

Module 4: *Recommended Resources*

Recommended Reading

- *The Brain That Changes Itself; Stories of Personal Triumph from the Frontiers of Brain Science* – Norman Doidge
- *Stronger after Stroke; Your Roadmap to Recovery* – Peter G. Levine
- *My Stroke of Insight* – Jill Bolte Taylor, Ph.D.

Recommended Courses

The Z-Health Performance Solutions, LLC curriculum. More information can be found at <https://zhealtheducation.com>. The Z-Health Curriculum has many courses and there are certain course tracks that are recommended depending on your profession/focus. For those who want to work with stroke survivors we recommend the course track for healthcare practitioners:

- R-Phase – Designed to provide the best entry point and transition from where you are to a neuro-centric approach to your work, and look at pain and performance through a neural lens, it will immediately change your practice and training!
- I-Phase – Once you understand the information in I-Phase, there is no going back! Neurology and brain-first thinking will be your lens for the world and your work. I-Phase adds essential layers of neurology to the fundamentals you explored in R-Phase, with a heavy focus on how the eyes and inner-ear impact movement.
- 9S: Structure - This course is the “why” behind the entire Z-Health system on a neuro-anatomical level. A deep dive into the anatomy and physiology of the brain, brainstem, cerebellum, and peripheral nervous system with the goal of understanding how to PRACTICALLY APPLY this information.
- T-Phase – The high speed, practical assessments and drills in T-Phase are the keys to unlocking the body’s sticking points and long-held neurological threat. T-Phase is the most diverse course of our the curriculum, and will address many systems from a neurological perspective.

- S-Phase – S-Phase is the fundamental course in developing high-level athleticism & performance for every client you work with, from those with zero experience up to international-level professional athletes. Most people were never taught to see, balance or move like an elite athlete. This course dives deeper into the visual assessments and training.

Z-Health also offers some great training products that you can easily integrate into your training for all levels and types of clients (see the website for more information on each):

- The Z-Health Vision Gym
- The Z-Health Balance Gym
- The Z-Health Strength Gym
- The Z-Health Breathing Gym

MedFit Education Foundation:

- **Joints of the Human Body: An Exploration of Six Joints and their Wholistic Relationship to the Body (online course)**

Description: This 12+ hour course is a focused look at individual joints that then “zooms out” to see how each joint affects and is influenced by the whole body. Overall body performance and health is greatly linked to the function and health of joints. Function will be explored anatomically, clinically, biomechanically, and discuss how they are best trained for rehabilitation and performance. Special focus on the wholistic influence of each joint on the body will be presented. Specifically, the course includes lessons on the Ankle, Knee, Hip, Shoulder, Elbow, Wrist/Hand, with assessments & drills for each joint.

- **Webinar: Motivational Interviewing to Drive Sustainable Behavior Change, presented by Greg Mack**

Description: Clients and Patients come to us because they want something to change about their life. That change could be the removal of physical pain, dealing with emotional distress, changing their nutrition in order to lose weight, or decrease the effect of diagnosed disease on their overall quality of life. Interestingly, one’s desire to change doesn’t always lead to change.

How can a practitioner from any discipline assist their client or patient to move from wanting to change to actually changing?

Motivational Interviewing (MI) is a communication strategy with a set of strategies and tactics designed to you, the practitioner, encourage the adoption of change behaviors.

Here is the most current definition: *“MI is a collaborative, goal-oriented style of communication with particular attention to the language of change. It is designed to strengthen personal motivation for and commitment to a specific goal by eliciting and exploring the person’s own reasons for change within an atmosphere of acceptance and compassion.”* (Miller & Rollnick, 2013, p. 29).

In this webinar, presenter Greg Mack will explore Motivational Interviewing and its practical application in real time interactions with clients or patients.

Kinesiology Taping: We highly recommend the RockTape FMT (Functional Movement Techniques) Basic and Performance training courses for how to use kinesiology tape. The RockTape company has a very “neuro-centric” view of movement and rehab and have many tools we use consistently with our clients.

Recommended Equipment

These are some of the tools we use for sensory input, visual and vestibular training, and motor control training.

Sensory Input

- Temperature:
 - Heat – Chemical hand-warmer packs, or rechargeable electric hand warmers
 - Cold – Small gel-packs that can be kept in the freezer
- Skin Stimulation: Good to have a soft bristle brush and a stiff bristle brush; a light touch can also be applied simply with a Q-tip or corner of a tissue
- Vibration: There are many vibration tools out there these days; here are some we like:
 - Z-Vibe (<https://www.arktherapeutic.com/z-vibes-all/>) – Great for a smaller amount of vibration. Specifically designed for use in the mouth but useful for small areas such as fingers or toes.
 - Hyperice (<https://hyperice.com>) – This company has three levels (and price points) of percussion guns, as well as vibration spheres that are easy to hold and use.
 - Face Massagers – Small, inexpensive, hand-held face massagers can also be useful and can easily be found on Amazon.

- Skin Stretch: Kinesiology tape; we favor the RockTape brand as we find the tape quality is high and the adhesive is better than most and stays on longer
- Pressure: A deep pressure can be applied by multiple tools:
 - Bandage Wraps – Commonly found in drug stores, elastic bandage wraps are inexpensive and convenient to use for pressure input. This is usually what we use to assess pressure input due to the ease of use, then if found to be beneficial we will try some of the others listed here for home use.
 - Floss bands – Bands specifically made to have a very deep pressure are RockFloss bands and Voodoo Bands; although stroke is not listed as a contraindication for flossing in any references we have found, there are some such as deep vein thrombosis (DVT), high blood pressure, varicose veins, pregnancy, cardiac disease, and others. Be sure to consult with your client's medical providers to determine if using floss bands is appropriate.
 - Therabands – You are likely familiar with this brand of thin, wide strips of resistance band material often used in PT clinics for rehabilitation. This can be used as a much lighter form of flossing to provide some pressure input around an area.
 - Neoprene/Elastic Sleeves – Also commonly found in drug stores and usually made specifically for ankle, knees, elbows, and hands, but many manufacturers also make them for thighs, whole arms, etc.

Motor Control

- Resistance Bands: Having several resistance bands of varying strength/tension will be very useful for providing both regular resistance/loading, but also for adding perturbation to movements as discussed in the course. We suggest having very light to medium resistance bands.
- For the upper body training you will want multiple objects that can be grasped. A good rule of thumb would be from about yoga block sized (large) to coins (small), and many in between (lacrosse balls, tennis balls, baseballs, tools such as screwdrivers or pliers, etc. Ideally you will also have some of the same type/size objects in different colors to use with visual recognition training.
- For the lower body using slider pads (or even paper plates if they will slide on your facility's flooring!) are good some initial training in moving the leg as shown in the course. As with the upper body, having some objects you can place on the floor that won't roll away but can be used for visual targeting of lower body movements is important. Yoga blocks or the slider pads work great for this. Multiple colors is useful as well for visual recognition training.

- Laser-guided targeting: You could easily strap/attach a laser pointer to an arm, leg, hand, or foot using small elastic wraps found at home improvement stores. Alternately, many of the head lasers described below could also be used.

Visual

- Switched On application: This app is downloadable for both iOS and android. There are free and paid versions. This app is incredible useful for randomized visual stimulus to drive movement/decision making. You can develop and save your own programs, and it is easy for clients to download and use. Some of the characteristics:
 - You can use colors, numbers, or arrows as the stimulus
 - You set how long the stimulus comes up for, and how long until the next stimulus
 - You can have the stimulus come up for time or the screen must be tapped
- Hand-held visual targets:
 - Bead sticks – You can find stick and beads at any hobby/craft store and they can be easily constructed by gluing the bead to the stick; good to have multiple colored beads for visual recognition
 - Letter sticks – Using tongue depressors or popsicle sticks, then write letters on the ends on both sides (or use letter stickers); all of this can also be found at hobby/craft shops
- Colored Glasses:
 - The ones we use can be found on Amazon by searching for “Color Therapy Glasses Pro Style”
 - Another company that makes them is RainbowOPTX (<https://rainbowoptx.com/#>)
 - Basic colors to have are red, green, blue, and yellow. Additional colors that can be useful are orange, aqua/light blue, rose/pink, and purple.
- Eye Patch:
 - Can easily be found at drug stores. Can be useful for training a dysfunctional eye and in some cases for visual neglect (see course).

Vestibular

- VOR Chart:
 - We have provided a printable VOR chart as shown in the demonstration to use for VOR drills and head laser VOR-C drills.
- Hand-held visual targets: Same as under Vision tools.

- Head Laser: Here are a couple manufacturers
 - Lalomo Rechargeable LED headlamp with laser (search on Amazon)
 - SenMoCOR™ LED/Laser Headlamp from OPTP (<https://www.optp.com>)
 - Head or Trunk Laser from MotionGuidance (<https://www.motionguidance.com>)