

# 2007 Scholarship of Teaching Grants (STG) Application

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## *Grant Application*

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**Title of STG proposal:** Interdisciplinary Education in Palliative Care

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### **Project Director**

Name: Jean Petershack MD

Title: Assistant Professor

Department & Division: Department of Pediatrics/Division of Neonatology

E-Mail address: petershack@uthscsa.edu

Campus phone number: 567-9211

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### **Collaborators**

Name: Cathy Robichaux PhD RN

Title: Assistant Professor

Department & Division: Acute Nursing

E-Mail address: robichaux@uthscsa.edu

Campus phone number: 567-0187

Name: Sara Gill PhD RN

Title: Associate Professor

Department & Division: Family Nursing

E-Mail address: gills@uthscsa.edu

Campus phone number: 567-3014

Name:

Title:

Department & Division:

E-Mail address:

Campus phone number:

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## Executive Summary

Discuss the educational problem and how your project will address the issue. Please reference the numbers and types of students the project will assist as well as the techniques used to evaluate the project. Be aware that the Executive Summary will be provided to *all* members of the Academic Center for Excellence in Teaching (ACET) Advisory Committee and will be used in the review process. *Please limit your summary to 200 words.*

Little information exists regarding student and staff educational needs related to palliative care. Even less educational opportunities are available to obtain this necessary information. This project will address the educational needs related to neonatal palliative care in the domains of communication, bereavement, ethical issues and cultural competence. Approximately 300 UTHSCSA students per year and 100 University Hospital staff will have the opportunity to participate in this educational endeavor.

Total amount of funding requested: \$5,592.00

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## Budget Request

<b>Item (<i>itemize each below</i>)</b>	<b>Funds Requested</b>
<b>Consumable supplies:</b>	\$0.00
<b>Equipment:</b> Micro cassette tapes	\$6.00
<b>Hourly rate services (e.g. software programming):</b> 100 hours with MMWS to include: Module design Storyboarding Scripting Flash Programming Graphics  Module Development in WebCT Digitizing	\$4,500.00
<b>Other expenses:</b> 12 hours of transcription @ \$20/hr = \$240  Copy 200 instruments (6 pages) = \$96  50 hours of data entry @ \$15/hr = \$750	\$1,086.00
<b>TOTAL (<i>calculated</i>)</b>	<b>\$5,592.00</b>

*Travel and equipment:* Budget requests to support travel for presentations at meetings related to an STG project must be justified in the application. If the grant is funded, travel expenses may not exceed 10% of the total award. If the project budget includes funds for purchasing equipment, the applicant must document

that such equipment is not available or accessible at UTHSCSA.

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## Proposal Review Criteria

Your application is expected to answer each of the six questions below. Please complete each section.

### **1. Definition of the problem**

Define the instructional problem addressed by the project. Indicate how the proposal relates to students' needs, is innovative, and takes advantage of interdisciplinary collaboration. Discuss research literature related to the problem.

While the need for Palliative Care is well established by such regulatory agencies as the ACGME and JCAHO, a large problem remains; many professionals in the health care services are ill-prepared during their training to provide such care. A program of interdisciplinary interventions can successfully educate and support health care professionals in providing end-of-life care for children (Rushton et al, 2006). This conclusion comes from a large study that developed and implemented a comprehensive palliative care program at John Hopkins Children's Center. We, like most academic centers, do not have the resources for such a complex undertaking. Our goal is to design and implement an interdisciplinary educational intervention based on adult learning principles to address the needs of the myriad of students and health care providers that work in the stressful environment of the Neonatal Intensive Care Unit (NICU). Our educational intervention will be the backbone of a Palliative Care Clinical Program that is being established in UHS NICU in conjunction with a grant from the UTHSCSA MESA Center of the School of Nursing and possible further grant support as an Interdisciplinary End-of-Life Care Center from the NIH.

The Institute of Medicine (IOM) and the American Academy of Pediatrics (AAP) view palliative care broadly. In the 2003 IOM report Children Dying, the committee viewed palliative care as "care that seeks to prevent, relieve, reduce or soothe symptoms produced by serious medical conditions or their treatments to maintain patients' quality of life" (Field & Behrman, 2003). Likewise, the AAP in its 2000 statement on Pediatric Palliative Care, stated that "palliative care is a model of caring for patients and their families who suffer from life threatening illnesses" (AAP 2000, p351). Palliative care may initially be combined with cure-oriented, disease-modifying care and then intensify when that form of care is not longer helpful or appropriate (Catlin & Carter, 2002). Typically, newborns and their families who receive palliative care fall into three categories: 1) newborns born at the limit of viability, 2) newborns with congenital anomalies that are incompatible with prolonged life and 3) newborns with overwhelming illness who don't respond to aggressive medical treatment or for whom the treatment prolongs suffering (Catlin & Carter, 2002). In order to facilitate these processes, we must provide our students and staff with the necessary tools via an educational intervention. For optimal interdisciplinary efforts, interdisciplinary education is crucial.

Adult learning principles demonstrate that health care providers learn best through active processes of problem solving directly relevant to their needs. In order to develop future generations of health care providers with an effective grounding in the fundamentals of palliative medicine, clinical services must become learning platforms for all levels of students (Meier and Beresford, 2006). Small studies exist about educational needs of specific groups such as Pediatric Residents or nurses in palliative care (Kolarik, et al 2006, Bagatall, et al 2002, Feudtner et al, 2007). Rushton's group in conjunction with a couple of other major centers developed the Initiative for Pediatric Palliative Care (IPPC) (Browning and Solomon, 2005 and Rollins, 2006) an interdisciplinary curriculum for palliative care education that stresses cultural sensitivity, the needs of patients and their families and self-care for health care professionals. This curriculum is free on the internet. We plan on performing our own local needs assessment and following the principles of this curriculum develop a scaled-down practical curriculum to be used in our NICU. Online modules will be developed that address baseline knowledge requirements. Small interdisciplinary group sessions will be facilitated by various team members that provide time for group exploration of issues such as communication, bereavement and ethical dilemmas to allow for active learning.

Our program will be unique in its scope (NICU), the diverse group of students and staff working together, and its broad applicability due to its inherent practical nature. Such a program will help address many of the ACGME competency

domains including facilitating communication, cultural sensitivity, utilization of information technology, process improvement and the facilitation of learning of students and other health care professionals. While the ACGME is the governing body of medical residency accreditation, similar concerns are surfacing in all health care professional training.

## **2. Design of the project**

Describe what is planned, how it will be done, and who will do the work. Specify time lines for the proposed project.

1. Develop an interactive web-based module on neonatal palliative care. Modules will address communication, bereavement, ethical issues, cultural competence related to palliative care. Will adapt and refine content from the Initiative for Pediatric Palliative Care. (Petershack, Robichaux, Gill, Multimedia Web Services)
2. Conduct interdisciplinary focus groups. Focus groups will discuss issues related to attitudes and beliefs about neonatal palliative care. (Gill, Robichaux)
3. Students and staff will utilize these web based modules beginning Fall 2008. Three focus groups will be conducted beginning one month after module completion.

## **3. Potential impact**

Discuss the effects the proposed changes will have on student learning including the number of students who are likely to be affected.

Students in all programs at the HSC receive limited information about palliative care. Although these modules are directed towards the neonatal population, the principles can be used with all individuals requiring palliative care.

Medical Students: approx 150 MSIII's per year and 16 MSIV's (all UTHSCSA)

Residents: 15 per year per class, 3 concurrent classes.

Nursing Students: Appx 100/yr, about 1/3 of these students are from UTHSCSA, 2/3 from surrounding colleges.

Respiratory Therapy students: Appx 20/yr from various local schools.

Chaplain Students: 4-6 per year.

Other students (PT, OT, Speech therapy, etc): 5-10/yr

Pharmacy: Residents-4/yr (combined UHS, UT program)

Students- 3/yr (all UT)

Staff-

Nurses: 70

Respiratory Therapists: 10

Attending Neonatologists: 10

Front desk, etc: 10

Social Work: 2

Chaplain: 1

Various Therapists: 5

Additionally, nursing graduate students and neonatology fellows will be involved in not only the training but also in the compilation and presentation of data in journals and at scientific meetings. Pharmacy students/residents will develop pain treatment guidelines and update these guidelines at intervals based on current data. So, not only will students and staff gain basic skills and over time refine these skills, they will also be important in the design, implementation and evaluation of this intervention and in the presentation of the findings at meetings and in print.

## **4. Plan for continuation**

Priority will be given to activities that will be continued beyond the initial funding period. Grants can be used as seed money to demonstrate the potential impact of the project and attract additional funding.

Modules will be available on an ongoing basis for all students and staff rotating through the NICU. Discussion groups will be ongoing and further tailored to meet the needs of the shareholders.

This project is the first step of a program of research aimed at implementing palliative care services in the NICU at University Hospital. The investigators have submitted a 3 year feasibility study as part of a P-30 End of Life Grant. The focus of the feasibility study is designed to implement and evaluate a palliative care service in the NICU from both a staff and family perspective using a mixed methods design. The obvious first step (STG) is to evaluate knowledge and educate all persons that care for neonates.

All palliative care instruments currently available have been developed for an adult or pediatric population. Data from the P-30 grant will be used to develop, refine or adapt new or existing instruments for the neonatal population. To accomplish this task, we will submit a grant (Hill-Rom Celeste Phillips Family-Centered Maternity Care Award) from the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN).

### **5. Plan for evaluation**

Include a formative evaluation that provides information during the development of the project and a summative evaluation of the project outcomes.

This project is designed using an extensive literature review, existing modules and a needs assessment.

A pre-test/post-test design will be used to describe knowledge acquisition. The City of Hope End of Life Knowledge Assessment Instrument will be used to collect this data. Statistical analysis will be accomplished with ANOVA.

Focus group discussion will center on attitudes and beliefs about palliative care. Focus groups will be audio taped, transcribed and analyzed using qualitative content analysis.

IRB approval will be obtained prior to data collection.

### **6. Plan of Information Dissemination**

Include the conference, journal or other peer reviewed source in which the results from the study will be shared with other professionals. **Please note:** Plans for IRB approval will have to be discussed with all members of the project. The intent of the IRB is to foster high ethical standards in the conduct of research and to assure that uniform criteria are applied to protect the human subjects who take part in research. Although IRB approval is NOT necessary when submitting the proposal, IRB approval will be necessary before dissemination of results to peer reviewed outlets.

Travel for oral presentations:

Southern Society of Pediatric Research/Pediatric Academic Societies-- Dr. Petershack

Association of Women's Health, Obstetric and Neonatal Nurses Association--Dr. Gill

Palliative Care Nurses Association/Critical Care Nurses Association--Dr. Robichaux

Journals: Journal of Palliative Care Nursing, Journal of Obstetric, Gynecologic and Neonatal Nursing, Journal of Perinatology

Graduate Students/Medical Students involved in project may present findings.

### **7. Budget/Cost Sharing**

Include a justification of the budget so that it is clear why each item requested is essential.

MMWS to assist with adapting existing modules to web based, interactive, creative learning modules.

Focus group (conducted by Gill/Robichaux) discussion must be audio-taped and transcribed prior to analysis.

Instrument data must be entered into SPSS prior to analysis.

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## **Project Director Biosketch**

Submit a NIH biographical sketch of the Project Director below.

### **BIOGRAPHICAL SKETCH**

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.

Follow this format for each person. DO NOT EXCEED FOUR PAGES.

#### **NAME**

Petershack, Jean Ann POSITION TITLE

Assistant Professor, Pediatrics

eRA COMMONS USER NAME

**EDUCATION/TRAINING** (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

**INSTITUTION AND LOCATION DEGREE**

(if applicable) **YEAR(s) FIELD OF STUDY**

Oakland University, Rochester Michigan B.S. 1981-1985 Biology

University of Texas Health Science Center at San Antonio M.D. 1987-1991 Medicine

**NOTE:** The Biographical Sketch may not exceed four pages. Follow the formats and instructions on the attached sample.

**A. Positions and Honors.** List in chronological order previous positions, concluding with your present position. List any honors. Include present membership on any Federal Government public advisory committee.

#### **Positions and Employment**

1985-1987 Research Assistant, University of Texas Health Science Center at Dallas

1991-1994 Pediatrics Resident, University of Texas Health Science Center at San Antonio

1994-1996 Neonatal-Perinatal Fellow, University of Iowa Hospitals and Clinics

1996-1997 Neonatal-Perinatal Fellow, University of Michigan

1997-1999 Lecturer, Department of Pediatrics, University of Michigan

1999-Present Assistant Professor, Department of Pediatrics, Division of Neonatology, University of Texas Health Science Center of San Antonio

#### **Other Experience and Professional Memberships**

1997-1999 Co-Director of Neonatal Follow-up Clinic, University of Michigan

1998-1999 Director of Nursery, St Mary Hospital, Livonia, Michigan

1999-Present Fellow, American Academy of Pediatrics

1999-Present Member, Texas Pediatrics Society  
2001-Present Member Southern Society of Pediatric Research  
2002-Present Member Perinatal Section, American Academy of Pediatrics  
2002-2003 Institutional Representative SSPR  
2004-2006 Executive Council Member, SSPR  
2007-2014 Board Certified in Hospice and Palliative Medicine  
Honors  
1981-1985 Oakland University Foundation Scholarship  
1983-1985 Student Life Scholarship, Oakland University  
1985 Graduated Honors College, Special Honors in Biology  
2006 PAS Educational Scholar; elected to national program to acknowledge and promote excellence in Pediatric Education.

B. Selected peer-reviewed publications (in chronological order). Do not include publications submitted or in preparation.

- 1.) Snyder JM, O'Brien JA, Rodgers HF: Localization and accumulation of fibronectin in rabbit fetal lung tissue. *Differentiation* 34:32-9, 1987.
- 2.) Lindemann CB, O'Brien JA, Giblin FJ: An investigation of the effectiveness of certain antioxidants in preserving the motility of reactivated bull sperm models. *Biol Reprod* 38:114-120, 1988.
- 3.) Snyder JM, Kwun JE, O'Brien JA, Rosenfeld CR, Odom MJ: The concentration of the 35 kDA surfactant apoprotein in amniotic fluid from normal and diabetic pregnancies. *Pediatr Res* 24:728-34, 1988.
- 4.) Snyder JM, Rodgers HF, Nielsen HC, O'Brien JA: Uptake of the 35 kDA major surfactant apoprotein (SP-A) by neonatal lung tissue. *Biochem Biophys Acta* 1002(1):1-7, 1988.
- 5.) Samyn ME, Petershack JA, Bedell KA, Mathews MS, Segar JL: Ontogeny and regulation of cardiac AT1 and AT2 receptors during fetal life in sheep. *Pediatr Res* 44(3):323-29, 1998.
- 6.) Petershack JA, Nagaraja SC, Guillery EN: Role of glucocorticoids in the maturation of renal cortical Na<sup>+</sup>, K<sup>+</sup>-ATPase activity in fetal sheep. *Am J Physiol Regulatory Integrative Comp. Physiol.* 276(6):R1825-R1832, 1999.
- 7.) Mustafa SB, Digeronimo RJ, Petershack JA, Alcorn JL, Seidner SR. Postnatal glucocorticoids induce alpha-ENaC formation and regulate glucocorticoid receptors in preterm rabbit lung. *Am J Physiol Lung Cell Mol Physiol* 286(1):73-80, 2004.

#### Abstracts

- 1.) Snyder JM, Rodgers H, O'Brien JA, Malhi N, Magliato S: An ultrastructural, morphometric analysis of the effects of glucocorticoids on rabbit fetal lung maturation in vivo. World Conference on Lung Health. Boston, MA, May 1990.
- 2.) Petershack JA, Page WV, Mathews MS, McWeeney OJ, Segar JL, Robillard JE: Tissue-specific and differential regulation of AT1 and AT2 gene expression following administration of an AT1 antagonist during fetal life. *Pediatr Res* 39(4):367A, 1996.
- 3.) Segar JL, Bedell KA, Mathews MS, Petershack JA, Robillard JE: Ontogeny regulation of cardiac angiotensin II receptor subtypes (AT1 and AT2) in developing sheep. *Pediatr Res* 39(4):37A, 1996.
- 4.) Samyn M, Petershack JA, Mathews MS, Segar JL, Robillard JE: Effects of losartan on angiotension receptors during fetal cardiac development in sheep. *Pediatr Res* 41(4):25A, 1997.
- 5.) Petershack JA, Samyn ME, Segar JL, Robillard JE: Influence of AT1 receptor activity on AT1 and AT2 receptor expression during fetal life. *Pediatr Res* 41(4):50A, 1997.
- 6.) Digeronimo RJ, Mustafa SB, Petershack JA, Seidner SA: Effects of ventilation, exogenous surfactant and postnatal corticosteroid treatment on surfactant and protein mRNA expression in premature rabbits. *Pediatr Res* 49:386A, 2001.
- 7.) Crichton CA, Welke TM, Mustafa SM, Suzuki Y, Digeronimo RJ, Petershack JA, Campos C, Falck AJ, Anderson J, Seidner SA. Postnatal effects of corticosteroids or Cyclic AMP Co-instilled with surfactant on surfactant protein-B in mechanically ventilated preterm rabbits. *Pediatr Res* 49:298A, 2001.
- 8.) Seidner SR, Mustafa SB, Petershack JA, Jobe AH, Ikegami M, Mendelson CR. Differential regulation of surfactant protein gene expression following chronic ventilation and postnatal hormonal therapies in preterm baboons. *Pediatr Res* 49:384A, 2001.

- 9.) Petershack JA, Mustafa SB, Jobe AH, Ikegami M, Mendelson CR, Seidner SR. Differential regulation of surfactant protein gene expression following chronic ventilation and postnatal hormonal therapies in preterm baboons. *J Investig Med* 49:128A, 2001.
- 10.) Falck AJ, Castro R, Seidner SR, Petershack JA, Mendoza YM, Crichton CA, Mustafa SB. Camp improves deficient sodium channel and Na<sup>+</sup>-K<sup>+</sup>-ATPase Expression and function in vivo and in vitro. *Pediatr Res* 51:396A, 2002.
- 11.) Petershack JA, Mustafa SB, Srp TS, Seidner SR. Processing of pro-surfactant B to mature protein is deficient in preterm baboons. *J Investig Med* 50:109A, 2002.
- 12.) Mustafa SB, Castro R, Petershack JA, Seidner SR. Pathways for cAMP stimulation of  $\beta$ -Epithelial Sodium Channel ( $\beta$ -ENaC) expression in epithelial cells. *J Investig Med* 51:110A, 2003.
- 13.) Petershack JA, Seidner SR, Henson BM, Mustafa SB. Regulation of  $\beta$ -Epithelial Sodium Channels ( $\beta$ -ENaC) by interleukin-1 in murine lung epithelial (MLE-12) cells. *J Investig Med* 51:205A, 2003.
- 15.) Blanco CL, Petershack JA, Mustafa SB, Hensen BM, Clyman SR, Seidner SR. Ibuprofen Increases Alpha-Epithelial Sodium Channel Protein in Preterm Baboons. *Pediatr Res* 55:449A, 2004.
- 16.) McCurnin D, Seidner S, Waleh N, Chang LY, Ikegami M, Petershack JA, Yoder B, Clyman R. Cardiopulmonary Effects of a Persistent PDA. *E-PAS2006:59:2196.7*

C. Research Support. List selected ongoing or completed (during the last three years) research projects (federal and non-federal support). Begin with the projects that are most relevant to the research proposed in this application. Briefly indicate the overall goals of the projects and your role (e.g. PI, Co-Investigator, Consultant) in the research project. Do not list award amounts or percent effort in projects.

#### Ongoing Research Support

2 U01 HL056061-12

NIH

Closure of Ductus Arteriosus (Project U10 on Collaborative Program in BPD 10/2003-8/2007

Role: Contributor

#### Completed Research Support

Forrest Pharmaceuticals 1/2003-6/2004

Regulation of Lung Epithelial Sodium Channels in Response to Vascular Endothelial Growth Factor and Transforming Growth Factor B in the Premature Newborn Rabbit Lung

Role: Co-PI

San Antonio Area Foundation 6/2001-11/2002

Dopamine Induced Changes in Surfactant Proteins in Neonatal Lung

Role: PI

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#### Approval certification

JP - By initialing this field, I affirm that my Department Chair has approved this project.