL:

- Ice...try 20 minutes on, 20 minutes off as soon as possible once it starts to hurt. Repeat this 3-4 times a day if you can.
- Rest, if possible. Maybe some alternate work for a few days like throwing plots or helping the cooks. Taking a couple of days off, especially when the pain first begins, can make a big difference in minimizing healing time.
- Immobilization of affected area (use tensor bandage, skateboarding/rollerblading wrist brace, or tendonitis-specific brace available at drugstores)
- Take Anti-Inflammatory Drugs like Ibuprofen to help reduce pain and swelling...be careful though, these will mask the pain, and you can do significant further damage without noticing if you keep working.



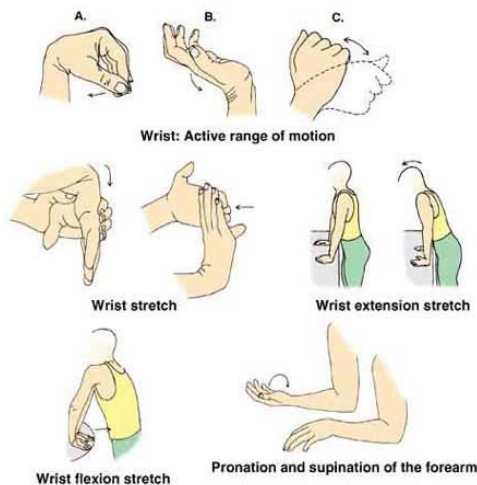
- Gently stretch and massage the affected joint, bringing circulation to the area will help it heal faster.
- If you have access to them on days off, therapies like Massage, Acupuncture and Physiotherapy can help reduce pain and inflammation, accelerate the healing process, and prevent long-term damage.

POSSIBLE LONG-TERM EFFECTS:

- Increased susceptibility to further injury/pain/swelling
- Development of scar tissue and permanent thickening of the tendon sheath can lead to restricted motion of the affected muscle and joint
- Chronic pain and stiffness

WAYS TO PREVENT TENDONITIS:

- Keep the affected/susceptible joints warm, especially in the morning or when it's cooler, raining or snowing. (ie. for your wrists, you can cut the feet out of a pair of wool socks and use the leg part as wrist warmers while you are planting).
- Stretch before and after work. I know everyone says it and not that many planters actually do it, but it can make a big difference in preventing injuries including tendonitis.



- If you start to get tendonitis, ask your supervisor/crewboss for alternate work for a few days. Hopefully they will accommodate you. Don't work through it or you might have to cut your season short.
- If you have had tendonitis in the past, consider seeking out some treatments in the off season such as Physiotherapy, Acupuncture, and Massage Therapy



VITAMINS, HERBS AND SUPPLEMENTS THAT MAY HELP TREAT & PREVENT TENDONITIS:

Generally the most effective approach to Repetitive Strain Injury is to treat it in its early stages with the above suggestions. There are a number of vitamins, herbs and supplements that can be used both to treat and to prevent tendonitis, and are anti-inflammatory, nutritive and supportive for connective tissues in general.

Eating well and getting adequate rest are important for healing any type of acute or chronic injury. Take a multi-vitamin and eat well, especially good quality protein like chicken, fish and tempeh as even this can help to heal tendonitis faster. However, since you're already out there working and stressing your body, the best you can do is try to minimize inflammation and provide your body with the nutrients it needs to rebuild damaged tissue. Using the following supplements in the months leading up to the season may help to strengthen your body and prevent tendonitis while you're planting.

CALCIUM/MAGNESIUM: 1500 mg:750 mg (ratio Cal:Mag)....this combo helps to repair connective tissue, and is important for proper muscle function.

VITAMIN C: 3000 mg – 6000 mg per day, preferably split into 2 doses, helps to decrease inflammation, speed healing and increase production of collagen, a protein needed for connective tissue repair. Your kidneys excrete more Vitamin C when your body is stressed, so it's important to be taking higher doses while planting.

ZINC: 50 mg/day....important for tissue repair and proper immune system function.

VITAMIN E: 400 IU/day....potent antioxidant and anti-inflammatory, it helps to prevent injury and induced free-radical damage to cells that can lead to internal scarring.

FLAX OIL: 2 Tbsp/day....contains the essential fatty acids omega-3 alpha-linolenic and omega-6 linoleic acids which the body converts into anti-inflammatory hormone-like substances (prostaglandins). If you're in a bush camp and cannot use the fridge, you can take flax oil in capsules instead (3-4 caps/day). Fish oils are also anti-inflammatory.

GLUCOSAMINE SULFATE AND MSM (METHYL-SULFONYL-METHANE):

1-2 grams/day.... these well known supplements work together to decrease pain and inflammation and may enhance reconstruction and healing of cartilage, ligaments and tendons. Connective tissue is continually being broken down and reformed, especially during high stress activities like treeplanting, so supplements can help supply the body's continuous demand for glucosamine and may help to decrease joint damage and pain. You should begin taking it 2-8 weeks BEFORE the season begins to be effective. Also Glucosamine Sulfate/MSM are said to be safe and effective alternatives to aspirin, Ibuprofen and other anti-inflammatory drugs.



SILICA: this mineral, often derived from the herb Horsetail (*Equisetum arvense*) is also important for tissue repair and healing. It is necessary for the synthesis of elastin and collagen, both fibers in connective tissues such as ligaments, tendons, vertebral discs, skin, cartilage and synovial membranes in joints. It plays both a preventative and a therapeutic role in arthritis, tendonitis and other connective tissue injuries and disorders. Maintenance dosage is 20-30 mg per day. Therapeutic dosage is 90 mg/day. You can find this at most Health Food/Vitamin stores.

GREEN DRINKS: 2 Tbsp/day, in the morning...these are powdered blends of herbs, minerals, and vitamins and are great for enhancing immune strength and speeding healing. They will also improve energy and endurance. Highly recommended! Try to keep them in the fridge or cooler though while you are working. You can get some of the nutrients mentioned above in most greens blends (eg. Zinc, Cal/Mag).

TURMERIC / GINGER / CAYENNE CAPSULES: This is a powerhouse of anti-inflammatory action! Turmeric and ginger are both potent, and underused anti-inflammatory herbs. Cayenne opens up the circulation and acts to carry the other two herbs to all parts of the body. These spices can help heal tendonitis and sore joints, but they can also be used to help prevent these injuries, especially if you have had tendonitis in the past and want to keep it from reoccurring. Although I have never seen this combination on the market, they are easy to make yourself before the season starts using equal parts turmeric and ginger with a pinch of cayenne and empty capsules you can find at many health food stores. The recommended dosage is 6 "00" capsules per day with food, three in the morning, and three at night. You can also add these spices to your food for the same effect and drink fresh ginger tea regularly both on and off season.



HERBAL TEAS: Drinking a tea of certain herbs may help to decrease pain and inflammation, clear the body of toxins, and aid in eliminating acid build-up that may contribute to inflammation. Herbs can also provide minerals and nutrients for healing. Any of the following herbs will be easy to find and can help with this (some of these you might even find on the block!); Stinging Nettles (*Urtica dioica*), Alfalfa (*Medicago sativa*), Red Clover (*Trifolium pratense*), Burdock (*Arctium lappa*), Oregon Grape Root (*Mahonia aquifolium*), Willow (*Salix sp.*), St John's Wort (*Hypericum spp.*), and Cleavers (*Galium aparine*).



TO REDUCE PAIN AND INFLAMMATION EXTERNALLY.....

ARNICA, POPLAR BUD AND COMFREY

Infused oils or salves of Arnica (*Arnica sp.*), Poplar buds (*Populus balsamifera*), and/or Comfrey Leaf and Root (*Symphytum officinale*) are all healing plants. Both Arnica and Poplar Buds are potent anti-inflammatory herbs and Arnica acts to relieve pain and prevent and heal bruising. Comfrey is a potent tissue healer. Salves, oils and balms made with these plants are commonly available in health food stores.

BFC (BONE FLESH AND CARTILAGE) SALVE

This is an old remedy formulated originally in the 1950's by an herbalist named Dr. Christopher. It is a mixture of White Oak bark (*Quercus sp.*), Gravel Root (*Eupatorium purpureum*), Marshmallow Root (*Althea officinalis*), Lobelia (*Lobelia inflata*), Comfrey Root (*Symphytum officinale*), Skullcap (*Scutellaria laterifolia*), Mullein (*Verbascum thapsus*) and Walnut Hull (*Juglans nigra*). It is a potent anti-inflammatory and healing blend that can be used externally as an oil or salve, or internally as a tincture. It is most often used to heal sprains, muscle strains, joint pain, tendonitis, and other related internal joint or muscle related pain or injuries. This formula has been tested on many planters to treat both mild and severe tendonitis with good success! It even helped, after only two days, to bring back the feeling to the hands and forearms of a planter whose wrists were so badly inflamed from tendonitis that he had lost feeling in his fingers. This remedy works best if it is applied at least twice a day, preferably every day (eg. first thing in the morning and before bed). You can sometimes find this formula at stores that sell herbs and natural health products.

EPSOM SALT SOAK: Magnesium Sulfate salts are very effective to relax stiff muscles, reduce inflammation and ease pain and soreness. If you have access to a bathtub, use 1 cup Epsom salts in a very hot bath. In a bush camp you can soak the affected joint(s) in a bowl with hot water and ½ cup salts, covering the bowl with a towel to keep the keep from dissipating. Epsom salts are available in most drug stores and are inexpensive.





RESOURCES

To find an alternative health care practitioner who can treat tendonitis and RSI in BC.....

- **Massage Therapists' Association of BC** www.massagetherapy.bc.ca
- **Physiotherapy Association of BC** www.bcphysio.org
- **Acupuncture Association of BC** www.tcmabc.org
- **Canadian Herbalists Association of BC** www.chaofbc.ca

Other good information on injury prevention.....

- **Delia Roberts' research reports including "Top 10 Tips" for eating while planting & "Injury Reduction"....EXCELLENT info.**
www.selkirk.ca/research/facultyresearch/treeplanting/research.
- **WCB booklet on pdf, old faithful, but still some good tips**
www2.worksafebc.com/Portals/Forestry/SilvicultureTreePlanting.asp

This wellness pamphlet is intended for information only. If you suspect that you may have developed a Repetitive Strain Injury, the reader is advised to seek medical advice for diagnosis and treatment.

For more information you can contact planter, crewboss, supervisor and Herbalist
Stephanie Mills at eatgreensdrinktea@gmail.com

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