

# ACP/ PRP Therapy – October 2023

Our musculoskeletal system is a complex network of structures that enable purposeful movement. Tendons, in addition to skeletal muscles, serve as vital connectors between muscles and the skeletal framework, facilitating coordinated motion. Ligaments, on the other hand, provide strength and stability to our joints.

These structures endure significant mechanical stresses daily, often leading to injuries. Common causes include uneven load distribution, overexertion, and external impacts such as missteps and accidents.

## Muscles:

Abrupt movements, excessive strain, and sudden muscle tension frequently result in muscle injuries and tears.

## Ligaments:

Falls, impacts, and compression can lead to ligament and joint capsule injuries, as well as ligament straining and stretching. Commonly affected areas include the ankle, knee, and wrist.

# Tendons:

Tendons, primarily composed of collagen fibres, can tear during rapid, jerky movements. Prolonged or excessive stress can lead to micro-injuries, resulting in persistent pain and functional limitations. Conditions like tennis and golfer's elbow, jumper's knee, heel pain, and calcaneal spurs often stem from tendon injuries. Commonly affected areas include the elbow, shoulder, knee, foot, and ankle.

## Signs of Injuries:

- Swelling and pain in the affected area
- Loss of joint function
- Limited joint mobility

• A feeling of joint instability

# **Natural Recovery Processes:**

The body initiates complex, well-regulated natural healing processes following injuries. Special proteins known as "growth factors" present in blood platelets play a crucial role in this recovery. These platelets become activated at the site of injury, releasing these proteins, which, in turn, aid in the healing process.

# ACP (Autologous Conditioned Plasma) Therapy:

ACP therapy harnesses this principle. High concentrations of these special proteins are extracted and then injected into the body, leveraging its innate self-healing mechanisms. The form and frequency of protein administration may vary based on the injury type, with a personalized treatment plan designed, which may include multiple injections at weekly intervals.

## **Treatment Process:**

- Blood is drawn from a vein in the arm.
- A separation process concentrates the body's active substances (proteins).
- These substances are injected into the affected region.
- Benefits of the Treatment:

# **Outpatient procedure:**

- Swift process (usually less than 30 minutes)
- Utilises endogenous, biologically compatible agents
- Tailored treatment intervals designed to suit individual needs
- For more information on the referenced studies, please consult with your physician.

## **References:**

Koch M et al: "Intra-ligamentary autologous conditioned plasma and healing response to treat partial ACL ruptures," Archives of Orthopaedic and Trauma Surgery, 2017; 138(5): 675-683.

Ford RD et al: "A retrospective comparison of the management of recalcitrant lateral elbow tendinosis: platelet-rich plasma injections versus surgery." Hand (N Y). 2015; 10(2): 285-91.

Lebiedzinski R et al: "A randomized study of autologous conditioned plasma and steroid injections in the treatment of lateral epicondylitis." International Orthopaedics. 2015; 39(11): 2,199-2,203.

Chew KT et al: "Comparison of autologous conditioned plasma injection, extracorporeal shockwave therapy, and conventional treatment for plantar fasciitis: a randomized trial." PM&R. 2013; 5(12): 1,035-1,043.

Boesen AP et al: "Effect of High-Volume Injection, Platelet-Rich Plasma, and Sham Treatment in Chronic Midportion Achilles Tendinopathy." Am J Sports Med. 2017; 45(9): 2,034-2,043.

von Wehren L et al: "The effect of subacromial injections of autologous conditioned plasma versus cortisone for the treatment of symptomatic partial rotator cuff tears." Knee Surg Sports Traumatol Arthrosc 2016; 24(12): 3,787-3,792.

Zayni R et al: "Platelet-rich plasma as a treatment for chronic patellar tendinopathy: comparison of a single versus two consecutive injections." Muscles Ligaments Tendons Journal. 2015; 5(2): 92-98.

Mazzocca A et al: "The positive effects of different platelet-rich plasma methods on human muscle, bone, and tendon cells." The American Journal of Sports Medicine. 2012; 40(8): 1,742-1,749.

Mazzocca A et al: "Platelet-rich plasma differs according to preparation method and human variability." Journal of Bone & Joint Surgery. 2012; 94(4): 308-316.