

Clumsy Child Syndrome/ Academic Difficulties for the School Age Child

Gross motor proficiencies in a baby provide a
foundation for success in school.

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School Age Problems

- Children may be identified as clumsy, floppy, with low tone, and poor stamina.
- They may display strange mannerisms such as perpetually moving their heads.
- Handwriting will be poor.
- Many gross motor skills will be delayed, especially balance and equilibrium.
- Eye tracking may be deficient.

Linking Equilibrium with School Readiness

- Sally Goddard, NDT, Institute for Neuro-Physiological Psychology, England
- Svetlana Masgutova, Ph.D., International Neurokinesiology Institute of Movement Development and Reflex Integration, Poland
- Paul Dennison, Ph.D, Edu-Kinesthetics, California
- Robert Melillo, DC, Researcher, Founder of the Brain Balance Centers

Bottom Line!!

- Experts link poor motor control to poor performance in school
- Poor motor performance starts in babyhood.
- Balanced body movements indicate balanced brain connections.
- “Back to Sleep” has frightened some mothers into only using backlying positions when awake as well as for sleep.

Older Student Problems

- Most often, these older children have focus and attention deficits.
- They may be sedentary and over weight.
- Cognitive processing is difficult.
- Academic success is difficult.
- School is not much fun.

Normal Intelligence

- IQ scores may be quite high.
- Reading may or may not be very good.
- Creative thinking may be very good.
- Help may not be offered, even if the struggling child is bright.
- They are often labeled "lazy".

Gross Motor Skills

Core Muscle Strength

- Children need antigravity, non vertical flexor and extensor control (Pictures included);
- Developed in babies before age 12 months with belly crawling, creeping, and floor play.
- Clumsy children have very low core strength.
- They do not persevere with difficult tasks.

Posture and Balance

- Although all infants progress at individual rates, a general milestone pattern is followed:
 1. Control of extensors before flexors
 2. Random movement against gravity
 3. Symmetrical control
 4. Same side control
 5. Opposite extremity control (Cross Lateral)
 6. Crossing the midlines of the body
 7. Good balance reactions
- Picture illustrations will demonstrate

In Normal Development

Extension Starts Early, Before Flexors Come in
1 Week Old Baby



1. More Extension

Scapular and Arm Activation

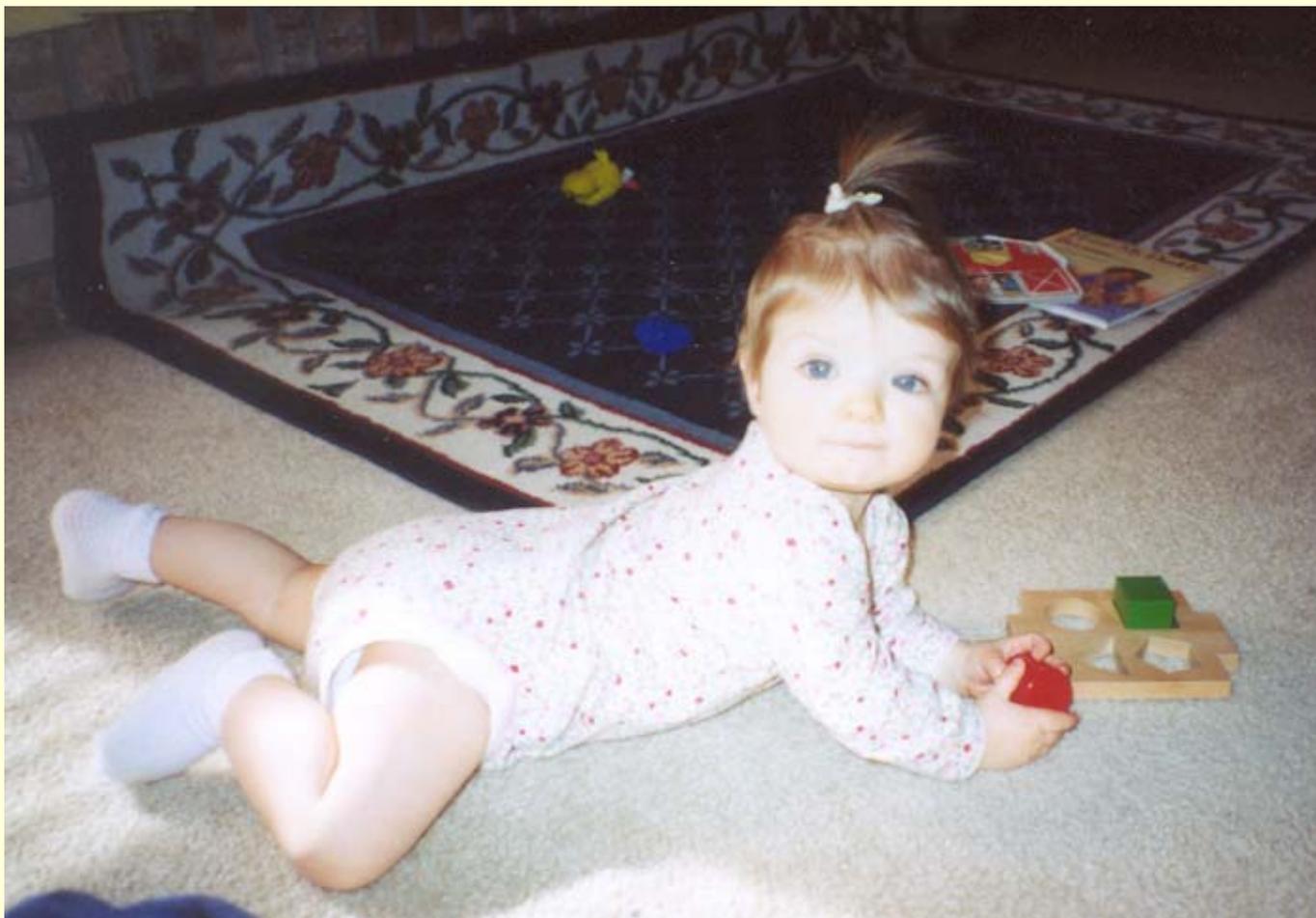
6 Weeks



- 2. Random Movement Against Gravity**
3. Flexors and Extensors Work Together Symmetrically
12 Weeks



4. Same Side Control for Movement 8 Months



Extension Against Gravity

is Functional at All Ages
8 Years



Full Anti-gravity Extension "Superman"



In Normal Development

- CHIN TUCK FLEXION emerges around 2.5 mos
- VERY important to normal development patterns
- If not present, the child will have excessive extensor patterns
- May need much Physical Therapy to facilitate

No Flexion Control

Babies have floppy heads.
1 Week



Pull To Sit

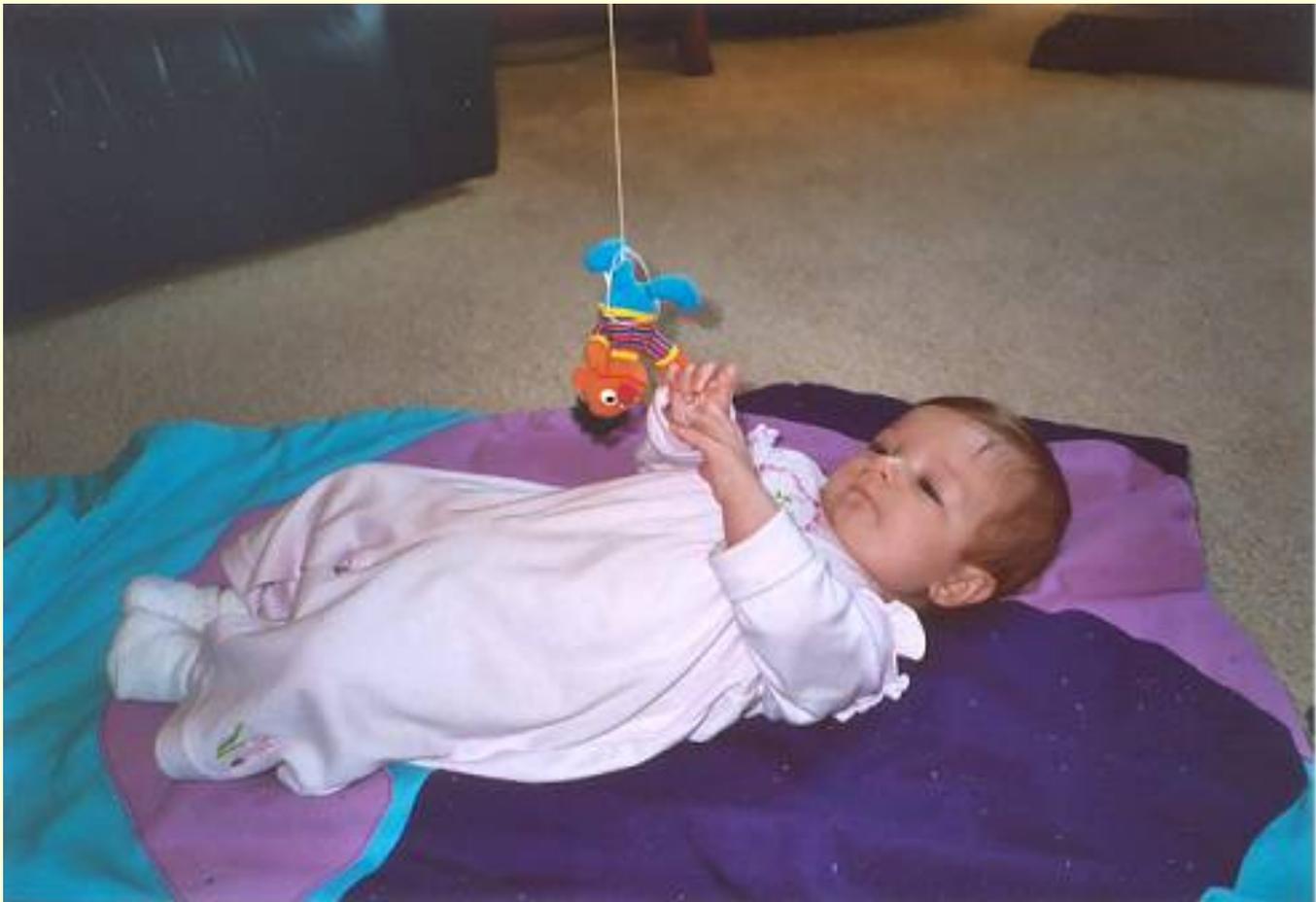
Head doesn't flop backward
2.5 Months



Symmetrical Control

2.5 Months

Good Chin Tuck



Symmetrical Control Against Gravity

Note:

- Arms and legs move together to reach
- Eyes lead the motions. Focus first then reach.
- Object is placed to facilitate a good chin tuck.
- Object must be soft. If object is hard, baby won't bump fingers into it.

Anti-Gravity Control for Legs

More Symmetrical Movements

4 Months



Good Flexor Control (tummy muscles) is
Needed for Creeping



Symmetrical Control Provides Stability but no Mobility

- A baby will balance in all fours before taking any steps.
- Also for walking, a baby will stand a long time before trying to take any steps.
- Normal movement needs stability and mobility.

Rocking in Creep

- Babies rock to practice control of flexors and extensors working together.
- This is how babies integrate the Symmetrical Tonic Neck Reflex and the Tonic Labyrinthine Total Flexion or Total Extension reflexes (early infant reflexes).
- It can take 1-2 days at 9 months. If not done, the reflexes can last into school years and affect school success.

Anti-gravity Flexion Control in PT Exercise Program



Full Anti-gravity Flexion Control 12 Years



Skills Anchored with Creep

- Balance with a higher center of gravity
- Strength of shoulder muscles
- Palms open, small hand muscles develop
- Eye tracking develops for distance
- Control moves from symmetrical to homolateral (same side) to contralateral (opposite) as baby starts to move forward.

Symmetrical Action in Older Child



Fun with Symmetrical Control

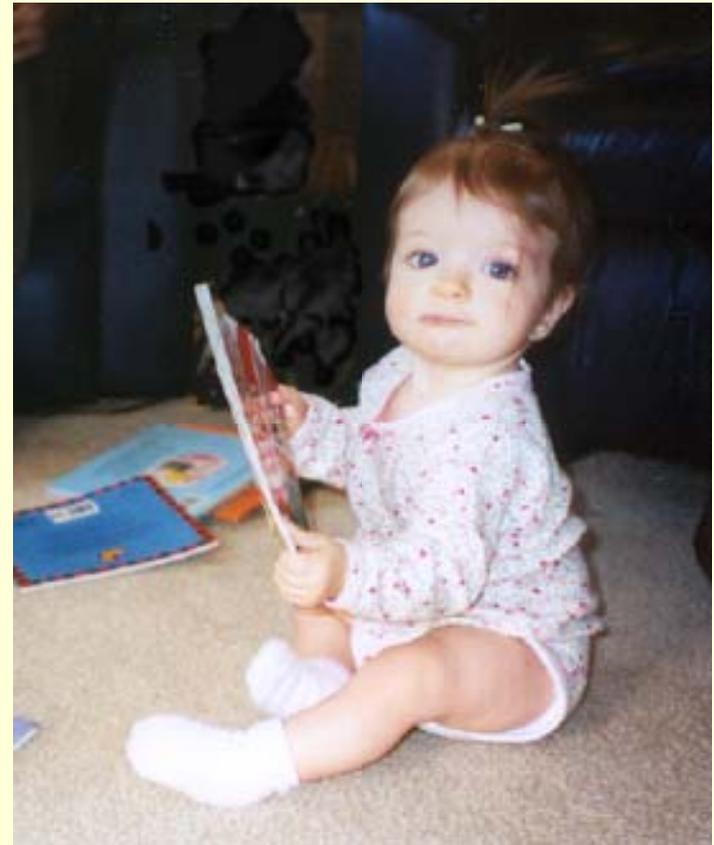
5 years



4. Same Side Movements

- Initiate mobility out of stable positions
- Allow more functional tasks to occur.
- Progress balance abilities to a new level
 - R hand and R foot work together
 - L hand and L foot work together

Note: Same Side Postures



Same Side in an Older Child

- Throwing a ball: Right foot steps when Right hand throws
- Puppet movement: Right hand reach, Right knee lifts—jumping jacks
- Indicates immature movements.

5. Oppositional Movements

Normal Development

- R arm and L. leg work together
- L. arm and R. leg work together
- Upper Body rotates on lower body
- Also referred to as:
 - Contralateral movements
 - Segmental movements
 - Reciprocal movements
 - Oppositional movements
 - Cross lateral movements

Oppositional Should be Seen 6 Months to 12 Months

- Belly crawling, creeping, half kneel
- Transitioning from lying to sitting
- Transitioning from sit to creep to sit
- Pulling to stand
- Walking

R. Arm and L. Leg Work Together



5. Opposite Extremity Control

Cross Lateral Movement

- Noted movement specialists mark the ability to use cross lateral movement patterns effectively as the goal to be sure infant reflexes are integrated.
- Right and left sides of brain work together
- Necessary for movement and precursor for abstract thinking.

6. Cross Lateral Movements and Crossing Midlines

- Final ability: To use oppositional control to cross the three midlines of the body.
- Right-Left sides of body
- Top-bottom sides of body
- Front back sides of the body
- **Crossing the midlines of the body reflects the ability to cross the midlines of the brain.**
- **It does affect learning.**

R. Arm Reaching Across Midline



Note: Patterns

- Baby reaches across the belly button R. to L.
- Baby rotates top of the body away from bottom of body
- Baby has one leg forward and one leg backward.

Goals for Helping the Clumsy Child

- Develop core muscle strength in vertical and non-vertical positions
- Develop symmetrical movements
- Progress to cross lateral movements
- **These allow good equilibrium and righting reactions**

Postural Control is the Goal

- Postural control (automatic movements in space) requires
 - Good core strength
 - extension, flexion, rotation, and side bending)
 - Equilibrium (propping) reactions.
 - Righting Reflexes to maintain balance

Postural Control

- Signifies maturity in the Central Nervous System.
- Lack of postural control signals retained primitive reflexes from babyhood.
- **The severity of postural control issues will determine a child's success in school.**

Activities to Challenge the Older Child

- The following activities can be used as the child progresses through the stages of symmetrical, same side and cross lateral skill development. All focus on building core strength and developing balance reactions.

Fantasy

- Fantasy is essential to anchoring concepts
- Our programs included silly fun, imagination, creative play, and play with balls as we worked on body movement.
- Our goal for each child was to better his score from the last week. It was not competitive to other students.

Core Muscle Building Extensors

- “Superman” position is the beginning step to help develop good postural control
- Superman integrates the infant ATNR reflex which fights against good balance reactions in older children.

"Superman"



Teach and Practice Push ups Till Head up and Body Straight



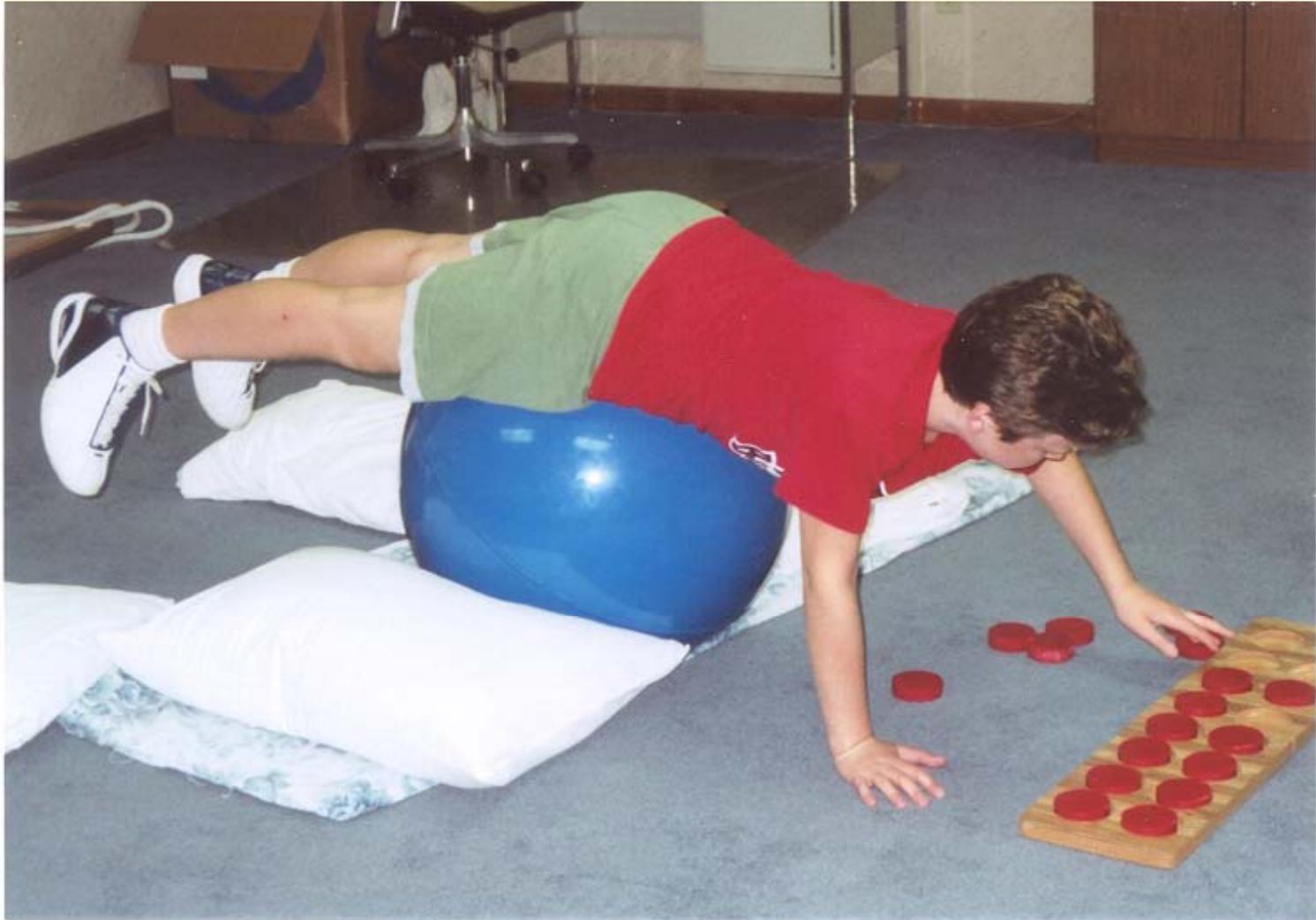
Weight Bearing on Hands

- Crawling and creeping also facilitate balance reactions
 - Inhibit Total Infant Patterns
 - Facilitate Head and Body Coordination
 - Facilitate Equilibrium (propping)
 - Integrate Vestibular, Visual, and Proprioceptive systems to work together
 - » Reflexes, Learning and Behavior, Goddard, page 19

Demonstration of Poor Tone



Demo of Good Core Control Body Straight and Elbow Straight



Roll Outs

- Facilitate full extension
- Facilitate belly and back working together
 - Body will be straight
- Can progress to mobility
- Can progress to same side control
- Can progress to balance when crossing the midline

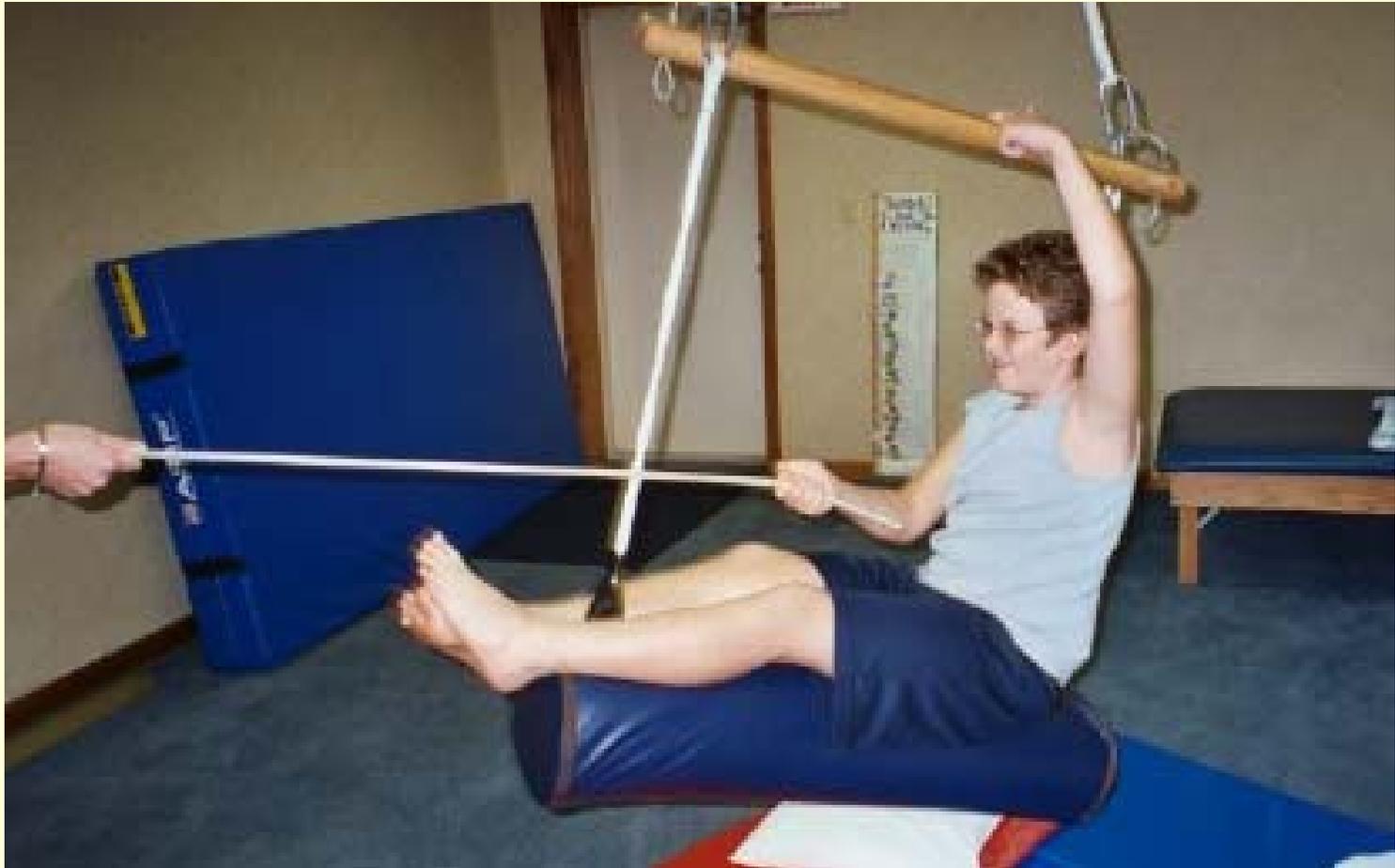
Progress From Same Side Reach, To Crossing Midline



Movement Demands Balance Reactions



Look, One Finger Support!



Balance Reactions to Avoid Falling



Equilibrium Reactions

- Signify mature balance reactions upright
- Parachute or “propping” reflexes start at 6 months and evolve through kneel and standing.
- Teaching mature equilibrium reactions is the final goal for many children at risk of academic failure.

Activities that Cross Midline and Promote Balance Reactions for School Ages

- Brain Gym-Edu K Techniques , Dennison's
- Infinity Walk Techniques, Sunbeck
- Bender Institute STNR Program, O'Dell and Cook
- Learning Breakthrough: Balametrics
- Bal-A-Vis-X, Hubert
- Root Skills of Learning, Shapiro
- Juggling, Gifford

Activities that Parents Can Do

- Ping pong
- Organized sports
- Safe climbing on park equipment
- Hiking
- Bicycle riding and scooter riding
- Swim programs
- Dance and gymnastic programs
- Beginning martial arts (Not competitive)

ANCHORING NEW SKILLS TAKES PRACTICE

- Encourage activities that will be self motivating.
- Sports that require bilateral coordination:
 - Karate, swimming, ping pong, hiking
- Activities that use both hands:
 - Drumming, musical instrument, crafts, piano
- Computer or Video games do not count.

Validation of Techniques

- Since 1981, my best results with kids have come with programs that incorporated:
 - Adequate amount of activities out of vertical on mats. For some children that was every session all school year.
 - Balance activities: All fours, walking lines, walking balance beams, maneuvering obstacle courses.
 - Balance activities that require crossing the midline:
 - Top/bottom, R/L, Front/back

Validation of the Ability to Use Both Sides of the Body

- Are both sides of the brain engaged at the same time?
- If so, new information in the classroom should be remembered.
- Behaviors will be more normal.
- Attention will increase.
- Play with peers will be more pleasant.

Being able to draw the infinity sign is a validation sign.



About the Author

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