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PRINCIPAL INVESTIGATOR: Mika N. Sinanan, M.D., Ph.D.

CONTRACTING ORGANIZATION: University of Washington  
Seattle, WA 98105-6613

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| 6. AUTHOR(S)<br>Mika N. Sinanan, M.D., Ph.D.<br><br>E-Mail: <a href="mailto:alicea@u.washington.edu">alicea@u.washington.edu</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                          |                            | 5d. PROJECT NUMBER                                       |                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                          |                            | 5e. TASK NUMBER                                          |                                           |
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| 13. SUPPLEMENTARY NOTES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                          |                            |                                                          |                                           |
| 14. ABSTRACT:<br><br>With patient safety and improved outcomes as its focus, the Institute for Surgical and Medical Simulation (ISIS) is dedicated to the training of medical professionals in technical and procedural skills, and research and development of emerging simulation technologies and educational strategies. ISIS is a collaborative Institute of the University of Washington School of Medicine. It connects fifteen departments within the School of Medicine, the School of Nursing, the Biorobotics Laboratory, the Human Interface Technology Lab, and the Center for Videoendoscopic Surgery. It offers educational opportunities across the spectrum of medicine, including practicing physicians, residents, medical students, nurses, and other medical professions. This model has applicability in civilian and military settings, as expertise from both can be combined into comprehensive simulation programs. ISIS and the Anderson Simulation Center at Madigan Army Medical Center (MAMC) represent an excellent opportunity to demonstrate the benefits of such a relationship. |             |                          |                            |                                                          |                                           |
| 15. SUBJECT TERMS<br><br>simulation, patient safety,outcomes, surgical simulation, simulators, curriculum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                          |                            |                                                          |                                           |
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| U                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | U           | U                        | UU                         | 17                                                       | 19b. TELEPHONE NUMBER (include area code) |

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## INTRODUCTION:

The University of Washington Patient Safety Center was established in March, 2005 with approval of a business plan and internal funding from the UW School of Medicine. It has been internally termed the **Institute for Surgical and Interventional Simulation (ISIS)** because our charter focuses our work on computer-based training, skills, and procedural simulation for multidisciplinary healthcare training at the University of Washington. Coincidentally, Isis, the Egyptian goddess of magic and medicine, has come to effectively serve as our iconographic inspiration. Personnel and activities relative to our “Statement of Work” for award W81XWH-05-2-0056 were initiated on June 1, 2005 and continue. They are poised in year 2 to take advantage of our excellent organizational momentum to advance to the next task in our *Statement of Work-Task 3: Reiterate and refine the models generated during year 1.*

## BODY:

The University of Washington Patient Safety Center has focused its efforts in a number of areas relative to our Statement of Work.

### **Task 1. Develop a model structure for the organization of personnel and functions within the center (Months 1 - 3):**

In the past year, ISIS has developed a stable administrative structure, created a strong scholarly basis for recruiting talented faculty, and created and outfitted our training laboratory.

A first step in creating ISIS was the formation of a stable administrative structure that includes an executive leadership that links us to the School of Medicine and UW Medical Center, an administrative group (financial, personnel, space, grants & contracts), a full-time manager, and a core group of clinician scientists with dedicated time leading the training, curriculum development, and further R&D efforts. Drs. Sinanan (PI) and Rosen, both receiving salary support from W81XWH-05-2-0056, are members of this team. As an extension of this work, we have worked to achieve initial agreement with our School of Medicine Academic Promotions Committee on a set of guiding principles that mesh the Center within the academic promotion pathway of the University. This work establishes the principle that curriculum development, validation studies, and experimental evaluation of the simulation and the technical education process itself will be formally recognized as relevant scholarly activity. With increasing time-constraints and interest in clinician-teacher tracks, this has proven to be a very attractive recruiting tool for talented junior faculty from surgical and interventional disciplines, allowing us to account for their efforts in ISIS as part of an academic promotion portfolio. These faculty form our Experts Group.

The Center has refurbished and outfitted our ISIS-I laboratory complex (1200 sq ft) with separate rooms for skills and computer-based simulators, group work areas and conferencing, and a dedicated Human Patient Anesthesia simulator (METI). Current simulation training is ongoing in these areas. We have also established a collaboration and Memoranda of Understanding with skills training areas in the UW Schools of Nursing and Dentistry, at the Harborview Research Center Microvascular Surgery lab, with the Seattle Children’s Hospital and Medical Center, and with regional partners at Madigan Army Medical Center to extend our training opportunities to the geographic region. A new ISIS-1 laboratory complex (2500 sq ft) has been designed within the University of Washington Medical Center, in the Surgery Pavilion complex. Construction is scheduled to begin shortly and will be completed in the spring of 2007. Although completing this process exceeded our timeline, the new ISIS-1 and collaborative regional training sites will

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provide an optimal venue for surgical and interventional skills training immediately adjacent to patient care areas and in proximity to the trainees for whom this training is targeted.

**Task 2. Facilitate the development of methodologies to establish the 5 principal needs for each course that needs to be taught (months 3 - 12)**

We have explored in depth, the optimal organization and task formulation for skills training centers in anticipation of selecting, designing, and ratifying curricula for ISIS. In this regard, local and invited visiting experts, ongoing literature reviews, site visits to other simulation and skills centers nationally over the past year, close collaboration (site visits, meetings, conferences) with industrial partners, and scholarly presentations and interaction at national meetings have supported our efforts to establish where the state of the art in skills training centers is, and to focus our efforts on and beyond that horizon. Through this highly interactive process, participating departments with curricula vested in ISIS have committed their junior residents to training in the Center.

We have developed and refined a set of initial skills and procedures for the Patient Safety Center and have developed curricula around them. These procedures were selected by ISIS member departments because of their key importance in the workflow and routine patient care of junior residents, and also because for these procedures, the tradition of bedside training appears to be neither efficient nor as safe for patients as it could be. For example, airway management, central venous catheterization, lumbar puncture, and placement of chest tubes have all been selected for simulation-based training through ISIS.

Competency in clinical practice is no longer the province of the solo practitioner. Increasingly we recognize that depth, redundancy, and safety must come from a team concept of practice, especially in a complex inpatient setting. To address this issue, we have developed a collaborative relationship with allied health professionals, particularly the School of Nursing, to offer team training as part of the systems-based practice envisioned as a core competency by the ACGME. Collaborative space and curricula are being developed in 2500 sq ft of additional, newly identified space, and team training around urgent and emergent OR and hospital events such as airway loss or Code 199 and specific procedures such as surgical robotics are ongoing.

Although the initial focus of the ISIS center was toward training of resident physicians, skills training opportunities for medical students have also been identified and developed. Two medical student groups have been approached. The first group, graduating medical students, received an essential procedural skills module based on survey data from residency training programs for which the curriculum was developed and taught by ISIS. This training was offered as part of the “Capstone” program summary that orients the finishing medical students just prior to residency. The second group is comprised of medical students in their third year taking their surgical clerkships. During their orientation to surgery, the students are offered targeted exposure to technical surgical scenarios and basic skills training, such as placement of central venous catheters, as a safe and more efficient method of creating a surgical experience to inform their eventual career choice.

We have compiled and submitted an application to the American College of Surgeons for a Level 1 Comprehensive Educational Institute. This 345 page document exhaustively reviews the mission, structure, bylaws, personnel, space, and specific accomplishments of the Patient Safety Center. A site visit was accomplished on May 30<sup>th</sup>, the application reviewed at the ACS two weeks ago, and the final status will be announced shortly.

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ISIS has committed a great deal of effort to raising awareness of our training facility within our Medical School and University Community. Presentations and demonstrations have been arranged for members of the Medical Executive Committee, the Office of the President, and key members of the Development Community. ISIS has been showcased as representing the technological vanguard of medical care and medical education at the University of Washington, and figured prominently in the Development efforts of the University. This work, in addition to a close collaboration with our industrial partners (METI, Simulab, Stryker, Storz, Tyco-United Stated Surgical) has both supported the concept of the Patient Safety Center, and provided the basis for ongoing fund raising activities for ongoing support of ISIS. Other funding opportunities pursued have included cooperative agreements to support training by member departments, and grant submission to AHRQ (Central Venous access training) and the Stemmler Fund (National Board of Medical Examiners).

A listing of current curricula and a schedule for training are appended.

**Task 3. Reiterate and refine the models generated during year 1 (months 12 - 24)**

This is the work to be done in the coming year.

**KEY RESEARCH ACCOMPLISHMENTS:**

Most of our work this past year has been structural in nature. The key research accomplishments include development of the “Red Dragon” device, work that is recounted in the appended Manuscript that has been accepted for publication in IEEE.

**REPORTABLE OUTCOMES:**

The key reportable outcome is the favorable response that our ACS application for a Level I Comprehensive Educational Institute has gained from the site reviewers. We hope to shortly report on the successful designation of the University of Washington Patient Safety Center – ISIS – as the first such center certified on the west coast of the US.

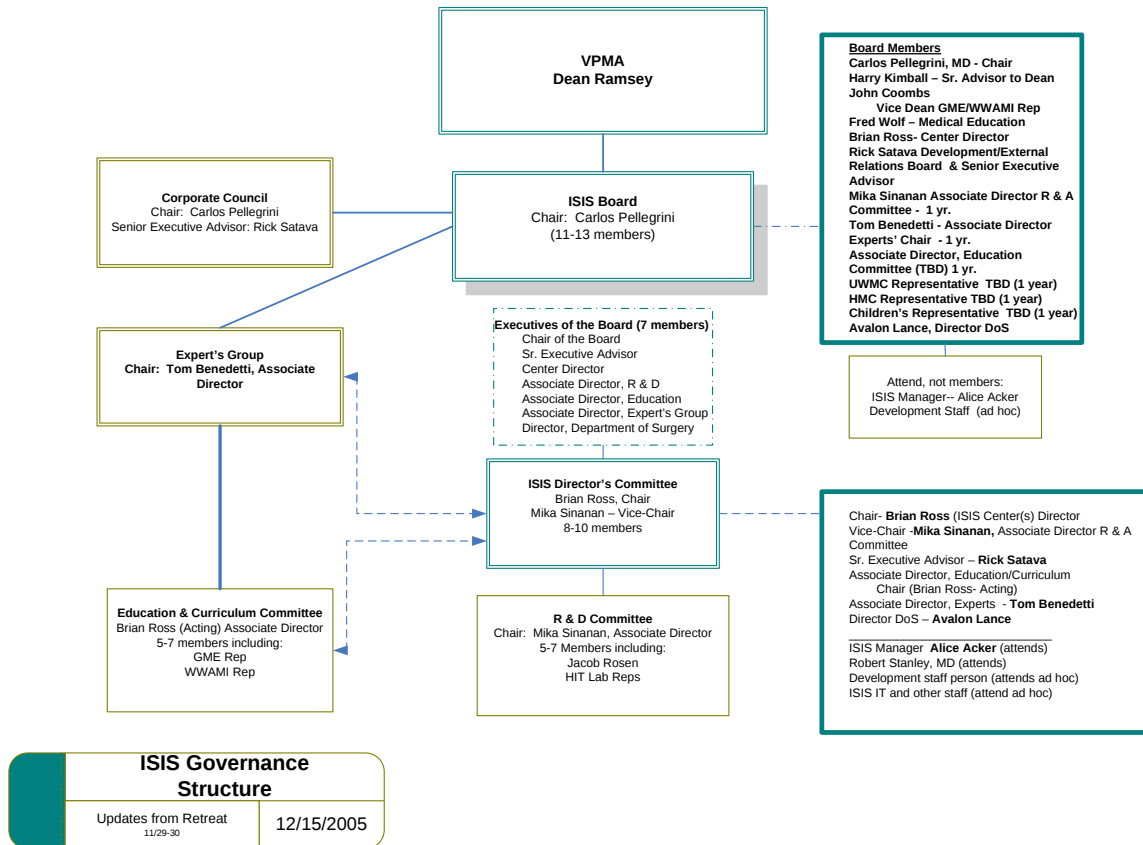
**CONCLUSIONS:**

The University of Washington Patient Safety Center – ISIS – has had a stellar year. During that time, we have established a physical location and training center, developed an administrative support structure with strong links to the School of Medicine and University of Washington Medical Center, and established an academic basis for recruiting and rewarding faculty. The next phase of our work, completing our new laboratory, developing new curricula and linking them to simulation technology through validation studies, is eagerly anticipated by all members of the ISIS team.

**REFERENCES:**

M.J.H. Lum, J. Rosen, M. N. Sinanan, B. Hannaford, Optimization of Spherical Mechanism for a Minimally Invasive Surgical Robot: Theoretical and Experimental Approaches, IEEE Transactions on Biomedical Engineering Vol. 53, No. 7, pp. 1440-1445, July 2006

## 1) Organization Chart



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## 2) ISIS Activities Log:

### Classes:

#### 30 Airway Management Classes

- 85 Medical Students
- 45 Anesthesiology Residents
- 50 Medicine Residents
- 5 Otolaryngology Residents

#### 4 Difficult Airway Management Classes

- 50 Anesthesiology Residents
- 48 Surgery Residents
- 24 Medicine Residents

#### 25 Central Line Placement Classes

- 50 Medicine Residents
- 35 Surgery Residents

#### 25 Lumbar Puncture Classes

- 50 Medicine Residents

#### 16 Surgery Classes (Center for Video Endoscopic Surgery (CVES) Classes)

- 400 Students (Residents and Physicians)

#### 12 Anesthesiology Patient Management Classes

- 60 Medical Students

#### 4 OB/GYN Shoulder Dystocia Classes

- 12 OB/GYN Residents
- 14 Midwives
- 8 Physicians
- 20 Nurses

#### 5 OB/GYN Basic Skills Classes

- 61 3<sup>rd</sup> year Medical Students

#### 3 OB/GYN Surgical Skills Classes

- 17 OB/GYN Residents

#### 3 Conscious Sedation Classes (Nurse Training)

- 25 Nurses

#### 2 Pediatric Mock Resuscitation Classes

- 16 Residents

#### 26 Medical Student Courses:

- 50 4<sup>th</sup> year medical students (5 Airway Management courses)
- 180 2<sup>nd</sup> year medical students (Med student role in a code course)
- 180 2<sup>nd</sup> year medical students (5 Airway Management courses)

#### 26 Medical Student Courses (continued)

- 
- 180 2<sup>nd</sup> year medical students (5 IV line starting courses)
  - 180 2<sup>nd</sup> year medical students (5 Arterial line courses)
  - 180 2<sup>nd</sup> year medical students (5 NG tube courses)
  - 180 2<sup>nd</sup> year medical students (5 Sterile procedure courses)

**1 Nurse/Medical Student/Resident Interdisciplinary Patient Management Class**

- 11 Nurses
- 2 Anesthesiology Residents
- 1 Medical Student

**General Surgery EVATS rotation**

- 52 Residents

**ACLS Competency Declaration**

- 5 Residents
- 5 Nurses
- 5 Physicians

**Conferences:**

|                                                            |                 |
|------------------------------------------------------------|-----------------|
| Medicine Meets Virtual Reality (MMVR)                      | 1/23/06-1/27/06 |
| Human Patient Simulation Network (HPSN) Annual Meeting     | 2/27/06-3/2/06  |
| Medical Innovation and Technology (SMIT) (2 presentations) | 5/11/06-5/14/06 |

**Simulation Center Site Visits:**

|                                         |                |
|-----------------------------------------|----------------|
| University of British Columbia          | 1/9/06, 5/1/06 |
| University of California at Los Angeles | 1/25/06        |
| USUHS                                   | 3/1/06         |
| Johns Hopkins                           | 3/2/06         |
| Stanford                                | 3/23/06        |
| University of California at San Diego   | 3/24/06        |
| Madigan Army Base                       | 5/19/06        |

**Industry Visits:**

|                          |                                   |
|--------------------------|-----------------------------------|
| US Surgical Visit:       | 9/27/05                           |
| Storz Visit:             | 10/5/05, 5/25/06, 6/28/06-6/29/06 |
| Laerdal Visit:           | 10/22/05                          |
| METI Visit:              | 11/30/05, 6/14/06                 |
| Blue Phantom Demo:       | 12/5/05                           |
| MIMIC Visit              | 12/8/05                           |
| Syneture Visit:          | 1/4/06                            |
| METI SurgiSim Training:  | 2/1/06                            |
| Simulab Demo:            | 2/1/06                            |
| Laerdal Demo:            | 2/15/06                           |
| Mentis Demo:             | 2/16/06                           |
| Haptica Visit:           | 3/17/06                           |
| Stryker Visit:           | 5/22/06                           |
| Ethicon Visit:           | 6/6/06                            |
| METI Ortho Sim Training: | 6/14/06                           |

**VIP Visits:**

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|                                                         |                      |
|---------------------------------------------------------|----------------------|
| Christine Gregoire (WA Governor):                       | 10/26/05             |
| Jeff Thompson (CMO WA Medicare):                        | 10/26/05             |
| Steve Hill (Administrator of WA Health Care Authority): | 11/21/05             |
| Chinese Medical Schools Deans Visit:                    | 1/13/06              |
| TATRC Visit:                                            | 1/16/06              |
| Dr. Jesus Savage Carmona (Univ of Mexico)               | 4/28/06              |
| Montana State University President and Deans            | 5/25/06              |
| American College of Surgeons:                           | 5/30/06              |
| AAMC Deans Counsel                                      | 10/28/06 (Scheduled) |

**Other Activities:**

|                                             |                 |
|---------------------------------------------|-----------------|
| Nurse Conscious Sedation Training:          | 11/8/05, 3/7/06 |
| Jackie Eder Van-Hook visit:                 | 10/26/05        |
| Seattle-Netherlands Alliance (Dr. Horvath): | 11/14/05        |
| Bellevue Boys and Girls Club:               | 2/22/06         |
| Dale Larson visit:                          | 2/22/06         |
| Office of Insurance Commissioner:           | 5/31/06         |

**Industry Test Site Sponsors:**

|                                   |               |
|-----------------------------------|---------------|
| Verefi: Head 2 Head Lap Simulator | 3/1/06-4/1/06 |
| MIMIC Davinci Simulator           | Pending       |

**Industry Headquarter Visits:**

|                    |         |
|--------------------|---------|
| Storz Headquarters | 1/23/06 |
| METI Headquarters  | 2/28/06 |

**Outreach:**

**Local School Groups:** 132 Students Total

|                               |             |
|-------------------------------|-------------|
| Franklin High School:         | 15 Students |
| Rogers High School:           | 20 Students |
| Bellarmino High School        | 14 Students |
| Anacortes High School:        | 12 Students |
| North Kitsap High School:     | 16 Students |
| Blakely Grade School Visit:   | 30 Students |
| French American School Visit: | 25 Students |

**Undergraduate Groups (2)**

|                                 |             |
|---------------------------------|-------------|
| 45 Students Total               |             |
| UW Bioengineering Imaging Class | 22 Students |
| UW Biochemistry Class           | 23 Students |

**Media:**

|                                       |                  |
|---------------------------------------|------------------|
| “What If” Campaign:                   | 5/1/06 – Present |
| Puget Sound Business Journal Article: | 5/12/06          |
| Microsoft On10.net webcast:           | 5/24/06-5/25/06  |
| UWTV.org: Brainworks                  | 6/15/06          |

**Special Events:**

|                             |                 |
|-----------------------------|-----------------|
| Health Sciences Open House: | 4/28/06-4/29/06 |
|-----------------------------|-----------------|

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**Societies:**

Society for Simulation in Healthcare (SSH)

**Other:**

Dr. Michael Seropian Lecture (Director of OHSU Simulation Center) 12/1/05

### 3) Course Information

| Department                            | Dates Offered                                                                                                                                                                                        | Total Hours                       | Type of Learner              | Total # of Students                                                             | Main Instructor                  |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|------------------------------|---------------------------------------------------------------------------------|----------------------------------|
| <b>Anesthesiology</b>                 |                                                                                                                                                                                                      |                                   |                              |                                                                                 |                                  |
| Critical Incidents in Anesthesiology  | Not Currently Offered                                                                                                                                                                                |                                   |                              |                                                                                 | Dr. Howard Schwid                |
| Airway Management                     | 8/1/05, 8/15/05, 8/29/05,<br>9/12/05, 9/26/05,<br>10/10/05, 10/24/05,<br>11/7/05, 11/21/05,<br>12/5/05, 12/19/05, 1/2/06,<br>1/16/05, 1/30/06, 2/13/06,<br>2/27/06, 3/13/06<br>(24 classes per year) | 4 hours/class<br>(576 hours/year) | M                            | 6 students/class x 2<br>classes/month x 12<br>months/year =<br>144students/year | Dr. Brian Ross                   |
| Airway Management                     | 8/3/05, 8/17/05, 8/31/05,<br>9/14/05, 9/28/05,<br>10/12/05, 10/26/05,<br>11/9/05, 11/23/05,<br>12/7/05, 12/21/05, 1/4/06,<br>1/18/06, 2/1/06, 2/15/06,<br>3/1/06, 3/15/06<br>(12 classes per year)   | 4 hours/class<br>(288hours/year)  | Anesthesia R                 | 6 students/month =<br>72 students/year                                          | Dr. Brian Ross                   |
| Airway Management                     | 8/17/05, 2/8/2006<br>(2 times/year)                                                                                                                                                                  | 4 hours/class<br>(40 hours/year)  | Otolaryngology R             | 5                                                                               | Dr. Brian Ross                   |
| Airway Management                     | 7/27/05                                                                                                                                                                                              | 4 hours/class<br>(20 hours/year)  | Anesthesia/Otolar R<br>P,R,M | 5                                                                               | Dr. Brian Ross<br>Dr. Brian Ross |
| Advanced Airway Management            |                                                                                                                                                                                                      |                                   |                              |                                                                                 |                                  |
| Difficult Airway Management           | 3/8/2006<br>(5 times/year)                                                                                                                                                                           | 3 hours/class<br>(270 hours/year) | R, P, O                      | 16 x 5 = 90<br>students/year<br>(70 R, 15 P, 5 O)                               | Dr. Brian Ross                   |
| ACRM (Anes. Crew Resource Management) | 6/1/2005, 8/3/2005,<br>10/5/2005, 12/7/2005,<br>2/8/2006, 4/12/2006<br>(6 times/year)                                                                                                                | 3 hours/class<br>(72 hours/year)  | R                            | 4 x 6 = 24<br>students/year                                                     | Dr. Brian Ross                   |

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| Department                             | Dates Offered                                                                             | Total Hours                      | Type of Learner | Total # of Students         | Main Instructor |
|----------------------------------------|-------------------------------------------------------------------------------------------|----------------------------------|-----------------|-----------------------------|-----------------|
| O2 Line Failure                        | 6/8/2005, 8/10/2005,<br>10/12/2005, 12/14/2005,<br>2/15/2006, 4/19/2006<br>(6 times/year) | 3 hours/class<br>(72 hours/year) | R               | 4 x 6 = 24<br>students/year | Dr. Brian Ross  |
| Anesthesia Machine Failure             | 6/15/2005, 8/17/2005,<br>10/19/2005, 12/21/2005,<br>2/22/2006<br>(6 times/year)           | 3 hours/class<br>(72 hours/year) | R               | 4 x 6 = 24<br>students/year | Dr. Brian Ross  |
| intro-Op Bronchospasm                  | 6/22/2005, 8/24/2005,<br>10/26/2005, 12/28/2005,<br>3/1/2006 (6<br>times/year)            | 3 hours/class<br>(72 hours/year) | R               | 4 x 6 = 24<br>students/year | Dr. Brian Ross  |
| Intra-Op MI                            | 6/29/2005, 8/31/2005,<br>11/2/2005, 1/4/2006,<br>3/8/2006<br>(6 times/year)               | 3 hours/class<br>(72 hours/year) | R               | 4 x 6 = 24<br>students/year | Dr. Brian Ross  |
| Intra-OP Embulism (Air/Amniotic Fluid) | 7/6/2005, 8/31/2005,<br>11/9/2005, 1/11/2006,<br>3/15/2006<br>(6 times/year)              | 3 hours/class<br>(72 hours/year) | R               | 4 x 6 = 24<br>students/year | Dr. Brian Ross  |
| Intra-Op Hypotension                   | 7/13/2005, 9/7/2005,<br>11/16/2005, 1/18/2006,<br>3/22/2006<br>(6 times/year)             | 3 hours/class<br>(72 hours/year) | R               | 4 x 6 = 24<br>students/year | Dr. Brian Ross  |
| Anaphylaxis                            | 7/20/2005, 9/14/2005,<br>11/23/2005, 1/25/2006,<br>3/29/2006 (6<br>times/year)            | 3 hours/class<br>(72 hours/year) | R               | 4 x 6 = 24<br>students/year | Dr. Brian Ross  |

| Department                                | Dates Offered                                                                                                                                           | Total Hours                                    | Type of Learner | Total # of Students                                                                                                                   | Main Instructor                          |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| Malignant Hyperthermia                    | 7/27/2005, 9/21/2005,<br>11/30/2005, 2/1/2006,<br>4/5/2006<br>(6 times/year)                                                                            | 3 hours/class<br>(72 hours/year)               | R               | 4 x 6 = 24<br>students/year<br>15-25 students/class<br>(~40 students/year)                                                            | Dr. Brian Ross                           |
| ACLS Competency Documentation             | 1/22/2006, 3/16/06<br>(2 times/year)                                                                                                                    | 8<br>(320 hours/year)                          | P,R,M,N,A,O     | (20 R, 10 P, 5 N, 5<br>A)                                                                                                             | Dr. Brian Ross                           |
| ACLS (Computer Based)                     | Varies                                                                                                                                                  | 16<br>(~250 hours/year)                        | P,R,M,N,A,O     | 15 (As of 3/14/06) (9<br>P, 4 N, 2 R)                                                                                                 | Dr. Brian Ross                           |
| Conscious Sedation                        | 11/8/06, 3/7/2006<br>(4 times/year)                                                                                                                     | 4<br>(112 hours/year)                          | N               | 7 to 10<br>students/class<br>(30 per year)<br>15 Students per<br>class x 4<br>classes/year = 60<br>students/year<br>(40 N, 12 M, 8 R) | Dr. Brian Ross                           |
| Nurse-Med-Res Code Training               | 3/29/2006<br>( 4 times/year)                                                                                                                            | 4<br>(240 hours/year)                          | R,M,N           | <b>~677 students/year</b><br><b>(398R, 156 M, 79 N,</b><br><b>34 P, 10A/O)</b>                                                        | Dr. Brian Ross                           |
| <b>Anesthesiology and<br/>Neonatology</b> |                                                                                                                                                         | <b>2764 hours/year</b>                         |                 |                                                                                                                                       |                                          |
| Neonatal Resuscitation                    | <b>Not Currently Offered</b>                                                                                                                            | Varies<br>(Computer Based)                     | R               |                                                                                                                                       | Dr. Howard Schwid, Dr. Tom<br>Strandjord |
| <b>Pediatric Anesthesiology</b>           |                                                                                                                                                         |                                                |                 |                                                                                                                                       |                                          |
| Pediatric Resuscitation                   | 5/18/06, 5/30/06, 7/13/06,<br>8/10/06, 8/31/06, 9/28/06,<br>10/26/06, 11/30/06,<br>12/21/06, 1/18/07,<br>2/15/07, 3/15/07, 4/12/07,<br>5/10/07, 6/14/07 | 2<br>(160 hours/year)<br><b>160 hours/year</b> | R               | 4-8 Students/class<br>(~80 students/year)<br><b>~80 students/year</b>                                                                 | Dr. Tom Strandjord                       |

| Department                                                               | Dates Offered                                                                                                                                                                                    | Total Hours                                              | Type of Learner | Total # of Students                                                               | Main Instructor          |
|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-----------------|-----------------------------------------------------------------------------------|--------------------------|
| <b>Internal Medicine</b>                                                 |                                                                                                                                                                                                  |                                                          |                 |                                                                                   |                          |
| Airway Management                                                        | 7/20/05, 8/3/05, 8/17/05,<br>8/31/05, 9/14/05, 9/28/05,<br>10/12/05, 10/26/05,<br>11/9/05, 11/23/05,<br>12/7/05, 12/21/05,<br>1/04/06, 1/18/06, 2/1/06,<br>2/15/06, 3/1/06<br>(24 courses/year)  | 2 hrs/class<br>(96 hours/year)                           | Residents       | 2/course x 24<br>courses =48/year                                                 | Dr. Moe Hagman, Dr. Best |
| Lumbar Puncture                                                          | 7/22/05, 8/5/05, 8/19/05,<br>9/2/05, 9/16/05, 9/30/05,<br>10/14/05, 10/28/05,<br>11/11/05, 11/25/05,<br>12/9/05, 12/23/05, 1/6/06,<br>1/20/06, 2/3/06, 2/17/06,<br>3/3/06 (24<br>courses/year)   | 2 hrs/class<br>(96 hours/year)                           | Residents       | 2/course x 24<br>courses =48/year                                                 | Dr. Moe Hagman, Dr. Best |
| Central Line                                                             | 7/25/05, 8/8/05, 8/22/05,<br>9/5/05, 9/19/05, 10/3/05,<br>10/17/05, 10/31/05,<br>11/14/05, 11/28/05,<br>12/12/05, 12/19/05,<br>1/9/06, 1/23/06, 2/06/06,<br>2/20/06, 3/6/06 (24<br>courses/year) | 2 hrs/class<br>(96 hours/year)                           | Residents       | 2/course x 24<br>courses =48/year                                                 | Dr. Moe Hagman, Dr. Best |
| Transition to Residency/Clerkship<br>(2nd and 4th year medical students) | 5/30/05-6/1/05, 5/13/06-<br>5/19/06<br>(5 days/year)                                                                                                                                             | 8 hours/day x 5 days<br>= 40 hours<br>(14800 hours/year) | M               | 185 per course =<br>370 students/year<br><br>~515 students/year<br>(370 M, 145 R) | Dr. McDonough, Dr. Ross  |
|                                                                          |                                                                                                                                                                                                  | <b>15088 hours/year</b>                                  |                 |                                                                                   |                          |

| Department                                | Dates Offered                                | Total Hours                             | Type of Learner | Total # of Students          | Main Instructor   |
|-------------------------------------------|----------------------------------------------|-----------------------------------------|-----------------|------------------------------|-------------------|
| <b>General Surgery</b>                    |                                              |                                         |                 |                              |                   |
| R1 Wound Closure                          | 7/13/05, 8/24/06                             | 8 hours/course<br>(560 hours/year)      | Surgery R       | 35                           | Dr. Karen Horvath |
| R1 Basic Knot-tying                       | 7/27/05, 10/26/05, 1/11/06<br>(4 times/year) | 4 hours/course<br>(560 hours/year)      | Surgery R       | 35/session x 4/year<br>= 140 | Dr. Karen Horvath |
| R1 Central Lines & Chest Tubes            | 12/14/05, 1/25/06<br>(2 times/year)          | 8 hours/course<br>(560 hours/year)      | Surgery R       | 35                           | Dr. Karen Horvath |
| R1 Basic Lap Chole                        | 9/14/05, 11/9/05<br>(2 times/year)           | 8 hours/course<br>(560 hours/year)      | Surgery R       | 35                           | Dr. Karen Horvath |
| R1, R2, R3 Electrosurgery Safety          | 11/23/05, 4/12/06, 6/14/06                   | 8 hours/course<br>(1464 hours/year)     | Surgery R       | 61                           | Dr. Karen Horvath |
| R1 VAC Therapy                            | 5/10/06, 6/21/06<br>(2 times/year)           | 8 hours/course<br>(560 hours/year)      | Surgery R       | 35                           | Dr. Karen Horvath |
| R2 Vascular & Intestinal Anastomoses      | 5/10/06                                      | 4 hours/course<br>(68 hours/year)       | Surgery R       | 17                           | Dr. Karen Horvath |
| R2 Adv. Lap Chole, CBD, Jejunostomy       | 10/12/2005, 4/26/06<br>(2 times/year)        | 8 hours/course<br>(272 hours/year)      | Surgery R       | 17                           | Dr. Karen Horvath |
| R3 Surgical Staplers, EEA Anastomoses     | 9/28/05                                      | 4 hours/course<br>(36 hours/year)       | Surgery R       | 9                            | Dr. Karen Horvath |
| R3 Lap Antireflux, Adrenal/Spleen         | 2/8/06                                       | 4 hours/course<br>(36 hours/year)       | Surgery R       | 9                            | Dr. Karen Horvath |
| R3 Inguinal & Ventral Hernia Repair       | 2/22/06                                      | 4 hours/course<br>(36 hours/year)       | Surgery R       | 9                            | Dr. Karen Horvath |
| R4 Lap Entero-Enterectomy Bariatric       | 7/20/05                                      | 4 hours/course<br>(28 hours/year)       | Surgery R       | 7                            | Dr. Karen Horvath |
| R5 Lap Enterectomy & Colectomy            | 11/30/05                                     | 4 hours/course<br>(28 hours/year)       | Surgery R       | 7                            | Dr. Karen Horvath |
| Ongoing EVATS Rotation Curriculum (R1-R5) | daily                                        | varies (~20 hours)<br>(1600 hours/year) | Surgery R       | 80                           | Dr. Karen Horvath |
| Pediatric Advanced Life Support (PALS)    | 5/24/06                                      | 8 hours/course<br>(128 hours/year)      | Surgery R       | 16                           |                   |
| Advanced Trauma Life Support (ATLS)       | 5/1/06                                       | 8 hours/course<br>(128 hours/year)      | Surgery R       | 16                           |                   |

| Department                                    | Dates Offered                                                                                      | Total Hours                                         | Type of Learner | Total # of Students                                                      | Main Instructor                                     |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------|--------------------------------------------------------------------------|-----------------------------------------------------|
| Laparoscopic Ventral Hernia Repair            | 3x / yr                                                                                            | 9<br>(324 hours/year)                               | Community P     | 12/session x 3/year<br>= 36                                              | Dr. Brant Oelschlager                               |
| Laparoscopic-Assisted Colectomy               | 5/12/06, fall '06<br>(2 times/year)                                                                | 9<br>(144 hours/year)                               | Community P     | 8/session x 2/year =<br>16                                               | Dr. Mika Sinanan                                    |
| Nissen Fundoplication Laparoscopic Skills     | 6/16/06                                                                                            | 9<br>(72 hours/year)                                | Community P     | 8                                                                        | Dr. Brant Oelschlager                               |
| Laparoscopic Adrenalectomy/Splenectomy        | 4/14/06                                                                                            | 9<br>(72 hours/year)                                | Community P     | 8                                                                        | Dr. Brant Oelschlager                               |
| Laparoscopic Gastric Bypass Mini-Fellowship   | 5x / yr                                                                                            | max. 30 hrs ea.<br>(150 hours/year)                 | Community P     | 1/session x 5 year =<br>5                                                | Dr. Brant Oelschlager                               |
|                                               |                                                                                                    | <b>7546 Hours/year</b>                              |                 | <b>~600 students/year<br/>( 73 P, 527 R)</b>                             |                                                     |
| <b>Obstetrics and Gynecology</b>              |                                                                                                    |                                                     |                 |                                                                          |                                                     |
| Shoulder dystocia                             | 4/12/05, 5/11/05, 5/18/05,<br>6/1/05, 6/15/05, 7/19/05,<br>1/18/06,2/16/2006<br>(10 sessions/year) | Between 2 and 4<br>hours (420<br>hours/year)        | P,R,N,A,O       | Between 8 and 20<br>per session (140<br>Total)                           | Dr. Tom Benedetti                                   |
| Surgical skills training for OB/GYN Residents | 1/2/06, 2/1/06, 2/8/06<br>(6 times/year)                                                           | 4 Hours<br>(180 hours/year)                         | Residents       | Between 6 and 10<br>(45 Total)                                           | Dr. Amy Van Blaricom                                |
| Obstetric Skills                              | 10/12/06,11/23/05,1/4/06,<br>2/15/06, 3/29/06<br>(8 times/year)                                    | 4 Hours<br>(300 hours/year)                         | Med Students    | Between 8 and 10<br>per session<br>(75 total)                            | Dr. Anne-Marie Amies<br>Oelschlager                 |
|                                               |                                                                                                    | <b>900 hours/year</b>                               |                 | <b>~260 students/year<br/>(115 R, 75 M, 40 N,<br/>20 P, 10 A/O)</b>      |                                                     |
| <b>Otolaryngology</b>                         |                                                                                                    |                                                     |                 |                                                                          |                                                     |
| Temporal Bone Course                          | 20 sessions/year                                                                                   | 2 hours<br>(120 hours/year)                         | R               | 3/year                                                                   | Dr. Larry Duckert                                   |
| Endoscopic Sinus and Sleep Surgery            | 2 sessions/year                                                                                    | 6 hours<br>(36 hours/year)<br><b>156 hours/year</b> | P,R             | 3 Residents/year<br>Physician numbers<br>vary<br><b>6 Residents/year</b> | Dr. E. Weymuller, Dr. N.<br>Maronian, Dr. E. Weaver |