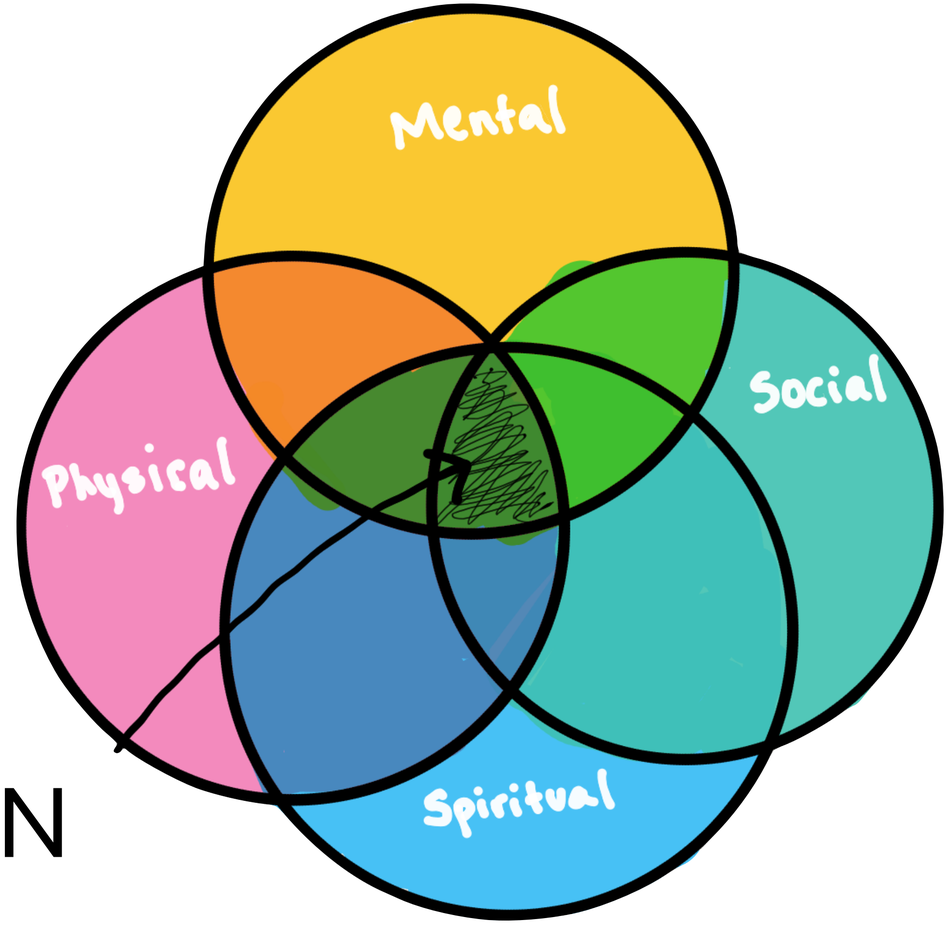
MARITZA MCKINNEY, PT, DPT

YOUR BODY

The Maintenance and Repair of the Most Important Farm Tool

PAIN

PAIN: WE WOULDN'T BE HERE TALKING ABOUT THIS TOPIC IF WE DIDN'T EXPERIENCE PAIN



2 MAIN TYPES OF TRAUMA:

BLUNT TRAUMA

NEUROMUSCULAR TRAUMA

BLUNT TRAUMA: WHEN YOU DROP SOMETHING ON YOUR FOOT, OR FALL OFF A TRACTOR

THE PRESENTATION FOCUSES ON MUSCULAR TRAUMA

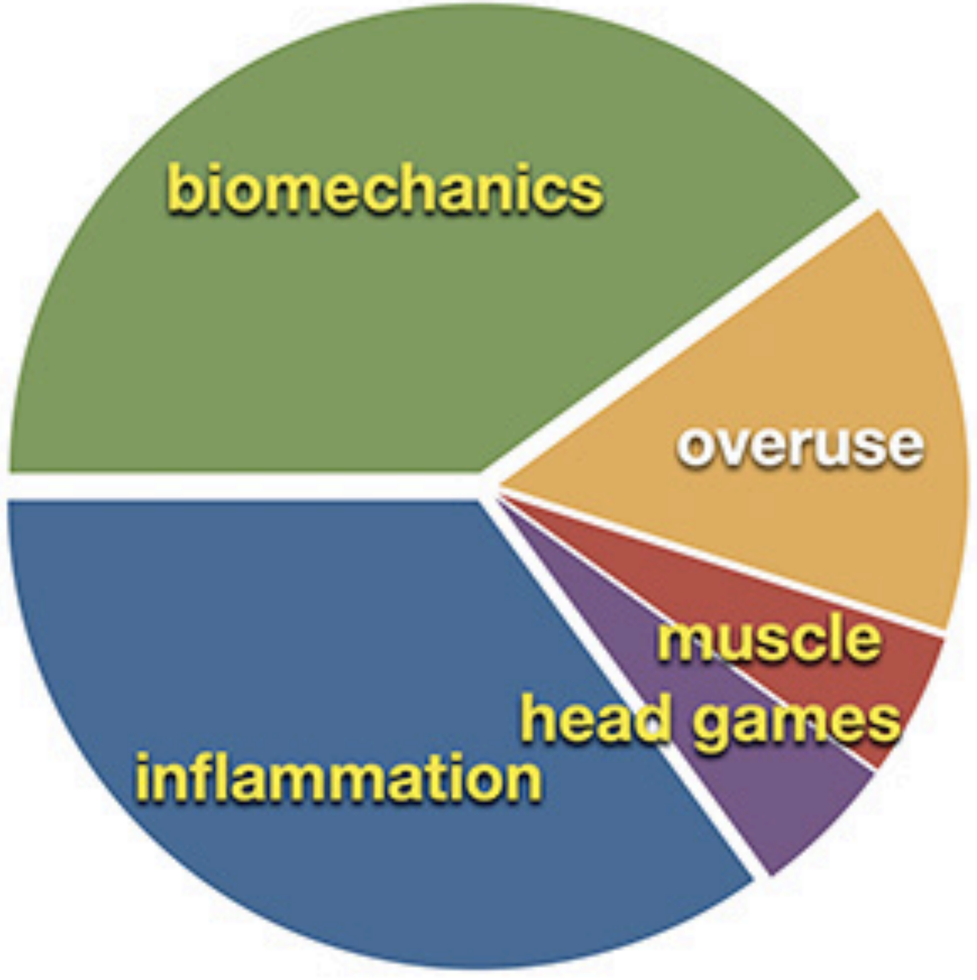
NEURO MUSCULAR TRAUMA

2 MAIN TYPES OF MUSCULAR TRAUMA: REPETITIVE STRESS INJURY AND POSTURAL INJURY

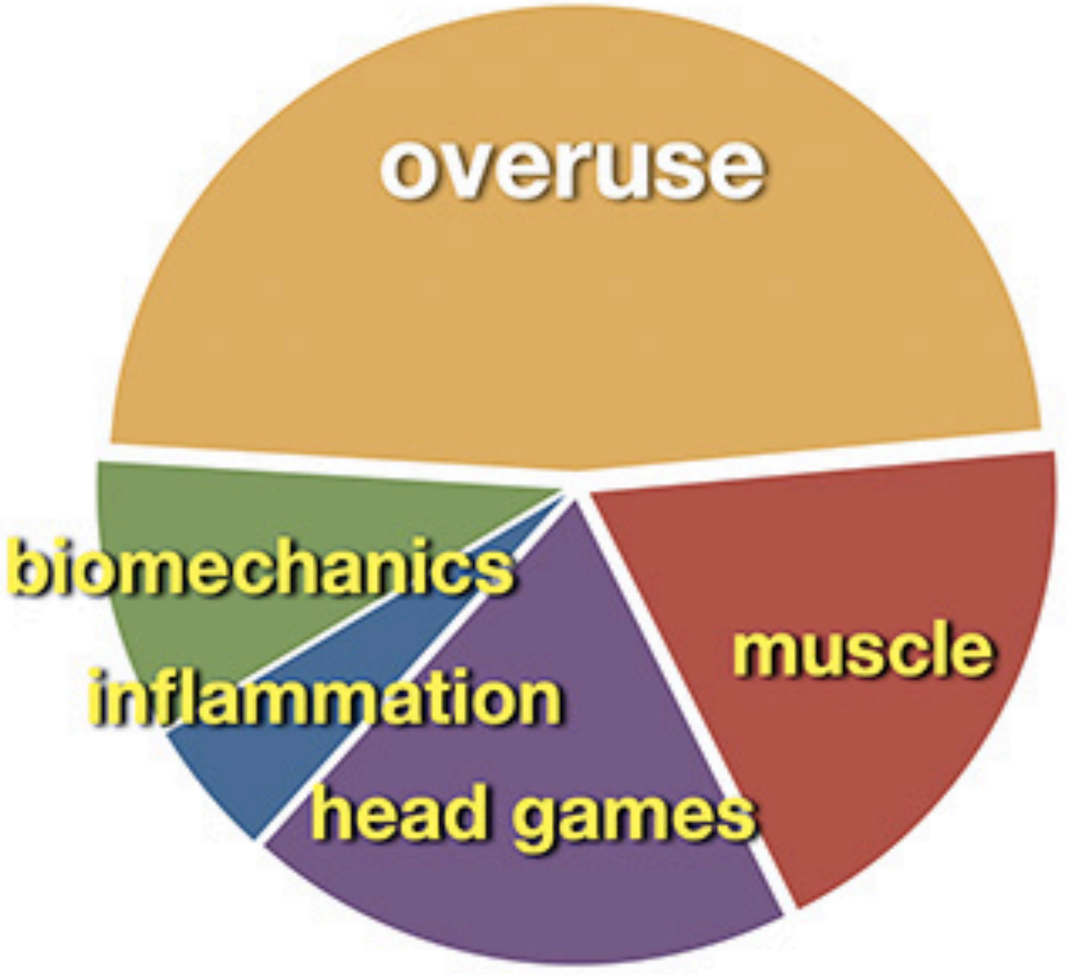
- How do they occur
- How to treat
- How to prevent

REPETITIVE STRESS INJURY

imagined importance
of RSI factors in the wild



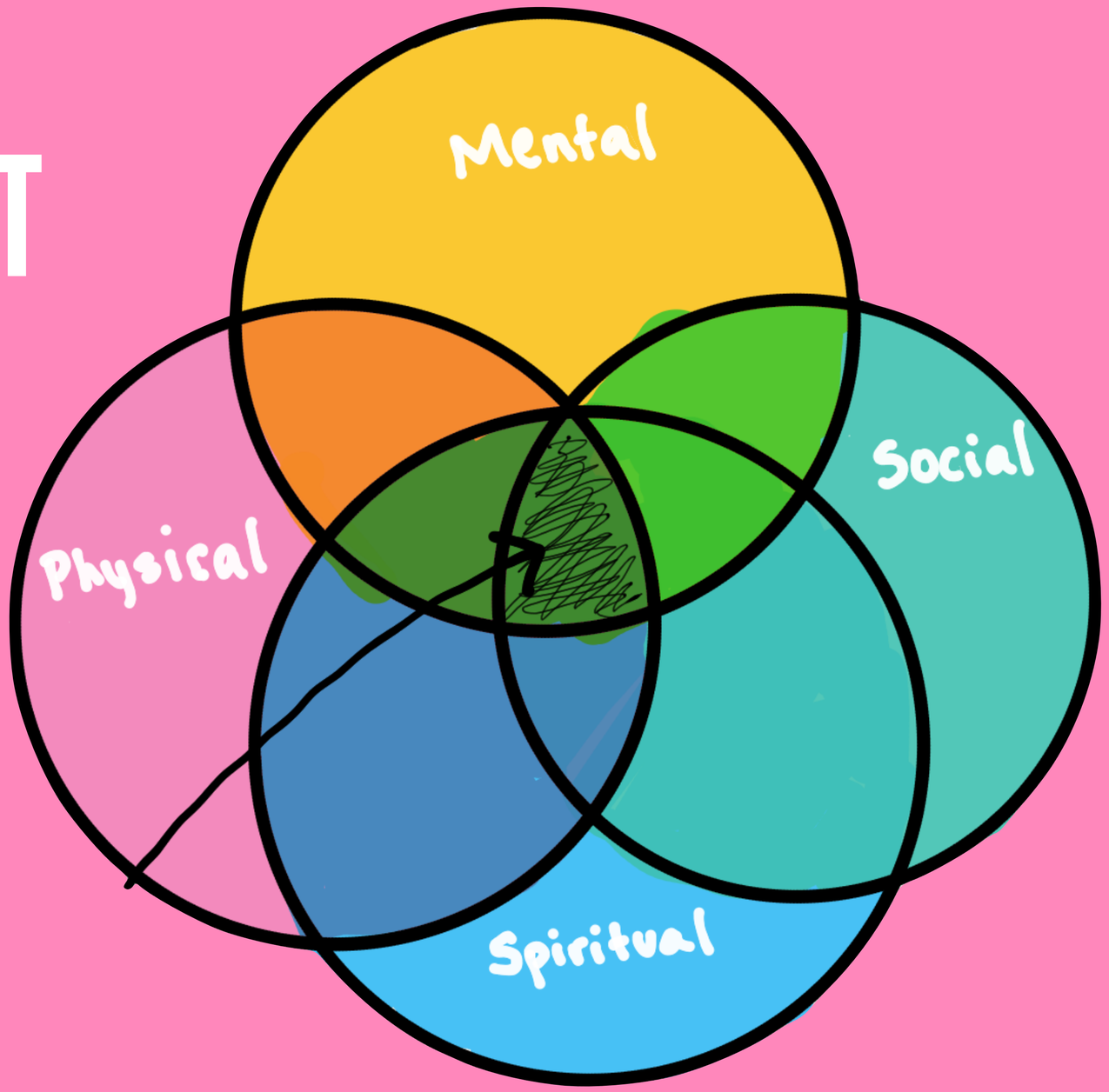
a more realistic estimate
of the importance of RSI factors



MOST COMMON REPETITIVE STRESS INJURY (RSI) ON THE FARM:

- Upper Limb Tendonitis (Carpal Tunnel, Shoulder Tendonitis, Tennis Elbow)
- Low Back Pain

OVERUSE? -> REST



"COME AWAY AND REST AWHILE"

ERGONOMICS

THE STUDY OF PEOPLE IN THEIR WORK ENVIRONMENT.

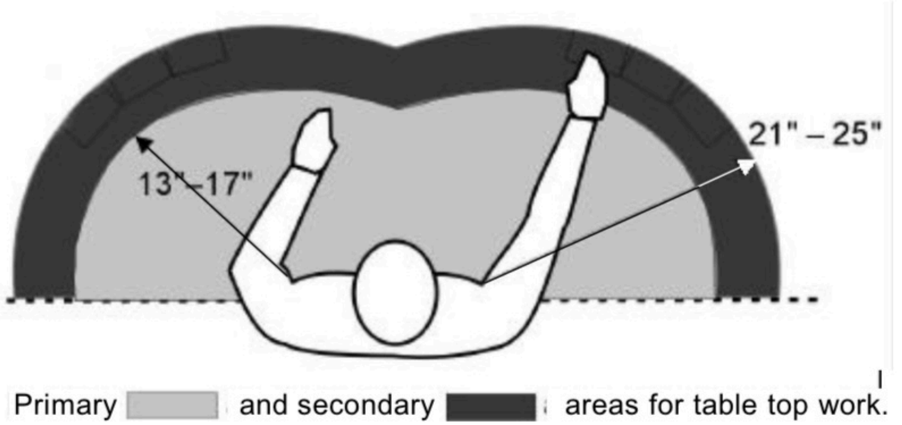
ERGONOMICS

- Arranging the workplace
- Systems
- Equipment

ARRANGING THE WORK PLACE

Guidelines for Hand Work

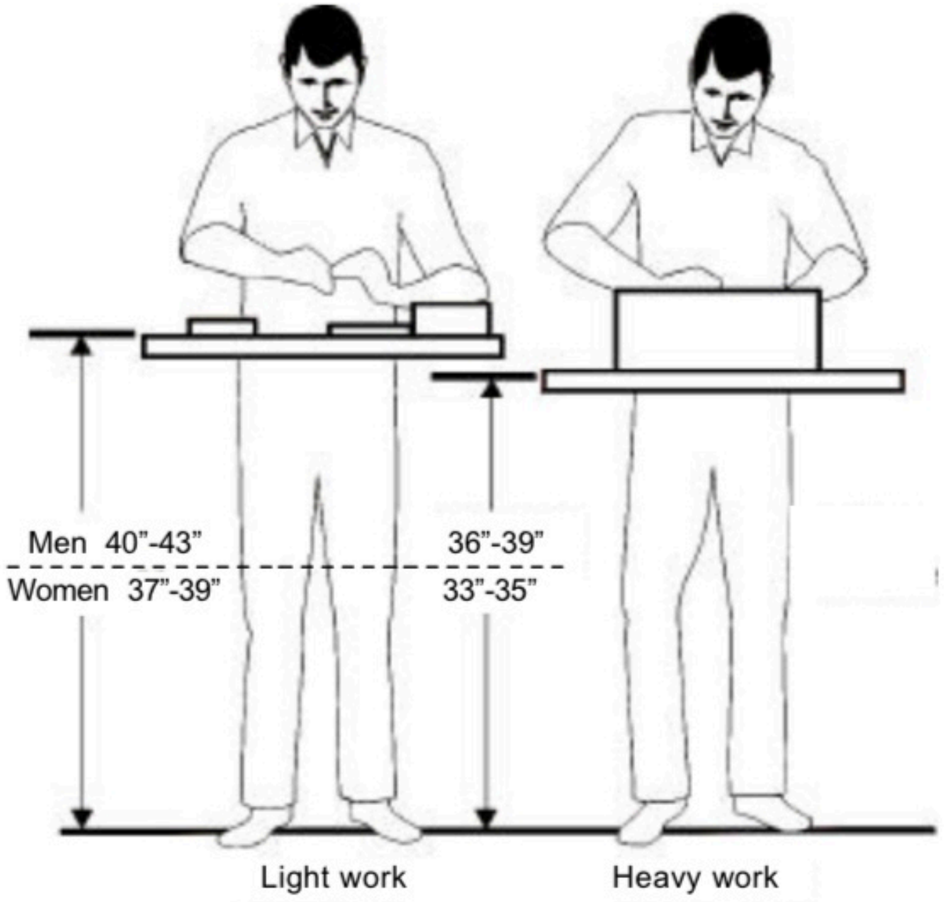
- Avoid placing needed tools or other items above shoulder height.
- Position items that are used often within 17 inches of the worker.
- When movements are repeated over and over, as in picking or weeding, allow enough time in between for adequate recovery, by having the worker alternate with a low-repetition task. For example, a worker who performs a high-repetition weeding task should be given other tasks that don't require repetitive hand motions, like carrying the finished boxes to the loading area.



Position items that are used often close to the worker.

- Provide seated jobs. Sitting down while working reduces the strain on the lower back and legs. Standing causes legs to swell (more than walking does). The best jobs are ones that allow workers to do different types of work, changing from sitting to standing to walking and back again.
- Allow foot and knee clearances for both standing and sitting workers, so they can get close to the work.

ARRANGING THE WORK PLACE



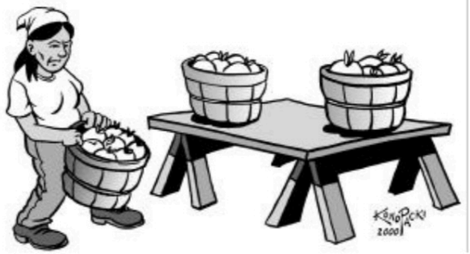
Proper work station height for light and heavy work.

ARRANGING THE WORK PLACE

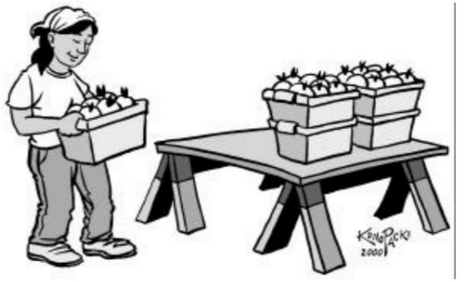
Guidelines for Lifting

- Keep lifts between hand level and shoulder level. Avoid lifts from the floor or over shoulder level.
- Provide handles on containers.
- Redesign loads so they can be lifted close to the body.
- Provide dollies, pallet trucks, or utility carts for objects that have to be carried more than a few feet. Provide roller conveyors for bags or boxes of vegetables or chemicals that are handled often. This will reduce the amount of lifting.
- Keep bag or box weight below 50 lbs. Or use the NIOSH Lifting Equation to determine an acceptable weight. See the Resources section for information on the Lifting Equation.

Lifting from a good height, between waist and shoulder level.



Poorly-designed load: No handles, and load must be carried too far from the body.



Better-designed load: Handles are provided and the load is closer to the body.

Guidelines for Stooped Work

- Redesign the job to avoid stooped work:

  Attach long handles to tools. (For an example, see pages 9-10.)
  Provide stools. (For an example, see pages 15-16.)

- If stooped work is required, provide employees with other short tasks that require walking or sitting.

SYSTEMS

- A system is a series of steps that, when followed, produces a consistent outcome.
- LEAN systems: The Lean Farm by Ben Hartman

EQUIPMENT

Johnny's Selected Seeds
955 Benton Ave., Winslow, ME 04901 U.S.A. • **Phone:** Toll-Free 1-877-564-6697 • **Fax:** 1-800-738-6314 • **Web:** Johnnyseeds.com • **Email:** service@johnnyseeds.com

Long-Handled Cultivation Tools Comparison Chart

Part #	Product	Recommended Use	Features / Notes	Assembled Dimensions / Weight	Country of Origin
9374	Long-Handled Wire Weeder	Precision cultivation of thread-stage weeds, especially around tightly-spaced crops.	Ergonomic, thumbs-up grip allows user to work in an upright position by drawing the blade back and forth, cutting weeds just below soil surface. Narrow blade maneuvers well around crops that are densely planted or round in shape, like onions.	Approximately 67" tall, 4" wide blade, 1.8 lbs.	Swiss blade and Maine-made handle
9546	3 3/4" Collinear Hoe	Cultivating thread-stage and mid-sized weeds in between crops, especially low-lying foliage crops.	Ergonomic, thumbs-up grip allows user to work in an upright position by drawing the blade back and forth, cutting weeds just below soil surface.	Approximately 65 1/2" tall, 3 3/4" wide blade, 1.7 lbs.	Swiss blade and Maine-made handle
9093	7" Collinear Hoe (Fixed Blade)			Approximately 65 1/2" tall, 7" wide blade, 1.7 lbs.	
9587	7" Collinear Hoe with Replaceable Blade			Approximately 65 1/2" tall, 7" wide blade, 1.7 lbs.	
9589	5" Trapezoid Hoe	Cultivating mid-sized weeds and chopping through roots and crop residues.	Trapezoid shaped chopping hoe with sharp corners is ideal for cutting through weeds and roots below the soil surface.	Approximately 64 1/2" tall, 5" wide blade, 2.2 lbs.	Swiss blade and Maine-made handle
9590	6 1/2" Trapezoid Hoe			Approximately 64 1/2" tall, 6 1/2" wide blade, 2.2 lbs.	
9071	3-Tooth Cultivator	General cultivating, loosening top soil, and incorporating amendments.	Eliot Coleman design is great for breaking up compacted soils in beds and footpaths, as well as incorporating compost and fertilizers into soils.	Approximately 65 1/2" tall, 7" wide head, 2.5 lbs.	Swiss blade and Maine-made handle
9489	3 1/4" Stirrup Hoe	Quickly cultivating thread-stage and mid-sized weeds in beds and footpaths.	Two-sided, oscillating blade cuts on both the push and pull for fast and efficient cultivation of weeds just below soil surface. Replacement high-tempered steel blades are available.	Approximately 64 1/4" tall, 3 1/4" wide blade, 2.5 lbs.	Swiss blade and Maine-made handle
9500	5" Stirrup Hoe			Approximately 64 1/4" tall, 5" wide blade, 2.6 lbs.	
9504	7" Stirrup Hoe	Cultivating thread-stage and mid-sized weeds in beds and footpaths. Wide 7" blade is especially great for footpath cultivation.		Approximately 64 1/4" tall, 7" wide blade, 2.7 lbs.	
9809	Cobrahead® Long Handled Precision Weeder/Cultivator	Weeding, cultivating, removing thatched crop residues, and trenching. Good for closely-spaced crops, large weeds, and tough soils.	Works by scraping weeds just below soil surface much like a Wire Weeder, but with a narrow, plow-shaped blade that can also be used for digging out larger weeds. Also works well in wet soils.	Approximately 62" tall, 1 1/2" wide blade, 2.2 lbs.	U.S.A.
7339	Four-Row Cultivator	Precision cultivation of densely-planted rows spaced 2 1/4" apart.	Perfect for cultivating between rows made by the Four-Row and Six-Row Pinpoint Seeders.	Approximately 46 1/4" tall, 11 1/2" wide blade, 5.8 lbs.	China
7410	6" Tine Weeding Rake	Cultivating thread-stage weeds within and between mature crops.	Works by scratching the soil surface to bring thread-stage weeds to the surface. Also useful for breaking up crust and moss on soil surface. Tines are removable and can be configured to suit specific needs.	Approximately 65 1/2" long, 6" wide working width, 1.7 lbs.	U.S.A.
7408	9" Tine Weeding Rake			Approximately 65 1/2" long, 9" wide working width, 1.8 lbs.	
7407	21" Tine Weeding Rake	Cultivating thread-stage weeds, especially useful between densely-planted crops like greens mixes that are difficult to cultivate.		Approximately 66" long, 21" wide working width, 2.4 lbs.	
7453	5" Wheel Weeder	Quickly and efficiently targets both thread-stage and more established weeds at the same time. Great for cultivating between rows and in footpaths.	Stirrup hoe blade cuts more established weeds below soil surface, while the soil disturbance from the wheel leaves thread-stage weeds desiccated on the soil surface. Not for use in rocky soils.	Approximately 55 1/4" tall, 4.7" wide blade, 3 1/2" wide wheel, 11.9 lbs.	France
7452	7" Wheel Weeder			Approximately 55 1/4" tall, 7" wide blade, 5 1/2" wide wheel, 12.7 lbs.	
7451	11" Wheel Weeder			Approximately 55 1/4" tall, 10 6/10" wide blade, 9" wide wheel, 13.8 lbs.	
7666	5" Double Wheel Weeder Includes two adjustable 5" heads.	Quickly and efficiently targets both thread-stage and more established weeds on both sides of a crop.	Stirrup hoe blade cuts more established weeds below soil surface, while the soil disturbance from the wheel leaves thread-stage weeds desiccated on the soil surface. Not for use in rocky soils.	Approximately 55 1/4" tall, 23" maximum outside width, 23.5 lbs.	France
7667	7" Double Wheel Weeder Includes two adjustable 7" heads.			Approximately 55 1/4" tall, 26" maximum outside width, 25.4 lbs.	
7668	11" Double Wheel Weeder Includes two adjustable 11" heads.			Approximately 55 1/4" tall, 29" maximum outside width, 28.1 lbs.	

*Also see our Wheel Hoe Selection Guide for information on wheel hoes for cultivation.

< Ace Hardware / Lawn and Garden / Gardening Tools / Garden Hoes

Ace Steel Scuffle Hand Hoe 54 in. Fiberglass Handle

Item # 7001878 | Mfr # ACT-HOE-F-ACE

4.5 (62)

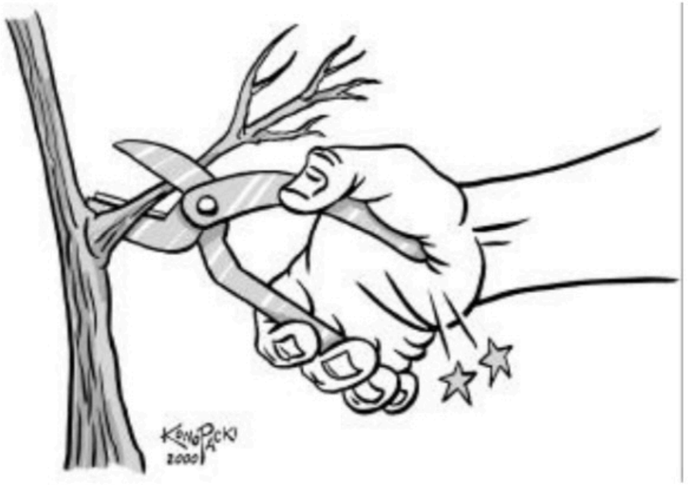
Tap to view

$26.99

ACE REWARDS

See Details

Estimated Points Earned: 269



Poorly-designed tool: Handle presses into base of palm and requires user to open after each cut (no spring).

Well-designed tool: Handles are long. Spring return keeps tool open. Handles are covered with rubber or plastic grip.

Tip Sheet

Smaller Picking Tub

Problem:

In hand harvest of wine grapes, the tubs used are heavy when full and, thus, can contribute to back and knee injuries.

- Workers cut grapes directly into plastic tubs and then carry the tubs to trailer-mounted gondolas. When full, the tubs weigh an average of 57 pounds.
- Worker must stoop, grip, lift, carry, and dump up to 20 times per hour, not including the stooping, gripping, and relocating of the tub as the worker moves down the row of vines.
- A side-sweeping motion of the leg is often used to move the tub along the vine until it is about half full, at which point the tub is lifted.
- For dumping into the gondola, the full tub is often lifted above the head.

One Solution:

Use a smaller, lighter tub (on the right) that has add-on grips and weighs an average 46 pounds when full.

- The lower weight is easier on the back, knees, and arms. The narrower width positions the tub's center of gravity closer to the worker, which reduces stress on the back.
- Lighter weight and smoother bottom surface reduce the sideways forces on the knees when pushing the tub down the row.
- Better handles reduce pressure points on the fingers.
- Can have minor negative impact on production, but has gained approval of piece-rate workers.

Tip Sheet

Mesh Bags: Easy Batch Processing

Problem:

Washing leafy greens by hand is back-breaking and time-consuming.

- Worker must stoop, lift, and grip repeatedly.
- Slow washing reduces crop quality.
- There is static load on arms while holding produce to drain.
- Hands are in direct, frequent contact with cold water.
- Rough handling lowers crop quality.

One Solution:

Use mesh bags to speed the process.

- Erect posture while removing and draining leaves.
- Greater amount per trip: can use batch processing.
- Able to wash 50% more greens (by weight) in the same amount of time.
- Faster process maintains crop quality.
- Hands spend less time immersed in cold water.
- Less chance of leaf damage from crushing.

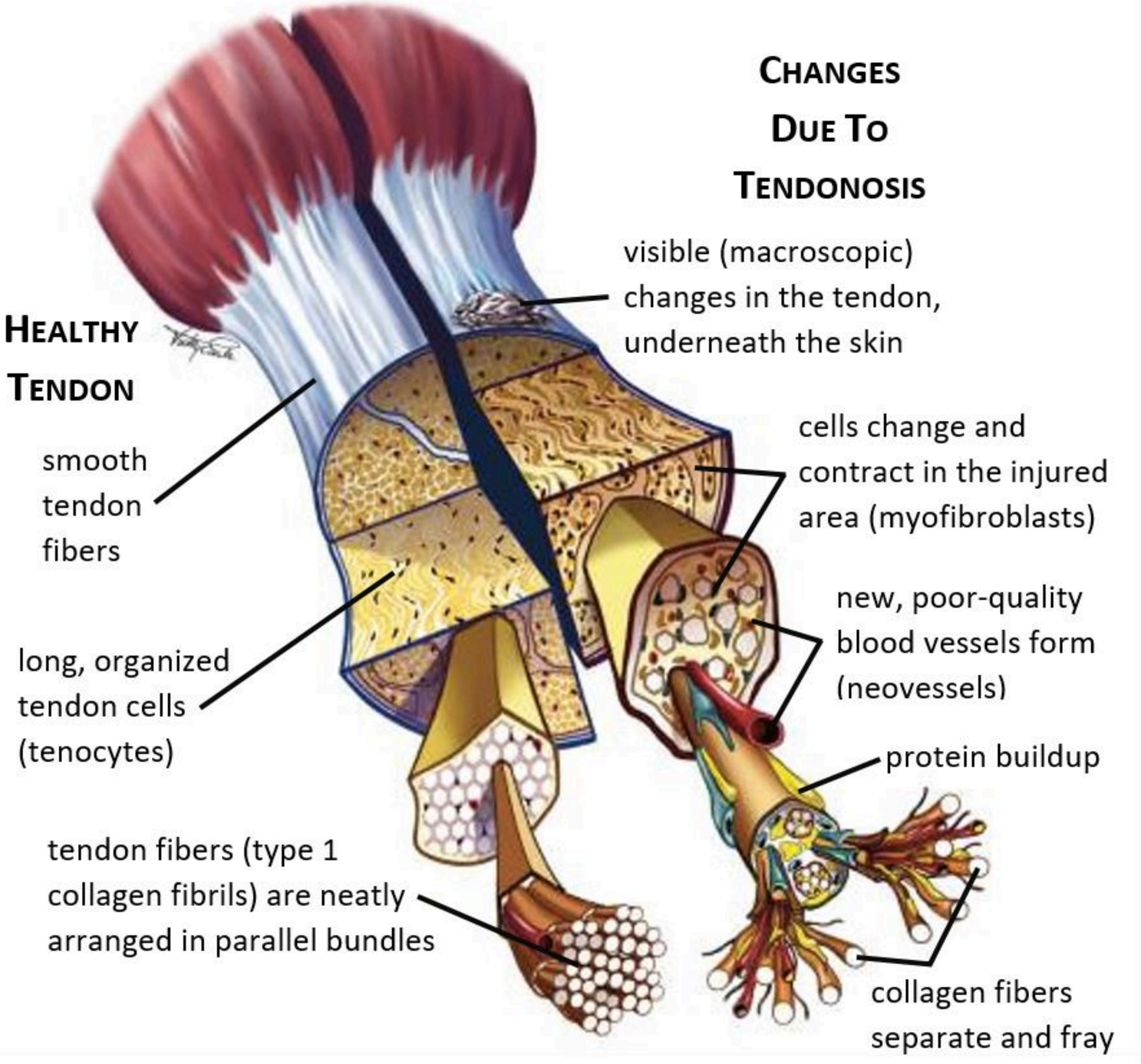
ACTIVITY STRESS:

- Awkward movement/twisting
- Reaching too far out of center of gravity
- Too much time on the same task (repetitive or sustained)
- Vibration
- Compensation movement

MUSCLE

ACTIVITY STRESS AND PREEXISTING CONDITIONS

THE CELLS CAN'T KEEP UP WITH THE REPAIR DEMANDS


HEALTHY TENDON
smooth tendon fibers
long, organized tendon cells (tenocytes)
tendon fibers (type 1 collagen fibrils) are neatly arranged in parallel bundles
CHANGES DUE TO TENDONOSIS
visible (macroscopic) changes in the tendon, underneath the skin
cells change and contract in the injured area (myofibroblasts)
new, poor-quality blood vessels form (neovessels)
protein buildup
collagen fibers separate and fray

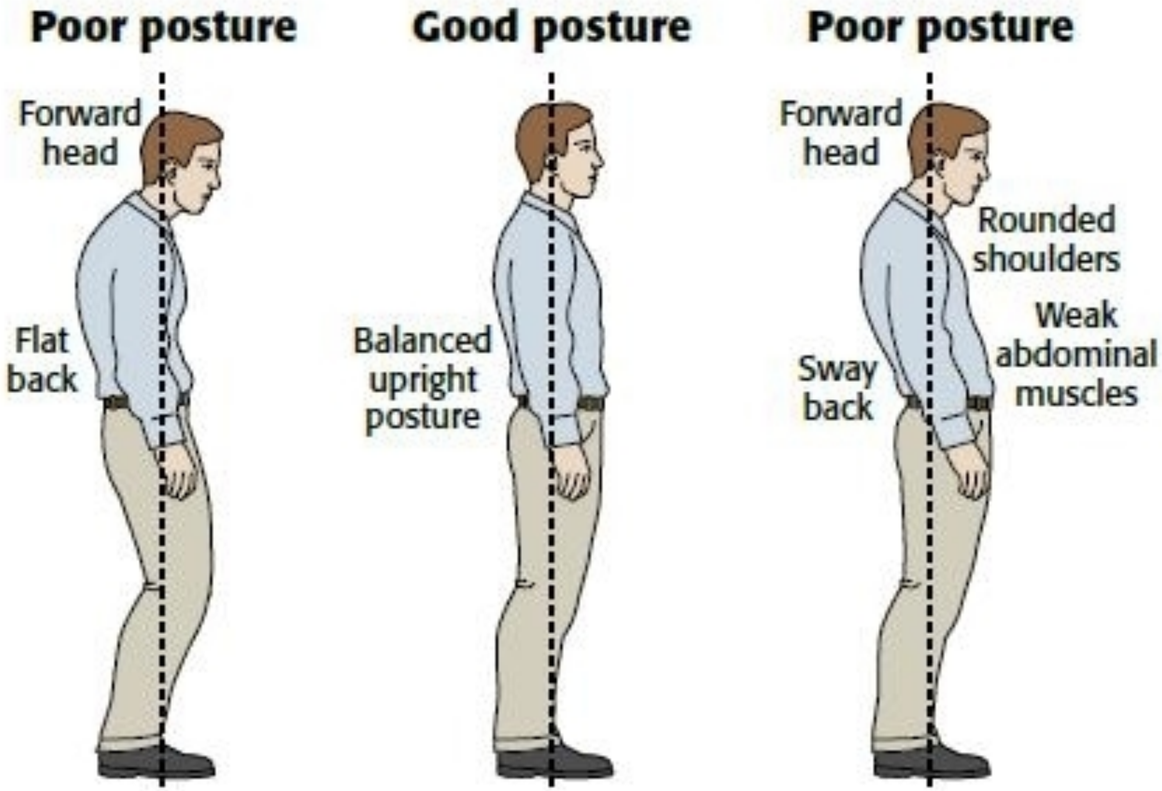
PRE-EXISTING CONDITIONS:

- Trigger points
- Tight muscles
- Weak muscles
- Previous unhealed injury
- Inadequate lifestyle health

POSTURE

IS MORE AN INSIGHT INTO YOUR HABITS THAN A MEASUREMENT OF YOUR FLAWS

MOST COMMON POSTURE

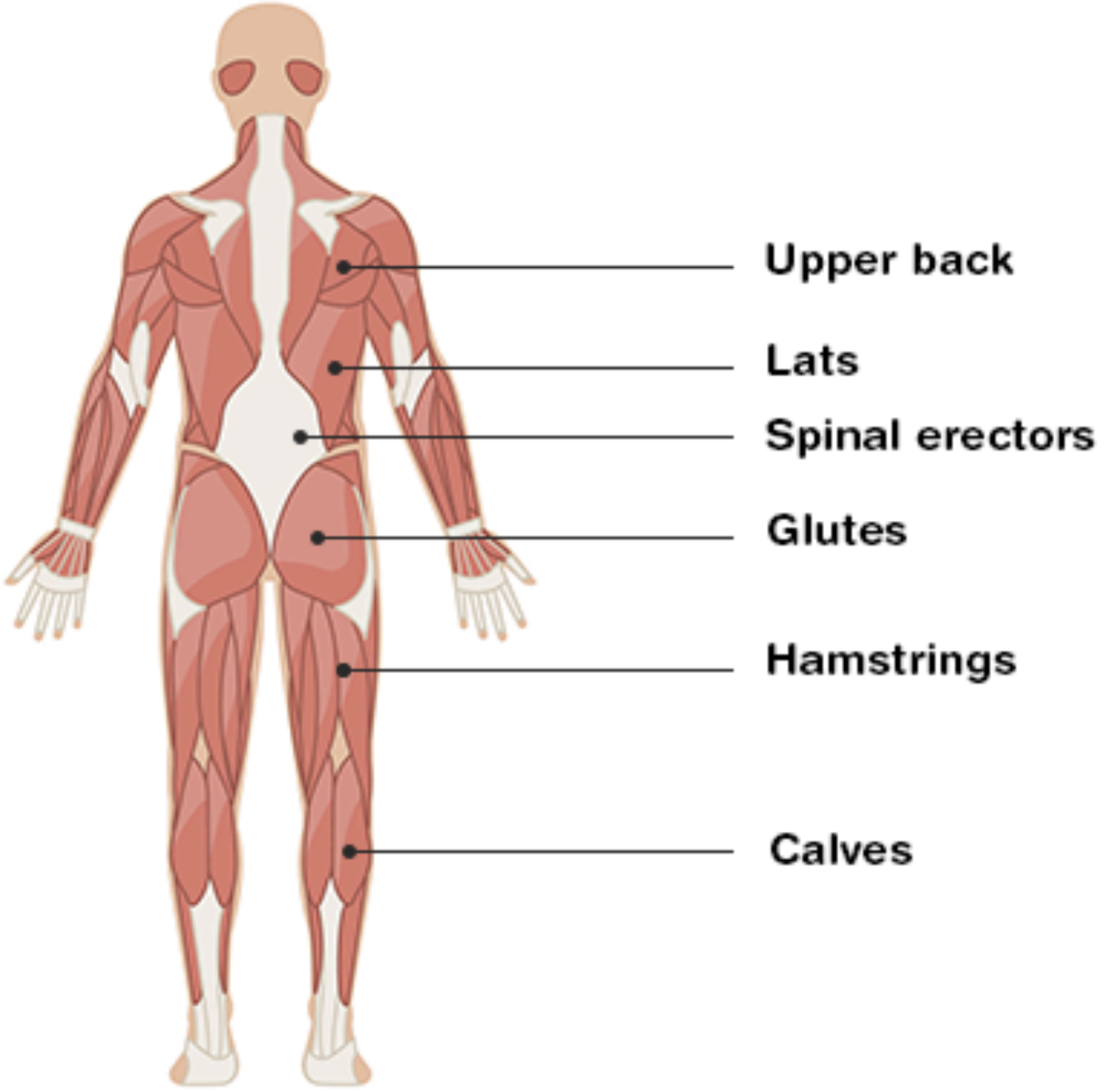


CAUSES OF POSTURAL INJURY:

- Old habit combined with new movement
- Tightness = weakness
- Over lengthened muscles = weakness
- Wrong muscles doing the job

POSTURAL MUSCLE CHARACTERISTICS	PHASIC MUSCLE CHARACTERISTICS
Are anti-gravity or tonic muscles; they have a higher resting tonus than phasic muscles	Are available on demand but do not oppose gravity
Tend toward shortness and tightness	Tend toward inhibition and weakness
Are genetically older and less reactive to injury	Are genetically younger and more reactive to injury
Atrophy less quickly than phasic muscles	Atrophy more quickly than postural muscles

POSTERIOR CHAIN


Upper back
Lats
Spinal erectors
Glutes
Hamstrings
Calves

POSTURE TREATMENT

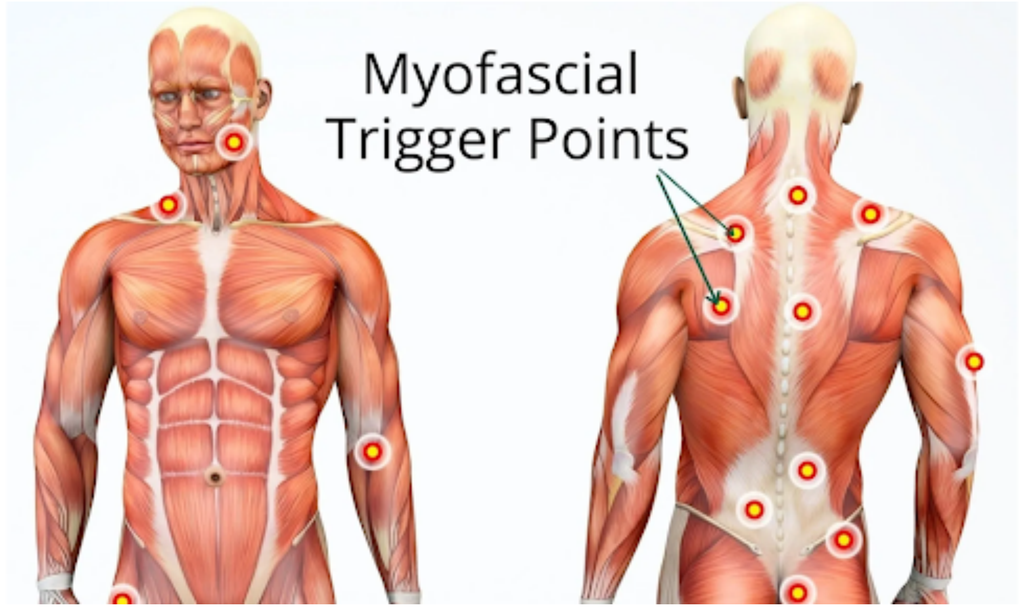
- Stretch Anterior Chain: Pecs and Hip Flexors
- Strengthen Posterior Chain: Glutes, Lower Traps, Lats
- Strengthen Core Muscles for natural back brace

TREATMENT

TRIGGER POINT THERAPY

WHAT IS A TRIGGER POINT

- AKA “ a knot in the muscle”
- It is a spot that is sensitive to pressure, mainly in muscle tissue, and often associated with aching and stiffness
- A micro cramp of a tiny patch of muscle tissue (unlike a Charlie horse)
- Chokes off blood supply causing a metabolic crisis
- Irritated nerves



Example of referred pain

The phenomenon of referred pain is one of the main reasons that trigger points can cause pain in unexpected places. This image shows a classic example. Many people have a sore spot in the upper gluteus maximus, but pain in this location often spreads either up into the low back and/or down into the rest of the gluteals & hamstrings. This pattern causes it to be widely misinterpreted as back pain and/or sciatica, when in fact it's just a sore spot in the butt.

TREATMENT

- Massage
- Heat

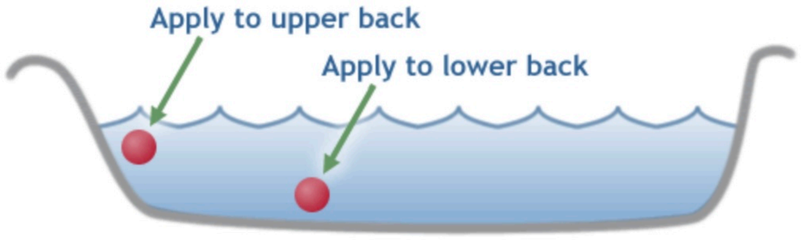
Quick Review *What are the most common treatment mistakes?*

1. *missing the trigger point*
2. *excessive pressure*
3. *using ice or getting chilled*
4. *exercising muscles too hard or too soon after treatment*
5. *sustained awkward positions after treatment*

HOW TO DO TRIGGER POINT THERAPY

- Use heat before: Rice sock
- Apply gentle pressure at first
- Rub/massage parallel to muscle fibers in general
- Use balls or other tools
- Move and stretch the muscle after massage
- Treat right before bed
- Ask for help from another person

Squash balls are softer & smaller than tennis balls, which makes them ideal for massaging some hard-to-reach spots, like the back of the shoulder.



The Bath Trick

Run a hot bath & trap a ball between your body & the bottom or back of the tub to rub your back muscles — your buoyancy allows for excellent control over moderate pressures.

Ah, the humble tennis ball

Best buddy to the common muscle knot!

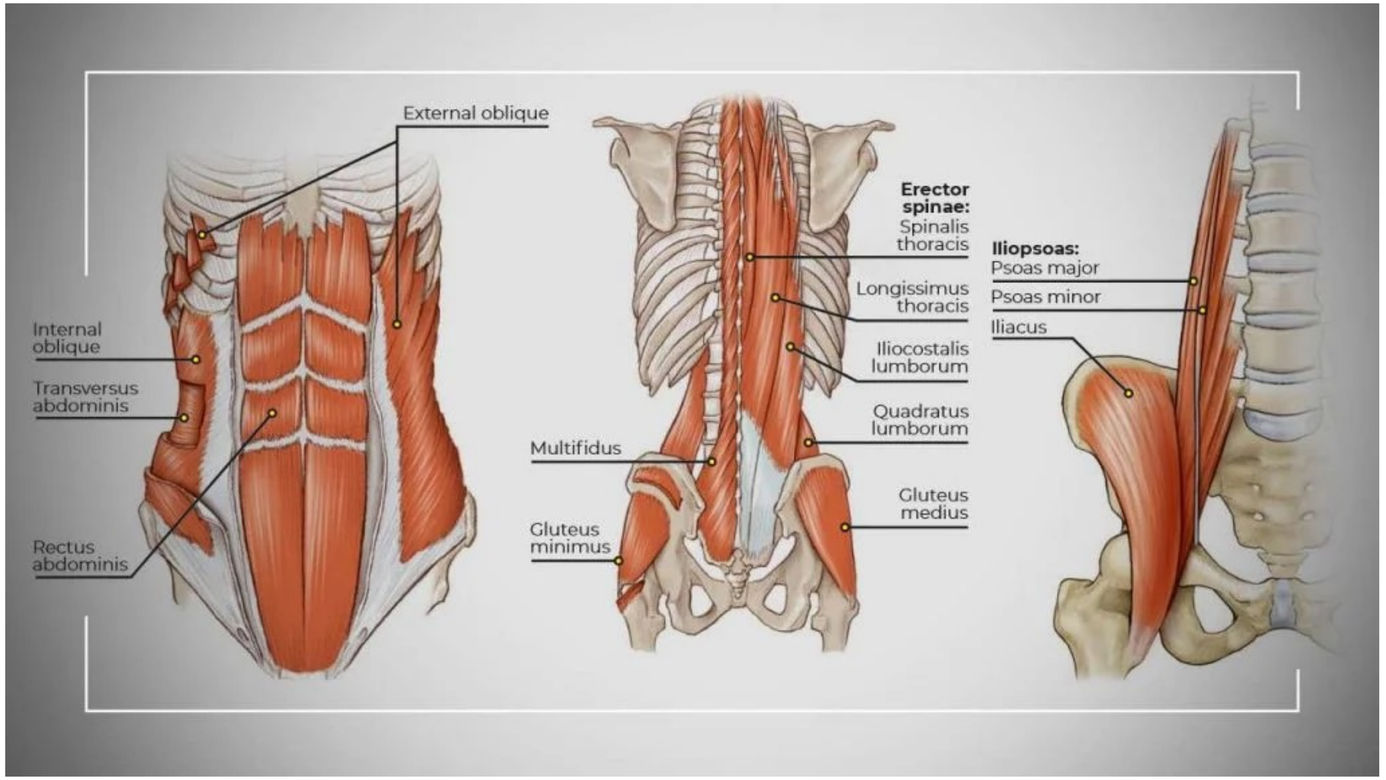
The Classic KONG® dog toy is an amazingly good self-massage tool.

The KONG® dog ball is also ideal for massage.

LOW BACK PAIN

TREATMENT OF LOW BACK PAIN

- Diagnosis from Medical Provider
- Bracing
- Movement
- Heat
- Trigger Point Therapy
- Strengthen: Glutes: Bridges, Single Leg Bridges, Squats, Single Leg Squats


External oblique
Internal oblique
Transversus abdominis
Rectus abdominis
Erector spinae:
Spinalis thoracis
Longissimus thoracis
Iliocostalis lumborum
Quadratus lumborum
Multifidus
Gluteus medius
Gluteus minimus
Iliopsoas:
Psoas major
Psoas minor
Iliacus

RICE ACRONYM

- REST
- ICE
- COMPRESSION
- ELEVATION

PEACE AND LOVE

PEACE

PHASE 1

P.E.A.C.E

- **Protect:** Unload or restrict movement for the first 1-3 days. This reduces bleeding and the risk of aggravating the injury. You don't want to completely stop moving though, as prolong rest compromises tissue strength and quality. Keep it moving without loading it (eg; gentle pain free movement for an ankle sprain)
- **Elevate:** Elevate the injured limb, ideally above the level of the heart. This promotes fluid flow out of the injured tissue. There is poor evidence for elevation, however it is still recommended due to its low risk-benefit ratio.
- **Avoid anti-inflammatory meds/ice:** The inflammatory process in the early stages of an acute soft tissue injury is an part of the healing process. Anti-inflammatory mediation can negatively affect long-erm tissue healing and impair the healing process.
- It is also recommended to avoid ice. The use of ice is mostly analgesic and using ice may potentially disrupt inflammation and other processes that are required for tissue healing.

P.E.A.C.E CONTINUED

- **Compression:** Inta-articular edema and tissue hemorrhage may be limited by external mechanical compression such as taping, bandages and compression garments
- **Educate:** Education is key! It's important that the patient understands what is happening within their body and tissues during the healing process and how an active approach to recovery, rather than a passive approach, can benefit the patient. The patient needs to have realistic expectations about what to expect and recover times.

LOVE

PHASE 2

L.O.V.E

- **Load:** Soft tissue injuries benefit from an active approach with movement and exercise. Normal activities should continue as soon as symptoms allow for it. Early mechanical stress with optimal loading without increasing pain promotes repair and remodeling and builds soft tissue tolerance
- **Optimism:** The brain plays a significant part in rehabilitation and some barriers include catastrophization, depression and fear. Staying realistic and encouraging optimism helps improve the chances of an optimal recovery.

L.O.V.E CONTINUED

- **Load**
- **Optimism**
- **Vascularization:** Musculoskeletal injury management needs to include cardiovascular physical activity. Pain-free cardiovascular exercise is a motivation booster and increases blood flow to injured structures.
- **Exercise:** Evidence supports the use of exercise therapy in the treatment of sot tissue injures. Benefits include restoring mobility, strength and proprioception. It is important to avoid pain in the early phases and then use pain as a guid to progress exercise gradually.

PLEA

A PLEA FOR PREVENTION

PLEA:

- Plan and prepare for upcoming task: Seasonality
- Lifestyle measures NEW SMART
- Ergonomics
- Activity of the Body: Stretch, Strengthen, Mobility, Treat Trigger Points.

REFERENCES

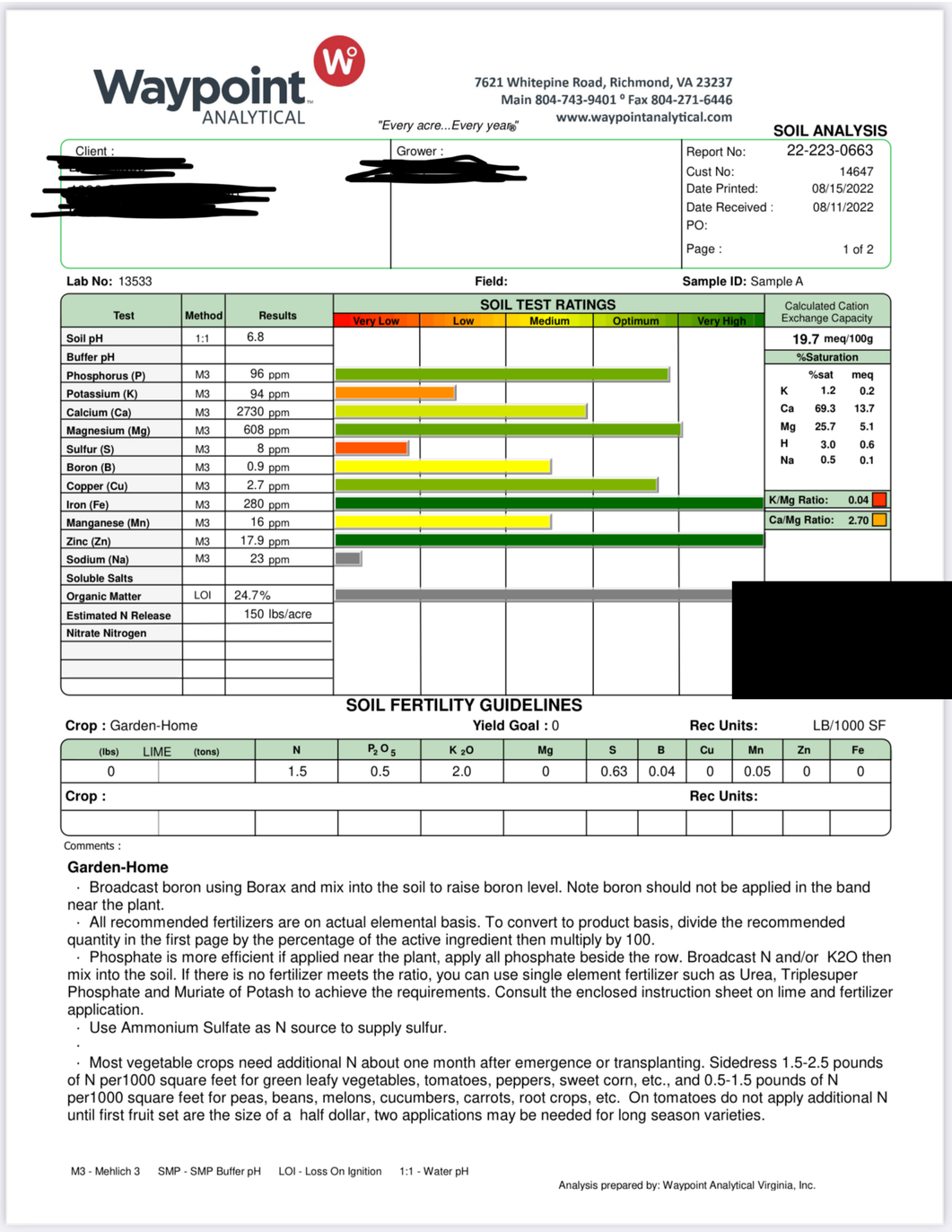
- PEACE and LOVE berwickfamilysteopathy.com.au
- Trigger Points: The Complete Guide to Trigger Points and Myofascial Pain. Paul Ingraham, www.painscience.com
- Postural and Phasic Muscles: Differences in Function. blog.nasm.org
- Simple Solutions: Ergonomics for Farm Workers. U.S Department of Health and Human Services.

CONTACT INFORMATION

Maritza McKinney, PT, DPT

mckinneymaritza@gmail.com

www.soiltestfornutrition.com



Waypoint ANALYTICAL

"Every acre...Every year"

7621 Whitepine Road, Richmond, VA 23237
Main 804-743-9401 ° Fax 804-271-6446
www.waypointanalytical.com

SOIL ANALYSIS

Client : [redacted]

Grower : [redacted]

Report No: 22-223-0663
Cust No: 14647
Date Printed: 08/15/2022
Date Received : 08/11/2022
PO:
Page : 1 of 2

Lab No: 13533 **Field:** **Sample ID:** Sample A

Test	Method	Results	SOIL TEST RATINGS (Very Low / Low / Medium / Optimum / Very High)
Soil pH	1:1	6.8	
Buffer pH			
Phosphorus (P)	M3	96 ppm	
Potassium (K)	M3	94 ppm	
Calcium (Ca)	M3	2730 ppm	
Magnesium (Mg)	M3	608 ppm	
Sulfur (S)	M3	8 ppm	
Boron (B)	M3	0.9 ppm	
Copper (Cu)	M3	2.7 ppm	
Iron (Fe)	M3	280 ppm	
Manganese (Mn)	M3	16 ppm	
Zinc (Zn)	M3	17.9 ppm	
Sodium (Na)	M3	23 ppm	
Soluble Salts			
Organic Matter	LOI	24.7%	
Estimated N Release		150 lbs/acre	
Nitrate Nitrogen			

Calculated Cation Exchange Capacity: **19.7** meq/100g

%Saturation

	%sat	meq
K	1.2	0.2
Ca	69.3	13.7
Mg	25.7	5.1
H	3.0	0.6
Na	0.5	0.1

K/Mg Ratio: 0.04

Ca/Mg Ratio: 2.70

SOIL FERTILITY GUIDELINES

Crop : Garden-Home **Yield Goal :** 0 **Rec Units:** LB/1000 SF

(lbs) LIME (tons)	N	P_2O_5	K_2O	Mg	S	B	Cu	Mn	Zn	Fe
0	1.5	0.5	2.0	0	0.63	0.04	0	0.05	0	0
Crop :								**Rec Units:**		

Comments :

Garden-Home

· Broadcast boron using Borax and mix into the soil to raise boron level. Note boron should not be applied in the band near the plant.

· All recommended fertilizers are on actual elemental basis. To convert to product basis, divide the recommended quantity in the first page by the percentage of the active ingredient then multiply by 100.

· Phosphate is more efficient if applied near the plant, apply all phosphate beside the row. Broadcast N and/or K2O then mix into the soil. If there is no fertilizer meets the ratio, you can use single element fertilizer such as Urea, Triplesuper Phosphate and Muriate of Potash to achieve the requirements. Consult the enclosed instruction sheet on lime and fertilizer application.

· Use Ammonium Sulfate as N source to supply sulfur.

·

· Most vegetable crops need additional N about one month after emergence or transplanting. Sidedress 1.5-2.5 pounds of N per1000 square feet for green leafy vegetables, tomatoes, peppers, sweet corn, etc., and 0.5-1.5 pounds of N per1000 square feet for peas, beans, melons, cucumbers, carrots, root crops, etc. On tomatoes do not apply additional N until first fruit set are the size of a half dollar, two applications may be needed for long season varieties.

M3 - Mehlich 3 SMP - SMP Buffer pH LOI - Loss On Ignition 1:1 - Water pH

Analysis prepared by: Waypoint Analytical Virginia, Inc.

[redacted] Garden Amendments 2022

Created by: Maritza McKinney on July 22, 2022
Soil test date: February 8, 2022 from Waypoint Analytical

Rows	Cottonseed Meal	Potassium Sulfate	Elemental Sulfur	Azomite	Prepare
Row 1: 7x18 = 126	35 cups or **2 gallons**	0.2 cups or **3 TBS**	0.1 cup or **1.5 TBS**	0.63 cup or **⅔ cup**	1 bucket
Row 2-7: 3x18 = 54	15 cups or **1 gallon**	0.1 cup or **1.5 TBS**	0.05 cup or **2.5 TSP**	0.27 **⅓ cup**	6 buckets
Back Row: 2x14= 28	**8 cups**	0.05 cup or **2.5 TSP**	0.03 cup or **2.5 TSP**	0.14 cup or **3TBS**	1 bucket

You will need a 5 gallon bucket, 2 gallon bucket, 1 cup measure, tablespoon, and teaspoon measure.

1. Add the amendments for 1 row into the 5 gallon bucket.
2. Mix the amendments in the 5 gallon bucket thoroughly with a stick or big spoon or shovel.
3. Guestimate trying to spread the contents of the bucket evenly through the bed by eyeing the amount in the bucket compared to the amount of bed space the contents need to cover
4. Spread evenly by hand over the bed.
5. Repeat until all beds have been treated.

I did not calculate adding phosphorus to your garden as you have plenty, and the phosphorus will stay in the soil for years.

Nitrogen is added by using the cottonseed meal .

Element	Amendment Used	Where to buy
Nitrogen (N)	Cottonseed meal	Black and Meek Milling Company
Phosphorus (P_2O_5)	Soft rock phosphate	Beaty's Fertilizer in TN
Potassium (K_2O)	Potassium Sulfate	Amazon: Alpha Chemicals
Magnesium (mg)	Epsom Salts	Grocery Store
Sulfur (S)	Elemental Sulfur	Black and Meek Milling Company or Amazon. Pelletized* or Powder
Boron (B)	Borax	Grocery Store
Zinc (Zn)	Zinc sulfate	Amazon: Alpha Chemicals
Calcium (Ca)	Dolomite Lime	Black and Mieek Milling Company
Multi Micro Mineral	Azomite	Amazon.com

*Pelletized is easier to handle

Joyful Gardening!

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Q&A