

C A R M E N M A B E L A R R O Y O - N O V O A
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PROFESSIONAL EXPERIENCE

August 2017 at present University of Puerto Rico (UPR), Medical Sciences
Campus (MSC), School of Nursing (SON)
Doctorate in Nursing Sciences Program Director

July 2015 at present UPR-MSC-SON

Associate Professor

- Critical Care course (MSN)
- Medicine and Surgery course (BSN)
- Leadership-Practicum course (BSN)
- Elective: Nursing Management in Patients with Coronary Disease (BSN)
- Quantitative Research Design (DNS)
- Guided Research course I and II (DNS)

May 2013- June 2014 University of Puerto Rico, Medical Sciences Campus,
School of Nursing

Graduate Department Interim Director

July 2012- June 2015 University of Puerto Rico, Medical Sciences Campus,
School of Nursing

Assistant Professor

July 2001- June 2012 University of Puerto Rico, Medical Sciences Campus,
School of Nursing

Instructor

September 2000- 2001 University of Puerto Rico Hospital

Clinical Nurse Specialist in Intensive and Coronary Care Unit

- Develop guides and clinical pathways for patient management
- Consultant
- Education

1995- Sept. 2000 University District Hospital, Surgical Intensive Care Unit

Supervisor of Nursing Services

- Supervise nursing personnel obtaining excellent evaluations
- Guarantee patient care
- Nursing personnel education
- Develop guides and protocols for patient management

1999 UPR, MSC

Instructor, Graduated Program – School of Nursing

- Critical Care Course

1997, 1998 UPR, MSC

Instructor, Professional Advance Program – School of Nursing

- Critical Care I- Certification

1993 – 1995 University District Hospital, Surgical Intensive Care Unit

Nursing Leader

- Supervise Nursing Staff
- Guarantee patient care

1990 – 1993 University District Hospital, Surgical Intensive Care Unit

Staff Nurse

- Direct care to critical care patients obtaining excellent evaluations

EDUCATION

2015- at present Medical Science Campus, UPR

Postdoctoral Master in Clinical and Translational Research

Research: Opioids and Benzodiazepine Withdrawal Syndrome in Trauma Intensive Care Unit

2004- 2010 School of Nursing , University of California, San Francisco

PhD in Nursing- GPA 4.0

Dissertation: Procedural Pain Responses in Acute and Critically Ill Patients

2001- 2002 School of Nursing, Medical Science Campus, UPR

Education Role

1995- 1998 School of Nursing, Medical Science Campus, UPR

Master Degree in Science of Nursing

Clinical Nurse Specialist in Critical Care

- Summa Cum Laude

1986- 1990 School of Nursing, Medical Science Campus, UPR

Bachelor Degree in Science of Nursing

- Cum Laude

COURSES AND CONTINUING EDUCATION (LAST 10 YEARS)

- 2018 47th Critical Care Congress (SCCM), San Antonio, TX
- 2017 Designing and Conducting a Mixed Methods Dissertation or Thesis Workshop, University of Michigan
- 2017 American Delirium Society 7th Annual Meeting, Nashville, TN
- 2017 Seminar Series Writing for Scientific Publications: Going over the basic aspects, Part I, II, and III
- 2017 24th Puerto Rico Critical Care Convention and COCECATI 2017, San Juan, PR
- 2016 23rd Puerto Rico Critical Care Convention, San Juan, PR
- 2016 Big Data: A Bridge to Eliminate Health Disparities, San Juan, PR
- 2016 Translational Sciences 2016, Association for Clinical and Translational Science, Washington, DC
- 2016 45th Critical Care Congress (SCCM), Orlando, FL
- 2015 ICU Liberation East Collaborative face to face learning session, Charlotte, FL
- 2015 3rd Central American and the Caribbean Intensive Therapy Congress (COCECATI), San Salvador, El Salvador
- 2015 The Fifth Annual Meeting of the American Delirium Society. Delirium: A Multidisciplinary Challenge, Baltimore, MD
- 2015 Fundamentals of Patient-Centered Comparative Effectiveness Research online course- University of Pittsburgh, Institute for Clinical Research
- 2015 22nd Puerto Rico Critical Care Convention, San Juan, PR
- 2015 Evidence-based Practice Mentor Immersion Program- Ohio State University, School of Nursing, Columbus, OH
- 2015 44th Critical Care Congress (SCCM), Phoenix, AZ
- 2014 21st Puerto Rico Critical Care Convention
- 2013 20th Puerto Rico Critical Care Convention
- 2013 42nd Critical Care Congress (SCCM), San Juan, PR
- 2012 25th Annual Congress of The European Society of Intensive Care Medicine, Portugal
- 2012 19th Puerto Rico Critical Care Convention, San Juan, PR
- 2012 41st Critical Care Congress (SCCM), Houston, TX
- 2011 Introduction to Responsible Conduct of Research, San Juan, PR
- 2011 18th Puerto Rico Critical Care Convention, San Juan, PR
- 2010 23rd Annual Congress of The European Society of Intensive Care Medicine, Barcelona, Spain
- 2010 The Symposium on Advanced Wound Care and Wound Healing Society Meeting, Orlando, FL
- 2009 16th Puerto Rico Critical Care Convention, San Juan, PR
- 2008 15th Puerto Rico Critical Care Convention, San Juan, PR
- 2008 37th Critical Care Congress (SCCM), Hawaii

AWARDS

2015 NIH Scholar

Post-doctoral Master of Science in Clinical and Translational Research Program/Hispanic Clinical and Translational Research Education and Career Development Program R25MD007607

2009 Puerto Rico Society of Critical, Intensive and Coronary Care Medicine
Excellence in Critical Care Award

2008 Association for the Advancement of Wound Care
Research Scholarship

2004-2006 School of Nursing, University of California, San Francisco
Eugene Cota Robles Fellowship

2003 School of Nursing, Medical Sciences Campus
Nursing Faculty of the Year

2003 Students Council, School of Nursing, MSC
Distinguished Faculty 4th Year Group

1998 University of Puerto Rico
Academic Excellence

1996, 1997, 1998 Medical Science Campus, UPR
Honor List, Academic Excellence

LICENSE AND CERTIFICATIONS

Professional Nurse License, Puerto Rico

Wound & Skin Nurse Specialist Certification- MSC, UPR

Fundamentals of Critical Care Support (FCCS)- Instructor

National Critical Care Nurse Certification (CCRN) 2003- 2013

PUBLICATIONS

Pereira-Morales, S., **Arroyo-Novoa, C. M.**, Wysocki, A., & Sanzero Eller, L. (2018). Acute Pain Assessment in Sedated Patients in the Post Anesthesia Care Unit. *The Clinical Journal of Pain* (Epub ahead of print).

Arroyo-Novoa, C. M., Figueroa-Ramos, M., & Puntillo, K. (2018). Identifying opioid and benzodiazepine withdrawal in trauma intensive care (TICU) unit patients. [Abstract]. *Critical Care Medicine*, 46 (Supp 1), 791.

Gerena, E., Figueroa-Ramos, M., **Arroyo-Novoa, C.**, González-Barreto, W., & Rodríguez-Vega, G. (2016). ABCDEF Bundle: Preliminary data from

a private tertiary hospital in Puerto Rico. [Abstract]. *Critical Care Medicine*, 44(12), 392.

Arroyo-Novoa C.M. and Figueroa-Ramos M.I. (2015). Occurrence of pain, agitation/sedation, and delirium in adult intensive care patients in San Juan, Puerto Rico [Abstract]. *Puerto Rico Health Sciences Journal*, 34(Supp 1): 37.

Figueroa-Ramos M.I. and **Arroyo-Novoa C.M.** (2015). Assessment and Management Practices of Pain, Agitation/Sedation, and Delirium in Adult Intensive Care Patients in San Juan, Puerto Rico. [Abstract]. *Puerto Rico Health Sciences Journal*, 34(Supp 1): 56.

Figueroa-Ramos M.I., **Arroyo-Novoa C.M.**, Padilla G., Rodríguez-Ortiz, Cooper, B.A., Puntillo, K.A. (2013). Feasibility of a sedation wake-up trial and spontaneous breathing trial in critically ill trauma patients: A secondary analysis. *Intensive and Critical Care Nursing*, 29 (1):20-27.

Arroyo-Novoa C.M., Figueroa-Ramos M.I., Miaskowski C., Padilla G., Paul, S.M., Rodríguez-Ortiz, P., Stotts N., and Puntillo K.A. (2011). The efficacy of small doses of ketamine with morphine to decrease procedural pain responses during open wound care. *The Clinical Journal of Pain*, 27(7):561-566.

Figueroa-Ramos M.I., **Arroyo-Novoa, C.M.**, and Puntillo K.A. (2010). The effect of a sedation wake-up trial on the occurrence of delirium in critically ill trauma patients. [Abstract]. *Intensive Care Medicine*. 36(Supp 2):S221.

Arroyo-Novoa C.M., Figueroa-Ramos M.I., Stotts N., and Puntillo K.A. (2010). The effectiveness of small doses of ketamine with morphine on decreasing pain responses during open wound care. [Abstract]. *2010 Symposium on Advanced Wound Care and Wound Healing Society Meeting*. p. S15

Arroyo-Novoa C.M., Figueroa-Ramos M.I., Miaskowski C., Padilla G., Stotts N., and Puntillo K.A. (2009). Acute wound pain: gaining a better understanding. *Advances in Skin and Wound Care*. 22(8):373-80.

Figueroa-Ramos, M.I., **Arroyo-Novoa, C.M.**, Lee, K., Padilla, G., and Puntillo, K.A. (2009). Sleep and delirium in ICU patients: A review of mechanisms and manifestations. *Intensive Care Medicine*, 35(5), 781- 795.

Arroyo-Novoa, C.M., Figueroa-Ramos, M.I., Puntillo, K.A., Stanik-Hutt, J., Thompson, C.L., White, C., and Wild, L.R. (2008). Pain related to tracheal suctioning in awake acutely and critically ill adults: A descriptive study. *Intensive and Critical Care Nursing*, 24(1), 20-27.

Freytes, D., **Arroyo-Novoa, C.M.**, Figueroa-Ramos, M.I., Ruiz-Lebrón, R.B., Stotts, N.A., and Busquets, A. (2007). Skin disease in HIV positive persons living in Puerto Rico. *Advances in Skin and Wound Care*, 20(3),149-156.

Figueroa-Ramos, M.I., **Arroyo-Novoa, C.M.**, and Ruiz-Lebrón, R.B. (2004). Proyecto educativo de un estudio de caso: Resultados en un mes versus veinticinco años de tratamiento en el manejo de úlceras de estasis venosa. [Educative project of a case study: Results in one month versus twentieth years of treatment in the management of venous stasis ulcers]. [Abstract]. *XXIV Annual Forum: Research and Education*. UPR, MSC. p. 58.

Arroyo-Novoa, C.M. and Figueroa-Ramos, M.I. (1998). Aportación del Especialista Clínico en Enfermería en el Proyecto de Cuidado Interdisciplinario en Unidades de Cuidado Crítico. [Contribution of Clinical Nurse Specialist in the Interdisciplinary Care Project in Critical Care Units]. *Impulso*, 4 (23), 4-7.

RESEARCH

2015 Principal Investigator: Iatrogenic Withdrawal Syndrome in Adult Trauma Intensive Care Unit Patients [Supported by NIH-NIMHD R24MD007607 (Martínez, PI)]

2014 Principal Investigator: Occurrence and current practices of assessment, management, and prevention of pain, agitation, and delirium in intensive care unit [Project supported by Vice Presidency for Development and Technology - UPR (MFP-6251123)]

2008-10 UCSF PhD Dissertation Research Project (PI): The Efficacy of Small Doses of Ketamine with Morphine on Decreasing Pain Responses during Open Wound Care.

2008-10- Co- Investigator- The Effect of a Sedation Wake-up Trial and Spontaneous Breathing Trial on the Occurrence of Delirium and Perception of Sleep in Critically Ill Trauma Patients.

2004- Co- Investigator- Skin Disease in HIV Positive Persons Living in Puerto Rico [Project was supported by NIH Research Grants P20 NR008359 (Holzemer, PI) and P20 NR008342 (Rivero, PI)]

1997- Master's Research Project: Knowledge level in pain management and postsurgical pain management strategies in patients with abdominal and peripherovascular surgery.

PROFESSIONAL MEMBERSHIPS

- Puerto Rico Professional Nursing College
Member
Secretary- Advanced Practice Section (2003-2004)
- Puerto Rico Society of Critical, Intensive and Coronary Care Medicine
Member Executive Committee (present)
Treasurer (2001-2004)
President (2000-2001)

Secretary (1999-2000)

- American Association of Critical Care Nurses (AACN)
Member
- Society of Critical Care Medicine (SCCM)
Member

CONFERENCES AND POSTER PRESENTATIONS (LAST 10 YEARS)

- 47th Critical Care Congress (SCCM), San Antonio, TX
e-poster presentation: Identifying opioid and benzodiazepine withdrawal in trauma intensive care (TICU) unit patients
- Translational Sciences 2016, Association for Clinical and Translational Science, Washington, DC
Poster presentation: Signs and symptoms associated with opioid and benzodiazepine withdrawal in adult trauma intensive care unit patients.
- 3rd Central American and the Caribbean Intensive Therapy Congress (COCECATI), San Salvador, El Salvador (June 22-26, 2015)
Topic: Pain Management in Patients of Critical Care Unit
- 35th Annual Research and Education Forum, UPR, MSC (March 25-26, 2015)
Poster presentation: Occurrence of Pain, Agitation/Sedation, and Delirium in Adult Intensive Care Patients in San Juan, Puerto Rico
- Cardiovascular Center, Critical Care Course (2013, 2014)
Topic: Arterial Blood Gases Interpretation and Capnography
Cardiac Dysrhythmias and ACLS Algorithm
- University District Hospital, Critical Care Course (2013)
Topic: Arterial Blood Gases Interpretation
- 18th Puerto Rico Critical Care Convention, PR Convention Center (May 26, 2011)- Audience: Nurses, Physicians, Respiratory Therapists, and Dietitians.
Topic: Analgesia and sedation in ICU
- University District Hospital, Critical Care Course (Feb, 2011)
Topic: Arterial Blood Gases Interpretation
- 23rd Annual Congress of The European Society of Intensive Care Medicine, Barcelona-Spain (October 9-13, 2010)
Poster presentation: The Effect of a Sedation Wake-up trial on the Occurrence of Delirium in Critically Ill Trauma Patients.
- The Symposium on Advanced Wound Care and Wound Healing Society Meeting, Orlando, FL (April 17- 20, 2010)
Poster presentation: The Effectiveness of Small Doses of Ketamine with Morphine on Decreasing Pain Responses during Open Wound Care
- 16th Puerto Rico Critical Care Convention, PR Convention Center (May 21, 2009)- Audience: Nurses, Physicians, Respiratory Therapists, and Dietitians.
Topic: How to deal with pain in the ICU patient