

# Gymna Acure 250

*The quality solution for electrolysis*





## What is ultrasound-guided galvanic electrolysis therapy?

*Triggering biological processes that generate new tissue*

Ultrasound-guided galvanic electrolysis (USGET) is a technique most commonly used on chronically affected tissue. A galvanic current flows through an acupuncture needle producing an inflammatory reaction in the tissue. The inflammatory reaction will trigger a host of biological processes in the body. These will ultimately start the generation of new immature collagen fibres. The fibres become mature by means of eccentric stimulus.

The technique shows good results on tendons in the chronic phase<sup>2,3</sup>, and may be used for injuries, such as long-standing muscle injury and treatment of myofascial pain syndrome and trigger points.



*The application of USGET should be limited to trained professionals and under ultrasound guidance<sup>1</sup>*

### **USGET and anti-inflammatory techniques**

*The aim of the inflammatory process is to bring the patient's injury from a chronic to an acute phase. The use of anti-inflammatory techniques is not recommended during the first 72 hrs after treatment, as they would limit the effectiveness of the treatment in the initial phase.*

<sup>1</sup>Abat F, et al. Current trends in tendinopathy: consensus of the ESSKA basic science committee. Part II: treatment options. J Exp Orthop. 2018 Sep 24;5(1):38.

<sup>2</sup>Abat F, et al. Randomized controlled trial comparing the effectiveness of the ultrasound-guided galvanic electrolysis technique (USGET) versus conventional electro-physiotherapeutic treatment on patellar tendinopathy. J Exp Orthop. 2016 Dec;3(1):34.

<sup>3</sup>Abat F, et al. Clinical results after ultrasound-guided intratissue percutaneous electrolysis and eccentric exercise in the treatment of patellar tendinopathy. Knee Surg Sports Traumatol Arthrosc. 2015 Apr;23(4):1046-52.



# Ultrasound-guided galvanic electrolysis technique part of a bigger plan

Combine therapies to get the results you need

Electrolysis treatment triggers the inflammatory process. It is recommended to combine electrolysis with other treatments. Eccentric, inertial exercises work very well for these injuries and are a very useful way to stimulate tissue. Combining the biological phase, which is the electrolysis stimulation, with the mechanical phase and subsequent mechanotransduction of the tissues will be achieved through exercise.

The electrolysis treatment produces pain that normally lasts 48 to 72 hours. This pain is mild, and the patient can usually handle it by taking paracetamol. It is nonetheless always advisable, after electrolysis treatment, to apply TECAR therapy and lower that perception of pain while stimulating the tissue at the same time.



## Electrolysis in practice

Dr. Ferran Abat (MD.PhD)

Sports Orthopaedic - Specialist in tendon and muscle injuries

“When treating with electrolysis, we are not trying to simply remove the inflammation from the tissue, which is the effect that many therapies want to achieve in the tendon. What we want is to obtain a biological change in the tissue treated and for it to become healthy and mature over time and through exercise.

Therefore, while the treatment is going to restrict the patient and require them to visit our clinic for two and a half to three months, they need to continue the exercise plan later, either at home or in the gym, because the tissue will take a lot longer to mature.

It will continue to mature for seven months, ten months or even a year. The treatment therefore does not produce an instant result. It is a long-term remedy that

ensures the tendinopathy does not return, provided that the precautionary measures continue to be taken.

We also always recommend that the patient is able to see the tendinopathy on the ultrasound. This way, they understand what kind of injury they have and see the changes that electrolysis and exercise are producing in the injury.

The patient therefore not only feels the progress made, it is also clearly visible in numerical form through the functional assessment questionnaires they fill in and on the ultrasound. This brings about extra motivation. They are feeling progress without having to wait a long time and have the ability to see the evolution at relatively short intervals.”

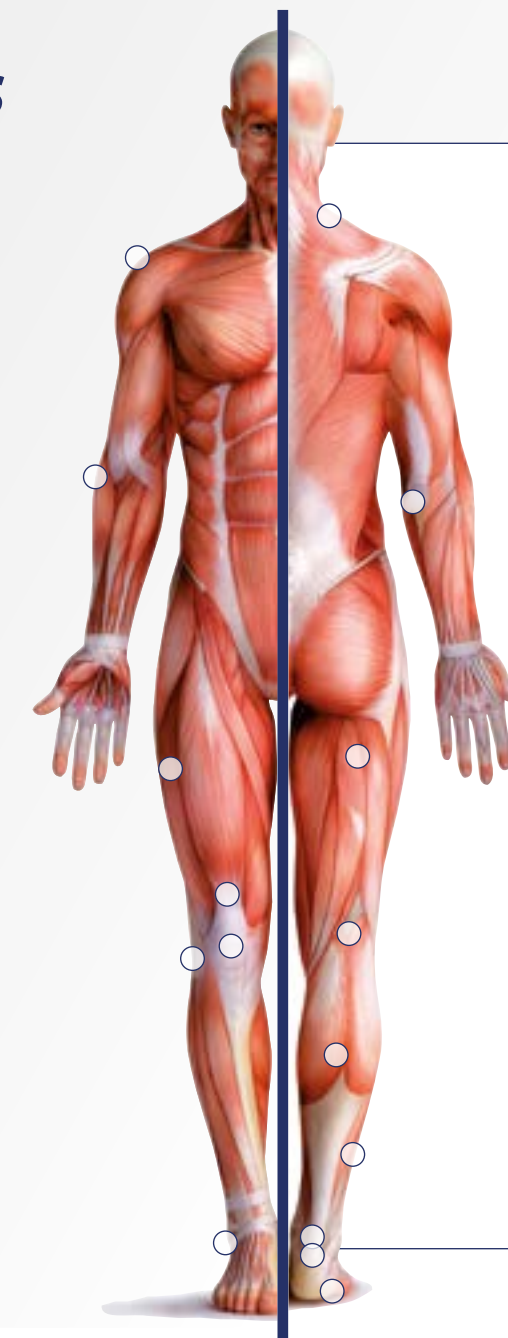
**“What we want is to obtain a biological change in the tissue treated and for it to become healthy and mature over time and through exercise.”**



## Pathologies

Electrolysis therapy is a technique that is particularly used in the treatment of muscle and tendon injuries. The aim is to obtain and see a response in the target tissue. This is why the ESSKA<sup>1</sup> recommends the use of ultrasound equipment when electrolysis therapy is performed.

Current clinical evidence supports the use of electrolysis therapy mostly in muscle and tendon tissue, however as for any emerging treatment method, ongoing clinical investigations might show other applications.



List of pathologies<sup>2</sup> that are currently treated with electrolysis therapy\*:

### Tendon:

- ⊕ Lateral elbow tendinopathy
- ⊕ Medial elbow tendinopathy
- ⊕ Quadriceps tendinopathy
- ⊕ Hamstring tendinopathy
- ⊕ Patellar tendinopathy
- ⊕ Achilles tendinopathy
- ⊕ Rotator cuff tendinopathy

### Muscle:

- ⊕ Quadriceps
- ⊕ Hamstrings
- ⊕ Neck and shoulder muscles
- ⊕ Calf muscles

### Myofascial pathologies – trigger points:

- ⊕ Neck and shoulder
- ⊕ Elbow
- ⊕ Hamstrings
- ⊕ Soleus/ Gastrocnemius

### Bursa:

- ⊕ Shoulder bursitis
- ⊕ Retrocalcaneal bursitis

### Ligaments:

- ⊕ Lateral knee ligament
- ⊕ Lateral foot/ ankle ligaments

### Other:

- ⊕ Baker's cyst
- ⊕ Haglund's syndrome
- ⊕ Plantar fasciitis

\*For some of the pathologies, results are encouraging, however more clinical evidence is needed

<sup>1</sup>European Society for SportsTraumatology, Knee Surgery and Arthroscopy

<sup>2</sup>D'almeida et al; seguridad de la tecnica Mep (percutaneous microelectrolysis) 2019; 26 (2): 190-195 Fysioterap. Pesqui



## The treatment process

Where does electrolysis therapy make the difference?

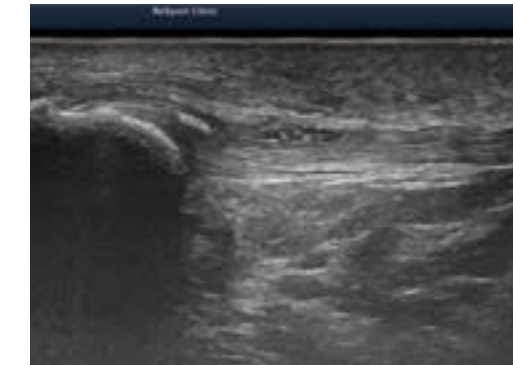
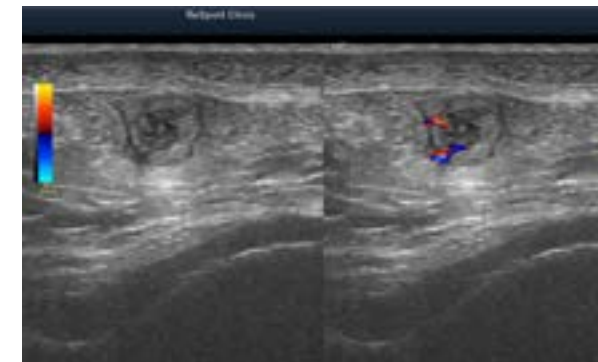
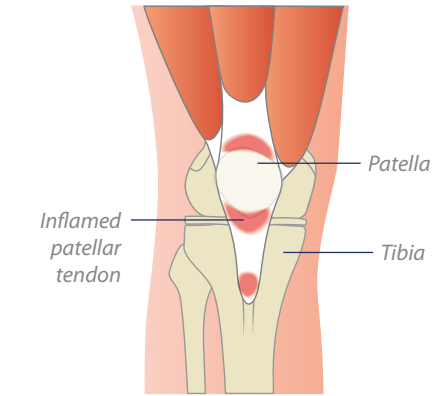
There are patients who have been suffering for months or even years, and other forms of physical therapy have not produced the required results. Minimally invasive electrolysis therapy in combination with eccentric exercise may finally give these patients the healing they need without requiring surgery.

A few examples of pathologies that may be treated with electrolysis therapy are following on the next pages. Showing what the treatment and recovering process looks like on ultrasonography images.



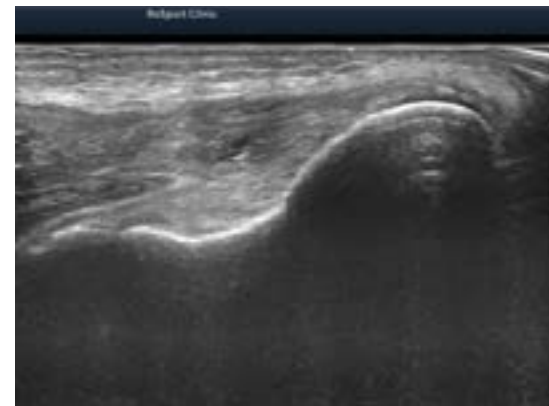
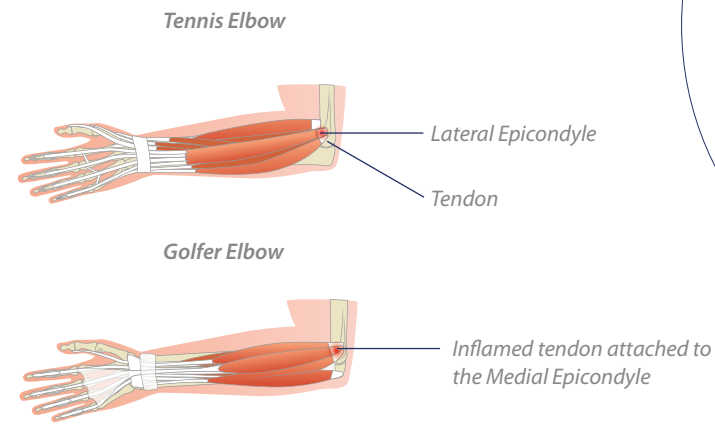
### Patellar tendinopathy (jumper's knee)

Patellar tendinopathy, also known as jumper's knee, is an overuse injury to the tendon connecting the patella and the tibia. This pathology is most common in athletes playing basketball and volleyball, as these sports involve frequent jumping, however, even people who do not participate in jumping sports can get patellar tendinitis.



### Lateral elbow tendinopathy (tennis elbow) / Medial elbow tendinopathy (golfers elbow)

Lateral elbow tendinopathy, also known as tennis elbow, is a chronic tendon disorder on the lateral part of the elbow. Medial elbow tendinopathy, also known as golfer's elbow, is a chronic tendon disorder on the medial part of the elbow. Both pathologies are caused by overuse of the tendons connecting the elbow and the wrist, the extensor for lateral and the flexor for medial elbow tendon.



### Myofascial trigger points

A myofascial trigger point (MTrP) is a hyperirritable spot in skeletal muscle that is associated with a hypersensitive palpable nodule in a taut band. The spot is tender when pressed and can give rise to characteristic referred pain, motor dysfunction, and autonomic phenomena.



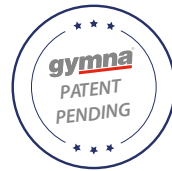
Several needling treatments are proposed for treatment of myofascial pain syndrome. In fact, two different needling applications can be used to inactivate MTrP: wet needling (injections) or dry needling. Dry needling refers to the insertion of a solid filiform needle into a MTrP without the introduction of any substance. In addition, dry needling can be also combined with electrical current giving other modalities such as electrical dry needling or percutaneous electrolysis (USGET). Early clinical research shows that percutaneous electrolysis (USGET) could be a promising alternative for the treatment of MTrPs.





# Gymna Acure 250

The quality solution for electrolysis



The Gymna Acure 250 has been developed with ease of use and high quality in mind. The intuitive touchscreen makes working with the Acure 250 easy and uncomplicated. Once you have chosen the required settings and confirmed them on the device, the needle may be inserted into the Gymna Acure smart handpiece. The handpiece, with its ergonomic design, is easy to operate and has ingenious features, such as an LED ring display indicating that it is ready for operation. No need to look at the device or to use foot switches, as the treatment start/stop button and increase/decrease intensity buttons on the handpiece give you full control during treatment.



## Higher intensity means shorter treatment time

It is important to note that in electrolysis there are different levels of intensity: microampere intensities and milliampere intensities.

The higher milliampere intensities in particular are painful, and the use of local anaesthetic agents is recommended. For this reason the application of high dose milliamperage is not for use by physiotherapists, as they are not allowed to perform local anaesthesia.

If a physiotherapist is allowed and trained to use ultrasound-guided galvanic electrolysis therapy, meaning trained and allowed:

- > to perform needle punctures on a patient
- > to use ultrasonography
- > to use galvanic electrolysis therapy

Then use of the Gymna Acure 250, a device with a maximum intensity of 2500µA (2.5mA), is allowed as long as there is no need for local anaesthesia. Physiotherapists therefore work with lower intensities to allow the patient to deal with the pain caused by the technique. As a result, the treatment time increases compared to the treatment time at higher intensities.

### Ultrasound-guided galvanic electrolysis treatment

	µA	mA
	Physiotherapist	(para)-Medical personnel allowed to administer local anaesthetic
	0µA	2500µA
		8000µA
Set Intensity	low level	mid level
		high level
Treatment time	long (minutes)	medium
		short (seconds)
Pain level	tolerable	intense
		painful
Local anesthetics	no need	designated
		essential

Dependent on patient's pain threshold

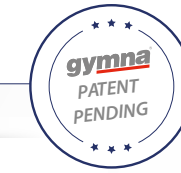
$$Q (mC) = Intensity \times time$$



Q = the amount of milli coulombs (mC) that you want to administer to the patient

Example: You want to administer 150mC, depending on the intensity the time you need to administer changes  
 $150mC = 300\mu A (0,3mA) \times 500 \text{ seconds}$   
 $150mC = 2500 \mu A \times 60 \text{ seconds}$





# Gymna Acure 250

The quality solution for electrolysis

Gymna's over 40 years of experience in the field of electrotherapy has contributed significantly to the development of the Acure 250. This expertise translates into a high-quality solution for the application of ultrasound-guided electrolysis.

1 **Table-top control unit:**

- Full colour 7 inch capacitive touchscreen
- Powered with external medical-grade power supply
- Mains power and rechargeable li-ion operation
- Smart battery management system
- USB port to allow software updates



**Handpiece holder:**

- Slightly magnetic mounting grip for secure storage
- Specifically designed to avoid accidental needle punctures
- Mountable for both left and right handed users

**Pen led ring colour:**

- Correct operation
- Attention required
- Failure modes

2 **Handpiece:**

- Wired remote control allowing:
  - > to Start /Stop of the therapy
  - > to Adjust the desired intensity
  - > with Led ring for visual feedback during treatment
- Ergonomic modern design
- Ingenious and safe needle grip mechanism
- Supports a one needle electrode (cathode)
- For use with non-insulated acupuncture needles:
  - > Made of a single thread of uncoated stainless steel
  - > With a braided steel handle without a head
- Large-sized bracelet as return electrode (silicone rubber)

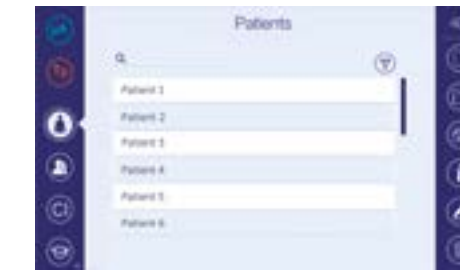


**Do I need any particular type of needle?**

The use of high-quality, single-use, sterile acupuncture needles that have medical CE approval, including the Notified Body number, is recommended. The needle should be compatible with the application of ultrasound-guided electrolysis.

**Are there any recommended needle dimensions?**

- Always be sure to select the correct needle thickness and length for the type of injury to be treated:
- Needle diameter from 0.30mm – 0.35mm.
  - Handle outer diameter from 1.25mm – 1.45mm.
  - Needle body lengths from 20mm – 100mm.
  - Handle length from 25mm – 30mm.



**Intuitive graphical user interface:**

- Modern design, fully touch screen operated
- Self-explanatory icons, buttons and therapy screen for easy parameter setting
- Traditional layout or in modern dashboard design
- Customisation of device settings
- Easy operation via direct therapy keys
- Body area menu:
  - > Select treatments based on anatomical locations
  - > Create own protocols
- Anatomical library
- Contra indications list
- Visual and auditory feedback on all device conditions
- Post-treatment graphic representing administered charge



**Applications:**

- Maximum intensity of 2500µA (2.5mA)
- Direct continuous current without fluctuations
- Constant current source
- Dedicated channels for USGET and dry needling
- Ramp curve settings for improved patient comfort
- Allows multi-sequential treatments
- Auxiliary current to monitor closed patient circuit
- Extensive accessories test



# Gymna Acure 250

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Cryotherapy

Tecar - Diathermy

Shockwave Therapy

Physio Care

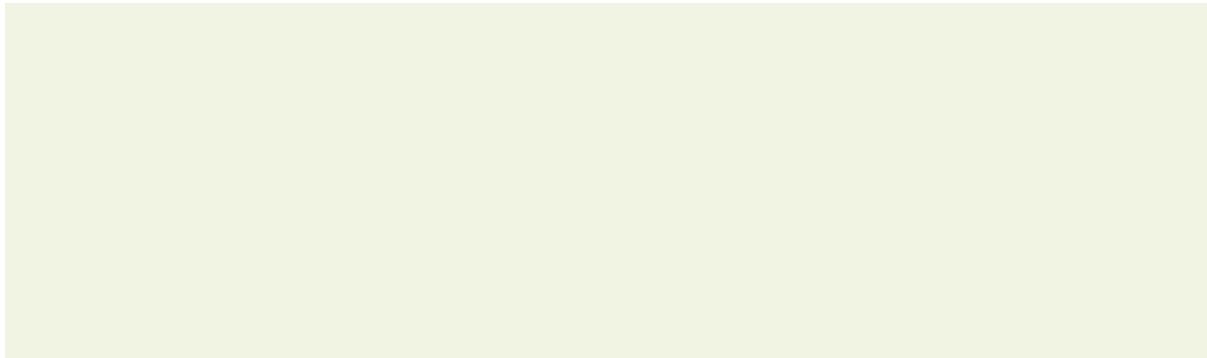
Treatment Tables

Electrolysis

Electrotherapy



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