

**The scientific background of Endermologie® and LPG® Technique  
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*Endermologie®* is a registered brand from the multinational French-origin company *LPG® SYSTEMS*, designed to design the non invasive care management of skin by the medical devices *LPG®* patented. Marketed since 1986, these medical devices classed IIa, controlled by A.F.S.Sa.P.S., are endowed with an unique and patented high technology, CE marking and therapeutic claims approved from FDA. An original technique of mechanical mobilization of skin, named Technique *LPG®*, -and *Endermologie®* for its aesthetic applications-, is delivered by these *LPG®* medical devices. They associate into the treatment head, 2 motorized rollers horizontally and vertically active, and located inside the treatment chamber where the exerted depression power, allows to catch without damage, the edges of the skin area to be mechanized. According to the aimed anatomical or pathological target, the Technique *LPG®* will be delivered with therapeutic protocols quite specific of each treated affection, whose at any time the various parameters can be modulated according to the individual sensitivity and the diathesis of the patient. Since the beginning of the 90's, the numerous applications of the Technique *LPG®*, either aesthetic or therapeutic ones, -whose the common denominator is the elective treatment of skin connective tissue-, are the aim of an important research program, unique in the world, realized in close collaboration with various hospital & university medical teams in Europe and USA. A brief review of different *LPG®* research programs, -fundamental, experimental and clinical research-, finalized or still pending, will be done during this lecture. The clinical observations collected during this research work have been objectivated by various exploratory modes like sonography (7.5-20MHz), MRI, histology (optical & electronic microscopy), micro-circulatory explorations (laser Doppler, echoDoppler, videocapillaroscopy by optical probe, lymphoscintigraphy, microlymphography, ertc..). The analysis of such data collected by research work, on a first part allowed to better understand the mechanism of action of the Technique *LPG®* and on a second part, to enlarge the field of its applications. Thus the main anatomical and physiological targets of the Technique *LPG®* have been shown to be especially the structural and functional components of the skin connective tissue, like cells (fibroblasts, adipocytes), interstitial (extra cellular matrix, collagen and elastin) or vascular ones (superficial capillary and sub cutaneous, arterio-veinous and lymphatic network). Then the scientific research shown that the originality of the Technique *LPG®* is linked to its proper activity against the process of fibrosis, -either by scars, degeneration or aging -, where no treatment has never been efficient at this time. Then this "defibrosing" effect specific of the Technique *LPG®*, gives it an unequalled efficiency in the care management of chronic affections with a fibrosis component, like lymphedema, troubles of wound healing process, skin burns, sclerodermia or even cellulite and its fibrous part (*panniculopathy edematofibrosclerotica*).