# Incorporating GI into MS Treatment Protocols

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# The Versatility, Efficacy & Fun of It

- Relaxation and Guided Imagery (GI) are gentle yet powerful mind body techniques that can be learned easily, quickly and does not require clearing your thoughts or mind or long-term practice as is common with most forms of meditational practice.
- ◆ It is highly effective with diverse learners and medical populations. Because it is highly sensory laden, even those with mild dementia or TBI can benefit from it.
- ◆ It utilizes one's imagination and senses and has been well documented to improve short-term immune function.



Relaxation and Guided Imagery (GI) are gentle, yet powerful mind body techniques that teach people how to become deeply relaxed & then to use sensory images to promote well-being, healing & problem solving.

#### Relevance to MS Treatment

- ◆GI is practiced and well researched by holistic nurses in the US. It is regarded as a highly effective means to lower anxiety and stress associated with challenging medical procedures and effective in reducing pain, stiffness, fatigue and depressed mood among many pt populations.
- It can be easily taught within one or two visits.
- ◆ You don't even need to be a believer for it to work.

# Under Utilized Therapeutic Moments

◆There are so many under utilized therapeutic windows in the routine course of our treatment with our MS patients, such as receiving an infusion, waiting in a waiting room, sitting for an injection, taking a MRI, learning a new treatment routine etc.

We can apply GI to lower anxiety, increase adherence, increase motivational practice, increase body image, or awareness of tone by redeveloping a more normal movement pattern in the brain).

#### We know there is a mind body connection....

- ◆So the question is no longer if the mind influences the body, but HOW?
- ◆When a thought arrives in the hypothalamus, depending on its content, it will active the parasympathetic (if pleasant) or the sympathetic nervous system (is unpleasant).
- ◆If pleasant, the PS system is activated. This increases acetylcholine which interacts with molecular structure of the cells and results in lower pulse and respiration rate, blood pressure and muscle tension.

#### Sympathetic Arousal

- ◆If a thought is unpleasant, norepinephrine is activated and this results in rapid hear, respiration and blood pressure rate, muscle tension and constriction of the arterioles.
- ◆EMOTIONS produce similar changes in the ANS, Endocrine System and immune system as emotions have been discovered to be small bundles of neuropeptides.

### Application to MS

Understanding this, can apply this to a MS pt who has trouble completing a task. When you can't reduce the emotional tone be it anxiety, anger or fear, can ask them what they are thinking of or imagining.

◆People typically over-anticipate the future, don't stay in the present.

### Same application to P/T

- Same thing applies encouraging a pt to move her limbs differently.
- ◆For ex., a pt. having trouble lifting her arm. First teach her how Relaxation and GI with my De-Stress 101 (a sensory laden body scan). Pt. will learn how the mind can create positive effects in the body and also become deeply relaxed.
- ◆That's a good start. But if you ask then to "try to relax your arm" the mental effort of "trying" produces typically an increase of tension in the arm.

### Using Imagined Imagery

- Pts. tend to be distressed about what they can't do and worry about the future.
- ◆If, instead, you ask her to imagine her hand opening like a rose, her hand will likely automatically relax. This teaches her how powerful thoughts are upon the body. In order to assist her in developing a more normal movement pattern in her brain, have her practice lifting the less affected arm, become conscious of the movement pattern and which muscles are required and to what degree.

#### Continued

- ◆Then ask her to recall a time when her arm moved freely before MS to help use memory to regain the awareness of what normal movement feels like for her and in her brain.
- ◆ You might then encourage her to lift her affected arm or have you lift it with her, paying close attention to every detail of movement, assisting with her mind imagining a scene with her senses of when she could freely move it.

# The Power of IMAGERY



## Imagery is:

- A natural thought process
- ◆Using 1 or more of the 5 senses
- ◆Usually associated with emotions.....
- ◆It's the way the Right Brain thinks
- ♦It's the bridge between conscious & subconscious mind

# Developing a new idea cannot take place without imagery....

ONE FIRST
IMAGINES,
THEN
CREATES...

### Role of Imagery & GI for Mental Preparation/Rehearsal

- Attempting a new or difficult activity without preparation can create tension in any of us.
- ◆GI is great for mentally rehearsing and imagining an end result performed with ease, recruiting sensory awareness of what the movement feels like, what it looks like, what it feels like to have this result and what others may be saying recognizing this end result.

# Shifting from Left to Right Brain Processing

- ◆This rehearsal reduces problems with muscle tone or emotional tone or affect that is fear generated.
- ◆It also provides a blueprint or guideline to have a sense of how the movement or end result is to be performed, thus reducing the amount of effort needed.
- ◆The Imagine the Possibilities GI track is good for this and gets MS pts out of their left brains where thoughts of this won't happen, how will it ever be or will it last.

#### The Mind Gets Habituated Too

- •GI is a heightened right brain activity and experience in which rapid shifts in perception and awareness occur because you are in a relaxed state and just imagining sensory images of the experience of having the results you'd like to have.
- ◆It can also be used to create a desired blueprint for a desired movement in the mind which acts as a guide and directs the body. Any skill from learning to stand better, move an arm better, retrain balance, walking or learning can be first rehearsed in the mind.

#### GI Promotes Positive Treatment Alliance

- Even talking in a calm soothing voice, introducing images of peace and nature, such as Going to a Safe Place GI track, allows your pts. To rapidly shift out of anxiety or stress.
- ◆If they practice a short GI track with you accompanied by gentle touch, you can very powerfully calm the person both emotionally and physically. And they then associate this positive experience with you and their treatment.

## To Review: GI Is A User-Friendly Method

- OI is a natural, non-invasive, empowering method that can improve Quality of Life & promote patient adherence & acceptance of necessary, healing processes.
- It is versatile, inexpensive, practiced anywhere (except driving), & portable.
- It is easily taught over the web, live, one on one, in patient groups or alone.
- ◆ It is easily incorporated into a variety of nursing protocols, home visits, pt groups, helplines, life coaching, injection protocols, clinical trials, MRI scans or reducing stress for caregivers at home.

### A Versatile Intervention

- GI can be used by almost anyone, including those with mild to moderate dementia.
- It does not matter what level of education or what kind of religious/ethnic background participant possesses.
- → You do not even have to be a believer for it to work
- The more you practice it, unlike addiction, the less you need.
- It is fast & powerful in its effects. For most Westerners, it is easier to use than traditional meditation as it requires less time & discipline to acquire high level of skill.

### Patient EMPOWERMENT



- GI creates a locus of control within us.
- This lowers a sense of helplessness/reactivity, increases responsiveness.
- Creates an atmosphere of allowing yourself to find responses to things rather than forcing yourself or commanding yourself to cope or heal.
- Enables us to rehearse & prepare for challenging or painful events.
- Produces radical shifts in attitude, coping, & problem solving which, in turn, increases treatment compliance & positive coping.

## Guided Imagery Studies & MS

 Several studies have examined effects of GI to influence mood, attitudes & Quality of Life (QOL) with MS:

Relaxation and Imagery led to significant reductions in anxiety Maguire (1996); Found GI improved QOL in regard to increased vigor and energy Sutherland et al (2005);

Found GI effective in lowering general anxiety & injection anxiety in 97% of MS pts even after several weeks post-workshop Franco (2008).

Found to Reduce pain with MS (Jensen et al, 2009).

Found to Improve Mood, Fatigue and

QOL with MSCase et al (2018)

### Efficacy of Guided Imagery

- GI has been an integral part of Holistic Nursing Practice for many years—it's a well regarded complementary therapy.
- Well-designed research studies have shown GI to:

Reduce anxiety & depression

(Apostolo & Kolcaba, 2009; McKinney et al, 1997);

Shift pain experience

(Sharpe et al, 2001),

Eliminate headaches

(Penzien et al, 2002; Mannix et al, 1999)

Reduce arthritic pain

(Baird & Murawaski, 2010; Gay et al, 2002; Giacobbi et al, 2015)

Lower fibromyalgic pain

(Whiting et al, 2001);

## Efficacy of Guided Imagery Reduce tremors in Parkinson's patients

(Schlesinger et al, 2009, 2014)

Increase adherence to therapies and drug therapies

(Mohr et al, 1997).

Lower MRI-related anxieties

(Thompson and Coppano, 1994).

Lower injection anxiety

(Oliver, Franco et al, 2012; Franco, 2008; Halpin & Spier, 2002).

Improve memory rehearsal in post stroke patients (Page et al, 2001).

Improve pulse, clinical respiration, blood pressure & anxiety levels of surgical patients (Ko, 2012).

#### GI & Parkinson's Disease

- Patients with Parkinson's Disease may have pronounced tremors that are exacerbated by stress.
- In one Israeli study, GI & relaxing music were compared (Schlesinger et al, 2009).
- GI dramatically reduced tremors in 20 pts, eliminated tremors in 15 and average tremor activity remained significantly below baseline after GI was discontinued. Improvement lasted 2-14 hours post-intervention.
- Relaxing music significantly reduced tremors but to a lesser degree.

#### Parkinson's Disease Continued

- In a second study by Schlesinger et al (2015), one GI session and one session of relaxed music were compared on effect of reducing motor fluctuation.
  - Motor fluctuations are periods of the day with poor or no response to medication (off time). This alternates with periods of improved function (on time). Over time people on levodopa or dopamine agonist therapy develop involuntary movements. These are called dyskinesia.
- 19 pts received a home GI disc and a home music disc and practiced for 3 months.
- Significant decreases in Motor Scores were found with GI intervention vs relaxing music.

#### GI & Arthritis

- Arthritis refers to a group of more than 100 conditions that cause pain, stiffness and swelling in the joints. All major forms are chronic and most get worse over time. Osteoarthritis, most common form, is a degenerative joint disease.
- Rheumatoid arthritis (RA) is the second most common and is considered an autoimmune disorder.
- Arthritis is the most common chronic illness in the US with 43 million people and the leading cause of disability(CDC, 2006).
   It will reach 67 million by 2030.

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#### Arthritis Continued

- Dozens of studies show moderate effectiveness for relaxation, hypnosis and GI for arthritis. In Baird & Sands' pilot study (2004) and their longitudinal study in 2006, GI and progressive muscle relaxation had a significant improvement in both pain and morbidities.
- In 7 studies using GI for a total of 287 RA participants, all but one reported statistically significant improvements in pain reduction, anxiety & depression and improved QOL.

# Significance of GI Intervention for RA

- Treatment for RA includes a combination of exercise, diet and medications, especially NSAIDs. Psychopharmacologic drug treatments pose major side effects, risks, financial burden and patient dissatisfaction.
- ◆ For RA, GI outperformed other mindful interventions due to its quasi-perceptual, multisensory and conscious experience that resembles the actual perception of some object, scene or event in the absence of external stimuli along with its ability to increase short- term immune function in a systematic review by Giacobbi et al, 2015.

#### GI & RA Continued

- Interventions typically begin with breathing exercises and then proceed to images of movement and physical activity free of pain and stiffness (Baird et al, 2010).
- Important to note is that GI is inexpensive, relatively easy to teach and can be readily applied in both clinical and community based settings (Baird et al, 2010; Giacobbi et al, 2014).

### GI & Fibromyalgia

- A review of 6 random controlled trials on the effects of hypnosis and GI on pain, sleep, fatigue, depressed mood and QOL for fibromylagia patients (Bermardy et al, 2011) revealed significant reductions in pain.
- However, the effect sizes varied considerably as did adequate randomization techniques. Though promising, better scientific methodology is needed to determine range of positive efficacy here.

# GI Increases Rehabilitation Outcomes

- GI used during rehabilitation may allow one to:
  - mentally rehearse physical skills required during physical therapy
  - increase coping with adverse psychological states related to an injury such as anxiety & depression
  - increase self-efficacy and motivation during the rehabilitation experience Sordoni et al. (2000).

# Findings of GI Effects in Sports Performance

- GI, especially visualization, is used by athletes to supplement physical practice and improve sports performance (typically rehearsed before competition).
- Healthy individuals using mental imagery may experience gains in:
  - ◆ Strength
  - Arm pointing capacity
  - ◆ Range of motion
  - ◆ Postural control
  - ◆ Speed
  - Accuracy
  - ◆ Motor skills

Dickstein et al. (2004) Cocks et al. (2014).

# The ABCs of Relaxation and Guided Imagery

#### How does it work?

First, learn how to become deeply relaxed, while conscious by use of diaphragmatic breathing & body scan, then imagine with your senses letting go of tension in the body.

It is not necessary to work at relaxing, it is impossible to maintain a state of relaxation & a state of tension at the same time.

## Multisensory Imaging

- Once relaxed, sensory images are added to the experience, e.g., guiding someone to go to their ideal place of relaxation or a safe place.
- Under these conditions, our bodies do not discriminate between sensory images in the mind & what we call reality.
- Our bodies treat the imagined image as if it is happening & these effects reverberate, like depth charges, within the body.

### The Neurochemistry of GI

- Parasympathetic functioning is increased, promoting rest & energy renewal, relaxed blood flow, lower muscle tension & reduced bracing/stiffness.
- Heightened Right Brain Activity is increased & stimulates increased intuition, symbolic reasoning, sensory processing, creativity & receptivity.
- Our own natural pharmacy is "turned on"-neuropeptides, short term immune function, neurotransmitters flush through the system longer & their effects more sustained.

Ref. Achterberg, 1985; Geidt, 1997; Bakke et al, 2002

#### A Focused Reverie

- In this relaxed meditative state, the emotions, mood, physiologic state associated with the idea or image appear very vivid, very immediate & the place or event is experienced as a whole person, a whole felt body state.
- Sensory images experienced in this relaxed state create a "lived experience" & evoke a more powerful change than analyzing one's attitudes or behavior.

# Being in the Zone

- This allows us to discover personal meaning & increase our understanding of how to cope with less reactivity.
- To shift our attitudes, perceptions rapidly, practice strategies that work & promote self efficacy.
- So, when we apply this to a specific focus, we have an awesome ally, a way to experience a source of internal strength & skill in approaching a goal.

### GI is a Natural fit for MS

GI Renews energy, lowers depression

**Fatigue**, > rate of depression

**Lowers spasticity** 

less drug use

**Limb stiffness common** 

**Lowers Stress/Anxiety** 

Stress/Anxiety heightened with MS

**Requires painful injections or pills** that may have high risk factors, long

term compliance with medicines & treatment difficult

Creates shifts in pain experience, promotes deep rest & restful sleep

Pain, headaches, insomnia

**Increases short-term immune function Inflammation leads to dampened** 

immune function

Ease of use: can be practiced at infusions, MRIs, injections, in waiting rooms, with caregivers, can provide

**Empowering, pts have MRIs regularly,** often on multiple drugs, experience caregiver stress, many medical visits

**Effective in helping people relate to** their medicine, reduces injection anxiety & increases adherence to adverse medical procedures

# Ways to Incorporate GI into MS Treatments

- → Lower Anxiety
- Decrease Injection Anxiety
- ◆ Lower MRI anxieties
- ◆ Decrease Stress & Headache with Infusions
- ◆ Enhance Rest Periods
- ◆ Renew energy & vigor
- ◆ Decrease pain
- ◆ Reduce specific stress/anxiety with Pediatric MS
- ◆ Relieve Caregiver Stress
- Promote a Sense of Safety & Security during visits



# **Emotional Toll**

- Due to the etiology of the disease, those with MS tend to suffer from depression & depressive disorders 3-4x the rate of the public & other health populations
- Anxiety, which comes with living with such an unpredictable disease, lifelong, is pervasive.
- 10% experience Pseudo-Bulbar Disorder characterized by inappropriate sudden bouts of giddiness, crying or anger
- Stress exacerbates MS symptoms & can cause pseudorelapses

# Gl Interventions to Lower Anxiety

- Best to first start with belly breathing and then let go of stress in the body via De-Stress 101 - a sensory laden body scan exercise. Cognitive approaches with anxious pts tends to make them initially more anxious.
- As the body relaxes, and sensory imagery is added, the mind starts to follow though one can still have distracting thoughts from time to time.
- ◆ It is not necessary in GI practice to clear the mind with each breathe. Rather, with the increase in right brain processing that occurs with GI, one learns to weave in and out of thoughts.

# Additional Potential Applications for MS

#### STRESSFREE MRIs \*

- Effective intervention to reduce feelings of claustrophobia and anxiety with MRI scans. No studies exist for MS pts who must take closed MRIs throughout the course of their disease.
- Prior studies (Friday and Kebai, 1990; Thompson and Coppano, 1994) demonstrated that GI can reduce movement during scans, eliminate need for sedation, reduce costs so repeat procedures and time lost from work for repeat scans.

\*(CD, Franco, 2009)

#### GI for Infusions/Venipunctures

- Infusions can cause anxiety and pts are often alone for stretches of time. Headache is a common symptom.
- Going to a Safe Place is good for infusions. It invites one to imagine a safe place and to take in the healing properties of this place with their senses. It becomes their blueprint for relaxation/centering that they can return to at any time or use to prepare for the next challenge ahead.
- Encourage pt to practice this several times a week before the infusion. They will know how to become relaxed quickly and will already have experiences of changes in pain sensation in their body. GI is known for reducing tension headaches and creating a greater state of body awareness.

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### Pediatric MS

- Due to advancements in MRI technology, we can now dx MS in children and teens.
- ◆ 10% of all cases of MS are pediatric.
- Children can now use one oral med on the market, but most must take injections which can be painful and difficult to sustain.
- They are in need of learning methods to lower their anxiety and challenges of having MS early in the treatment process.
- Children tend to be good at imagery, GI is a natural fit.

# De-Stress for MS Youth

- ◆ The challenges of facing pre-teens and adolescence, let alone a disease like MS, is daunting. The need to stay aware and respond to particular MS symptom management while fitting in and belonging with their peers is necessary among this population.
- ◆ De-Stress for MS Youth provides teens with healing and age related imagery to let go of their stress and worries and develop confidence in their experience to better manage their MS.

### Enhancing Intentional Rest Restore Energy & Vigor

- Daily rest periods are often necessary with MS. They are often resented and perceived as "dead space", pulling one out of being with others or life's activities. They serve as constant reminders of the intrusion of the disease on one's sense of self and loss of former functioning.
- These time outs can be converted into positive intentional rest periods in which deep relaxation, increased immune function and increased body awareness and enjoyment as well as energy renewal can occur.
- ◆ Imagine the Possibilities or Going to a Safe Place are good GI tracks to start with here before trying longer tracks.

#### GI to Increase Body Awareness or Tone Reduction

It's important to keep memory of normal movement alive in order to maintain the blueprint of normal movement functioning. Lack of use of body parts can lead to mental inhibition (the mind habituates and forgets the movement pattern).

Even if someone is unlikely to move normally again, they can still enjoy the pleasure of performing a favorite movement and receive some of the physiologic benefits of imagining it.

This is valuable to use with elderly/wheel chair bound pts.

Imagine the Possibilities is perfect for this.

## Lowering Injection Anxiety

Teach pt to become attached to their relaxation process by practicing this before it gets paired with lowering injection anxiety. This increases their active stance, not as subject to the medicine and injection for healing.

- ◆Once pt can do this, invite the injectable medicine to become a healing ally to their own relaxation process.
- Then invite loving imagery to help expand and bear with challenging procedures.
- ◆Then take pt on sensory landscape imagining how medicine crosses their blood brain barrier, increases the capacity of neuron conductivity as a super highway in their mind.
- ◆Relaxation & GI to Lower Anxiety/Injection Anxiety in MS

## Challenges

#### Imagery must fit Age & Gender Factors:

- This is especially relevant when drafting a sensory landscape of how the medicine is crossing the blood brain barrier & protecting myelin sheaths.
- Cannot use conquering (warrior) imagery so often used with cancer

#### MS patients often "hate" their medicine:

Meds are often a reminder they have MS, the injections can be hurtful & when they feel better, are less likely to take it. Must, therefore, rehearse & practice their own relaxation response & attachment to it before introducing the injection. Only then can the medicine become an ally to their own healing process.

## Challenges

- GI effect is often heightened by adding musical sounds to background:
- ◆However, it cannot be any known song or melodic line. Must compose or lease GI music from a savvy musician.
- Most MS pts (and other pts) tend to be passive during active treatment:
- ◆("on an infusion", "on dialysis"). They rarely understand how their medicine will work in their body or bother to read the printouts that accompany their expensive drugs. Thus, GI intervention needs to activate their own healing/wellness, stress reducing process first.

## Sensory Landscape

- Therefore, it's important to include an imagined sensory journey following the way the medicine is moving and working in the body (a sensory landscape) in order for the pt to develop a more personal relationship with their medicine.
- ◆ Though GI interventions focus first on evoking deep relaxation to lower stress in the body & considerable time is spent on this, it is also essential to not just help people relax & soothe. They must also build their ability to contain, meet distress & hold with tension, awaiting uncertain futures or bearing long spells of coping.

#### Additional Potential Application for MS

#### RELIEVING CAREGIVER STRESS \*

- Numerous studies document compelling evidence for stress, depression and declining health of MS caregivers resulting in:
  - Increased stress (4x higher than in general population) (Dewis & Niskala, 1992);
  - 2. Increased depression and lower QOL of MS caregiver (NARCOMS, 2007; Forbes et al, 2007);
  - 3. Declining health: increased onset of arthritis (Aronson et al, 2001);
  - 4. High blood pressure and cholesterol (NARCOMS, 2007);
  - 5. Sleeplessness, breathlessness, back pain (Forbes et al, 2007);
  - 6. Decreased social support (McKeown et al, 2002).

### Caregiver/Carepartners' Stress

- Evercare Study (2007, National Caregivers Alliance) found that caregivers' number one and most frequent request is for STRESS REDUCTION to increase sleep and energy and reduce pain and aching.
- Compromised immune function and shorter life expectancy found in national studies on Alzheimer's caregivers (Kiecolt-Glaser, 2003; Epel, 2004).

#### Guided Imagery

A therapeutic process that facilitates working with the power of the imagination to positively affect mental attitude, potentiate positive outcomes, activate inner healing within the body. It is often scripted, directed by a practitioner with an individual or group.

#### Integrative/Interactive Imagery

Takes therapeutic process to deeper levels by eliciting & working with a person's own images, whether positive /negative. Person is guided by a practitioner to engage, interact, often dialogue, with sensory images and felt states.

This process is based on belief that each person has a vast inner well of knowledge within the mind & an innate intelligence of the body.

#### Meditation

- There are many forms of meditational practice
- ◆Each is based on religious/philosophical principles
- Meditation, like Hypnosis, has many similarities to Imagery process:
  - Facilitates a focused state of mental concentration (though more passive than other processes)
  - ◆ Focal point may be the breath, a word, phrase or object
  - Goal is to reach a deeper level of awareness, neutrality and inner peace
  - ◆ Out of this emerges wisdom, compassion for self & others

#### Hypnosis

- ◆Has many similarities to Imagery process: Hypnosis also creates a state of physical relaxation & heightened mental concentration, where mind is focused internally and open to suggestion
- ◆Some schools of hypnosis are similar in their client-centered approach and non-directive style, others are more directive.
- ◆Self-hypnosis often involves thoughts, e.g., "in a moment I'll be calm", whereas GI imagery process always involves multiple sensory awareness.

## DEMO

Going to a Safe Place

Imagine the Possibilities

# Differences between GI, Hypnosis, & Meditation

- Hypnosis is a state of attention and focused concentration during which people are highly responsive to suggestion
- Meditation is a state of attention and being in the present that allows people to learn that mental states will pass and to learn to tolerate and accept self shifting states of awareness
- GI is also a state of focused concentration, similar to hypnosis and meditation but is also a specific process that encourages changes in attitudes, behavior and psychological reactions

## GI Continued

- The basic difference between meditation and GI is that in meditation one empties one's mind of images whereas in GI one creates vivid mental and sensory images and felt body states.
- GI is a process of using ideas, feelings, physical responses and all the sense s to relax, maintain health and health the body and mind.
- Since the 1970s, much as been published on use of GI to improve health experience and achieve life goals.

# Imagery Work.com

- → De-Stress 101
- → Imagine the Possibilities
- → Boosting Your Confidence
- → Beautiful Confidence at Your Core
- ◆ Master Test Anxiety, Max Performance
- ◆ Lower Anxiety & Injection Anxiety with MS
- ◆ De-Stress for MS Youth
- ◆ Stressfree MRIs
- Relieving Caregiver Stress
- ◆ Defeat Dental Fear
- ◆ Reducing Stress with Kidney Disease
- **◆ Stressfree Bride**