



Universal
Chiropractic
Spine & Sport

**CHIROPRACTIC &
FUNCTIONAL KINESIOLOGY
Continuing Education Course**

UNIVERSAL CHIROPRACTIC SPINE & SPORT

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ICAC SCHEDULE

A Cyriax quote, “The physician arrives at a diagnosis not from the evidence furnished by one painful movement, **but by careful determination of a consistent pattern.”**



James Cyriax, MD



Brett J. Lemire, DC CSCS



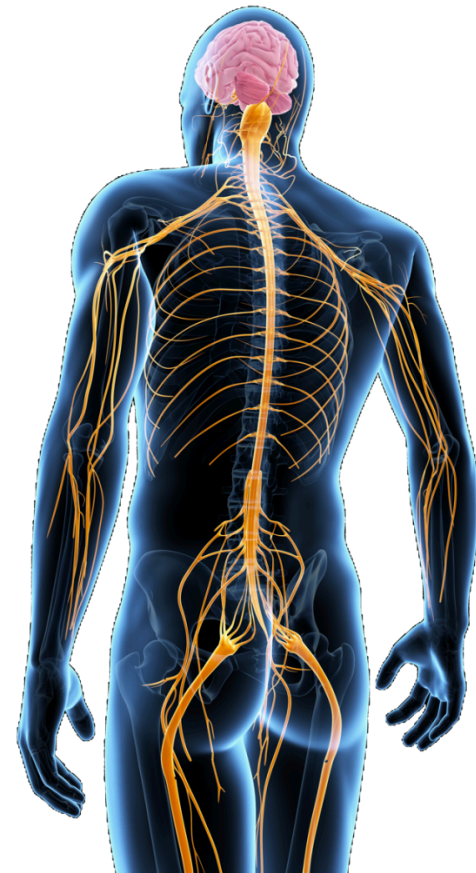
"Subluxation robs the
body's ability to
focus, **think**, organize
and
HEAL."



CHIROPRACTIC & OSTEOPATHIC TENETS

1. The body is a unit; the person is a ***one-unit of body, mind, and spirit.***
2. The body is capable of ***self-regulation, self-healing, and health maintenance.***
3. ***Structure and function*** are reciprocally interrelated.
4. Rational treatment is based upon an understanding of the ***basic principles of body unity, self-regulation, & the interrelationship of structure & function.***

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THE 90/90 RULE

“The wisdom of the body is responsible for 90% of the hope of patients to recover. The body has a super wisdom that is in favor of life, rather than death. This is the power that we depend on for life. All doctors are responsible for letting their patients know of this great force working within them.”



- Dr. Richard Cabot, Harvard Medical School

INNATE INTELLIGENCE

**RUNS YOUR BODY
RUNS YOUR LIFE**

A living thing has the intelligence of the universe inborn within it, referred to as its innate intelligence.



"90% of the stimulation and nutrition to the brain is generated by the movement of the spine."

**-Dr. Roger Sperry
(Nobel Prize recipient)**

GoChiroPractice.com

A person's head is shown in profile, facing left. Overlaid on the head is a translucent, glowing blue image of a human brain, showing the cerebral cortex and other structures. The background is dark, making the brain and the person's features stand out.

CHIROPRACTIC

- When joints move as intended, your brain gets appropriate signaling
- When joints don't move as intended, your brain gets faulty signaling
- When your brain gets faulty signaling, your health starts to deteriorate
- You can't typically feel when a section in your spine is not moving correctly
- Chiropractic is the art of returning optimal motion to the joints in your body



“The earlier abnormal spinal function could be recognized and corrected in a child’s life, the greater the opportunity that child will have for neurological development.”

Dr David Heilig

www.keithwassung.com

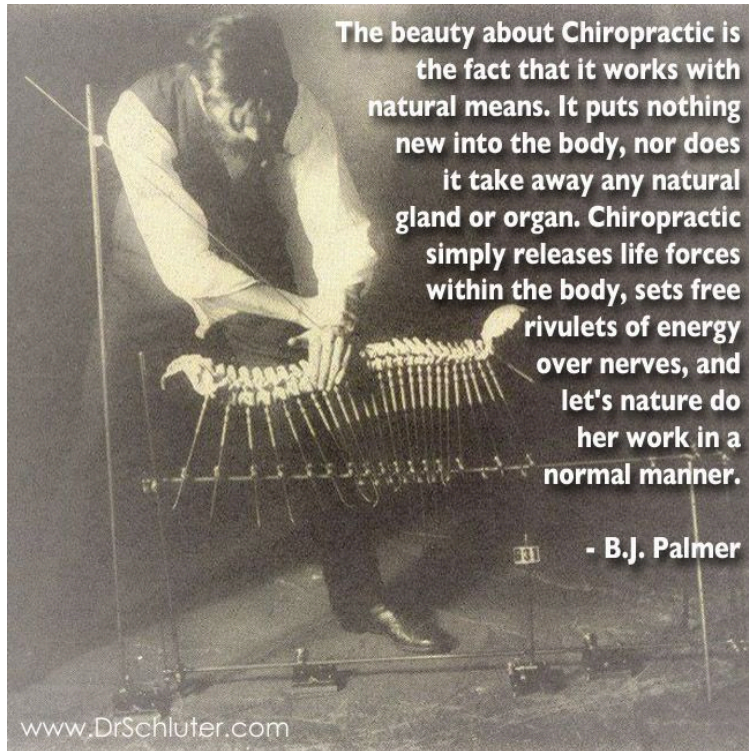
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CHIROPRACTIC

chi-ro-prac-tic /kī'nə-prāk'tik/
noun

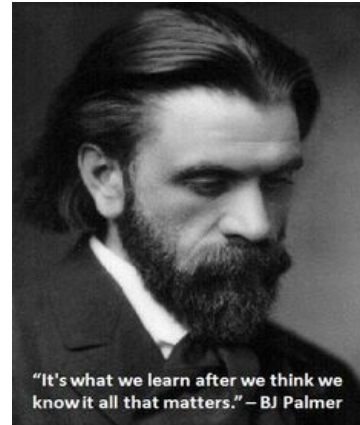
A system of optimizing human performance and potential by restoring or enhancing the body's function.



The beauty about Chiropractic is the fact that it works with natural means. It puts nothing new into the body, nor does it take away any natural gland or organ. Chiropractic simply releases life forces within the body, sets free rivulets of energy over nerves, and let's nature do her work in a normal manner.

- B.J. Palmer

www.DrSchluter.com



"It's what we learn after we think we know it all that matters." - B.J. Palmer

HAVING **SUBLUXATIONS**
IS LIKE HAVING
POOR CELL PHONE
RECEPTION BETWEEN
YOUR **BRAIN & BODY**

SUBLUXATED UNSUBLUXATED

NO SERVICE



www.DrSchMater.com



"In Senator Langer's private office in Senate Office Building, Washington, D.C., from left to right: Dr. Emmett J. Murphy, director of public relations, NCA; U.S. Senator William Langer, of North Dakota, and Dr. Joseph Janse, president of the National College of Chiropractic, Chicago, examine Senator Langer's speech about Correct Posture Week and chiropractic in the March 28 issue of the Congressional Record. Dr. Janse came to Washington as one of the principal speakers at the two-day, tri-state (Maryland, Virginia and District of Columbia) convention of chiropractors at the Statler Hotel, where, in 1950, the annual meeting of the National Chiropractic Association was held" (from the NCA Journal for May 1952).

“MOST PEOPLE
HAVE NO IDEA
HOW GOOD THEIR
BODY IS DESIGNED
TO FEEL.”

-KEVIN TRUDEAU-





INTRODUCTION

- Graduate Palmer College of Chiropractic West - 1999
- Post-Graduate Training – 300 HR. Chiropractic Rehabilitation (board eligible)
- Certified Strength & Conditioning Specialist - NSCA
- Course completion in DNS (A,B,C & Sports 1-2)
- Certified Functional Movement Screen Evaluator – **FMS**
- International Society of Clinical Rehab Specialists – member and certified
- United States Swimming Coach – Christian Brothers HS, STAS-Laguna Creek (actively coaching)
- Published chapter on Swimming and Functional Training
- Lectured to Sutter Internal and Family Medicine (2009 & 2015)



INTRODUCTION

- 1994-99: entered the 300 hour post-graduate chiropractic-rehabilitation coursework through LACC/SCHSU.
- Lead Instructor was **Craig Liebenson, DC** (he's been the biggest influence on my professional career)
- I was then introduced to **Stuart McGill, PhD** and his research on the spine biomechanics, and his "Big-3" stabilization strategies.
- I had the opportunity attend workshops and classes with Professor **Vladimir Janda, MD**, on common muscle imbalance patterns (upper & lower crossed syndromes, layered syndrome), and treatment strategies



SF GIANTS SPORTS MEDICINE CONFERENCE



PRESENTED BY
Dignity Health.



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USA SWIMMING SPORTS SCIENCE NETWORK & CERTIFIED USA COACH



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INTRODUCTION

- 1999 -2015: studied at the Prague School of Manual Medicine, Charles University Hospital-Motol. Multi & inter-disciplinary medicine and approaches to neuro-musculo-skeletal conditions.
- Karel Lewit, MD and Jiri Cumpelik, PT also from the Prague School.



INTRODUCTION

- 2006-2012: studied **Dynamic Neuromuscular Stabilization (DNS)** under the guidance of Pavel Kolar, PT, PhD, Alena Kobescova, MD neurologist.
- I've had the opportunity to learn from **Gray Cook, PT** and **Lee Burton, ATC, PhD** from Functional Movement System (FMS).
- Also, **Michael Boyle, ATC**, a top strength and conditioning coach and lecturer on assessment and rehabilitation.



CZECH REPUBLIC

I WAS OFFERED THE OPPORTUNITY TO STUDY ABROAD





MOTOL HOSPITAL PRAGUE CZ

TRAINED IN MULTI-DISCIPLINARY REHABILITATION
APPROACHES



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MEDICAL FACULTY



Vladimir Janda



Karel Lewit



Vaclav Vojta



Pavel Kolar



DYNAMIC NEUROMUSCLAR STABILIZATION

DNS – Is the treatment & therapy method developed by Pavel Kolar, PT PhD & Alena Kobesova, MD

DK is based on the development of human motor function in early childhood is **genetically pre-determined and follows a predictable pattern**. DNS assessments are based on DK principles.

These motor patterns or programs are formed as the central nervous system (CNS) matures, enabling the infant to control posture, achieve erect posture against gravity, and to move purposefully via muscular activity.

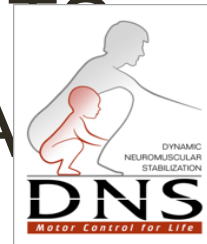
DK emphasizes the existence of central movement patterns that are inborn and “hard-wired”. For example, an infant does not need to be taught when and how to lift its head up, grasp a toy, roll over, creep, or crawl. **All these movement patterns or muscular synergies occur automatically in a specific developmental sequence throughout the course of CNS maturation.**

**There are DNS courses taught throughout the US and Prague CZ.
www.rehabps.com**





ANATOMICAL SHAPED OF JOINTS OCCURS VIA DEVELOPMENTAL KINESIOLOGY

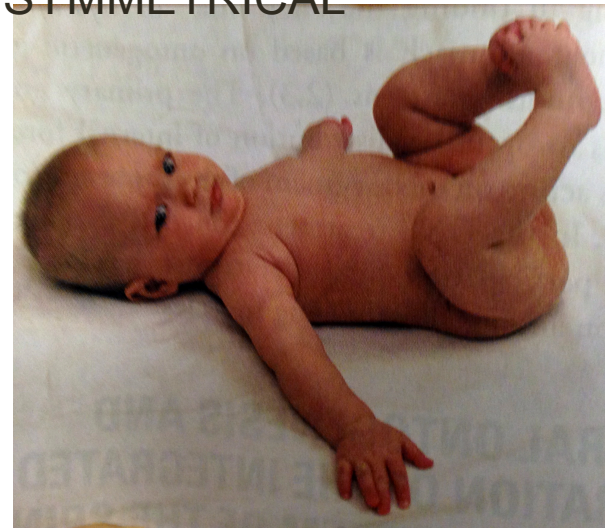


Morphological development of the skeleton (joints) depends on postural function of muscles. Understanding the kinesiology of postural development is essential for both the diagnosis and treatment of the locomotor system.

NEWBORN POSTURE -
ASYMMETRICAL



3 MO. POSTURE -
SYMMETRICAL

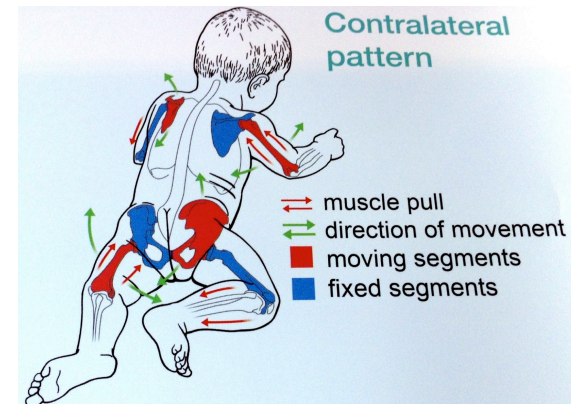
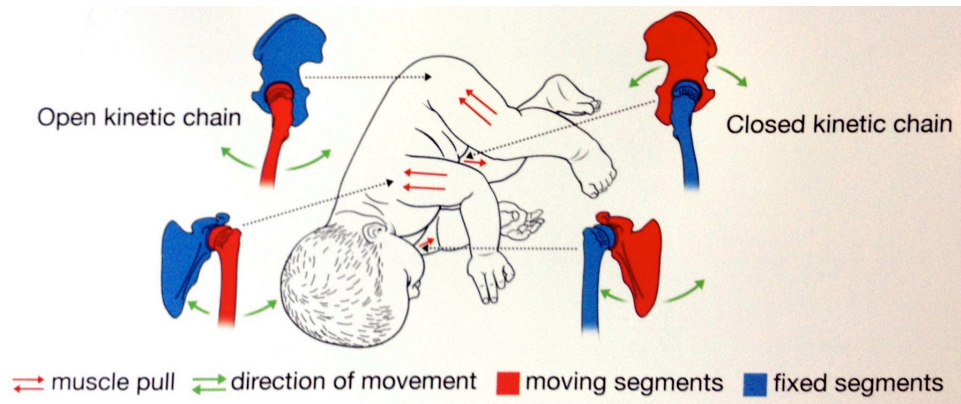
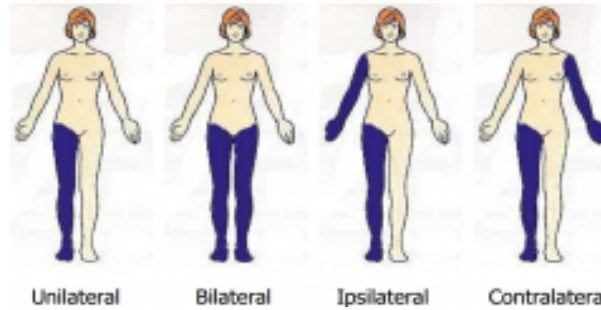


The early stages of postural development can be seen in the 1st 90 days.

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DNS – PATIENT CARE & SPORTS





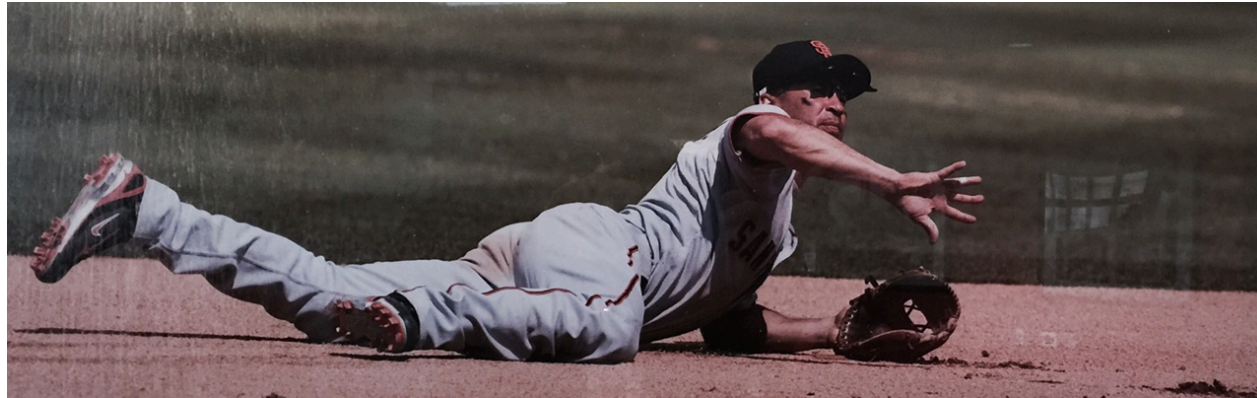
DNS – TWO BASIC HUMAN MOVEMENT SYNERGIES



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DNS – PATIENT CARE & SPORTS



Fundamentals of posture & movement utilized throughout a lifetime; ADL's & SRA's

R. UE - Stepping function

L. LE - Stepping function



R. LE - Support function

L. UE - Support function

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DNS "PITCHING" CONFERENCE SAN DIEGO PADRES

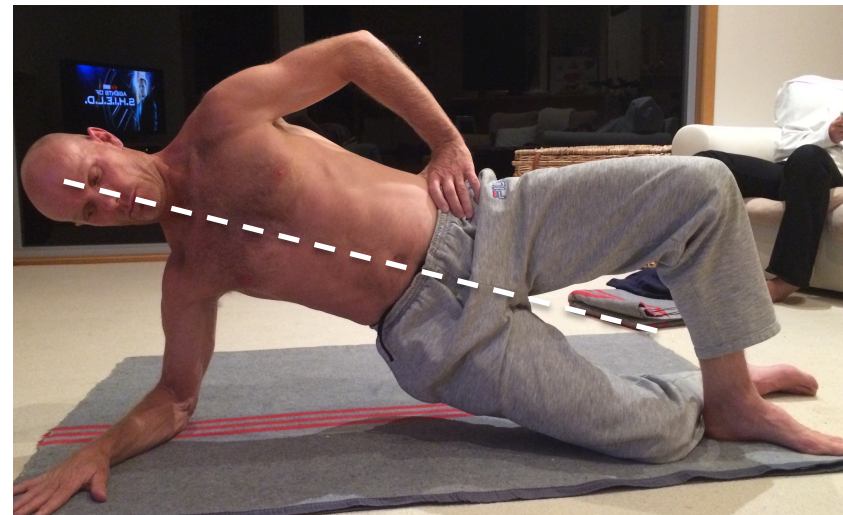
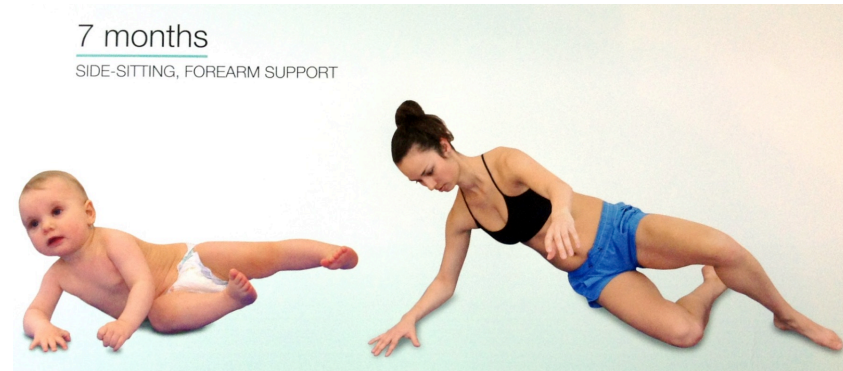
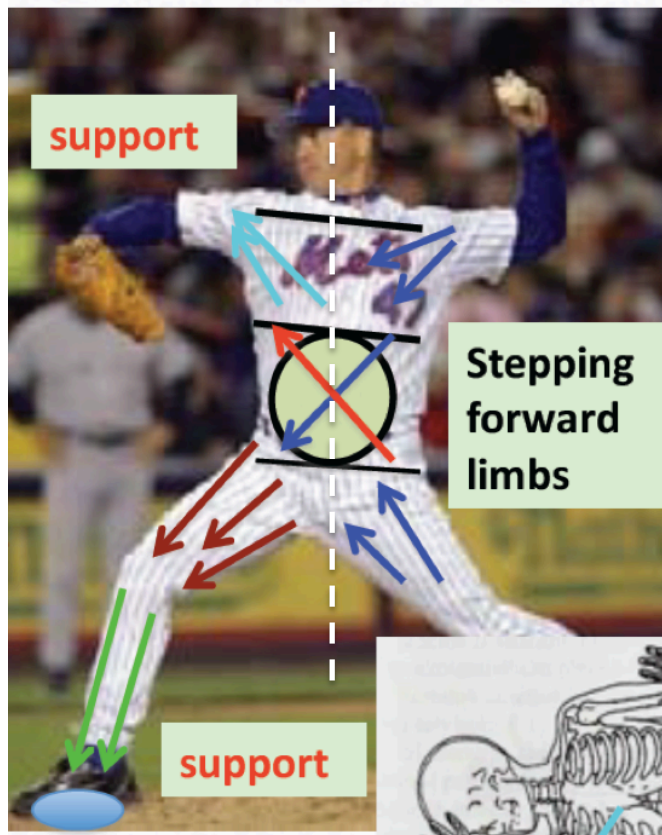




DNS – PATIENT CARE & SPORTS PERFORMANCE



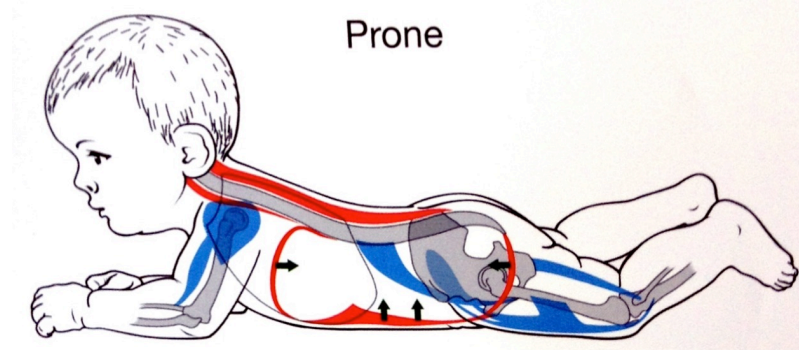
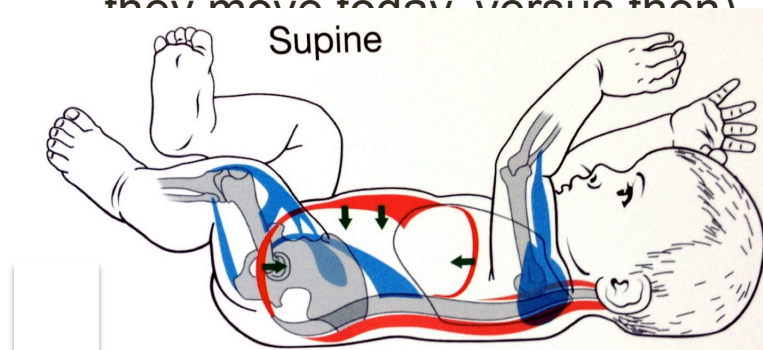
Left hand pitcher - Right side of the body is supporting forward, and left side is stepping forward.





DEVELOPMENTAL KINESIOLOGY VS. EMBRYOLOGY

- **Why DK** – it allows us to see the natural development of posture & movement, as the infant learns how use and integrate their special senses, organs, primitive and postural reflexes in response to the every changing environment.
- It allows us to appreciate how support and stabilization of the body develops (from cephalo-caudal and proximo-distal)
- How muscle pull creates the shape of joints we actually treat!
- It allows us to compare our patient (baby) to the ideal baby (how well the baby is developing posture & movement), the adult to the baby (how the adult moves to the ideal baby), the adult to when they were a baby (how they move today, versus then)

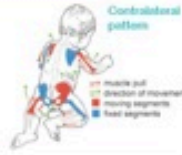
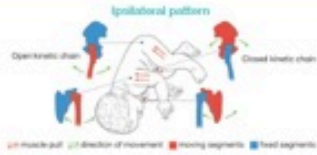




www.rehabgym.com

DYNAMIC NEUROMUSCULAR STABILIZATION EXERCISES IN DEVELOPMENTAL POSITIONS

REHABILITATION PRAGUE SCHOOL



PART I: 3-7 MONTH PATTERNS

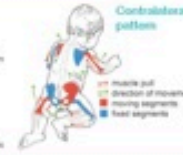
3 months prone	3 months supine
4 months supine	4.5 months prone
5 months side-lying	5 months supine
6 months prone	6 months supine
7 months prone	7 months quadruped



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DYNAMIC NEUROMUSCULAR STABILIZATION EXERCISES IN DEVELOPMENTAL POSITIONS

REHABILITATION PRAGUE SCHOOL



PART II: 7-13 MONTH PATTERNS

7 months side-lying, prone, supine	8 months side-lying, prone, supine
9 months crawling	10 months prone
10 months side-lying to quadruped transition	11 months prone
11 months high-kneeling	12 months squat
12 months squat	13 months transition to standing



CHIROPRACTIC + DNS CASE STUDY



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HISTORY

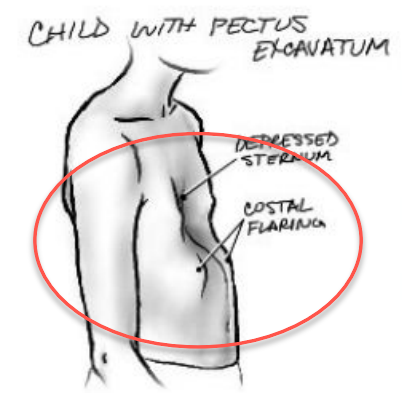
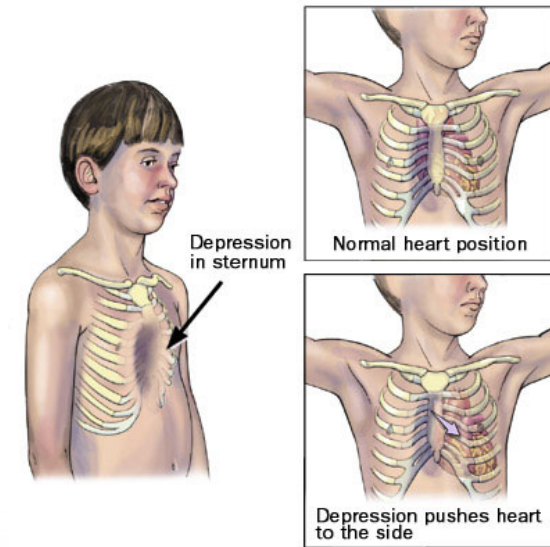
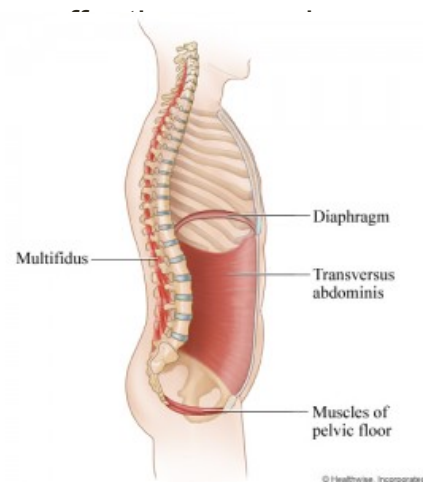
- **GOAL - elicit additional relevant information that may explain the connection between health history and current complaints**
 - Chronic recurrent musculo-skeletal complaints
 - Cardiovascular disease
 - Any current physical limitations & disability
 - Bending, lifting, squatting etc.
 - Any co-morbid conditions (back pain, GERD, asthma, GI distress etc.)
 - Family history type 2 diabetes
 - Premature at birth
 - Pediatric, adolescent or adult patient
 - Faulty neuro-development
 - Pediatric or adolescent patient with parent present – did pt. crawl? Walked too soon?? Any other altered patterns???

HX & EXAM – PRE MATURE AT BIRTH

All patients regardless of age or presenting chief complaint, you should inspect and assess the chest wall.

Inspection:

- Malformation of the chest wall for pectus excavatum
- Depression of sternum pushes heart further left in thoracic cavity
- Altered development of the thoracic spine, sterno-costal joints, elevated position and angle lower ribs
- Altered development of deep stabilizing system (diaphragm, pelvic floor muscles, abdominals and multifidus)
- Complications in achieving developmental milestones (i.e. FHP posture, TMD, pelvic tilt angle, and extremity dysfunctions)
- Potential for persistent primitive reflex skeletal pain and learning challenges
- Central coordination disorder



30% of the population has some form of faulty neuro-developmental issues

During the history, especially with pediatric and the adolescent patient you should question the parent or guardian regarding the patient

- **Did they hit normal milestones in the first 12 months of life?**
 - Didn't rollover, sit-up or crawl (early walker, not enough "tummy time" etc.)
- Have you notice clumsiness (possible - central coordination disorder)
- Have notice quirky habits or gestures (possible - persistent primitive reflexes: can affect how they sit, read, talk, etc.)

**OUTCOME IS FAULTY OF FAULTY SOFTWARE (CNS)
& HARDWARE JOINTS, MUSCLES, FASCIA!**

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HISTORY

Identify Activity Intolerances & Mechanical sensitivities as relates to chief complaint.

- ✓ AI – Activity intolerances (sit, sit to stand, walk, bend, sleep)
- ✓ MS – Mechanical sensitivity (lumbosacral pain, knee pain)
- ✓ AI + MS = dysfunction – impairment (functional task)

The assessment will begin to identify the key links.

Source: Craig Liebenson, DC

Brett J. Lemire, DC CSCS



Patient Specific Functional and Pain Scale

Name: _____ DOB: _____
 Provider Name: _____ Date: _____

Patient Instructions:

Please list and score at least 3 activities that you are having the most difficulty with, or are unable to perform, due to your chief problem.

Patient Specific Activity Scoring Scale:

0 = unable to perform activity 0 1 2 3 4 5 6 7 8 9 10 10=Able to perform activity at same level as before injury or problem

Activity	Patient Specific Activity Scoring Scale
<i>Ex: walking up stairs</i>	0 1 2 3 4 5 6 7 8 9 10
1.	0 1 2 3 4 5 6 7 8 9 10
2.	0 1 2 3 4 5 6 7 8 9 10
3.	0 1 2 3 4 5 6 7 8 9 10
4.	0 1 2 3 4 5 6 7 8 9 10
5.	0 1 2 3 4 5 6 7 8 9 10

Signatures:

I understand that the information I have provided above is current and complete to the best of my knowledge.

Patient (age 18 or older): _____ Date: _____
 Patient/Guardian (if under age 18): _____ Date: _____

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**PATIENT SPECIFIC
 FUNCTIONAL SCALE**



PAIN SCALE

Please read #1 through #10 carefully and then answer #11 below

1. Mild annoyance hardly noticeable
2. Annoying but bearable, able to do everything without it bothering you.
3. Able to do everything, at times you are not aware of the pain.
4. You are very aware of the pain and it limits you from doing some things (playing sports, exercise, lifting children).
5. Very uncomfortable. You can function with effort and difficulty. Not noticeable to other people, pain limits you from some things (heavy housework cleaning, mowing lawn).
6. People are aware you are in pain. You can function, but some things you are unable to do in work and recreation (washing dishes, lifting groceries, shopping). Pain only controlled by prescription medication (Codeine, Vicodin, etc.).
7. The pain makes it difficult for you to do the normal activities of daily living (getting dressed, grooming yourself, etc.). Pain controlled with continuous use of prescription narcotic pain medication.

The next three are so severe you can't even have a conversation with anyone

8. Pain is so severe that you can't concentrate or think of anything else but pain. It prevents you from doing any of your normal activities. You have to take strong pain medication to just barely tolerate it.
9. Pain unbearable, so severe that screaming and moaning in pain, begging for stronger narcotic pain medications.
10. Pain so severe that you go to the emergency room, you want to die.

Using the pain scale above, what pain level number describes the:

Least pain level you have: _____

Average pain level you have: _____

Worst pain level you have: _____

How would you describe your present pain?



INTAKE FORMS - PSFS

Patient-specific Functional Scale

COMPLAINT 1: *Standing for a long time (30 minutes)*

.....
How difficult was it to perform this movement or activity during the last week?

no problems

impossible

.....
How important was it for you to perform this movement or activity during the last week?

not important

very important

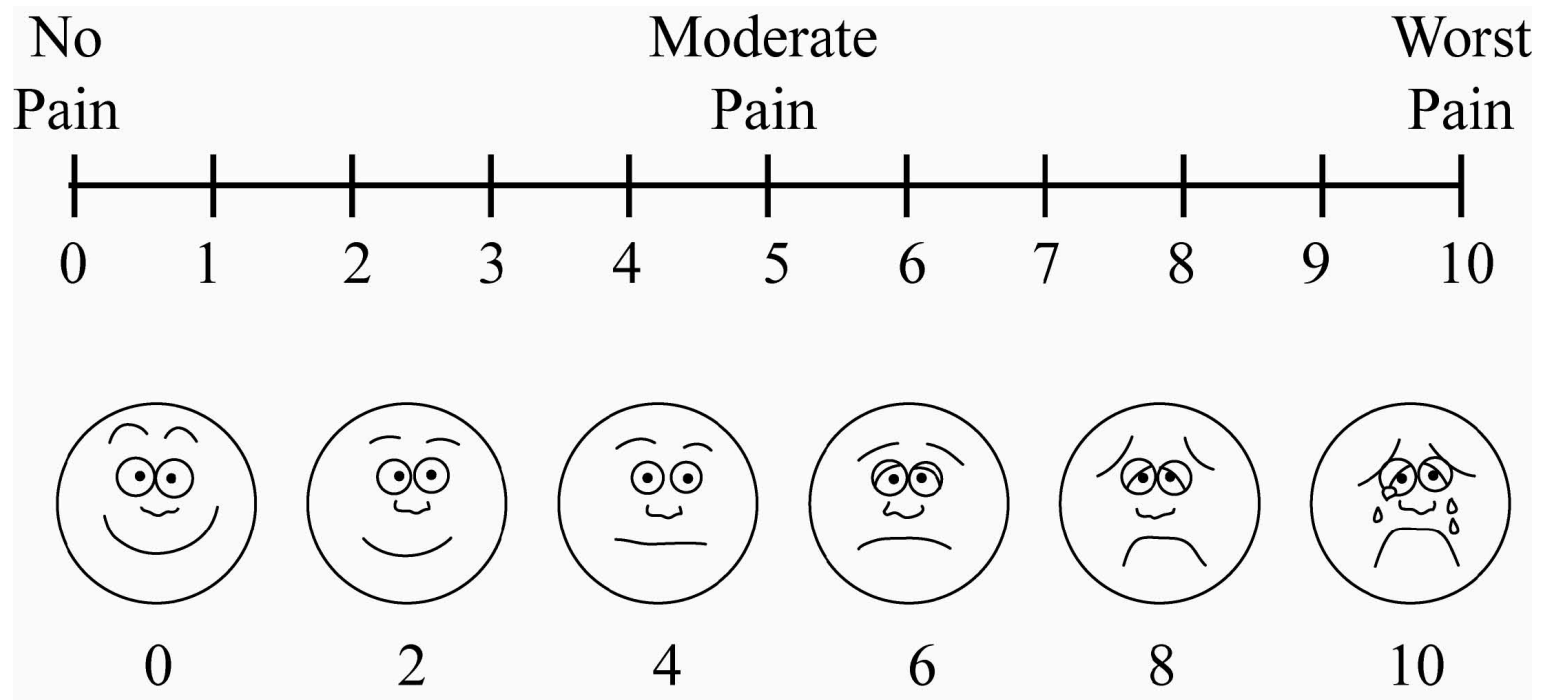
.....
How often did you perform this movement or activity during the last week?

never

very often



INTAKE FORMS – VISUAL ANALOG SCALE



PATIENT HISTORY – CURRENT TRENDS

ADULT - PHYSICAL ACTIVITY LEVELS:

- Question: Are you exercising regularly?
- If so, describe mode (i.e. walk, run, treadmill, weights, Yoga etc.), frequency, intensity & duration....

CLINICAL NOTE:

- How **“active”** or **“inactive”** is the patient
 - Are they going to participate in **active care or not!**
 - Where are they on **Dr. Spirduso’s** Functional Aging Spectrum (FAS);
 - Key - comment on the FAS during the ROF or patient assessment & treatment plan suggestions.
 - The FAS is an area of “big” for those BOOMERS that do not want to end-up in “Daycare & Diapers”
 - It can be used as a great motivator to get your patients moving!



BIOMARKERS FOR INJURY RISK & DISABILITY

Biomarkers of Injury Risk & Disability

- Previous injury or episode of back pain; low back pain with standing
- Asymmetry or abnormality (i.e. shorter leg, forward head posture, decrease hip rotation, scoliosis etc.)
- Motor or movement control (faulty squat, single stance, breathing etc.)
- Body mass index (too heavy or too light)
- Stupidity (doing too much or too little of the wrong thing, these are your **P-90X, Cross-fit**, boom or bust patients)

Do you have that weekend warrior patient, who's strain their back exercising?

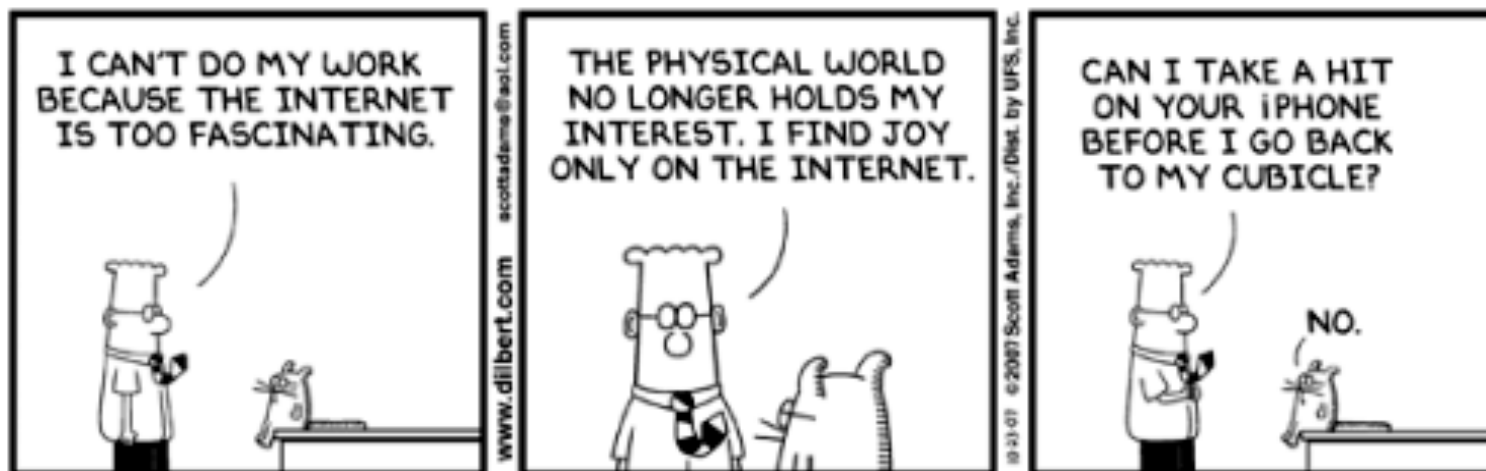
Health versus Fitness

Is there a difference?

My job is to keep the patient healthy and moving the best they can!
Personal trainers are dealing with fitness capacity.

SECTION – TECHNOLOGY ADDICTION & CHRONIC MUSCULO-SKELETAL PAIN

Clinical – attempt to elicit how much time is spent on electronic devices.



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TECHNOLOGY ADDICTION & CHRONIC MUSCULO-SKELETAL PAIN

Sleep quality as a mediator between technology-related sleep quality, depression, and anxiety.

Cyberpsychol Behav Soc Netw 2013 Jan; 16(1):25-30.

Adams SK, Kisler TS

Abstract

This study examines (a) relations among technology use during sleep time, sleep quality, and depression/anxiety and (b) time awake due to technology use. Two hundred thirty-six college students completed self-report questionnaires and week-long sleep diaries. Results revealed that 47 percent of students reported night-time waking to answer text messages and 40 percent to answer phone calls. Regression analyses indicated that higher levels of technology use after the onset of sleep predicted poorer sleep quality, and poorer sleep quality predicted symptoms of depression/anxiety. Finally, sleep quality is a mediator between technology use after the onset of sleep and depression/anxiety. College students who have difficulty setting boundaries around technology use may be at increased risk for psychological health concerns.

