Guided Imagery: Use for Motor Rehabilitation

What is Guided Imagery?

Guided imagery (GI) is a nonpharmacological therapeutic process that uses the power of the imagination to elicit a positive psychophysiological response to enhance healing and promote health and well-being. Through conscious imaging, GI draws from the senses to enable the client to create a state of relaxation and an altered state of consciousness. GI is a mind-body intervention that is a modality of complementary and alternative medicine (CAM) and often is used as an adjunct to traditional medicine. The focus of this paper is guided imagery for motor rehabilitation (i.e., the process of restoring lost or impaired physical skills such as walking, speaking, and grooming)

- **What**: GI involves the intentional creation of an inner sensory experience which may result in inducing positive physiological change. For example, the client may be encouraged to imagine a relaxing walk on the beach using all the senses associated with the experience (e.g., visualization of the beach; feel of the sand, water, and air; smell, sound, and taste of the ocean) to assist in the treatment of a wide range of health conditions, such as improving motor function

- **How**: GI techniques can range from a clinician guiding a client with step-by-step imagery suggestions or storytelling using a prepared script to a more independent, self-guided experience. The process often is initiated with a relaxation exercise (e.g., meditation, focused breathing, progressive muscle relaxation), followed by the imagery process, in which the client is guided slowly through a series of steps that allow him or her to form an image and focus on a compelling sensory experience

- **Where**: GI can be performed in any setting, including outpatient and inpatient mental health and healthcare settings, as well as in home or community-based settings

- **Who**: GI typically is performed by specially trained social workers, psychologists, nurses, and naturopathic doctors. In the case of GI used for motor rehabilitation, the sessions can be conducted by physical therapists. The client and the clinician assisting with the intervention are best able to determine if visitors should be present during the GI session

What is the Desired Outcome of Using Guided Imagery for Motor Rehabilitation?

The desired outcome of GI is to use the power of the imagination to elicit a positive psychophysiological response to enhance healing and promote health and well-being. GI is indicated for many different applications and conditions. GI can prompt the brain to preserve motor function as well as facilitate the execution of actual body movements. It is commonly employed as a nonpharmacological intervention to control anxiety, depression, and pain. GI has been shown to be effective

- as an adjunct to physical therapy to prompt the restructuring of brain pathways. In a special type of GI, called motor imagery, the client is guided with imagery of him- or herself performing particular actions. This imagery stimulates areas of the brain that normally are activated during actual movement, which leads to enhanced motor learning and performance, such as
  - during rehabilitation treatment for clients with strokes and burns (e.g., relearning motor skills)
  - during physical therapy for older clients to reduce the incidence of falls
What is Guided Imagery for Motor Rehabilitation Important?
› GI is an evidence-based, easily implemented, cost-effective, safe, nonpharmacological intervention for many conditions. There are no known adverse effects associated with GI
› The growing interest in CAM leads many clients to request that GI be incorporated into their medical care as an adjunct to more traditional forms of treatment

Facts and Figures
› Over one third of adults in the United States used some form of CAM in 2012; more than $33 billion in out-of-pocket costs is spent annually on CAM-related treatments (National Center for Complementary and Alternative Medicine, 2015)
› Researchers who conducted randomized controlled trials of clients with total knee replacement found that the use of GI may contribute to reduced stress even after the intervention is terminated (Jacobson et al., 2016)
› One’s mindset can increase or decrease perception of pain. GI can help clients view pain as something they have control over so they are better able to cope and feel less pain (Di Giovanni & Piatt, 2016)
› In a 2010 study of U.S. adolescents with inflammatory bowel disease undertaken by the University of Cincinnati College of Medicine researchers reported that 55% of the participants used GI to successfully manage their symptoms (Cotton et al., 2010)
› In a review of literature, investigators found that GI can be offered to clients as a safe treatment modality for management of pre- and postoperative anxiety and pain (Casida & Lemanski, 2010)
› Investigators in a number of studies have shown that the use of GI is effective for pain control (Charette et al., 2015)
  • A study of children with functional abdominal pain (i.e., ongoing presence of abdominal pain without medical explanation) demonstrated that GI, combined with standard medical care, was superior to standard medical care alone in producing sustained results (van Tilburg et al., 2009)
  • In a small-scale study by Baird et al. (2010), the use of GI by clients with osteoarthritis resulted in a significant reduction in the use of over-the-counter and prescribed pain medication as well as demonstrating improvement in mobility, as compared with clients who did not receive the GI intervention
› GI has been shown to significantly decrease depression, anxiety, and stress in clients in psychiatric hospitals with depressive disorders (Apostolo & Kolcaba, 2009)
› In a randomized controlled study on fetal response to relaxation techniques, researchers reported that the fetal heart rate was lower during and after maternal participation in GI and that GI was superior to progressive muscle relaxation in inducing a relaxation response in the fetus (Fink et al., 2010)
› Researchers who conducted a meta-analysis of five randomized clinical trials concluded that the use of motor imagery was effective for upper-extremity motor rehabilitation after stroke (Kho et al., 2013)

What You Need to Know Before Using Guided Imagery for Motor Rehabilitation
› Review facility protocol for GI for the use of motor rehabilitation if one is available
› GI is used to create positive psychophysiological outcomes by calming certain regions of the brain and exciting others, depending on the sense that is stimulated. In response to the mental images, the body releases a cascade of biochemicals. These biochemicals can induce a wide range of positive physiological and behavioral changes (e.g., decreased blood pressure, pulse, pain, muscle tension, stress; increased awareness and mental relaxation)
› The techniques used for GI vary widely, but the following elements should be considered by social workers when implementing a GI session
  • It is essential to explain the purpose of GI and how it works. Clients who have a general understanding of the science behind GI typically are more motivated to participate in the exercise, are more likely to have successful outcomes, and often report a feeling of empowerment due to the ability to self-direct treatment
    – Clients who may be opposed to meditation for religious reasons or apprehensive of hypnosis often are comfortable with and willing to try GI
  • Client comfort during GI is important to enhance relaxation and participation
    – The client should assume a position of comfort. The supine position generally is not recommended because the client is more likely to fall asleep and not reap the full benefits of the GI
Although a quiet, dimly lit environment is most conducive for GI, imagery can be performed anywhere and anytime if needed

- GI is most effective if initiated with a relaxation exercise such as deep breathing or progressive relaxation, which serves to inhibit sympathetic nervous system response and permit greater concentration during the imagery session
- The typical GI session lasts 20–30 minutes, but, depending on the client’s needs, can be as short as a few minutes

GI sessions should be tailored to the client and the condition to be treated

- Images that appeal to one client may be disturbing to others (e.g., visualization of a walk through a forest may induce calm in some clients but generate fear in others who are uncomfortable in a remote environment)
- The needs of the client should establish the image to be visualized (e.g., imagery of a special place may be used for stress reduction, a healing white light for pain reduction, or motor imagery for rehabilitation exercises)

Advise clients that effective GI takes focus and practice and they should not be discouraged if they do not feel any effects after one session. Encourage clients to practice GI at home through self-guidance or recorded sessions on electronic media (e.g., smartphone)

Preliminary steps that should be performed before initiating GI include

- Review the agency protocol for GI, if one is available
- Review the treating clinician’s order, if applicable
  – A clinician’s order is not required to implement GI

Assemble supplies, which may include

- Ideally, a comfortable, quiet environment, free of distractions
- Comfortable chair or bed
- Pillows, blankets, as necessary
- Soft music, optional

Social Work Responsibilities in Regard to Using Guided Imagery for Motor Rehabilitation

- Establish privacy
- Introduce yourself to the client and family member(s), if present; explain your clinical role; assess the coping ability of the client and family and for knowledge deficits and anxiety regarding GI for motor rehabilitation
  – Determine if the client or family requires special considerations regarding communication and make arrangements to meet these needs if they are present
  – Use professional interpreters when language barriers exist
  – Assess the client’s experience with GI in order to determine the appropriate level of support needed
    – Explain GI and its purpose and rationale, answer all questions, and provide emotional support as needed
    – Determine if the client is fearful of any objects or situations that would be used as images and avoid those images during the GI session
- Assess the client’s mental status to determine if a nonpharmacologic approach is appropriate
- Allocate and plan for a time to perform the GI session
  – Determine the appropriate length of the session based on the client’s condition, attention span, and setting
  – Plan for a time when the client is available physically and emotionally. Avoid times when the client is overly tired
- Prepare the environment for a setting that is conducive to GI. If possible,
  - Dim the lights
  - Control the temperature in the room to a setting that is comfortable to the client
  - Limit distractions by closing doors, curtains, blinds, and windows
  - Play soft, relaxing music, if desired
- Assist the client to achieve maximum comfort
  - Request that the client assume a comfortable position. Assist the client as necessary and appropriate
  - Provide pillows and blankets for the client for additional comfort
  - Instruct the client to close eyes, if desired
- Initiate the GI session with a relaxation exercise such as diaphragmatic deep breathing or progressive muscle relaxation
  – Instruct client to place one hand just below his or her diaphragm and the other hand on his or her abdomen
  – For the first minute, instruct the client to focus attention on breathing, being mindful of his or her inhalations and exhalations without altering the breath pattern in any way

- Diaphragmatic deep breathing exercise
  - Instruct client to place one hand just below his or her diaphragm and the other hand on his or her abdomen
  - For the first minute, instruct the client to focus attention on breathing, being mindful of his or her inhalations and exhalations without altering the breath pattern in any way
- Then instruct the client to exhale completely and then inhale through his or her nose to the count of four, while being aware of the expanding rib cage
- Instruct the client to hold for a count of 2–3, then exhale completely through the mouth
- Have the client repeat the last two steps four more times for a total of five breath cycles. Suggest the client silently say “re” during each inhalation and “lax” during each exhalation
- Finally, instruct the client to breathe normally

• Initiate the progressive muscle relaxation exercise
  - Instruct the client to take three slow, deep breaths
  - Beginning with the feet and working toward the head, instruct the client to tighten the muscle for each muscle group during inhalation and relax during exhalation (e.g., “While you inhale, tighten your fist as if you are squeezing an orange. Drop the orange while you exhale”)
  - Finally, instruct the client to breathe normally

› Initiate the guided motor imagery and direct the client through rehabilitation exercises as follows:
  • Review with the client a specific motor sequence that he or she would like to accomplish or one that he or she has been practicing during a therapy or rehabilitation session (e.g., an activity of daily living such as using an eating utensil, brushing teeth, or walking)
  • Reassure the client that he or she will not feel any pain associated with the guided motor imagery
  • Instruct the client to, with eyes closed, picture himself or herself performing the action with the affected limb or body part in a way that is most comfortable for him or her (e.g., “Imagine yourself picking up a cup with your right hand”)
  • Direct the client to be mindful of any physiological sensations (e.g., breathing, posture, muscle tension) and direct him or her to feel the sensations in the affected limb or body part, without actually moving that body part (e.g., “feel your fingers wrapped around the surface of a coffee cup, notice any sensations of warmth, feel the weight of the cup as you lift it to your mouth”)
  • Finally, instruct the client to imagine himself or herself in the future, returning to activities he or she most enjoys

› The GI exercises described above can be used with children if modified appropriately for developmental level

› At the completion of the GI, instruct the client to count to three, take a deep breath, and open his or her eyes. Encourage all movement to be slow and careful

› Update the client’s plan of care, if appropriate, and document the GI exercise in the client’s record, including
  • Date and time the exercise was initiated
  • Description of the GI session
  • Client’s assessment findings, such as any changes in the patient’s condition (e.g., reported reduction in anxiety, pain, or depression)
  • Client’s response to the exercise
  • Any unexpected client events or outcomes, interventions performed, and whether or not the treating clinician was notified
  • Client or family member education, including topics presented, response to education provided, plan for follow-up education, and details regarding any barriers to communication or techniques that promoted successful communication

› Internationally, social workers should practice with awareness of and adherence to the social work principles of respect for human rights and human dignity, social justice, and professional conduct as described in the International Federation of Social Workers (IFSW) Statement of Ethical Principles, as well as the National Code of Ethics that applies in the country in which they practice. (IFSW, 2012) For example, in the United States, social workers should adhere to the NASW Code of Ethics core values of service, social justice, dignity and worth of the person, importance of human relationships, integrity, and competence. They should become knowledgeable of the NASW ethical standards as they apply to GI use for motor rehabilitation and practice accordingly (NASW, 2015)

**Other Interventions That May be Necessary Before, During, or After Providing Guided Imagery for Motor Rehabilitation**

› Prior to initiating the GI session, the client may benefit from relaxation exercises such as meditation, deep breathing, or progressive muscle relaxation

› After completion of the GI session, report the client’s response to the GI session to the medical team assuming care of the client
What Social Work Models Are Used with Guided Imagery for Motor Rehabilitation?

- Social work models that are used with guided imagery for motor rehabilitation include cultural competency as demonstrated by having developed an awareness of one’s own cultural values, beliefs, and biases, and knowledge about the histories, traditions, and values of one’s clients. Social workers should also adopt treatment methodologies that reflect the cultural needs of the client.

- GI typically is used as an adjunct to traditional, established models of social work practice. GI can be used with any established social work model. It is particularly useful as an adjunct to cognitive behavioral therapy (CBT), as CBT focuses on changing thought patterns to alleviate client symptoms. Social workers using guided imagery for motor rehabilitation should be aware of the limits of their scope of practice (i.e., social workers are not medical professionals, and should not be treating physical illness or disability) and should work in conjunction with the client’s medical team.

- GI involves picturing a specific image or goal and imagining oneself achieving that goal. GI is a widely used mind-body intervention to help empower persons confidence in their ability to promote healing (George & Sam, 2017; Jacobson et al., 2016):
  - The mind body connection enables persons to strategically use their mind as a healing force. Imagining activates the senses and can have a direct effect on the immune, nervous, and endocrine system. GI produces physical and psychological effects and can improve a person’s mood and physical well-being and facilitate actual healing (Jacobson et al., 2016).
  - The extent that persons feel in control and have a sense of mastery over what is happening to them can improve their ability to tolerate pain and cope with stress.

Red Flags

- It is important to assess the types of images the client finds pleasant and avoid use of images the client fears or dislikes.
- GI is most commonly used as an adjunct to, not a substitute for, traditional Western medical treatments.

What Do I Need to Teach the Client/Client’s Family?

- Educate the client and family on GI, its role in motor rehabilitation, the science behind it, and the expected outcomes.
- Educate and instruct the client to report the symptoms of stress, anxiety, depression, and pain so appropriate GI interventions can be implemented.
- Discuss with the client how he or she can continue GI exercises independently (e.g., recorded exercises on electronic media, self-directed GI, GI classes).
- Inform the client that effective GI is a technique that may take time and frequent practice to master.

References


