

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ENDYMED MEDICAL LTD. AND ENDYMED MEDICAL, INC.,
Petitioners,

v.

SERENDIA, LLC,
Patent Owner.

U.S. Patent No. 9,320,536
Filed: February 22, 2012
Issued: April 26, 2016
Inventor: Jongju Na

TITLE: METHOD, SYSTEM, AND APPARATUS
FOR DERMATOLOGICAL TREATMENT

Inter Partes Review No. IPR2024-00844

**SUBSTITUTE DECLARATION OF DR. JEAN WOLOSZKO
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 9,320,536**

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I, Jean Woloszko, Ph.D., declare as follows:

I. INTRODUCTION

1. I have been retained in this proceeding by EndyMed Medical Ltd. and EndyMed Medical, Inc. (collectively, “Petitioners”) as a technical expert in connection with their petition for *inter partes* review (“IPR”) of U.S. Patent No. 9,320,536 (“the ’536 patent,” EX1001). I have also been retained by Jeisys Medical, Inc. (“Jeisys”) in IPR2024-IPR2024-00384, pertaining to the same patent and applying the same grounds, as a substitute for Dr. Dany Bérubé. I understand that the ’536 patent is assigned to Serendia, LLC (“Serendia” or “Patent Owner”).

2. I have been asked, by counsel for Petitioners, to provide opinions based on my experience with and expertise in skin treatment technologies for the aesthetics industry. In particular, I have been asked to offer opinions regarding the patentability of claims 1–9 and 11–19 of the ’536 patent (the “Challenged Claims”) in view of certain prior art references and the knowledge of a person of ordinary skill in the art (“POSA”).

3. I am being compensated for my time in this matter at an hourly rate of \$600 per hour. I am also being reimbursed for reasonable and customary expenses associated with my work and testimony in this matter. My compensation is not contingent on the outcome of this matter or the specifics of my testimony. I have no personal or financial stake or interest in the outcome of the present proceeding.

4. I am an independent consultant. All my opinions stated in this report are based on my own personal knowledge and professional judgment.

II. QUALIFICATIONS AND PROFESSIONAL BACKGROUND

5. My qualifications and professional experience are described in my curriculum vitae, a copy of which is provided herewith as Appendix A. The following is a brief summary of my relevant qualifications and professional experience.

6. I currently work as an independent consultant for several medical device companies, most of them are involved in some type of RF electrosurgery products.

7. I received a Physics and Mathematics Certificate for Medical Research in 1977 and a Medical Degree from the Université Louis Pasteur in 1981. I received a Biomechanics and Kinesiology Certificate from the University of Montpellier in 1988. I specialized in Rehabilitation Medicine and completed a 3-year residency at the University of Montpellier in 1988. I completed my Medical Thesis at the University of Montpellier in 1988. I received a Ph.D. in Bioengineering from the University of Illinois at Chicago in 1992.

8. From 1981 until 1988, I worked at the INSERM (the French National Scientific Institute for Medical Research and Studies) as a Research Associate.

9. From 1983 until 1988 I worked part time as an Associate Physician at Center PROPARA, a Rehabilitation Center for Spinal Cord Injury patients.

10. I was the worldwide research manager for the Interstim Venture group of Medtronic, leading the research and development efforts in the field of urology, gastroenterology, and colorectal surgery from 1992 to 1998. In 1997, I became the Senior Manager of Medical Affairs at Medtronic Interventional Cardiology, driving the development of new technology in the interventional cardiology group.

11. I held multiple roles at ArthroCare Corporation from 1998 to 2014, including: Medical Director from 1998 to 2002; Vice President of Research and Development from 1999 to 2003; Vice President – Chief Technology Officer from 2003 to 2010; and Senior Vice President of Research and Development and Chief Technology Officer from 2010 to 2014. In my role in these positions, I was responsible for the growth of the research, product development, and innovation for ArthroCare which grew from a \$12.5 million company to around \$400 million. I led the development of the internationally patented RF based technology Coblation®. In my role of providing technical leadership, training, and education both internally as well as externally, I was able to develop and maintain over 65% market share for this plasma mediated radio-frequency surgical system for over 16 years which created a \$250 million revenue stream. Additionally, throughout these positions, I drove innovation strategy, product development, process development,

sustaining engineering, and manufacturing transfer throughout various areas of the organization including sports medicine, ENT, spine, cosmetic and plastic surgery, urology, gynecology, OEM partnerships, and wound management. This included driving the product development for the Visage division of ArthroCare Corp., that was manufacturing and distributing radiofrequency systems for cosmetic surgery, including systems to improve skin condition and reduce wrinkles.

12. From 2014 to 2017, I was the Vice President of Research and Development Sports Medicine and ENT at Smith & Nephew, following the merger with ArthroCare in June 2014. In this position, I led innovation, research, technology, and product development for the Sports Medicine and ENT Franchises (over \$1B business). I oversaw more than 150 people and a \$35M+ budget.

13. From 2018 to 2020, I was the President and Chief Executive Officer of PeriphEX Corp. My primary role was launching new products and leading fund-raising activity for an innovative consumer product to address symptoms of Peripheral Neuropathy. The product was developed and launched in 4 months. I participated in setting up production, operations, clinical trials, marketing strategy and drove sales to both health care providers and direct consumers via eCommerce.

14. I have been consulting since 2017, providing technical and strategic support for several medical device companies engaged in various radiofrequency electro-surgical technologies. As such I am the “Technical Lead” for Morgan

Steer Orthopaedics Ltd. that designs, manufacture and distribute RF bipolar systems for minimally invasive treatment of various spine conditions. I am also mentoring the technical team of Neurent Medical, based in Ireland, for the design and development of their next generation of multiple bipolar electrode system for intra nasal applications.

15. In the past five years, I have testified, at trial and by deposition, in the following matter:

- U.S. International Trade Commission: In the Matter of Certain Radio Frequency Micro-Needle Dermatological Treatment Devices and Components Thereof, Inv. No. 337-TA-1356.

16. I served as a member of the MT 17 International Electrotechnical Commission (“IEC”) from 2008 until 2018. This organization prepares and publishes international standards for all electrical, electronic, and related technologies – collectively known as “electrotechnology.” IEC standards cover a vast range of technologies. The IEC also manages four global conformity assessment systems that certify whether equipment, systems, or components conform to its international standards. The MT 17 committee is composed of about a dozen world experts in the field of electro-surgery and defines the 60601-2-2 standard for High Frequency surgical equipment and high frequency surgical accessories. This standard is recognized by almost all countries in the world and

defines the safety and other design requirements to which any electrosurgical equipment or accessory needs to comply to be registered and allowed for use in these countries.

17. I am a recognized expert in the medical device industry and most particularly in the field of high frequency surgical systems including those used to remodel the dermal layer.

18. I am one of and/or the first listed inventor on 114 U.S. Patents and over 55 European Patents for medical device technology; most of these patents are related to electrosurgical systems and methods. One of these patents, U.S. Patent No. 6,766,202, which has an earliest filing date of August 30, 1999, relates to systems and methods for intradermal collagen stimulation including using needle electrodes to apply radiofrequency to the dermis. As such, I am familiar with using radiofrequency and needle electrodes on tissue.

III. INFORMATION CONSIDERED

19. In forming my opinions, I read and considered the '536 Patent and its prosecution history, the exhibits listed in the Exhibit Lists filed with the Petition for *Inter Partes* Review of the '536 Patent, as well as the other materials referenced in paragraphs 1–226 of Dr. Bérubé's Corrected Declaration (Ex. 1003).

IV. LEVEL OF ORDINARY SKILL IN THE ART

20. In my opinion and based upon my background and experience, the level of skill of a POSA in the timeframe prior to March 3, 2011, would have been met by a person who had (1) 7-10 years of experience with developing and/or using treatment systems for delivery of electromagnetic radiation to skin or other tissues, and (2) a related graduate engineering degree or M.D. The POSA may have worked as part of a multidisciplinary team and drawn upon not only his or her own skills, but also taken advantage of certain specialized skills of others on the team when solving a technical problem. In my opinion, additional education could substitute for professional experience and vice versa.

21. By 2010, I met or exceeded the level of a POSITA. My opinions do not turn on this precise definition, and the claims would be unpatentable from the perspective of any reasonable POSITA.

V. SUMMARY OF OPINIONS

22. I have reviewed paragraphs 1–226 of Dr. Bérubé’s Corrected Declaration (Ex. 1003) and the Exhibits cited therein. I agree with and adopt paragraphs 15–224. With respect to paragraph 184, although I was not personally employed by Primaeva/Syneron, I am aware of the price discrepancies between Primaeva/Syneron’s multi-channel microneedling devices and cartridges and the single channel microneedling devices and cartridges of its competitors.

23. This report summarizes the opinions I have formed to date. I reserve the right to modify my opinions, if necessary, based on further review and analysis of information that I receive subsequent to the filing of this report, including in response to positions taken by Serendia or its experts that I have not yet seen, including any secondary considerations evidence that Serendia or its expert may consider and present.

VI. ACKNOWLEDGMENTS

24. In signing this declaration, I understand that the declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I acknowledge that I may be subject to cross-examination in the case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear for cross-examination within the United States during the time allotted for cross-examination.

25. I declare that all statements made herein of my knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001.

I, Jean Woloszko, M.D, Ph.D., declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.



Jean Woloszko, M.D Ph.D.

Executed on April 29, 2024

APPENDIX A

CURRICULUM VITAE

JEAN WOLOSZKO MD, PhD

Austin Texas Area

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PROFILE

Internationally recognized Leader with proven track record of deploying winning strategies to gain and maintain market leadership through effective innovations. Excels at building and driving efficient teams, and setting up business processes and governance for efficient New Product Delivery and Innovation Strategies. Expert in Product Development, Process/Manufacturing Engineering, fundamental and clinical Research with an excellent Business acumen. World leader in RF driven Plasma surgery technology. Experienced in small, mid-size and larger companies. Over 150 patents and 45 publications. Six years of medical practice in Rehabilitation Medicine

EDUCATION

- Ph.D. in Bioengineering at University of Illinois at Chicago
- Medical Thesis (Montpellier, France)
- Rehabilitation Medicine Specialization + 3-year residency - (Montpellier, France)
- Biomechanics and Kinesiology Certificate (Montpellier, France)
- Medical Degree (Strasbourg, France)
- Physics and Mathematics Certificate for medical research (Strasbourg, France)

PROFESSIONAL ACTIVITY

Woloszko Innovations consulting **2018- now**

- ✓ Work with a few companies as an advisor, BOD member and Technical Lead

PeriphEX Corp., Austin, TX **2018 - 2020**

- **President and Chief Executive Officer**

Lead Company and fund-raising activity for an innovative consumer product to address symptoms of Peripheral Neuropathy. Developed and launched a product in 4 months. Set up production, operations, clinical trials, marketing strategy and drove sales to both Health Care Providers and Direct to Consumers via eCommerce.

SMITH & NEPHEW (merged with ArthroCare), Austin, TX **2015 - 2017**

- **Vice-President R&D Sports Medicine & ENT (\$1.5B business)**
- ✓ Lead Innovation, Research and Technology as well as Product Development for Smith and Nephew Sports Medicine and ENT Franchise (over \$1B business). Oversees over 150 people and \$35M+ budget. Integrated Research and Technology as well a product development from several sites into a more cohesive team to address global procedures.

ARTHROCARE CORPORATION, Sunnyvale, CA/Austin, TX **1998 - 2014**

- **Senior Vice-President R&D, Chief Technology Officer,** **2010 - 2014**
- **Vice-President, Chief Technology Officer** **2003 - 2010**
- **Vice-President, Research and Development** **2002 - 2003**
- **Vice-President, Research and Development and Medical Director** **1999 - 2002**
- **Medical Director** **1998 - 1999**

- ✓ Grew the R&D and Innovation for ArthroCare from a \$12.5 M company to ~\$400M.

- ✓ Established cross-functional culture, integrating customers, marketing, quality as well as design for manufacturing for the ideation throughout product lifecycle.
- ✓ Pioneered Plasma Medicated surgical systems (Coblation technology and maintained market leadership (~65% market share) over more than 16 years
- ✓ Drove Innovation strategy, Product Development, Process Development, Sustaining Engineering, and Manufacturing Transfer throughout the organization (Sports Medicine, ENT, Spine, Cosmetic surgery, OEM partnerships, and Wound Management).
- ✓ Drove integration of Engineering groups and product development from several acquisitions.
- ✓ Drove contract manufacturing and design of capital equipment.
- ✓ Established product development governance and business processes for efficient product pipeline and product portfolio strategies.
- ✓ Provided Technical leadership, training, and education internally and externally on Plasma mediated surgery (\$250M business).
- ✓ Led development of a new revolutionary Coblation system (Werewolf) to maintain undisputed market leadership (after 16years of pioneering and leadership) and refresh IP landscape to greatly reduce competitive threat.

MEDTRONIC INC, Maastricht (NL) San Diego, CA

1992 - 1998

- ✓ Drove New Technology Development in Interventional Cardiology
- ✓ Led R&D group for Medtronic Interstim Venture (Urology and Colorectal surgery)

ILLINOIS INSTITUTE OF TECHNOLOGY and UIC, Chicago, IL

1988 - 1992

INSERM, PROPARA, Montpellier, France

1981 - 1988

- ✓ Research and Medical Practice

LIST OF PUBLICATIONS

FULL LENGTH PAPERS:

1. P. Rabischong, J. Woloszko, J-P. Micallef, et al.; "Intrafascicular Nerve stimulation to restore locomotion in paraplegics.", International Federation of Automatic Control, Human Gait Analysis and Applications, pp. 273-299, 1983
2. J. Woloszko, J. Graille; "Etude informatisée de la cinématique du mouvement articulaire: une nouvelle approche clinique de la spasticité".- Innov. Techno. Biol. Med., Vol.5 n°2, pp. 129-141, 1984.
3. J-P. Micallef, J. Woloszko, B. Saint-Pierre, J-M. Jullian, P. Rabischong; "Capteur de puissance musculaire.".- Innov. Techno. Biol. Med., Vol.5 n°6, pp. 713-719, 1984.
4. J. Woloszko. "Le renforcement musculaire par électrostimulation fonctionnelle chez le paraplégique: tentative d'informatisation et d'optimisation des paramètres.".- Mémoire CES Rééducation et Réadaptation Fonctionnelle.-Oct. 1985, 146 p.
5. J. Woloszko. "Quantification Informatisée du Réflexe Myotatique par Etude de la Raideur Articulaires".- Thesis, Montpellier, Feb. 1986, 331 p.
6. J. Woloszko, J. Graille, F. Ohanna, P. Rabischong, C. Gros.- "Etude de la spasticité par mesure de la raideur articulaire" In: Actualités en Rééducation fonctionnelle; Masson Ed., March 1987, pp.1-10.
7. S. Cetinkunt, J. Woloszko. "A computer aided design and analysis software for motor sizing in servo control systems.", Mechatronics, 2(2), 1992, pp159-169.
8. Peckham PH; Thrope G; Woloszko J; Habasevich R; Scherer M; Kantor C –"Technology transfer of neuroprosthetic devices." J Rehabil Res Dev 1996 Apr;33(2):173-83
9. Grandjean P; Acker M; Madoff R; Williams NS; Woloszko J; Kantor –"Dynamic myoplasty: surgical transfer and stimulation of skeletal muscle for functional substitution or enhancement" J Rehabil Res Dev 1996 Apr;33(2):133-44
10. Herbst, M.A. Kamm, K.P. Morris, K. Britton, J. Woloszko, R.J. Nicholls. -"Gastrointestinal transit and prolonged ambulatory colonic motility in health and fecal incontinence." Gut, 41: 381-389, 1997.
11. Vaizy, C. J.; Kamm, M. A.; Turner, I. C.; Nicholls, R. J.; Woloszko, J. -"Sacral nerve stimulation for faecal incontinence: Evaluation of short term efficacy and effect on anorectal function" Gut 1997 (Suppl. 1); 40 (A53).
12. Geerdes BP; Heineman E; Freling G; Keizer HA; Woloszko J; Baeten –"Vascular and stimulation delays in dynamic musculoplasty." Surgery 1997 Apr;121(4):402-10
13. Van Wachem PB; Blaauw EH; de Vries-Hospers HG; Geerdes BP; Woloszko J; Verhoeven ML; Hendriks M; Cahalan PT; van Luyn MJ –"Tissue reactions to bacteria-challenged implantable leads with enhanced infection resistance." J Biomed Mater Res 1998 Jul;41(1):142-53
14. Vaizy CJ; Kamm MA; Turner IC; Nicholls RJ; Woloszko J –"Effects of short term sacral nerve stimulation on anal and rectal function in patients with anal incontinence." Gut 1999 Mar;44(3):407-412
15. Rullier E., Fioramonti J., Woloszko J. and Bueno, L. "Electrical impedance, a sensory system for detection of rectal filling after anorectal reconstruction: experimental study of rectal impedance measurements and defecation in dogs." Dis. Colon Rectum 2001, 44: 184-191.
16. Stalder KR, Woloszko J, Brown IG, Smith CD "Repetitive plasma discharges in saline solutions" Applied Physics Letters 2001, 79(27): 4503-4505.
17. Woloszko J, Stalder K., R and Brown I. G. "Plasma Characteristics of Repetitively-Pulsed Electrical Discharges in Saline Solutions Used for Surgical Procedures" IEEE Trans. On Plasma Sciences, 30(3), June 2002, 1376-1383.
18. Stalder Kenneth R, McMillen Donald F and Woloszko Jean. "Electrosurgical plasmas" J. Phys. D: Appl. Phys. 38 (2005) 1728–1738
19. Stalder K.R. , Woloszko J. "Some Physics and Chemistry of Electrosurgical Plasma discharges". Contrib. Plasma Phys., 47, N°1-2, 64-71 (2007)

BOOK CHAPTER:

1. Ohanna, P. Costa, J. Woloszko.-"Diabète et système nerveux génito-urinaire" in: Fonction sexuelle et reproduction du diabétique.- Dubrowski M. & Buvat J., DOIN Ed., Paris, nov. 87, 30 pp.
2. Stalder Kenneth R. and Woloszko Jean. Plasma ablation, coagulation, and dentistry 12.1 Electrical discharges in conducting liquids: plasma-mediated electrosurgical systems in: Plasma Medicine, M. Laroussi et al. Eds, Cambridge University Press, Cambridge & New York, 2012. P' 261-293.

PROCEEDINGS

1. P. Rabischong, J. Woloszko, et al.; "Intrafascicular Nerve stimulation to restore locomotion in paraplegics.", First Vienna International Workshop on Functional Electrostimulation, Vienna (Austria), Oct. 19-22th, 1983
2. J. Woloszko, P. Rabischong.- "FES in spinal cord injured patient."- EEC COMAC/BME Workshop on Restoration of Walking Aided by Functional Electrical Stimulation, Enschede (The Netherlands), April 8-9th, 1987, pp: 89-98.
3. J. Woloszko, J. Graille, E. Rabischong, and P. Rabischong.- "Closed-loop control of knee during standing with FNS." in Proceedings of the Ninth Annual Conference of the IEEE Engineering in Medicine and Biology Society, Boston, Nov. 13-16, 1987, pp: 1222-1223
4. M. Veyrac, M. Tannous, J. Woloszko, C. Privat, B. Fraitag, H. Michel - "Effets du Cisapride sur la constipation du paraplégique"- Société de Gastroentérologie du littoral Méditerranéen, 24(3), 1988, pp:147-148
5. J. Woloszko, R.J. Jaeger.- "Regulation of Muscle Activity at the ankle for controlling body sway during normal stance". North American congress on Biomechanics, Chicago, IL., August 24-28, 1992
6. J. Woloszko, R.J. Jaeger.- "Muscle activity at the ankle in response to center of mass shifts".- 14th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Paris, October 29-November 1, 1450-1451, 1992.
7. Kaula, N. F.; Mihran, R.; Woloszko, J.; Huber, K. M.; Schmidt, R. A. -"Charge and impedance analysis of 4500/plus hours of electrical stimulation of sacral roots with a foramen electrode implant" - Proceedings of the 18th Annual International Conference of the IEEE Engineering in Medicine and Biology Society. 'Bridging Disciplines for Biomedicine'. Amsterdam, 31 Oct.-3 Nov. 341-342, 1996.
8. J. Woloszko, C. Gilbride.- "Coblation technology: Plasma mediated ablation for otolaryngology applications". Proceedings of SPIE - The International Society for Optical Engineering - Lasers in Surgery: Advanced Characterization, Therapeutics, and Systems X, Bellingham, WA, USA., Vol. 3907, p 306-316 2000
9. J. Woloszko, M. Kwende, K. Stalder.- "Coblation in Otolaryngology". Proceedings of SPIE - The International Society for Optical Engineering - Lasers in Surgery: Advanced Characterization, Therapeutics, and Systems XIII, Lawrence et al., Editors, Proceedings of SPIE Vol. 4949, p. 341-352, 2003.
10. Thomas P. Ryan, Kenneth R. Stalder, Jean Woloszko -"Overview of Plasma Technology used in Medicine" Energy-based Treatment of Tissue and Assessment VII, edited by Thomas P. Ryan, Proc. of SPIE, Vol. 8584, 85840O ·February 2013
11. Jean Woloszko, Ashley Endler, Thomas P. Ryan and Kenneth R. Stalder. - "Clinical Applications of Plasma Based Electrosurgical Systems". Energy-based Treatment of Tissue and Assessment VII, edited by Thomas P. Ryan, Proc. of SPIE, Vol. 8584, 85840Q ·February 2013
12. Kenneth R. Stalder, Thomas Ryan and Jean Woloszko. - Some Physics and Chemistry of Coblation® Electrosurgical Plasma Devices. Energy-based Treatment of Tissue and Assessment VII, edited by Thomas P. Ryan, Proc. of SPIE, Vol. 8584, 85840P ·February 2013

ABSTRACTS:

1. J. Benezech, J-P. Micallef, J. Woloszko.-"Stimulation électrique fonctionnelle programmable à visée motrice pour la récupération des paraplégiques.".- Colloque G.B.M., Toulouse (France) Oct. 1982
2. J. Woloszko, J. Piton, F. Guibert-Tranier, P. Rabischong, J-M. Caille.- "Etude expérimentale des effets du courant électrique sur les protéines plasmatiques." 5th European Congress of Radiology, Bordeaux (France), Sept 5-10th 1983.
3. J. Woloszko, P. Rabischong, J. Graille, J-P. Micallef, F. Ohanna.- "Stimulation nerveuse motrice pour la réhabilitation des paraplégiques".- Colloque GBM, Montpellier, Nov. 9th 1983.
4. J. Woloszko, J. Graille, P. Rabischong, C. Gros.-"Etude de la spasticité par traitement d'enregistrements goniométriques"; Congrès de la Société de Biomécanique, Toulouse, July 1984.
5. P. Rabischong, J-P. Micallef, J. Woloszko, J. Graille.- "Possibilités de l'électrostimulation fonctionnelle pour la restauration de la locomotion."- 4th Symposium Franco-Soviétique ; Toulouse, Sept 17-20th 1985.
6. J. Woloszko, J. Graille.- "Vers l'intégration de la stimulation électrique fonctionnelle dans la rééducation du paraplégique.".- 2ème colloque locomotion du CNRS; Marseille, Nov. 1985.
7. C. Gros, J. Woloszko, F. Ohanna.- "Expérience actuelle des stimulations électriques fonctionnelles dans un centre de paraplégiques".- 4èmes journées de l'A.F.I.G.A.P., Montpellier, March 21-22th 1986.
8. P. Costa, J. Woloszko, M-C. Grasset et al.-"Mesure échographique du contenu vésical: protocole informatisé (résultats préliminaires).".- Société Médicale Méditerranéenne et Africaine d'Ultrasonographie; May 8-10th 1986; Nîmes (France).
9. P. Costa, J. Woloszko, M-C. Grasset et al.-"Mesure informatisée du résidu mictionnel.".- premières journées d'Urodynamique; Bagnols /mer, June 13th 1986.
10. P. Costa, J. Woloszko, F. Ohanna, et al. .-"Evaluation de la capacité vésicale par échographie sus-pubienne. Recherche d'une formule de mesure par protocole informatisé.".- Xèmes Journées de la SIFUD, Clermont-Ferrand, May 1987
11. F. Ohanna, P. Costa, J. Péliissier, J. Martinazzo, J. Woloszko et al. .-"Approche urodynamique et neurophysiologique du cône médullaire dans la sclérose en plaques. Incidences physiopathologiques.".- Xèmes Journées de la SIFUD, Clermont-Ferrand, May 1987
12. F. Ohanna, J. Woloszko, C. Privat, J. Martinazzo.-"Stimulation électrique et contractures chez le paraplégique.".- 5èmes journées de l'A.F.I.G.A.P., Nancy, Nov. 1987.
13. J. Woloszko.- "Computer Aided Locomotion". Ninth Annual Conference of the IEEE Engineering in Medicine and Biology Society, Boston, Nov. 13-16, 1987.
14. M. Veyrac, M. Tannous, J. Woloszko, C.Privat, B. Fraitac, H. Michel -. "Effet du Cisapride sur la constipation du paraplégique.".-Réunion de la société du Littoral méditerranéen de Gastro-Entérologie, Jan. 23, 1988.
15. J. Woloszko, E. Rabischong.- "Etat actuel de la stimulation électrique fonctionnelle à visée locomotrice chez le paraplégique".- Journées de l'A.F.I.G.A.P., Lille, 29-30 April 1988
16. Douglas Grimm, Jeffery LaMour, Scott, Pattison, Keith, McSpadden, Jean, Woloszko. "Topical application of Gel saturated with Nanobubbles of O2 and CO2 for the treatment of Diabetic Peripheral Neuropathy". Poster presentation at 2020 American College of Foot and Ankle Surgeons, Henry B. Gonzalez convention center, San Antonio Texas, February 19-22, 2020

ISSUED US PATENTS

1. Jean Woloszko, Patrick T Cahalan, Marc Hendriks, Michel L.P.M. Verhoeven, +. Biocompatible medical lead. Medtronic, Inc. [5,741,319]. 1998. January 27, 1995.
2. Jean Woloszko, Marc Hendriks, Patrick T Cahalan, Michel L.P.M. Verhoeven, Linda L. Cahalan, Antoine N.J. Camps. Intramuscular lead with enhanced infection resistance. Medtronic, Inc. [5,755,758]. 1998. November 7, 1995.
3. Jean Woloszko, Marc Hendriks, Patrick T Cahalan, Michel L.P.M. Verhoeven, Linda L. Cahalan. Intramuscular stimulation lead with enhanced infection resistance. Medtronic, Inc. [5,834,051]. 1998. February 19, 1997.
4. Jean Woloszko, Ron van der Kruk, Antoine Camps. Medical electrical lead. Medtronic, Inc. [5,938,596]. 1999. March 17, 1997.
5. David C Hovda, Jean Woloszko, Maria B Ellsberry, Hira Thapliyal, Philip E Eggers. System and methods for electrosurgical treatment of obstructive sleep disorders. Arthrocare Corporation. [6,159,208]. 2000. 3-15-1999.
6. Maria B Ellsberry, David C Hovda, Jean Woloszko, Hira Thapliyal, Philip E Eggers. Method for electrosurgical treatment of submucosal tissue. Arthrocare Corporation. [6,203,542 B1] 2001. 4-21-1999.
7. Michael A Baker, Stephen M. Brunnell, Jean Woloszko, Ronald A. Underwood, Hira Thapliyal, Philip E Eggers. System and Methods for electrosurgical tissue treatment in the presence of electrically conductive fluid. ArthroCare Corporation. [6,149,620]. 2000. 2-12-1999.
8. Maria B. Ellsberry, David Hovda, Jean Woloszko, Hira Thapliyal, Philip E. Eggers. System and methods for electrosurgical treatment of submucosal tissue. [6,544,261 B2] 2001. January 5 2000.
9. Paul O. Davison, Jean Woloszko, Hira V. Thapliyal, Philip E. Eggers. System and methods for electrosurgical tissue treatment. [6,632,193 B1] 2003, May 1 2000.
10. Lewis Sharps, David Hovda, Jean Woloszko, Hira Thapliyal, Philip Eggers. "Methods for repairing damaged intervertebral discs" [6,602,248] August 5, 2003.
11. Maria B. Ellsberry, David C. Hovda, Jean Woloszko, Hira V. Thapliyal, Philip E. Eggers. System for electrosurgical treatment of submucosal tissue. [6,432,103 B1] 2002. June 26 2000.
12. Jean Woloszko, David C. Hovda, Hira V. Thapliyal, Philip E. Eggers. Methods for electrosurgical Spine Surgery. Arthrocare Corporation. [6,726,684 B1] 2004. November 8 2000.
13. Jean Woloszko, Theodore C. Ormsby, Christopher L. Willink, Terry S. Davison, Steve Masterson. Electrosurgical Apparatus and Methods for Treating Tissue. Arthrocare Corporation. [6,589,237]. 2003. January 19 2001.
14. Ronald A. Underwood, Jean Woloszko. Systems and methods for intradermal collagen stimulation. ArthroCare Corporation. [6,766,202]. 2004. April 30, 2002.
15. Jean Woloszko, Craig Tsuji, Hira V. Thapliyal, Philip E. Eggers. Bladed Electrosurgical probe. Arthrocare Corporation [6,770,071 B2] 2004. February 9 2001.
16. James P. Tasto, Jean Woloszko, Michael A. Baker, James L. Pacek, Philip E. Eggers, Hira V. Thapliyal. Methods for electrosurgical tendon vascularization. ArthroCare Corporation [6,763,836 B2] 2004. June 18, 2002.
17. Olivier Ricart, Jean Woloszko, Davis C. Hovda, Hira V. Thapliyal, Philip E. Eggers. Methods for electrosurgical treatment of spinal tissue. ArthroCare Corporation [6,772,012 B2] 2004. May 3, 2001.
18. Jean Woloszko, Hira Thapliyal, Philip E. Eggers. Electrosurgical systems and methods for treating tissue. ArthroCare Corporation [6,832,996 B2] 2004. Jan. 10 2001.
19. James Tasto, Jean Woloszko, Hira Thapliyal, Philip E. Eggers. Methods for electrosurgical tendon vascularization. ArthroCare Corporation [6,805,130 B2] 2004. April 27 2001
20. Jean Woloszko. Electrosurgical apparatus having compound return electrode. ArthroCare Corporation [6,837,884 B2] 2005. June 18 2002

21. Jean Woloszko, Craig Tsuji, Theodore Ormsby. Articulated electrosurgical probe and methods. ArthroCare Corporation [6,837,887 B2] 2005. January 25 2002.
22. Scott Ciarrocca, François Antounian, Jean Woloszko, Robert Dahla. Electrosurgical probe with movable return electrode and methods related thereto. ArthroCare Corporation [6,837,888 B2] 2005. February 25 2002.
23. Paul Davison, Jean Woloszko. Electrosurgical systems and methods for recanalization of occluded body lumens. ArthroCare Corporation [6,855,143 B2] 2005. December 12 2005.
24. Jean Woloszko, Terry S. Davison, David C. Hovda, Hira V. Thapliyal, Philip E. Eggers. Electrosurgical apparatus having digestion electrode and methods related thereto. ArthroCare Corporation. [6,896,674]. 2005. November 8, 2000.
25. Terry S. Davison, Theodore C. Ormsby, Jean Woloszko, and Robert H. Dahla. Electrosurgical ablation and aspiration apparatus having flow directing feature and methods related thereto. ArthroCare Corporation [6,949,096 B2] 2005. September 27, 2005.
26. Jean Woloszko, Craig Tsuji, Theodore Ormsby. Dual mode electrosurgical clamping probe and related methods. ArthroCare Corporation [6,974,453 B2] 2005. April 20 2001.
27. Jean Woloszko, Paul Davison, Theodore Ormsby. Electrosurgical probe having circular electrode array for ablating joint tissue and systems related thereto. ArthroCare Corporation [6,991,631 B2] 2006. February 13 2003
28. Magne Twinnereim, Jean Woloszko. Systems and methods for electrosurgical treatment of obstructive sleep disorders. ArthroCare Corporation [7,004,941 B2] 2006. November 7 2002.
29. Jean Woloszko, Theodore C. Ormsby, John J. Quackenbush, Brian Martini. Electrosurgical Apparatus having a curved distal section. ArthroCare Corporation [7,070,596 B1] 2006. October 3 2000.
30. Terry S. Davison, Jean Woloszko, Philip M. Olsen, Philip E. Eggers, Hira V. Thapliyal. Systems and methods for electrosurgical tissue contraction. ArthroCare Corporation. [7,094,215] 2006. March 28, 2003.
31. David C. Hovda, Brian Martini, Zsuzsi Conforti, Jean Woloszko. Intervertebral disc replacement method. ArthroCare Corporation. [7,104,986] 2006. May 12, 2003.
32. John Lettice, Thomas Kula, David Hovda, Jean Woloszko. Methods for targeted electrosurgery on contained herniated discs. Arthorcare Corporation [7,179,255 B2] 2007. December 20, 2000.
33. Robert H. Dahla, . Jean Woloszko . Electrosurgical Apparatus and Methods for treatment and removal of tissue. [7,186,234 B2] 2007. July 25, 2002.
34. Jean Woloszko, Antoine Camps, Ron Van der Kruk. Medical electrical lead. MedTronic, Inc. [7,248,930] 2007. February 28, 2000.
35. Jean Woloszko, David C. Hovda, Hira V. Thapliyal, Philip E. Eggers. Systems and method for electrosurgery. ArthroCare Corporation. [7,270,658] 2007. March 10, 2003.
36. Olivier Ricart, Jean Woloszko, David C. Hovda, Hira V. Thapliyal, Philip E. Eggers. Methods for electrosurgical treatment of spinal tissue. ArthroCare Corporation [7,270,659] 2007. September 19, 2005.
37. Robert H. Dahla, Jean Woloszko. Electrosurgical apparatus and methods for treatment and removal of tissue. ArthroCare Corporation [7,270,661] 2007. February 5, 2002.
38. Paul O. Davison, Jean Woloszko, Tom Jenkins. Instrument for electrosurgical tissue treatment. ArthroCare Corporation [7,276,063] 2007. September 12, 2003.
39. Jean Woloszko, Robert H. Dahla, Michael A. Baker, James L. Pacek. Temperature indicating electrosurgical apparatus and method. ArthroCare Corporation [7,297,143 B2] 2007, February 5, 2004.
40. Jean Woloszko, Craig Tsuji, Theodore Ormsby. Bipolar electrosurgical clamp for removing and modifying tissue. ArthroCare Corporation [7,297,145] 2007. October 11, 2005.
41. Lewis Sharps, David C. Hovda, Jean Woloszko, Hira V. Thapliyal, Philip E. Eggers. Methods for repairing damaged intervertebral discs. ArthroCare Corporation [7,318,823] 2008. July 3, 2003.

42. David Hovda, Jean Woloszko, Norman Sanders, Brian Martini. Methods and apparatus for treating back pain. ArthroCare Corporation [7,331,956] 2008. August 2, 2006.
43. Jean Woloszko, Maria B. Ellsberry. Electrosurgical apparatus and methods for laparoscopy. ArthroCare Corporation [7,331,957] 2008. February 14, 2003.
44. Lewis Sharps, David C. Hovda, Jean Woloszko, Hira V. Thapliyal, Philip E. Eggers. Methods for repairing damaged intervertebral discs. ArthroCare Corporation [RE40,156 – **Reissue Patent of 6,602,248**] 2008. October 9, 2003.
45. David C. Hovda, Jean Woloszko. Methods and Apparatus for treating intervertebral discs. ArthroCare Corporation [7,387,625 B2] 2008, Jan. 13, 2005.
46. Jean Woloszko, Paul Davison, Philip E. Eggers, Hira V. Thapliyal. Apparatus and methods for electrosurgical ablation and resection of tissue. ArthroCare Corporation [7,429,262 B2] 2008, Jan. 28, 2001
47. Jean Woloszko, Theodore C. Ormsby, Maria Ellsberry, David C. Hovda. Apparatus and methods for treating cervical intervertebral discs. ArthroCare Corporation [7,393,351 B2] 2008, Jun. 18, 2002.
48. Scott A. Ciarrocca, Francois Antounian, Jean Woloszko, Robert H. Dahla. Electrosurgical probe with movable return electrode and methods related thereto. ArthroCare Corporation [7,419,488] 2008. January 3, 2005.
49. Jean Woloszko, Michael A. Baker, Robert H. Dahla, Hardev Kahlon, Adelina Villaruel, Cindy Truc Nguyen, Irma Gutierrez. Systems and methods for electrosurgical tissue treatment. ArthroCare Corporation [7,435,247] 2008. June 27, 2002.
50. Jean Woloszko, David C. Hovda, Hira V. Thapliyal, Philip E. Eggers. Systems and methods for electrosurgical spine surgery. ArthroCare Corporation [7,462,178] 2008. September 17, 2007.
51. Terry S. Davison, Jean Woloszko, Michael A. Baker, Hira V. Thapliyal, Philip E. Eggers. Systems and methods for electrosurgical tissue treatment. ArthroCare Corporation [7,572,251 B1] 2009, December 6, 1999.
52. Michael A. Baker, Stephen Brunell, Jean Woloszko, Ronald Underwood, Hira V. Thapliyal, Philip E. Eggers. System for electrosurgical tissue treatment in the presence of electrically conductive fluid. ArthroCare Corporation [7,678,069 B1] 2010, June 2, 2000.
53. Norman R. Sanders, Darren Crawford, Jean Woloszko, David Hovda. Electrosurgical method and apparatus for removing tissue within a bone body. ArthroCare Corporation [7,708,733 B2], 2010, October 20, 2004.
54. Jean Woloszko, Craig Tsuji, Theodore Ormsby. Bipolar electrosurgical clamp for removing and modifying tissue. ArthroCare Corporation [7,717,912 B2], 2010, November 19, 2007.
55. Jean Woloszko, Paul Davison. Apparatus and methods for electrosurgical ablation and resection of target tissue. ArthroCare Corporation [7,704,249 B2], 2010, May 9, 2005.
56. Stephen M. Brunell, Jean Woloszko, Michael A. Baker, Hira V. Thapliyal, Philip E. Eggers. Systems and methods for electrosurgical removal of the stratum corneum. ArthroCare Corporation [7,758,537] 2010. April 16, 1999.
57. Jean Woloszko, Craig Tsuji, Hira V. Thapliyal, Philip E. Eggers. Electrosurgical Systems and Methods for Removing and Modifying Tissue. ArthroCare Corporation [7,824,398] 2010. January 9, 2003.
58. Jean Woloszko, Maria Ellsberry. Electrosurgical Apparatus and Methods for Laparoscopy. ArthroCare Corporation [7,824,405] 2010. February 15, 2008.
59. Jean Woloszko, Thomas Jenkins. Internally Located Return Electrode Electrosurgical Apparatus System and Method. ArthroCare Corporation [7,879,034] 2011. March 2, 2006.
60. Jean Woloszko. Electrosurgical Device Having Planar Vertical Electrode and Related Methods. ArthroCare Corporation [7,892,230] 2011. June 24, 2005.
61. Jean Woloszko, Thomas Jenkins, George Morrison. Internally Located Return Electrode Electrosurgical Apparatus, System and Method. ArthroCare Corporation [7,901,403] 2011. March 2, 2007.

62. Jean Woloszko, Robert Dahla. Electrosurgical apparatus and method for treatment and removal of tissue. ArthroCare Corporation [7,988,689 B2]. 2011. Set. 17, 2007.
63. Jean Woloszko, Robert Dahla. Rotary electrosurgical apparatus and method thereof. ArthroCare Corporation [8,012,153 B2]. 2011. Jul 16, 2004.
64. Jean Woloszko, Kenneth Stalder. Hard tissue Ablation System. ArthroCare Corporation [8,114,071 B2]. 2012. May 29, 2007.
65. Jean Woloszko. Electrosurgical system with suction control apparatus, system and method. ArthroCare Corporation. [8,192,424 B2] 2012. Jan 4, 2008.
66. Jean Woloszko, Thomas Jenkins. Internally Located Return Electrode Electrosurgical Apparatus System and Method. ArthroCare Corporation [8,292,887] 2012. Jun 2, 2011.
67. Jean Woloszko. Instrument for Electrosurgical tissue treatment. ArthroCare Corporation. [8,663,216] 2014. Jan. 24, 2008.
68. Jean Woloszko. Electrosurgical Wand and Related Method and System. ArthroCare Corporation. [8,568,405] 2014. Apr. 19, 2012.
69. Jean Woloszko. Electrosurgical Wand and Related Method and System. ArthroCare Corporation. [8,685,018] 2014. Apr. 19, 2012.
70. Jeffery Feng, Bartosz Korec, Philip D'Almada Remedios, George Morrison, Jean Woloszko. Electrosurgical controller. ArthroCare Corporation, [D712,031], March 12, 2013
71. Jean Woloszko, Johnson Goode, Electrosurgical wand distal tip. ArthroCare Corporation, [D732,164], 2015, April 11 2014,
72. Jonathan Sundy, Philip D'Almada Remedios, George Morrison, Jean Woloszko. "Display screen for electrosurgical controllers with graphical user interface" [D711,904], August 26, 2014
73. 79. Jean Woloszko, Duane Marion Electrosurgery irrigation primer systems and methods [8,372,067] February 12, 2013
74. Jean Woloszko, Kenneth Stalder; Hard tissue ablation system. [8,444,638]. May 21, 2013.
75. Seth Foerster, Francis Vijay, Jean Woloszko "Knotless suture anchoring device having deforming section to accommodate sutures of various diameters" [8,657,854] February 25, 2014
76. [8,747,399] Method and system of reduction of low frequency muscle stimulation during electrosurgical procedures
77. Norman Sanders, Darren Crawford, Jean Woloszko, David Hovda. Electrosurgical method and apparatus for removing tissue within a bone body. [8,801,705]. August 12, 2014
78. Jean Woloszko. "Electrosurgical system with suction control apparatus, system and method". [8,870,866] October 28, 2014
79. Jean Woloszko, John Goode; Philip Tetzlaff; "Symmetric switching electrode method and related system" [8,979,838] March 17, 2015
80. Jean Woloszko, Duane Marion. Electrosurgery irrigation primer systems and methods 9,095,358. August 4, 2015
81. Doug Evans, Michael Foster, Philip Tetzlaff, Rajitha Aluru, Jean Woloszko, Johnson Goode. "Fine dissection electrosurgical device" [9,168,082] October 27, 2015
82. David Cox, Johnson Goode, Philip Tetzlaff, Jean Woloszko "Electrosurgical wand and related method and system" [9,198,709] December 1, 2015
83. Jean Woloszko' "Electrosurgical system with suction control apparatus, system and method" [9,254,164] February 9, 2016
84. Rajitha Aluru; (Austin, TX), Doug Evans, David Cox, Jean Woloszko, Johnson Goode, Philip Tetzlaff, Gerardo Molina "Systems and methods for turbinate reduction [9,254,166] February 9, 2016

85. Jean Woloszko, Duane Marion; Johnson Goode, George Morrison, David Yuan. “Electrosurgical systems and methods” [9,333,024] May 10, 2016
86. Seth Foerster, Francis Vijay, Jean Woloszko. “Knotless suture anchoring device having deforming section to accommodate sutures of various diameters” [9,357,993] June 7, 2016
87. Jean Woloszko, Johnson Goode, Philip Tetzlaff. “Symmetric switching electrode method and related system” [9,456,865] October 4, 2016
88. Johnson Goode, Mark Bieberich, Philip Tetzlaff, Jean Woloszko;. “Systems and methods systems related to electrosurgical wands with screen electrodes” [9,526,556] December 27, 2016
89. David Cox, Johnson Goode, Philip Tetzlaff, Jean Woloszko. Electrosurgical wand and related method and system. [9,561,069]. February 7, 2017.
90. David Yuan, Jean Woloszko, Jonathan Gaspreles, Thomas Ryan. Method and system related to electrosurgical procedures. [9,597,142] March 21, 2017.
91. Rajitha Aluru, Doug Evans, David Cox, Jean Woloszko, Johnson Goode, Philip Tetzlaff, Molina; Gerardo. Systems and methods for turbinate reduction. [9,649,144]. May 16, 2017.
92. Jean Woloszko; Jonathan Gaspreles, Scott Armstrong. Electrosurgical system and method having enhanced arc prevention, [9,649,148], Arthrocare Corporation, July 24, 2014.
93. Woloszko; Jean (Austin, TX), Goode; Johnson E. (Austin, TX), Cox; David A. (Austin, TX), Tetzlaff; Philip M. (Austin, TX) Methods and systems related to electrosurgical wands, [9,693,818], ArthroCare Corporation, February 25 2014,
94. Woloszko; Jean, Jonathan Gaspreles, David Yuan, Thomas Ryan;, Electrosurgical methods and systems, [9,713,489], July 25, 2017.
95. Evans; Doug, Gonzalez; Lloyd, Wang; Nathan, Woloszko; Jean , Plasma bipolar forceps, ArthroCare Corporation, [9,788,882], September 10, 2012.
96. Jean Woloszko, Electrosurgical system with suction control, apparatus, system and method , Arthrocare Corporation, [10,231,773], February 5, 2016
97. Jean Woloszko, Scott Armstrong, Michael Bozeman, Christopher Wallis. Methods and systems related to an electrosurgical controller. [10,420,607]. September 24, 2019
98. Jean Woloszko, Jonathan Gaspreles; David Yuan, Ryan; Thomas. , Electrosurgical methods and systems, [10,448,988]. October 22, 2019.
99. Hadar Cadouri, Jean Woloszko, Philip Tetzlaff. Electrosurgical system with device specific operational parameters. [10,448,992]. October 22, 2019
100. Johnson Goode, Mark Bieberich, Philip Tetzlaff, Jean Woloszko. Systems and methods systems related to electrosurgical wands with screen electrodes [10,548,657]. February 4, 2020
101. Jean Woloszko, Duane Marion, Johnson Goode, George Morrison, David Yuan. Electrosurgical systems and methods. [10,582,963]. March 10, 2020
102. David Yuan, Jean Woloszko, Jonathan Gaspreles, Thomas Ryan. Method and system related to electrosurgical procedures [10,595,923]. March 24, 2020
103. Jean Woloszko, Jonathan Gaspreles, Thomas Ryan , System and methods of controlling temperature related to electrosurgical procedures. [10,675,080] June 9, 2020
104. Jean Woloszko, Johnson Goode; Brent R Dinger, Plasma surgical device distal tip, [D/643,599] August 25, 2020.
105. Jonathan L. Gaspreles, Robert P Lathrop, Thomas P. Ryan, David J. Miller, Jean Woloszko’ Philip M. Tetzlaff; Vessel sealing algorithm and modes. [10,806,506] October 20, 2020.
106. Jean Woloszko), Johnson E. Goode, David A. Cox, Philip M. Tetzlaff; Methods and systems related to electrosurgical wands. [10,828,081] November 10, 2020.

- 107.; Jean Woloszko, Jonathan Gaspreles, Douglas G. Evans, Robert Lathrop, Brendan Smith, David Turner; Christopher Aholt J., Troy S. Hemme; Electrosurgical systems and methods. [11,116,569] September 14, 2021
- 108.; David J. Miller, Jean Woloszko (Austin, TX), Jonathan L. Gaspreles, Rajitha Aluru; Mechanical resection instruments with outflow control and related methods. [11,129,641], September 28, 2021
- 109.Jean Woloszko, Jonathan Gaspreles, David Yuan, Thomas P. Ryan; Electrosurgical methods and systems. [11,376,057] July 5, 2022
- 110.Jonathan L. Gaspreles, Jean Woloszko, Rajitha Aluru, David J. Miller; Methods and systems of fluid management in surgical procedures. [11,376,350] July 5, 2022
- 111.Jean Woloszko; Electrosurgical system with suction control apparatus, system and method. [11,382,679 B2] July 12, 2022.
- 112.Jean Woloszko, Johnston E. Goode; Brent R. Dinger; Plasma Surgery Device. [11,504,182 B2] Nov. 22, 2022.
- 113.Jean Woloszko, Scott A Armstrong, Michael Bozeman Christopher Wallis. Methods and Systems related to an electrosurgical controller. [11,523,864 B2] Dec. 13, 2022.

ISSUED EUROPEAN PATENTS

- | | |
|----------------------------|----------------------------|
| 1. EP 0723788 A1 19960731 | 29. EP 2964125 A1 20160113 |
| 2. EP 0723788 B1 20030409 | 30. EP 3380028 A1 20181003 |
| 3. EP 0865800 A2 19980923 | 31. EP 3383249 A1 20181010 |
| 4. EP 1178757 A1 20020213 | 32. EP 3485795 A1 20190522 |
| 5. EP 1257221 A1 20021120 | 33. EP 3624715 A1 20200325 |
| 6. EP 1289438 A1 20030312 | 34. EP 0778047 A2 19970611 |
| 7. EP 1437977 A2 20040721 | 35. EP 0865800 B1 20040929 |
| 8. EP 1460945 B1 20130109 | 36. EP 1027020 A1 20000816 |
| 9. EP 1571969 A3 20050921 | 37. EP 1027020 B1 20051116 |
| 10. EP 1596705 B1 20180912 | 38. EP 1178758 A1 20020213 |
| 11. EP 1651127 A2 20060503 | 39. EP 1404236 B1 20110914 |
| 12. EP 1906840 A2 20080409 | 40. EP 1411847 B1 20120606 |
| 13. EP 2627275 A1 20130821 | 41. EP 1437977 B1 20140521 |
| 14. EP 3110357 A1 20170104 | 42. EP 1474203 A2 20041110 |
| 15. EP 3171801 A1 20170531 | 43. EP 1503688 A1 20050209 |
| 16. EP 3171803 A1 20170531 | 44. EP 1571969 B1 20120208 |
| 17. EP 0778047 A3 19990107 | 45. EP 1596705 A2 20051123 |
| 18. EP 0778047 B1 20040526 | 46. EP 1637087 A3 20060510 |
| 19. EP 0865800 A3 19991208 | 47. EP 1637087 B1 20110810 |
| 20. EP 1178758 B1 20101027 | 48. EP 1651127 B1 20121031 |
| 21. EP 1309282 A1 20030514 | 49. EP 1773227 B1 20160413 |
| 22. EP 1404236 A1 20040407 | 50. EP 2020943 A2 20090211 |
| 23. EP 1411847 A2 20040428 | 51. EP 2020943 B1 20150708 |
| 24. EP 1474203 B1 20160615 | 52. EP 3104797 A1 20161221 |
| 25. EP 1571969 A2 20050914 | 53. EP 3595549 A1 20200122 |
| 26. EP 1773227 A2 20070418 | 54. EP 3609418 A1 20200219 |
| 27. EP 1996105 A2 20081203 | 55. EP 3624714 A1 20200325 |
| 28. EP 1996105 B1 20180425 | |

HONORS AND RESEARCH GROUPS:

- Member of MT17 (IEC 60601-2-2) committee
- MD&DI 100 Notable People in the medical device industry, 2008.
- Outstanding Alumni Award, University of Illinois at Chicago, 2007
- Honored Member – American Registry of outstanding professional 2002-2003
- Lauréat of "Bourse Lavoisier", research grant for a one year international exchange research program in Pritzker Institute of Medical Engineering (Chicago), from the French Agency of Foreign Affairs, 1988.
- "HEBRARD" Medical thesis award, 1986.
- "Lauréat" of Medical Faculty of Montpellier" 1985.

RESEARCH AND PROFESSIONAL ACTIVITIES:

Smith and Nephew: June 2014 – October 2017

Vice-President R&D Sports Medicine and ENT

- Lead Innovation, Research and Technology as well as Product Development for Smith and Nephew Sports Medicine and ENT Franchise.
- Lead over 150 people, over \$35M budget for Tower technology, Joint repair (implant + surgical tools), tools, visualization systems, Tower, resection, Coblation and Fluid Management

ArthroCare Corp: November 1998 – May 2014

July 10 – May. 2015

Senior Vice-President Engineering, Chief Technology Officer

ArthroCare Corporation, Austin, TX

- Maintained market leadership through innovation and better technology over 18 years amid a very fierce competition that could never catch up.
- Drive Innovation strategy throughout the organization (Sports Medicine, ENT, Spine and Wound Management).
- Drive product development governance and business processes for efficient product pipeline and product portfolio strategies
- Responsible for all product development activity including Research, Development, Process development, sustaining Engineering and Manufacturing Transfer for all Business Units, including Plasma devices and instrument, implants and OEM.
- Provide Technical leadership, training and education internally and externally on Plasma mediated surgery (\$250M business)
- Responsible for exploring and developing new technologies, including Business Development activity.
- Responsible for basic research related to all product lines.
- Provide technical support to manufacturing facilities, marketing, sales force, ...

Jan.03 – July 10

Vice-President Engineering, Chief Technology Officer

ArthroCare Corporation, Sunnyvale, CA (Austin, TX since Jan. 6)

- Responsible for all product development activity including Research, development, Process development and Manufacturing Engineering for all (4) Business Units, including RF devices, RF instrument, implants and OEM. Release 40-70 new products per year.
- Define and Manage Research and Product development strategy across multiple facilities worldwide and multiple technological platforms. Chair Patent Review Board.
- Responsible for exploring and developing new technologies, including Business Development activity.
- Responsible for basic research related to all product lines.
- Provide technical support to manufacturing facilities, sales force, ...
- 7 direct reports (6 Directors) and 110 indirect. Over \$ 23M annual budget.

Dec. 98 – January 2003

Medical Director and Vice-President Research and Development,

ArthroCare Corporation, Sunnyvale, CA

- Product Development for full product lines (Disposable RF devices, RF generators and accessories) to support the arthroscopic, spine surgery, cosmetic surgery, cardiology, ENT surgery, general surgery, gynecology, urology and other new businesses.
- In charge of manufacturing Pilot Line
- Manage several OEM products development.
- Applied research on new indications or utilization for Coblation technology.

- Basic research on plasma physics and novel utilization of RF in medicine.
- Pre-clinical and clinical research for all businesses and new opportunities.
- Corporate Officer.
- Manage a group of over 40 people, including 3 directors.

ArthroCare Corp: March 1992 – Nov. 1998

Jan 1997- November 1998

Manager Research and Medical Affairs (acting Medical Director)

Medtronic Interventional Vascular – San Diego - CA

Responsible on a worldwide basis for:

- Defining, implementing and managing clinical and pre-clinical research strategy and studies for new balloon catheters and intra-coronary stents.
- Defining, implementing and managing clinical and pre-clinical research strategy and studies for new therapies and new technologies in the field of coronary angioplasty.
- Responsible for US clinical trials for coronary stents.
- Managing relationships with key opinion leaders.
- Organizing scientific and medical advisory boards.
- 7 direct reports.

May 1992- Jan 1997

Worldwide Research Manager for Interstim Venture

Focus on treatment of pelvic disorders, including urinary and fecal voiding dysfunction and incontinence.

Responsible for:

- Defining and implementing Interstim research strategy.
- Investigating and evaluating new therapies or techniques.
- Investigating mode of actions of Interstim therapies.
- Supervising product development.
- Managing, defining and running several research and clinical feasibility projects for Interstim and other Corporate Ventures.
- Managing patent portfolio.
- Establishing or reinforcing relationships with key opinion leaders.
- Negotiating and managing consulting, research and clinical agreements.
- Providing scientific and surgical support to customers, sales force, technical personnel and scientists.
- Leading the European clinical and business organizations for 1 year until a business manager was hired.

May 1992- April 1993

Clinical Research Associate at the Bakken Research Center

- Project leader in the research program for the treatment of fecal incontinence by dynamic muscle plasty (design of sensors, leads, ...).
- Development of intramural colonic electrode to measure bowel content.
- Project leader in the design of a new peripheral nerve stimulation and detection electrode for chronic use.
- Project leader on the research of an intra-muscular lead with enhanced infection resistance

Research 1981 – 1992

April 1990 - May 1992

Research Assistant at the Department of Mechanical Engineering (University of Illinois at Chicago)

- Design of graphical interactive software to size and select servomotors. Work in collaboration with Pr. S. Cetinkunt (UIC), for the American Company ORMEC.

September 1988 - April 1992

Senior Research Associate at Pritzker Institute of Medical Engineering (IIT Chicago)

Sponsored by the French Government under a competitive research grant: "Bourse Lavoisier".

- Measurement of the moment of inertia of the human body about the ankle (collaboration with Prof. Jaeger).
- Closed-loop control and antero-posterior sway during standing by FNS in paraplegic patients (collaboration with Prof. Jaeger).
- Participation at the FES clinic program for standing paraplegic patients. Collaboration with Pr Jaeger, and the Rehabilitation Institute of Chicago.
- Evaluation of new conductive composite polymer materials for implantable neuromuscular stimulation electrodes (collaboration with Pr. Troyk).
- Evaluation of muscle activity at the ankle to control body sway during quiet stance. (Pr. Jaeger, Prof. Agarwal).

July 1984 - September 1988

Associate physician in the research department of PROPARA
(Center for treatment and rehabilitation of spinal cord injuries)

Clinical implementation of transcutaneous Functional Electrical Stimulation

Performed and achieved research program on:

- Spasticity modeling and assessment by muscle stiffness measurement with torque and goniometric sensors.
- Spasticity evaluation by goniometric data computation.
- Computerized assessment of sub-lesional muscles force and fatigue with transcutaneous stimulation.
- Studies of "artificial gait" of paraplegic patients with the "walking machine".
- Standing with F.E.S. in paraplegic patients.
- Testing of closed-loop control of knee position on paraplegics' patients by transcutaneous stimulation (swing and stance phases).
- Bladder volume algorithmic software evaluation for echotomography.
- Evaluation of paraplegic muscles characteristics with biopsy and assessment of spasticity, spasms, force and fatigue with F.E.S. Effects of F.E.S on muscle characteristics.

October 1981 - September 1988

INSERM U103

("Motor apparatus and handicap" Research Unit directed by Pr. RABISCHONG)

- Electrical Vascular Embolization with D.C. (1981-1982)
- Realization of an Asymmetric Radial Field Nerve Electrode for unidirectional fascicular functional stimulation (1982-1983)
- Closed loop control of ankle position in animal by stimulation of two antagonistic muscle nerves (1983-1984)
- Rachidian roots stimulation for hip motion control (1983)
- Development of master-slave active orthosis with Régie Renault and automatic gait control software (1981-1987)
- Design of a two-channel transcutaneous microprocessor controlled stimulator for muscle restrengthening.
- Design of a four-channel transcutaneous microprocessor controlled stimulator for muscle restrengthening and standing.

-