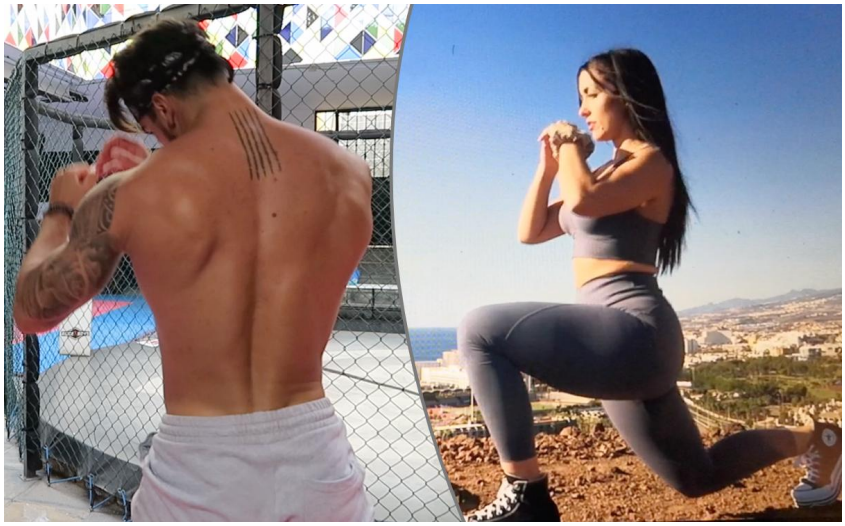
NIMBL™
IMPROVE MOVEMENT

PERFORMANCE
RECOVERY
PAIN RELIEF

Percussion Overview and Application Guidance

Percussion muscle therapy continues to grow in popularity. NIMBL is committed to providing our partners with valuable insights and information on best-practices for percussion therapy and NIMBL percussion guns.



There are thousands of peer-reviewed studies of the effect of whole body vibration (WBV) on tissue and bone. As percussion tools are essentially acute vibration mechanisms, we certainly can glean from the vast information currently available on WBV. As we evaluate new research specific to percussion tools we will share findings and recommendations with our NIMBL partners.

Implementing percussion into your clients' daily life is simple, quick and easy. The benefits are tremendous, including muscle activation, increased muscle temperature, neural-tissue re patterning, post activity recovery, trigger point and tissue adhesion release and much more.

It is important to have a strategy and the following is a simple-to-follow matrix on how to integrate percussion into your day, workout, muscle recovery and life.

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NIMBL ATTACHMENT HEADS

The following is the hierarchy of depth, from most superficial to deep trigger points:

1. Plate
2. Ball
3. Apollo
4. Thumb
5. Y
6. Point

Plate:
The plate attachment is the most superficial and is used for neural priming and superficial tissue re-patterning. The plate is comfortable and can be used on all areas of the body except on bony structures. Priming is a pre activity application to enhance neural-tissue (muscular) communication.

Ball:
The Ball attachment is meant to effect deeper layers of fascia and muscle tissue. It is an all around go to attachment and most people's favorite. The ball is very comfortable and can be used on all areas of the body and surrounding bony structures or joints.

Apollo:
The Apollo attachment is unique to NIMBL and is designed to be used on and around bony structures and connective tissue. The patent pending design allows for users to effect deeper tissue and percuss right up next to and in some cases over while other heads are often seen on other brands the apollo head is a Patent pending head for NIMBL and is designed to be used around bony structures and connective tissue. With the acute point of the apollo it allows for use in between bone and muscle without causing pain or jumping off the tissue.

Thumb:
The NIMBL Thumb attachment is a very versatile head. The thumb has a rounded surface and a "fingernail" edge for multiple facets of your recovery. We use the thumb to get a little deeper than the ball and still have a comfortable experience. The thumb is ideal for all dense tissues as well as the anterior tibialis, forearm and feet. The fingernail is great for crossing tissue patterns and breaking up fibrotic tissue in the lower abdominals, pelvis and feet.

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Y:
The Y attachment is a great attachment for the feet, hands, forearms and for those "sticky" trigger point spots. The Y can be used pre- and post-activity and most effective in the recovery phase of your activity. The combination of the Y and Point attachments make a powerful trigger point tool. Starting with the Y, percuss the area around the fibrotic tissue or adhesion thus opening the nervous system and preparing the specific tissue to then use the point to break up the adhesions.

Point:
The point is primarily a deep tissue attachment and is great for the deep gluteal muscles as well as trigger points. As the point can be quite aggressive, we recommend easing into it and listening to your body along the way. Remember when the brain perceives pain it shuts tissues down. So, start gently with the point and move in deeper as the nervous system allows.

ATTACHMENT USES

Attachments are used for many reasons, we use them for different parts of the body, we use them for tissue response control, to cause tissue change of skin, fascia, muscle, and connective tissue. We use them for pre activity neural priming or muscle activation. We use them for up regulation and down regulation during your workouts or activity and we use them for varying degrees of recovery and rejuvenation. The following is a more in-depth application plan for each attachment head.

When choosing attachments remember our adaptation matrix:

Determine whether there are bony structures near and if so, choose the Apollo head; if there are no bony structures and the goal is pre activity you will use the middle depth attachments, the Ball, Thumb or Apollo.

For intra-activity you will use the superficial middle depth attachments: Ball, Plate and Apollo.
For post-activity or recovery, you can use any attachments, remembering to work around trigger-point areas with either the Plate or Y attachments first and then use the Point directed into the trigger point. Do not go directly into the trigger point as the brain will perceive pain and shut tissue down.

For tissue density we have a system of depth that goes from superficial tissue with the Plate to deep dense tissue with the Point.

PRESSURE

Pressure is key in all percussive strategies as "pain" is a key response barrier. Applying too much pressure can cause pain and ultimately shut tissue down minimizing the effect of percussion. At NIMBL pressure is simply the weight of the gun and applying more pressure can actually cause bruising and damage tissue. AS WITH ALL THINGS LISTEN TO YOUR CLIENT/BODY

SPEEDS

Speed is the rate at which the attachment head moves back and forth. The speeds you use are important as they elicit different tissue responses. We utilize percussion in 4 main areas:

1. Neural-tissue priming
2. Tissue activation
3. Down-and up-regulation
4. Recovery or rejuvenation

Research suggests that utilizing percussion at different frequencies or Hz levels causes for specific tissue adaptation. The following are recommendations on speed utilization and implementation:

- **Neuro-tissue priming** research suggests that using percussion prior to activation or movement can elicit greater neuro-muscular (tissue) communication. While all attachment heads are appropriate for tissue priming, we recommend the largest surface attachment that is the Plate. We also recommend the middle speeds of 40 or 50 Hz as these have shown to excite the fast twitch muscle fibers and thus priming the brain for communication.

- **Pre-Activity**, strength or the integration of percussion with more traditional warm up protocols create a greater opportunity for more complete activity and minimizes the potential for activity-based injury. Lower speeds of 20 and 30 Hz are most appropriate for the warmup phase of your activity as these speeds elicit muscle excitation while increasing muscle temperature and improving muscle oxygenation. When implementing with more traditional modes of mobility or flexibility you can use percussion before or during Active Isolated or dynamic stretching such as percussing the hip flexors during a leg swing or percussing the lats for thoracic extension.

- **Intra-Activity** is a very interesting opportunity for enhancing the intensity of your workout while potentially minimizing the threat of injury. When implementing percussion inside your workouts or activity we can down regulate overactive tissue with higher speeds and up regulate under active tissue with lower speeds. This allows for recovery in the fatigued muscle and activation in the “turned off” muscle.

- **Percussion in the recovery phase** has shown to diminish the intensity of DOMS while working to improve ROM and flexibility When implementing percussion protocols into the cool down we primarily use the faster speeds, 60 or 70 Hz. We can also utilize percussion This allows us to move into adhesions or fibrotic tissue minimizing the effect of DOMS.

TIME

Time under percussion is another key component to tissue response. As percussion causes tissue to contract ***and*** contractions are work it is important to limit your pre activity percussion to minimize pre fatigue.

Time is directly related to speeds and the following is a general overview and application:

Priming, Pre-Activity: Low speeds and up to 60 seconds on major muscle groups and 45 seconds on minor or less dense muscle.

Intra-Activity: Low speeds for up-regulation and 30 Seconds maximum, Higher speeds for down regulation and 60 seconds maximum

Post-Activity: High Speeds and up to 2 minutes per area with 5 minutes being maximum.