



Evanston Hospital

TU, FRANK

Frank Tu, MD, MPH
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November 12, 2007

Northwestern University
Feinberg School of Medicine
303 E. Chicago Avenue, Ward 1-003
Chicago, IL 60611-3008

Re: Medical Student Summer Research Program (MSSRRP) and Research Thesis
Program (RTP)

To Whom It May Concern:

I am happy to apply for a position to mentor on behalf of the Medical Student Summer Research Program and Research Thesis Program. This past summer, I was fortunate enough to mentor two undergraduate students, providing them with the chance to gain real-world exposure to the aspects of clinical research. I found this experience to be more than rewarding and am excited for the similar opportunity presented in these two programs.

We have a large stable of straightforward and longitudinal projects that can accommodate both undergraduates and medical students with much difficulty, particularly with such advance notice. I have already engaged 3 current undergraduates from NU (including one who is in the bridge program) to work with us during the fall, and intend to continue to do so. They will be spending time not only working on directed research in women's health, but also have opportunities to shadow in the clinic and operating room. My passion and enthusiasm for research is evident and perhaps may be what qualifies me best as a mentor.

Thank you very much for your consideration. I can be reached by phone 847-570-2520 or by e-mail ftu@enh.org.

Sincerely yours,

Frank Tu, MD, MPH
Division Director, Gynecological Pain and Minimally Invasive Surgery
Evanston Northwestern Healthcare
Assistant Professor of Ob/Gyn and PM&R
Feinberg School of Medicine, Northwestern University

Research Description

As a fellowship-trained gynecological pain surgeon and researcher, the focus of my research has been on defining clinical criteria for somatic and visceral causes of pelvic pain. With my background in central and peripheral pain measurement, diagnostic tool development, clinical trials coordination, and scale development, my career objective is to become an outcomes researcher in the area of pelvic pain with a long-term research goal of defining modifiable disease mechanisms in female genitourinary pain syndromes.

My two ongoing research projects focus on treatment for overactive bladder and the characterization of women who have been to the emergency department for abdominal or pelvic pain. Also, I have recently submitted two NIH grants (a K23 and R21), and need to perform further pilot work on a novel method for gauging relative peripheral pain sensitivity both on the outside of the body as well as the female pelvic floor.

Description of potential MSSRP or RTP student projects:

- (1) long-term followup of women undergoing laparoscopic myomectomy – we would determine rates of adverse pregnancy outcomes or durability of decreases in abnormal uterine bleeding, or leiomyoma-related pressure symptoms by performing chart reviews.
- (2) long-term followup of women undergoing presacral neurectomy for pelvic pain conditions – we would determine rates of complications such as permanent bowel or bladder dysfunction and durability of decreases in pelvic pain symptoms by performing chart reviews.
- (3) long-term followup of women treated with GnRH agonists for pelvic pain – again using chart reviews to determine how durable the response of women treated with GnRH agonists for endometriosis-related pain is.
- (4) characterization of differences in regional pelvic venous blood flow in women with pelvic pain vs. age-matched pain-free controls, using MRI
- (5) cohort study of gabapentin vs. tricyclic antidepressants in the treatment of female pelvic pain – using existing database of patients would determine relative efficacy of each treatment
- (6) characterization of general pain symptoms in individuals who have successfully trained for the Chicago Marathon vs age-matched controls.
- (7) measurement of topographical relationships of the empty and distended bladder and stomach, respectively at time of pelvic surgery. This is important to do, as these organs are occasionally punctured inadvertently during laparoscopy, and awareness of their general boundaries would guide surgeons in avoiding such complications.

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed for Form Page 2.
Follow the sample format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME	POSITION TITLE		
Tu, Frank, Fu-Sheng	Assistant professor, Dept. of Obstetrics and Gynecology		
	Assistant professor, Dept. of Physical Medicine and Rehabilitation		
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
Vanderbilt University, Nashville, TN	B.A.	5/1993	Psychology
University of Alabama School of Medicine, Birmingham, AL	M.D.	6/1998	Medicine
Feinberg School of Medicine, Chicago, IL	Residency	1998-2002	Ob/Gyn
University of North Carolina, Chapel Hill, NC	Fellowship	2002-2004	Pelvic Pain and Minimally Invasive Surgery
University of North Carolina, Chapel Hill, NC	M.P.H.	6/2004	Epidemiology

Research and/or Professional Experience**Employment**

2004-present Director, Evanston Northwestern Healthcare Division of Gynecological Pain and Minimally Invasive Surgery
 2004-present Assistant professor, Dept. of Ob/Gyn, Northwestern University, Chicago, IL
 2005-present Assistant professor, Dept. of Phys Med & Rehab, Rehabilitation Institute of Chicago, Chicago, IL

Honors

International Pelvic Pain Society Outstanding Research Presentation Award 2006
 Berlex Scholar Award in Clinical Research Grant 2006
 Evanston Northwestern Healthcare Research Career Development Award 2006-2009
 Evanston Northwestern Healthcare Women's Auxiliary Research Scholar 2004-2007
 Berlex Foundation Junior Faculty Development Workshop 2004 participant
 Trainee, NICHD-sponsored T32 grant (Training in Epidemiology and Clinical Trials), 2002-2004
 Alpha Omega Alpha, 1997
 Howard Hughes Medical Institute-National Institutes of Health, Research Scholars Program, 1995-1996
 Phi Beta Kappa, 1992

Professional Societies

American College of Surgeons 2006-

International Association for the Study of Pain 2006-
Association of Professors of Gynecology and Obstetrics 2006-
American Pain Society 2005-
International Pelvic Pain Society, 2005-
American College of Obstetricians and Gynecologists, 2004-
American Association of Gynecologic Laparoscopists, 2004-

Publications

Original research

1. Kidd VJ, Luo W, Xiang J, Tu FF, Easton J, McCune S, Snead ML. Regulated expression of a cell-division control-related protein kinase during development. *Cell Growth and Diff*, 2:85-93, 1991.
2. Tu FF, Goldenberg RL, Tamura T, Drews M, Zucker SJ, Voss HF. Prenatal plasma matrix metalloproteinase-9 levels to predict spontaneous preterm birth. *Obstet Gynecol*, 92(3): 446-9, 1998.
3. Tu FF, Lamvu G, Hartmann KE, Steege JF. Preoperative ultrasound to predict infraumbilical adhesions: a study of diagnostic accuracy. *Am J Obstet Gynecol*, 192(1):74-9, 2005.
4. Tu FF, Feinglass J, Milad MP. Benchmarking applied to laparoscopic-assisted vaginal hysterectomy. *South Med J*, 2005 Sep;98(9):883-7
5. As-Sanie S, Zolnoun D, Wechter ME, Lamvu G, Tu F, Steege J. Teaching residents coding and documentation: effectiveness of a problem-oriented approach. *Am J Obstet Gynecol*, 2005 Nov;193(5):1790-3.
6. Tu FF, As-Sanie S, Steege JF. Prevalence of pelvic musculoskeletal pain in a female chronic pelvic pain referral cohort. *J Reprod Med* 2006, Mar;51(3):185-9
7. Tu FF, Beaumont JL. Outpatient laparoscopy for abdominal and pelvic pain in the United States: 1994-1996. *Am J Obstet Gynecol* 2006 Mar;194(3):699-703.
8. Tu FF, Fitzgerald CM, Kuiken T, Farrell T, Harden RN. Comparative measurement of pelvic floor pain sensitivity in chronic pelvic pain. *Ob Gyn 2007 manuscript accepted.**
9. Tu FF, Fitzgerald CM, Kuiken T, Farrell T, Harden RN. Pressure-pain thresholds to diagnose pelvic floor myofascial pain syndrome. *Clin J Pain* 2007, *manuscript accepted.*
10. Tu FF, Holt J, Gonzales J, Fitzgerald CM. Physical therapy evaluation of chronic pelvic pain patients, a controlled study. *Am J Obstet Gynecol* 2007, *manuscript accepted.**
11. Tu FF, Advincula AP. Miniaturizing the laparoscope: Current applications of micro- and minilaparoscopy. *Int J Gynaecol Obstet* 2007, *manuscript accepted.*

* manuscripts included in Appendix 2.

Non-experimental articles

1. Lamvu G, Tu F, As-sanie S, Zolnoun D, Steege J. The role of laparoscopy in the diagnosis and treatment of conditions associated with chronic pelvic pain, *Obstet Gynecol Clin North Am*, 31:619-630, 2004.
2. Tu FF, As-Sanie S, Steege JF. Musculoskeletal causes of chronic pelvic pain: a systematic review of diagnosis: part I. *Obstet Gynecol Surv*. 2005 Jun;60(6):379-85.
3. Tu FF, As-Sanie S, Steege JF. Musculoskeletal Causes of Chronic Pelvic Pain: A Systematic Review of Existing Therapies: Part II. *Obstet Gynecol Surv*. 2005 Jul;60(7):474-483.

Ongoing Research Support

Research Career Development Award (PI: Tu) 2006-2009
Evanston Northwestern Healthcare
Pelvic Floor Pain Sensitivity
The major goal is to develop a validated instrument to measure pressure-pain thresholds of the female pelvic floor to define pelvic floor pain sensitivity.

Berlex Scholar Award in Clinical Research Grant 2006-2007
Berlex Foundation

Principal Investigator/Program Director (Last, First, Middle): Tu, Frank F.

Intravesical alkalized lidocaine for the treatment of overactive bladder (OAB), a randomized, prospective double-blinded controlled trial.

The major goal is to determine if infusion of local anesthetic into the bladder of women with OAB reduces symptoms of urgency and frequency.

Women's Auxiliary Research Scholar 2004-2007

Evanston Northwestern Healthcare

Diagnosis and management of female pelvic pain conditions

The major goal is to determine differences in musculoskeletal dysfunction among women with chronic pelvic pain compared to healthy controls

Start-up costs 2004-2007

Evanston Northwestern Healthcare

Development of a pelvic pain research center

The major goal is to develop the research personnel, infrastructure, equipment, preliminary data, and publications needed to compete for federally funded research grants in female pelvic pain (including a K23).