Red Flags- Clinical Implications in Chiropractic

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Syllabus

- Review of History Taking / SOAP Notes
  - Objective assessment of Subjective Pain – Symptom Magnifier vs. Minimizer
  - Questions that lead to treatment contraindications: pacemaker, stimulator, recent surgery, cancer diagnosis, mastectomy or lymph node removal
- Signs vs. Symptoms
- Red Flag vs. Yellow Flag
- Red Flag Questions
- Implications of Red Flag Responses
  - Constitutional Changes: Unexplained night sweats, fever, fatigue, weight changes. Pain with coughing/sneezing.
  - Bowel / Bladder Signs/Symptoms – Cauda Equina, prostate, bladder or kidney infection, cystitis
  - Nails, Skin, Hair
  - Vertigo vs. dizziness, Balance Issues and Tinnitus
  - Paresthesias – numbness/tingling
  - Malaise / Myalgia
  - Joint pain vs. Muscle pain
  - Headaches – timing, frequency, intensity, location, triggers, duration
  - Appetite, Changes in taste or smell
  - Gait
  - Tremors
  - Sleep issues
- Proper patient/client management for CT’s and LMT’s when red or yellow flag findings are suspected
SOAP Format

- The concept of SOAP notes was introduced by Dr. Lawrence Weed, MD in the 1960's and 1970's (while at the University of Vermont).
- Originally part of the “Problem Oriented Medical Record” (POMR)

S: Subjective: The “Story”

- History as expressed by the patient
- Obtained via “LMNOPQRSTU” or “OLD CHARTS” methods
- Considered subjective as it is the patient's perception.
Subjective...

- Presenting complaint(s) – in order of severity
- History of presenting complaint
  - includes other examinations, previous treatment, past referrals
- Past medical history
  - significant past diseases/illnesses/conditions, surgery, including complications, trauma.
- Medication/Supplement History
  - now and past, prescribed and over-the-counter, Allergies to medications*
- Family history
- Social history
  - smoking (pack-years), alcohol use, drugs, occupation and duties, ADL’s (ability and inability), marital/family status, baseline functioning, occupation, pets, hobbies
- Systems review
  - cardiovascular system, respiratory system, gastrointestinal system, nervous system, musculoskeletal system, genitourinary system.

O: Objective: What is “Observed”

- Vital Signs
- Test results
- X-ray / Imaging results
A: Assessment: The “Analysis”

- Summary of Diagnoses
- How the patient is or has been responding to treatment

P: Plan:
What is “Performed or Planned”

***Remember…. “If it was not written down, it was not done.”
Pain: a review of three commonly used pain rating scales.


GOALS:
Reviewed the 3 most common Pain Scales: Visual Analogue Scale, Verbal Rating Scale and Numerical Rating Scale

CONCLUSIONS:
▪ All three pain-rating scales are valid, reliable and appropriate for use in clinical practice.
▪ Visual Analogue Scale has more practical difficulties than the Verbal Rating Scale or the Numerical Rating Scale.
Consider asking patient’s pain scale:

- At worst time of pain
- At least time of pain
- Average amount of pain
- Pain right now
Symptom Magnification

Definition:

- Symptom magnification is a self-destructive, socially reinforced behavioral response pattern consisting of reports or displays of symptoms which function to control the life of circumstances of the sufferer.


Symptom Magnification, cont.

- Exaggerated pain behaviors
- Physical examination and tests may not reveal any obvious pathology
  - limping, moaning, groaning, and grimacing.
- Symptom Magnifiers tend to remain symptomatic longer, stay off work for prolonged periods of time (if they go back at all), and often utilize a disproportionate share of health care resources.

- Malingering: Conscious, deliberate deception in order to obtain secondary gain
- Factitious disorder: Patient seeks to occupy the sick role.
- Somatoform disorders: Unconscious behavior by a patient to exaggerate

PSYCHOLOGY: Symptom Magnification & Waddell's Behavioral Signs By Dr. J.K., Ph.D.
Symptom Minimizer vs. Magnifier

- [https://www.youtube.com/watch?v=hNfDkUk0UZl](https://www.youtube.com/watch?v=hNfDkUk0UZl)

- Objectify Pain via Pain Assessments
- FOA’s (Outcome Assessment Tools) – helpful for determining patient’s disabilities

Examples:
- Roland Morris
- Revised Oswestry
- Neck Disability Index
- Lumbar or Cervical Bournemouth
  - [https://www.youtube.com/watch?v=m_PgNQY-SGk](https://www.youtube.com/watch?v=m_PgNQY-SGk)
Questions that lead to treatment contraindications / precautions:

- Pacemaker
- Stimulator
- Recent surgery
- Diagnosis of Cancer
- Mastectomy or lymph node removal

Sign vs. Symptoms

- Signs are objective findings
  - Can be reproduced
  - Examples: blood pressure, orthopedic tests, x-ray results
- Symptoms are subjective
  - What the patient is feeling or perceives
  - Examples: fatigue, pain, weakness

- Use tests to objectify subjective symptoms
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Sign

▪ (sin)n. Medicine An objective finding, usually detected on a physical examination, from a laboratory test, or on an x-ray, that indicates the presence of abnormality or disease.


Symptom

▪ /symp·tom/ (simp´tom) any subjective evidence of disease or of a patient’s condition, i.e. such evidence as perceived by the patient; a change in a patient’s condition indicative of some bodily or mental state.


QUIZ TIME!!!

Sign or Symptom??

- Fever
- Light-headed
- Nauseated
- Nose bleeding
- Itching
- Rash
- Numb
- Fatigue
- Blood pressure
- Pallor
- Anxiety
- Low back pain
- Reported weakness
- Antalgic posture
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QUIZ TIME!!! Sign or Symptom??

**SIGNS**
- Fever
- Blood pressure
- Pallor
- Antalgic posture
- Nose bleeding
- Rash

**SYMPTOMS**
- Fatigue
- Anxiety
- Light-headed
- Nauseated
- Low back pain
- Reported weakness
- Itching
- Numb

Yellow Flags

- Psychosocial barriers that inhibit recovery from back pain
- An inappropriate perception of back pain
  - e.g. belief that back pain is harmful and disabling
- Belief that passive activity such as bed rest is better than staying active
- Lack of support at home and social isolation
- Mental health problems such as depression, anxiety and stress
- Problems at work e.g. bullying, job dissatisfaction
- Claims for compensation and benefits
Yellow Flags in Back Pain

--- A B C D E F W ---

- **Attitudes**
  - Does the patient feel or believe that with appropriate treatment and self-management they will return to normal activities?
  - Or do they feel they are a “lost cause”?

- **Beliefs**
  - A belief by the patient that the problem is far worse than it actually is (e.g., cancer).
  - Often leads to “jumping to conclusions” (catastrophizing).

- **Compensation**
  - Is the patient expecting a payment for an accident or injury at work?
Diagnosis
- What did the patient perceive as their diagnosis?
- Poor communication can lead to patients misunderstanding what is meant.
- Examples: “You have a slipped disc” or “Your spine is degenerating and crumbling”.

Emotions
- Patients with emotional issues such as ongoing depression and/or anxiety are at a high risk of developing chronic pain.

Family
- Two problems: either over-bearing or unsupportive.

Work
- The worse the perceived work environment, the more likely to develop chronic pain.
STaRT Back Screening Tool

- Tool used to assess psychosocial issues
- Enables the identification of those LBP patients at risk of developing chronicity
  - Allows the implementation of appropriate treatment.
- The early treatment of patients at risk of developing chronic pain has been found to be effective at preventing long-term disability and chronicity.

The STaRT Back Screening Tool

Patient name: ________________________ Date: __________

Thinking about your back pain the last 2 weeks tick your response to the following questions:

1. Has your back pain spread down your leg(s) at some time in the last 2 weeks? [ ] Yes [ ] No
2. Have you had pain in the shoulder or neck at some time in the last 2 weeks? [ ] Yes [ ] No
3. Have you only walked short distances because of your back pain? [ ] Yes [ ] No
4. In the last 2 weeks, have you dressed more slowly than usual because of back pain? [ ] Yes [ ] No
5. Do you think it's not really safe for a person with a condition like yours to be physically active? [ ] Yes [ ] No
6. Have worrying thoughts been going through your mind a lot of the time? [ ] Yes [ ] No
7. Do you feel that your back pain is terrible and it's never going to get any better? [ ] Yes [ ] No
8. In general have you stopped enjoying all the things you usually enjoy? [ ] Yes [ ] No
9. Overall, how bothersome has your back pain been in the last 2 weeks?

Not at all Slightly Moderately Very much Extremely

0 0 0 1 1

Total score (all 9): ____________ Sub Score (Q5-9): ____________

The copyright (©2007) of the STaRT Back Screening Tool and associated materials is owned by Keele University, the development of which was part funded by Arthritis Research UK: i) the tool is designed for use by health care practitioners, with appropriate treatment packages for each of the stratified groups; ii) the tool is not intended to recommend the use of any particular product. No license is required for non-commercial use.
Red Flags during History

- Signs, symptoms, and features in a patient with back pain which may indicate serious spinal pathology
How Common Are Serious Causes of Back Pain?

- <5% have true nerve root pain
- <1% have serious disease such as spinal tumor or infection
- <1% have inflammatory disease such as ankylosing spondylitis

Red Flags in Back Pain

- Age of onset < 20yrs old or > 55yrs old with NEW onset of pain
- Recent history of violent trauma
- Thoracic pain
- Past medical history of cancer or malignant tumor
- Prolonged use of corticosteroids
- History of Drug abuse, immunosuppression, HIV
- Systematically unwell
- Unexplained weight loss
- Saddle anesthesia or widespread neurological symptoms (including cauda equine syndrome)
- Structural deformity
- Unexplained Fever
- Constant progressive, non-mechanical pain (no relief with rest)
KEY Questions to Ask to Rule Out Red Flags during History

▪ “Have you had any **unexplained** fever, fatigue, weight changes, night sweats or pain?”

▪ “Have you had any changes in bowel or bladder, including loss of sensation, frequency, urgency?”

▪ “Do you have any pain with coughing, sneezing, or bearing down for a bowel movement?”

Unexplained Fever

▪ **Infection (20% to 40%)**
  ▪ Bacterial: e.g., Abdominal or pelvic abscesses, Dental abscesses, Endocarditis, Sinusitis, TB, UTI, etc.
  ▪ Viral: e.g., Cytomegalovirus, Epstein-Barr virus

▪ **Malignancy (20% to 30%)**
  ▪ Colorectal cancer, Leukemia Lymphoma (Hodgkin and non-Hodgkin)

▪ **Noninfectious inflammatory disease (10% to 30%)**
  ▪ Connective tissue diseases, Adult Still disease, Rheumatoid arthritis, Systemic lupus erythematosus, Granulomatous disease *Crohn disease*, Sarcoidosis, Vasculitis syndromes, Giant cell arteritis, Polymyalgia rheumatica/temporal arteritis

▪ **Miscellaneous (10% to 20%)**
  ▪ Drug-induced
  ▪ Factitious fever
  ▪ Thromboembolic disease
  ▪ Thyroiditis
Medications that can cause Fever of Unknown Origin...

- **Anticonvulsants**: Barbiturates, Carbamazepine (Tegretol), Phenytoin (Dilantin)
- **Antihistamines**: Cimetidine (Tagamet), Ranitidine (Zantac)
- **Antimicrobials**: Carbapenems*, Cephalosporins*, Erythromycin, Isoniazid, Minocycline (Minocin), Nitrofurantoin (Furadantin), Penicillins, Rifampin, Sulfonamides*
- **Cardiovascular drugs**: Captopril (Capoten), Hydralazine, Hydrochlorothiazide, Methyldopa, Nifedipine (Procardia), Procainamide, Quinidine
- **Nonsteroidal anti-inflammatory drugs**: Ibuprofen, Salicylates, Sulindac (Clinoril)
- **Others**: Allopurinol (Zyloprim), Heparin, Meperidine (Demerol), Phenothiazines

Unexplained Fever

<table>
<thead>
<tr>
<th>SUBGROUP</th>
<th>CAUSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infection (20% to 40%)</td>
<td>Abdominal or pelvic abscesses</td>
</tr>
<tr>
<td></td>
<td>Dental abscesses, Endocarditis</td>
</tr>
<tr>
<td></td>
<td>Sinusitis, Tuberculosis, Urinary Tract Infection</td>
</tr>
<tr>
<td>Viral</td>
<td>Cytomegalovirus, Epstein-Barr virus</td>
</tr>
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</tr>
<tr>
<td>Granulomatous disease</td>
<td>Adult Still disease, Rheumatoid Arthritis</td>
</tr>
<tr>
<td></td>
<td>Systemic lupus erythematosus</td>
</tr>
<tr>
<td>Vasculitis syndromes</td>
<td>Crohn disease</td>
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<tr>
<td></td>
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<td></td>
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<tr>
<td>Factitious fever, Thromboembolic disease</td>
<td></td>
</tr>
</tbody>
</table>
Unexplained Night Sweats

- Menopause
- Idiopathic hyperhidrosis
- Infections
- Cancers
- Medications
- Hypoglycemia
- Hormone disorders
- Neurologic conditions

Red Flags with Low Back Pain: Cancer Related

- History of cancer
- Unexplained weight loss >10 kg within 6 months
- Age over 50 years or under 18 years old
- Failure to improve with therapy
- Pain persists for more than 4 to 6 weeks
- Night pain or pain at rest
Red Flags with Low Back Pain: Infection Related

- Persistent fever (Temperature over 100.4 F)
- History of IV Drug Abuse
- Severe Pain
- Lumbar Spine surgery within the last year
- Recent bacterial infection
  - Urinary Tract Infection or Pyelonephritis
  - Cellulitis
  - Pneumonia
  - Wound in spine region
- Immunocompromised states
  - Systemic Corticosteroids
  - Organ transplant
  - Diabetes Mellitus
  - Human Immunodeficiency Virus (HIV)
- Pain at Rest

Infection in the Spine

Adult Pyogenic Vertebral Osteomyelitis
Infection in the Spine

Tuberculosis Diskitis and Osteomyelitis
Pediatric Disc Space Infection

- Back pain associated with prolonged early morning spinal stiffness
- Symptoms improved by exercise
- Often starting in young people (20-30 years old)
- More frequent in men than women
- Inflammation of the eye (uveitis) is common
- Family history -- strong genetic association with the gene HLAB27.
Inflammatory Spinal / Back Pain

- Most back pain is due to mechanical causes, but ~ 1 to 2 in every 1000 people will have inflammation of the spinal joints.
- X-rays of the spine and SI joints usually normal unless patient had symptoms for many years
- MRI scan will usually show positive findings
- Blood tests that measure inflammation (ESR and CRP) can be helpful but are not diagnostic. (Consider HLA-B27 too)
- Will always affect the SI joints, but may also affect other parts of the spine.
- Causes:
  - Ankylosing Spondylitis (most common)
  - Psoriasis
  - Inflammation of the bowel (Crohn's disease and ulcerative colitis)

Ankylosing Spondylitis

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Healthy spine

Ankylosing spondylitis

Body of vertebra

Disc

Inflammation of joints

Fusion of bones “Bamboo spine”

Bamboo Spine

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Red Flags: Cauda Equina Syndrome

Spinal cord

Cauda equina (horse’s tail)

Red Flags: Cauda Equina Syndrome

Spinal cord

Cauda equina (horse’s tail)
Cauda Equina Syndrome

- Compression of the central nerves below the lower end of the spinal cord (usually L1) including compression of the nerves to the bladder and bowel.

Typical symptoms include:
- Low back pain
- Sciatica (often in both legs)
- Altered sensation around the saddle" area and genitals.
Saddle Paresthesia

Bladder symptoms include:
- Loss of bladder sensation
- Abnormal sensation on passing urine
- Urinary retention (more common in men)
- Urinary incontinence (more common in women).

Bowel symptoms are rare but include incontinence.

Medical Emergency!!
- Permanent damage may result within 6-10 hours.
Red Flags: Cauda Equina Syndrome

- Urinary Incontinence or Retention
- Saddle paresthesia or anesthesia
- Anal sphincter tone decreased or Fecal Incontinence
- Bilateral lower extremity weakness or numbness
- Progressive neurologic deficit
  - Major motor weakness
  - Major sensory deficit

Cauda Equina – a personal story

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Red Flags: Significant Herniated Disc

- “Sciatic” or radiating leg pain with coughing, sneezing, bearing down
- Major Muscle Weakness (strength 3 of 5 or less)
- Foot drop [https://youtu.be/CuuNtaLvxA8](https://youtu.be/CuuNtaLvxA8) - next slide

Foot Drop
Red Flags with Low Back Pain: Vertebral Fracture

- Prolonged use of Corticosteroids
- Age greater than 70 years
- History of Osteoporosis
- Mild Trauma over age 50 years (or with Osteoporosis)
- Recent significant Trauma at any age
  - Ejection from motor vehicle
  - Fall from substantial height

Compression Fracture
Red Flags with Low Back Pain: Abdominal Aortic Aneurysm

- Abdominal pulsating mass
- Atherosclerotic vascular disease
- Pain at rest or nocturnal pain
- Age greater than 60 years

COMMON SYMPTOMS

STABLE AAA SYMPTOMS

Most AAAs have no symptoms. Medical exams sometimes uncover a pulsating mass in the abdomen. Often, aneurysms are discovered by "accident" when a patient has an imaging exam (CT/MRI/ultrasound) for another condition.

EMERGENCY SYMPTOMS

Severe, sudden pain in the abdomen or back is a sign of a bursting AAA. Pain may spread to the groin, legs or buttocks. Clammy skin, dizziness, rapid heart rate, passing out and shock are also signs.
Abdominal Aortic Aneurysm

Red Flags: General
(weak/poor Test Specificity)

- Vertebral tenderness
- Limited spine range of motion
Summary to Ask Patients (Red Flags)

“Have you had, or do you have…..

▪ a fever of 100.4°F or above
▪ unexplained weight loss
▪ swelling of the back
▪ constant back pain that does not ease after lying down or resting
▪ pain in chest or high up in your back
▪ pain down legs and below the knees
▪ pain caused by a recent trauma or injury to back
▪ loss of bladder control
▪ inability to pass urine
▪ loss of bowel control
▪ numbness around genitals, buttocks or back
▪ pain that is worse at night

TUNA FISH

Trauma
Unexplained weight loss
Neurological signs
Age > 50

Fever
Intravenous drug use
Steroids for long time
History of cancer
QUICK REVIEW:
Questions to Ask to Rule Out Red Flags during History

▪ “Have you had any unexplained fever, fatigue, night sweats, weight changes, or pain?"

▪ “Have you had any changes in bowel or bladder, including loss of sensation, frequency, urgency?"

▪ “Do you have any pain with coughing, sneezing, or bearing down for a bowel movement?”
Dizziness

- A non-specific term
- Includes vertigo, syncope (i.e., fainting), and non-syncope vertigo
- All related to the sense of balance

Vertigo

- Often triggered by a positional change of the patient’s head.
- Includes feelings of:
  - Spinning, Tilting, Swaying, Unbalanced, being pulled to one direction
- Other symptoms may include:
  - Nausea, Abnormal or jerking eye movements (nystagmus), Headache, Sweating, Ringing in the ears or hearing loss
- Symptoms can last a few minutes to a few hours or more and may come and go.
Causes of Vertigo

- Inner ear issues
- Benign Positional Vertigo (BPV)
- Meniere's disease
  - Also associated with ringing in the ears (tinnitus) and hearing loss.
- Vestibular neuritis or labyrinthitis (viral infection)
- Head or neck injury
- Stroke
- Tumor
- Certain medications (caffeine, certain antibiotics, nicotine)
- Migraine headaches
- MS (Multiple Sclerosis)

Tremors
What is a Tremor?

* per National Institute of Neurologic Disorders and Stroke

- “An unintentional, rhythmic muscle movement involving to-and-fro movements (oscillations) of one or more parts of the body.”
- Can affect the hands, arms, head, face, voice, trunk, and legs.
  - Most common in hands.
- May be symptom of:
  - A neurological disorder
  - A side effect of certain drugs.
- Not life-threatening
  - May be embarrassing or make it harder to perform daily tasks.

Causes of Tremors

- Neurological disorders or conditions
  - Multiple sclerosis, stroke, traumatic brain injury, and neurodegenerative diseases
- Side effect of certain drugs
  - e.g. amphetamines, corticosteroids, and drugs used for certain psychiatric disorders
- Alcohol abuse or withdrawal
- Mercury poisoning
- Overactive thyroid
- Liver failure
- Genetic
- Insidious
Types of Tremors

- **Resting tremor**
  - Often seen in patients with Parkinson’s disease

- **Action tremor**
  - Postural tremor
    - occurs when the person maintains a position against gravity, such as holding the arms outstretched.
  - Kinetic tremor
    - appears during movement of a body part, such as moving the wrists up and down
  - Intention tremor
    - present during a purposeful movement toward a target, such as touching a finger to one’s nose during a medical exam
  - Task-specific tremor
    - appears when performing highly skilled, goal-oriented tasks such as handwriting or speaking
  - Isometric tremor
    - occurs during a voluntary muscle contraction that is not accompanied by any movement.

https://www.youtube.com/watch?v=xVRKO-Sz0x4

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Essential Tremor
Posture – Clinical Implications

Poor Posture = Problems

- Neck Pain
- Headaches
- Back Pain
- Hip Pain
- Acid Reflux
- Knee Pain
- Plantar Fasciitis
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**Poor Posture**
- Forward Head
- Flat Back

**Good Posture**
- Balanced upright posture

**Poor Posture**
- Rounded Shoulders
- Sway Back
- Weak abdominal Muscles

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**Upper Body in 4 Types of Standing Posture**

- **Balanced Posture**
  - Head's COG approx. Center of Gravity (COG)
  - Vertebral line through center C-7 cervical vertebral body
  - Smaller forward bending Pressure
  - Chest Muscles Short, Tight

- **Flat Back**
  - Upper Back Extensors Weak
  - Chest Muscles Short, Tight

- **Swayback**
  - Upper Back Extensors Weak
  - Chest Muscles Short, Tight

- **Kephotic-Lordotic**
  - Upper Back Extensors Weak
  - Chest Muscles Short, Tight
How posture affects disc pressure

Back angle

<table>
<thead>
<tr>
<th>Back Angle</th>
<th>Disc Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>110°</td>
<td>100%</td>
</tr>
<tr>
<td>100°</td>
<td>+105%</td>
</tr>
<tr>
<td>90°</td>
<td>+115%</td>
</tr>
<tr>
<td>80°</td>
<td>+140%</td>
</tr>
</tbody>
</table>

Disc pressure

The effect of four postures on the intervertebral disc pressure as measured between the 3rd & 4th lumbar vertebrae. The pressure when standing is taken as 100%. According to Nachemson and Ellman.
Pronation vs. Supination

- **Pronation**
- **Neutral**
- **Supination**

Examples:
- Flatfoot
- Pronator
- Normal
- Neutral
- High Arch
- Supinator
Limping in Children

- May be painful, but often asymptomatic
- Need to look at the hip!
  - Transient Synovitis
  - Infection
  - Legg-Calve Perthes
  - SCFE
Antalgic or Unsteady Gait

- Inflammatory Joint Diseases
- Bone and Joint Infection
- Neurologic, Muscle or Tendon Diseases
  - MS [https://www.youtube.com/watch?v=sjroLu-W1mE](https://www.youtube.com/watch?v=sjroLu-W1mE)
  - Parkinson’s [https://www.youtube.com/watch?v=j86omOwx0Hk](https://www.youtube.com/watch?v=j86omOwx0Hk) - later slide
- Trauma
- Congenital Diseases
  - Myopathic [https://www.youtube.com/watch?v=YNQk72hb6w](https://www.youtube.com/watch?v=YNQk72hb6w) - next slide
- Footwear
Congenital – Myopathic Gait

Antalgic Gait due to Pain
Antalgic Gait

- due to Trauma, osteoarthritis, Legg-Calve Perthes, SCFE

Ataxic Gait with Cerebral Palsy
Progression of Parkinson's Gait

RESEARCH FOOTAGE

Parkinson's Gait - Advanced
Guillain Barre Syndrome

Multiple Sclerosis – early signs
Eyes

- Exophthalmos (Bulging Eyes)
  - Associated with Graves’ Disease (common cause of hyperthyroidism).

Nystagmus vs. Strabismus

Nystagmus

https://www.youtube.com/watch?v=84bM5FxhZNs

Strabismus

Fig. 2 Child with exotropia of the right eye.
Ptosis

- Unilateral or Bilateral
- CN III Palsy:
  - Children: Congenital, Trauma, Inflammation, Viral infection, Migraine, tumor
  - Adults: Aneurysm, Diabetes, Neuritis, Trauma, Infection, Tumor
- Myasthenia Gravis
Throat

- Goiter

Thyroid Issues

- Hyperthyroidism
- Hypothyroidism
### Red Flags – Clinical Implications in Chiropractic

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Hypothyroidism</th>
<th>Hyperthyroidism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body weight</td>
<td>Weight gain</td>
<td>Weight loss</td>
</tr>
<tr>
<td>Temperature sensitivity</td>
<td>Intolerant to cold</td>
<td>Intolerant to heat</td>
</tr>
<tr>
<td>Heart rate</td>
<td>Slow heart rate (bradycardia)</td>
<td>Fast heart rate (tachycardia)</td>
</tr>
<tr>
<td>Blood pressure</td>
<td>Hypertension or hypotension</td>
<td>Hypertension</td>
</tr>
<tr>
<td>Sexual/reproductive functioning</td>
<td>Infertility, loss of libido, and erectile dysfunction</td>
<td>Infertility, loss of libido, erectile dysfunction, and spontaneous abortion</td>
</tr>
<tr>
<td>Energy levels</td>
<td>Low energy, fatigue, sleepiness</td>
<td>Fatigued but hyperactive – cannot sit still</td>
</tr>
<tr>
<td>Bowel movements</td>
<td>Constipation</td>
<td>Diarrhea</td>
</tr>
<tr>
<td>Mental state</td>
<td>Depression, poor memory, and inability to concentrate</td>
<td>Anxious, irritable, and nervous</td>
</tr>
<tr>
<td>Fluid accumulation</td>
<td>Leg, hands, eyelid swelling, fluid around the lungs (pleural effusion) and heart (pericardial effusion), abdominal swelling, round, puffy face</td>
<td>Ankle swelling, feet and toes may also be swollen</td>
</tr>
<tr>
<td>Skin and hair</td>
<td>Dry, pale skin, coarse, dry hair, purple-tinged lips, itchy skin, hair loss, loss of lateral eyebrow, red rash with lines of hyperpigmentation</td>
<td>Sweaty skin, warm and smooth skin, thinning skin, pigmentation, itchy skin, hair loss, redness of palms</td>
</tr>
<tr>
<td>Reflexes</td>
<td>Delayed relaxation of reflexes</td>
<td>Overactive reflexes</td>
</tr>
<tr>
<td>Menstrual cycles</td>
<td>Heavy flow and prolonged or frequent periods</td>
<td>Light flow with absent or infrequent periods</td>
</tr>
<tr>
<td>Muscle and movements</td>
<td>Muscle stiffness, slow to relax, aches and pains</td>
<td>Tremors and muscle weakness</td>
</tr>
</tbody>
</table>

### Skin

- **Jaundice**
  - Due to Yellowing of the skin from bilirubin accumulated in the skin – most commonly due to liver and gallbladder disorders
- **Eczema**
  - Rough and inflamed patches of skin. Often with blisters that cause itching and bleeding
  - Sometimes results from a reaction to irritation (eczematous dermatitis) but more often has no obvious external cause.
Plaque
- Most common (80%)
- Thick red patches of skin, often with a silver or white layer of scale.

Guttate
- Small red spots on the skin
- 2nd most common form of psoriasis
- Often appears on the torso and limbs, but can also occur on the face and scalp.
• Flexural or inverse psoriasis
  • Often appears in skinfolds (under the breasts, in the armpits, or in the groin area).
  • Very red and often shiny and smooth.
  • Most people with inverse psoriasis also have a different form of psoriasis in other places on the body.

• Pustular
  • Characterized by white pustules surrounded by red skin. The pus inside the blisters is noninfectious.
  • Scaling also occurs.
  • Three kinds of pustular psoriasis
▪ **Nail psoriasis**
  ▪ Can cause
    ▪ nail pitting
    ▪ grooves
    ▪ discoloration
    ▪ loosening or crumbling of the nail
    ▪ thickened skin under the nail
    ▪ colored patches or spots under the nail

▪ **Scalp Psoriasis**
  ▪ Several types of psoriasis may appear on the scalp.
  ▪ Some may cause severe dandruff—others can be painful, itchy, and very noticeable at the hairline.
  ▪ Can extend to the neck, face, and ears, and may be in one large patch or many smaller patches.
Psoriatic arthritis

- Painful and physically limiting condition
- Affects up to 30% of patients with psoriasis.
- Can affect multiple joints – especially severe in the hands.
- No cure for psoriatic arthritis -- some people achieve remission with arthritis treatments and exercises.

Changes in Fingernails Related to Health

- Chipping
- Weak/Abused
- Splitting
- Hard-to-Grow
- Peeling
- Acrylic/Gels
“SPOON NAILS“ (koilonychia)

- Concave shape
- A red flag for iron-deficiency anemia (may also see fatigue and hair loss).
- Also in heart disease, thyroid problems, or lupus

- Iron deficiency in men often related to GI bleeding. According to a 2013 study from Israel, 62% of men < 40yo with iron deficiency anemia were found to have significant GI lesions such as stomach ulcers, hemorrhoids, or inflammatory bowel disease.

Clubbed Nails

- The opposite of spoon nails, clubbed nails curve outward and bubble up
- Sometimes congenital.
- If develop later on in life, 80% due to underlying lung disease (COPD) or pulmonary fibrosis
- Other possible causes include heart disease, inflammatory bowel disease, and HIV/AIDS
Splintered Hemorrhages

- Long, black, splinter-like lines
- Can occur after injury

- Without injury, must consider bacterial endocarditis (infection of the valves and inner lining of the heart).

- The condition often occurs after a dental or medical procedure and requires antibiotics.

Splintered Hemorrhages

Pitting

- Small depressions
- Usually a sign of psoriasis.

- Will usually also see silvery or red scaly, itchy patches on elbows, knees, and other parts of body.

- Greater risk of psoriatic arthritis
Beau’s Lines

- Ridges or grooves form across nails when an outside stressor—such as a severe illness or even psychological trauma causes the matrix cells to temporarily stop working.
- Lines usually become apparent about 3 to 6 months after the event as nails start to regrow.
- May also be related to uncontrolled diabetes or circulation problems.

Onycholysis

- Nail lifts off from the nail bed or skin underneath.
- May be due to trauma, hyperthyroidism, or fungal infection.
Fungal Nail Infections

- Often a sign of another disease such as high blood sugar from uncontrolled diabetes

White Spots

- Also called “leukonychia”
- A white discoloration usually due to an injury to the nail or an infection
- In rare cases may be related to arsenic poisoning
Terry’s Nails

- White nails with red or darkened stripe
- Related to Iron-deficiency, Anemia, Diabetes, Organ failure, Liver cirrhosis, Hyperthyroidism
- Also common in cancer patients who have been subjected to extended chemotherapy treatments

Dark Vertical Stripes

- Due to Subungual Melanoma – type of aggressive skin cancer that only affects the nail bed
- Is not painful – but often mistaken for a bruise
Herniated vs. Bulging Disc

- Normal Disc
- Degenerative Disc
- Bulging Disc
- Herniated Disc
- Thinning Disc
Headaches...
When Headaches are more than aches.....
SNOOP (according to American Headache Society)

- **Systemic symptoms**
  - fever, loss of appetite, or weight loss.
  - OR...Secondary risk factors
    - Headache in addition to HIV or cancer
- **Neurologic symptoms**
  - Confusion, blurry vision, personality changes, weakness on one side of the body, numbness, or sharp facial pain.
- **Onset**
  - Sudden onset with no warning ("thunderclap" headaches)
  - Can occur when headaches are caused by bleeding in the brain.
- **Older**
  - If >50 yo and experience a new or progressive headache
    - giant cell arteritis or a brain tumor.
- **Progression**
  - If significantly different, more often, or severely worse than “other” headaches

Other causes of Headaches

- **Meningitis**
  - Stiff neck, fever, and rash

- **Elevated blood pressure**
  - Frequent cause of headaches upon waking
  - May be sign of undiagnosed high blood pressure or diagnosed hypertension that is not being controlled properly.
TIA vs. Stroke

- **TIA (Transient Ischemic Attack) or “Mini-Stroke”**
  - Occurs when blood flow to part of the brain is temporarily blocked or reduced, often by a blood clot that resolves itself
  - Symptoms go away
- **Stroke**
  - Blood flow stays blocked
  - Brain has permanent damage.
Transient Ischemia Attack - TIA

Minor Stroke... as it is happening...
TIA...precursor to full Stroke?
Spinal Stroke in a child...
Hypogeusia

For Fun......

What is HYPOGEUSIA?

- **Hypogeusia**
  - Reduced ability to taste things (to taste sweet, sour, bitter, or salty substances). The complete lack of taste is referred to as **ageusia**.

- **Causes of hypogeusia** include:
  - Chemotherapy drug (bleomycin)
  - Anti-tumor antibiotic
  - Zinc deficiency.
  - COVID 19
Conditions

- Hyperthyroid / Hypothyroid
- Cancers
- Cauda Equina
- Vertigo vs. dizziness
- Balance
- Malaise / Myalgia
- Joint pain vs. Muscle pain
- Headaches
- Appetite
- Gait
- Tremors
- Sleep issues
- Change in taste or smell
- Paresthesias – numbness/tingling

Proper Patient/Client management for CT’s and LMT’s

- DOCUMENT thoroughly and properly
- Bring to the attention of your DC
- For LMT – recommend that the client seek appropriate chiropractic or medical care