

IMCAS

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RESEARCH IN ENDERMOLOGIE® : REVIEW OF HOSPITAL & UNIVERSITY COLLABORATIONS IN EUROPE AND USA, FOR STUDY OF THE ACTION MECHANISM AND OF VARIOUS THERAPEUTIC APPLICATIONS OF THE LPG® TECHNIQUE

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Endermologie® is a registered brand from the multinational French-origin company LPG® Systems, designed to call the non invasive care management of body area with localized adiposity and of the « orange peel » appearance of cellulite 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 unique and patented high technology, CE marking and therapeutic claims approved from FDA. An original technique of mechanical mobilization of skin, named LPG® Technique, -and Endermologie® for its aesthetic applications-, is delivered by these medical devices and only by them, as LPG®-patented machines. Thus only machines LPG® are endowed with the patented device, associating into the treatment head, 2 motorized rollers active horizontally and vertically, and located inside the treatment chamber where the depression power exerted, allows to catch without damage, the edges of the skin area to be mechanized.

According to the anatomical or physiopathological target aimed, the LPG® Technique will be delivered with therapeutic protocols quite specific from 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 90ies, the numerous applications of the LPG® Technique, 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 teams in Europe, USA and soon in Asia. 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 (7.5-20 MHz), MRI, histology (optical & electronic microscopy), micro-circulatory explorations (laser Doppler, echoDoppler, videocapillaroscopy by optical probe, lymphoscintigraphy, microlymphography, etc...). The analysis of such data collected by research work, on a first part allowed to better understand the mechanism of action of the LPG® Technique and on a second part, to enlarge the field of its applications. Thus the main anatomical and physiological targets of the LPG® Technique 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-venous and lymphatic network). Then the scientific research shown that the originality of the LPG® Technique 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 moment. Then this defibrosing effect specific of the LPG® Technique, gives it an unequalled efficiency in the care management of chronic affections with a fibrosis component, like lymphedema, abnormalities of wound healing process, skin burns, sclerodermia or even cellulite and its fibrous part (*panniculopathy edematofibrosclerotica*).

*Agence Française Sanitaire des Produits de Santé, ** Food & Drug Administration