

Precautions for IM Training

Seizure Disorder

Seizures may be triggered by auditory/visual stimulation, stress, and/or fatigue in individuals with **epilepsy. It is recommended that you use your professional judgment and consult with your client's physician** before using IM if your client has a known seizure disorder. There are no documented cases of IM training contributing to seizures in epileptics when precautions are taken to avoid triggers, but it is possible if seizures not medically controlled.

Pacemakers & Defibrillators

While it would be impossible to test our wireless triggers against all pacemakers that have ever existed, it is reasonable to say that they will not interfere with a pacemaker or on-demand defibrillator given their design and low power output. If a patient is able to use wireless headphones and cell phones, then they should have no problem IM equipment. Newer pacemaker technology provides a better shielding mechanism and alternating polarities to minimize interference. Wired IM triggers do not have emissions since there are no transmitters or receivers in the electronics.

Deep Brain Stimulator (DBS)

Deep Brain Stimulation (DBS) implants are sensitive to RF interference. Patients with DBS should NOT use wireless headphones with IM or In-Motion trigger (that limits ability to use In Motion trigger for these patients altogether since a wireless headphone must be used). IM can safely be used with the WIRED headphones. Wireless hand and foot triggers are not a problem and can be safely used with patients who have a DBS implant since they are not held up against the head or body.

Vestibular Hypersensitivity

IM requires you to distinguish between tones of different location (left versus right), pitch (high, medium, and low), and timbre (reference tone versus guide sounds). IM also produces sound waves that travel along the vestibular system of the inner ear (via the semicircular canals), which may generate unpredictable vestibular input in those that are particularly sensitive. For these reasons, clients with functional vestibular impairments may find the vestibular demand of IM disorienting and/or overwhelming. IM is an important and very powerful intervention for those with vestibular impairments. Certain individuals may benefit from therapies aimed at improving tolerance for vestibular information before attempting IM.

The following precautions are applicable to clients in orthopedic and/or neurological rehabilitation:

Inflammation

Inflammation usually accompanies lower motor neuron damage. IM may increase this inflammation, especially with nerve damage related to scar tissue build up and compression as a result of repetitive tasks. To proceed with IM in this situation:

- **Wait until inflammation subsides before initiating IM.**
- **Carefully monitor throughout treatment to ensure inflammation does not increase beyond acceptable level.**
- **Modalities that decrease inflammation can be employed to minimize inflammation with the high repetition activities that are part of the IM treatment philosophy.**

Pain:

Pain can be debilitating and slow to recover. IM activities that elicit nerve pain in clients with orthopedic or acquired neurological injury (i.e., stroke) should be stopped immediately.

Edema:

Swelling is indicative of inflammation and may facilitate nerve damage. You should continuously monitor your client for signs of edema and terminate activities when edema is identified.

Pain and Anti-Inflammatory Medications:

High doses of pain and inflammation- reducing medications may impact cognitive processing and thus make IM training more difficult.