

WHIPLASH INJURIES: MORE THEN JUST SPRAINS AND STRAINS

*Managing a full recovery and understanding all of the
consequences of Whiplash to the head, neck
and our well-being*



YOUR PRESENTERS:

- Dr. Michael Schmolke
- Dr. Sherra Sanders
- Dr. Mehrdad Ghaliai
- Dr. Janice Patterson



3 MAJOR COMPONENTS TO INJURY

Mental and emotional health after whiplash is as important as physical recovery from injury. Often under considered!

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HISTORY

- 1925 - Term Whiplash is introduced by Dr. Crowe to describe the cervical spine pain suffered by many pilots whose airplane takeoffs were catapult assisted
- A Significant 20th century problem
- Increasingly prevalent as automobiles became larger, faster, and more numerous

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MOTOR VEHICLE ACCIDENTS

THE TERM "WHIPLASH" IS NOT A DIAGNOSIS - IT IS A DESCRIPTION OF WHAT HAPPENED TO THE NECK. HOWEVER, THE "WAD CLASSIFICATIONS" ARE EXPECTED TO BE USED AS DIAGNOSIS!

WHIPLASH ASSOCIATED DISORDERS (WAD)

Whiplash Associated Disorders (WAD) are a common condition that results mostly as a consequence of a sudden acceleration or deceleration of the head and neck relative to other parts of the body, mostly in a motor vehicle accident (MVA).



WHAT HAPPENS DURING AN ACCIDENT THAT INTRODUCES WHIPLASH?

- Any direction of rapid/sudden acceleration followed by rapid/sudden deceleration of the head and neck.
- The resulting forces strain and overload tissues in the neck region and cause damage and inflammation. Whiplash CAN effect more than just the neck region.
- Entire body can be forced into strain, contusion, torque, and deformation leading to body wide injury.



MOST COMMON MECHANISM FOR WAD

Impact Types:

1. Rear-end
2. Frontal (head-on)
3. Lateral (T-bone)
4. Sideswipe
5. Rollover



REAR-END COLLISION

How whiplash occurs

Motorists involved in rear-end crashes commonly experience whiplash. Injuries to the neck occur as the torso accelerates forward and the neck lags, then the head whips forward.

1. During normal driving, the head and torso move relative to the vehicle.

2. As the vehicle is struck from behind, the head tilts backward.

3. After the initial impact, the head snaps forward.



Source: Insurance Institute for Highway Safety

Tim Summers / The Detroit News



RISK FACTORS

- Gender - Women are 2x more likely to suffer a neck injury in an MVA, and to develop long-term complications.
- Height - determines head's proximity to the vehicle's head restraint. Taller people must be especially careful to adjust to proper height. The top of the headrest should be at the top of your head.
- Driver - often in a more tense, upright position; passenger is usually more relaxed and sit in a more natural position, lending some flexibility that might make a difference

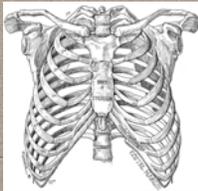
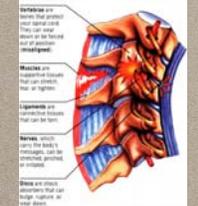
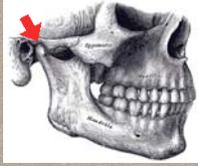


CATEGORIES OF WAD INJURIES

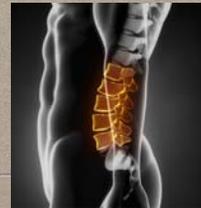
- WAD grading ranges from 1 to 4. The clinical presentation of each grade is as follows:
 - **WAD I** : Neck complaint of pain, stiffness or tenderness only with no or minor interference with normal activities of daily living
 - **WAD II** : Neck complaint, musculoskeletal signs, including: **a)** decreased ROM **b)** point tenderness
 - **WAD III** : Neck complaint, musculoskeletal signs, neurological signs, including: **a)** decreased or absent DTR **b)** muscle weakness **c)** sensory deficits
 - **WAD IV** : Neck complaint and fracture or dislocation



SPECTRUM OF WHIPLASH EFFECTS IN HUMANS



- Mood, concentration, memory, sleep changes
- Jaw and oral damage
- Neck pain, ligament tears, muscle strains, nerve damage/irritation
- Rib, sternum, clavicle, shoulder blade injury
- Low back, hip and pelvis injury



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OTHER COMMON AND UNEXPECTED CONSEQUENCES OF WHIPLASH INJURY

- Bruising, contusions, cuts or lacerations
- Head injury, including contusions and concussions
- Shoulder, arm, wrist and hand injuries
- Mid and low back strain, rib injuries
- Leg, knee and foot injuries
- Brain function changes with mood, memory, and functions like concentration, focus, attention levels.

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How does Whiplash injury affect your brain and gut and immune system?

- Movement is the 6th sense of the body, and known as “**Proprioception**”
- It influences the brain, gut and immune system
- Injury creates stiffness, which reduces proprioception, and alters nervous system input into the brain, creating more sympathetic NS activity (**stress mode**)
- IF this **normal sense of movement is not restored (normally 8-10 weeks to achieve)**, full recovery will not occur.



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WHAT ARE THE MOST COMMON INJURIES OUR PATIENTS EXPERIENCE?

- WAD I and II injuries to the physical body
- Neck and shoulder soft tissue strain and sprain
- Jaw problems like misalignment, tension, TMJ pain
- Rib cage injury, clavicular derangements, etc.
- Problems in low back, hip areas, and mid back
- Under reported symptoms relating to stress, anxiety, altered sleep quality, and brain changes as discussed



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ALBERTAN RIGHTS, INSURANCE LAWS AND DTP PROTOCOLS IN ALBERTA

- All Albertans of any age have access to injury care
- Injuries must be reported to your insurance company (to use insurance)
- No judgement of preference and type of care you choose for help in recovering. Exam & reporting must be with a primary care clinician.
- Assessment by your chiropractor/medical clinician must be reported to insurance within 10 days of assessment. Timeliness of assessment and reporting is encouraged for faster recovery and better results
- The category of injury determines treatment guidelines and the extent of the protocols and timelines you may undertake to mediate your injuries



HELPING MAKE A FAST AND FULL RECOVERY FROM WHIPLASH

- Complete assessment of your injuries with a clear diagnosis of the degree of injury and life affect
- Gentle and immediate care to effected areas including **chiropractic, acupuncture, massage, stretches and mobility exercises.**
- Adequate rest and ample healing nutrition
- Realistic return expectations for work, studies, recreational activities/sport



HEALING RATE FROM INJURIES

- After acute injury, a well understood process begins and this takes time to complete itself as follows:
 - Days 1-3 - acute bleeding, swelling & heat
 - Days 4-10 - acute phase is complete
 - Days 11-42 - healing & tissue repair/regeneration phase is very active
 - Weeks 7-12 - remodelling and maturation phase of healing in the injured tissue. Movement patterns are reestablished but depends on proprioception function fully returning
 - Full recovery can take months to years



STRESS AND WHIPLASH INJURY

- The simple fact that we are injured in whiplash triggers a stress reaction that changes our lives
- Stress response is different for everyone, but most often underestimated by the whiplash victim
- Stress response triggers the adrenal glands and nervous system to move to survival, verses recovery mode in our body
- The successful and rapid recovery of injury requires minimized stress response and strategies to achieve this!



STRESS LOWERING STRATEGIES

- **E**xercise lightly and regularly, including stretching, mobilization of your body regions, and light cardio to promote circulation
- **M**ediation
- Intimacy (if appropriate and capable)
- **L**aughter, light heartedness, and positivity
- **E**motion (journalling and talking about feelings)



ACUPUNCTURE FOR WHIPLASH

- Early intervention is possible as no movement is required
- TCM is excellent for pain control – reducing need for medication
- Improves blood circulation to affected areas – increase O₂ and nutrients to damaged areas
- Helps reduce accident related anxiety or mental stress
- Dry needling (IMS) can be used to relieve muscle spasm associated with neck and back pain
- Herbal Medicine also effective for anxiety as well as chronic pain



NUTRITIONAL CONSIDERATIONS FOR WHIPLASH SUFFERERS

- Hydration, avoiding too many caffeine products
- Stress support with B vitamins, minerals, adrenal gland support, and magnesium for nerves/muscles
- Protein, vitamins D and C for collagen healing
- Inflammation lowering anti-oxidants and nutrients like curcumin longa, omega 3 fatty acids, and more
- Avoid sweets, minimize refined carbs and alcohol

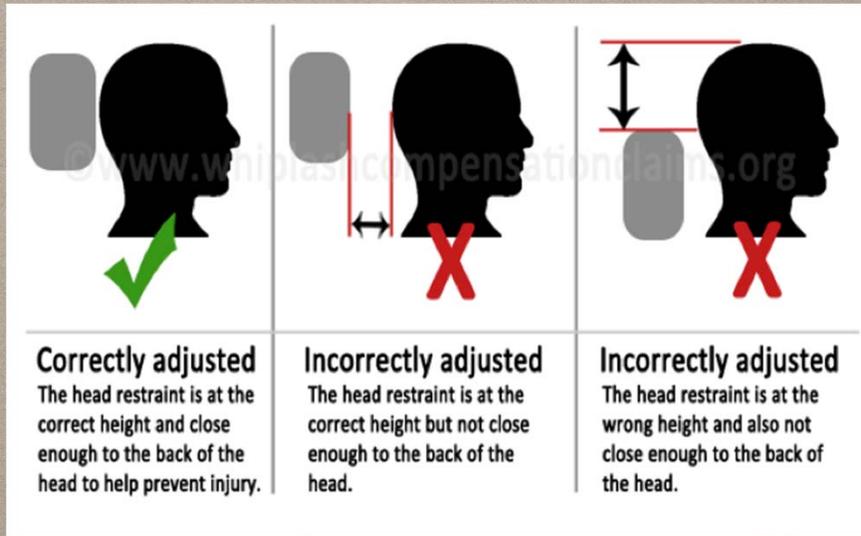


HOME THERAPY IDEAS

- Application of heat to affected area can increase blood flow to muscle and promote relaxation
- Using pillow that will support neck in neutral position
- Avoiding motionless and prolonged postures is critical. Still postures (like sitting or standing motionless) adds to proprioception imbalance.
- Flexibility exercises to regain normal ROM as symptoms allow - prevents adaptive muscle shortening due to pain
- Meditation



PREVENTION



UP COMING BEACON HILL WORKSHOPS IN 2017

- Introduction to Traditional Chinese Medicine (TCM)
- Focus on Yoga workshop
- Concussions in Children workshop
- Food Sensitivities workshop
- Seniors (Golden Years) workshop