

CARDIAC CATHETERIZATION AND DEVICE IMPLANTATION LABORATORY



DEPARTMENT OF VETERANS AFFAIRS
PALO ALTO MEDICAL CENTER
and the
DIVISION OF CARDIOVASCULAR MEDICINE
STANFORD UNIVERSITY SCHOOL OF MEDICINE

**JUNIOR FELLOW
ORIENTATION MANUAL**

CATH LAB STAFF:

<u>Attendings:</u>	<u>Pager:</u>	<u>Scheduled Days:</u>
Jerry Segal	#13706	Mondays
Bill Fearon	#14909	Tuesdays
John Giacomini	#13054	Wednesdays, Thursdays, and Fridays
Sung Chun (EP)	#13848	Fridays

Cath Lab Nurses:

Fred Rupprecht, R.N.	#11839
Cindy Dutra-Brice, R.N.	#11813
Sheri Fihn, R.N.	#650-423-2750

At any given day, the cath lab at the VA hospital is staffed by 2-3 registered nurses, one attending physician, a junior invasive fellow, and a senior invasive fellow who will serve as the back-up for the first year fellow as well as the primary operator on coronary interventions and EP procedures. The cath lab nurses, in addition to their active participation in the preparation and peri-procedure observation of the patients, are also responsible for procedure scheduling and monitoring of patients during dobutamine and transesophageal echocardiograms.

CATH LAB RESPONSIBILITIES:

Junior Invasive Fellow: The junior invasive fellow, working closely with the attending physicians, will have primary responsibility for the evaluation, cardiac Catheterization, and post-procedure care of patients undergoing diagnostic cardiac Catheterization. He or she will:

1. Evaluate the patients prior to each procedure and review their medical record to verify the appropriateness of the procedure.
2. Obtain informed consent from the patients or his/her surrogate.
3. Perform and interpret diagnostic cardiac Catheterizations, including right heart Catheterizations and coronary angiograms.
4. Prepare a report of the procedure following each case.
5. Contact the referring physician (via phone or e-mail) at the end of each case and briefly communicate the results of the study as well as pertinent recommendations and plan for follow-up.
6. Type or dictate a letter to the referring physician.

Senior Inpatient Fellow: The senior inpatient fellow will be responsible for:

1. Orienting the junior fellow to the cardiac cath lab at the beginning of the orientation.
2. Triaging of inpatients requiring invasive procedures as well outpatients referred for cardiac Catheterization, EP study, or device implantation. Outpatient referrals come from primary care physicians, surgeons, and cardiologists within the Palo Alto VA Health Care System as well as facilities within our network (Fresno, Hawaii, Reno, and Sacramento).
3. Serving as the primary operator on coronary interventions and EP procedures.

4. Serving as the primary provider for inpatients on the Cardiology service (i.e., those patients who are admitted for observation post Catheterization or device implantation). He or she will write orders on these patients and be responsible for their discharge and follow-up.

CATH LAB PROCEDURES:

Triage and Scheduling of Patients: Referrals to the cath lab are screened and triaged by the Senior Inpatient Fellow. The requests are then given to the cath lab nurses, who will contact the patients, schedule the case and homotel reservation, and give the patients pre-cath instructions. Once patients are scheduled for a procedure, they are entered into the cath lab Outlook calendar. **The junior fellow should check this calendar each day to determine the number and type of cases scheduled for the subsequent day. Pre-cath orders for the next day's cases are entered into CPRS the evening prior.** For problems with computer generated orders, please contact Mary Montufar at Ext 67727 or Pager ID 19217.

“Homotel” is a free, no-frills lodging unit for patients who live out of the area and travel 50 miles or greater to come to the PAVA. The homotel does not have nursing staff; therefore, patients must be self-sufficient and must bring their own medications, home O₂ if they use it, their own food or money to purchase food, toiletries, and warm clothing for their overnight stay. A microwave oven and refrigerator are available. Many patients complain that it is quite cold in the Homotel, so patients may event want to bring extra blankets from home. Depending on availability, spouses are usually able to stay in Homotel as well.

Pre-Procedure Patient Preparation: Patients are asked to arrive at the Outpatient Surgery Service (OSS), Ward 3A, at 6:30 AM on the morning of their procedure. After they arrive, the nurses in OSS perform a baseline evaluation, including review of medications, allergies, vital signs, and electrocardiogram. They will also shave the patient's groins, start a peripheral IV, and draw labs. It is imperative that orders be written the night before so that labs can be sent off prior to your arrival.

Pre-Cath Evaluation: The junior fellow should arrive at the hospital by 6:30 – 7 AM (depending on your experience and efficiency) and proceed directly to OSS to evaluate and consent the patients. At this time, you will performed a focused history and physical examination. **For patients who have had a previous CABG, it is imperative to obtain previous operative reports** so that you do not waste time and use unnecessary contrast during the procedure going “hunting” for grafts. Following your evaluation, a concise Pre-Procedure H&P form is completed and placed in the patient's chart.

Unlike at Stanford, we prepare our own consent forms and bring them upstairs to OSS for patients to sign. Consents must include:

1. The name of the attending MD and other physicians involved in the procedure (Dr. Giacomini and Associates or Dr. Burdon and Associates for CABG consent).
2. The date and time that the consent(s) were signed.
3. The signature of a witness who is not involved in the procedure (ask OSS staff to sign).

4. Your signature followed by the first initial of your last name and last 4 of your SSN (i.e., Michael Pham, M.D., P4444).

All the patients for the day are asked to arrive at 6:30 AM to be prepped. Therefore, there will be an amount of waiting involved for the patients scheduled for the second and third cases. When speaking with patients, you should not quote them specific times for their procedures. However, you should warn them that the order of cases on any given day is always subject to changes and delays, depending on emergencies and other scheduling issues.

After seeing the patients in the morning, you should touch base with the attending physician for that day to briefly summarize and discuss the cases for the day. Also, there is a white board in the cath lab. Please write the following information for each day's cases:

1. Patient's name and last 4
2. Ward the patient is on (usually OSS)
3. Procedure(s) to be performed
4. Special considerations: left groin, arm case, contrast allergy, known grafts

Patient Arrival in Cath Lab: Patients need to be seen and have a pre-cath note and witnessed consent(s) in their charts prior to coming to the cath lab. When a patient arrives in the cath lab, it takes about 20 minutes for the nurses to prepare the patient for the "stick." At the VA, the "stick" time is at 8 AM except on Thursdays, when it is moved to 9:30 – 10 AM due to the Core Curriculum Conference.

Procedure: The junior fellow is responsible for setting up the gowns and gloves in the scrub area prior to each procedure. The nurses will page you and the attending when a patient is ready for access. You will perform the entire procedure, from access to closure, with the attending physician. The VA is equipped with a bi-plane digital imaging system, in which 2 (usually) orthogonal views can be obtained with each contrast injection. Therefore, you will have a fluoro pedal for both the "frontal" camera and the "lateral" camera. If a procedure is done using a single camera, then use the "frontal" pedal for fluoro.

Post-Procedure: At the conclusion of the procedure, **please discard your sharps off the table.** This is usually a very busy time for the junior fellow, so it is helpful to develop a routine and be systematic. Your immediate post-procedure responsibilities include (not necessarily in this order):

1. Review the results of the angiogram with the attending. Focus on the severity of the lesion(s) and the presence of collateral circulation.
2. Review the patient's medication list and adjust accordingly depending on the findings of the angiogram. All patients with coronary artery disease should be, at the very least, on an aspirin and a statin. Decide on a therapeutic plan, which could include referral for CABG or adjustment of medications. Follow-up is done either in cardiology clinic or by the referring physician.
3. Complete the Procedure Form which located on the back of the Pre-Procedure H&P form. Ask the attending physician to sign this form before he or she leaves the room.

4. Review and sign the MD orders (on paper) for conscious sedation and any other medications given during the case.
5. Enter post-cath orders in CPRS. There is template of orders available under “Cardiology Orders.”
6. Make a photocopy of your H&P and procedure note to help you generate the formal Procedure Report. The cath lab staff will also give you a print-out of the procedure prolog with any recorded hemodynamic tracings. This prolog is also useful when generating your final Procedure Report. The original forms must go back with the patients and will be filed in their hospital charts.

Post-cath check and discharging outpatients: The OSS nurses observe the patients post-procedure unless the procedure performed (interventions, device implantations) requires admittance to the hospital. Ward 3A (OSS) is open from 6 AM to 7 PM. If your patient needs to stay later than 7 PM to complete the necessary recovery period, other arrangements need to be made for their care. There is an Observation Unit, “Obs,” on Ward 4A. If beds are available, patients can complete their recovery time there and even spend the night. Admitting orders need to be entered to utilize “Obs.” Keep in mind that even though the unit is physically within the hospital, nursing care for Obs patients is minimal.

Prior to sending patients home (after 2 hours or 6 hours, depending on use of a closure device), you are responsible for evaluating the patients. This evaluation includes assessment of back or groin discomfort, vital signs, and puncture site for active bleeding, hematoma, or bruit. A short “Post-Cath” note should be written in the chart, and discharge orders should be either hand-written or entered into the computer.

Generation of the Final Report: Try to do this in between cases so that you do not end up with a stack of 3 uncompleted reports by the end of the day. The reports at the VA are done using Microsoft Word templates found under the “Cath Report” folder in the desktop. Note that these templates are only located on the computer in the Cath Fellows’ Room, so this is the only computer from which you can generate reports. To complete a report, open the appropriate template, edit the text, save the file under the patient’s last name and last 4 (i.e., Smith1234), copy the text, and paste it onto CPRS. Instructions for transferring the text from Microsoft Word to CPRS are attached.

Reports should include a brief history and indication for the procedure, medication(s) given, procedure detail, hemodynamic findings (if available), description of coronary anatomy and abnormalities, summary findings, and assessment and recommendations. Sample Cath Reports are included for your review. Many others are available on the computer.

The junior fellow is also responsible for generating either an e-mail or referral letter to the referring physicians. For clinicians within the Palo Alto Health Care system, the use of intra-VA e-mail (or Mail Man, available under CPRS), works very well. Most people check their e-mails on a regular basis and are very appreciative of your time. Even though the reports are available for others to view as soon as you enter them, do not assume that clinicians will know to check.

Generation of Letters to Referring Physicians: For physicians outside of the Palo Alto VA Health Care System, a referral letter should be typed or dictated, preferably on the day of the procedure but no later than the subsequent day. Sample letters are attached for your review.

Letters and e-mails to the referring physicians should contain the following:

1. A brief description of the patient to help jog the referring physician's memory. In most cases, 1-3 sentences will suffice.
2. A brief description of the coronary anatomy and abnormalities. You do not need to go into great depth and can refer their attention to the Cath Report for further details.
3. Your impression of the findings in the context of the patient's history and your recommendations for subsequent care (referral for CABG, PCI, or medical management).
4. A statement thanking them for the referral. Remember that, as in private practice, we receive referrals from facilities that have a choice in where they send their patients. In order to keep the cath volume high and ensure a good educational experience, it is crucial to keep the referring physicians happy and in the loop.

Finally, remember that you are dealing directly with attending physicians, many of whom are practicing cardiologists. If you feel that a certain medication should be added or changed, please be very tactful when making your recommendations. There may be reasons why patients are not on certain medications. This information is best obtained, and subsequent recommendations made, via telephone.