Back Injuries: The Untold Story

with Greg Augustine from

SOMA 4 LIVING

Back Injuries: The Untold Story

- Why so common?
- What's missing now? Hidden causes!
- Taking it to the next level. Solutions!
- The Plan

SOMA 4 LIVING

Is it a problem?

Why is it a problem?

SOMA 4 LIVING

Why is it a problem?

MSI's

- 57% of injuries are strains
- 22% of injuries are Back strains

Worksafe BC 2009

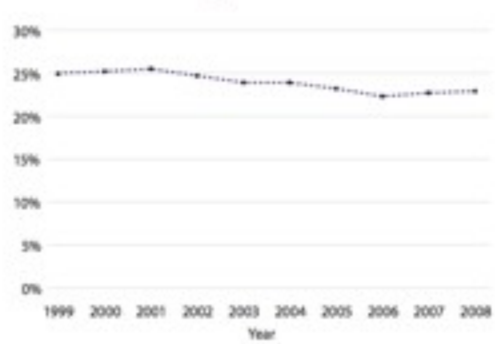
SOMA 4 LIVING

Back Strain Claims (Excluding Health-care-only Claims) Paid for the First Time During 1996–2005 **Table F**

Year	Number of Back Strain Claims[1] First Paid in the Year	Total Number of Claims[1] First Paid in the Year	Back Strain Claims[1] as a % of Total Claims[1]	Days Lost[2] in the Year on Back Strain Claims	Days Lost[2] in the Year on All Claims	Days Lost[2] on Back Strain Claims as a % of All Days Lost[2]
1996	18,450	73,840	25.0%	694,000	2,842,111	24.4%
1997	18,780	75,124	25.0%	722,000	2,981,280	24.2%
1998	18,730	72,795	25.7%	811,000	3,319,300	24.4%
1999	17,870	[illegible]	25.0%	838,000	3,606,932	23.2%
2000	18,190	72,314	25.2%	789,000	3,481,934	22.6%
2001	17,440[3]	68,334	[illegible]	793,000[3]	3,370,562	23.5%
2002	15,180	61,529	24.7%	[illegible]	3,004,318	22.4%
2003	14,060	58,834	23.9%	594,000	2,765,230	21.5%
2004	14,400	60,160	23.9%	575,000	[illegible]	20.8%
2005	14,380 estimate[3]	62,171	23.1%	568,000 estimate[3]	2,763,989	20.6%
1996–2005	**167,460**	**676,444**	**24.8%**	**7,057,000**	**30,907,677**	**22.8%**

Source: WorkSafeBC

Table 2-10d › Percentage of claimants with back strains



Claimants receiving a first payment of short-term disability or long-term disability benefits in these years

Source: WorkSafeBC

SOMA 4 LIVING

What are the Causes?

Ergo Risk Factors

- Repetition
- Duration
- Posture
- Force
- Contact Stress
- Vibration

SOMA 4 LIVING

Are the injury statistics the whole story?

SOMA 4 LIVING

1/3 to 1/2 of workers reported having pain...
These are not a part of the injury statistics

Pain and disability reporting in heavy industry

Over all five industries, one-third to one-half of workers reported having pain on the day of the interview. Over three-quarters of workers described having back pain in the last 6 months. Only four workers volunteered the fact that they had never had back pain. The average reported pain intensity in the last 6 months was similar to the average pain intensity of workers reporting pain today (3.0 vs 3.1, respectively), but the highest pain intensity was much higher (6.3 on an 11-point scale). The level of disability, as measured by reported interference with activities, was also high in this population. Of those workers reporting 'pain today', nearly a quarter reported changing their work activities due to pain, meaning that the

There are several possible explanations for the low percentage of workers without pain in heavy industry. Lifetime prevalence of back pain in the general population is reported to be around 80%, and musculoskeletal injuries and back strains are among the most common claims in BC (WorkSafe BC, 2006). So, even with the healthy worker effect, one cannot expect finding pain-free individuals to be an easy task. Workers in heavy industry are also exposed to high levels of physical risk factors, such as manual materials handing, postural stress, and whole body vibration (Teschke et al. 2006). These factors must be anticipated and accounted for in a research study design.

http://www.cher.ubc.ca/backstudy/

- **Back Injuries in Heavy Industries, Part A: Defining Back Injury Outcomes for Research Purposes.** Koehoorn M, Xu F, Village J, Trask C, Hurrell C, Teschke K. Final Report to WorkSafeBC, June 2008

THE VANCOUVER SUN

Pain: a special series

SEPTEMBER 30, 2011

One in five Canadians — roughly six million people — is living with chronic pain of some kind, sometimes as a result of trauma or illness, and sometimes for no obvious reason at all. Over the next two decades, that figure is **expected to grow to one in three as the population ages.**

All in all, chronic pain — back pain, head pain, neck pain, abdominal pain, joint pain, pelvic pain, pain from fibromyalgia, pain from irritable bowel syndrome and any pain that persists beyond six months or the "normal" recovery time — **costs Canada an estimated $6 billion a year in direct health-care costs**, as well as an estimated **$37 billion a year in lost productivity.**

Read more: http://www.vancouversun.com/health/Pain+special+series/5486377/story.html#ixzz1bOZBBNby

SOMA 4 LIVING

Back pain for you?

What are the back injury statistics at your workplace?

How many of your staff experience back pain on a regular basis?

SOMA 4 LIVING

Current Approaches? Organizations

- Do Nothing & Hope for the best
- Back Workshops
- Ergonomics
- Pre- Work Stretching
- Gym Memberships & On-site gyms
- Advanced diagnostics
- Behaviour Based Safety
- Early Return to Work

SOMA 4 LIVING

Current Approaches? Individuals

- Stretching
- Strengthening
- Massage Therapy
- Physiotherapy
- Surgery
- Active Rehabilitation

SOMA 4 LIVING

Educated Ignorance

- Use your legs not your back. How is that working?
- Telling people what to do. Without the why or the how.
- Teaching based on research on cadavers vs. living bodies
- Not working with Control Centre (Brain & Nervous System)

SOMA 4 LIVING

Stretch & Strengthen

It has been the main approach for prevention and rehabilitation for years. **Is it doing what it's supposed to?**

- Most times it is working against the NeuroMuscular system
- It uses Force rather than Intelligence
- Can actually leave people more susceptible to Pain & Injuries
- Doesn't create Functional Resilience & Fitness

SOMA 4 LIVING

Definition of Insanity:

Expecting a different result by trying the same thing over and over again.
- Einstein.

SOMA 4 LIVING

Is it all bad?

No.
Many of the parts are helpful.
Take the best practices and build on them.

"If you go thru life as a hammer everything looks like a nail"

What if there are Hidden Causes?

The future belongs to those who see possibilities before they become obvious.
John Sculley

Hidden Risks & Causes

The Untold Story

- Neuromuscular Reflexes- Lack of Awareness
- Sensory Motor Amnesia- Chronic Tension
- Chronic Pain
- Poor Movement Habits
- Dis- Stress
- Lack of a System approach to injury prevention

SOMA 4 LIVING

Humans are Run by their Reflexes

A **reflex action**, also known as a **reflex**, is an involuntary and nearly instantaneous movement in response to a stimulus.[1] A true reflex is a behavior which is mediated via the reflex arc; this does not apply to casual uses of the term 'reflex'.

- An **involuntary action** is one which occurs without the conscious choice of an organism. If it occurs specifically in response to a stimulus, it will be known as a reflex.

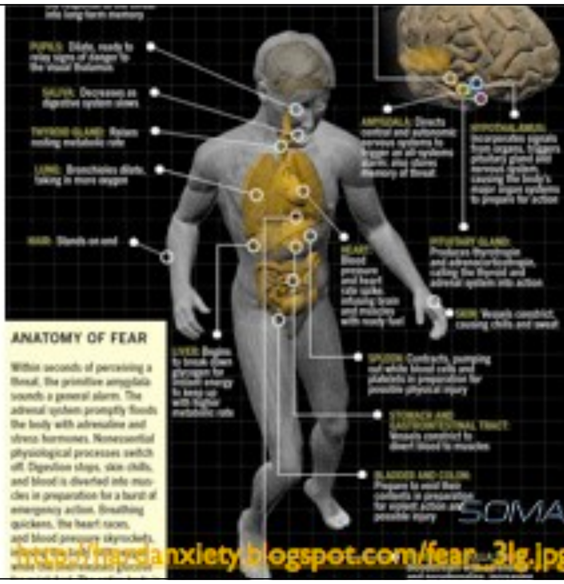
Involuntary actions are opposite of voluntary actions that occur because of free will. Involuntary actions may or may not occur with the awareness of the organism performing it.

SOMA 4 LIVING

Red Light Reflex

- Stress Reflex
- Flight/Fight/Freeze Reflex
- Contracts Front of body
- Fear, Anxiety, Anger
- Holding Breath
- Shallow Stressed Breathing

SOMA 4 LIVING



http://hardanxiety.blogspot.com/fear_3lg.jpg

dis-Stress = 3x back pain
2 to 3 times injuries

Martin Shain Workplace Stress

Yellow light Reflex

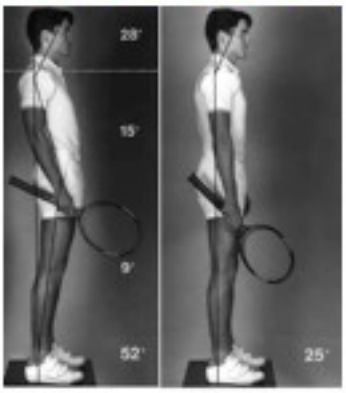
- "Careful! Caution!"
- The trauma reflex tightens us when we experience pain. Any sprain, strain or trauma activates this protective response.

Pain withdrawal reflex

From Wikipedia, the free encyclopedia

The **pain withdrawal reflex** is an involuntary action in which the body reacts to pain by trying to move itself away from the source of the pain, to reduce or even eliminate that pain.

Green Light Reflex



- Go, go, go
- Taking action
- Tightens back
- Type A personality
- Heavy Physical demand

SOMA 4 LIVING

The Effect of Repeated Reflexes is Sensory/Motor Amnesia

- Chronic Muscular Tension- hidden risk factor
- Inability to relax muscles- Auto Pilot is always on.
- Forgetting how to control essential movement
- Postural Imbalances
- Creates weakness & signs of aging
- Wastes energy and increases risk of injury

SOMA 4 LIVING

Muscle memory

From Wikipedia, the free encyclopedia

For the term "muscle memory" as related to strength training, see Muscle memory (strength training).

Muscle memory has been used synonymously with motor learning, which is a form of procedural memory that involves consolidating a specific motor task into memory through repetition. When a movement is repeated over time, a long-term muscle memory is created for that task, eventually allowing it to be performed without conscious effort. This process decreases the need for attention and creates maximum efficiency within the motor and memory systems. Examples of muscle memory are found in many everyday activities that become automatic and improve with practice, such as riding a bicycle, typing on a keyboard, playing a melody or phrase on a musical instrument, playing video games,[1] or performing different algorithms for a puzzle cube.

SOMA 4 LIVING

Practice does not make Perfect:
It makes Permanent

"Motor Control Fitness is essential for achieving the stability target under all possible conditions for performance and injury avoidance."

Stuart McGill Low Back Disorders 2007

SOMA 4 LIVING

Sensory-Motor Amnesia

From Wikipedia

Sensory-Motor Amnesia ("SMA") is a phenomenon of the central nervous system in which the portions of the nervous system responsible for involuntary or automatic movement, such as the spinal cord take indefinite persistent control of movements that should frequently under the person's voluntary, conscious control. Sensory-Motor Amnesia was discovered by Thomas Hanna, Ph.D. during his development of Clinical Somatics and described in his book *Somatics: Reawakening the Mind's Control of Movement, Flexibility, and Health.*

The process of developing SMA is the same process of learning any skill, or "habituation": Rehearsal, or repeated execution of the movement pattern, gradually makes that slow deliberate movement easy to do without conscious thought. Hanna described **the condition of SMA as one where the movement pattern had become so automatic, the voluntary part of the brain (primarily, portions of the brain's cerebral cortex) has effectively "forgotten" to turn the movement pattern off, and so it would persist indefinitely.** Whilst it is normal to create habitual patterns in order to go through everyday life, if a habituated persistent movement pattern can become problematic if it is inflexible or is in itself stressful, for example, if it causes muscular spasm. In turn, Hanna argued that is was these patterns of neuromuscular tension that causes many musculoskeletal problems otherwise blamed on weakness, aging, or joint and tissue damage.[1]

SOMA 4 LIVING

Neuromuscular Control

Summary

A. Impaired neuromuscular control is common following musculoskeletal injury, and restoration of neuromuscular control is important in a progressive rehabilitation plan of care.

B. Neuromuscular control can be divided into three components: control over volitional muscle contractions, retraining of reflex responses, and restoration of normal pattern-generated movements.

C. Early strength loss following musculoskeletal injury results from impaired neuromuscular control, not muscle atrophy.

D. Neuromuscular control is affected by pain, swelling, and joint instability.

SOMA 4 LIVING

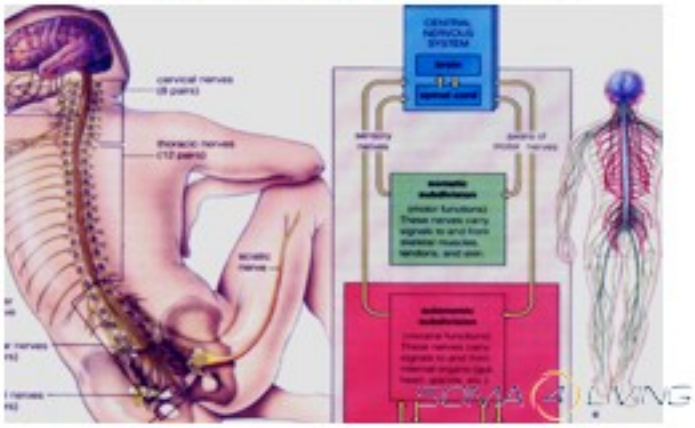
http://hk.humankinetics.com/TherapeuticModalitiesForMusculoskeletalInjuries2E/ghchpt_06.htm

What is the **One** part that influences our strength, flexibility, mobility, posture and balance?

Our Brain and Nervous System

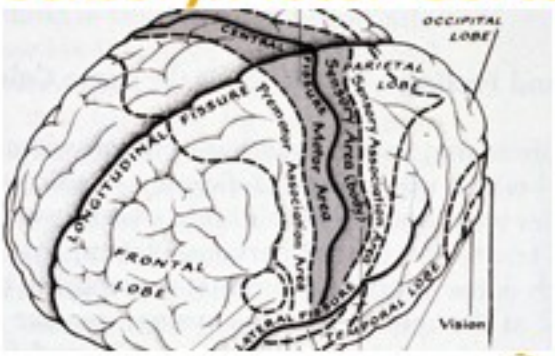
SOMA 4 LIVING

Two levels of Control! Somatic and Auto Pilot



SOMA 4 LIVING

The Control Centre Sensory/Motor Cortex



SOMA 4 LIVING

SMA & Aging

SMA leads to premature symptoms of Aging

- Weakness
- Chronic Pain
- Movement Restrictions
- Arthritis & other inflammation processes
- Stiffness, Shrinking, Stooped Posture
- Low energy, Poor endurance

SOMA 4 LIVING

TIMES COLONIST

HOME NEWS OPINION BUSINESS SPORTS ENTERTAINMENT LIFE HEALTH TECHNOLOGY TR

It's true: Aging really is all in your mind

Expectations of your capabilities can have a greater impact than chronological age

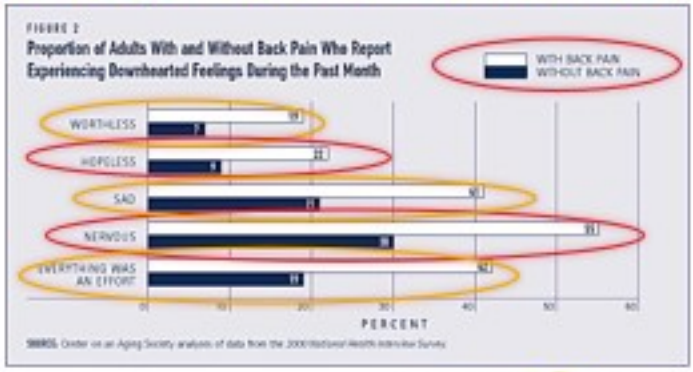
BY ALEXIA ELEJALDE-RUIZ, MCCLATCHY NEWS SERVICE OCTOBER 20, 2011

His study, in which people on average felt 12 years younger than their actual age, found **subjective age was more important than chronological age** in predicting performance on memorization and other mental tasks 10 years later. The cognitive benefits of feeling young were slightly more pronounced among women, he said, perhaps because of greater pressure on women to maintain youthfulness.

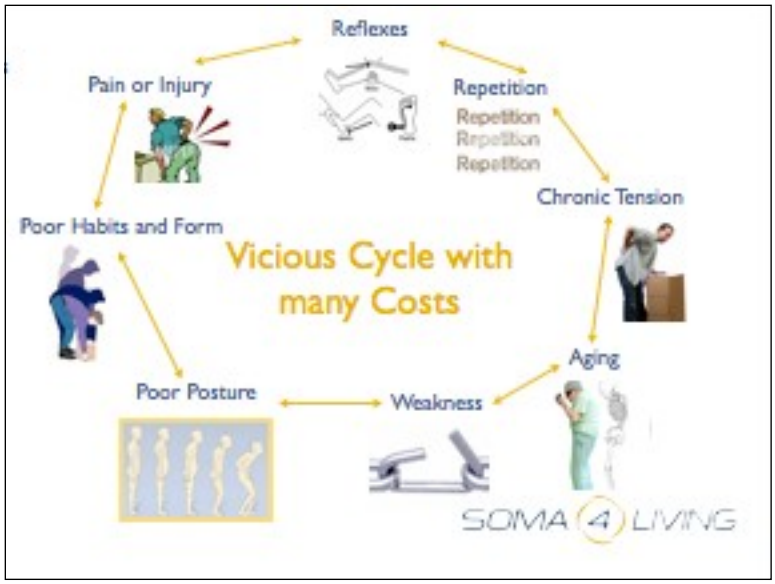
Regardless of what causes the correlation, he said, there are benefits to staying engaged.

"**Learning new things**, reading in a new area, at least trying to become connected with new technologies and platforms: Those are ways people can feel connected with the ebb and flow of the world," Schafer said.

Back pain & Mental Health?



SOMA 4 LIVING



Common Mistakes for Individuals

- Training individual muscles rather than whole body patterns
- Failure to utilize neuromuscular system
- Dependency on someone else being the expert
- Teaching people to solidify tension patterns with more tension
- Not recognizing the importance of Rest & Recovery
- Too little or too much- Guilt or Unsustainable
- Not having Short & simple Body Release program

SOMA 4 LIVING

Common Mistakes for Organizations

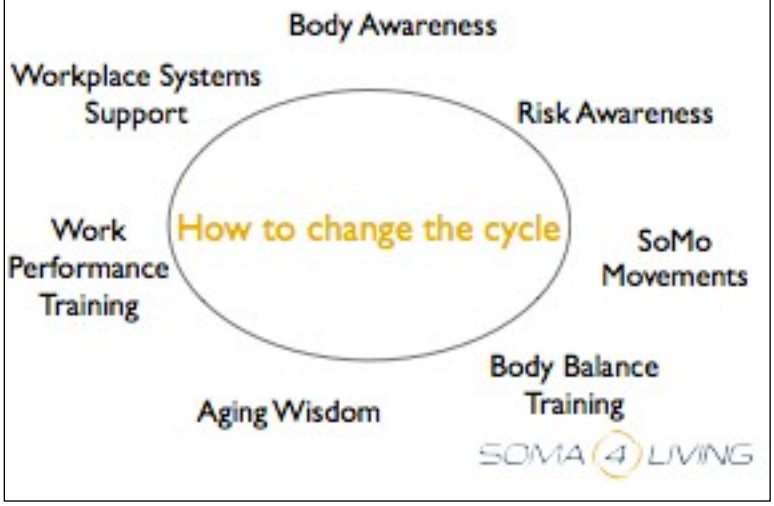
- Inability to demonstrate costs to Sr. Mgmt
- Not having accurate statistics
- Not creating a written policy.
- Not recognizing on-site assets and resources
- Not identifying and empowering their own experts
- Failure to create collaboration of systems
- Using a reactive rather than proactive approach
- Being satisfied with the status quo
- Not utilizing multi-prong system for communication
- Not demonstrating Value

SOMA 4 LIVING

What's missing? What's the Solution?

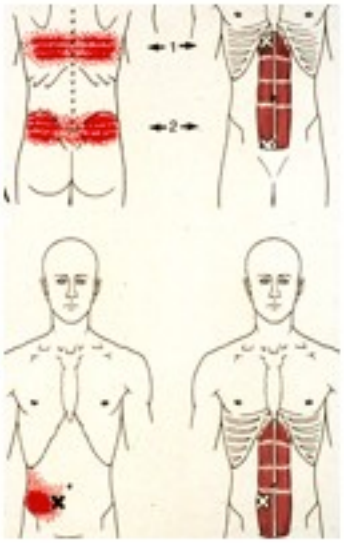
An Understanding of SMA - Chronic Tension the hidden Risks
Principle Based Learning
Resiliency Training & the Living Body
Body Awareness
Exceptional Aging - Personal Choice, Control and Power
Pain Referral- How Whole Body Works together.
Lack of Knowledge & Application of Neurophysiology
Lack of a System Approach to Injury Prevention & Health

SOMA 4 LIVING



Looking at the Whole Body- **Pain Referral**

Over contracted Abs
= Back Pain



Principle centred learning

- You can apply it to any movement & similar situation
- Let's you keep building on it
- Teaches you the "Why", "What" and "How"
- Makes your people the expert

SOMA 4 LIVING

Principal Based Learning

- Improve Movement- Release Performance
- How Reflexes affect us
- Where control comes from & how to access it.
- Awareness allows choice, control and power
- Everything is connected- K.I.S.S.

SOMA 4 LIVING

Why bother?
What do we get?

- Employee resilience
- Increased Production
- Efficiency & Capacity building
- Employee engagement
- Employee Loyalty
- Knowledge retention
- Reduced Costs

SOMA 4 LIVING

What is the solution?

- Leadership demonstrating commitment
- Use & enhance WorkSafe BC model
- A systematic & collaborative approach
- All roles being taught "what", "why", "how".
- Support to & from Supervisors
- Exceptional Communication & Build Employee Capacity
- Ownership & Buy in from all levels.
- K.I.S.S. - committed step by step approach

SOMA 4 LIVING

The Plan or Recipe: Quick Strategies

- Look at stats and target highest risk areas
- Teach staff how to release their bodies & performance
- Be sincere and avoid demoralizing initiatives
- Make sure training is engaging employees living body
- Training is oriented around the control centre(brain)
- Integrating Ergo, Fitness, R to W- stakeholders collaborating
- Functional fitness & conditioning- personal power
- Don't just preach to the choir

SOMA 4 LIVING

Breaking it down

- Create a shared Vision or Big Picture
- Create a mindset and focus on small action steps
- Have cycles of growth & completion
- Get leadership guidance to becoming self sufficient
- Integrating present initiatives into coordinated whole
- Keep it fun
-

SOMA 4 LIVING

Back Injuries: The Untold Story

- Why so common?
- What's missing now? Hidden causes!
- Taking it to the next level. Solutions!
- The Plan

SOMA 4 LIVING

Thank you.

www.soma4living.com
250-748-6626
greg@soma4living.com

SOMA 4 LIVING