Meaningful Movement

Moving Bodies. Building Brains.
Reaching Potential.

Program for

Hazel

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In This Binder:

What is the Developmental Profile?

Neurological Reorganization uses the developmental profile to map normal neurological development. The first three levels of the central nervous system—the medulla, pons, and midbrain—develop in approximately the first year of life. The behaviors for which they are responsible must happen automatically. They cannot be willed; you cannot speak to them with language or logic. These levels of the brain serve as the foundation for all advanced skills and, like a house built on a shaky foundation, deficits will result if the foundation is not solid. Unlike other approaches which teach compensations or manage symptoms, neurological reorganization examines the root of the issue and stimulates new brain growth. Once you are done, you are done for good.

The first level of central nervous system activity neurological reorganization examines is the **medulla**. The medulla is purely reflexive behavior and sustains life right after birth. It is unusual to see anyone with an injury to the medulla as that generally results in death. A newborn might have diminished pupil contraction and expansion or an abnormal sucking reflex, resulting in difficulty nursing.

The **pons** is responsible for all vital, life-preserving activity. This is where our sense of safety and security, attachment and bonding come from as well as our sense of fear and anxiety. Dysfunction in the pons manifests in a myriad of ways. Visually, this individual may have trouble reading, as the pons is responsible for horizontal eye tracking. Tactilely, this individual may not feel extreme sensations—hot, cold, pain, and hunger—appropriately, resulting in an array of dysfunctional behaviors, including overeating, self-abuse, and picking on others. Bed wetting may be an issue. Physically, he may be pigeon-toed, or his ankles may roll inward. The pons initiates our fight or flight response to stressful situations and, if it is over active, triggers an array of disruptive behaviors. This can be the individual who takes foolhardy risks, is overly affectionate with strangers, does not perceive danger appropriately, or has violent rages. The individual may be constantly anxious, controlling, manipulative, or superficially charming. This individual may also have difficulty bonding with parents, siblings, and other caregivers. These issues result in a sense of profound displacement, isolation, and mistrust.

The **midbrain** is the region of the brain responsible for filtering, balancing, and regulating. Visually, an individual with a midbrain dysfunction may struggle with reading and comprehension, as the midbrain controls vertical eye tracking and convergence, the beginning of both eyes working together at midpoint. She could have issues with depth perceptions and see blurry or double. As her filtering system does not prioritize appropriately, she may be extremely distractive or hyperactive; have a short attention span; trouble remembering and following through on tasks; or, when engrossed in a task, have difficulty responding to prompts. The midbrain regulates our perception of nonverbal social cues, so this individual may have a hard time reading others and may be out of sync in social situations. Proprioception, or knowing where one is in space, stems from the midbrain. And individual may be clumsy, struggle with athletics, have feet that point outwards, have difficulty maintaining balance, or struggle with

establishing and maintaining appropriate emotional and physical boundaries. Impulse control may be an issue as the midbrain includes the part of the brain that applies the brakes to inappropriate impulses. Additionally, the two hemispheres of the individual's brain may not effectively communicate, resulting in immense frustration, apparent manipulation, and possibly rages. Midbrain dysfunction can also result in in articulate, atonal, or slurred speech; difficulty accessing works; or auditory processing issues, as this is the level of the brain that allows us to make and interpret the sounds that become words. Additionally, midbrain dysfunction can result in disrupted or inconsistent sleep patterns; heartburn or stomachaches; bladder and/or bowel issues; and sensitivity to textures of food or difficulty chewing. Individuals may also have difficulty with temperature regulation, either always wanting to bundle up or never wanting to wear a coat. Textures of clothing, such as tags or elastic waistbands, may cause discomfort. Neurochemical regulation is controlled by the midbrain. Individuals may have a wide variety of issues, such as depression, bipolar disorder, schizophrenia, obsessive compulsive disorder, autism spectrum disorders, or allergies.

Neurological reorganization examines for layers of the cortex, the smart, thinking part of the brain. The cortex processes information. Visually, an individual with a dysfunctional cortex may have difficulty recognizing symbols, making reading very challenging. Her language skills may be immature, including use of incomplete sentences, incorrect pronouns, or difficulty expressing needs. Walking and running may not be in a cross pattern with a smooth arm swing. This individual may have poor find motor skills. Sequencing information, especially in abstract situations, may be incredibly challenging.

The process by which neurological reorganization addresses problems in the central nervous system includes examining neurological soft signs and assigning specific developmental activities designed to trigger brain growth and organization. Starting at the most basic level at which dysfunction is identified, the client replicates the developmental sequence—the exact activities used to establish healthy neurology—until functional neurology is established. Because new brain growth occurs, the individual is freed from constantly managing the symptoms and can fulfill her potential.

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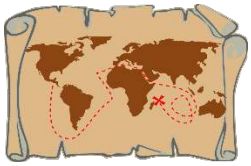
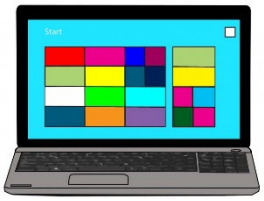
Why Do Meaningful Movement?

Adapted from Clare Crew's book The Children's Guide to Primitive Reflexes.



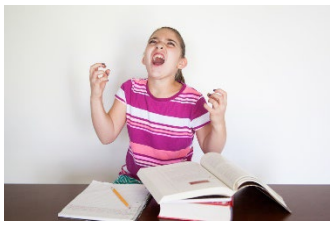
As babies, we are all born with a "map" of sorts. This "map" is called the Developmental Sequence. It makes us wiggle and squirm and helps us survive. It also helps get our brain ready for the moving and learning that we will do as we get older.



You might think of the Developmental Sequence as a computer game that we are all born with. As we learn each new baby movement, we complete the next level of the computer game. When we have worked through the rolling, rocking and crawling, or "Meaningful Movements", the computer game is finished. Your mission is complete!

For some people, though, the Developmental Sequence doesn't get fully completed. It could be because an important baby movement was missed or just not done for long enough. Or, perhaps having a sick body meant that moving through all the "Meaningful Movements" was less important than becoming healthy again.

If you have some gaps in your Developmental Sequence, you may find it hard to feel happy, to learn as easily as other children, to feel safe, to make the right choices, to concentrate, or to move your body in a coordinated way. Or, perhaps you find that you get tired easily because of the extra effort that these tasks take.



Because of the challenges you are having, your parents or teachers may get frustrated with you. It is easy to feel grumpy with yourself, too. But now you know why certain things may be difficult for you or certain feelings are hard to shake.

There is nothing wrong with you, it is just that your computer game is still running in the background. Your Developmental Sequence isn't quite complete.

Luckily, you can complete and strengthen your Developmental Sequence at any age. All you need to do is work through the Meaningful Movements the way you did when you were a baby. It may sound a bit silly, but it will give your body and brain a second chance to work through the Developmental Sequence, strengthening your body and brain connections. Then there will be nothing getting in the way of being the best version of YOU!

Meaningful Movement

Developmental Profile

Neurological Reorganization~Moving Bodies. Building Brains. Reaching Potential.

SENSORY | MOTOR

	BRAIN STAGE	TIME FRAME Approx.	VISUAL COMPETENCE	AUDITORY COMPETENCE	TACTILE COMPETENCE	MOBILITY	LANGUAGE	MANUAL COMPETENCE
Cortical Levels	Cortex 4	36 to 144 months	Reading with total understanding Use of eye consistent with dominant hemisphere in a primary role	Understanding of complete vocabulary and proper sentences Use of ear consistent with dominant hemisphere in a primary role	Tactile identification of objects Use of hand consistent with dominant hemisphere in a primary role	Using a leg in a skilled role which is consistent with the dominant hemisphere	Complete vocabulary and proper sentence structure	Using a hand to write which is consistent with the dominant hemisphere
	Cortex 3	18 to 72 months	Identification of visual symbols and letters within experience	Understanding 2000 words and simple sentences	Conceptual understanding of characteristics of objects determined by tactile means	Walking and running in a complete cross pattern	2000 words of language and short sentences	Binaximal function with one hand in a skilled role
	Cortex 2	**9 to 36 months**	**Differentiation of similar but unlike simple visual symbols**	**Understanding 10 to 25 words and two word couplets**	**Tactile differentiation of similar but unlike objects**	**Walking with arms freed from the primary balance role**	**10 to 25 words of language and two word couplets**	**Cortical opposition bilaterally and simultaneously**
	Cortex 1	6 to 24 months	Convergence of vision resulting in simple depth perception	Understanding two words of speech	Tactile understanding of the third dimension in objects which appear to be flat	Walking with arms used in a primary balance role	Two words of speech used spontaneously and meaningfully	Cortical opposition in either hand
Pre-Cortical Levels	Midbrain	3.5 to 14 months	Appreciation of detail within a configuration Vertical eye movement	Appreciation of meaningful sounds	Appreciation of gnostic sensation Proprioception	Creeping on hands and knees Balance	Creation of meaningful sounds	Prehensile grasp
	Pons	1 to 5 months	Outline perception Horizontal eye movement	Vital response to threatening sounds	Perception of vital sensation Heat Cold Hunger	Crawling in the prone position	Vital crying in response to threats to life	Vital release
	Medulla and Spinal Cord	**Birth to 2 months**	**Light Reflex**	**Startle Reflex**	**Tactile reflexes Rooting Babinski Spinal Galant**	**Movement of arms and legs without bodily movement**	**Birth cry and crying**	**Grasp reflex**

How to Succeed

A program of neurological reorganization is largely dependent on the effort and dedication each client puts into it. In order to help you reach your goals as quickly as possible, we've compiled tips honed from years of experience. You can do it!

- BE CONSISTENT; DO YOUR MEANINGFUL MOVEMENTS EVERYDAY. This is the only way to succeed; the clients who reach their goals are the ones who do their program a minimum of five times per week. Each day that you do your workout, you grow new brain connections. You reap the benefit of those connections before they are firmly established. However, each day that you don't do your workout, the connections that aren't in place atrophy and go away. I your workout is not done consistently, you are constantly going over the same ground rather than making progress. A program of neurological reorganization is hard work and needs to be done daily so that you achieve your goals as quickly as possible. Remember, once the connections are in place, you are done and no longer need to do the workout.

- The clients who are the most successful schedule the workout into their lives. Just as you schedule work, school, and other commitments, schedule your workout activities and make the time non-negotiable. Once the habit is established, the routine becomes second nature and your workout is immeasurably easier to accomplish each day.

- Make your workout a priority. For the duration, you may need to re-prioritize some of your other activities. You don't do these Meaningful Movements forever, so, once you are done, you have the rest of your life to enjoy other activities.

- The more time and effort you put into the program, the quicker you will see results. We have clients who have gone home, done three times the assigned quantity of all activities, and graduated in remarkable time. Of course, you have other obligations, but this is one area of life where you can truly influence how quickly you succeed. Discuss with your practitioner any program activities where exceeding the recommended quantity may be contraindicated.

- To ensure that the program is accomplished daily, the caregiver should act as a coach or cheerleader rather than a drill sergeant (although drill sergeant may be necessary on some days!). The more that program is treated as a special time between the caregiver and client, the more compliant the client tends to be. This of this as your quality time together and dedicate yourself one hundred percent to the client's success; that means being present and engaged during Meaningful Movement activities and not dividing your time by answering the phone, cooking dinner, etc.

- Meaningful Movement programs are hard work. Rewards often motivate clients to remain diligent. A small daily reward culminating in larger weekly or monthly rewards are more effective than one large reward when the client graduations. For instance, for a child, earning individual parts of a larger Lego set daily is more apt reward than a promise of a trip to Hawaii when he graduates. Dream up whatever is appropriate for your family and then break that down into small, daily rewards.

- As a caregiver, nurture yourself. You are under incredible amounts of stress as you manage the client's issues. Do something on a regular basis that renews and restores you. Schedule regular social time with friends, a weekly or monthly date night, or simply time by yourself to read a book, go on a walk, or take a long soothing bath. Whatever it might be, nurture yourself so that you can nurture your child. We also highly recommend that caregivers do oxygen enrichment to minimize the effects of stress hormones.

- A great **resource** for those who participate in a program of neurological reorganization is the facebook page: **Neurological Reorganization Support**. Ask to join and name Jessie Forston as your practitioner to be accepted. In addition, Pattern Videos can be viewed at www.MeaningfulMovement.org click on "For Your Child" then "Pattern Videos". The password is *potential*.

- YOU CAN DO IT! A program of neurological reorganization requires hard work, but the results more than compensate. And, once you are done, you are done for good! Put in the hard work now and spend the rest of your life living without the symptoms of neurological dysfunction. You have the tools to achieve your goals!

- If you have any concerns or questions, or just want to share your experiences, call Jessie at 612-916-9369. We truly want you to succeed!

NOTES:

CRAWLING ON THE TUMMY

Crawling, in conjunction with other developmental activities, grows the neural connections and organizes the pons in the central nervous system. Just as infants are not taught how to crawl, we don't teach our students. When first given the opportunity to crawl, babies try several techniques before attaining a finished crawl. In the same way, students will experiment with many techniques before reaching a finished crawl. The various techniques, eventually culminating in a finished crawl, reflect the growth and organization of the pons.

Here are the simple rules for crawling:

- The only instruction is belly button on the ground, moving forward, using all parts of your body that you want. DO NOT GIVE ANY OTHER INSTRUCTION, COACHING, OR HELPFUL HINTS. Doing so will interfere with the process.

- Crawling should be done on a long, straight, smooth surface. Hardwood or linoleum is perfect. If your house is carpeted, you can obtain 6 foot by 12 foot pieces of flooring vinyl. Cut the pieces in half and duct tape the pieces together to form a 3 foot wide strip which can be rolled down a hallway or other area for crawling and then put away again when done.

- Crawling needs to be done with bare feet; do not wear shoes or socks.

- Do not carry anything in your hands or wear gloves or mittens when crawling.

- Crawling is physically demanding. When beginning, most clients cannot go for more than a few minutes at a time. Crawl for as long as the client can tolerate; her stamina will increase until she can do the entire amount at once. Until then, divide the time up to give the client permission to rest.

- The client should move forward at a nice, steady pace. If she's tired, she can break the time up. See the section on how to succeed for ideas on how to encourage movement.

- Crawling can be boring. We don't want the client thinking about what he's doing, because crawling needs to be a pons-level, not a cortical, activity. Because of this, it's important to keep the client engaged while crawling. For children, this means that the caregiver acts as a coach or cheerleader, making up a thousand games and activities to occupy the child. A child cannot be left to crawl on her own; a caregiver must be present and engaged. For younger children, games or simple inducements can be helpful. For older children, a caregiver can assist with homework during crawling. For adults, music, radio programs, podcasts, or foreign language instruction can engage the cortex. See the section on how to succeed for more ideas.

Notes:

CREEPING ON HANDS AND KNEES

Creeping, in conjunction with other developmental activities, grows the neural connections and organizes the midbrain region in the central nervous system. Just as infants are not taught how to creep, we don't teach our students. When first given the opportunity to creep, babies try several techniques before attaining a finished creep. In the same way, students will experiment with many techniques before reaching a finished creep. The various techniques, eventually culminating in a finished creep, reflect the growth and organization of the midbrain region.

Here are the simple rules for creeping:

- The only instruction is to stay on hands and knees, moving forward. DO NOT GIVE ANY OTHER INSTRUCTION, COACHING, OR HELPFUL HINTS. Doing so will interfere with the process.

- Creeping can be done on either carpet or hard floors. Carpet is nicer as it provides additional cushion, but it's not required. If creeping on carpet, wear socks to avoid rug burn.

- ANYONE OVER THE AGE OF EIGHT MUST WEAR KNEEPADS WHEN CREEPING. The structure of the knee changes at adolescence; failing to protect knees can result in permanent damage. Use soft volleyball or floor-layer kneepads; avoid kneepads that are hard or rubberized as they need to slide easily. Kneepads can be obtained at sporting goods stores for a reasonable price.

- Do not carry anything in your hands or wear gloves or mittens when creeping.

- The client should move forward at a nice, steady pace. If she's tired, she can break the time up. See the section on how to succeed for ideas on how to encourage movement.

- Creeping can be tedious. We don't want the client thinking about what he's doing, because creeping needs to be a midbrain-level, not a cortical, activity. Because of this, it's important to keep the client engaged while creeping. For children, this means that the caregiver acts as a coach or cheerleader, making up a thousand games and activities to occupy the child. A child cannot be left to creep on her own; a caregiver must be present and engaged. For younger children, games or simple inducements can be helpful. For older children, a caregiver can assist with homework during creeping. For adults, music, radio programs, podcasts, or foreign language instruction can engage the cortex. See the section on how to succeed for more ideas.

Notes:

GAMES

All of these games can be played on the tummy or on hands and knees.

1. Block Building: (Need blocks.) Blocks are placed at one end of the room. Parent and child are at the other end. Child goes back and forth to get blocks. *
2. Ball into the Box: (Need box and balls or marbles.) Parent and child try to roll ball into box for prize and then go to retrieve the ball. * Need to give prizes for successful rolling.
3. Hide the apricots: (Need apricots, slices of carrot, raisins, or the like.) Food is hidden in various placed around the room and child goes around to find them. Parent reclines on couch for much needed rest and occasionally says "getting warm" or "getting cold" to the child.
4. Race for Objects: (Need a group of 3 to 5 small, unbreakable objects.) One person throws them to the other end of the room and parent and child race after them to see who can get the most first. * Prizes may be necessary for winners.
5. Free Play with Moving Objects: (Need car, train, or other toys that move by friction.) One person gets it moving and both race after it, or child plays with it by himself.
6. Go Fish: (Need cards.) This is one of six card games that worked to facilitate crawling and creeping. The cards are spread around the room in a big circle and the child is asked to match pairs. Find all the cows, find all the A's, etc.
7. There are several games that cost a few dollars each that may facilitate crawling and creeping. These include quits, Darts, Pop-Za-Ball. Dominos (play like #1 above), Picture Lotto (also played like #1 above), etc.
8. Drag-A-Bag: (need paper bag, long piece of string and small objects, food or toys.) Parents put objects in bag, wrap string around top of bag and pull it around the room as child tries to catch it.
9. Walk-the-Dog: For symbolic reasons, you may not choose to play this one, but for some kids it works very well. Tie a leash to the child's back and pretend that you are walking the dog, to the bone, to the store, to the hairdresser, and to the clothes store, etc.
10. Tag and Hide-and-Seek.
11. Tent Making: Much creeping and crawling can be involved in free play centered around a tent made in the living room with chairs and a blanket.
12. Puzzles: This is similar to the card games. Pieces of a puzzle are spread in a circle around the room and the child gets each piece separately and builds the puzzle. *
13. Simple Simon.
14. Egg Hide: (Need several toy plastic eggs that come apart in the middle, or several small paper cups.) Egg halves are spread in a circle around the room and an object of food is hidden under one. The Child has to creep or crawl around to find the object.

15. Red Light, Green Light.
16. Potato race.
17. Going Shopping: (Need coins and toys or toy foods.) Coins are at one end of the room. Toy food is at the other. Child gets coins (one at a time) and shops from parent (storekeeper) at the other end of the room. *
18. Bubbles: (Need bubble soap.) Blow bubbles at the other end of the room. Child creeps or crawls to pop them.
19. Pan and Spoons: Parent puts a pan and six spoons at the other end of the room. The whole family races to put all the spoons (which are spread widely apart) in the pan before the timer goes off.
20. Mail Delivery: (Need letter box for each family member and mail to deliver.) Child gets letter from "Post Office" and makes delivery. * Junk mail can be used.

*Note: For any of these games that involve the child carrying objects, it is important for the child to have a pocket or pouch to hold the object while he or she is transporting it so that his or her hands can remain free while crawling or creeping. Bib-overalls, fanny packs or small pouches worn in a way that doesn't interfere with the child's movement can be used.

VESTIBULAR STIMULATION

The vestibular system is comprised of six inner ear canals, which are perpendicular to one another. Fluid sloshes through each of these canals discretely. Stimulating the vestibular system by moving fluid through each of these ear canals incites the midbrain region of the central nervous system, boosts visual motor skills, assists balance and other motor function, and diminishes overflow. It also stimulates the cerebellum, which plays a role in short-term memory, attention, impulse control, emotion, higher cognition, and the ability to schedule and plan tasks. Children engage in dozens of vestibular activities in the course of normal play; however, as we age and typically become more sedentary, these activities decrease and we need to be more systematic about them.

Here are the simple rules for vestibular stimulation:

- It's important to stimulate all of the ear canals that make up the vestibular system, so moving rapidly through space at different angles is imperative. Strive for the greatest possible variety of head positions.

- Each vestibular activity should last approximately fifteen seconds. If fifteen seconds is too long or makes the client nauseous or dizzy, scale back the time to meet the client's tolerance. For instance, start with five seconds and then work up to ten and then fifteen. If the vestibular system is not stimulated regularly, it looses efficacy, but, once stimulated, comes right back. Generally, it takes clients about two weeks to reach fifteen seconds without discomfort.

- To gain maximum benefit, wait five to ten minutes between each vestibular activity. When doing a vestibular activity, the brain fires at one hundred percent. If one continues the activity, the brain is already fired at one hundred percent, so no further benefit occurs beyond the initial firing. It takes approximately five to ten minutes for the neurons to settle and, hence, to gain the most benefit when stimulated again.

- The hardest part of vestibular stimulation is remembering to do it. Most clients find it helpful to schedule a routine; for instance, one before breakfast, one after breakfast, one before crawling, one after crawling, etc.

- Here are some examples of vestibular stimulation activities. Note: SAFETY FIRST! Do activities only to the client's tolerance:

  NOTE: If spinning, ALWAYS spin in both directions.

  - Use an office chair: sit upright and spin; tip head back and spin; tip head to the left and spin; tip head to the right and spin; lay on your stomach across the seat of the chair and spin
  - Use an exercise ball: sit upright and bounce; sit upright and rock forward and back; lie on your stomach and roll back and forth; lie on your back and roll back and forth
  - Use a swing: sit and swing normally; sit on the swing sideways; twirl to the right and untwirl; twirl to the left and untwirl
  - Do log rolls; do somersaults; do cartwheels; do toe touches
  - Hold hands with a partner and spin
  - Rock in a rocking chair
  - Jump on a trampoline
  - Stand and spin with head upright; head tipped back; head tipped to either side

PATTERNS

Patterns are exact, whole body movements that infants do automatically to gain neurological function. These patterns trigger reflexes in the central nervous system which lead to new brain growth. The brain growth triggers another set of reflexes, which triggers new patterns and then additional brain growth. This cycle of reflex > movement/pattern > brain growth is how humans gain functional neurology and lay the basis for all emotional, behavioral, academic, and motor skills. Just as we observe infants gain new capabilities when performing new patterns, students' skills and capacities change as we trigger the cycle of reflex > movement > brain growth. We did not make up any of these patterns; they have all been observed, documented, and recorded in infants.

Here are the simple rules for patterns:

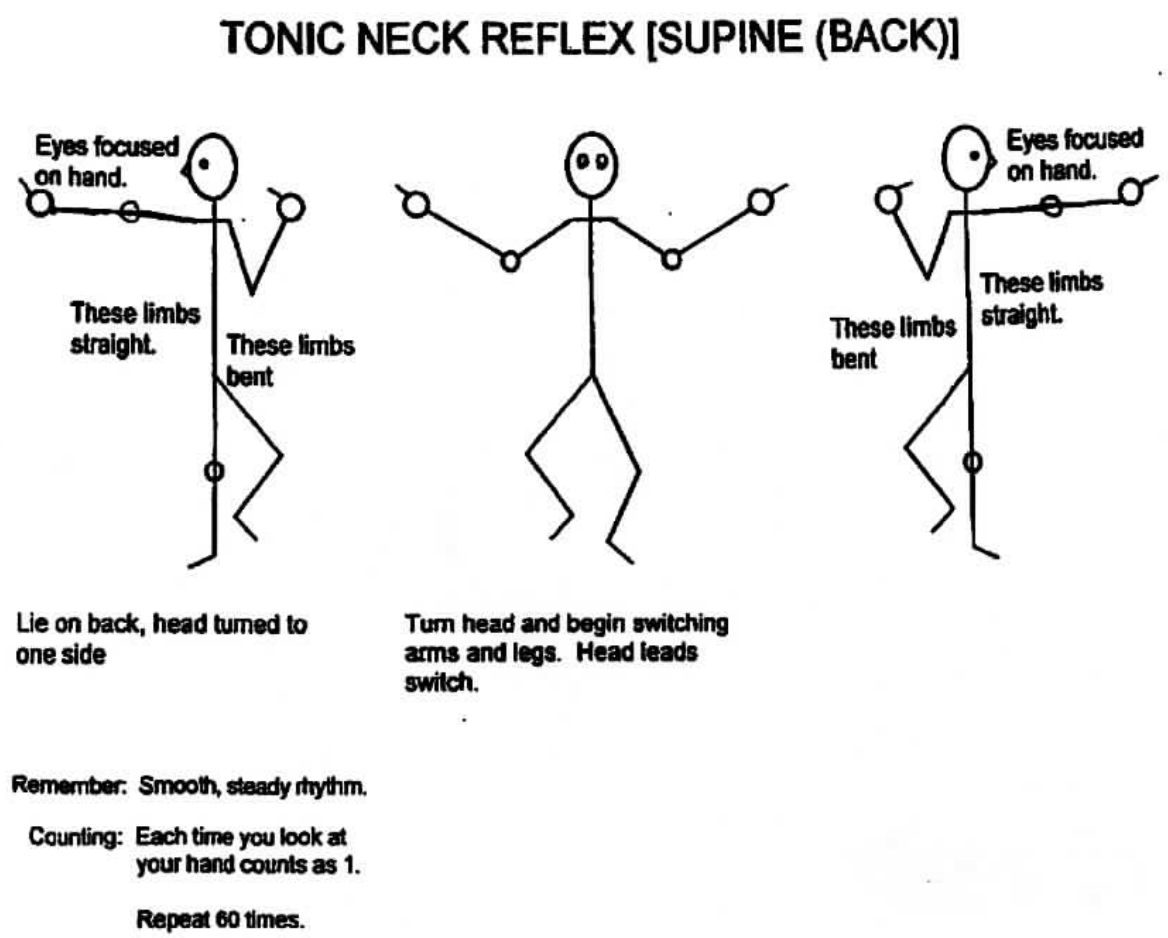
- Because we are triggering reflexes, PATTERNS MUST BE DONE CORRECTLY. If they are not done correctly, patterns become a range of motion exercise and most clients don't need range of motion exercises.

- Patterns require one's whole body to move in a specific manner, similar to an intricate dance step. Because of this, they can be difficult to learn and tricky to do. QUALITY OVER QUANTITY; ten perfect patterns are better than sixty sloppy patterns. TAKE THE TIME TO DO THEM CORRECTLY. If needed, begin by doing a reduced number of repetitions and increase the repetitions until you reach the targeted quantity. For instance, if you are assigned sixty repetitions, you may begin by doing thirty, increase to forty-five, and then do all sixty.

- Lots of coaching from caregivers is encouraged with patterns. It can be hard to know if one is doing the pattern correctly, so feedback from others is invaluable. Caregivers can and should supervise or move the client to insure patterns are done correctly.

- Because different patterns are assigned to stimulate different parts of the central nervous system, your neurological reorganization practitioner will discuss additional guidelines for your particular patterns. Again, it is critical to follow these instructions precisely to insure maximum benefit.

Notes:



TONIC NECK PATTERN (on Back)

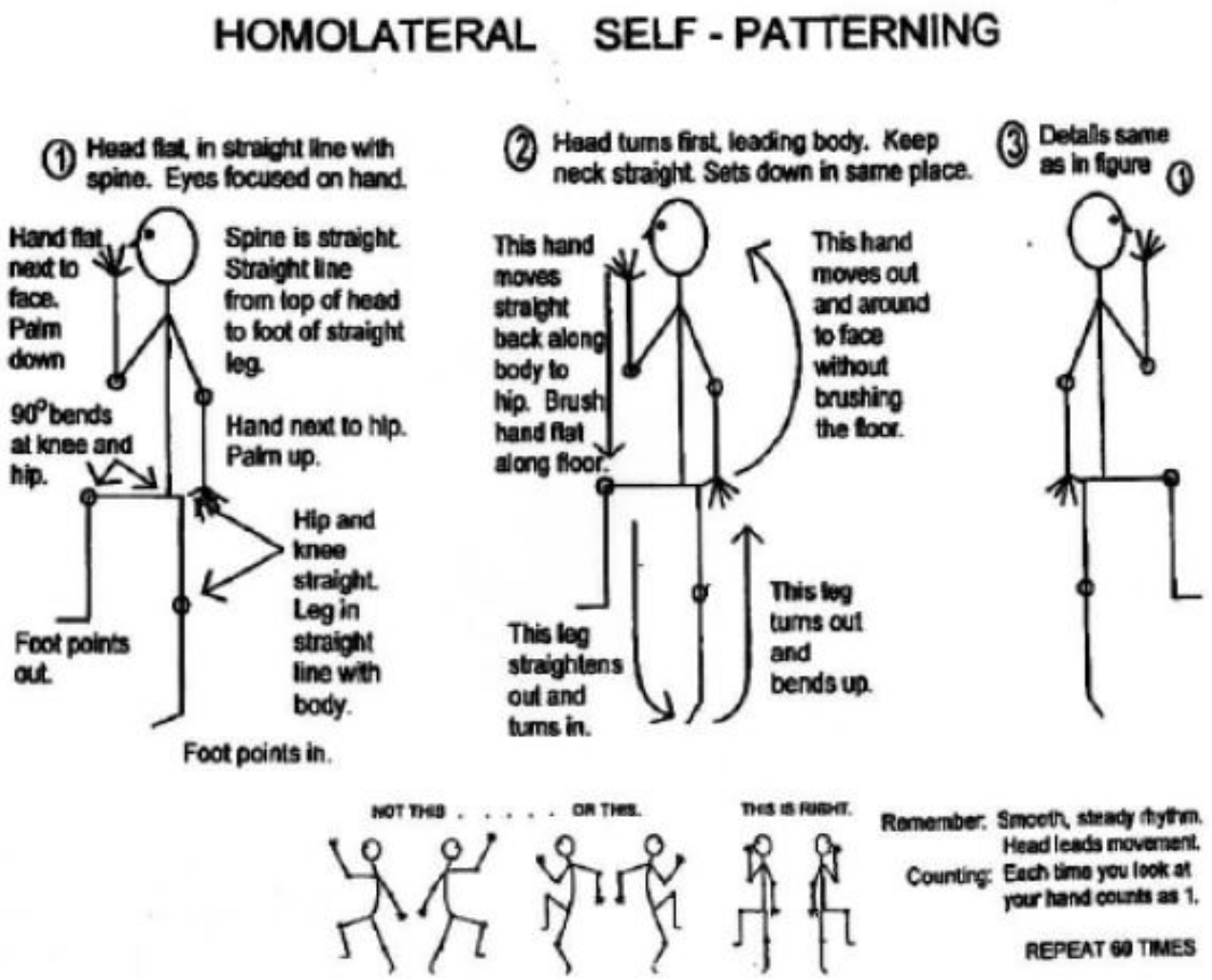
The Tonic Neck Pattern is used with any student in whom good midline function has not yet been established. It also offers early opportunities for horizontal eye tracking in the infant.

To perform the Tonic Neck Pattern, the student lies on her back on a smooth surface. This pattern is easier to do if the student is wearing socks to allow the feet to slide easily on the surface. The student makes light fists of both hands with the pointer or index finger extended. The right arm, with this pointed finger, is extended straight out from the shoulder, resting on the floor and the head is turned toward this hand, eyes focused on the pointed finger. The right leg is straight. Meanwhile, the left hand, with its light fist and pointed finger is bent, resting on the floor with the finger pointed in the area of the left ear. The left leg is bent out to the side with the sole of the foot near the inside of the right knee.

The head initiates the movement. The spine remains straight while the head and limbs switch smoothly to the other side. Now, left arm and leg are straight while the right arm and leg are bent.

As the head turns side-to-side, the eyes trace a horizontal pathway. Special care should be taken to make sure that the eyes are open as they cross midline. A sticker on the ceiling can be helpful.

Also known as “Scarecrow” in Katie Johnson’s book “Red Flags for Primary Teachers” p. 80.



HOMOLATERAL PATTERN (on Stomach)

The Homolateral Pattern is performed face down on a smooth surface. Pants should be worn rather than shorts to protect the inside of the knees from abrasions that could arise from repeated rubbing against the surface.

Begin with the head turned toward the right, the right elbow bent at a comfortable angle and the hand resting palm down within view of the eyes, straight out from the mouth. The right leg is bent at a 90-degree angle at the hip and at a 90-degree angle at the knee.

On the left side the arm is resting next to the body with the palm is up. The left leg is straight down and the foot points in.

The head initiates the movement. When turning, the head remains aligned with the spine rather than arching at the neck to turn. As the head turns from right to left the right hand moves down along the side of the body, the hand brushing flat along the floor, coming to rest palm up. The palm contact with the

surface is very important as it triggers another reflex. The right leg straightens and the right foot points to the left.

Meanwhile the left side which was straight comes up into the bent position. The arm comes up and around, without brushing the floor. This looks like a power stroke in swimming. The arm is bent and the hand is by the face. The left leg is now in the bent position.

Note, even though all of these movements happen at once the head always leads the movement. Each time you turn the head counts as 'one'. A nice smooth and steady rhythm is the goal. Do not hurry this pattern. Work for accuracy and a smooth rhythm.

Sensory Stimulation 

Sensory stimulation is an invitation to the brain to feel and for the client to know where he is in space. There are three different types of sensory nerves located under the skin in the subcutaneous layers. Just as infants experience a wide variety of sensory stimulation due to normal interaction, we stimulate these different nerves to address the type of central nervous system dysfunction identified. Appropriate sensory perception has a range of physical and emotional ramifications, including empathy, compassion, motor coordination, and healthy physical and emotional boundaries.

Here are the simple rules for sensory stimulation:

- Just as you can't tickle yourself, you can't do sensory stimulation to yourself as that would engage too many parts of the central nervous system. Someone needs to do sensory stimulation to the client.
- To gain maximum benefit, wait five to ten minutes between each 15 second sensory activity. When doing a sensory activity, the brain fires at one hundred percent. If one continues the activity, the brain has already fired at one hundred percent, so no further benefit occurs beyond the initial firing. It takes approximately five to ten minutes for the neurons to settle and, hence, to gain the most benefit when stimulated again.
- The hardest part of sensory stimulation is remembering to do it. Most clients find it helpful to schedule a routine; for instance, one before breakfast, one after breakfast, one before crawling, one after crawling, etc. Additionally, clients find it helpful for the caregiver to have the sensory items in a central location, so they are always reminded of it.
- When doing a sensory activity, tell the client what you are doing and where you are doing it. For instance, "I'm brushing the back of your left calf," or "I'm rubbing a piece of velvet on your right forearm."
- Do sensory activities everywhere that it is socially appropriate on the client's body, including arms, legs, back, neck, face, feet and hands.
- Because different sensory activities are assigned to stimulate different parts of the central nervous system, your practitioner will discuss additional guidelines for your sensory activities.

NOTES: