

Department of Surgery Research Opportunities

A. Laurie W. Shroyer, PhD, MSHA
Professor and Vice Chair for Research
Department of Surgery

Department of Surgery Divisions

- Breast and Oncology (Dr. O'Hea)
- Cardiothoracic Surgery (Dr. Taylor)
- Colon and Rectal Surgery (Dr. Bergamaschi)
- General/Bariatrics/Foregut Surgery (Dr. Pryor)
- Otolaryngology and Head/Neck Surgery (Dr. Schessel)
- Pediatric Surgery (Dr. Lee)
- Plastic and Reconstructive Surgery (Dr. Dagum)
- Trauma, Emergency Surgery, and Critical Care (Dr. Vosswinkel)
- Upper GI and General Oncology (Dr. Watkins)
- Vascular Surgery (Dr. Tassiopoulos)
- GME Training/Education Program (Dr. Scriven)

Research Training and Projects

- Deliver research-related training
- Offer team-based research project experiences
 - Support trainee faculty mentored research projects
 - High school students
 - Undergraduate students
 - Medical/Health Professional students
 - GME Trainees = key member of research team!
 - Provide continuum of research opportunities
 - Basic science
 - Translational science
 - Clinical science

Research Training

- Annual Research Day Event
 - Scheduled = June 4, 2015
 - Deadline for Project Abstracts = March 1, 2015
- Research Lectures
 - Monthly Lecture/Interactive Sessions
 - Routinely Scheduled Research **“Hands On”** Workshops
 - Project Support
 - Database programming
 - Database cleaning/reporting
 - Basic statistical analyses

Research Training

- Graduate Courses

- Spring HPD 650 “Seminar Series: Clinical Applications of Molecular Medicine”
- Summer HPH 521 “Introduction to Clinical Research”
- NEW: HPD 531 “Seminar Series: Biobanking, Biomedical Informatics, and Biomarker (B³) Research”

- Writing Workshops

- Manuscript writing/ Grant writing

- Research Committee Meetings

Hypothesis-Driven Research

- “Hands-on” research project experience
- SBU SOM Training Requirements
 - Responsible Conduct of Research
 - Conflict of Interest
 - HIPAA Research (Privacy/Confidentiality/IT Security)
- Animal-based
 - Laboratory/Animal-Specific Trainings
 - IACUC Approved/IACUC Exempt
- Human Subjects
 - Human Subject Ethics
 - IRB Approved/IRB Exempt

Common Trainee Objectives

- Advance Scientific Knowledge \Leftrightarrow Improve Clinical Care
- Networking Opportunity
- Scholarly work \Leftrightarrow Academic Currency
 - Abstract/poster submitted to national meeting
 - Manuscript
 - Grant application
- Enhance Competitive Status



Clinical and Translational Science Research

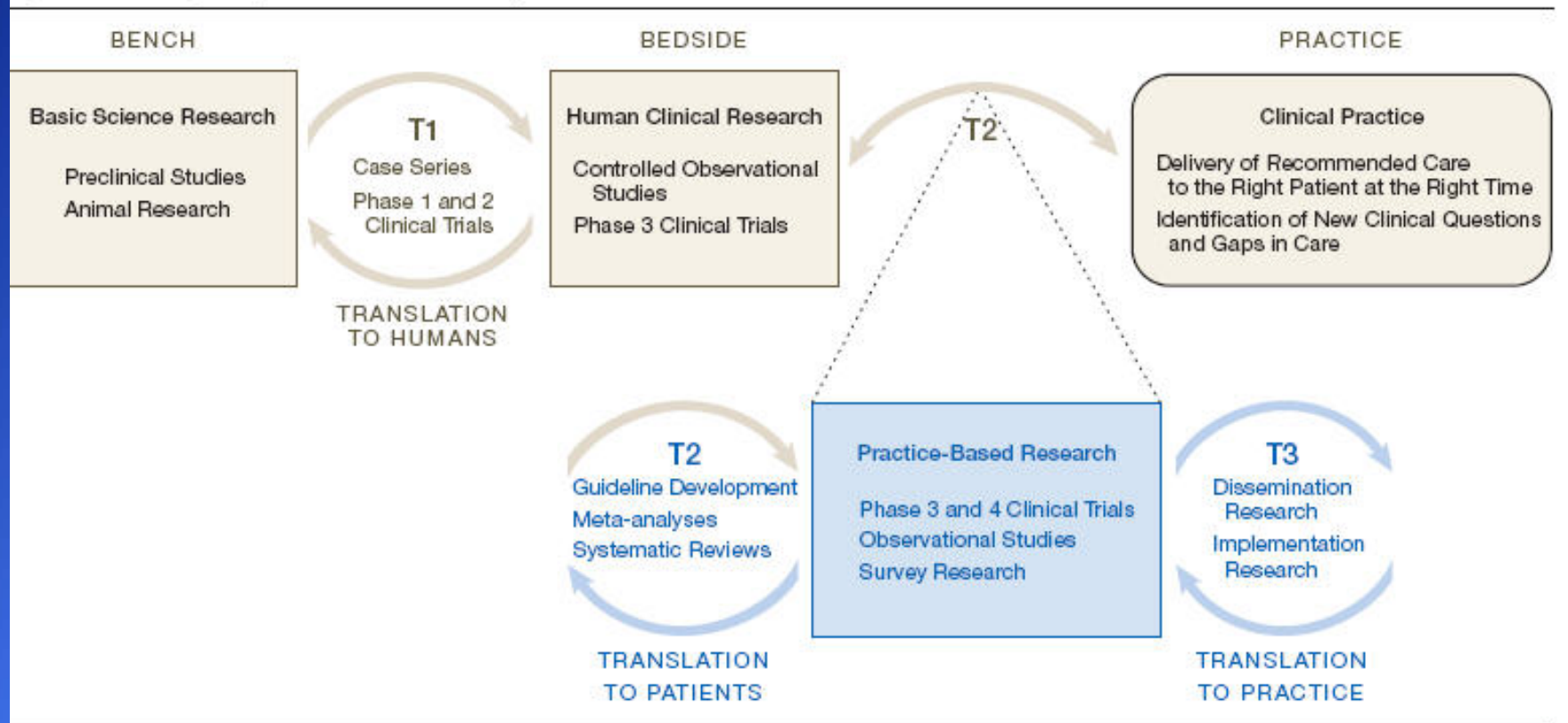
- Enhanced interest in clinical and translational research has increased due to the emphasis placed on evidence-based, data-driven health care advancements
- Successful clinical and translational research endeavors may be identified based upon improvements fostered in patient care or broader-based population health outcomes

Translational Research

- Generally includes early, late, and/or dissemination phases of “applied translation”
- Complement to the basic science understanding of human disease
 - Early translational focus relates to research that generates breakthroughs in **laboratory-based and pre-clinical studies**
 - Extending to late translational studies to **clinical trials or human studies (e.g. health services research)**.
- Translational dissemination strategies are focused upon impacting clinical care in the community by adoption of “best practice” strategies applied to community health care providers, organizations, and the public

<http://nihroadmap.nih.gov/>

Figure. "Blue Highways" on the NIH Roadmap



Basic Science

- Identify potential mechanistic approaches
 - Test tube or cell culture (“*in vitro*”)
 - Animal models (“*in vivo*”)
 - Important and necessary precursors to many clinical investigations.



Basic/Translational Science

- Limited Department of Surgery-based Options
 - Dr. Giuseppe Caso
 - Dr. Margaret McNurlan
 - Drs. Robert Gersch/Duc Bui/Alex Dagum
 - Dr. Dana Telem



Clinical Investigation

- Laboratory-based or bedside research
- Focused on understanding mechanisms of human disease
- **Developing new diagnostic test strategies or new treatment modalities.**
- Commonly includes the search for new drugs, devices, biologics, diagnostic procedures and surgical procedural advancements.
- **Advance novel approaches to diagnosis, therapy, and prognosis** (such as using biomarkers of disease as diagnostic adjuncts and as tools for therapeutic decision making).
- Initial testing of a cutting-edge technology or pioneering interventions in human subjects

Clinical Investigation

- Surgery-Based Projects
 - Dr. Thomas Bilfinger
 - Dr. Roberto Bergamaschi
 - Dr. Paula Denoya
 - Dr. Nicos Labropoulos
 - Dr. Brian O'Hea
 - Dr. Dana Telem
 - Dr. Randeep Jawa
 - Dr. Harold Fernandez
 - Dr. Duc Bui



Clinical Investigation

- Collaborative Biomarker Project Options
 - Dr. Jingfang Ju
 - Dr. Yupu Ma
 - Dr. Ute Moll
 - Dr. John Haley
 - Dr. Scott Powers
 - Dr. Geoff Girnun
 - Dr. Ken Shroyer



Bio-bank/Tissue Bank



- New Cryogenics Facility
- Dr. Angelique Corthals
- Dr. James Davis



Health Services Research

- Evaluation of diagnostic, treatment, and prognostic approaches
- Pluralistic societal perspectives
- Focused on questions of access, safety, quality, cost-effectiveness, and accountability.
 - how to improve clinical practice
 - delivering the right care to the right patient at the right time leading to personalized health care.
- Commonly impacts health care delivery, organization, financing, and reimbursement mechanisms

Comparative Effectiveness Research (CER)

“Conduct and synthesis of systematic research **comparing interventions** and strategies to prevent, diagnose, treat, and monitor health conditions. The purpose of this research is to **inform patients, providers, and decision-makers**, responding to their expressed needs, about which interventions are most effective for which patients under specific circumstances”

NLM, New MeSH Terminology 2010

Clinical Science Research

- Research Projects
 - Dr. Philip Bao
 - Dr. Duc Bui
 - Dr. Sandeep Gupta
 - Dr. Rory Pryor
 - Dr. Christine Rizk
 - Dr. Steven Sandoval
 - Dr. Marc Shapiro
 - Dr. Frank Seifert
 - Dr. Dana Telem
 - Dr. Elliot Regenbogen
 - Dr. Mark Marzouk
 - Dr. Sami Khan
 - Dr. Allison McLarty



SOAR (Surgical Outcomes Analysis Research Collaborative)

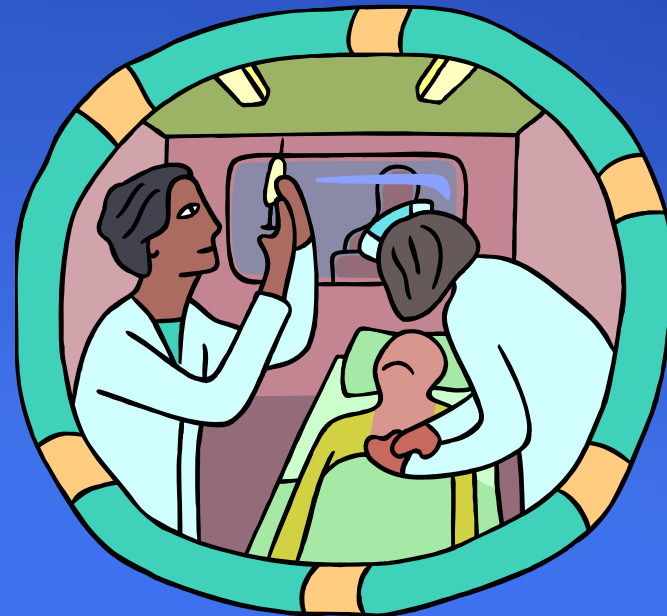
Co-Directors: Drs. Telem and Talamini
EC: Drs. Benz-Scott, Rizzo, L. Shroyer,
Pryor, and J. Yang



NEXT MEETING = Monday, June 30th at 5:30 – 6:30 pm
Surgery Administration Conference Room

Education-Related Projects

- Surgery Simulation Center
 - Dr. Thomas Bilfinger
 - Dr. Tassiopoulos



Systematic Review Manuscripts

- SR Faculty (Examples)
 - Dr. Elliot Regenbogen
 - Dr. Laurie Shroyer



Key Web Sites to Review:

- Department of Surgery Web Site
 - <http://medicine.stonybrookmedicine.edu/surgery/divisions>
- SOM Scholarly Concentrations Web Site
 - <http://medicine.stonybrookmedicine.edu/firstyearresources/mdscholar>
- Office of Scientific Affairs
 - <http://www.osa.sunysb.edu/>
- Office of the Vice President for Research
 - <http://www.stonybrook.edu/research/>

Research-Focused Residents

- Dr. Maria Altieri
- Dr. Gabe Klein

- (Historically, Dr. Ahmed Nasser)

Be Sure to Get Library Trainings

- Advanced Literature Searching Techniques
- Endnote Bibliographic Software
- HSC Reference Librarians (Level 3):
 - Michael Huang
 - Colleen Kenefick (part-time)

For Further Information:

- Dr. A. Laurie Shroyer (444-7875)
 - annielaurie.shroyer@stonybrookmedicine.edu

Clinical Decision-Making Process

“An ideal physician is defined as one who selects and implements the strategy of care that maximizes health status improvement without wasted resources.”



Donabedian, et. al. 1982