

MANAGING MUSCULOSKELETAL INJURIES

The word 'musculoskeletal' simply means anything to do with the muscles (musculo) and/or bones (skeletal), including tendons and ligaments forming joints and supporting your spine. So, a musculoskeletal injury could vary from a muscle tear or strain; to a sprained ankle where the ligaments are overstretched or torn; to a meniscus or cartilage tear in the knee or a large contusion (muscle bruise) on your thigh.



WHEN SHOULD YOU COMMENCE TREATMENT?

In most cases, 'the early bird catches the worm'. Researchers have found that intervention with physical therapy treatment for acute soft tissue injuries within a few days has many benefits.

Prompt treatment benefits include:

- Relieving your pain more quickly via joint mobility techniques, soft tissue massage, electrotherapy
- Improving your scar tissue quality using techniques to guide the direction it forms
- Getting you back to sport or work quicker through faster healing rates
- Loosening and/or strengthening of your injured region with individually prescribed exercises and techniques
- Improving your performance when you do return to sport, work or simply daily life
- Correcting any biomechanical faults that may be affecting your movement, technique or predisposing you to injury.



WHAT IF YOU DO NOTHING?

Research shows that injuries left untreated do take longer to heal and can result in lingering pain. They are also more likely to recur and leave you with abnormal scar tissue

formation, joint stiffness and muscle weakness.

It's important to remember that symptoms lasting longer than three months become habitual and are much harder to solve. The sooner you get on top of your symptoms the better your outcome.



TREATMENT PHASES

1 Acute - Protection Phase

Early accurate assessment and prompt appropriate treatment is much better than delay. What may appear to be a simple muscle, ligament or soft tissue injury can include a hairline fracture, bone bruising or dislocation. Regardless of what the injury is or where it is on your body the early management is the same – that means the first 24-48 hours.

A soft tissue injury is termed as acute from the initial time of injury and while the pain, bleeding and swelling is at its worst. Your body's aim at this point is to protect your injury from further damage. The usual time frame for your acute symptoms to settle is two to four days post-injury, but this can vary depending on how you treat your injury.

In the first three days after injury, use the PEACE and LOVE method. If you are unsure on any of these stages ask for advice from your physical therapist

Immediate treatment of an injury

Initial treatment for acute injuries, be it a sprain or strain, follows the same course, and can help greatly in reducing pain and

preventing further damage. The most up to date acronym for remembering what to do is:

P protection: avoid activities or movements that increase pain for the first few days

E elevation: raise the injured area above the level of your heart as often as possible

A avoid: do not use anti-inflammatory medication or icing as it can inhibit healing

C compression: use bandages or taping to minimise swelling and support the injured area

E education: learn about your injury and what is best for your body

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L load: get advice from a physiotherapist or a relevant medical professional on how you can gradually start exercising again

O optimism: condition your brain to think positively about your recovery

V vascularisation: choose pain-free activities to increase blood flow to repairing tissues

E exercise: restore mobility, strength and proprioception/balance by adopting an active approach to recovery



2 Sub-Acute – Repair Phase

A soft tissue injury is termed as sub-acute when the initial acute phase makes a transition to repairing the injured tissues. This phase commonly lasts up to six weeks post-injury when your body is busy laying down new soft tissue and reducing the need to protect your injury as the new scar tissue, muscle or ligament fibres are beginning to mature and strengthen.

The purpose of physical therapy in the sub-acute injury phase is to assist nature to quickly reduce the inflammation, hasten the healing process and avoid complications such as joint stiffness, muscle tightness and weakness which may predispose you to re-injury.

Treatments in this phase may include:

- Local modalities are used to assist pain reduction and the natural healing response via an increase in energy (electrical, sound, light, magnetic, temperature) to the area. Some examples include, cryotherapy, heating, electrotherapy, ultrasound, laser, TENS. These modalities have short-term benefits that can assist with the earlier introduction of other longer-lasting techniques such as exercise prescription.
- Massage, acupuncture, dry needling
- Joint mobilisation - joint stiffness is a complication associated with both joint and adjacent muscle, tendon and ligament injury. Your physical therapist is highly skilled in regaining full joint motion via a range of skillful hands-on techniques.
- Protective strapping, bracing, supportive tape
- Exercise prescription has been shown by researchers to be the most effective method to hasten recovery, reduce pain and improve your post-injury function. These can start early in this phase and gradually the load and intensity will be increased overtime and tissues heal and strengthen.
 - Specific stretching exercises
 - Strengthening exercises: localised and global. This means strengthening the

specific muscle that may have been injured with isolated exercises to that one muscle group. But slowly more functional exercises will be introduced where the muscle or joint needs to work in a co-ordinated manner with surrounding areas. Core stability (that being your pelvis and abdominal, lower back area) are also key areas to strengthen in any back and lower limb injury. Similarly an injury to the upper limb or neck requires strength of the upper back and entire shoulder girdle, even your core, as no muscle or joint works in isolation.

- Proprioceptive and balance retraining
- Biomechanics correction: Biomechanics is how your entire system (body) works together through a movement or action. For example how your foot position may affect your legs and hips whilst running or how your trunk rotation affects your shoulder and arm when throwing a ball. Your body works as a chain, all joints and bones being connected through soft tissues; so any stiffness or weakness in one area can affect a different area predisposing it to injury.
- Function or sports-specific rehabilitation.

3 Late Stage - Remodelling Phase

Your body does not magically just stop tissue healing at six weeks post-injury. Healing is a continuum. At six weeks post-soft tissue injury your healing tissue is reasonably mature but as you stretch, strengthen and stress your new scar tissue, it often finds that it is not strong enough to cope with your increasing physical demand.

When your body detects that a repaired structure is still weaker than necessary, it will automatically stimulate additional new tissue to help strengthen and support the healing tissue until it meets the stresses of your normal exercise or physical function. The period between six weeks and three months post-injury is commonly referred to as the remodelling phase. Not unlike a

growing family putting demands on a small one-up one-down house, a home requires remodelling, expansion and alterations. So as you require more from the injured area so your body does some remodelling!

4 Chronic Phase - Ongoing Repair and Remodelling

Beyond three months is referred to as the chronic phase and refers mainly to pain that lasts more than 3 months. However, your soft tissue is constantly being injured by your daily activities and workouts, only to magically repair and remodel the tissue to meet your specific exercise demands. Balancing training, rehabilitation and matches, as well as adequate recovery time, is key to ensure your body adapts in a positive way to the stimulus without becoming overly fatigued and injured.

Your treatment will vary depending upon the needs of your injury. Your physical therapist is an expert in the diagnosis and treatment of soft tissue injuries and the best techniques for your specific injury and phase of healing.

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