

SPRING THREAD[®] PRODUCT INFORMATION

Spring Thread[®] is a totally innovative suspension thread for the treatment of skin aging. A specific mechanical design and the use of silicone and polyester in its production process yield to the only flexible and elastic thread on the market.

COMPANY

1st SurgiConcept is a French company located in the North of France, well known for its economic dynamism and its industrial know-how in the textile and medical fields.

The creator, Jean FRISMAND, medical doctor graduated in biomechanics, own a 25 years experience in the design and manufacture of surgical implants and filed over 30 patents.

BACKGROUND of Suspension Threads

Suspension threads have been invented twenty five years ago by a Georgian surgeon, Dr. Sulamanidze, by creating indentations in a polypropylene thread.

If this absorbable thread has a good immediate hanging by pimples, in the longer term, many side-effects occur:

First, **loss of fixation**: as the thread is not elastic, it supports too much stress on few indentations. Then, as the thread is rigid, there is no shock-absorber for the movements of the face which leads to 2 defaults: **risk of extrusion of the thread and temporal pain**.

Therefore, if the positioning of a rigid thread is not perfect, there is over or under correction.

A new thread consisting of nodes and absorbable cones proposes to improve the concept. Although there is a very satisfactory immediate hanging because of the large size of the cones, long term holding on rounded nodes should be **less effective** than the previous pimples threads, which was already unsatisfying.

But still, this type of thread is **not elastic**.

There are also absorbable threads made of PDO or PLLA, whose action is supposed to produce fibrosis that maintains the suspension. These threads are effective for a **short period**, often less than 1 year, for a significant cost to the patient.

BIOMECHANICS

The tissues composing the face: skin, fat, muscles are complex materials. Their mechanical behaviour, not linear, is called viscoelastic. This behaviour is **not at all reproduced by a polypropylene mono-filament**. So, after some years, it cannot remain intimately associated with the tissue in which it operates.

SPRING THREAD® PRODUCT CHARACTERISTICS

Spring Thread® is a **composite implant**, such as human body tissues (elastin fibers and collagen helix). It consists on a **silicone matrix** that provides elasticity and flexibility and a **polyester helix core** which provides resistance and control of the elasticity (20%).

Polyester and silicone are **inert materials, perfectly biocompatible**, used for **over 50 years** for implants.

The cogs are rounded, non- aggressive, pointing in the 4 directions and very numerous: **24 small cogs/cm**. They provide a non traumatic and much more effective anchorage than other existing product.



Flexibility leads to a better tolerance of the product, compared to a rigid product.

- The thread can shorten during the movements of contraction and wrinkles.
- It avoids the hard end extrusions.

Elasticity is fundamental.

- It allows the threads to lengthen with muscle movements.
- It distributes tensions along the entire length of the thread.
- It absorbs tensile stresses (like a shock-absorber of a car).
- Disappearance of loss of fixation.
- Disappearance of pain by excess of stress.

Finally, it allows a **dynamic stabilization** of tissues: the tissues of the face “live” at the same time as the threads. Lengthen and shorten, they are no longer frozen: **Muscle mobility is preserved, the result is a natural effect.**



PRODUCT RANGE

The laying of Spring Thread® is the same as the other current threads: Straight, V or X positioning.

During procedure, it is **possible to relax** a thread which is too tight. Then, in a week, fibrosis produces an excellent fixation.

Spring Thread® is well known for its applications on the **neck**, the **eyebrows** and the treatment of **facial palsy**.

There is a range of **two diameters** and 4 references of threads.

- A thin thread, 300 mm long for the face, neck and arms, with two 150 mm long crimped needles.
- The same thread without needle to place with a specific 200 mm long separate needle.
- A thicker thread, 300 mm long, for the treatment of the body (thigh, abdomen, buttocks and small breast ptosis).
- The same big thread with a central part of 50mm without cogs, suitable for implementation in U under the breast.
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Our Products are **manufactured in France**, own the **CE mark** and have been implanted for the first time in October 2007.

RESULTS

Thanks to its elasticity, the SpringThread® is easy and quick to place under the skin which gives excellent results.

Muscle mobility is preserved; the result is a **natural effect**.

More than 70.000 threads have been implanted **without adverse effect** or rejection for now 9 years.

Users get **very interesting results**, superior to the classic threads, due to the characteristics of flexibility and elasticity.

The use becomes possible for the tail of the eyebrow, the neck angle.

CONCLUSION

Spring Thread® is a new, soft and elastic, suspension thread, which responds optimally to the biomechanical characteristics of human tissues and expected functions.

The 9 years implantation results are satisfactory and show better results than all other existing products.