

Pre-activity preparation

Passive Muscle Assessment™ (PMA)

Passive Muscle Assessment (PMA) plays a significant role in monitoring muscular tension from the demands of exercise, sport and daily lifestyle. Tension builds within our muscular framework from the gravitational forces placed on our body, whether through physical activity or through sustained stationary positions such as sitting at a computer. Many people are unaware of this tension gradually building up over the years. In some cases symptoms of pain arise out of nowhere causing tension, muscle weakness, a limited range of movement and even reduced athletic performance. Whichever the case, it is recommended that regular monthly muscular-skeletal check-ups and adjustments be made by a certified physiotherapist to help manage the musculoskeletal framework, especially of individuals who exercise or play sport on a regular basis.

In reality, not every client will attend a physiotherapist every month. This is where PMA can be of great use, serving as a valuable way for athletes and trainers to pinpoint muscular tension throughout the body. The term 'passive' refers to muscles being tested without function or activity, generally in a lying position using a muscle gauge and release tool called the Muscle Mate®. In the past, tennis balls and golf balls were used to find these trigger points, but were found to be too soft and too hard, respectively. The Muscle Mate® emulates the clenched fist often used by osteopaths to gauge and release muscular tension when working on their clients. It is another element used in addition to stretching and massage that targets the muscle belly, so you can gauge and release muscular tension and maintain pliability. The following series of PMA exercises uses this tool.

PMA GUIDELINES

- A warm shower prior to use helps release muscular tension
- Always place Muscle Mate® on muscle, never on bone
- Position under muscle and gently add pressure with bodyweight
- Hold position without pain for 5-30 seconds
- Relocate body position using small increments around specific targeted area

Target areas

1. Gluteal region



Description: Lie on back and roll legs to the side. Place Muscle Mate® under upper portion of gluteus medius region, commonly referred to as the external hip rotator. Roll legs back over to increase pressure and help release any tension. Using small incremental movements, work around the whole gluteal region on left and right sides to help gauge and release muscular tension.

Note: Participants with limited gluteal development such as hyper-mobile swimmers may need to focus on lower back releases due to lack of muscle development.

2. Piriformis



Description: Sit up on ground with legs bent and hands behind the back supporting your weight. Roll legs to the side and place Muscle Mate® under mid buttock region and roll legs back over to increase load on deep gluteal (piriformis muscle). Using small incremental movements, work around whole gluteal region on left and right sides.

Note: This position helps gauge the type of stretching required on a regular basis due to internal or external imbalances.

3. Shoulder girdle

Description: Place Muscle Mate® on floor with knob upwards. Position body on Muscle Mate® between spine and shoulder blade on muscle. Roll body back across to feel pressure. Release and relocate by moving body. Work up and around shoulder blade muscle bulk on both sides to gauge and release any tension. Extend arm overhead or raise hips to increase load on muscle group as it moves up near trapezius muscle.

Note: Excellent for athletes involved in upper body sports, strength trainers and officeworkers.

4. Lower back

Description: Lie on floor on back with legs extended. Place Muscle Mate® on floor with knob upwards and position it

under erector spinae muscle on one side of spine around the L4 to L5 region. Gently pull knee in towards chest to increase pressure on side where it is located. Release and relocate by moving body. Work up spinal muscles on left and right sides to mid back only, to gauge and release tension.

5. Calf region



Description: Using large knob, gently push Muscle Mate® into calf region to gauge muscular tension – push and hold, then release. Relocate along shin bone on calf region. Perform on left and right leg.

6. Forearm region



Description: Using small knobs, gently push Muscle Mate® into forearm region – push and hold, then release. Relocate along forearm on left and right sides.

Note: Good for reducing tennis elbow, golfer's wrist and for individuals involved in hand gripping activities such as carpenters, weight trainers, etc.

To help assess and identify muscular 'hot spots' holding tension, perform a PMA assessment and encourage clients to seek appropriate medical advice if pain arises, before starting or continuing with exercises or physical activity.

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Pre-activity Range of Motion (PROM)

Pre-activity Range of Motion (PROM) is a preliminary series of low intensity exercises performed after a PMA and prior to a dynamic warm-up. These drills, including body weight squats, lunges, push-ups and abdominal crunches provide a long-term benefit for athletes by helping loosen up the body, bringing body (spatial) awareness and pinpointing any musculoskeletal tension that may require extra attention.

Performing range of motion drills is like an airline pilot checking over the plane and all controls prior to take-off. The aim is to bring attention to details of oneself and how the body is functioning. The application of these drills means that during a dynamic warm-up the athlete will become more conscious of performing each drill with correct technique, leading to improved performance.

Balance, posture, coordination and range of motion drills are used at a low intensity and slow to moderate pace. Ensure good posture from head to toe is applied along with deep rhythmical breathing. The number of sets and repetitions are also kept low, as they are not focused on strength gains but muscle and body control leading into a dynamic warm up. Additional light activity sports drills such as passing a ball in rugby between two people is also a great way to increase range of motion without excess stress of the body in these early stages, whereas kicking a football too rapidly or dynamically when the body is cold and without properly warming up may be counterproductive and lead to injury.

An overall sequence of a training session may consist of the following:

1. Passive Muscle Assessment (PMA) – 10 minutes
2. Pre-activity Range of Motion (PROM) – 3 to 5 minutes
3. Dynamic warm-up – around 10 minutes
4. Main workout session – 30 to 60 minutes
5. Post-workout warm-down and stretching – 10 minutes

For more information on purchasing a Muscle Mate® visit www.thebodycoach.com ■



Paul Collins, BPE

Paul is general manager of the Australian Academy of Sport and Fitness, Sydney. He has authored 15 fitness books as part of The Body Coach fitness brand sold world-wide and is director of www.thebodycoach.com. He features regularly in *Men's Health Magazine* (UK) and presents corporate health seminars to thousands of people each year. He is also a strength and conditioning coach to Olympic swimmers and the Australian Karate Team.



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