

## BIOGRAPHICAL SKETCH

NAME <b>Lance S. Patak</b>		POSITION TITLE <b>Co-Founder, Chairman</b> , Patient Provider Communications, Inc. <b>Assistant Clinical Professor</b> , Department of Anesthesiology, University of California San Diego	
eRA COMMONS USER NAME PPCSOLUTIONS			
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
California State University Los Angeles	BSN	1999	Nursing
University of Southern California, Marshall School of Business	MBA	2007	Business Administration
David Geffen School of Medicine at UCLA	MD	2008	Medicine

### A. Personal Statement

My program of research is in evidence-based applications to science. The success of translating research to practice through evidence-based innovation began with the development and commercialization of the Vidatak EZ Board (US Patent No. 6,422,875). Uncertain of how to best meet the communication needs of intubated patients, I launched a research initiative to uncover exactly what intervention would fulfill this specific gap in knowledge and practice. With two years of research with intubated patients and rigorous end-user assessment and testing, all of the specifications that impact utility were identified and implemented. Competitors who did not incorporate these specifications made similar products that failed in the market space, leaving Vidatak to become the market leader in patient communication boards for critically ill patients. As demand grew, the Vidatak EZ Board required multiple translations and underwent five reiterations after further research identified new specifications, which would improve both user and care provider satisfaction.

The conceptualization of *Eloquence*<sup>TM</sup> arose from prior work on the Vidatak EZ Board. I have also begun other areas of innovative research and product development where prior commercialization has failed to rigorously assess and test the end user (i.e. patient-controlled analgesia (PCA) pumps).

I have now worked through the workflow process on how institutions and practitioners manage narcotic waste and have invented a method and system for a no witness narcotic drug accounting, wasting and disposal system that eliminate the ability to waste a substance other than the identified drug as well as accounting for the volume of that drug and without the requirement to find another practitioner to witness this accounting, wasting and disposal process. This frees up time for anesthesiologists, ICU nurses and pharmacists and can save over \$100,000 annually in staffing resources alone.

Having worked as a nurse assistant, nurse tech and unit secretary for 12 years in both nursing homes and hospitals, as a registered nurse for 8 years and now as a physician for 7 years, I bring a unique perspective to end user applications and insight on driving efficiencies with innovation across the continuum of care providers. I have clear insight on each care provider's ability to contribute to the patient care process and have invaluable, in-depth and very descript knowledge of where gaps in communication make the greatest impact on the delivery of healthcare amongst these roles. I will apply my experience bringing new provider technologies to market to the success of achieving a feasible solution that will develop a system that requires no witness for controlled substance accounting and disposal. I am well prepared and enthusiastic to lead an engineering product development team as well as research team members at the University of California San Diego University Hospital throughout this project.

### B. Positions and Honors, Relevant Experience

#### Positions and Employment

1993–1999	Nurse Assistant, University of California, Los Angeles Medical Center, Los Angeles, CA
1999–2008	Registered Nurse, University of California, Los Angeles Medical Center, Los Angeles, CA

2008–2012	Anesthesiology Resident, University of Michigan Health Systems, Ann Arbor, MI
2012–2013	Pediatric Anesthesiology Fellow, University of Michigan Health Systems, Ann Arbor, MI
1999–current	Co-Founder, Managing Member, Vidatak, LLC, Ann Arbor, MI
2013–current	Co-Founder, Chairman, Patient Provider Communications, Inc., Ann Arbor, MI
2013–current	Assistant Clinical Professor, University of California San Diego, San Diego, CA

#### Other Experience and Professional Memberships

2006–2007	Consultant, Edwards Lifesciences, Irvine, CA
2009–2013	Co-Founder, CEO, Patient Provider Communications, Inc., Ann Arbor, MI
2009–2013	CPR Committee Member, University of Michigan Health Systems, Ann Arbor, MI
2009–2013	ACLS Instructor, University of Michigan Health Systems, Ann Arbor, MI

#### Business Funding

1. *The Michigan Small Business and Technology Development Center*; \$25,000 STTR match funding; Chief Operating Officer, Patient Provider Communications, Inc.
2. *The Michigan Small Business and Technology Development Center*; \$25,000 STTR match funding; Managing Member, Vidatak, LLC
3. *Michigan Capital PreSeed Fund*; \$250,000; Chief Operating Officer, Patient Provider Communications, Inc.

#### Patents, Trademarks, Copyrights (awarded and pending)

1. *Device for Communicating with a Voice-Disabled Patient*, US Patent No. 6,422,875 issued July 23, 2002.
2. *Vidatak EZ Board*; multiple copyrights (US, Canada, India), Chinese Design Patent & US Trademarks.
3. *Method and System for Advanced Patient Communication*, US Patent No. 8,183,987, issued May 21, 2012.
4. *Method and System for Advanced Patient Communication*, CIP Patent Application No. 13/460,175, Publication No. US 2012/0278104 A1 with *Advanced Patient Nurse Call Device*, US Provisional Application No. 61/568,073, July 11, 2012.
5. *A Method and System for Advanced Patient Communication*, EPO Patent Application No. EP12275116.7, August 9, 2012.
6. *A Method and System for Healthcare Provider Tracking*, US Provisional Application No. 61/818,850, May 2, 2013.

#### **C. Selected Peer-reviewed Publications (in chronological order)**

1. Patak L, Gawlinski A, Fung NI, Doering L, Berg J. (2003). Patient's reports of health care practitioner interventions related to communication during mechanical ventilation [Abstract]. *American Journal of Critical Care*; 12(3), 285.
2. Patak L, Gawlinski A, Fung NI, Doering L, Berg J. (2004). Patient's reports of health care practitioner interventions related to communication during mechanical ventilation. *Heart & Lung - The Journal of Acute and Critical Care*; 33(5), 308-20.
3. Patak L, Gawlinski A, Fung NI, Doering L, Berg J. (2006). Communication boards in critical care: A patient's view. *Applied Nursing Research*; 19(4), 182-90.
4. Patak L, Kesavulu V. (2007). Hypoplastic Left Heart Syndrome: A Retrospective Review of Variables Contributing to Post-operative Mortality. [Institutional Use Only].
5. Kleinpell RM, Patak L, Wilson-Stronks A, Costello J, Person C, Henneman BA, Happ MB. (2009). Communication in the ICU. *Advance for Nurses*; 6:18-21.
6. Patak L, Wilson-Stronks A, Costello J, Kleinpell RM, Person C, Henneman BA, Happ MB. (2009). Improving Patient-Provider Communication: A Call to Action. *Journal of Nursing Administration*; 39(9), 372-6.
7. Costello J, Patak L, Pritchard J. (2010). Communication vulnerable patients in the pediatric ICU: Enhancing care through augmentative and alternative communication. *Journal of Pediatric Rehabilitation Medicine: An Interdisciplinary Approach*; 3, 289-301.
8. Patak L, Haydar B, Bradley D. (2013). Nonsustained ventricular tachycardia resolving under general anesthesia: A case presentation. *Anesth Analg*; 116(3):738-9.

#### **Manuscript in Press**

1. Patak L, Dasgupta S, Tait A, Brummett C. Patient's Perceptions of Pain Control as it Relates to the Patient Control Apparatus and Ambiguity of Pain Medication Delivery with Intravenous Patient-controlled Analgesia (PCA) Pumps. *Analgesia & Anesthesia*.

### **Presentations**

1. 2002 **Grand Rounds – UCLA Medical Center**  
*Speaker – Communication Needs: A Patient's Perspective*
2. 2003 **AACN National Teaching Institute & Critical Care Exposition – San Antonio, TX**  
*Research Poster Presentation*
3. 2004 **17<sup>th</sup> Annual Nursing Research Day – UCLA**  
*Speaker – Communication Needs of Patients Receiving Mechanical Ventilation*
4. 2006 **Nursing Practice Research Council – UCLA**  
*Speaker – Communication Boards in ICU, A Retrospective Study*
5. 2007 **6<sup>th</sup> Annual Evidence-Based Practice Conference – UCLA**  
*Speaker – Meeting Patient Communication Needs Through Evidence-Based Practice: A Staff Nurse's Journey*
6. 2008 **9<sup>th</sup> Annual National/International Evidence-Based Practice Conference**  
*End Note Speaker – From Research to Practice Change: One Nurse's Journey*
7. 2008 **7<sup>th</sup> Annual Evidence-Based Practice Conference – UCLA**  
*Research Poster Presentation – Improving Standards with Communication-Vulnerable Patients: A Call to Action*
8. 2008 **American Speech & Hearing Association Conference – Chicago, IL**  
*Speaker – AAC and Communication-Vulnerable Patients: A Call to Action*
9. 2009 **The Joint Commission – Live Webinar - February 17, 2009 12:00-2:00PM**  
*Speaker – Call to Action: Improving Care to Communication Vulnerable Patients*
10. 2010 **MARC Forum – Cincinnati, OH**  
*Speaker – Needle in a haystack: Intraosseous placement in an adult patient with difficult IV access for outpatient surgery*
11. 2010 **National Patient Safety Foundation: Annual Patient Safety Congress – Orlando, FL**  
*Poster Presentation – Advancing Clinical Practice to Routinely Achieve Effective Patient Communication with Communication-Vulnerable Patients*
12. 2011 **American Society of Regional Anesthesia and Pain Medicine – Las Vegas, NV**  
*Poster Presentation – Re-engineering Patient Controlled Analgesia to Improve Pain Control and Patient Outcomes*

### **D. Research Support**

Completed

#### **Improving Patient Control Analgesia to Improve Patient Outcomes.**

**05/09-11/11**

This study identified factors contributing to increased anxiety and decreased understanding with PCA as well as identified PCA attributes, which contributed to negative experiences for adult patients. New design features were proposed and assessed for how they might improve PCSA use and perceived pain control. The study used a 17-item survey: a combination of yes and no, open-ended and Likert scale questions addressing patient satisfaction with pain control, understanding of how to use the PCA pump and any reported difficulties. Other questions elicited information regarding management of the lockout period and evaluation of new PCA design features. The results of this study attracted a global manufacturer of PCA to partner with the University. Currently, a research, development and commercialization plan is under negotiations.

Role: Principal Investigator

NIH R41NR012364 Tzeng (PI)

**09/10-09/12**

Small Business Technology Transfer Grant

#### **Advancing Patient Call Light Systems to Achieve Better Outcomes**

This study addresses important components and determines feasibility of an advanced call light system for adult medical-surgical patients as perceived by patients and nurses.

Role: Consultant

Active

NIH R42MD006149 Wilson-Stronks (PI)  
Small Business Technology Transfer Grant

09/12-08/14

**Advancing Patient Call Light Systems to Achieve Better Outcomes**

This study develops and commercializes an advanced multilingual call light system for adult medical-surgical patients.

Role: Consultant

NIH R41NR014087 Happ (PI)

09/12-08/13

Small Business Technology Transfer Grant

**Improving Outcomes for Mechanically Ventilated Patients with the Digital EZ Board**

This study determines components and determines feasibility of a multilingual iPad application for critically ill patients to communicate while being mechanically ventilated.

Role: Consultant