MECHANICAL BACK PAIN, OSTEOARTHRITIS AND SPINAL STENOSIS
A New Perspective

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THE OLD MODEL

- Old Age?
- Wear and Tear?
- Inflammation?
- Not Inflammation?
- Heredity?
- Obesity?
- UNKNOWN

- Trauma
Primary Osteoarthritis = Secondary Osteoarthritis

Repetitive minor injury (Primary) OR traumatic major injury (Secondary) BOTH cause...

MOVEMENT IMPAIRMENT
OSTEOPATHY SEQUENCE

1. INJURY (SINGLE OR REPETITIVE)

2. MOVEMENT IMPAIRMENT

3. CARTILAGE DAMAGE

4. BONE AND SOFT TISSUE ENLARGEMENT AND OTHER CHANGES
MICROTEAR INJURY: STANDING

- Poor posture:
  - Forward head
  - Flat back

- Good posture:
  - Balanced upright posture

- Poor posture:
  - Forward head
  - Rounded shoulders
  - Sway back
  - Weak abdominal muscles
(UN)SAFE STANDING
MICROTEAR INJURY: SITTING

a. Upright and relaxed posture on a well-positioned (anteverted) pelvis.
b. Relaxed but slumped posture on a tucked (retroverted) pelvis.
c. Upright but tense posture on a tucked (retroverted) pelvis.
(UN)SAFE SITTING
MICROTEAR INJURY: BENDING
(UN)SAFE BENDING
GRANDMA KNOWS BETTER
8 STEPS to a PAIN-FREE BACK

Remember When It Didn’t Hurt

Esther Gokhale, L.Ac.

with SUSAN ADAMS
Posture and Longevity

- Hyperkyphosis ("roundback") NOT primarily caused by osteoporosis.
- Roundback present in 44% of men, 22% of women.
- Slight roundback = 1.44X greater risk of mortality in the next 4 years, 2.4X greater risk of death due to atherosclerosis.
- The greater the roundback the higher the death rate.
- Reducing roundback may reduce mortality rates.

WHY?
Posture and Longevity cont’d

- One theory is that increased roundback posture interferes with breathing—reducing oxygen/nutrient delivery and waste removal from all 100 trillion cells.
- Another possibility is that roundback posture abnormally activates nerves that increase heart rate and narrow arteries.

DECADES of movement impairment changes cartilage (discs) which then causes bones to change.
THE SEQUENCE

MOVEMENT IMPAIRMENT > CARTILAGE

DEGENERATION > BONE AND SOFT TISSUE ENLARGEMENT > SPINAL NERVE ROOT ENTRAPMENT
IN MIDDLE AGE  5–10% OF SPINES WITH MOVEMENT IMPAIRMENT PROGRESS TO HERNIATED DISCS
How it was (and is) treated

Suppress pain by...

- Medications (pills or injected)
- Heat or cold applications
- Rest
- **Exercise**
- Replace or rebuild worn out joint

All helpful but variably effective with variable adverse effects
Chronic Back Pain Associated With Decreased Prefrontal and Thalamic Gray Matter Density


- Patients with chronic back pain (more than 6 months) had 5–11% less neocortical gray matter than controls (equivalent to 10–20 years of normal aging).

- If back pain treated quickly and successfully, brain cell loss is reversible.
Medications

Acetaminophen (Tylenol)

- No reduced pain intensity, no improved sleep quality, no reduction in recovery time, no effect of underlying degenerative process

- Number 1 cause of liver failure in U.S. “A dose–dependent liver poison”

- 1,000 lifetime tablets = 2X greater risk of end stage kidney disease
Medications cont’d

Anti Inflammatories (NSAIDS—aspirin, Aleve, Advil and many others—OTC and prescription)

- No effect on degenerative process
- Inhibits healing
- 20,000 deaths per year in U.S.
- 2–3 times increased risk of fatal heart attacks after 6 months of continuous use
Opioid Analgesics

- Oxycodone, hydrocodone, codeine, Fentanyl, Percocet, Vicodin and others.
- Heroin in same class
- 47,000 overdose deaths (19,000 due to prescription pain relievers) in 2014.
- 4 in 5 new heroin users start out misusing prescription painkillers.
- 20% of back pain patients prescribed opiates

American Society of Addiction Medicine
Medications cont’d

Short Term Steroids (i.e. Medrol dosepack)

After one week, increased incidence of:
- fracture
- blood clots
- life-threatening sepsis

This risk remains higher for 90 days after medication stopped.

BMJ 2017
Epidural Injections

Epidurals for Spinal and Radicular Pain

- “Not clinically meaningful” short-term pain relief (2–6 weeks).

- Only 50% of patients see this benefit

  Neurology, 2007
American Academy of Neurology position on epidural steroid injections for radicular lumbosacral pain

- “Epidural steroid injections have no impact on average impairment of function, or need for surgery, or on long term pain beyond 3 months. Their routine use is not recommended.”

- “Data on ESI to treat cervical pain are inadequate to make any recommendation.”
Doctors Overly Optimistic About Back Surgery

Graz, B. et al. Spine 6–15–05

- 197 LBP/Sciatica patients

- Pre Op: Surgeons predict 79% great imp, 20% moderate improvement

- 1 year post Op: 56% of patients report no significant improvement
Continuous Passive Motion
Robert Salter MD

Cartilage can repair itself (to a degree) and its deterioration can be slowed if it MOVES

MOVEMENT thus potentially slows, stops and even reverses the osteoarthritis sequence
741 back pain patients: “chiropractic almost certainly confers worthwhile, long-term benefit in comparison with hospital outpatient management. The benefit is seen mainly in those with chronic or severe pain”
Chiropractic Manipulation via Instrument

YEARS OF RESEARCH have gone into the development of the Impulse Instrument to create gentle and specific chiropractic adjustments that are safe and effective for patients of all ages.
Agency for Healthcare Research and Quality (AHRQ). 2016

Cochrane Systemic Review. 2017

Comprehensive literature reviews detail benefits of spinal manipulation and other non invasive therapies for back pain...
Such as...

- Therapeutic Exercise
- Massage
- Yoga
- Tai Chi
- Pilates
Centers for Disease Control (2016) and American College of Physicians (2017) advice to medical practitioners:

- Utilize “non-drug” therapies for back pain before medication.
- Use NSAIDs for patients who request medication.
- Avoid prescribing opiates.
SO...

1. Lab research suggests joint motion stimulates cartilage repair (Salter).

   AND

2. Joint movement treatments are associated with pain reduction and reduced repeat flares (BMJ and others).

   SO

3. Mobile joints, over a lifetime, will not undergo osteoarthritis as early or as severely as joints chronically or intermittently immobile.
BUT...

- No multigenerational or multi decade-long studies have been done to verify this.
SPINAL STENOSIS—5 FACTS
FACT #1: BACK PAIN IS NOT ENOUGH

Must include leg pain (usually more intense than back pain) and be affected by posture or activity.

80% diagnostic certainty when pain and/or numbness–tingling gets worse with standing and is relieved by sitting, bending or leaning (i.e. on shopping cart) and ankle pulses are normal.

Non specific urinary disturbances and nighttime leg cramps common.
FACT #2: SYMPTOM SEVERITY AND IMAGING FINDINGS DON’T CORRELATE

Large number of individuals have spinal canal narrowing on X-ray or MRI but have no symptoms.

“The radiologic severity of stenosis was not associated with preoperative disability and pain or clinical outcomes and should not be overemphasized in clinical decision making.”
FACT #3: THERE’S USUALLY GOOD NEWS

Usually no urgent need to consider surgery.

Over 5 years...

70% remain stable
15% improve
15% deteriorate

J. Bone Joint Surgery 2012. T. Tsutssumimoto et al
FACT #4: PATIENTS HAVE TREATMENT OPTIONS

The best treatment for lumbar stenosis has not been clearly established. Most authorities recommend conservative care before surgery but no version of conservative care has been established as superior.

*Eur Spine J (2014)*

Ammendolia, C. et al
FACT #4: (TREATMENT OPTIONS)–CONTINUED

**Stenosis surgery.** Some studies report no clear benefits vs. nonsurgical treatment and a 10–24% complication rate with surgery (none with conservative care).


Other studies suggest surgery is more beneficial than conservative care (at least up to 4 years).

FACT #5: A DOSE OF REALITY IS CRITICAL

- Treatment “success” rarely implies complete resolution of symptoms, regardless of the treatment provided.

- “Success” is often defined as a 3–point reduction in the Numeric Pain Scale.
FACT #5 (A DOSE OF REALITY)–CONT’D

Surgery: 50% report 3 point NPS reduction.

Conservative Care: 50% report 3 point NPS reduction.
Ammendolia, C. et al JMPT 2015

R. Fudala, DC  Dynamic Chiropractic 2016
THE GOOD NEWS

“Don’t worry darling, you didn’t burn the beer!”

Schlitz
Once You’re ABLE (and Willing) to Move...

Aerobic Movement (The Fountain of Youth)

- Less back pain
- Less heart disease
- Fewer strokes
- Lower blood pressure
- Reduced diabetes tendency
- More brain cells
- Reduced colon and breast cancer
- Less macular degeneration
Aerobic Movement Benefits (continued)

- Natural pain relief
- Increased immune system strength
- Improved mood
- Improved sleep quality

EXAMPLES: Walking, biking, swimming
Resisted/Strength Training Movement (another Fountain of Youth)

- Everything listed under Aerobic Movement PLUS...
- Increase and maintenance of Lean Body Mass (bone, muscle and organs)
- Enhances independence (sit to stand)
- Enables Strong Posture. Excessive round mid back = 1.4–2.4X higher mortality (breathing?)

EXAMPLES: walking, running, weight lifting
Maintains joint and muscle function, allows aerobic and strength exercise, reduces painful injury risk and slows osteoarthritic progression.

- Contributes to StrongPosture

- Examples: Yoga, Tai Chi, Safe Stretching
Balance Exercise

- Improves Core Efficiency.
- Enhances independence (i.e. dressing and showering)
- Reduces risk of falling. 14,000 people over 65 die annually after falls.
- Fear of falling leads to reduced activity, reduced mobility and fitness (which increases risk of falling).
- Examples: One Leg Stand maneuver
Reducing Chronic Low-Level Inflammation

▶ LIFESTYLE

▶ DIET

▶ SUPPLEMENTS
Chronic Low-Level Inflammation is associated with...

- Chronic pain
- Heart/blood vessel disease
- Allergies
- Alzheimer’s disease
- Osteoarthritis
- Autoimmune arthritis
- Diabetes
- Cancer
AND

- Depression
- Asthma
- Irritable Bowel Disease AND
- DOZENS of other ailments and conditions
ANTI-INFLAMMATION LIFESTYLE

He's one of the busiest men in town. While his boss may say Office Hours 2 to 6, he's actually on call 24 hours a day.

The doctor is a scientist, a diplomat, and a friendly sympathetic human being all in one, no matter how long and hard his schedule.

According to a recent Nationwide survey:

MORE DOCTORS SMOKE CAMELS THAN ANY OTHER CIGARETTE

DOCTORS in every branch of medicine—113,992 in all—were queried in this nationwide study of cigarette preferences. Three leading research organizations made the survey. The gist of the query was—What cigarette do you smoke, Doctor?

The brand named most was Camel. The rich, full flavor and cool mildness of Camel's superb blend of clove tobacco seems to have this same appeal to the smoking tastes of doctors as to millions of other smokers. If you are a Camel smoker, this preference among doctors will hardly surprise you. If you're not—well, try CAMELS new Camels Castlerr Tobacco.
Anti Inflammation–Lifestyle

Stop smoking

Drink alcohol in moderation

Treat gum disease if present

Aerobic exercise (30 minutes 5 times a week)

Strength exercise (2 times a week)
Anti Inflammation–Lifestyle

**Lose weight** (belly fat is a proinflammatory hormone factory)

**Reduce stress** (exercise, meditation, deep breathing)

**Sleep** 6 to 12 hours a night depending on age, activity and overall health
ANTI-INFLAMMATION DIET

How soon is too soon?

Not only have laboratory tests over the last few years proven that babies who start drinking soda during that early formative period have a much higher chance of gaining acceptance and “fitting in” during those awkward pre-teen and teen years. So, do yourself a favor: Do your child a favor. Start them on a strict regimen of no soda and other sugary carbonated beverages right now, for a lifetime of guaranteed happiness.

The Soda Pop Board of America
1515 W. Hart Ave. - Chicago, IL

https://thecitydesk.net
REDUCE SUGAR INTAKE

Repeated, prolonged spikes in blood sugar (>200 mg/dl longer than 1 hour after eating) increase formation of **ADVANCED GLYCOSOLATED ENDPRODUCTS** (AGEs)

Fruit, sugar, processed carbs and “healthy whole grains” all raise blood sugar levels.
Anti Inflammation–Diet

CHOOSE BETTER FATS AND OILS

Eat more omega 3 fatty acids (salmon, tuna, sardines and halibut). Don’t worry about mercury.

Eat less omega 6 fatty acids polyunsaturated vegetable oils (soybean, corn, sunflower, canola and other processed vegetable oils).

Salad Oil: olive, avocado and nut oils

Cooking Oil: olive, coconut, lard and ghee (clarified butter).
Trans fats

- Artificially created.
- No safe amounts.
- Increase inflammation and reduce fat burning.
- “Hydrogenated and Partially Hydrogenated”
REDUCE GLUTEN AND GLUTEN RELATIVES

Wheat, barley, rye, oats, corn and rice proteins all are not fully digestible by humans.

These proteins damage intestinal lining, increase its permeability and allow absorption of entities not normally seen by the immune system, prompting an inflammatory response. “Leaky Gut Syndrome”.
Eat **PROBIOTICS**  Friendly microorganisms. Yogurt with live cultures. Fermented foods.

Eat **PREBIOTICS**  soluble fiber--fruits and vegetables, raw and cooked onion and raw dandelion greens, garlic, leek and asparagus. “Feed your bugs”.

Season food with **anti inflammatory spices** (turmeric, chili peppers, rosemary, sage, thyme, goji, graviola, spirulina and willowbark).

Drink **green tea**

**Individual sensitivities** can cause inflammation. If suspected, systematically eliminate wheat, eggs, gluten, dairy, soy and/or nuts for 2 weeks and look for reduced lethargy, headaches or bloating.
ANTI-INFLAMMATION SUPPLEMENTS
Anti Inflammation—Supplements

**Vitamin D3** enough to reach 80 ng/mL blood levels

**Fish Oil** 2 to 5 grams EPA/DHA per day

**Probiotics** 10 billion active cultures with at least 10 different strains including *L. acidophilus* and *bifidobacterium*

**Prebiotics** acacia gum (gum arabic), psyllium husks, soluble fiber (fruits and vegetables). 12 g per day
“I took glucosamine and chondroitin for years. I switched to boswellia with turmeric. I also use tart cherry concentrate daily.

“This has made a big difference! I have very little chronic hip pain now.

“Movement also is key and I walk, take yoga classes, lift weights and do tai chi.”
“Turmeric and boswellia (Indian frankincense) are potent anti-inflammatory herbs and tart cherries inhibit the same enzyme as drugs like Celebrex.

“We are delighted you have benefited from these natural healing approaches”

Joe and Teresa Graedon
12/24/2017
INJURIES (big or small, single or multiple, mechanical, lifestyle or dietary) can cause MOVEMENT IMPAIRMENT.

IF UNCORRECTED, Movement Impairment causes...

Repeat painful flare ups which are interrelated, not separate or independent.

AND (over time)...

Joint degeneration (osteoarthritis)
MOVEMENT RESTORATION

- Resolves painful flareups by stimulating repair of injured tissues.
- Reduces frequency and severity of future flareups.
- Slows/ Stops/ Reverses osteoarthritic progress
ADEQUATE PAINLESS PHYSICAL ACTIVITY AND INTELLIGENT LIFESTYLE AND DIETARY CHOICES…

- Key components of Anti-Aging and Wellness
- Allow and enhance quality and quantity of life
THANK YOU!!!

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