

**INTERACTIVE METRONOME® ONDEMAND  
CERTIFICATION & COACHING**

# **MODULE 4**

**IM TRAINING - PHASE ONE**



# MODULE 4

## IM TRAINING - PHASE ONE



### GATHER NEEDED EQUIPMENT & MATERIALS

### LEARNING OBJECTIVES:

- Overview: Phases of IM Training
- Developing IM Training Plans
- IM Training: Phase 1

### LOG YOUR ACTIVITY TIME HERE!

In each Module evaluation, you will be asked to log the amount of time it takes you to complete each course activity. This information will be used to ensure that the course CEUs have been calculated accurately. Please use this space provided to log your start time.

VIDEO START TIME

\_\_\_\_ AM/PM

ESTIMATED TOTAL TIME FOR THIS ACTIVITY IS 47 MINUTES

You will need the following to complete **Module 4**:

- Computer with good internet connection
- IM equipment (set up, connected to computer and ready to use)
- IM software (open software on your computer)
- IM training file (open your IM file) then minimize the software so you can begin the next module.
- Pencil to take notes

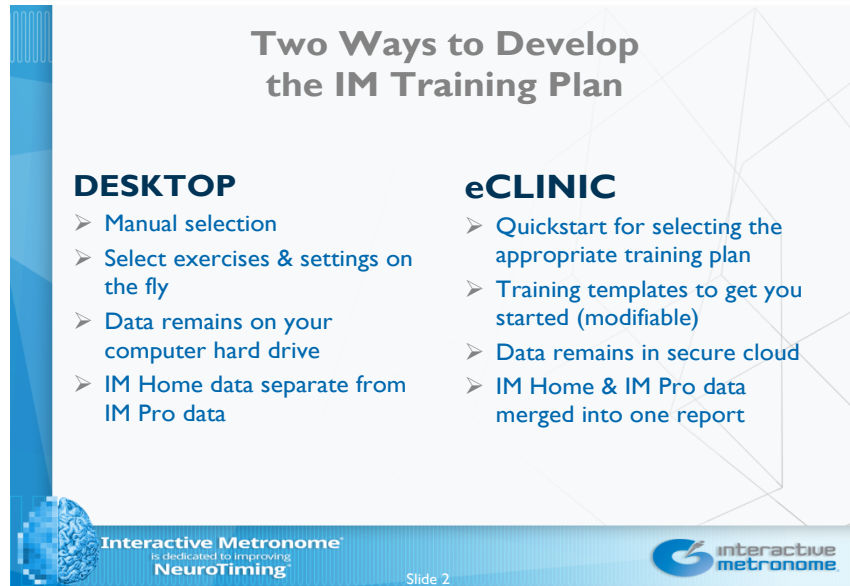
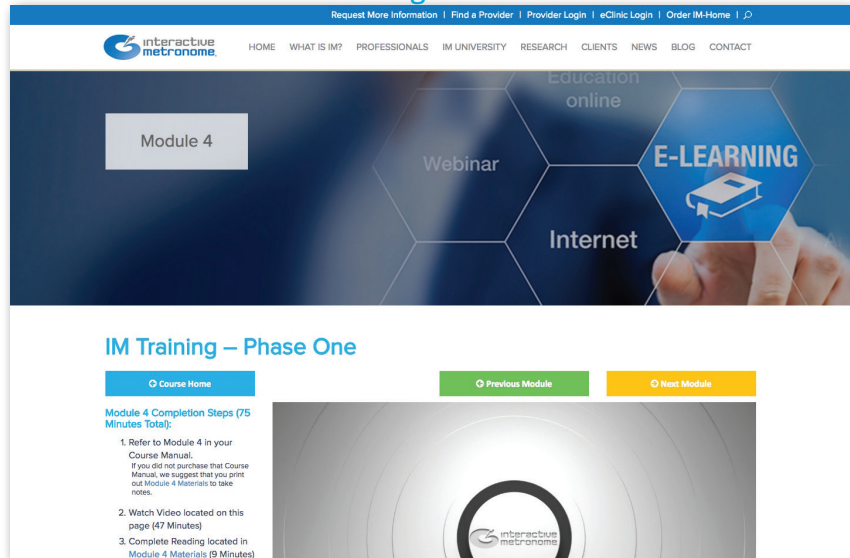


### WATCH THE VIDEO

47 minutes

Access the Module video here:

<https://www.interactivemetronome.com/im-ondemand-certification-coaching-materials/module-4>



**eClinic Quick Start**

Welcome! Edit Profile Logout  
your clinic in the cloud

**LET'S GET STARTED!**

Who is your client?  
Child Adult

Choose gender  
Male Female

Have you completed a Pre LFA?  
Yes No

Completing a Pre LFA can help you determine the best workout

Select workout

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## 4 Phases of IM Training

Phases 1-2	Learn IM Ref Tone & Guide Sounds
Phases 3-4	Improve Timing & Rhythm

**Note:** Phases are not applicable for total hands-on training (i.e., with infants, low functioning clients).

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## IM Training: PHASE I

### LEARN REFERENCE TONE

Goal: Understand concept of clapping & tapping on the beat.<sup>\*</sup> NOT opposite. NOT random.

<sup>\*</sup>Scores may not improve much until feedback for timing is introduced in Phase 2 (guide sounds).

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## IM Training: PHASE I

### LEARN REFERENCE TONE

- Hand exercises only (Both Hands, Right Hand, Left Hand)
- 1-3 minutes per exercise; repeat (30 min of IM training per session or approx. 1400-1600 reps per session as tolerated)
- Reference tone **ONLY**; guide sounds turned **OFF**
- Encourage rhythmical, circular hand movement to develop fine motor control and facilitate better timing (impacts auditory processing, speech, language, literacy, etc ...)



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### Facilitate Timing

- **Prime with metronome playing in background at home before IM**
- **Hands-on assistance from IM provider to give a sense of timing & rhythm** (best of provider has good timing)
- **Whole body movement to the beat rather than isolated body part** (rocking on ball to the beat, etc..)
- **Increase tempo initially if individual is hitting way too fast – go with flow, then gradually decrease to 54 bpm**
- **Manage sensory needs** (lighting, noise, sensory inputs, sensitivities, cravings)
- **Reward to motivate individual toward training!!**



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### Facilitate Timing

- **Some individuals will demonstrate impaired motor planning & sequencing.**
  - ◆ Linear rather than circular movements
  - ◆ Trouble sequencing both toes, both heels, and/or bilateral tasks on LFA
- **To help this person:**
  - ◆ Avoid feedback of any kind:
    - **Keep guide sounds off**
    - **Avoid verbal cues.**
    - **Avoid training visuals & games.**
  - ◆ Decrease tempo (48-52 bpm) to find just right pace where can make circular, rhythmical movements with greater ease.
  - ◆ Hand over hand assist, weaning to modeling, then no cues (your timing must be good) to facilitate consistent rhythmical movement
  - ◆ Gradually increase tempo to 54 bpm then introduce Phase 2 (guide sounds)



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# Facilitate Timing

- **Use of the Training Visuals\* may be necessary for some individuals in Phase I if they ...**
  - ◆ Have trouble paying attention to the ref tone
  - ◆ Are impulsive
  - ◆ Are hitting opposite of beat instead of on it
  - ◆ Are hitting randomly, very fast, or very slow – totally out of sync with the ref tone
  - ◆ Have severe unilateral hearing impairment and can't hear ref tone and guide sounds in one ear

**\*TRAINING VISUALS ARE CONTRAINDICATED WHEN MOTOR PLANNING & SEQUENCING IS IMPAIRED AS FEEDBACK FOR MOVEMENT IS NOT HELPFUL AND CAN INTERFERE WITH PERFORMANCE.**

## PHASE I: Training Visuals

- **If using Training Visuals\* in Phase I, you must adjust the intensity of feedback for timing so that training is too hard:**
  - ◆ **Guide sounds remain OFF** – individual hears only reference tone while receiving visual cues from the computer screen about timing
  - ◆ **Adjust Difficulty to easier setting**
    - Default is 100ms
    - Increase to give more room for error (up to 300ms)
  - ◆ **Adjust SRO to easier setting**
    - Default is 15ms
    - Increase to give more room to achieve SRO (green) hits (up to 50ms)
- **Games are not the best option at this time – stick with less-distracting stationary backgrounds (i.e., kitty)**

**\* THE GOAL OF INTRODUCING VISUAL CUES IN PHASE I IS TO IMPROVE ABILITY TO ATTEND TO & PROCESS THE REF TONE SO THEY LEARN THE CONCEPT OF TRYING TO SYNCHRONIZE WITH IT.**

## PHASE I: Adjust Difficulty

**THE YELLOW right-on ZONE**

**DIFF 100 challenging**



**DIFF 200 easier**



**DIFF 300 easiest**



## PHASE I: Adjust SRO

THE GREEN super right-on ZONE

### SRO 15 challenging



### SRO 30 easier



### SRO 50 easiest



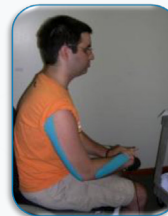
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## Strategies for Hemiplegia

- Learn with intact hand first – then progress to affected hand
- Try to bring affected hand to midline when clapping (↓ tempo)
- Self-assist or hands-on assist
- Gravity-assisted movement



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## Pediatric Adaptations

- Hand-over-hand training
- Enclosed space or with deep proprioceptive input
- With obstacle course, mini-trampoline, ball, other unstable surface
- While playing or role-playing
- Turn-taking with you or peer(s)
- Allow child to create fun exercises or help set-up
- In competition with you or others...



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# PHASE I

## Training Examples



Phase I  
Learn the Reference Tone



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## PHASE I LAB: DEFAULT SETTINGS

### SELECT:

- Regular Training
- Both Hands
- 1 minute
- Tempo 54 (default)
- Guide sounds OFF (x)
- Visual Indicator Selection: **Auditory\*\*\***
- Background: Default

\*\*\*Do **NOT** look at computer screen



**POP QUIZ:** Why are you starting with hand exercises **OR** the most intact hand in Phase I of IMTraining?

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## PHASE I LAB: TRAINING VISUALS WITH DIFFICULTY 100 & SRO 15

### SELECT:

- Regular Training
- Both Hands
- 1 minute
- Tempo 54 (default)
- Difficulty 100 (default)
- SRO 15 (default)
- Burst threshold 4 (default)
- Guide sounds OFF (x)
- Visual Indicator Selection: Enriched Score without Center Flash\*
- Background: Select a stationary background (shown in white font)

\***LOOK** at the computer screen



**TIP:** You are using Training Visuals without the guide sound volumes turned on – visual cues may help your client if he has a lot of trouble processing auditory information.

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## PHASE I LAB: TRAINING VISUALS WITH DIFFICULTY 300 & SRO 50

**SELECT:**

- > Regular Training
- > Both Hands
- > 1 minute
- > Tempo 54 (default)
- > Difficulty 300 (easiest)
- > SRO 50 (easiest)
- > Burst threshold 2 (easiest)
- > Guide sounds OFF (x)
- > Visual Indicator Selection: Enriched Score without Center Flash\*
- > Background: Select a stationary background (shown in white font)

\***LOOK** at the computer screen



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## PHASE I LAB: HELP FOR MOTOR PLANNING & SEQUENCING

**SELECT:**

- > Regular Training
- > Both Hands
- > 1 minute
- > Tempo 48 (slower)
- > Guide sounds OFF (x)
- > Visual Indicator Selection: **Auditory\*\*\***  
(choose "Auditory" from [Training Visuals menu](#))
- > Background: Default

\*\*\***Do NOT** look at computer screen

Difficulty, SRO & Burst settings don't matter here because you are not looking at the computer screen or worried about scores when working with this type of client/student. Feedback (whether through guide sounds or training visuals) will not be helpful for a person with impaired motor planning & sequencing.

**POP QUIZ:** What cues would you need to provide your student or client for motor planning & sequencing?



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## PHASE I LAB: HELP FOR IMPULSIVE STUDENT/CLIENT

**SELECT:**

- > Regular Training
- > Both Hands
- > 30 seconds
- > Tempo 65 (faster)
- > Guide sounds OFF (x)
- > Visual Indicator Selection: **Auditory\*\*\***
- > Background: Default

\*\*\***Do NOT** look at computer screen



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LOG YOUR ACTIVITY TIME HERE!

VIDEO END TIME \_\_\_\_\_ AM/PM

TOTAL ACTIVITY TIME  
(IN MINUTES) \_\_\_\_\_ MIN.

ESTIMATED TOTAL TIME FOR THIS  
ACTIVITY IS 47 MINUTES

LOG YOUR ACTIVITY TIME HERE!

READING START TIME

\_\_\_\_\_ AM/PM

ESTIMATED TOTAL TIME FOR THIS  
ACTIVITY IS 9 MINUTES





## COMPLETE THE ADDITIONAL READING

9 minutes

### IM TRAINING OVERVIEW

Over the course of IM training, the exercises completed will be the same as those performed during the LFA. The exercises progress in a hierarchy from easiest (hands) to most challenging (lower extremities, bilateral, then balance). Custom exercises can be created at any point in training to better meet the needs of your client or to motivate him to focus and participate. Several software settings can be adjusted to make exercises easier or more challenging.

In general, IM training exercises are repeated until a particular skill is mastered (i.e., hand exercises are repeated over and over in Phase 1 until the following concepts are mastered: 1) learn the reference tone and 2) demonstrate rhythmical clapping. Repetition is a vital ingredient to success, as is training frequency. IM training should ideally be performed at least 3 times per week for optimal results. In circumstances where IM training cannot be performed at the desired frequency of a minimum of 3 times per week, your client/family should consider supplementing training in the clinic setting with IM-Home training.

While the majority of your clients will perform IM with some cues and then independently, you will modify your approach to IM training if you are working with infants, very young children, or clients who are significantly cognitively and/or motorically impaired. In this situation, you will perform IM training in a hand-over-hand manner, essentially transferring your own timing ability to your client. Keep this in mind as we go over each phase of training. If providing IM with a total hands-on approach for young child or a significantly involved client, you will not necessarily need to follow the phases as described in the next few modules, but may introduce all of the tasks and any custom tasks at any point in training according to your own professional judgment.

**NOTE:** *It is critical to train yourself first so that your own timing scores are in the 20 ms range for you to be most effective with this approach.*

### ADJUST IM SETTINGS & APPROACH FOR SUCCESS OVERCOMING COGNITIVE OBSTACLES

Some suggestions for overcoming cognitive barriers during Phase I include:

- **REMAIN SEATED FOR EXERCISES** – If your client has difficulty with balance or fatigue, have your client sit in a chair while performing the hand exercises so that he can focus better.
- **PROVIDE CUES TO FACILITATE TIMING** – If your client has difficulty synchronizing with the beat (i.e., tends to hit way too fast, too slow, opposite of the beat, or random), provide cues in this order:
  - Verbal cues to speed up, slow down, hit on the beat etc.
  - Model appropriate timing for your client by wearing the other set of headphones and clapping to the beat while your client faces you and copies you.
  - Provide total hands-on assistance.

When providing hands-on assistance, you should be wearing the headphones so that you can hear the reference tone also. Position the computer so that you can view the screen as needed to make sure your timing is good as you provide hands-on assistance. It is of critical importance that your own timing skills are within the exceptional range of 22-29 ms for this approach to be maximally effective.

As you can see, the goal is to progress from the least amount of cueing to the most. If you have to provide hands-on cueing, you should look for opportunities to step back a bit and wean from the more powerful hands-on assist to modeling to verbal cues as needed. If

your client continues to have difficulty with attending to and processing the reference tone and is still not making an attempt to synchronize with it independently after providing the above cues, then another approach may be needed (see options below).

- INTRODUCETRAININGVISUALS**– If your client has difficulty with attending to or processing the reference tone via the auditory presentation via headphones and you have provided verbal and hands-on assistance, you may wish to introduce low distraction Training Visuals including those with a stationary background (Default or solid color background is the least distracting) and feedback for timing (Enriched Score Without Center Flash). It is best to avoid Games at this point, as they will be too distracting for a client that needs visual cues to synchronize with the Reference Tone. If auditory attention/processing are weaker abilities for your client, your goal should be to use the IM Training Visuals as a bridge to help him learn to synchronize with the auditory reference tone. Once he is attending to and processing the auditory reference tone and making an attempt to synchronize with it, you should start the session with the Training Visuals turned on and follow that with the Training Visuals turned off (so your client is just synchronizing with the auditory reference tone). You can alternate between use of Training Visuals and just auditory training over the course of the session. When appropriate, remove the training visuals altogether and continue with just auditory training exercises.

For clients that can handle it, there are several stationary visual displays to choose from that are appealing for clients of all ages and may increase motivation toward IM training (in lieu of the solid color background or default screen). See images below.



Each time your client claps/taps his hand on his leg, or performs some other motion like a high-five to the beat, he will see his score on the computer screen when Training Visuals are turned on. This will let him know how close to the beat he is and whether he is hitting before, after, or on the beat. The visual information your client sees will be in sync with the auditory reference beat he hears, helping him to learn to attend to and process the auditory information.

Be sure to adjust the Difficulty if you are introducing the Training Visuals so that your client does not receive an overabundance of negative feedback. Use this chart as a guideline to establish the appropriate Difficulty level:

Client's Millisecond Average:	Adjust Difficulty Setting to:
More than 300 ms	300 (highest)
200 ms	300 (add 100)
150 ms	250 (add 100)
100 ms	150 (add 50)
50 ms	100 (add 50)
Less than 25 ms	Auto (most challenging)

Imagine that you are working with a client who has Dyslexia and Auditory Processing Disorder. His timing is in the 300 ms range. He has difficulty processing the auditory reference tone. On LFA Task 14 when guide sounds were turned on, he became very confused and said he could not decipher which sound was the one he was supposed to listen to and clap in sync with.

To facilitate his performance in Phase 1 of IM training with the reference tone alone, you decide to introduce the Training Visuals of the IM system. You quickly realize that he is better able to focus and process information when it is presented visually. His performance improves to the 150ms range. You see that he now has an idea of what he is supposed to do: 1) listen to the reference tone, 2) synchronize with it.

You want to wean him from the visual cues so that his auditory attention and processing skills are required to do the lion's share of the heavy lifting to improve his auditory skills – rather than further building up his already strong visual skills. You begin to pair exercises in his training session so that he does one exercise with the visual cues and the next without (just synchronizing with the auditory reference tone). He temporarily regresses in the absence of visual cues, but then his performance picks up as exercises are paired.

He now attempts to synchronize with the auditory reference tone and demonstrates performance in the 100ms range. Next, you will advance him to Phase 2 to introduce the guide sounds so that he learns to process the auditory feedback and improve his timing further (which will improve his auditory temporal processing – the foundation for auditory processing).

- **REDUCE THE TEMPO** – If your client's tendency during the LFA was to hit consistently after the beat, this may signal a delay in cognitive processing. It may be helpful to reduce the tempo slightly from 54 bpm to anywhere from 48-52 bpm to allow a little more time between beats for your client to better process the reference tone. Once you find the just-right tempo for your client that enables him to process and perform better, work at this tempo for a while until your client demonstrates he can readily keep up with the pace of the reference tone without struggle. As he demonstrates improvement, gradually increase the tempo back toward 54 bpm to encourage him to process information a bit more quickly.

For example, let's imagine that you are working with a client who has suffered a mild traumatic brain injury. One of the consequences of the brain injury is that your client exhibits a cognitive delay in processing auditory information. He struggles at 54 bpm to keep up and is hitting after the beat on the LFA. You've trialed some slightly slower tempos to see if helps him. You tried 48 bpm, but that was a bit too slow and caused him to have to think too hard as he waited for the next beat and his score got much worse. He didn't seem as fluid in his performance as you'd like. So, you tried 52 bpm and this was just right for him.

Over a few sessions, his performance at 52 bpm improved to where he could more easily clap in synchrony with the beat without lagging behind it all the time. As he improved, you increased his tempo to 54 bpm. You did so without telling him so that he wouldn't try so hard and over-compensate in anticipation of the slightly faster beat. You found that he can now keep up with 54 bpm.

- **INCREASE THE TEMPO** – If your client's tendency during the LFA was to consistently hit Very Early (confirmed by analyzing the breakdown of more detailed LFA scores in Data List View), this may signal a problem with impulse control and self-monitoring. It may be helpful in this instance to increase the Tempo to match your client's pace initially. Some clients perform much better at 60-65 bpm (i.e., clients with Parkinson's or right hemisphere brain injury) and tend to be more synchronized with the reference tone when the tempo is set at this level, particularly if they are also seated in a chair for hand exercises. Some clients need the Tempo set even faster and are much more engaged when it is faster (i.e., children with ADHD).

As you adjust the tempo, keep in mind that the purpose of doing this is to bring IM to your client's level to help him learn to synchronize with the reference tone. Gradually, over successive trials as your client demonstrates better understanding of synchronizing with the reference tone, you will want to adjust the tempo back toward the default setting of 54 bpm.

For example, let's imagine that you've adjusted the Tempo for a young boy with ADHD to 80 bpm. He is now engaged and synchronizing with the reference tone because you've brought it to his level rather than trying to get him to make the big leap to slow himself down (which would require him to self-monitor and self-regulate, skills he presently has difficulty with). As he demonstrated success at 80 bpm, you gradually reduced the tempo to 78, then 76, then 74, etc until you were as close to 54 bpm as possible, all the while assessing his response to the decrease in tempo. You reduced the tempo without telling him so that he would not anticipate the change in tempo and over-react or over-compensate as he attempted to synchronize with a progressively slower beat.

Obviously, this took a few sessions to accomplish! This brings up the point that it is important not to promise a specific number of IM training sessions to clients or parents. You never know how your client will respond until you get in there and start training – you may be surprised that he is progressing more quickly than you anticipated. On the other hand, you may be surprised that he is taking much longer than you initially thought he would!

- **INTRODUCE WHOLE BODY MOVEMENT TO THE BEAT** – If your client appears to have no sense of timing and hits randomly on the LFA (i.e., no periodicity or rhythm at all), or if your client continues to demonstrate poor timing with scores in the 300 ms range or higher despite providing cues (verbal, visual, hands-on), then you may want to introduce whole body movement to the beat to facilitate a better sense of internal timing and rhythm. This can be accomplished in several ways. Here are some examples:
  - Velcro a button trigger on the surface of a table that is positioned in front of your client who is seated in a chair or wheelchair. Physically assist your client to lean forward at the torso to tap the trigger on the beat with his outstretched hand and to touch the back of the seat with his back as he leans back toward the chair on the next beat. You can progress to having your client wear the hand trigger and lean forward to tap your hand (you can vary the distance of your hand to provide cues for timing, positioning it closer or farther away as necessary so your client taps your hand as close the reference tone as possible). Your goal should be to progress to your client clapping both hands or tapping his own leg on the beat in synchrony with the beat.
  - Have your client lay prone over an exercise ball. Adjust the tempo to a slower setting (i.e., 30-40 bpm). Set up the IM so that the reference tone is playing through speakers instead of headphones. Arrange the computer screen so that you can easily see it (your client does not need to see it). Put the hand glove and trigger on your client's dominant hand. Rock him forward and physically assist him to tap the floor on the beat. Rock him back on the next beat. (he will only activate the trigger in this manner every other beat, skipping a beat as he is rocked back). This is a soothing activity that helps increase a person's internal sense of timing.
  - Have your client stand at a table that is waist-height. Place a medium exercise ball in front of your client on the table. Have your client roll the ball forward away from himself onto the tap mat or button trigger that is Velcroed to the table top on one beat, then back toward his body on the next beat. Set the trigger far enough in front of him that he has to lean forward to activate it. In this way, he is moving his upper torso to the beat each time. He will activate the trigger every other beat. Set the tempo at a nice slow rhythm for this exercise.
  - Sit on the floor with you and your client facing each other, criss-crossed legs. Wrap a sheet around your client's back so that you are holding each end of it as you are seated

across from him. Gather the sheet in your hands so that it is taught. Play the reference tone through the speakers. On one beat pull your client toward you, on the next beat allow your client to rock his upper body back toward the position he started in. Some clinicians who work with small children use a child-sized rocking chair to rock the child forward and back to the beat. There are many creative ways to achieve whole body movement. Feel free to explore and have fun with it!

- **PROVIDE HAND-OVER-HAND TRAINING** – Remember, if working with clients who cannot perform IM training exercises on their own or with your cues (i.e., infants, young children, significantly impaired children and adults), you can facilitate improved cognitive and motor function with a total hands-on approach to training.

**NOTE:** *Your own timing should be in the 20 ms range to be the most effective. You may need to practice IM so you can be more helpful to your clients.*

## OVERCOMING MOTOR OBSTACLES

Some suggestions for overcoming motor barriers during Phase I include:

- **WORK WITH THE UNAFFECTED UPPER EXTREMITY FIRST IF YOUR CLIENT HAS DECREASED FUNCTION ON ONE SIDE OF THE BODY** – If your client exhibits weakness or impaired functional movement on one side of the body, you should first teach the reference tone using the most intact upper extremity.
- **MODIFY YOUR APPROACH FOR INDIVIDUALS WITH IMPAIRED MOTOR PLANNING & SEQUENCING SKILLS** – Clients that have a developmental disorder or acquired brain injury may demonstrate difficulty with planning and executing motor sequences on demand or when “thinking” about it. This condition, called dyspraxia, is important to identify during IM assessment and/or Phase 1 of IM training. Clients with dyspraxia use an inordinate amount of cognitive resources for movement, which significantly limits the amount of resources they can devote to performance on cognitive tasks. You will need to adapt your IM training approach to help your client learn to move in a more timed, rhythmical manner without having to “think” about *how* he is moving.

If IM settings are adjusted (i.e., tempo), proper cues are provided to train the brain to plan and execute motor sequences on an “automatic” level (i.e., hand over hand patterning, visual model), and feedback about movement is eliminated or minimized that causes your client to “think” about how he is moving, you can facilitate improvement in motor coordination and use of valuable cognitive resources. Effectively addressing dyspraxia is critical and will help your client achieve both motor and cognitive goals for IM training. Here are some practical tips for identifying dyspraxia during IM assessment and training:

- When clapping Both Hands, your client may exhibit straight, linear movements rather than circular, rhythmical movements.
- If you instruct your client to make “circles” and he either can't, or can only do it if you cue or provide a visual model, or he can temporarily make more circular, rhythmical movement but then reverts back to the more linear pattern, these are signs of dyspraxia.
- Clients with dyspraxia may make very small movements when clapping, spacing the hands quite close together.

The following strategies have been found to be helpful for remediating this problem. Keep in mind, figuring out what works for your client may take a bit of trial and error. Don't be afraid to explore and try different settings. Once you find the right fit, you will observe your client's movement becoming more fluid/rhythmical and millisecond timing will begin to improve.

- ✓ **KEEP WORKING IN PHASE 1 UNTIL MOTOR SKILLS ARE MORE TIMED, FLUID, and RHYTHMICAL:** If your client is struggling (even subtly) with motor planning and sequencing, *do not advance to Phase 2* until motor skills are fluid, rhythmical, and timed (or at least to the best ability of your client).

Reminder: In Phase 2, guide sounds are turned on. Guide sounds serve as feedback regarding movement which will cause your client to “think” about how he is moving in order to change how he is moving. If you recall, dyspraxia, or impaired motor planning and sequencing, occurs when your client has to “think” about how he is moving. If your client has dyspraxia, you don’t want him to think about his movement at all. You want him to move repetitively in a rhythmical and timed manner with the LEAST amount of cognitive effort!

- ✓ **WORK WITH THE AUDITORY REFERENCE TONE, AND AVOID THE TRAINING VISUALS:** When the “Training Visuals” of IM are used, they provide feedback about timing, requiring fine motor control to make adjustments in performance to get closer to the beat. In Phase 1 of IM training, you are working with just the Reference Tone and are not using the Training Visuals. However, in some instances (limited attention span, impaired processing, and/or for motivational purposes), the Training Visuals may be turned on during Phase 1 even though the guide sounds are NOT turned on.

Be advised that use of the Training Visuals (even with the guide sounds turned off) may be discouraging or too difficult for a client with dyspraxia until his motor planning & sequencing skills improve. Remember, the goal for a client with dyspraxia in Phase 1 of IM training is to achieve more automatic, fluid movement. This is best accomplished by clapping/tapping to the Reference Tone alone (heard via the headphones) over many repetitions with your client positioned so that he cannot see the computer screen.

- ✓ **FIND THE JUST-RIGHT TEMPO WHERE YOUR CLIENT CAN MOVE MORE FLUIDLY WITHOUT THINKING SO MUCH ABOUT IT:** For some of your clients, a faster tempo may be the trick. Especially for children, boys in particular. This tends to also be true for individuals with Parkinson’s. Making them clap and tap to 54 bpm or an even slower tempo is EFFORTFUL for them! For some of your clients, a slightly slower tempo (i.e., ranging from 48 – 52 bpm) may be just the trick. The extra time allotted between beats is just enough time for their brain to plan and execute smoother, more rhythmical and circular movements with the hands.

So, play with the tempo!! Once you find the just-right tempo for your client, stick with it and increase the repetitions to master automatic movement and free up cognitive resources.

**NOTE:** *There will be some clients that will need to first work on timing, THEN rhythm. For these clients it is too hard to work on BOTH at the same time! These clients typically display more significant impairment in motor planning and sequencing. If you try to work on both and notice that working on rhythm (circular movement) interferes significantly with timing (your client can’t focus on the reference tone as well and performance significantly deteriorates when he has to make circular movements), then you will need to first help your client establish good timing with the linear clapping pattern he is comfortable with. Once he demonstrates better timing, you will then begin encouraging him to clap or tap in a circular, more rhythmical manner. Be sure to do sufficient repetitions so that you are successfully mapping the brain for this new skill.*

What do we mean by sufficient repetitions? It means that your client needs to perform enough repetitions for him to learn to automatically execute smooth, fluid movement without thinking about it. Studies show that this requires a lot of repetition of the same movement pattern over and over and over. The exact number of repetitions required for this will vary from person to person. You should constantly reassess how your client is progressing and adapt your approach & IM settings as needed to achieve the goal of more automatic and fluid movement.

- ✓ **PROVIDE HAND-OVER-HAND ASSISTANCE OR PERFORM THE IM EXERCISE SIMULTANEOUSLY WITH YOUR CLIENT, PROVIDING HIM WITH A VISUAL MODEL TO COPY:** Once you’ve established the just-right tempo, determine whether your client can now clap and tap to the beat with the 3 hand exercises (Both Hands, Right Hand, Left Hand) on his own in a more rhythmical, effortless, coordinated manner. Watch for his timing to improve and for him to be able to make gradually smaller incremental changes in millisecond timing as he attempts to synchronize with the beat. If your client still cannot make circular, rhythmical movements, then you need

to continue to provide hand-over-hand assistance to help him accomplish this.

**NOTE:** *Your proprioceptive input is very powerful and will facilitate progress IF YOUR OWN TIMING IS GOOD (between 20 - 30ms). If your timing is not good, you will be of little assistance to your client unfortunately! It is very important to improve your own personal ms averages, particularly for Both Hands and your dominant hand as you will use these to aid your clients.*

After an extended period of providing hand-over-hand assistance, look for an opportunity to wean from your direct assistance. At this point, see if your client can maintain rhythmical movement while copying you as you simultaneously clap or tap to the beat (you should also be wearing headphones). Once this level of cueing is established and successful (i.e., your client's timing is improving, and he is maintaining circular rhythmical movement by watching you and copying you), then look for opportunities to wean more from your cues. Begin the exercise by having your client copy your movements, then at some point in the exercise, you will stop clapping or tapping while your client continues on his own. If your client displays any difficulty in timing or with the circular rhythmical movement pattern, then jump back in and provide either hands-on assistance to get back on track or start clapping/tapping again along with him so that he can watch you and copy you.

- ✓ **PERFORM EXERCISES AT HIGHER REPETITIONS ONCE THE JUST-RIGHT TEMPO IS ESTABLISHED:** Once the just-right tempo is established, increase the repetitions substantially to 5-10 minutes (more if tolerated) with the same exercise (i.e., Both Hands). It is vital to move fluidly over many many repetitions to create neurological change and improve motor coordination. Remember to provide cues as needed and wean from them as your client demonstrates readiness.
- ✓ **WATCH THE COMPUTER SCREEN AS YOUR CLIENT CLAPS OR TAPS TO THE BEAT, LOOK FOR HITS TO BE CLOSER TOGETHER IN MILLISECONDS, AND WATCH FOR YOUR CLIENT TO BE ABLE TO MAKE SMALLER ADJUSTMENTS IN TIMING MORE EFFORTLESSLY:** Once you see your client is able to keep “a happy medium” with his IM performance where he is not bouncing back and forth between very early and very late (over and under-correcting) and appears to be moving more smoothly and fluidly on his own, you may begin to increase the tempo back toward 54 bpm. You may need to make gradual changes in the tempo as you work back toward 54 bpm (i.e., go from 50 bpm to 52 bpm, then to 54 bpm once 52 bpm is mastered). It is important to NOT tell your client that you are adjusting the tempo so that he doesn't make any extra effort to compensate for the tempo change. You still want him to move fluidly to synchronize with the reference tone without “thinking” about it.
- ✓ **PROCEED TO PHASE 2 (TURN ON GUIDE SOUNDS):** You should proceed to Phase 2, once your client demonstrates he is trying to synchronize with the beat and his clapping and tapping motions are smoother and more rhythmical. Your client is now ready to begin receiving feedback about his timing, in which case he will now begin to “think” about how he is moving. With the improvement he has made thus far, he should be better able to process & respond to guide sounds without so much interference from dyspraxia.

**NOTE:** *In some cases where dyspraxia is severe, your client may not achieve completely smooth, rhythmical movement with the above approach. He should demonstrate substantial improvement however. In this case, your goal would be to improve motor coordination as much as possible before proceeding to Phase 2 of IM Training.*

# NOTES

## OVERCOMING SENSORY OBSTACLES

The following are some suggestions for overcoming obstacles associated with Sensory Processing Disorder (SPD) during IM training. This course will not cover all of the complexities of SPD or its management. SPD is a very common disorder, is under-diagnosed, and is almost always associated with children on the autism spectrum. SPD often co-occurs with many developmental disorders like ADHD. Behaviors that you observe in your sessions may in some cases be attributed to SPD and are most effectively managed with a sensory approach in addition to IM Training.

**NOTE:** *The STAR INSTITUTE for Sensory Processing Disorder provides online education for professionals who wish to learn more about serving individuals with Sensory Processing Disorder. <https://www.spdstar.org/basic/online-education>*

- **INCORPORATE SENSORY INTEGRATION STRATEGIES INTO IM TRAINING SESSIONS** – Perform sensory modulating activities prior, during, and/or after IM training as indicated to decrease the sensory impact of IM (i.e., heavy work, deep proprioceptive input).
- **INCREASE NOVELTY** – Make the IM exercises more engaging for children by incorporating their interests. Rather than always doing the 3 hand exercises in the traditional manner you may opt to have your client high-five you or your client may come up with some fun way of performing IM that is engaging and puts him in control for part of the session. Incorporate age-appropriate therapy tools, obstacle courses and games to facilitate motivation and sensory integration.
- **REDUCE THE VOLUME** – Reduce the Volume of the Reference Tone if your client exhibits auditory hypersensitivity. The volume can be reduced during the IM Assessment and Training.
- **USE SPEAKERS INSTEAD OF HEADPHONES** – Use external speakers or alternate headphones (i.e., such as those used with various sound therapies) instead of the IM headphones if your client is overly sensitive to the feel of the headphones. If using speakers, find a set that have separate left and right speakers (not the folding type), their own volume adjustment, and their own power source. Alternative headphones can be used with the IM if better tolerated (i.e., the headphones used with the various sound therapies).
- **MODIFY TRIGGER PLACEMENT** – If your client is overly sensitive to the feel of the IM glove, attach the IM button trigger or tap mat to an alternate surface (i.e., table-top, wall, etc.) for him to hit. Alternatively, your client can wear a soft glove (chenille fabric is great), and the IM glove can be placed over it. This particular strategy also works well for individuals who have a lot of allergies to avoid the build-up of histamine and subsequent itching from clapping the hands together.
- **INCORPORATE SENSORY BREAKS INTO TRAINING** – Incorporate sensory breaks into your IM training sessions. For example, if your client puts forth maximum effort and does the 3 IM exercises you request of him, he can earn 10 bounces on the trampoline or 10 repetitions on the swing. Then you can go back to IM and if he performs another 3 exercises with good effort he can earn 10 repetitions again or an activity from choices you provide. You may end the session in the ball pit for deep proprioceptive input or with some other fun activity that involves heavy work.
- **MONITOR SENSORY INPUTS TO AVOID SENSORY OVERLOAD** – Monitor the type and dosage of sensory input in your sessions to avoid sensory overload. For example, if your client with SPD looks at the computer screen while doing IM and the vestibular system is also being challenged (i.e., you have him on a balance board or exercise ball) at the same time, this may contribute to sensory overload for some.

**LOG YOUR ACTIVITY TIME HERE!**

**READING END TIME**  
\_\_\_\_\_ AM/PM

**TOTAL ACTIVITY TIME (IN MINUTES)**  
\_\_\_\_\_ MIN.

**ESTIMATED TOTAL TIME FOR THIS ACTIVITY IS 9 MINUTES**





## TAKE THE ONLINE POST-TEST & EVALUATION FOR MODULE 4

5 minutes

To view the course materials for this Module visit:

<https://www.interactivemetronome.com/im-ondemand-certification-coaching-materials/module-4>



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**DON'T FORGET TO REFERENCE YOUR NOTES FOR THE TIME LOGGED ACTIVITIES IN THIS MODULE, WHICH WILL BE ASKED IN THE EVALUATION.**