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### **SUMMARY**

Guna Collagen Medical Devices contain swine-derived collagen and ancillary substances of natural origin.

A local administration both in acute cases and in subsequent phases speeds up the natural processes of recovery and provides an effective mechanical support.

- 20 patients aged 23, +/- 7 years, have been treated because suffering from sprained knee accompanied by a negative clinical involvement of the intra-articular ligaments and without significant intra-articular effusion.

10 patients were treated with peri-articular injections of Guna Collagen MD-Knee and Guna Collagen MD-Matrix twice/week x 3 consecutive weeks.

The Medical Devices group showed a rapid recovery and an excellent control of breakthrough pain, and VAS ≤ 1 after a two-week treatment.

This value remained still high in the group that was not treated (VAS  $\geq$  5).

- None of the patients treated with MDs injections used NSAIDs when needed.

KEY WORDS COLLAGEN MEDICAL DEVICES, GUNA COLLAGEN MD-MATRIX

# USEFULNESS OF GUNA COLLAGEN MEDICAL DEVICES IN THE TREATMENT OF KNEE PAIN

The knee joint is the most frequently affected joint by sports-induced injuries.

Any adequate treatment should comply with the physiological processes of recovery, and any treatment should primarily influence the body processes of repair in a positive way so to obtain the best recovery in terms of joint mobility, muscle strength and endurance, neuromuscular control and cardio-respiratory efficiency.

Furthermore, recurrences should be avoided by trying to improve the endurance of damaged tissues against future strains.

From this perspective, any treatment should follow gradual stages.

Inside tissues, a mainly inflammatory phase is followed by a repair phase, during which the fibroblasts are urged to build a matrix of collagen fibers; then, a stabilization phase occurs where the collagen fibers spread according to the lines of force and sport-induced strains.

The possibility of applying specific easyto-use **Collagen Medical Devices** without side effects in clinical practice in order to rebalance the loss of collagen, which always occurs in the above mentioned cases, is an **effective** and a **novel method of treatment**.

– The basic unit of collagen is tropocollagen, a glycoprotein made up of three intertwined left-handed polypeptide chains that are bound to molecules of glucose and galactose.

The three polypeptide chains are twisted in a tight helix. They are stabilized between aminoacids, which are hydroxylated by weak hydrogen bonds.

These bonds give collagen special characteristics, i.e. robustness as well as resistance and flexibility.

Guna Collagen Medical Devices contain swine-derived collagen and ancillary substances of natural origin.

A local administration both in acute cases and in subsequent phases speeds up the natural processes of recovery and provides an effective mechanical support.

There are different formulations to treat different joints, that are in any case appropriate for treating those tissues that are mostly mesoderm-derived.

**– 20 patients** aged 23, +/-7 years, have been treated because suffering from

**sprained knee** accompanied by a negative clinical involvement of the intra-articular ligaments and without significant intra-articular effusion.

Such injuries, caused by physical activity, were regularly treated with NSAIDs for 4 days via systemic route. The breakthrough pain was still high at the end of such treatment (VAS  $\geq$  7). Therefore, NSAIDs were recommended only when needed.

10 patients were treated with **peri-articular injections** of **Guna Collagen MD-Knee** and **Guna Collagen MD-Matrix** twice/week x 3 consecutive weeks.

The Medical Devices group showed a **rapid recovery** and an excellent control of breakthrough pain, and  $VAS \le 1$  after a two-week treatment.

- This value remained still high in the group that was not treated (VAS ≥ 5).
   None of the patients treated with MDs injections used NSAIDs when needed.
- Therefore, the Guna Collagen Medical Devices turned out to be an effective method of treatment.

The possibility to combine a treatment based on Collagen Medical Devices with any other systemic or local treatment, or with physiotherapy or any other rehabilitation therapy offers various and useful fields of application to each single patient.

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