

# Management of Chronic WAD

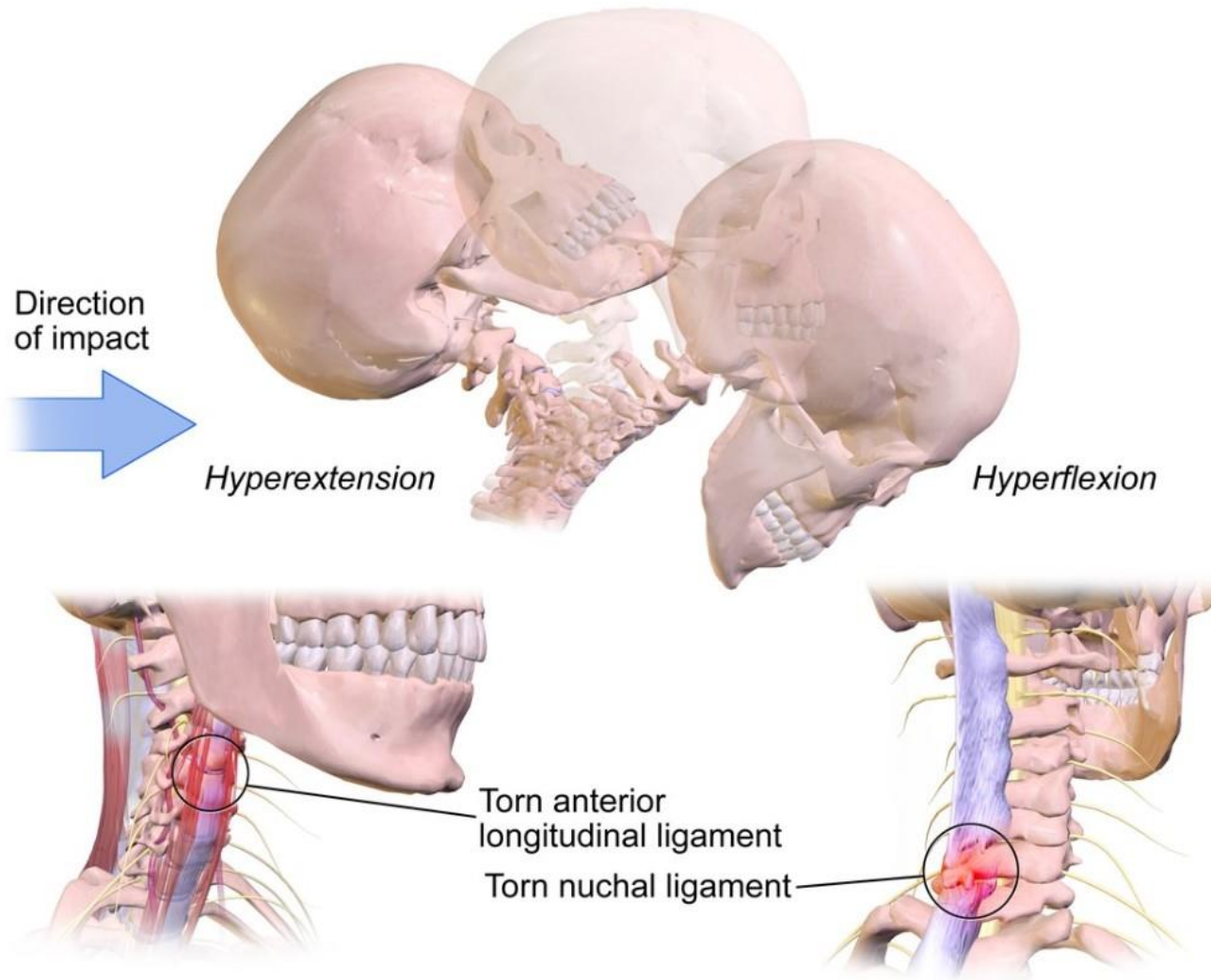
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## Objectives

- ❖ Understand prevalence of transition from acuity to chronicity of WAD
- ❖ Ascertain additional considerations in order to optimize recovery with WAD

# Whiplash

Soft Tissue Damage



## WAD Classification

The Quebec Task Force classification (Bragg):

Grade 1	<ul style="list-style-type: none"><li>● No physical signs of dysfunction</li><li>● Complaints of neck pain/tenderness</li></ul>
Grade 2	<ul style="list-style-type: none"><li>● Musculoskeletal signs and symptoms</li><li>● Complaints of neck pain/tenderness</li></ul>
Grade 3	<ul style="list-style-type: none"><li>● Neurological signs and symptoms</li><li>● Musculoskeletal signs and symptoms</li><li>● Complaints of pain, often radiating into and down the arm</li></ul>
Grade 4	<ul style="list-style-type: none"><li>● Fracture or dislocation (revealed by radiographic studies)</li><li>● complaints of pain</li></ul>

## Prevalence

- ❖ 869,000 traffic crash-related c- spine injuries seen in US hospitals per year (6)
- ❖ Expected timeframe for recovery from WAD is within 3 months of DOI (13)
- ❖ Recovery rates of WAD are around 50%, with 30% of patients developing severe disability (9)
  - Chronic WAD = symptoms lasting beyond three months

## Potential tissue sources

- ❖ C/s facet joint capsule
- ❖ Facet joints
- ❖ Spinal ligaments
- ❖ Nerve roots
- ❖ Intervertebral discs
- ❖ Cartilage
- ❖ Paraspinal muscles causing spasms
- ❖ Intra Articular meniscus

## CPG

- ❖ Education
- ❖ Individualized progressive exercises program
- ❖ Manual Therapy
- ❖ TENS

### Neck Pain With Movement Coordination Impairments (WAD)

#### Chronic

- Education: prognosis, encouragement, reassurance, pain management
- Cervical mobilization plus individualized progressive exercise: low-load cervicoscapu-lothoracic strengthening, endurance, flexibility, functional training using cognitive behavioral therapy principles, vestibular rehabilitation, eye-head-neck coordination, and neuromuscular coordination elements
- TENS

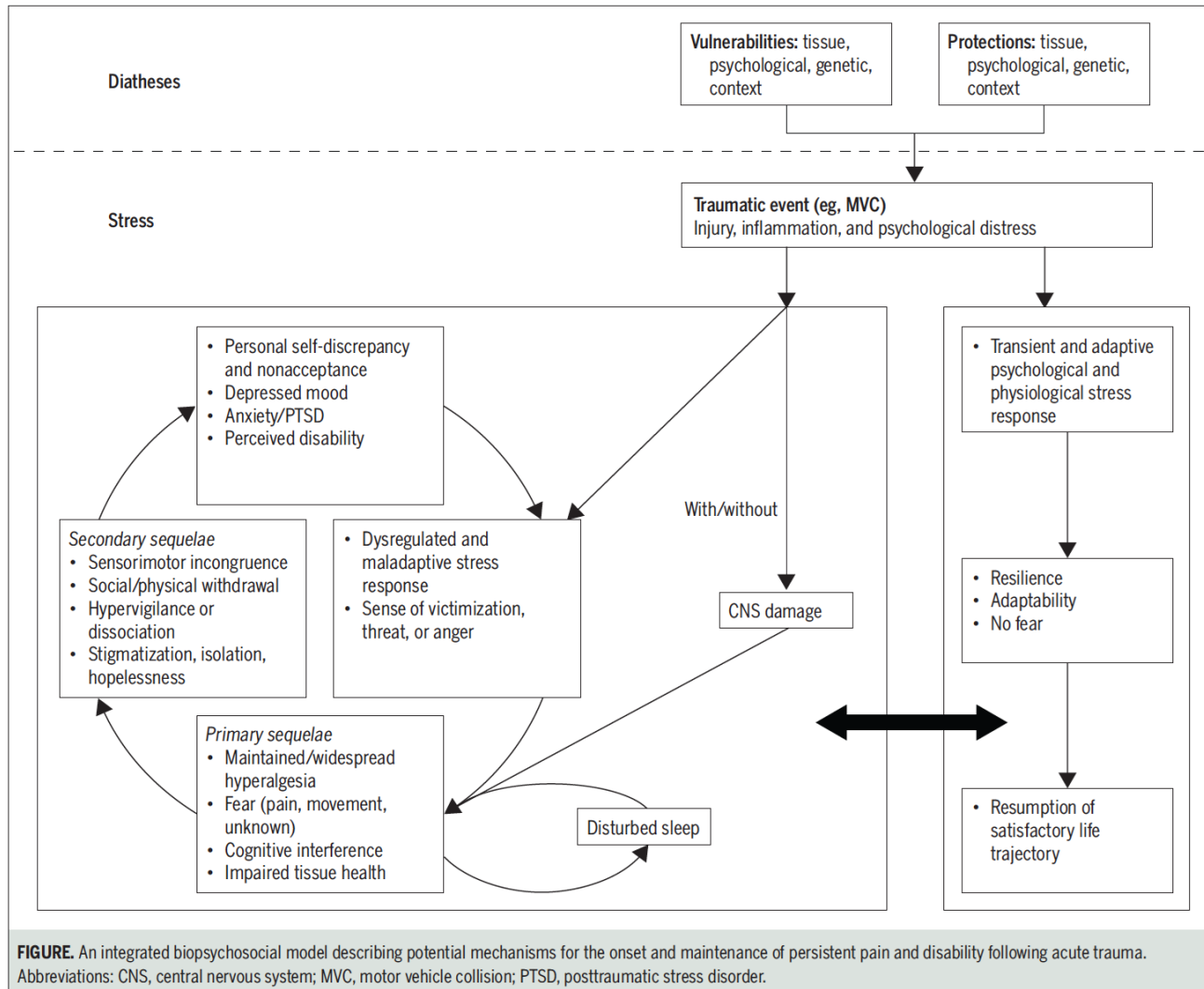
#### Subacute if prognosis is for a prolonged recovery trajectory

- Education: activation and counseling
- Combined exercise: active cervical ROM and isometric low-load strengthening plus manual therapy (cervical mobilization or manipulation) plus physical agents: ice, heat, TENS
- Supervised exercise: active cervical ROM or stretching, strengthening, endurance, neuromuscular exercise including postural, coordination, and stabilization elements

#### Acute if prognosis is for a quick and early recovery

- Education: advice to remain active, act as usual
- Home exercise: pain-free cervical ROM and postural element
- Monitor for acceptable progress
- Minimize collar use

# An Integrated Model (Walton et al.)





## Defining recovery

Typical objective measurements used for for Chronic WAD

- ❖ VAS (pain severity)
- ❖ NDI (disability)
- ❖ limitation: does not take into account the activity limitations important to the patient

Griffin et al. defined recovery with patients with chronic WAD vs PTs

- ❖ Among patients varied responses, however 3 common categories of defining recovery was noted:
  - presence and acceptance of pain
  - emotional well being
    - Absence of anxiety, hypervigilance, letting go of fear
  - positive self perception
    - related to identity, resilience, and self-efficacy

# Psychological Factors related to Chronic WAD

According to a systematic review by Campbell et al.,

Moderated evidence for association of the follow with chronic WAD prognosis

- ❖ Negative expectations of recovery
- ❖ post-traumatic stress symptoms
- ❖ passive coping styles

Interestingly the following has **NO** association with contributing factors to development of WAD Chronicity

- ❖ anxiety
- ❖ depression

Inconclusive results of association of the following on Chronic WAD prognosis

- ❖ Fear avoidance
- ❖ Pain catastrophizing

## Moving forward.. Dickson et Al

- ❖ Biopsychosocial approach
- ❖ Managing expectations
- ❖ Consistent messaging on process recovery from health care team.

## CPR's

- ❖ only 3 of 10 statistically derived prognostic CPRs for WAD have begun the validation process and none have undergone impact analysis
- ❖ Further research is needed to determine whether these types of tools help improve outcomes for individuals with WAD
- ❖ The ability to identify an individual's likelihood of recovery early on may help inform the development of health care interventions aimed at preventing the transition from acute to chronic WAD.
- ❖ Poor recovery has been consistently associated with
  - moderate to high initial neck pain intensity and neck-related disability,
  - posttraumatic stress symptoms
  - pain catastrophizing
  - low self-efficacy
  - cold hyperalgesia.

## Exercise Approached and its Effect of HQOL

- ❖ Neck specific exercise with behavioral intervention
  - Exercises focusing on deep neck musculature and progressive head resistance training using a weighted pulley, focusing on good posture and low load endurance.
  - Behavioral intervention included:
    - Encouragement not to focus on a temporary increase in neck pain,
    - Focus on success in exercise progression
    - Encourage to practice learned relaxation skills at home between sessions
    - Education on
      - physiological and psychological aspects of pain
      - activities aimed at pain management such as relaxation and breathing exercises
      - goal setting
      - problem-solving
      - management of symptomatic relapses

## Summary

- ❖ Pathophysiology of what makes WAD chronic is not clearly understood
- ❖ Treatment for chronic WAD should utilize the biopsychosocial approach
- ❖ Poor prognosis with negative expectations on recovery
- ❖ Education is more than just encouragement to return to normal activity
  - Be sure to set clear positive expectations on recovery
  - Determine meaningful goals specific to the patient
  - Ask the patient, “What does recovery mean to you?”

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