# Kings County Hospital & SUNY Downstate

# **Emergency Medicine**

# **Clinical Research Elective**

Academic Associate Orientation Manual

January 2007

## Introduction

This guide details the responsibilities of the Academic Associates. It outlines procedures concerning data and specimen collection, patient encounters and interactions with staff. Wherever possible we have included tidbits of conventional wisdom we have found useful.

Before continuing into the handbook, please learn the cardinal rule of being a Research Associate. It is in a much larger font than anything else in the book, underlined and highlighted. You can therefore assume it's <u>very</u> important:

# IF IN DOUBT <u>ABOUT ANYTHING</u> ASK A QUESTION!

<u>Nobody will be upset with you if you ask a question</u>. We're all here to learn. If you try to fake something you don't know and screw it up, rest assured that someone, an important someone, will be VERY upset.

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Note: This is a working draft. Studies listed may be completed, and new studies may have begun the data collection process by the time of your rotation. All Academic Associates are encouraged o

submit contributions and suggestions (e.g. ideas, opinions, anecdotes, etc.). All associates' input is important in making this a useful resource.

## The Academic Associate Position

he Emergency Medicine Department at the Kings County Hospital (KCH) is an acknowledged leader in clinical research. The Academic Associate position you have just assumed was created to support the research initiatives of the Emergency Department. It is a unique opportunity to participate in clinical research, observe Emergency Department (ED) operations and learn from the physicians, nurses and staff of ED. The Academic Associate position is an important responsibility requiring maturity, initiative, diligence and excellent interpersonal skills.

In addition to accruing experience in conducting medical research, and acquiring familiarity with emergency department systems and operations, associates can earn the respect and recognition of the distinguished Medical School faculty. (hint: a good opportunity to meet faculty and get letters of recommendation for medical school or residency positions)

The data collected by the Academic Associates are analyzed and interpreted by the research faculty and their associates in support of a number of ongoing studies and continuous quality improvement projects (CQI). Whether the studies yield a new application to the Emergency Department, or long term procedural changes in Emergency Medicine, the benefits accrue to medical knowledge and ultimately superior patient care.

**Strict attention to detail** is paramount in assuring valid outcomes for each study. To that end you must completely familiarize yourself with all of the ongoing studies.

The current Academic Associate Research Manual contains descriptions of most of the ongoing clinical studies. A copy of the research manual is available for examination by the academic associates to facilitate their understanding of the scope of research conducted in the emergency department, and the importance of their contribution.

**Professional behavior is essential**. At KCH, the Academic Associates' presence, role and duties, are relatively new. At times the ED staff (or rotating house staff) may appear unaware of your role. The attitude of the Academic Associates toward the professional and paraprofessional staff of the Emergency Department will determine their success in winning their good will, trust and complete cooperation.

*Words of Wisdom*: Do not be snotty to the nurses and then expect them to drop everything to get your studies done. It won't happen. Get to know the staff and help out where you can.

## **Emergency Department Layout**

You will be rotating between the Emergency Departments at both SUNY UHB and KCHC.

The KCH Emergency Department is located on the ground floor of the S-building and has 5 separate areas of operation:

- Pod A (active ED patients)
- Pod B (admitted patients awaiting transport to beds in hospital)
- Fast Track
- CCT (Critical Care and Trauma Resuscitation Bay)
- Pediatrics

Please see the attached floor plan and take a moment to orient yourself relative to the rest of the hospital and to the Emergency Department offices, which are located in the C-building on the ground floor. We are still relatively new to this clinical area. The flow of patients, and the location of critical items in the S-ED may change with time. The following is intended as a general guide to this space. Please do not be afraid to ask for further directions!

Using the map, familiarize yourself with the Emergency Department facility, and the flow of activity:



#### **Triage and Registration**

Registration and triage for walk-in patients are located toward the front of the S building, through the main entrance on Clarkson Avenue (across from Dunkin Donuts). Walk-in patients register at the front desk in the large atrium that also serves as a waiting room for these patients and their families. At this point an electronic record of the patient's visit is generated. This is also where a red plastic identification card (used with the addressograph) and DH form (white and blue) are generated; these are falling out of use, but will still generally serve as the physical basis for the patient chart. These documents will follow the patient for the duration of their hospital stay.

Patients are then called back to the triage area to have their vital signs taken. This information, along with information about their past medical history and present complaint are entered into Misys (our

<u>M</u>edical <u>information computer <u>sys</u>tem). During the triage process the triage nurse will assign the patient to a specific clinical area based on the potential acuity of their chief complaint, and the presence or absence of abnormal vital signs and risk factors for disease. If the patient appears acutely ill, they may be brought immediately to the clinical area and presented to the senior physician. If they seem more stable they may be asked to wait in the waiting room until the physicians call them in to be seen.</u>

#### ССТ

The Critical Care and Trauma (CCT) Resuscitation Area is near the ambulance entrance toward the Winthrop St (north east) side of the ED. This is where all major trauma patients will have their initial evaluation and stabilization. Critically ill medical patients in need of Intensive Care Unit evaluation will also be treated in the CCT.

Patients coming to the hospital by ambulance are met by a dedicated ambulance triage nurse, who assigns them a bed in the ED. These patients bypass the regular triage area and the registration process. Registration information for these patients is gathered by the Admissions clerk while they are in the ED. This may occur while the doctors and nurses are triaging and treating the patient if their condition is emergent.

Blank study forms (data collection sheets) and consent forms are kept in the CCT. This area is also where you are most likely to find a free computer to look up labs and other tests results. Because we do many clinical studies with trauma and critically ill patients, you will spend a lot of time in this area during your stay with us. Get to know this area!

#### The Pods (Suite A and B)

This area encompasses several curtained rooms containing two beds each. Nurses are responsible only for the area to which they may be currently assigned. Usually nurses cover approximately 4-5 rooms each. Awareness of who may be responsible for any given area at any particular time will be useful during an Associate's shift. Attending and resident staff are usually assigned to only one area, such as CCT, Main area, Fast Track, or pediatrics. We are currently developing a bulletin board so that the names of everyone working in the ED on any given shift can be displayed, along with their assigned locations.

Pod A and Pod B are also known as Suite A and Suite B. All kinds of patients are seen here. The pods are located closest to the D-building in the ED. Staff bathrooms (see below) are here, as well

as a photocopier (in Pod A). All patients complaining of vaginal bleeding are seen in the Pods, and most patients with asymptomatic hypertension will be treated in this area. Trauma patients may also be brought directly to the pods if they are triaged as being low acuity based on the mechanism of injury and the absence of abnormal vital signs. Some of these "lower acuity" trauma patients may actually have injuries that require a major trauma work-up, and may be appropriate for enrollment in the trauma database. When you are looking for patients in the pods, don't forget to ask the residents for trauma patients too!

#### Pediatrics

The pediatric emergency department is contiguous with the CCT, toward the front (Clarkson, or south east side) of the S-building. Check in with the doctors in Pediatrics at regular intervals to identify patients to enroll in the Asthma/Obesity study.

#### **Fast Track**

The Fast Track area is now located in the center of the area defined by the Pods, CCT and Pediatrics, directly behind the registration and triage area. Stable patients with low acuity complaints and who will not need many diagnostic tests are seen here. There is also a Gynecologic exam table in the fast track, so some women with vaginal bleeding may be triaged here (though most will be triaged to the pods). Women with relatively low acuity complaints (who may be suitable for enrollment in the vaginal bleeding study as controls) are commonly found here.

As of this writing many patients triaged to fast track will actually be seen by physicians in the CCT or in the Pods. Basically, these relatively stable patients, usually ambulatory and hanging out in the waiting room, will be called by whoever is free into whatever area they are working in.

The Academic Associates' should rotate between the areas scanning for new patients, reviewing study protocols, and monitoring ambulance arrivals. Patients appropriate for enrollment in our various studies can be found by asking the resident and/or attending physicians in each area if they are seeing any patients meeting criteria for enrollment, and by looking at patient charts when appropriate.

#### **UHB ED**

The UHB ED consists of 3 areas: the main area, fast track, and pediatrics. Currently, we are only enrolling patients in the main area and in fast track. When you enter the SUNY entrance, you will see a sign on your left that says Emergency Services. Go down that hallway. The last door on your right-hand side is the main area.

### Location of 'Critical' Items

#### Toilets

Toilets are located in each of the pods. There is a staff bathroom at the far end of the clinical area between the A and B Pods. The code is 2, 4 (2 and 4 pressed down together), then 3.

#### Photocopier

In addition to the photocopier down the hall from Dr. Sinert's office, there is a copier in the A-pod behind the desk. The A-pod copier should only be used for small jobs since this is a crowded area.

#### Study consent forms and data collection sheets

These are housed in a rack in the CCT (Critical Care and Trauma Area), at the far end of the nursing station (away from the clerk's desk). The CCT is currently the spot of choice for reviewing and collecting data from the computer system. Be prepared to cede the computer to residents and attendings if it gets busy there.

Important: It is an Academic Associate's responsibility to ensure there is always an ample supply of study forms available. If you see that the supply of forms is running low, make copies of one of the remaining forms and refill the stock.

#### **ED** Conference Room

The Conference Room is located in the C-building to the right and just inside the doors to the Department offices. Discretion is expected; do not leave waste. Associates may use the refrigerator and microwave oven. It is important to consume food and beverages in this lounge or in areas of the ED not visible by patients. Nothing looks worse to a waiting patient than staff sitting around

eating and not attending to their needs. Remember to keep this area clean. Do not leave food or drinks in this area after your shift.

#### **Blood specimen collecting materials**

These are located in each clinical area. Additional supplies are also available in the Main ED.

#### **Centrifuge and Refrigerator**

The centrifuge is located in the back offices outside and to the left of Dr. Sinert's office. The refrigerator for blood samples is also located in this area, directly across from the photocopier.

#### Specimen transport system

**"Scud tubes stations"** are located behind the main desk in the CCT (go around to the back of the partition) and in the hallway behind the main desk in Pod A. Labels are printed out at the end of the desk in each area. Bags are kept in the top drawer of each little red blood draw supply cart (in the patient cubicle areas): these carts are locked and the code is 1-2-3-4-5-#.

In the event one of the scud tube stations is not functioning, associates should walk specimens to the nearest station. If the entire system is not operating, the specimens can be taken directly to the Blood gas lab on the ground floor of the C-building (in the last hallway before entering the ED Departmental offices area).

**Note:** ED Techs are circulating ED staff members who maintain par quantities of ED supplies. They may be able to provide needed supplies such as specimen containers, vacutainers, test tubes, labels and bags, etc. They are familiar with Central Supply and procurement of ED materials.

Words of Wisdom: Get to be very good friends with ED techs.

## **ED Research Basics and Definitions**

#### **Research studies:**

These are ongoing investigations and discrete data gathering operations of (long or short) finite duration, involving patients and their conditions.

#### Forms:

A research sheet, or set of forms, has been created for each study. These forms define the boundaries of the population being studied.

<u>Examine these forms carefully</u>. It is the responsibility of Academic Associates to prepare the appropriate forms and ensure their accurate completion.

Be certain to screen each and every form to ensure that ALL items on the form have been COMPLETED.

All completed forms are placed in a locked collection box located in the CCT. When standing behind the caregivers' (nursing) station, the box can be found on the far left side under the desk top.

Make certain the forms do not remain with the chart. They must be separated after completion and must be placed in the completed forms box.

#### **Criteria:**

Criteria are the indications used to distinguish who should and should not be included in the study.

- Inclusion criteria Patient must meet all of these criteria to be put in study.
- Exclusion criteria Patient is left out of the study if they have any of these.

Learn what signs and symptoms are important for each study.

#### Signs and Symptoms:

Signs are objective

- You observe a patient to be unconscious with a head injury.
- You see it for yourself.

#### Symptoms are subjective

- <u>The patient states</u> "I have trouble breathing".
- You have to rely on what the patient is telling you.

Important: The Academic Associates' effectiveness centers on their ability to recognize patients arriving for treatment who meet the various criteria.

#### **Consent:**

Some studies require a patient's consent to participate, some do not. Academic Associates may obtain consent from patients for those studies that require it (see below).

For all of our studies, the Academic Associate can obtain consent. THREE SIGNED COPIES of the consent form must be obtained for each patient enrolled in these studies: one copy is given to the patient; one copy must be placed in the patient's ED chart; one copy is stapled to the data collection sheet for that patient.

#### **Research Elective Sign-in Sheet:**

Upon starting your shift it is important to sign in on the attendance record affixed to the door of Dr. Sinert's office. This is especially important for students receiving course credit. If you are not signed in, you did not do the shift. This can affect your final grade.

#### **Military Time:**

You will find that times in the ED are sometimes documented in what is called Military time. It is useful because if you were to say it was **9 O' Clock** when you did something, no one could tell if it was 9<u>AM</u> or <u>PM</u> without more information.

Using Military time is simple:

- For afternoon and evening hours add 12 to the time.
- After midnight and before 1AM replace 12 with 00.
- Everything else stays the same.

It is easiest to explain by example.

REGULAR TIME	CONVERSION	MILITARY TIME
1AM	NONE	0100
6:30AM	NONE	0630
11AM	NONE	1100
12:00(Noon)	NONE	1200

12:59PM	NONE	1259
1PM	+12	1300
4:30PM	+12	1630
10:45PM	+12	2245

See? Simple! Trust us, you'll get used to it.

# **Operational Procedures**

- Discretely, review the triage notes of all patients entering the ED.
- Compare their presenting signs and symptoms to the criteria for each study.
- If the signs and/or symptoms fit the criteria, the patient is included in the appropriate study.
- Select the correct form from supply trays located in the CCT or UHB main ER.
- At UHB and KCH, place an ID sticker (from the patient's chart) on the form. For clarity, only stamp on the space marked 'stamp', or a blank area of the study form. (Seems obvious, but you'd be amazed)
- Imprint a copy of this information on a separate, plain sheet of paper, for yourself, and record the patient's admission time indicated on the chart as well as the location of the patient's bed, names of the attending and resident physician (or physician assistant) and nurse, assigned. This will facilitate tracking the patient.
- Locate the patient, if the patient's admission was direct to a treatment area, and locate the patient's chart. Charts are kept separate from the patient, and may sometimes be difficult to locate. If you need help, ask the resident or the nurse.
- Prepare necessary sampling and labeling materials in advance. Time is of the essence. The specimens and documentation of some studies are very time sensitive and require an Associate's vigilance. Associates should anticipate the requirements of these studies, noting any due-times.
- Determine who will collect the specimen (if a specimen is required), and which MD/PA will complete the forms, when they are not completed by Academic Associates.

An ED tech, nurse, or resident responsible for the patient will draw blood (if the specimen needed is blood), however anyone permitted to perform venipunctures may do so (Physician, Paramedic, medical student) and it is often more convenient. It is the responsibility of Academic Associates to facilitate, ascertain and record specimen and data collection by the E.D. staff.

Note: Occasionally, during examination, physicians may rule patients ineligible for inclusion in certain studies, although patients appear to the associate to fit the criteria. Remember only the primary care provider, usually the physician or nurse practitioner, can determine that patients are not eligible for inclusion in the study.

• If a timed patient study is being conducted, remind the resident whom you have determined is responsible for the patient that a sample is due to be taken. It is advisable to do this approximately 10 minutes before the actual due time, to allow for delegation, and delays. You may be helpful in this process by providing the necessary materials you have prepared, and following (without interference) the process to completion.

• Specimens should be labeled by the person taking them. The containers should be secured, bagged and appropriate instructions should be included prior to sending to specimen receiving.

# Infection Control (OSHA 1910.1030)

niversal precautions is a common medical term. It means that, when handling or contacting body fluids, anyone and everyone is assumed to be infectious. Medical professionals have been trained in and certified as aware of the hazards, and competent in dealing with blood, urine, sputum, vomit, feces, cerebrospinal fluid, etc. All Academic Associates have the personal responsibility to become knowledgeable and responsible handlers of any/all body fluids, sharps (needles, test-tubes, etc.) and potentially pathogenic materials.

# **Infection Control !**

### It is not only the law and a requirement of working here, <u>It might very possibly save your life.</u>

All Academic Associates must cooperate in controlling the spread of infection from:

- patient to patient
- patient to personnel
- personnel to patient
- From anyone/anything to you

To assist in the prevention of contamination, good hand-washing technique is essential. Wash your hands:

- When you report & before you leave;
- Before and after breaks and meals;
- After using restroom;
- Before and after patient contact;
- After contact with any materials used by patients.

Use soap, hot water, and be thorough (nails, too), with vigorous friction, twice. Rinse completely, dry completely. Wash after every contact with a biohazardous material.

<u>Disposable gloves</u> are available throughout the ED and <u>must</u> be worn when handling blood or other specimens. Gloves are used only once, and disposed of in RED-BAGS only (masks and goggles are also available).

## **Patient Confidentiality**

Under no circumstance should you ever discuss a patient's condition with anyone except the attending physician or staff and then only in the treatment areas. This is not just a hospital policy, it is a Federal Law (HIPPA). Friends and family not participating in the program should not accompany you into the ED.

### Lateness and Absences

Lateness to a shift should be avoided (as if these were your patients who depend on your presence) and must be reported to one of the Academic Associate Supervisors. Rounds start promptly at the beginning of each shift, and are an excellent way to learn of all the patients in the department, and which fit the studies. Rounds in each of the clinical areas start promptly at 7am (0700 h), 3pm (1500 h), 7pm (1900 h), and at 11 pm (2300 h), seven days a week. You should arrive 5-10 minutes early to the clinical area and introduce yourself to the staff (residents and attending physicians) prior to joining rounds. If you know in advance you are going to be late, you should contact one of the Academic Associate Supervisors. Students will be required to make up the time lost.

If you know in advance you are going to be absent you <u>must</u> notify the coordinator by e-mail or phone. Again, students will be required to make up the time lost. More than two absences will initiate a review of status with the option of removal from the program.

*Note: If you fail to sign in on the sign-in sheet, it will count as an absence. If you didn't record it, you didn't do it.* 

## **Dress Code**

Academic Associates should dress in a professional manner. In general, blue jeans, t-shirts, mid-riff revealing shirts, and open toe shoes should be avoided. Shirts should be collared. Medical Students should wear their white coats whenever they are in the ED. Non-medical students should wear their volunteer blazer.

### **Interpersonal Skills & Creating Good Will**

As ED Academic Associates, your first responsibility is to complete the requirements of the research studies. During this time, you may participate in clinical activities and aid the ED staff in other ways, <u>only in so far as it does not interfere with your Associate responsibilities</u>, and only within the defined parameters set by the Volunteer Office for ED volunteers. Helping the staff out with minor tasks increases the likelihood of them cooperating with you in trying to get your job done. Try to be aware that in a busy, stressful ED, people who mean well may occasionally be brusque without meaning to offend. If your request for help is ever brushed off in a moment of patient-care panic, don't give up, just give us some time and ask again! Also, be aware that computer access is frequently at a premium - be prepared to pack up and move out of the way when asked to cede the keyboard. The most important thing you can do to create good will in the clinical environment is to act courteously and professionally towards the staff and patients. As one of our ED attendings likes to say, you catch more bees with honey than vinegar.

### **Contact Information**

Research e-mail address: kchresearch@yahoo.com

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## **Important Phone Numbers**

CCT: 245-4601 POD A: 245-4616 FT: 245-4610 UHB: 270-4580

# List of Acronyms

ABG	arterial blood gas
Alb	albumin
ASA	aspirin (acetylsalicylic acid)
BE	base excess
BNP	beta-natriuretic peptide
RP	blood pressure
BUN	blood urea nitrogen
	coronary artery disease
	congestive heart failure
COPD	
COPD	chronic obstructive pulmonary disease
Cr	creatinine
CRF	chronic renal failure
CI	CAT scan
CVA	cerebrovascular accident (stroke)
CXR	chest X-ray
DBP	diastolic blood pressure
DM	diabetes mellitus
DPL	diagnostic peritoneal lavage
DVT	deep vein thrombosis (blood clot in the leg)
Dx	diagnosis
EKG	electrocardiogram
ESRD	end-stage renal disease
EtOH	ethanol
FiO2	inspired oxygen concentration (fraction of inspired oxygen)
GCS	Glasgow coma score
Glu	glucose
	bicarbonata
IICO5	bamataarit
	hemadiolitzaia
HD	nemodialysis
Hgb	nemoglobin
HJK	hepatojugular reflux
HR	heart rate
HTN	hypertension (high blood pressure)
IDDM	insulin dependent diabetes mellitus
INR	international normalized ratio (blood test of ability of the blood to clot)
IV	intravenous
JVD	jugular venous distention (large neck veins)
Κ	potassium
LMP	last menstrual period
Mg	magnesium
MR#	medical record number
Na	sodium
NIDDM	non-insulin dependent diabetes mellitus
MI	myocardial infarction (heart attack)
mL	milliliters
OR	operating room
$nCO^2$	partial pressure of carbon dioxide
PE DE	pulmonary embolism
DMH <sub>v</sub>	part medical history
1 1/1117	past incurai history

pO2	partial pressure of oxygen
PSHx	past social history
PT	prothrombin time
PTT	partial thromboplastin time
RA	room air
RBC	red blood cells
RR	respiratory rate
RSI	rapid sequence intubation
SBP	systolic blood pressure
SL	sublingual (under the tongue)
SO2	oxygen saturation
V/Q	ventilation/perfusion scan
WBC	white blood cells
XR	X-ray

# **Glossary of Medical Terms**

Angiogram	test to visualize blood vessels
Chest tube	a tube placed into a patient's chest to re-expand their lung
Coronary artery diseas	blockage of blood vessels supplying the heart
Dyspnea	difficulty breathing
Echocardiogram	ultrasound test looking at the heart
Edema	swelling
Hematocrit	blood test measuring blood volume
Hemoptysis	coughing up blood
Hemorrhage	bleeding
Heparinization	administration of a blood thinning medication called heparin
Hypercholesterolemia	high cholesterol
Hypertension	high blood pressure
Intubation	the process of placing a breathing tube in a patient's air pipe and
	placing them on a respirator
Lactate	blood test measuring anaerobic respiration – sign of shock
Myocardial infarction	heart attack
Orthopnea	difficulty breathing when lying down
Pulmonary	related to the lung
Pulmonary edema	fluid in the lungs
Pulmonary embolism	blood clot in the blood vessels supplying the lungs
Renal	related to the kidney
Stress test	test for heart disease by having patients run on a treadmill
Thrombolytics	clot-busting medication