



FALL RISK REDUCTION PROGRAM





Introduction

Patient falls are among the most feared events in healthcare. Managers will cite the cost to the system of a patient being injured in a fall (additional resources, litigation, extended lengths of stay, time lost in therapy and extra protective equipment). As practitioners we also understand that there is a very real and very high clinical price due to injuries sustained from a fall. A patient who falls can injure, or re-injure, himself and end up with a far greater threat to his health than the one he was originally being treated for.

We are challenged to think ahead and anticipate that which cannot always be anticipated. As clinicians we should spring into action when we identify a patient as a “fall risk” to address the origin of the deficit and move that patient toward stability. This program was created to provide an easier way to do that.

The *Table of Contents* is organized in such a way that you can quickly select those exercises that will address the underlying cause of your patient’s risk for falling. By integrating the Interactive Metronome (IM) into your patient’s care you are addressing key components of motor learning, including: cognitive engagement, more and more precisely timed repetitive movement practice, auditory and visual cues for timing and rhythm, and vital real-time feedback for every move. According to Gilmore¹, these factors are all necessary for motor learning to take place, and this, in turn, will help you achieve the goal of reducing falls.

In order for your patient’s to benefit from this treatment approach, you must be IM-certified and you must be professionally qualified to work with fall-risk patients. As with any other treatment program, your expertise and clinical judgment are paramount and must dictate the care that you provide.

Our hope is that by putting these references at your fingertips in a format that is easy to use we can be of help to you...and to your patients.

Thank you for all you do to help your patients.



Al Guerra
President
Interactive Metronome, Inc.

1 | Gilmore, P., & Spaulding, S. (2001, December). Motor control and motor learning: implications for treatment of individuals post stroke. *Physical & Occupational Therapy in Geriatrics*, 20(1), 1-15. Retrieved October 16, 2008, from CINAHL Plus with Full Text database.

Clinicians must focus on creating a fall prevention treatment plan that impacts the five systems of balance: musculoskeletal, proprioception, oculomotor, vestibular, and cognition. Interactive Metronome (IM) is an ideal tool to utilize when treating patients to decrease the risk of falling. Interactive Metronome is a brain-based, multi-disciplinary assessment and treatment tool that has been shown, in clinical research, to improve the neurological functions of motor planning and sequencing, which are core functions of the brain.

Often clinicians underestimate the role that impaired cognition and communication play in falls. The ability to walk and talk concurrently is necessary for daily functioning. Evidence suggests that practicing dual tasks improves performance and decreases fall risk. Interactive Metronome is a useful tool to teach dual tasking while walking.

This program is designed to guide clinicians in identifying exercises utilizing IM for each system of balance. Typically multiple systems are impaired, and the plan of care will utilize exercises from multiple areas.

My patient is at risk for falling because of deficits with

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Musculoskeletal System

Maintaining adequate strength and range of motion in key muscle groups such as abdominals, back extensors, gluteus maximus and medius, quadriceps, and gastrocnemius is critical to minimizing fall risk.

These muscle groups contribute to our ability to maintain upright posture against gravity in both static and dynamic positions. Exercises in this section are designed to target muscles that contribute to balance and walking. Interactive Metronome (IM) is a useful tool to deliver functional, high repetition exercises to improve



safety with mobility. By including the IM your patient will be challenged to focus more on quality of their balance and movements. The IM's feedback and challenge levels help enhance traditional musculoskeletal exercises.



Leg Squats

Basic: Stand with back to wall. Tempo set to approximately 45 bpm. Patient holds onto chair with one hand for balance. Place trigger on one hand and tap hand on thigh while alternating squatting and standing.

Advanced: Place trigger in hand. Alternate squatting and standing while clapping hands to the beat.

Lunges

Basic: Place trigger on right hand. Hold onto chair or tall wooden dowel for balance. Set tempo to approximately 40 bpm. Stand shoulder width apart. Lunge forward with right foot and clap hand on thigh to reference tone. Return right foot to starting point and clap hand on thigh again. Repeat for appropriate number of repetitions. Switch sides and perform for left leg.

Advanced: Place trigger on one hand. Stand with feet shoulder width apart. Clap hands together while lunging forward with right foot. Return foot to starting position and clap hands again. Repeat with left leg, so patient alternates lunging right and left legs.

Heel Raises

Basic: Hold onto wooden dowel for balance. Place trigger on floor under heel. Set tempo approximately 54 bpm. Raise and lower heels in time to beat.

Advanced: Increase difficulty by standing on one foot.

**Maintain synchronous tapping of upper or lower extremity depending on physical capabilities.*



Long Arc Quads

Basic: Place trigger on clipboard or on clinician's hand. Set tempo to approximately 48 bpm. Patient is seated. Straighten knee and lift foot to hit trigger with emphasis on quad activation.

Advanced: Increase difficulty by adding ankle weight.

Tap Ups

Basic: Patient holds onto chair or tall wooden dowel. Place trigger on top of 2-3" step. Set tempo at approximately 54 bpm. Stand on left leg, tap right toe on trigger to the beat. Return right foot to floor in time to the beat (but without a trigger). Repeat. Switch and perform with left leg.

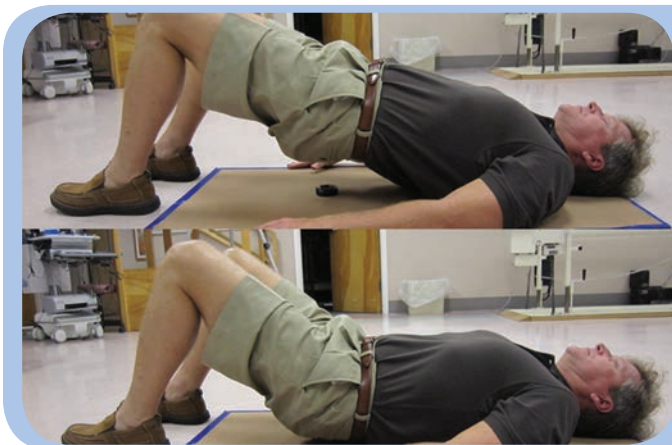
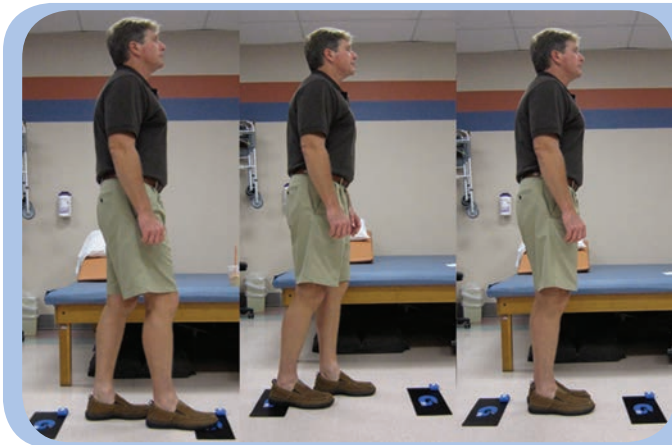
Advanced: Patient performs task without holding onto chair or dowel.

Lateral Tap Ups

Basic: Place trigger on top of 2-3" step. Set tempo at approximately 54 bpm. Place step to the right of the patient. Hold onto chair or wooden dowel for balance with left hand. Stand on left leg, tap right toe on trigger to the beat. Return foot to floor in time to the beat (but without a trigger). Repeat. Reverse for left leg.

Advanced: Patient does not hold onto anything for balance. Can also increase tempo or step height.

**Maintain synchronous tapping of upper or lower extremity depending on physical capabilities.*



Stepper with Weights

Basic: Patient marches in place for a count of ten beats, alternate steps on bench for 10 beats and repeats sequence.

Advanced: Patient steps up onto bench and steps off to the right of bench, side steps back onto bench and steps off of bench returning to beginning position. Repeat stepping to the left of the bench.

Alternate Stepping

Basic: Hold onto wooden dowel for balance. Place one tap mat approximately 12" on floor in front and another 12" behind. Set tempo at approximately 48 bpm. Stand with feet together. Tap front mat with right foot on the beat, then tap back mat with right foot on the beat, then return right foot to starting point on the beat. The "return to starting point" is a dead beat (i.e. do not hit a trigger). Repeat sequence with left leg.

Advanced: Increase difficulty by moving tap mats further apart and/or increasing tempo.

Bridging

Basic: Lie on back with knees bent and feet flat on floor. Place trigger on mat beneath hips. Set tempo at approximately 45 bpm. Raise hips into bridge in time to beat, then lower, tapping trigger. The patient will hit the trigger every other beat. If person is too weak to fully lift hips off mat, can place trigger on therapist's hand. Hold trigger above patient's hip and tap trigger as hips are raised.

Advanced: Increase difficulty by placing trigger on hand. Clap hands together in time to beat above shoulders while lifting hips.

**Maintain synchronous tapping of upper or lower extremity depending on physical capabilities.*



Abdominal Crunch

Basic: Place trigger on clinician's hand. Set tempo to approximately 50 bpm. Patient lies on back with knees bent, feet flat on mat. Perform abdominal crunch and reach up and forward to tap trigger.

Advanced: Hold trigger at different angles to emphasize oblique muscle activation. Can increase difficulty by moving trigger further away.

Postural Alignment

Basic: Hold onto tall wooden dowel for balance. Stand with back to wall with heels, hips, shoulders, and back of head touching walls (or as close as possible). Place trigger on hand. Set tempo to approximately 54 bpm. Clap hands together in rhythm to the reference tone while maintaining postural alignment.

Advanced: Increase difficulty by increasing tempo and duration of exercise.

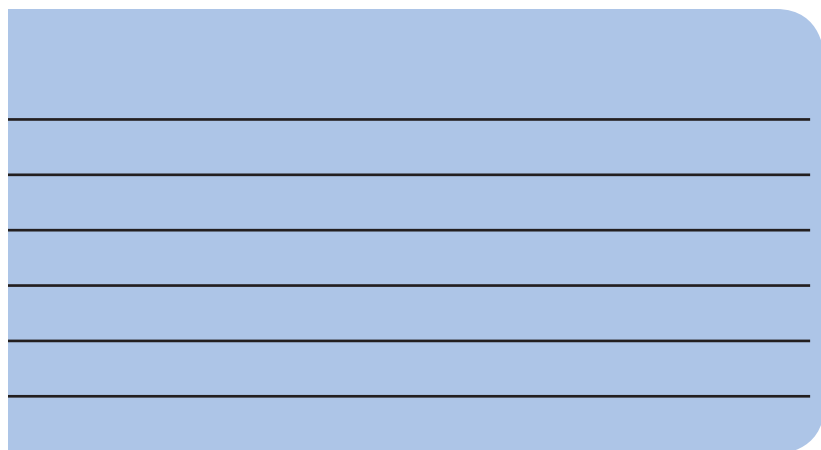
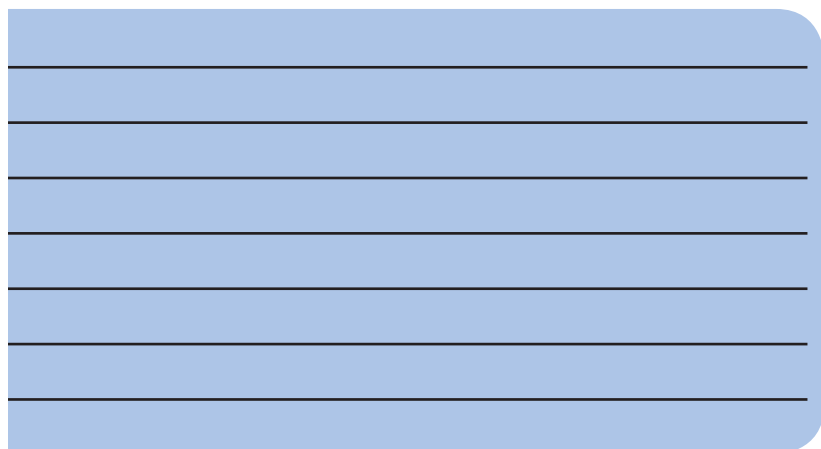
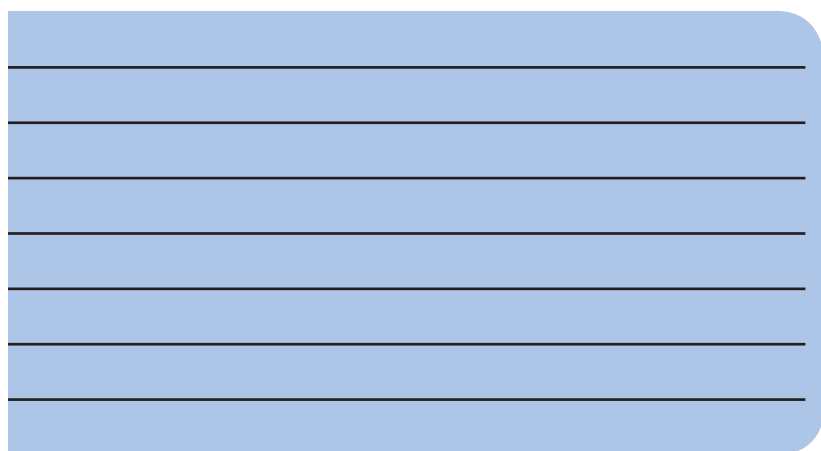
Postural Alignment with Marching

Basic: Hold onto tall wooden dowel for balance. Stand as outlined in the "Postural Alignment" exercise. Clinician places a trigger on each hand. Set tempo to approximately 54 bpm. Patient will maintain postural alignment while marching in place. Hold triggers so patient hits with knees while marching.

Advanced: Increase difficulty by increasing tempo and duration of exercise.

**Maintain synchronous tapping of upper or lower extremity depending on physical capabilities.*

Create Your Own Musculoskeletal Exercise:


A blue rectangular area with rounded corners, containing ten horizontal black lines for writing.A blue rectangular area with rounded corners, containing ten horizontal black lines for writing.A blue rectangular area with rounded corners, containing ten horizontal black lines for writing.

**Maintain synchronous tapping of upper or lower
extremity depending on physical capabilities.*

Proprioceptive System

The proprioceptive system plays a fundamental role in motor control during functional movements such as transferring, walking, and performing other activities of daily living.

Fall prevention programs should incorporate proprioceptive exercises to maximize balance and joint stability. Maintaining balance incorporates both strong muscles and proprioceptive feedback systems that quickly integrate sensory and motor information so we know where we are in space.



Interactive Metronome provides the patient with auditory and visual cues about his movement, helping to enhance proprioception by giving him a better understanding of body position and trajectory of movements. By modifying IM's reference beat and guide sounds with proprioceptive exercises you can simulate speeds and volume of repetitions seen throughout daily functional activities.



Toe Tapping Clock

Basic: Tape numbers 1 - 12 to floor in a clock formation with a square in the middle. Have patient stand on the square. Clinician verbally gives a specific time (i.e. 1 o'clock). Patient should tap the appropriate time with his foot, alternating feet with each new time given. (i.e. 3 o'clock with the left foot - return to center square - 7 o'clock with right foot - return to center square) Have patient clap while performing task.

Advanced: Increase difficulty by speeding up tempo or moving numbers further away from patient to facilitate a greater weight shift.

Compromised Surface

Basic: Clapping hands while standing on foam, wobble board, or BOSU. Have patient stand with back to corner wall for safety (Do not lean against wall).

Advanced: Increase difficulty of exercise by having patient close his eyes, stand on one foot, or speed up tempo.

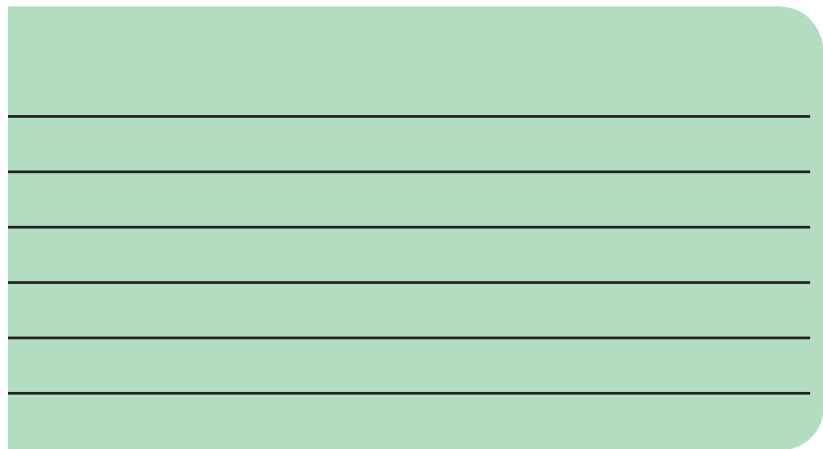
Eyes Closed

Basic: While sitting, have patient clap hands with eyes closed.

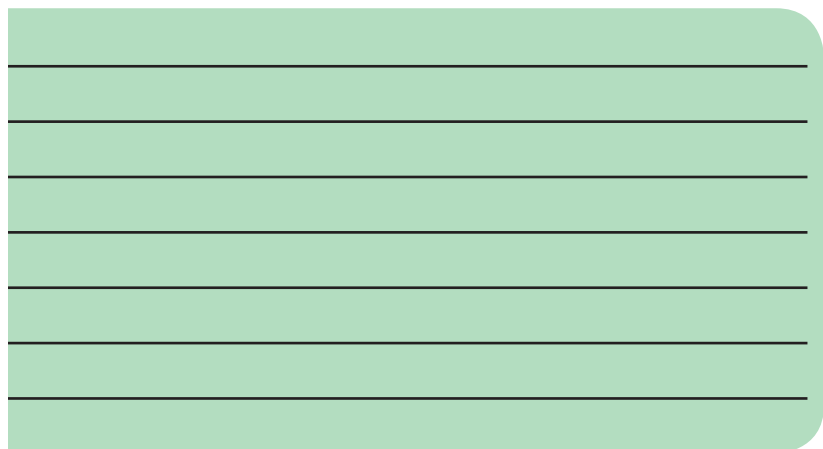
Advanced: Have patient stand with back to corner wall for safety (Do not lean against wall). With eyes closed clap hands together.

**Maintain synchronous tapping of upper or lower extremity depending on physical capabilities.*

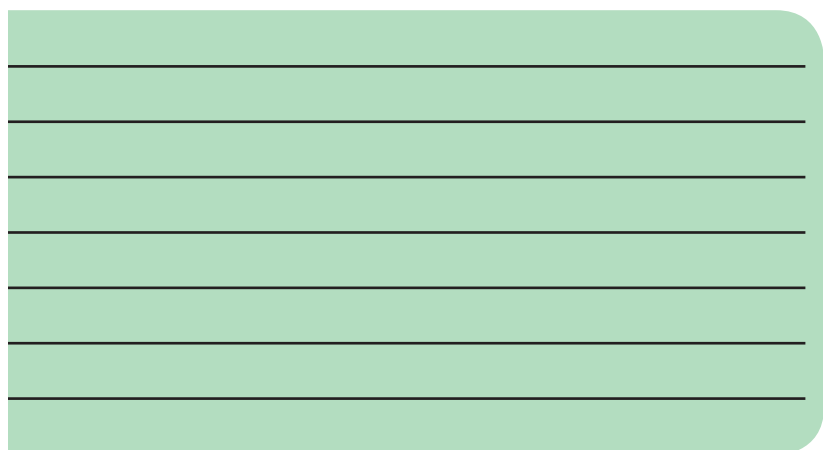
Create Your Own Proprioceptive Exercise:



A green rounded rectangular box with a white border and eight horizontal black lines for writing.



A green rounded rectangular box with a white border and eight horizontal black lines for writing.



A green rounded rectangular box with a white border and eight horizontal black lines for writing.

**Maintain synchronous tapping of upper or lower
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Oculomotor System:

The Oculomotor System is the control system that coordinates the 12 muscles which accurately direct our eye movements.

There are three main types of oculomotor skills:

- Saccades
- Fixation
- Pursuits

Saccades is the ability to quickly and accurately make eye movements or jump from one target to another; fixation is the ability to maintain steady visual attention on a target; and



pursuits are the coordination of eye movements while reading or following an object.

Interactive Metronome can assist in strengthening and coordination of movement within the oculomotor system which allows patients to visually scan their environment or maintain fixation on a target to decrease their risk of falling.



Visual Saccades

Basic: Patient claps to reference tone while naming UNO cards.

Advanced: Patient taps each card on board while naming color or number. Or patient can continuously add numbers on each row.

Visual Memory

Basic: Patient looks at picture of items on paper while tapping with hand trigger. Paper is removed and patient recalls items on paper.

Advanced: Increase number of pictures on paper or add time limit for visual scanning.

Visual Sequencing

Basic: Draw numbers on dry erase board or chalk board. Patient taps the numbers in numerical sequence.

Advanced: Add alphabet - Patient taps A1, B2, C3

**Maintain synchronous tapping of upper or lower extremity depending on physical capabilities.*



Recall/Recognition

Basic: Patient taps on states.

Advanced: Patient taps on state capitals or all states in a certain region.

Visual Convergence

Simple: While patient is clapping to reference tone, clinician moves focal item toward patients nose and away.

Complex: Patient maintains focus on the item while clinician moves item horizontally, vertically and diagonally.

Visual Tracking

Simple: Eyes scan from right to left targets while reaching and tapping targets with trigger. Activity can also be performed in vertical plane.

Complex: Patient stands and perform tasks with triggers in both hands hitting target in an asymmetrical plane or crossing midline.

**Maintain synchronous tapping of upper or lower extremity depending on physical capabilities.*



Visual Scanning

Simple: Place post-it notes on both sides of hallway at various heights. As patient walks down hallway, patient visually scans both sides of hallway looking at post-it notes.

Complex: Label post-it notes and have patient call out letter, number or word.

Oculomotor Exercise

Simple: Variety of colors placed at different levels on both walls. Patient turns head while crossing midline and taps the color clinician calls out. Example - right hand red, left hand yellow, etc.

Complex: Patient is standing performing activity. More colors may be added to increase visual scan.

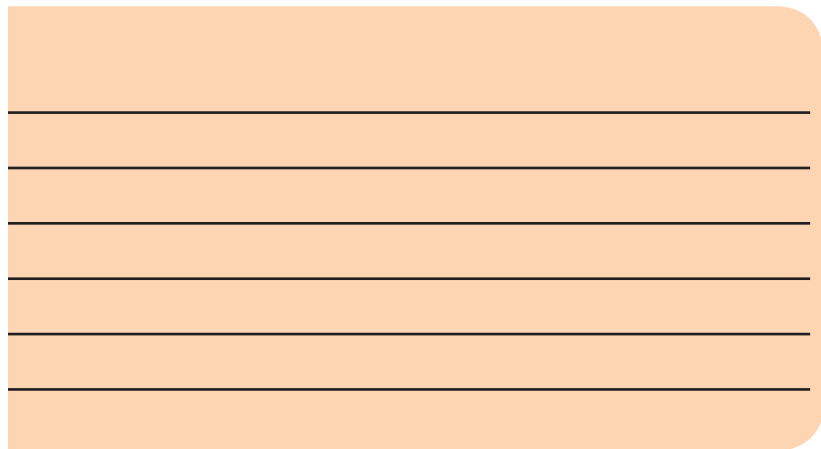
Visual Pursuits

Basic: Patient sitting, head stationary while eyes follow a moving target (i.e. pencil, flower, picture etc.), in the horizontal plane, being held by clinician. Patient is clapping to the reference tone during visual pursuit task.

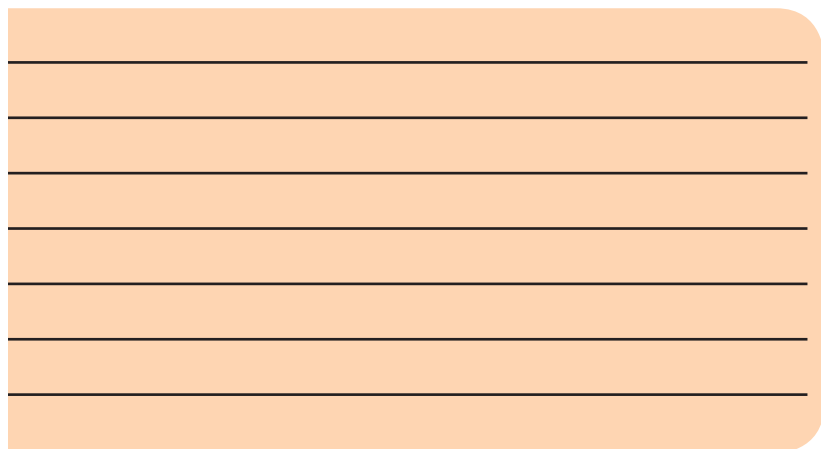
Advanced: Clinician moves target in the vertical and diagonal plane.

**Maintain synchronous tapping of upper or lower extremity depending on physical capabilities.*

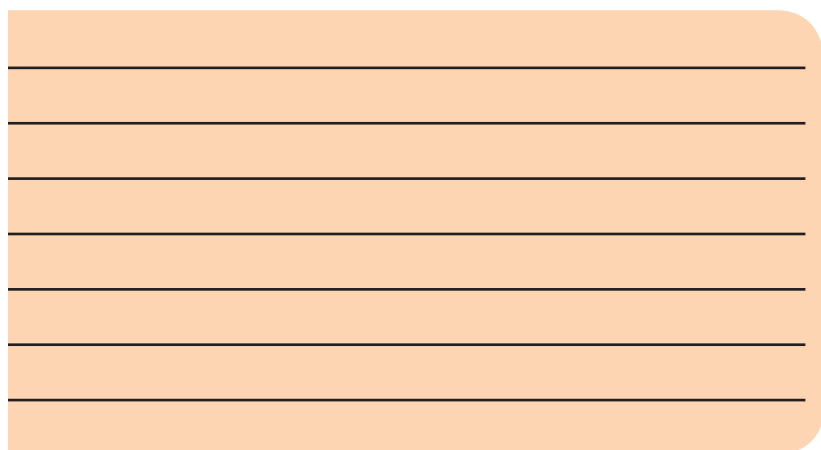
Create Your Own Oculomotor Exercise:



An orange notepad with rounded corners and eight horizontal black lines for writing.



An orange notepad with rounded corners and eight horizontal black lines for writing.




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Vestibular System

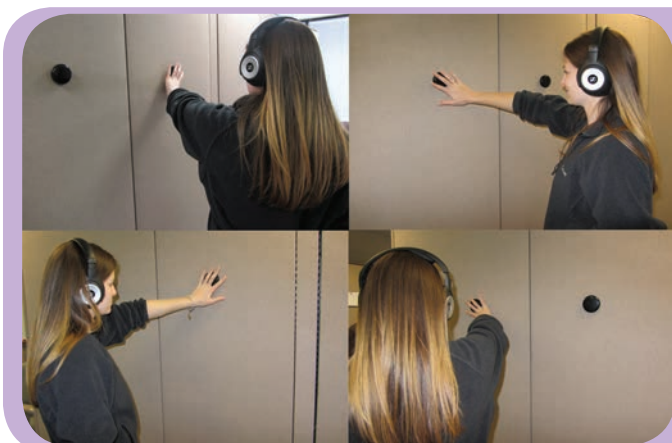
The vestibular system is primarily responsible for balance. A patient who complains of dizziness with movement may lead one to the conclusion that their patient has a vestibular dysfunction. Once the vestibular dysfunction has been determined to be either BPPV or a hypo functioning vestibular system, the clinician can develop a treatment plan.

Interactive Metronome can be used in a treatment plan to enhance a patient's timing and sequencing and to retrain the brain that certain functional activities are safe. It is also a



great tool because of its repetitive task practice and sensory feedback that the vestibular system requires to function properly again.

Progression of the vestibular exercises should go from sitting to standing - standing with wide base of support to narrow base of support - standing on hard surface to compromised surface and eventually walking.



Head movements in Supine

Basic: Place trigger on each side of patient above shoulder area, fairly close to body so the trigger can be hit by reaching with hand without turning body. Hit the trigger with opposite hand, turning head to look at the trigger being hit. Repeat on the other side.

Advanced: Increase tempo to increase speed of reaching and head turning motion.

Head Movement in Sitting

Basic: Place the trigger on one hand. Place a target (i.e. piece of paper) on the knee, mid shin, or floor and another target on the wall above head height. Tap the trigger on the leg or floor target, then on the wall target. The patient should look at his hand as he moves between the two targets. The targets should be far enough apart the patient has to move his head up and down to keep his eyes on his hand.

Advanced: Perform the same exercise in standing, bend forward at the waist to reach a target on the floor.

Head turns while reaching across midline

Basic: Place triggers on the wall on each side of patient at approximately shoulder height. In sitting, hit trigger on each side with opposite hand. Turn head to look at each trigger being hit.

Advanced: Progress to standing with a wide base of support, then decrease base of support as balance improves.

**Maintain synchronous tapping of upper or lower extremity depending on physical capabilities.*



Rolling

Basic: In supine, place a trigger on each side of body. Roll side to side to hit trigger with opposite hand.

Advanced: Increase tempo to increase speed of reaching and head turning motion.

Sidelying to Sit with Head Rotation

Basic: Clinician places trigger on their hand. Patient is in right sidelying and moves to sit with head turned left shoulder. Upon sitting hits target in front of them, then turns head to right shoulder and moves to left sidelying.

Advanced: Increase tempo to increase speed of activity.

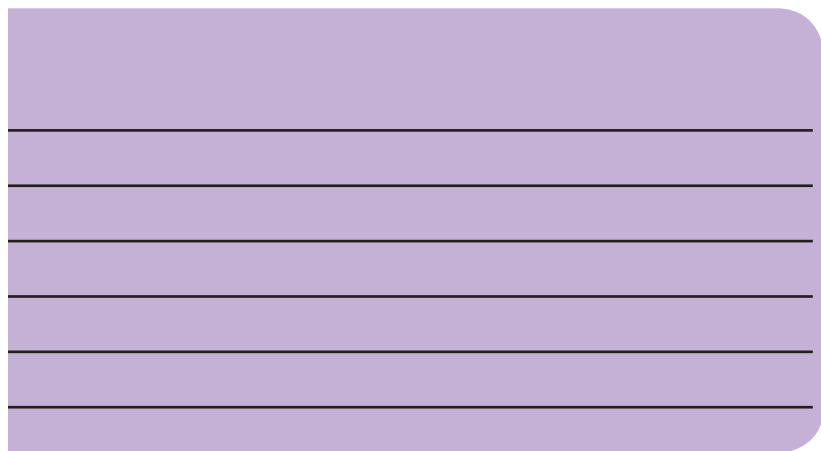
Head Movements while Walking

Basic: Using the In Motion triggers, have the patient walk in time to the reference tone. While walking, turn head to right, then left. Repeat for 1-2 minutes per tolerance. .

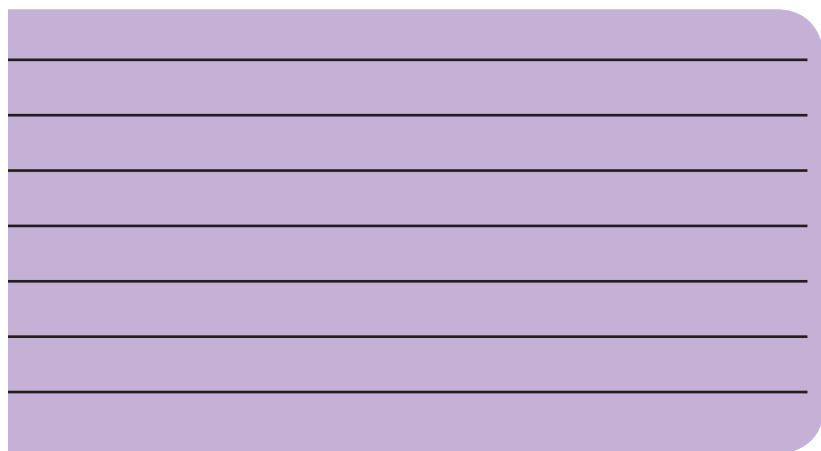
Advanced: Increase tempo or perform with eyes closed.

**Maintain synchronous tapping of upper or lower extremity depending on physical capabilities.*

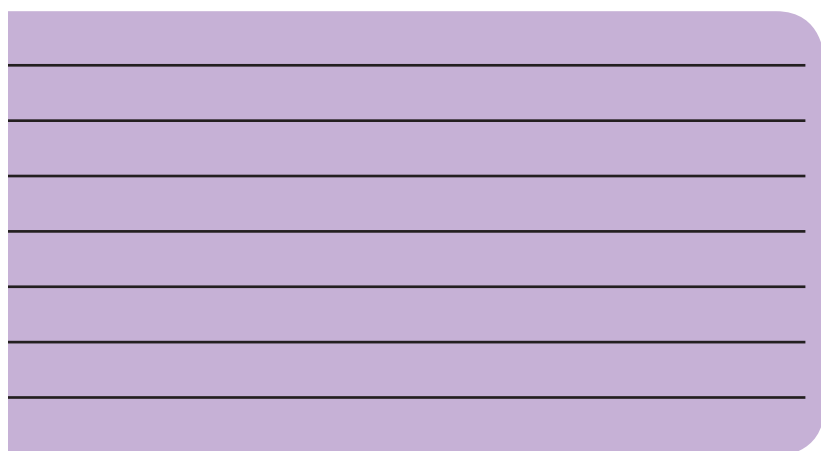
Create Your Own Vestibular Exercise:



A purple notepad with rounded corners and 8 horizontal lines.



A purple notepad with rounded corners and 8 horizontal lines.



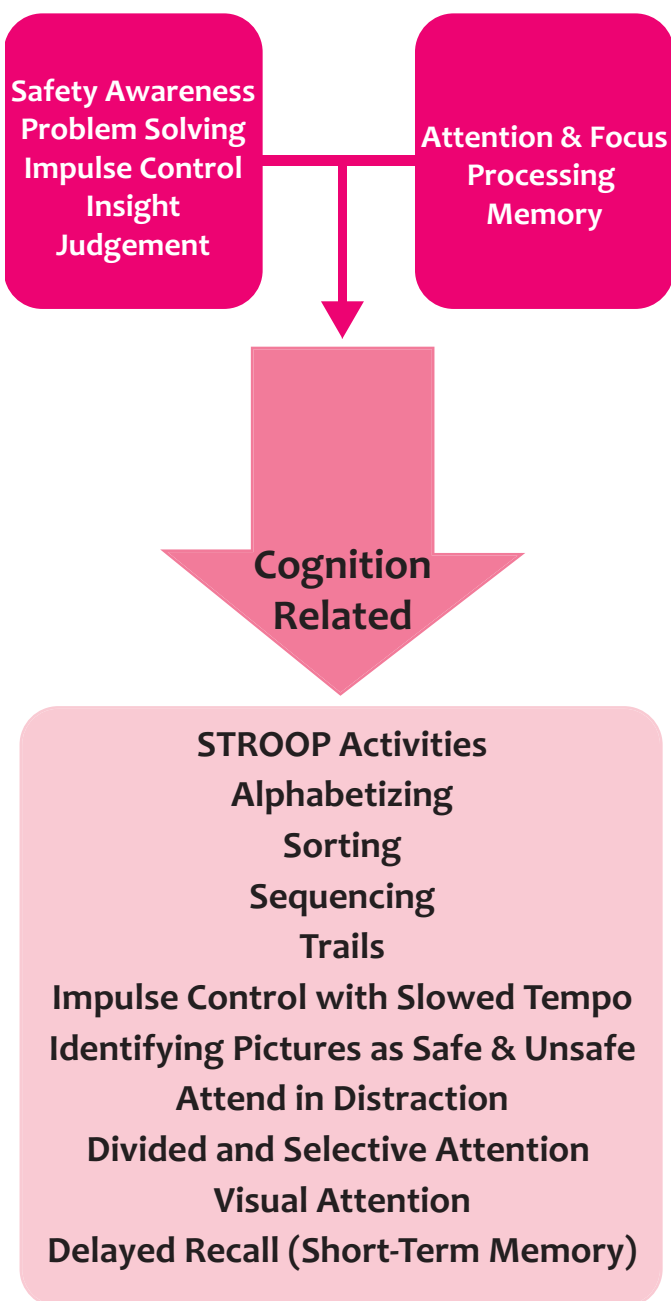
A purple notepad with rounded corners and 8 horizontal lines.

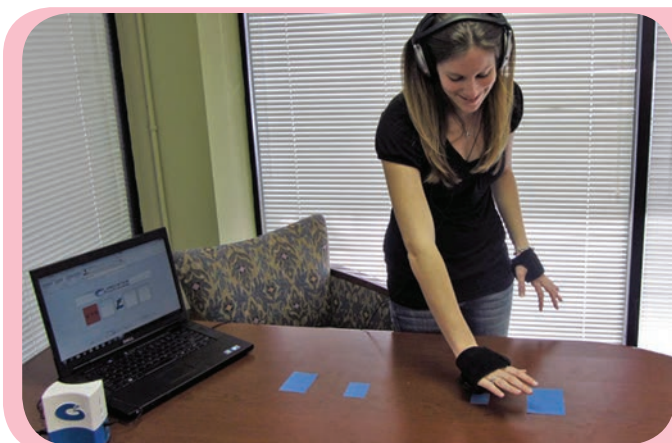
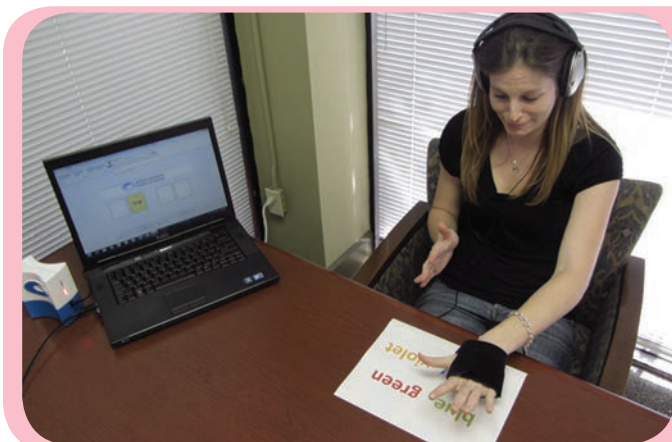
**Maintain synchronous tapping of upper or lower
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Cognitive System

According to one research study, "Older adults with cognitive problems have a higher risk of falls, at least twice that of cognitively normal older adults. The consequences of falls in this population are very serious: fallers with cognitive problems suffer more injuries due to falls and are approximately five times more likely to be admitted to institutional care."¹ Patients who demonstrate cognitive deficits can have decreased attention to task, memory, processing skills, executive function, problem solving, impaired judgment, poor impulse control, and poor insight.

1 | Montero-Odasso, M., Wells, J. L., Borrie, M. J., & Speechley, M. (2009). Can cognitive enhancers reduce the risk of falls in older people with Mild Cognitive Impairment? A protocol for a randomised controlled double blind trial. London, Ontario, Canada: BMC Neurology. (<http://www.biomedcentral.com/content/pdf/1471-2377-9-42.pdf>)





STROOP Activities

Basic: Patient is to clap and state the color of the ink that the word is written in (ie. **Blue** – state red; **Orange** – state yellow)

Advanced: Increase number of variables and colors that are presented.

Alphabetizing

Basic: Have patient tap on written words in alphabetical order (i.e. Cat, apple, fish, dog, goat – tapped in this order 1- apple 2 - cat 3 - dog 4 - fish 5 - goat)

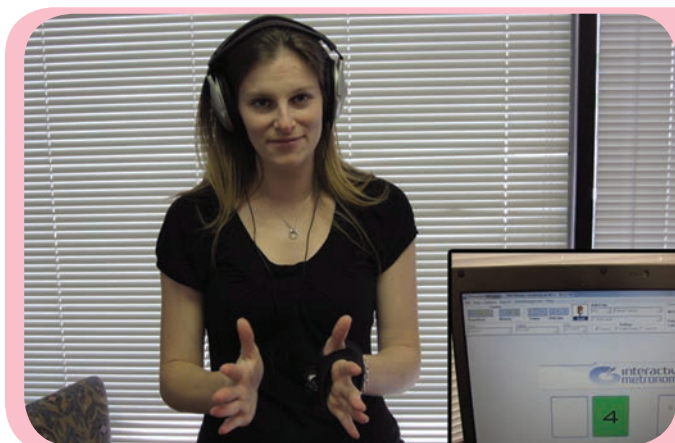
Advanced: Increase the difficulty by having the patient call out the words in alphabetic order while tapping in synchronicity or by increasing the complexity of the written stimuli (ie. Coat, cat, cent, cut, cite Tapped in this order 1 – cat 2 – cent 3 – cite 4 – coat 5 – cut)

Sorting

Basic: Using UNO cards have patient tap all the red or yellow cards or tap all the 3's

Advanced: Increase the complexity of the stimuli (i.e. Tap on shapes ordering them by size)

**Maintain synchronous tapping of upper or lower extremity depending on physical capabilities.*



Sequencing

Basic: Given a set of visual stimuli, the patient will tap on those in sequence (ie. Smallest to largest, numerical ordering, alpha ordering)

Advanced: Increase complexity of visual stimuli. (ie. Trail making – Tap on 1 then A then 2 then B then 3 then C then 4 then D then 5 then E etc or can use actual sequencing picture cards that depict everyday activities (i.e., present the steps for taking a vacation out of sequence and have the patient tap on them in the proper order: 1) make reservations, 2) pack suitcase, 3) go to airport, 4) fly to destination, etc) and tap in them in order of occurrence.

Impulse Control

Basic: Have patient perform synchronous tapping maintaining a tempo that is outside of his internal temporal timing system (usually this is a slowed tempo)

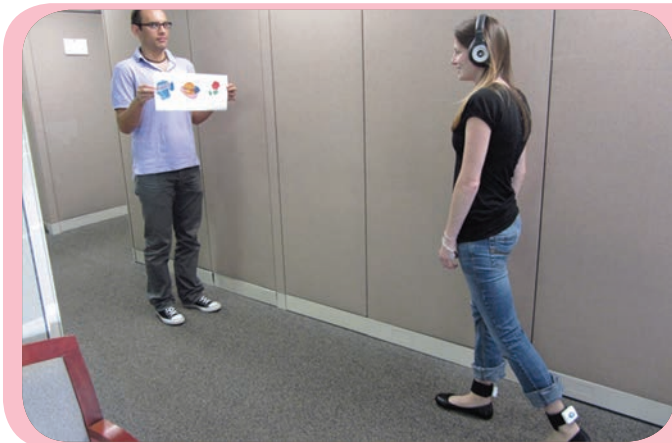
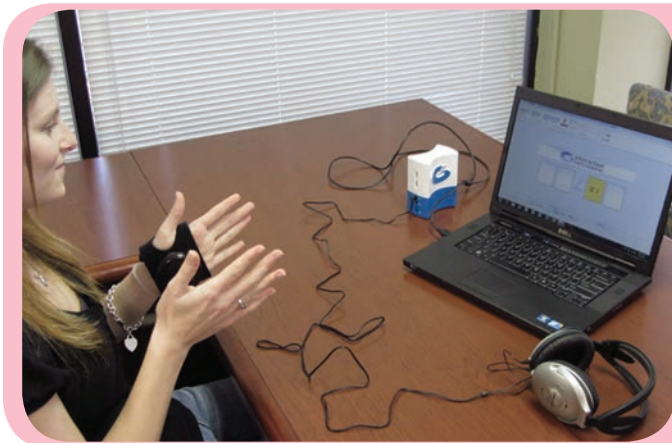
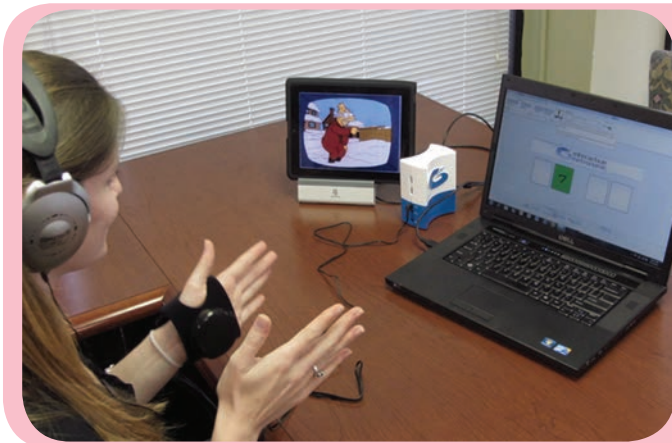
Advanced: Decrease the tempo while increasing the time on task.

Safety Awareness

Basic: Given a set of pictures, tap on those pictures that are safe (ie. Using pot holders while taking a pan out of the oven or putting on your seat belt etc.)

Advanced: Increase complexity of safety situations

**Maintain synchronous tapping of upper or lower extremity depending on physical capabilities.*



Selective and Divided Attention

Basic: Maintain synchronous movement (i.e., clapping or stepping to the reference tone) while clinician is providing distractions (i.e., clinician is reading at the same time or the radio or TV is playing)

Advanced: Increase the amount and type of auditory and visual distractions. (i.e., ask the patient to participate in simple conversation while maintaining motor synchronicity, read the patient a passage and asking him questions from that passage., or have the patient summarize what was said from a radio talk show or TV program that was playing during the IM exercise).

Visual Attention

Basic: Given a set of visual stimuli, have the patient touch the item requested while “tuning out” the rest. (i.e., given a string of letters in random order, have the patient touch only the r’s)

Advanced: Maintain synchronous motor movement using only the IM visual cues (no auditory input) or have the patient call out the numbers that he sees popping up on the IM screen as he taps the trigger (with or without the auditory cues depending on the patient’s skill level)

Memory

Basic: Give the patient a set of words to remember during the length of time that they have to perform the IM activity (i.e., hamburger, rose, sweater). After the IM task, the patient must recall the 3 words.

Advanced: Increase the number of items that the patient must remember or increase the amount of time to perform the IM activity (thus the information must be recalled for a longer period of time). Have the patient read a story and then do IM for 2 or more minutes then go back and answer questions about the story.

**Maintain synchronous tapping of upper or lower extremity depending on physical capabilities.*



Create Your Own Cognitive Exercise:

Setting Table

Basic: Plates, glasses, silverware placed on countertop. While wearing In-Motion trigger, patient ambulates in time with the reference tone to pick up one item at a time (i.e. glass), then ambulates in sync with the reference tone to the table, placing item on the table. Patient returns to countertop to retrieve another item until the table is set for 4 (or the number of settings you determine).

Advanced: Instead of stopping movement at the destination (countertop or table), the patient continues to step in place. (i.e., patient marches in place while retrieving an item from cabinet or silverware drawer. Patients walks to table placing item on table. Patient walks to over to place item on the table, while marching in place at the table).

Communication System

Expressive and receptive language deficits can also increase the risk of falls. A patient's inability to effectively communicate his wants and needs or to follow directions has frequently been associated with increased fall risk.

Researchers have proposed that Interactive Metronome impacts a critical network of structures in the brain associated with mental timing, the same structures that are responsible for auditory and language processing, working memory, processing speed, executive function, motor control and sensory processing.

**Expressive
Language**

**Receptive
Language**



**Speech
Related**

**Yes/No Questions
Naming
Word Finding
Melodic Intonation
Intelligibility Drills
Oral Motor Exercises
Picture Identification
Following Directions**



Yes/No Questions

Basic: Answer simple yes/no questions. May use visual cues such as Yes/No written picture cards to tap.

Advanced: Increase complexity of yes/no questions. May take away visual cue cards and require a verbal response.

Naming

Basic: Show patient pictures of objects found in everyday life and have the patient name the item. Patient should clap to the beat while formulating a response. Pictures can be placed on a table or on the wall depending on physical capabilities.

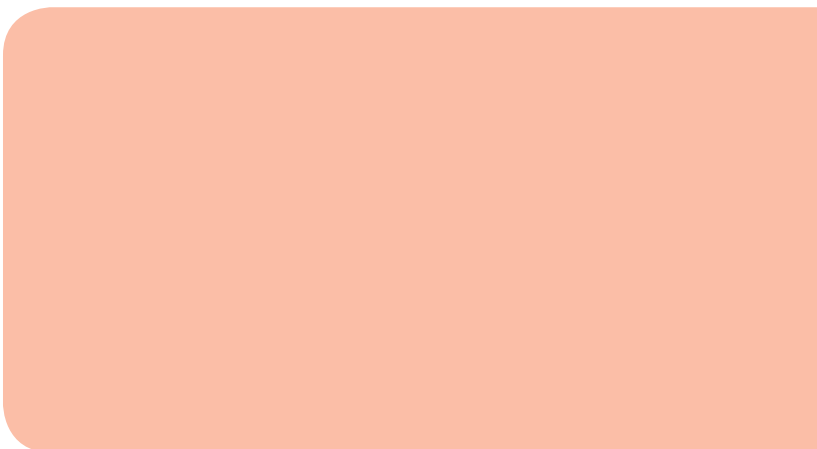
Advanced: Name items that belong to a common category (i.e., list items you find in the bathroom, in the kitchen, etc) increasing to less common categories as abilities improve (i.e., list items you would find in an artist's studio, at a hair salon, etc). Remove visual cues as able. Provide 3 items from a category and have the patient give the name of the category (i.e., you say: white, flowers, church; patient says wedding).

Word Finding

Basic: Name common words (automatic speech) (i.e., days of the week, months of the year, counting from 1 – 20, etc.). Have the patient say each word on the beat while also maintaining synchronous movement with the beat (i.e., clapping hands, stepping, etc).

Advanced: Provide a sentence, speaking the words on the beat, deleting the last word. Have the patient supply the word. (i.e., Grass is _____, Drink a glass of _____.) Provide the word on a card to cue the patient if needed or supply a choice of 2-3 written words to cue to the patient (have the patient select the correct word and say it aloud). Provide the first sound of the word if needed, giving the patient additional time to respond (up to 10 seconds).

**Maintain synchronous tapping of upper or lower extremity depending on physical capabilities.*



Melodic Intonation

Basic: Say a phrase (i.e., I – am – hun – gry; My – name – is – Lu – cy; Good – bye, etc) with each syllable said on the beat while you simultaneously clap/tap to the beat along with the patient (you may provide hand-over-hand assistance as needed, weaning from your help as the patient demonstrates improvement). The patient should watch your mouth as you speak the phrase. The patient then imitates you and says the phrase while clapping to the beat and saying each syllable on the beat. Again, provide hand-over-hand assistance as needed for synchronizing with the beat.

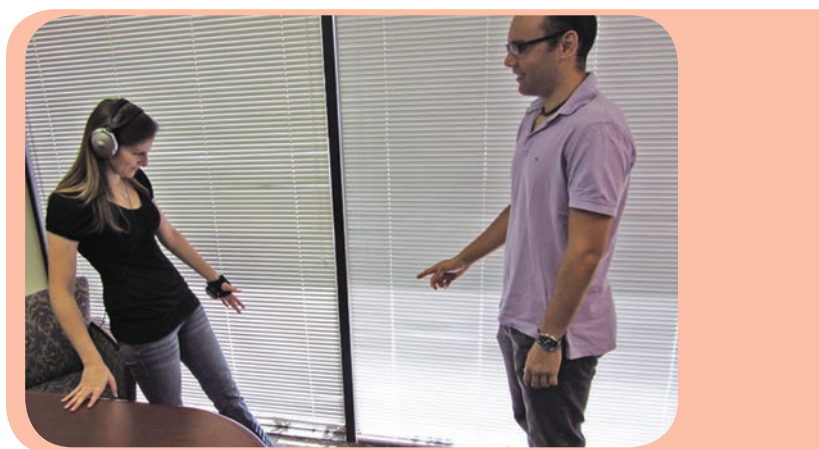
Advanced: Increase complexity of phrases by increasing the number of words in the phrase (i.e., It's – good – to – see – you – Har – ry); the number of syllables in the words in the phrase (i.e., put – the – let- ter – in – the – en – ve – lope); and/or using less common phrases (i.e., I – vot – ed – in – the – e – lec – tion). Again, when you provide the phrase, you should hold the patients hand(s) and clap/tap in hand-over-hand fashion while the patient watches your mouth. The patient should then imitate you and simultaneously clap/tap and speak each syllable to the beat. Provide assistance as needed.

Intelligibility Drills

Basic: Have the patient read aloud or imitate words, starting at single syllable level (i.e., bed, boy, big, bad, go, give, dad, etc. Patient should simultaneously clap and say the word on the beat. Delays are possible. Allow extra time between verbal responses. If there are delays, patient should continue to clap or step to the beat between words.

Advanced: Increase the complexity of the drills by adding phonemically loaded words and phrases (i.e., bring, school, place, backyard, upstairs, come – over – here, I – need – help, I – have – to – go – to – the – bath – room, etc) .Facilitate the ability to control rate of speech, by adjusting the tempo setting

**Maintain synchronous tapping of upper or lower extremity depending on physical capabilities.*



Oral Motor Exercises

Basic: Patient performs sequenced, AROM oral motor exercises. Maintain tapping while moving oral structures (i.e. Lingual control: moving the tongue right, left, up, down; cheek puffing and moving intraoral air from cheek to cheek etc.)

Advanced: Increase length of sequence and increase time on task. Can also add resistance with a tongue blade.

Picture Identification:

Basic: Given a set of items or picture cards have the patient tap on the ones you name. Maintain synchronicity of motor movement (either UE or LE tapping/clapping) throughout the task.

Advanced: Increase the number of items you place before the patient.

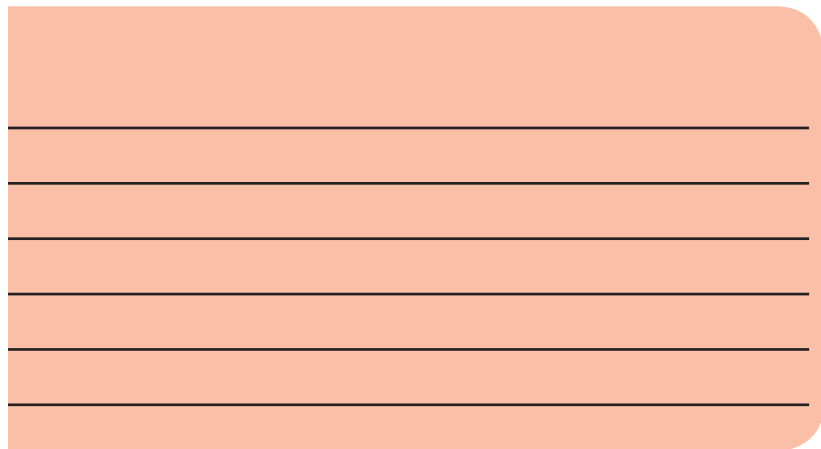
Following Directions:

Basic: Give a set of verbal instructions that the patient must follow (i.e. Tap right knee, then clap twice)

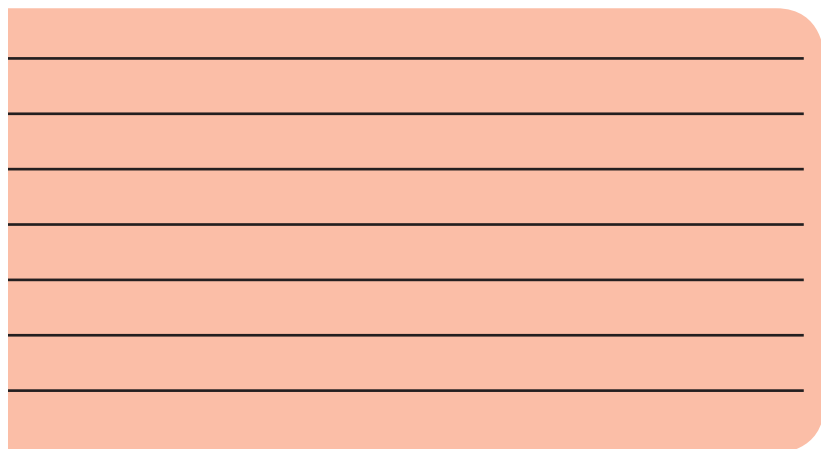
Advanced: Increase the complexity and number of steps of the verbal instruction.

**Maintain synchronous tapping of upper or lower extremity depending on physical capabilities.*

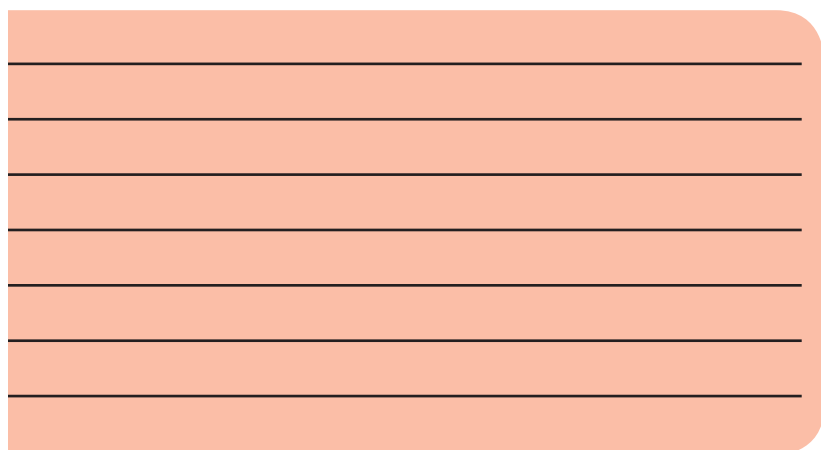
Create Your Own Communication Exercise:



A large orange rounded rectangular box with a thin black border and eight horizontal black lines for writing.



A large orange rounded rectangular box with a thin black border and eight horizontal black lines for writing.



A large orange rounded rectangular box with a thin black border and eight horizontal black lines for writing.

**Maintain synchronous tapping of upper or lower
extremity depending on physical capabilities.*

Contributing Practitioners



Sue Aberdale, CLT, PT received her BS from Russell Sage College. She has over 20 years of experience from outpatient orthopedics in private practice to national positions at the corporate level in the home health field.

As a leader in balance therapy and fall prevention Sue implemented a home-based, comprehensive balance program throughout the country. Sue became certified in lymphedema therapy and Interactive Metronome, where she helps clinicians to utilize these treatment techniques in the home health setting. She continues to work in home health care where she provides education and support to rehab teams to help them give their patients outstanding clinical care.



Dara Coburn, MS, CCC-SLP received her undergraduate and masters degree from the University of Central Arkansas and holds the Certificate of Clinical Competence issued by the American Speech-Language-Hearing Association. Dara is the National Program Champion for Interactive Metronome within

the HealthSouth Corporation. She also serves as Interactive Metronome's Clinical Support contact person for Life Care Centers of America. With expertise and experience in the field of neurological disorders, Dara was able to accept this new treatment tool and has been able to successfully integrate it into her practice by modifying it to individually meet her patient's needs.



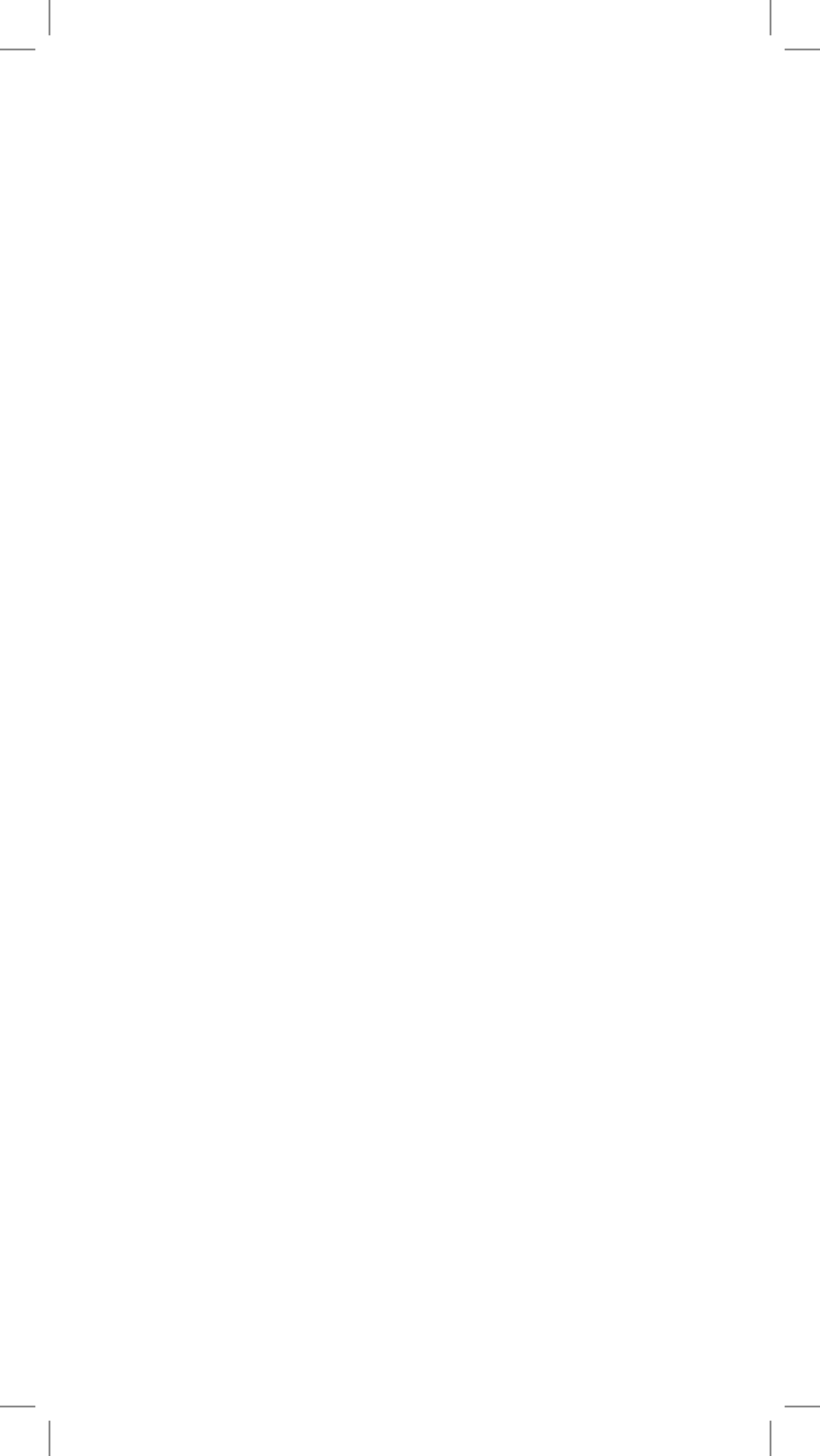
Shelley Thomas, MPT received her physical therapy degree from the Mayo Clinic in 1999 and is currently the Director of Rehabilitation at Idaho Elks Rehabilitation Hospital in Boise, Idaho. She has worked primarily adults with neurological and general medical issues and has embraced incorporating Interactive Metronome and Gait Mate into treatment sessions. She serves as the lead clinician at her facility working with physical, occupational, speech, and recreational clinicians to educate them about how to incorporate IM and Gait Mate into their treatments to improve functional outcomes. Shelley has been teaching IM Certification Courses since 2008 and has contributed to the development of the Gait Mate Certification Course.



Lisa Poe, OTR/L received her Occupational Therapy degree from the University of Mississippi Medical Center in 1994. In her private practice, A Focused Brain, she currently treats pediatrics to geriatrics with neurological issues. Her practice mainly utilizes the Interactive Metronome and IM Home. She also works part-time for Methodist Rehabilitation Quest Program, which is a Community Re-entry Program for TBI and CVA clients. She is trained in multiple treatment approaches for the neurological adolescent and adult population. She teaches both the IM Certification Course as well as the Adult Best Practice Course.

Some of the materials utilized in this program include:

- Foot Stool
- Workout Stepper
- Wooden Dowel
- Ankle Weights
- Dumbbells
- Yoga Block
- BOSU
- Various Flashcards (i.e. Numbers, Alphabet, Fill-in the blank or Pictures)
- UNO Cards
- Playing Cards
- Map
- Colored Index Cards
- Post-It Notes
- Blocks of various sizes
- Television
- Radio
- Dishware (i.e. Plates, Cups, and Silverware)





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