

Pablo Clavel, M.D.

Neurosurgeon.
Instituto Dr. Clavel.
Email : pclavel@institutoclavel.com
Web page : www.insitutoclavel.com



EMPLOYMENT HISTORY

1995-2000	Neurosurgical residency in Hospital of Sant Pau, Barcelona
2000	Neurosurgeon at Hospital of Sant Pau
2001	Neurosurgeon at Hospital of Germans Trias i Pujol, Barcelona
2002	Neurosurgeon at Hospital Mutua de Terrassa, Terrassa, Barcelona
2002 – 2011	Neurosurgeon at Hospital of Sant Pau
2000 – Present	Neurosurgeon at Hospital Quirón. Barcelona.
2011- Present	Head of the Neurosurgery and Spine Department Instituto Dr. Clavel. Barcelona Spine Center. Hospital Quiron Barcelona.

EDUCATION

1986	High school graduate from Briarcliff High School, Atlanta, Georgia.
1990-1991	Medical internship for one month each yr. at the Department of Neurosurgery. University of Oklahoma.
1991	Medical internship for one month in Cardiothoracic surgery. University of California. San Diego.

- 1991 Medical internship for one month in Orthopedic surgery in the University of Padova. Italy.
- 1987 – 1993** M.D. Central University of Barcelona medical school (UB), Barcelona, Spain.
- 1993** USMLE (United States Medical Licensure Examination) qualification
- 1994 1 year of training in family medicine in Mallorca, Spain.
- 1996** Surgical internship for six weeks in neurosurgery Columbia Presbyterian Neurosurgical Department.
- 1995-2000** Neurosurgical residency program in Hospital of Sant Pau, Barcelona
- 2000** Achievement of neurosurgical specialization.
- 2005** Written exam from the European Association of Neurosurgical Societies (EANS). Completed attendance at the cycle of European Courses in Neurosurgery.
- 2000 – Present** **Doctorate Program and PhD** (unfinished). Anatomy Department, Autonomous University of Barcelona (UAB), Spain. "Microanatomical study of the temporal bone. Retrosigmoid approach to the fundus of the internal auditory canal".
- 2005 – present** Chief of the Medical Advisory Department at Neosurgery S.L. (www.neosurgery.com), an innovation and technology-based company dedicated to the research and development of implantable medical devices for neurosurgical applications.
- July-August 2007** **FIENS Volunteer (Foundation for international education in Neurological Surgery, www.fiens.org)** in Neurosurgical department of Black Lion Hospital, Addis Ababa, Ethiopia.
- September 2010** **NED foundation volunteer** at Mnazi Mmoja Hospital. Zanzibar.
June 2014
- June 2015** **Clavel foundation volunteer** at Addis Abeba, Ethiopia

RESEARCH EXPERIENCE

- Research experience in neurophysiology for three months in Emory University, Atlanta, GA. 1989
- Research activities in the microsurgery anatomy laboratory at the University of Florida for one month, Dr. A. Rhoton jr. 1999
- Microanatomical study for the temporal bone. Retrosigmoid approach to the fundus of the internal auditory canal. In collaboration with the Universidad Autonoma de Barcelona. Anatomy Department. From 2000 to present.
- Principal investigator in EU grant "Custom-IMD (implantable medical devices)". Involved in new custom made spine arthroplasty design. Started february 2007 (through 2011)
- Designated as inventor in the european patent application no.14709664.8

COURSES and MEETINGS

1. II y III Curso de Neurooncología. Hospital de la Vall d'Hebrón Barcelona. 95-96 y 96-97.
2. II y III Curso de patología neurovascular. Hospital de la Vall d'Hebrón. Barcelona. 95-96 y 96-97.
3. IV Curso de Monitorización de la Presión Intracraneal. Barcelona. Mayo 1997.
4. Curso sobre Patología de la Columna Cervical. Barcelona Octubre de 1999.
5. Jornada sobre la sustitución protésica de un disco intervertebral. Hospital de Sant Pau. Noviembre de 1999.
6. Formación continuada para el personal facultativo: Análisis de casos clínicos (80h). Servicio de Neurocirugía del Hospital de Sant Pau. Barcelona. Marzo del 2000.
7. Minimal invasive approaches in lumbar spine surgery. 1-3 Diciembre 2000. Hospital de la Ribera. Alzira, Valencia.
8. "Advanced techniques in image guided surgery". Medtronic. Laussanne, Suiza. Junio 2002.
9. Curso sobre Cifoplastia vertebral. "The baloon Kyphoplasty surgeon training program". Leiden. Holanda. Enero 2003.
10. Curso sobre Neuroendoscopia. "Basic Neuroendoscopy". Prof. A. Pernezcky. Tuttlingen. Alemania. Marzo 2003.
11. Skull base hands-on workshop University of Sant Louis. Prof. Al-Mefty. April 2003.
12. Assistant to the International Society of Pitutary Surgeons. Capri, Italy, April 23,24, 2004
13. Asistente a International workshop de anatomical dissections for use in

- temporal en insula lobe surgery. Alzira, Valencia, Spain. Octubre de 2004.
14. III symposium about controversies and updates in diagnosis and treatment of hydrocephalus. Vall d'Hebron University Hospital, Barcelona, Spain.
 15. Curso de microcirugía y anastomosis vascular de Hospital de Viena. Octubre de 2004.
 16. Participante en el Eans training the trainers course in Prague. February 2005.
 17. Workshop de cirugía endoscópica de hipofisis. Bologna, Italia, Marzo de 2005.
 18. Tecnologías dinámicas de columna. Hotel St. Moritz, Barcelona. Abril de 2005.
 19. Complex lumbar spine surgery. University of Sant Louis, EEUU, noviembre 2005.
 20. Skull Base Hands-on Workshop. Preauricular approaches: cavernous sinus, subtemporal, infratemporal, clivus. Neurosurgery Department, "Hospital de la Santa Creu i Sant Pau", Barcelona, Spain. March 2005, 2006 and 2007. Participant as faculty.
 21. "Ley-Tolosa" Lecture. Catalan Society of Neurosurgery. Antonio Bernardo and Atul Goel lectures on Skull Base Surgery. September 2006.
 22. Minimal invasive techniques in spinal surgery at Dr. Yeung's clinic in Phoenix, Arizona. March 2007.
 23. Spine Arthroplasty Society's seventh annual global symposium on motion preservation technology. Berlin, Germany May 1-4, 2007
 24. Chairperson in "free papers" session of the 5th international conference on vestibular schwannoma and other CPA lesions. Barcelona, June 5th-9th.
 25. International workshop on Advanced Transnasal endoscopic skull base surgery, ENT and Neurosurgical Team approach. July 5-6, 2007, Barcelona, Spain.
 26. Seminari sobre metodologia docent i avaluativa. Institut de Estudis de la Salut 2007.
 27. Participant in TOPS (total facet posterior arthroplasty) workshop in Vienna. July 23-24, 2007.
 28. Faculty at the Cranial Base Surgery Course. Cornell University. December 14-16, 2007.
 29. Workshop for the Thesys endoscopic approach to herniated lumbar discs. Salzburg. November 23-24, 2007.
 30. Participant at the Trans1 training workshop. Zwolle, Holanda. January 2008
 31. Participant in the "Minimal Access Spinal Technologies (MAST) for the Treatment of Thoracolumbar Pathologies". January 17-18, 2008. Viena.
 32. Participant and presenter at the Catalan Neurosurgical Society Winter Meeting. February 10-17, 2008. Baqueira, Lleida. Spain.
 33. Faculty at the Sant Pau Cranial Base Course. February 28-29, 2008
 34. Faculty at the Trans1 training workshop. Barcelona, Spain. March 2008
 35. Perpos and Percudyn surgical training workshop. Salzburg. April 2008
 36. Member and participant of the Trans1 International Advisory Council. Inaugural Meeting in Viena. April 4-5, 2008
 37. Faculty at the Kyhoplasty Workshop. Barcelona, April 2008
 38. Participant at the Medtronic workshop on Minimally Invasive Surgery for lumbar fusion. April 24, 2008. Barcelona.

39. Presenter at the Cervical pain meeting of the Official Medical College of Tarragona, Spain. May 7th, 2008.
40. Participant at the SpineWeek Geneve. May 2008
41. Faculty for the percutyn and perpos systems at the Spanish Society 2008 meeting. Valencia. May 2008.
42. NASS annual meeting. October 13-17, 2008. Toronto, Canada
43. Faculty at the 2009 Cranial Base Surgery Course. Weil Cornell Neurosurgical Department. February 6-8, 2009.
44. Invited speaker and presenter at the “Taller-Teórico Práctico de Tecnologías de Cirugía de Columna Mínimamente Invasiva y Sistemas interespinosos dinámicos” course. Barcelona 27-26, 2009
45. Participant and presenter at the Neuroraquis (Spanish Spine Society) Congress. March 2009.
46. Participant and presenter at the Joint Annual Meeting EANS-SFNC, March 27-31, 2009. Marseille, France.
47. Participant and presenter at the SAS Meeting. London April 2009.
48. Invited speaker at the III Simposio Internacional de cirugía de columna vertebral. Medellin, Colombia. May 28,29 and 30 2009.
49. Participant in the “understanding the basics in the treatment of spinal deformity” course. June 11-12, 2009. Leiden.
50. Participant in the 16th International Meeting on Advanced Spine Techniques IMAST July 15-18, 2009. Viena.
51. Participant in the Nubac training course. Napoli. September 2009.
52. 2nd-O-arm Intraoperative Imaging symposium 2009. October 16-17. Leipzig.
53. Participant at the Catalan society annual meeting. November 20th, 2009. Barcelona.
54. Participant in the “Evidence based surgery. Clinical trials in surgery” course. November 26, 27 and 28, 2009.
55. Participant at the Catalan Society of Neurosurgery Winter meeting 2010.
56. Participant at the “Taller teórico-práctico de conocimientos básicos en el tratamiento quirúrgico de las deformidades del raquis” Madrid, March 5th, 2010
57. Participant and presenter at the 3rd annual transS1 international advisory meeting and symposium, March 5th-7th, Germany.
58. Invited faculty at the Medtronic summer university 2010, June 30-July 2, 2010.
59. Participant at the “V Jornadas Hispano-Lusas de Columna”, May 2010.
60. Presenter at the “workshops in the Medical Field” meeting of the irebid project. July 6th, 2010. Girona, Spain.
61. Participant at the 3rd International Congress Biotechnologies for Spinal Surgery. Biospine 3. Amsterdam, Sept 1st-4th, 2010.
62. Participant on the AOspine Live Tissue Training course. The prevention and management of complications in spine access surgery. Strasbourg, France. September 4th, 2010.
63. Presenter at the Winter Meeting of the Catalan Neurosurgical Society. February 2011.
64. Medical Design Excellence Award for the “Cranial Loop nonmetallic cranial fixation device for postcraniotomy bone flap fixation”. Participant in design and development. April 2011.
65. Participant in NASS 26th annual meeting. Chicago. November 2011

66. Participant in the Spinal Deformity Symposium. January 19-20, 2012. Barcelona
67. Organizer and host of the 1st International Symposium on cervical and lumbar arthroplasty. Hospital Quiron Barcelona. March 2012.
68. Participant in the Spineweek 2012 meeting. Amsterdam. May 2012
69. Participant in the "V Reunion de la Columna". November 29-30, 2012. Sant Fruitós del Bages, Barcelona.
70. Medical trainer in lumbar artificial disc replacement (ADR) January 2013.
71. Inventor of the european patent application: Device for repairing an intervertebral disc. Neos surgery. March 2013.
72. Speaker at the AR-TEX Technical Meeting. March 14th, 2013. Cerdanyola del Vallès, Barcelona.
73. Medical trainer in lumbar artificial disc replacement (ADR) May 2013.
74. Participant Webinar Aospine Cervical TDR Workshop. June 4, 2013.
75. Speaker at the 6th Annual Meeting of the Society for progress & Innovation for The Near East. June 19-22, 2013. Beirut, Liban.
76. Speaker at the International Medtronic Symposium: Summer University 2013. July 3rd-5th, 2013.
77. Medical trainer in lumbar artificial disc replacement (ADR) September 2013.
78. Participant in the 2nd Geneva Spine Course on Sagittal balance. September 27-29, 2013. Geneva Switzerland.
79. Participant in the "Curs de Balanç Sagital". September 2013. Barcelona
80. Participant in North American Spine Society 28th Annual Meeting. October 9-12, 2013 New Orleans, USA.
81. Research study: Ensayos biomecánicos on spinal cadaveric specimens for Neosurgery annular lumbar disc closure device. Valencia Institut of Biomechanics. October 20, 2013. Valencia.
82. Participant in the II Forum Quirúrgica. November 22, 2013. Barcelona.
83. Attended at the 18th International Argospine Symposium. January 30-31, 2014 Paris, France
84. Presenter, host and organizer of the 2nd International symposium for cervical and lumbar Arthroplasty. March 2014. Hospital Quiron, Barcelona.
85. Participant and presenter at the XIV Neuroraquis (Spanish Spine Society) Congress. March 2014. Almeria.
86. Presenter at Simposium de Tratamiento Multidisciplinar de Patología de Columna. April 2014. Valencia.
87. Attended at the XIX Congress of the Spanish Society of Neurosurgery (SENEC). May 2014. Cadiz
88. Presenter at Course in Cervical Spine Surgery Corpses. Anterior and Posterior Approach. May 2014. Barcelona.
89. Participant in the Neos-Surgery annual meeting. September 2014
90. Faculty Abordajes Quirúrgicos Genéricos al Raquis Toraco-Lumbar. Curso de Actualización y Evidencias en Cirugía de Raquis". SENEC. September 2014. Alicante (Spain).
91. Attendance at Eurospine 2014 Congress. October 2014. Lyon (France).
92. Participant "taller teórico-práctico para el tratamiento quirúrgico de las deformidades del raquis". November 2014. Madrid. Universidad Autónoma.
93. Participant at III Jornadas de casos clínicos en cirugía del Raquis. Sitge. February 2015.

94. Faculty at Perspectives in lumbar spine surgery meeting. Aesculap Academy. Berlin, Germany. March 2015.
95. Organizer, host and presenter at the First Sport and Spine meeting by the Clavel Foundation. Barcelona. June 2015.
96. Participant in NASS 30th annual meeting. Chicago. October 2015.
97. Faculty at Applying Sagittal Balance: Cadaveric training course. Audubon, Pennsylvania. October 2015.
- 98.

PRESENTATIONS AT MEETINGS:

- **Oral presentations :**

1. HEMATOMAS INTRAPARENQUIMATOSOS. Clavel P., Pares P., Bartumeus F. Reunión de la Sociedad Catalana de Neurocirugía. Abril de 1996.
2. ESPONDILODISCITIS ESPONTANEA POR CANDIDA ALBICANS.(Poster) Clavel P; Parés P; Molet J; Oliver B; Tresserras P; Fernández Villa JM; Pardo S; Mata PR; Bartumeus F. II REUNION DE LA SOCIEDAD ESPAÑOLA DE NEUROCIRUGIA. Barcelona. Mayo 1997.
3. MENINGIOMA DEL SENO CAVERNOSO. (Vídeo) Clavel P; Tresserras P; Oliver B; Pardo S; Fernández Villa JM; Molet J; Parés P; Mata PR; Bartumeus F. III CONGRESO DE LA SOCIEDAD ESPAÑOLA DE BASE DE CRANEO. Barcelona. Febrero 1998.
4. MANEIG DE LES METÀSTASIS I TUMORS PRIMARIS VERTEBRALS. Clavel P; Molet J; Parés P; Oliver B; Tresserras P; Mata PR; Pardo S; Ayats E; Bartumeus F. REUNION DE LA SOCIEDAD CATALANA DE NEUROCIRUGIA. Marzo 1998.
5. MENINGIOMAS DE BASE CRANEAL. CRITERIOS QUIRURGICOS Y EVOLUCION. Clavel P; Oliver B; Tresserras P; Molet J; Parés P; Pardo S; Mata PR; Bartumeus F. REUNION CONJUNTA DE LAS SOCIEDADES BRASILEÑA, ESPAÑOLA, ITALIANA Y PORTUGUESA DE NEUROCIRUGIA. Lisboa. Mayo 1998.
6. GANGLIOGLIOMAS INTRACRANEALES. CARACTERISTICAS, PRONOSTICO Y TRATAMIENTO. Clavel P., Oliver B., Parés P., Matias-Guiu X., Molet J., Tresserras P., Mata P., Pardo S., Ayats E., Arteaga J.M. y Bartumeus F. IV Congreso de la Sociedad Española de Neurocirugía. Burgos 5-8 Mayo 1999.
7. ESTUDIO RETROSPECTIVO DE 120 MENINGIOMAS DE LA BASE CRANEAL. Clavel P., Oliver B., Tresserras P., Mata P., Molet J., Pares P., Pardo S., Ayats E., Gil de Bernabé M. A., y Bartumeus F.. . IV Congreso de la Sociedad Española de Neurocirugía. Burgos 5-8 Mayo 1999.
8. SPECT EN LA HEMORRAGIA SUBARACNOIDEA. Clavel P., Oliver B., Tresserras P., Mata P., Molet J., Pares P., Ayats E., Arteaga J.M., Marruecos L., Martí J., Marí C., Catafau A. Y Bartumeus F. IV Congreso de la Sociedad Española de Neurocirugía. Burgos 5-8 Mayo 1999.
9. CORDOMA DE CLIVUS. ABORDAJES TRANSCONDILAR Y TRANSYUGULAR. Clavel P., Oliver B., Tresserras P., Mata P., Molet J., Pares P., Matias-Guiu X., Pardo

S., Ayats E., Bartumeus F.. IV Congreso de la Sociedad Española de Neurocirugía. Burgos 5-8 Mayo 1999.

10. TRATAMIENTO MICROQUIRÚRGICO DE LAS MALFORMACIONES ARTERIOVENOSAS CEREBRALES. Clavel P., Bartumeus F., Oliver B., Molet J., Pares P., Tresserras P., Mata P.R., Ayats E., Arteaga JM., Gil de B. M.A., Matías X., Zamora A. V Congreso de la Sociedad Española de Neurocirugía. Bilbao 24-27 Mayo 2000.

11. ESTUDIO DEL EFECTO DE LA TECNICA DE NEUROESTIMULACION SOBRE EL DOLOR CENTRAL MEDIANTE SPECT CEREBRAL CON 99mTc-HMPAO. Clavel P., Molet J., Tembl A., Arteaga JM., Catafau A., Pares P., Oliver B., Tresserras P., Mata P.R., Ayats E., Bartumeus F. V Congreso de la Sociedad Española de Neurocirugía. Bilbao 24-27 Mayo 2000.

12. ANÁLISIS MORFOMÉTRICO DE LA CARA POSTERIOR DE PEÑASCO DEL HUESO TEMPORAL. Clavel P., Reina F. Presentación oral en el Simposium de Cirugía de Base de Cráneo. Hospital de Sant Pau. Barcelona. Enero 2001.

13. FORAMINOTOMÍA (UNCINATECTOMÍA) ANTERIOR CERVICAL MICROQUIRÚRGICA (a propósito de dos casos). Clavel P., Clavel M., Arteaga J. M., Ayats E., Pares P., Bartumeus F. Barcelona. Póster en Congreso de la Sociedad Española de Neurocirugía. Ávila. Mayo 2001.

14. ANÁLISIS MORFOMETRICO DE LA CARA ENDOCRANEAL POSTERIOR DEL PEÑASCO DEL HUESO TEMPORAL. Clavel P., Reina F., Rodríguez Baeza A., Oliver B. Comunicación en Congreso de la Sociedad Española de Base de Cráneo. Salamanca. Marzo 2002.

15. MORPHOMETRIC ANÁLISIS OF THE POSTERO-SUPERIOR ASPECT OF THE PETROUS BONE. Clavel P., Reina F., Rodríguez-Baeza A., Oliver B., Bartumeus F., Comunicación en Congreso Europeo de Base de Cráneo. Terrassa-Barcelona, Marzo 2003.

16. ANATOMIA QUIRÚRGICA EN LA CIRUGÍA HIPOFISARIA. Clavel P. Curs de Doctorat i Formació Continuada en Neurocirurgia. Dates 10 i 11 d' Abril 2003. Lloc: Unitat Docent del Hospital de la Santa Creu i Sant Pau de la Universitat Autònoma de Barcelona. Tema: Glándulas Intracraneales. Hipófisis y Epífisis. 30 crèdits.

17. LAMINOPLASTIA CERVICAL COLOCACION DE MALLAS DE MOSS. Clavel P., Arteaga JM, Bartumeus F, Molet J, Tresserras P, Parés P, Cano JP, De Teresa S, Solivera J. VIII Congreso de la Sociedad Española de Neurocirugía. Alacant, Maig 2003.

18. MICROFORAMINOTOMIA CERVICAL ANTERIOR. Clavel P., Molet J, Bartumeus F, Tresserras P, Parés P, Arteaga JM, Cano P, DE Teresa S, Solivera J. VIII Congreso de la Sociedad Española de Neurocirugía. Alacant, Maig 2003.

19. ABORDAJE ANTERIOR TRANSUNCAL PARA LAS HERNIAS DE DISCO CERVICAL. Clavel P., Molet J, Bartumeus F, Clavel M. XIX Annual Meeting de la Cervical Spine Research Society. European Section. Barcelona, Juny 2003.

20. MORPHOMETRIC ANALYSIS OF ENDOCRANIAL POSTERIOR SURFACE OF THE TEMPORAL BONE'S PETROUS PART. Clavel P. Reina F. XXI Congress of the

Spanish Society of Anatomy. Pamplona 18-20 Septiembre 2003. (publicación en la revista de European Journal of Anatomy).

21. ANÁLISIS MORFOMÉTRICO DE LA CARA POSTERO-SUPERIOR (RETROSIGMOIDEA) DEL PEÑASCO DEL HUESO TEMPORAL. Clavel P. Fòrum 2003. Organitzat per l'Institut de Recerca Sant Pau. Barcelona, Octubre 2003.

22. ESTUDIO RETROSPECTIVO DE 88 PACIENTES ACROMEGÁLICOS TRATADOS ENTRE 1980 Y 2005. Clavel P.¹, Bartumeus F.¹, Sucunza N.², Barahona M.J.², Webb S.², Oliver B.¹, Molet J.¹, Tresserras P.¹, Rodriguez R.¹. Oral presentation. XI Spanish Society of Neurosurgery Congress. May 2006. Vigo, Spain.

23. MEDICIONES POR TAC DE LA FOSA POSTERIOR Y DE LA CARA RETROSIGMOIDEA DEL PEÑASCO DEL HUESO TEMPORAL. IMPLICACIONES EN CIRUGÍA. Clavel P.¹, Reina F.³, de Juan M.², Tresserras P.¹, Rodriguez-Baeza A.³, Rodriguez R.¹, Molet J.¹, Bartumeus F.¹. . Oral presentation. XI Spanish Skull Base Society June 2006. San Sebastian, Spain.

24. SAFE DRILLING OF THE POSTERIOR WALL OF THE PETROUS APEX. ANATOMICAL STUDY AND SURGICAL APPLICATION. Clavel P. Reina F. De Juan M. 5th international conference on vestibular schwannoma and other CPA lesions. June 6th - 9th, 2007.

25. PETROUS APEX AND POSTERIOR FOSSA BONE CT MEASUREMENTS. IMPLICATIONS IN SURGERY. Clavel P. 5th international conference on vestibular schwannoma and other CPA lesions. June 6th - 9th, 2007.

26. KYPHOPLASTY COMPLEX CASES. Clavel P. Winter Meeting of the Neurosurgical Catalan Society. Bakeira. February 2008.

27. PERCUDYN: A NEW MINIMALLY INVASIVE DYNAMIC STABILIZATION SYSTEM. Clavel P. et al. Spinal Disorders Section of the Spanish Neurosurgical Society. Vigo. March 2008.

28. Neuroraquis 2009

29. THE CRANIAL LOOP: A NEW HIGH-STRENGTH POLYMERIC DEVICE FOR POSTOPERATIVE CRANIAL BONE FIXATION. Clavel P. Joint Annual Meeting EANS and SFNC. Marsella, March 27th 2009.

30. PERCUDYN AS A DYNAMIC STABILIZATION DEVICE. Clavel P. Presentaton at the Spine technology Summit at the SAS meeting. London. April 2009.

31. PERCUDYN: OVERVIEW OF CASE EXPERIENCE. Clavel P. SAS Panel Meeting for Interventional Spine Workshop at SAS meeting. London. April 2009.

32. ARTROPLASTIA. DISCO CERVICAL. Clavel P. III Simposio Internacional de cirugía de columna vertebral. Medellin, Colombia. May 28,29 and 30 2009.

33. ARTROPLASTIA DISCAL CERVICAL. INDICACIONES Y DETALLES TÉCNICOS. Clavel P. III Simposio Internacional de cirugía de columna vertebral. Medellin, Colombia. May 28,29 and 30 2009.

34. ABORDAJE MÍNIMO INVASIVO DE LA COLUMNA LUMBAR DEGENERATIVA. Clavel P. III Simposio Internacional de cirugía de columna vertebral. Medellin, Colombia. May 28,29 and 30 2009.

35. AXIA-LIF. TRANS1. PERSONAL EXPERIENCE. Clavel P. 3rd annual transS1 international advisory meeting and symposium, March 5th-7th, 2009. Germany.
36. TREATING VERTEBRAL COMPRESSION FRACTURES. WHEN IS THE RIGHT TIME? Clavel P. Medtronic summer university 2010, June 30-July 2, 2010. Barcelona.
37. CHALLENGES IN THE MEDICAL DESIGN FIELD. LUMBAR ARTHROPLASTY AS A CASE EXAMPLE. Workshops in the Medical Field meeting of the irebid project. July 6th, 2010. Girona, Spain.
38. AXIALIF-TRANS1. L5-S1. Clavel P. Actualización en cirugía MIS y percutanea de la columna vertebral. October 21st, 2010. Madrid.
39. TRANS1 AT 1 AND 2 LEVELS. Clavel P. Rome Spine Congress 2010. December 2nd, 2010.
40. M6 PRÓTESIS DE DISCO LUMBAR. RESULTADOS CLÍNICOS PRELIMINARES. Clavel P. VI Jornadas hispano-lusas de columna. 25 y 26 de marzo de 2011.
41. APPROACH AND PROSTHESIS POSITIONING OF CERVICAL TDR. Clavel P. 14th International Symposium <Total Disc 2012>. September 2012. Zürich, Switzerland.
42. ARTROPLASTIA LUMBAR: EXPERIENCIA Y LIMITACIONES. Clavel P. VIII Jornadas Hispano-Lusas de la Columna. April 26-27, 2013. Cordoba, Spain
43. CERVICAL APPROACH AND TDR POSITIONING. Clavel P. 6th Annual Meeting of the Society for progress & Innovation for The Near East. June 19-22, 2013. Beirut, Liban.
44. LUMBAR ARTHROPLASTY: APPROACH, INDICATIONS AND SURGICAL TECHNIQUE. Clavel P. 6th Annual Meeting of the Society for progress & Innovation for The Near East. June 19-22, 2013. Beirut, Liban.
45. TECHNICAL PEARLS AND COMPLICATIONS AVOIDANCE IN LUMBAR ARTHROPLASTY. Clavel P. 6th Annual Meeting of the Society for progress & Innovation for The Near East. June 19-22, 2013. Beirut, Liban.
46. THE CASE FOR DISC REPLACEMENT. Clavel P. 6th Annual Meeting of the Society for progress & Innovation for The Near East. June 19-22, 2013. Beirut, Liban.
47. CERVICAL DISC DESIGNS. ARE THEY DIFFERENT? Clavel P. 6th Annual Meeting of the Society for progress & Innovation for The Near East. June 19-22, 2013. Beirut, Liban.
48. LUMBAR DISC LONG TERM RESULTS. Clavel P. 6th Annual Meeting of the Society for progress & Innovation for The Near East. June 19-22, 2013. Beirut, Liban. 6th Annual Meeting of the Society for progress & Innovation for The Near East. June 19-22, 2013. Beirut, Liban.
49. WHEN CONSIDERING THE AGING POPULATION, WHAT IS THE PROFILE OF FUTURE PATIENTS? International Medtronic Symposium: Summer University 2013. July 3rd-5th, 2013.
50. ADJACENT LEVEL DISEASE: STILL NO CONSENSUS? Breakout session V. International Medtronic Symposium: Summer University 2013. July 3rd-5th, 2013.
51. ESTRATEGIAS PARA EVITAR COMPLICACIONES EN LA ARTROPLASTIA 2nd international symposium for cervical and lumbar Arthroplasty. March 2014. Hospital Quiron, Barcelona.
52. PROTESIS DE DISCO CERVICAL. Course in Cervical Spine Surgery in cadavers. Anterior and Posterior Approach. May 2014. Barcelona

53. ABORDAJES QUIRURGICOS GENERICOS AL RAQUIS TORACO-LUMBAR. Curso de Actualización y Evidencias en Cirugía de Raquis". SENEC. September 2014. Alicante (Spain)
54. PATOLOGIA E INDICACIONES DE PROTESIS DISCALES (CERVICALES Y LUMBARES) Curso de actualización y evidencias en cirugía de raquis. Castelldefels (Spain). October 2014.
55. AVENÇOS EN LA CIRURGIA REPARADORA DE L'HÈRNIA DISCAL. Clavel P. Cicle de Conferències NEOMA. Departament de Ciències Mèdiques de la UdG i Casa de Cultura. Girona, Spain. October 2014.
56. INDICATIONS, BENEFITS AND LIMITS OF SIBD VERSUS OTHER STABILIZATION TECHNIQUES. SPINE DAYS 2015. Perspectives in lumbar spine surgery. Aesculap Academy. Berlin, Germany. March 2015.
57. ESTUDIO CLINICO PROSPECTIVO DE 32 CASOS DE FUSION LUMBAR VIA ANTERIOR (ALIF). XI Congreso Nacional de Neuroraquis. Burgos, España. Marzo 2015.
58. TECNICAS DE DUROPLASTIA Y DUROTOMÍA. 2º curso de microcirugía raquidiana. Oporto. Portugal. April 2015.
59. SAGITTAL BALANCE AND SAGITTAL ALIGNMENT-WHAT IS THE DIFFERENCE AND DOES IT MATTER? Applying Sagittal Balance: Cadaveric training course. Audubon, Pennsylvania. October 2015.
60. INTRAOPERATIVE CT AND NAVIGATION. Applying Sagittal Balance: Cadaveric training course. Audubon, Pennsylvania. October 2015.

PUBLICATIONS

1. Clavel Escribano M. y Clavel Laria P. Tratamiento quirúrgico de la mielopatía cervical espondiloartrósica. Estudio preliminar. Neurocirugía 1993; 4:46-52.
2. Clavel Escribano M., Noboa R., Faus Riera, Carrasco García M. y Clavel Laria P. Neurinomas gigantes intraespinales. Revista de Ortopedia y Traumatología. Vol. 40. 258-262.
3. Clavel Escribano M., Clavel Laria P. Meningioma quístico del quiasma óptico. Neurología 1996 Oct, 11:8,310.
4. Clavel Escribano M. y Clavel Laria P. Espondilolistesis degenerativa lumbar. Resultados del tratamiento quirúrgico. Neurocirugía 1995; 6: 196-200.
5. Clavel Escribano M., Clavel Laria P. Meningioma quístico del quiasma óptico. Neurología 1996 Oct, 11:8,310.
6. Clavel Escribano M. y Clavel Laria P. Tratamiento quirúrgico de la mielopatía cervical espondiloartrósica. Neurocirugía 1996; 4-10.
7. Clavel Escribano M. y Clavel Laria P. Paraplejía secundaria a expansión vertebral metastásica. Caso clínico. Neurocirugía 1996; 7:33-36.
8. Clavel Escribano M., López Ibor B. y Clavel Laria P. Evolución benigna de un glioblastoma multiforme hipotalámico. Caso clínico. Neurocirugía 1996; 7:49-54.
9. Clavel Escribano M. y Clavel Laria P. El abordaje posterolateral extracavitario a la columna dorsal. Neurocirugía 1996; 7:119-125.

10. Clavel Escribano M. y Clavel Laria P. Metástasis cerebrales de melanoma. *Neurocirugía* 1996; 7:275-280
11. Clavel M., Clavel P. Creutzfeld-Jacob disease transmitted by dura mater graft. *European Neurology*, 1996,36:4,239-240.
12. Clavel M. and Clavel P. Occipital neuralgia secondary to exuberant callus formation. Case report. *J. Neurosurgery* 85: 1170-1171, 1996.
13. Bartumeus F., Clavel P. Tratamiento quirúrgico de las metástasis cerebrales. *Revista de Neurología* 2000; 31 (6):1-3.
14. Clavel M., Robles Balibrea A., Clavel P., Robles Cano V. Quiste óseo aneurismático del hueso frontal. Caso clínico. *Neurocirugía* 2001: 12: 166-169.
15. Clavel M. Robles Balibrea A., Clavel P. Fusión intersomática lumbar posterior. *Neurocirugía* 2001: 12: 447-455.
16. Castaño C. Ruscalleda J., Clavel P., Early experience studying cerebral aneurysms with rotational and three-dimensional angiography and review of CT and MR angiography literature. *Interventional Neuroradiology* 8: 377-391, 2002.
17. R. Rodríguez, J. Molet , P. Clavel. Monitorización neurofisiológica intraoperatoria del tronco del encéfalo en un caso de cavernoma en protuberancia. *Neurocirugía* 16:117-123, 2005.
18. Rodriguez R, Molet J, de Teresa S, Tresserras P, Clavel P. Cano P, Solivera J, Muñoz F, Bartumeus F. Monitorización neurofisiológica intraoperatoria del tronco del encéfalo en un caso de cavernoma en protuberancia. [Intraoperative neurophysiological monitoring of the brain-stem in a pontine cavernoma]. *Neurocirugía*, Vol 16, 117-123, 2005.
19. Estudio retrospectivo de 100 MAVs . Muñoz F., Clavel P. et al. *Neurocirugía* 2007.
20. Efectividad de las valvulas gravitacionales en la prevención del hiperdrenaje en pacientes adultos con hidrocefalia. C. de Quintana-Schmidt, R. Rodríguez, P. Clavel et al. *Rev. Neurología* 2009,49(82):64-68.
21. Multiple radiation-induced neurofibromas. De Quintana Schmidt C., Clavel Laria P. *Neurology* 2010 Sep 28;75(13):1214.
22. Scrotal migration of ventriculoperitoneal shunts. De Quintana-Schmidt C, Laria PC, Folch MT, Calderón EM, Rodríguez RR. *An Pediatr (Barc)*. 2010 Oct;73(4):219-21.
23. The occipital nerve stimulation therapy as a treatment for drug-resistant cluster headache De Quintana-Schmidt C. Casajuna-Garreta E., Clavel P.. *Rev. Neurol.* (in press) *Rev Neurol*. 2010 Jul 1;51(1):19-26.
24. Uretal injury after posterior lumbar surgery. Case report. De Quintana-Schmidt C. Clavel Laria P., Bartumeus-Jene F. *Neurocirugía (Astur)* 2011 Apr;22(2):162-6.
25. Sinking skin flap syndrome. De Quintana-Schmidt C, Clavel Laria P., Asencio C et al.. *Rev Neurol* 2011 Jun 1;52(11): 661-4.
26. Spinal cord metastasis from gliosarcoma. Case report and review of the literature.

Asencio C, Clavel Laria P, Montes G et al. Neurocirugía (Astur) 2013 Dec.

Chapters in Books.

Management of subarachnoid hemorrhage. Clavel P. Emergency protocols from Hospital of Sant Pau. 2004

Consulting neurosurgeon on cns tumors of the pediatric age. Protocols. Catalan agency for the Catalan health public system.

Clavel P., Muñoz F., Molet J., Neurocirugía y Neuroradiología intervencionista en Neuroradiología intervencionista 2006.

Molet J, De Teresa S, Solivera J, Castaño C, Sanromán L, Tresserras P, Clavel P, Cano P, Rodríguez R, Bartumeus F. Estado actual del tratamiento quirúrgico de los aneurismas intracraneales. [Current surgical management of Intracranial aneurysms]. In: El Paciente Neurocrítico [The neurocritical patient]. Directors: Net Castel A, Marruecos-Sant L, Ars Medica. Barcelona 2006.

PROFESSIONAL AFFILIATIONS

2000- present	Spanish Society of Neurosurgery (S.E.N.E.C.)
2000- 2008	European and spanish skull base society
2007-present	Catalan Society of Neurosurgery (SCNC). Vicepresident from 03/2011 till 2012.
2005- present	AOSpine member
2004- 2008	International Society of Pituitary Surgeons
2008- 2010	International Advisory Board Trans1