
Presented by:
Elise G. Hewitt, DC, CST, DICC, FICC
Portland Chiropractic Group
2031 E. Burnside Street
Portland, Oregon  97214
503.224.2100
www.DrEliseHewitt.com
drhe@portlandchiropracticgroup.com

Disclaimer

Disclaimer: The views and opinions expressed in this presentation are solely those of the author.
NCMIC does not set practice standards.
We offer this only to educate and inform.

Earn NCMIC Premium Discounts

• Full-time D.C.s attending an eight-hour qualifying seminar will receive a 5% discount for three consecutive years on the renewal of their malpractice insurance premium (2.5% discount for part-time D.C.s).
Tools of the Chiropractic Trade

- Depending on state, scope of practice includes:
  - Manual therapies (manipulation, massage, CST, etc.)
  - Physiotherapies
  - Exercise and postural advice
  - Herbal and nutritional supplements
  - Lifestyle and dietary advice
  - All to enhance health of child

- Chiropractors are much more than just spinal adjusters. Chiropractic physicians are doctors who use a natural, integrative, conservative-first approach to healthcare.

Clinical Rationale for Manual Therapy Aspects of Chiropractic

- Chiropractors seek to restore normal biomechanics to the articulations of the body with the aim of normalizing neurological and physiological function to local and systemic structures related to the affected joints.

- Joint dysfunction can have adverse affects on neurological and physiological function, both locally and systemically.

Local Effects of a Joint Dysfunction

- Joint dysfunction can lead to:
  - Altered biomechanics
  - Neurological irritation (facilitation or inhibition)
  - Muscle spasm
  - Altered hemodynamics
  - Cellular inflammation
  - Pain
Local Effects of Joint Dysfunction

- **KINESIOPATHOPHYSIOLOGY**
  - Restricted Joint Motion

- **NEUROPATHOPHYSIOLOGY**
  - Nerve Facilitation or Inhibition

- **HISTOPATHOPHYSIOLOGY**
  - Inflammation

- **ANGIOPATHOPHYSIOLOGY**
  - Impaired Nutrient Delivery & Waste Removal

- **MYOPATHOPHYSIOLOGY**
  - Muscle Spasm

Systemic Effects of Joint Dysfunction

- Body has inherent self-regulatory mechanisms
  - Homeostasis = balance

- Joint dysfunction can interfere with these mechanisms by altering function in neurological and vascular systems, creating dis-ease
  - Dis-ease = imbalance = asymptomatic malfunction

- Long-term consequence of dis-ease is disease
  - Disease = symptomatic malfunction

- Aim of chiropractic is to strengthen host and restore normal regulatory mechanisms by removing cause of pathophysiology (joint dysfunction)
  - Preferably before dis-ease progresses into disease

Systemic Effects of Joint Dysfunction: Research

- Leboeuf-Yde, Pedersen et al performed a survey of 5,600 chiropractic patients in 7 countries to determine the nature and frequency of non-musculoskeletal health benefits associated with their chiropractic treatment.
  - 25% of all patients reported at least one positive non-musculoskeletal response (non-MSR).
  - Most common improvements were for complaints related to the respiratory, digestive and circulatory systems.

Systemic Effects of Joint Dysfunction: Research

Rosner in a 2003 analysis of the state of pediatric chiropractic research found compelling outcomes for otitis media, colic and asthma. More recent studies include promising results for nursing dysfunction, constipation, headaches, neurological disorders (incl. autism, ADD/ADHD).


Systemic Effects of Joint Dysfunction: Research

Miller et al studied 104 colicky infants who were randomized into three groups – 1) treatment with and 2) without parent blinding and 3) no treatment with parent blinding. By day 10, daily crying time had decreased by an avg. 48% in both treatment groups vs. 18% in no-treatment group, with no difference between blinded and non-blinded treatment groups.


Systemic Effects of Joint Dysfunction: Research

Mills et al in RCT involving 57 children with recurrent otitis media (OM) found those receiving manipulative therapy (OMT), as compared to those receiving routine pediatric care, had fewer episodes of OM, fewer surgical procedures and higher rates of normal tympanograms.

Systemic Effects of Joint Dysfunction: Research

- Miller et al performed a clinical case series of chiropractic care for 114 infants with hospital- or lactation consultant-diagnosed nursing dysfunction. Average age at first visit: 3 weeks (most common age 1 week). All children showed some improvement, with 78% able to exclusively breastfeed after 2-5 treatments within a 2-week period.


- Survey of parents of toddlers who were colicky as infants: 117 who had received chiropractic care as infants and 111 who had not received chiropractic care. Toddlers who received chiropractic care as infants were twice as likely not to experience long-term sequelae of infantile colic, such as temper tantrums and frequent nocturnal waking.


- Bakris et al Journal of Human Hypertension 2007: found that chiropractic adjustments to the cervical spine created marked and sustained reductions in blood pressure equivalent to the use of a two-drug combination therapy.

Systemic Effects of Joint Dysfunction: Research

- Haavik-Taylor and Murphy in Clinical Neurophysiology 2006: measured changes in somato-evoked potentials in frontal and parietal lobes of brain following cervical adjustments. Found that cervical adjustments reduced excessive afferent signals in the brain and altered cortical somatosensory processing and sensorimotor integration. No changes were noted in the passive range of motion control group.


How a Joint Dysfunction Can Lead to Otitis Media

- Joint Dysfunction
- Myospasm in Tensor Veli Palatini Muscle
- Occlusion of Eustachian Tube
- Pooling of Fluid in Middle Ear
- Bacterial/Viral Growth and Infection
- Repeated Use of Antibiotics
- Antibiotics to Kill Bacteria
- Pathogen Regrowth

Is Chiropractic Care for Children Safe?

- Cassidy et al looked at incidence rates of VBA stroke following visits to a chiropractor compared to visits to a primary care physician (PCP). Looked at all VBA strokes from 1993-2002 (818 strokes over 100 million person-years). Concluded: “We found no evidence of excess risk of VBA stroke associated with chiropractic care as compared to primary care.” Patient is just as likely to suffer a stroke after visiting the PCP as after visiting a chiropractor.

Hayes and Bezilda did a retrospective review of AE in 346 pediatric patients who had received at least two treatments of OMT. None had serious AE; 31 (9%) had mild, self-limiting, transient AE. Authors concluded “…OMT appears to be safe in the pediatric population when administered by physicians with expertise in OMT.”


Vohra et al performed a systematic review of the incidence of adverse events (AE) following spinal manipulation in children. Review covered all literature for past 110 years. Found 9 cases of serious AE, with estimated 30 million annual pediatric visits to the chiropractor.


Miller et al examined 781 pediatric patients under 3 years of age (73.5% under 13 weeks) who received a total of 5242 chiropractic treatments at a chiropractic teaching clinic in England from 2002-2004. There were no serious adverse effects (reaction lasting >24 hours or needing hospital care), 7 reported minor adverse effects. 85% of parents reported improvement in their children’s symptoms.

Is Chiropractic Care for Children Safe?

Doyle did a literature review on the safety of chiropractic manipulative therapy for children; estimated rate of mild AE at 1 in 1310-1812 patient visits. Found no serious AE reported in the literature since 1992 and no death even potentially related to pediatric chiropractic manual therapy for over 40 years.


Is Chiropractic Care for Children Safe?

Carnes et al did a systematic review of AE and manual therapy (MT) in all age groups (8 prospective cohort studies, 31 RCTs). Found no reports of serious or catastrophic AE. Authors concluded "The risk of major AE with MT is low… the relative risk of AE appears greater with drug therapy…"


Is Chiropractic Care for Children Safe?

In health care, safety is a relative term - risks of a given treatment must be compared to the risks of alternative interventions for the same condition.

Bourgeois et al examined data from children seeking medical care for an adverse drug event (ADE) during an 11-year period in the U.S. (1995-2005). They found the mean annual number of ADE-related visits was 585,922, of which 131,142 were ER visits. Children 0-4 years accounted for highest - 43% of all visits. Most frequently implicated drug - antibiotics.

Breaking news…

Is Chiropractic Care for Children Safe?

© 2013 Elise G. Hewitt, DC

Modifications are made in adjustive procedure to adapt to the pediatric spine:

- Modify contact
- Adapt patient positioning to size of child
- Alter velocity of adjustment
- Change force of the thrust
- Modify amplitude of thrust
If you want more Pediatrics… about ACA Pediatrics Council

- www.acapedscouncil.org
- Membership is $85/year ACA doctors, FREE for SACA students
- Includes quarterly newsletter, discount on Annual Symposium registration fees, listing in locator directory, access to list serve
- 2014 Annual Pediatrics Symposium
  - October 10-12 in Portland, OR in collaboration with UWS Annual Homecoming event
  - Details at www.acapedscouncil.org/events/

Partnership with Pediatricians

- Pediatric medical care and pediatric chiropractic care complement each other
  - "crisis care" vs. "quality of life care"
- Example: child with chronic ear infections
  - MD offers antibiotics if "crisis" (only 5% of cases)
  - DC offers:
    - Adjustment and craniosacral therapy
    - Lymphatic drainage to promote lymph flow
    - Endonasals
    - Ear drops, natural immune enhancing supplements
    - Probiotics to repair gut from repeated antibiotics
    - Dietary advice to aid healing, prevent recurrences
Why Children Need Chiropractic Care

- Recent trauma for neonates (birth)
- Time of greatest spinal elongation
- Time of spinal curvature development
- Heuter-Volkmann law
- To optimize function of nervous system
  - Time of proprioceptive development
  - Time of greatest brain growth

Causes of Joint Dysfunction in Children

- Trauma
  - In utero constraint - including multiples
  - Malposition, malpresentation
  - Prolonged or precipitous birth
  - Assisted delivery - forceps, vacuum extraction, Cesarean section
  - Falls, car accidents, mishandling, etc.
- Gravitational forces and bipedal posture
  - Spine designed like suspension bridge in quadrupeds
  - Upright posture changes the way forces are transmitted through spine
  - Creates adaptive curvatures
  - Increases likelihood of formation of joint restrictions
  - Exacerbated by prolonged poor posture; ex: "screen time"

Examples of in utero constraint:
Malposition and Malpresentation

Why Children Are Often Unaware of Joint Restrictions
- Ligament laxity
- Immaturity of joint structures
- Lack of structural/degenerative changes
- No repetitive spinal loading
- Increased whole body movement
Pediatric History

- Informed consent
- Signed by parent or guardian

---

Pediatric History

---

---

---

---

---

---

---

---

---

---

---

---
Pediatric History

• Basic Information
  • Name, nickname, age, sex, birth date, parents’ names, siblings names and ages

• Chief Complaint
  • Onset
  • Location
  • Quality
  • DIF, including recent changes
  • Exacerbating/Remitting factors
  • Treatment history

Pediatric History

• Prenatal Health and Labor & Delivery
  • Pregnancy complications
  • Full term?
  • Spontaneous or induced labor?
  • Was Mom + or – for strep B?
  • Was baby in correct position (LOA)?
  • How long was labor? Pushing phase?
  • Was cord around baby’s neck?
  • Were any special procedures needed?

Pediatric History

• Neonatal health
  • Size at birth (weight, length, head circumference)
  • APGAR scores (1 minute and 5 minute)
    • Appearance, pulse, grimace, activity, respiration
    • Scored 0-2 points, for each element
  • Complications at birth?
  • Nursery stay required (NICU)?
Pediatric History
• Nutritional and Digestive Health
  • Breast vs. bottle feeding
  • If breastfeeding, how is latch?
  • Frequency of feeding
  • Length of time/amount per feeding and between feedings
  • Appetite? Issues with weight gain?
  • Food sensitivities?
  • Issues with gassiness or spitting up?
  • Bowel Habits
  • Medications/Vitamins/Fluoride (baby and mother)

Pediatric History
• Growth and Development
  • Attitude
  • Sleep habits
  • Gross motor development
  • Fine motor development
  • Language development
  • Cognitive development
  • Social skills development

Normal Pediatric Developmental Milestones
## Normal Pediatric Developmental Milestones

<table>
<thead>
<tr>
<th>AGE</th>
<th>LANGUAGE</th>
<th>MOVEMENT</th>
<th>LOVING</th>
<th>TOILETING</th>
<th>ADAPTATION/SELF-CARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1 mo</td>
<td>credit cards, laugh, or cry</td>
<td>smile</td>
<td>stay quiet in car seat</td>
<td>can roll over</td>
<td>can hold bottle, sleep, wake up</td>
</tr>
<tr>
<td>1-3 mo</td>
<td>looks down at name when called</td>
<td>can sit without support</td>
<td>can talk to / make sounds</td>
<td>can sit up alone</td>
<td>can hold bottle, sleep, wake up</td>
</tr>
<tr>
<td>3-6 mo</td>
<td>head up while in car seat</td>
<td>can roll over</td>
<td>can talk to / make sounds</td>
<td>can sit up alone</td>
<td>can hold bottle, sleep, wake up</td>
</tr>
<tr>
<td>6-9 mo</td>
<td>can sit up without support</td>
<td>can roll over</td>
<td>can talk to / make sounds</td>
<td>can sit up alone</td>
<td>can hold bottle, sleep, wake up</td>
</tr>
<tr>
<td>9-12 mo</td>
<td>can sit up without support</td>
<td>can roll over</td>
<td>can talk to / make sounds</td>
<td>can sit up alone</td>
<td>can hold bottle, sleep, wake up</td>
</tr>
</tbody>
</table>

## Pediatric History

- **Growth and Development**
  - Attitude
  - Sleep habits
  - Gross motor development
  - Fine motor development
  - Language development
  - Cognitive development
  - Social skills development
  - Sports, activities, hobbies
Pediatric History

- Medical Survey/Other
  - Immunization status
  - Past Illnesses
  - Past Traumas
  - Exposure to smokers?
  - Family history
  - Does child have a cell phone?
    - If so, where is it kept at night?

Pediatric Examination

- Vitals
  - Height, weight, HR, RR, temperature, BP
  - In infants, also includes head circumference
  - Chart on growth charts to be sure following curves
    - http://www.cdc.gov/growthcharts/clinical_charts.htm
Growth Charts

- Separate charts for boys and girls
- Choice of 5th-95th or 3rd-97th percentiles
- Birth-to-36 months
  - length-for-age and weight-for-age
  - head circumference-for-age and weight-for-length
- Children 2-20 years
  - Stature-for-age and weight-for-age
  - BMI-for-age
Pediatric Examination

- **Vitals**
  - Height, weight, HR, RR, temperature, BP
  - In infants, also includes head circumference
  - Chart on growth charts to be sure following curves
    - [http://www.cdc.gov/growthcharts/clinical_charts.htm](http://www.cdc.gov/growthcharts/clinical_charts.htm)

- **Appearance**
  - Note general color, lesions, discolorations
  - Symmetry of cranial vault/face
    - Look for symmetry in eyes, ears, cheekbones
    - Look for alignment of bridge of nose, base of nose, chin
    - Look at shape of cranium - note flat spots, asymmetries

- **Neck/Pelvis torsion**
  - Is there a preference for head rotation?
  - Is there torsion in trunk in supine position?

- **Fontanel palpation**
  - Anterior and posterior (if less than 3 months of age)
  - Note if bulging or depressed
    - MC causes of bulge - tumor, hemorrhage and hydrocephalus
    - MC cause of depression - dehydration
    - Look for dry skin, poor skin turgor, oliguria

- **Auscultation**
  - Note any abnormalities in heart and lung sounds or rate

- **Mouth**
  - Look for thrush, enlarged tonsils, other lesions or abn’s
  - Evaluate quality of suck and gag reflex

- **Eyes**
  - Symmetrical light reflexes?
    - **PERRLA**
    - Red reflex present?

- **Lymph node evaluation**
  - Anterior cervical, posterior cervical, inguinal chains
Pediatric Examination

- Ears - Otoscopic examination if suspect otitis media
  - Erythema?
  - Cone of light and malleus visible?
  - Bulging or retracted TM?
  - Fluid line/bubbles visible?
  - Scarring on TM?
  - Cerumen, blood, other fluid in canal?
  - Is examination painful?

Otoscopic Evaluation of Tympanic Membrane

- Overview site for Otitis Media:
- For a detailed description of the appearance of normal and abnormal tympanic membranes on otoscopic evaluation, see: http://www.aap.org/otitismedia/
  - Can also review case studies on site as well.
  - $24 charge, includes continuing education credit
- Free otoscopic evaluation site:
  http://otitismedia.hawkelibrary.com/normal/1_G
Pediatric Examination

- Abdomen
  - Palpate for major organs
  - Remember - most common cancer in infants is Wilms tumor (nephroblastoma); make sure palpate region of kidneys.

- Orthopedic highlights
  - Hips: Ortolani’s, Barlow’s tests (up to 3-6 months of age)
  - Allis sign (aka Galeazzi test) if older than 3-6 months
  - Also look for asymmetrical thigh folds
  - Clavicle palpation in newborn
  - Posture evaluation and Adam’s test in older children
  - Cervical and thoracolumbar global ranges of motion
  - Spinal segmental range of motion

Pediatric Examination - Primitive Reflexes

- Blinking reflex
- Acoustic Blinking reflex
- Rooting reflex
- Suck reflex
- Moro/Startle reflex

Moro/Startle Reflex

Elicit: sudden lowering of head relative to rest of body
Response:
1. extension and abduction of arms followed by flexion of arms
2. “C” shape to fingers
3. crying
Pediatric Examination -
Primitive Reflexes

- Blinking reflex
- Acoustic Blinking reflex
- Rooting reflex
- Suck reflex
- Moro/Startle reflex
- Palmar/Plantar reflexes

- Tonic neck reflex (aka Fencer reflex)

Tonic Neck/Fencer Reflex

Elicit: rotation of head to one side
Response: ipsilateral extension of arm/leg with flexion of contralateral arm/leg
Galant Reflex
Elicit: stroke paraspinals S → I
Response: ipsilateral LF of spine

Perez Reflex (not pictured)
Elicit: stroke spinal I → S
Response: extension of spine

Pediatric Examination - Primitive Reflexes
- Blinking reflex
- Acoustic Blinking reflex
- Rooting reflex
- Suck reflex
- Moro/Startle reflex
- Palmar/Plantar reflexes
- Tonic neck reflex (aka Fencer reflex)
- Babinski reflex
- Galant test
- Perez test
- Vertical suspension test

Unique Aspects of the Pediatric Spine
- Bone
  - Cartilage vs. osseous tissue
  - Primary vs. Secondary ossification
- Soft Tissue
  - Ligament structure
  - Muscle strength
- Conclusions
  - Children have the equivalent of an unstable, hypermobile spine
Adjusting Technique Modifications for the Pediatric Patient

- Velocity of thrust
  - Increase or decrease? - increase compared to adult patient
  - Why? - increased flexibility of tissues
- Force of thrust
  - Increase or decrease? - decrease compared to adult patient
  - Why? - smaller point of contact

Force - How much do we use?

- Force in a keystroke................. 13 N
- Force to fracture a rib............. 3300 N
- Crossed BL HVLA adult............. 525 N*

Informal measurements at a chiropractic institution's force computer simulation adjusting lab:

- Double thumb HVLA infant ..... 30 N
  \[30/525 = 5.7\% \text{ of the force used on an adult}\]


Adjusting Technique Modifications for the Pediatric Patient

- Velocity of thrust
  - Increase or decrease? - increase compared to adult patient
  - Why? - increased flexibility of tissues
- Force of thrust
  - Increase or decrease? - decrease compared to adult patient
  - Why? - smaller point of contact
- Amplitude of thrust
  - Increase or decrease? - decrease compared to adult patient
  - Why? - smaller joint space
- Contact Points
- Audible release
- Be flexible and make it fun!
Pediatric Adjusting Techniques by Region

- **Age ranges:**
  - Newborn/Infant
  - Toddler/Pre-schooler
- **Regions:**
  - Sacroiliac, lumbar, thoracic and cervical
- **Pediatric adjusting:**
  - Spinal examination
  - Adjustive techniques

---

**Pediatric Adjusting Techniques by Region: Sacroiliac Joints**

- **NEWBORN-INFANT**
  - **EVALUATION**
    - Observe gluteal crease
    - Observe gluteal folds
    - Observe thigh folds
    - Motion palpate SI joints and sacral segments
  - **ADJUSTMENT**
    - Leg as lever (aka prone assisted)
    - Prone drop

---

**Pediatric Adjusting Techniques by Region: Sacroiliac Joints**

- **TODDLER-PRESCHOOLER**
  - **EVALUATION**
    - Evaluate leg length (at extension, 90° flexion)
    - Evaluate maximal knee flexion
    - Observe buttock height (pockets and pants seam)
    - Motion or prone palpation of SI joints and sacral segments
  - **ADJUSTMENT**
    - Leg as lever (aka prone assisted)
    - Side posture, when big enough
Pediatric Adjusting Techniques by Region:

Lumbars

- **NEWBORN-INFANT**
  - **EVALUATION**
    - Palpate P → A translation prone across lap
    - Non-palpating hand supporting chest and distal shoulder
  - **ADJUSTMENT**
    - Prone "thumb-index finger" with child in same position
    - 3 parts: impulse with palpating hand, slight spread of legs, slight lift with non-palpating hand

- **TODDLER-PRESCHOOLER**
  - **EVALUATION**
    - Palpate lumbar spine while sitting on doctor’s or parent’s lap or while prone (on parent’s lap, on doctor’s lap, on table)
  - **ADJUSTMENT** (same as SI region)
    - Leg as lever (aka prone assisted)
    - Side posture, when big enough

Thoracics

- **NEWBORN-INFANT**
  - **EVALUATION**
    - Evaluate P→A translation with baby prone, over edge of table on doctor’s lap, against doctor’s chest, or against parent’s chest
    - Older infant can also sit on doctor’s or parent’s lap
  - **ADJUSTMENT**
    - P→A transverse adjustment accomplished in several ways: hanging distraction, against doctor’s chest, parent’s chest or on table.
    - Double thumb, single thumb, covered thumb or fingertip
Pediatric Adjusting Techniques by Region: 

Thoracics

• TODDLER-PRESCHOOLER
  • EVALUATION
    • Prone on table (preferred) or parent, or sitting on parent’s or doctor’s lap
  • ADJUSTMENT
    • Prone:
      • Bilateral or unilateral pisiform/knife-edge
      • Upper thoracics: covered thumb, combo adjustment
      • Lower thoracics: often easier side posture due to extreme flexibility
    • Supine: give stuffed animal to hug

Pediatric Adjusting Techniques by Region: 

Cervicals

• NEWBORN-INFANT
  • EVALUATION
    • Palpate suboccipital region for spasm, heat, etc.
    • Palpate atlas tp (located directly inferior to mastoid)
    • Motion palpate occiput and remainder of C spine (if can find it)
  • ADJUSTMENT
    • Lower Cervicals: supine rotation or lateral flexion correction
    • Atlas: correct laterality with fingertip contact
    • Occiput: unilateral or bilateral (see next slide)

Pediatric Adjusting Techniques by Region: 

Occiput Adjustment

• NEWBORN-INFANT
  • Unilateral
    • Patient Supine
    • Rotate head 90° away from affected side
    • L-S tissue pull onto mastoid process
    • Contact mastoid with 2nd mp joint
    • Rotate head back to 45° away from affected side
    • Line of drive toward opposite axilla
  • Bilateral
    • Patient supine, roll under neck
    • Contact forehead with thenars or knife-edge
    • Line of drive S→I and A→P
    • Can use toggle drop piece
Pediatric Adjusting Techniques by Region:

Cervicals

- **TODDLER-PRESCHOOLER**
  - **EVALUATION**
    - Supine on table, supine across parent’s lap, or supine on supine parent, or sitting on parent’s lap
  - **ADJUSTMENT**
    - Contact using thumb, or PIP or DIP of index finger
    - Supine: rotation or lateral flexion correction
    - Sitting: rotation or lateral flexion correction
    - Trick: Demo movement before actually do adjustment
    - Trick: Distract patient (heels together, wiggle toes, hands on belly button, etc.) – don’t wait for them to do the move, adjust as soon as they think about doing the move.

Common Technical Mistakes When Adjusting Children

- Velocity too slow
  - Quicken impulse if having difficulties
- Joint not brought to tension
  - Make sure move through elastic tissues to point of tension (don’t measure by range of motion)
- Not waiting for moment of relaxation
  - Use distraction to help child’s muscles relax

Frequency of Care for Infants and Children

- Children respond much more quickly than adults, so initial treatment plan usually relatively short compared to adults.
- Response proportional to age and degree of trauma
  - Older child or one with greater degree of trauma may require more care
- Typical neonate with dysfunctional nursing:
  - 2x/wk 1-2 weeks, 1x/wk 1-2 weeks
Frequency of Care for Infants and Children

- Wellness care:
  - 1st year of life: monthly wellness visits
  - 2nd year of life: bimonthly wellness visits
  - After that: frequency ranges from 1x/month to 1x/year, depending on child’s specific health needs and stability of spinal joints.