



# Recover

## Platelet Separation Kit

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Natural treatment of  
your **tennis elbow** for  
improving your daily life!

Patient Information

**BIOMET**<sup>®</sup>  
BIOLOGICS



# One Surgeon. One Patient.

**Over 1 million times per year, Biomet helps one surgeon provide personalized care to one patient.**

The science and art of medical care is to provide the right solution for each individual patient. This requires clinical mastery, a human connection between the surgeon and the patient, and the right tools for each situation.

At Biomet, we strive to view our work through the eyes of one surgeon and one patient. We treat every solution we provide as if it's meant for a family member.

Our approach to innovation creates real solutions that assist each surgeon in the delivery of durable personalized care to each patient, whether that solution requires a minimally invasive surgical technique, advanced biomaterials or a patient-matched implant.

**When one surgeon connects with one patient to provide personalized care, the promise of medicine is fulfilled.**

# Tennis Elbow

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Tennis elbow is a painful condition that often occurs as a result of overuse of the muscles and tendons of the forearm and around the elbow joint. As its name suggests, tennis elbow can sometimes be caused by playing tennis, but it can also occur as a result of a number of other physical activities. Many people with tennis elbow participate in work or recreational activities that require repetitive and vigorous use of the forearm muscle. Painters, plumbers, and carpenters are particularly prone to developing tennis elbow.

When you suffer from a tennis elbow the major symptom is pain on the outside of the elbow. Symptoms may also occur on the inner side of the elbow sometimes. This is referred to as golfer's elbow. The pain that is caused by a tennis elbow can be persisting and, for instance, lead to weakness of the fore arm, a painful grip while shaking, and not being able to hold relatively heavy items in your hand.

The tendon that joins the muscles of your forearm to your upper arm bone tears or becomes inflamed.

Tendons and ligaments are known to have a poor blood supply. Combined with the stress of day-to-day activities, they do not easily heal from damage. As a result of the slow healing of tendons, the symptoms occurring at a tennis elbow injury can last for a number of weeks, months, or sometimes, they can persist for up to years.



## Common treatments for a Tennis Elbow

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- Activity restriction
- Rest
- Physiotherapy
- Compressive forearm band
- **Recover** PRP treatment
- Shockwave therapy
- Acupuncture
- Steroid injections
- Surgery



## Recover technique; Platelet Rich Plasma (PRP) injections

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Blood consists of Red Blood Cells, White Blood Cells, Plasma, and Blood Platelets. Platelets are known to be responsible for blood clotting and releasing growth factors. Growth factors, released from platelets upon activation, influence the biological processes necessary for the repair of soft tissues, such as tendon or ligaments, following acute traumatic or overuse injuries.

**Recover** Platelet Rich Plasma (PRP) offers a promising natural technique to accelerate the healing of tendon injuries. PRP prepared with the **Recover** technique, is blood plasma with concentrated platelets and white blood cells containing huge reservoirs of bioactive proteins, like the important growth factors. PRP injection therapy offers a technique to accelerate healing of a tennis elbow.<sup>1-3</sup> The major advantage is that the treatment is completely natural.



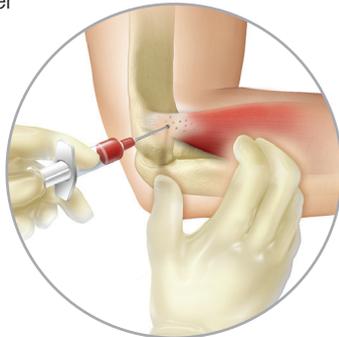
# Recover; Natural treatment of your tennis elbow

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## Recover treatment

A 30 ml sample of blood is withdrawn from your arm. The blood is then transferred in a unique tube that is placed in a centrifuge that spins the blood for 15 minutes. The centrifuge step removes all 'unwanted components' of blood that are not primarily responsible for healing. After centrifugation the PRP is collected. The PRP (containing platelets, growth factors and white blood cells) is ready to be injected back into the tendon at the site of the chronic injury.

Before injecting the PRP a local anaesthetic is needed. After just one single skin poke, the PRP will be injected into the tendon with multiple penetrations.



## After treatment

After the PRP injection you are not allowed to move your arm for 15 minutes. Afterwards you can go home and you will get a prescription for a narcotic pain medication for pain control overnight. Anti-inflammatory drugs are not allowed. Icing may be a good solution. Increased pain at the site of injury may result for 48–72 hours post PRP injection.

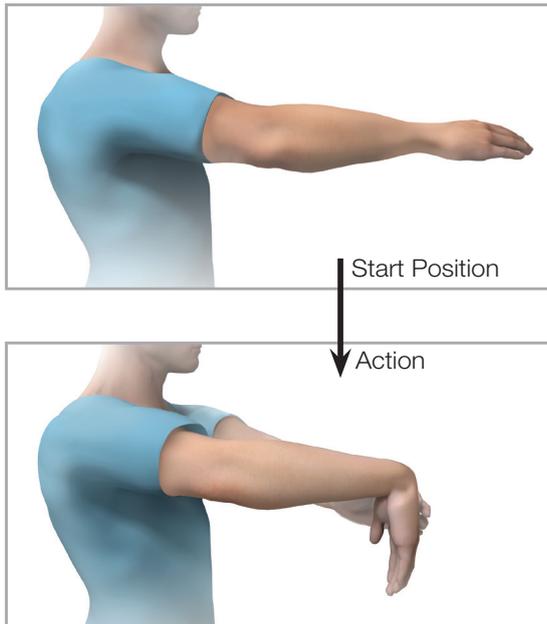
Twenty-four (24) hours post treatment you will have to start a standardized stretching protocol (level 1) to follow for 2 weeks. After the 2 weeks stretching a formal strengthening program (level 2) will be added. Over time, you are allowed to take up sporting or recreational activities, as tolerated.<sup>1,2,3</sup>

# Tennis Elbow Stretching Exercise (Level 1)

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You should perform the stretches in this section daily for two weeks. When the elbow pain is becoming less, proceed to Level Two.

## Wrist Extensor Stretch



**Purpose:** To stretch the forearm muscles and wrist.

**Start Position:** Hold your arm straight out in front of you with your palm facing down. Keep your elbow perfectly straight.

**Action:** Grasp the hand to be stretched with the other hand and slowly bend it toward the floor until the stretch is felt along the top of the forearm and elbow.

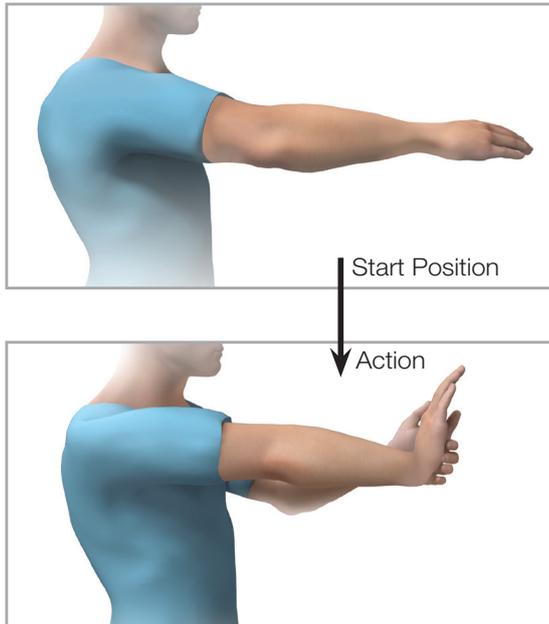
**Parameters:** Hold the stretch for 20 seconds. Repeat 10 times.

**Tips:** Keep your shoulder relaxed and do the stretch slowly as tolerated.

# Tennis Elbow Stretching Exercise (Level 1)

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## Wrist Flexor Stretch



**Purpose:** To stretch the forearm muscles and wrist.

**Start Position:** Hold your arm straight out in front of you with your palm facing down. Keep your elbow perfectly straight.

**Action:** Grasp the fingers with the other hand and slowly bend them toward the ceiling until the stretch is felt along the underside of the forearm and elbow.

**Parameters:** Hold the stretch for 20 seconds. Repeat 10 times.

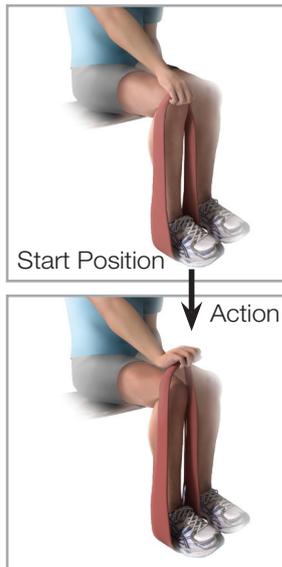
**Tips:** Keep your shoulder relaxed and do the stretch slowly as tolerated.

## Tennis Elbow Strengthening Exercise (Level 2)

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The exercises in this section should be done every other day for 2–4 weeks after completion of ‘Level One Stretching’. The band (shown in the pictures) can be obtained from your doctor.

### Wrist Extensor Strengthening Exercise



**Purpose:** To strengthen the forearm muscles and wrist.

**Start Position:** In a seated position, rest your forearm on your thigh and let your wrist fall palm downward toward the floor. Hook the band around your foot.

**Action:** Grasp the band and then slowly move your wrist and hand toward the ceiling while keeping your forearm on your thigh. Hold for one second then slowly move wrist and hand toward the floor again.

**Parameters:** Perform 3 sets of 20 repetitions, every other day.

**Tips:** Squeeze your shoulder blades together as you do this exercise. Also, keep the movements slow and controlled.

# Tennis Elbow Strengthening Exercise (Level 2)

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## Wrist Flexor Strengthening Exercise



**Purpose:** To strengthen the forearm muscles and wrist.

**Start Position:** In a seated position, rest your forearm on your thigh and let your wrist fall palm upward toward the floor. Hook the band around your foot.

**Action:** Grasp the band and then slowly move your wrist and hand toward the ceiling while keeping your forearm on your thigh. Hold for one second then slowly move wrist and hand toward the floor again.

**Parameters:** Perform 3 sets of 20 repetitions, every other day.

**Tips:** Squeeze your shoulder blades together as you do this exercise. Also, keep the movements slow and controlled.

# An optimal treatment of your Tennis Elbow

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The combination of the **Recover** PRP injection technique together with the Stretching and Strengthening program afterwards may give you the optimal treatment aiming to restore your tennis elbow into a healthy elbow without pain. When treatment is successful you may be able to return to all activities you were restrained from due to your tennis elbow.



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This brochure describes the surgical techniques, stretching/strengthening programs and postoperative protocol used by Allan Mishra, M.D.

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3. Gosens, T. *et al.* Ongoing Positive Effect of Platelet-Rich Plasma Versus Corticosteroid Injection in Lateral Epicondylitis A Double-Blind Randomized Controlled Trial With 2-Year Follow-Up. *American Journal Sports Medicine*. 2011 Jun;39(6):1200–8.



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