

JCAHO: CHANGING PROCESSES

Verification of Correct Patient, Procedure, and Site at Governor Juan F. Luis Hospital and Medical Center

The Failure Mode and Effect Analysis
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One of the new National Patient Safety Goals per the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) Standards is verifying the correct patient, procedure, and procedure site when performing an invasive procedure. With extensive research of this standard, we discovered that not only is the standard required within an operating suite, but also a cardiovascular and/or catheterization suite, and any other department where a patient under goes an invasive procedure. While preparing for our most recent survey (June 2004) by the Joint Commission, the Governor Juan F. Luis Hospital formed a committee called the Surgical Failure Mode and Effect Analysis (F.M.E.A.) committee to assess the failure processes of potentially performing a cardiac cath on the wrong patient. We followed the guidelines provided by JCAHO regarding the FMEA process and analyzed the potential failure modes that occurred in our

previous scheduling, admitting, and performance of cath procedures. Unbeknownst to us within the cath lab and FMEA committee, were several failure modes that could have potentially caused the wrong patient to be scheduled in the cath lab. Fortunately, all the patients that were to be scheduled for procedures were done and no one was cathed that was not supposed to be cathed. Once we identified the potential failures, a resolution was developed by the committee and a new process was put into place to prevent any future failures from occurring. Our committee used "Failure Mode and Effects Analysis in Health Care: Proactive Risk Reduction" (Ed. Joint Commission Resources, December 2002) as a resource for our presentation. To date, the redesigned process has been followed by all physicians and hospital staff without any difficulties. In this presentation, the definition of FMEA is explained as well as the the path we took to identify and redesign our processes. CLD



The Surgical FMEA Committee

- Darice Plaskett RN, MS (Chief Operating Officer and Vice President of Patient Care services/Team Chair F.M.E.A. committee)
- Jill Price RN, Head Nurse Cath Lab/Cardiology — (Co-Chair F.M.E.A. committee & presentation submitter)
- Wilhelmina Crawford RN — Assistant Head Nurse Operating Room
- Amie Bannis RNM — Head Nurse Labor and Delivery
- Dr. Cheryl Wade — Chief of Surgery
- Kathleen Ozelia Lewis RN MPH — Infection Control Coordinator
- Lydia Thomas RN MS — Director of Risk Management
- Colin McCammon MPA — Safety Officer
- Marion Wilson LPN — Performance Improvement Nurse

The Surgical FMEA Committee can be contacted via Jill Price at JPrice@jflusvi.org

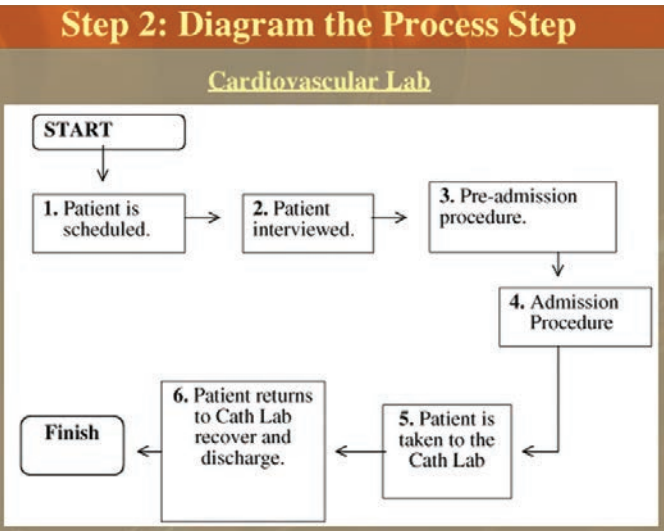
Legend (for excel charts, following)

- Criticality analysis is a technique for prioritizing failure modes. Criticality index is the total sum of the severity, frequency, and detectability.
- Severity is the degree of seriousness of the injury that could ultimately result from the effect.a
- Frequency is the likelihood that something will happen.
- Detectability is the degree to which something can be detected.

The FMEA Process
Step 1. Select a High-Risk Process and Assemble a Team
Step 2. Diagram the Process
Step 3. Brainstorm Potential Failure Modes and Determine their Effects
Step 4. Prioritize Failure Modes
Step 5. Identify Root Causes of Failure Modes
Step 6. Redesign the Process
Step 7. Analyze and Test the New Process
Step 8. Implement and Monitor the Redesigned Process

Step 1: Select a High-Risk Process	
1. High-risk Process Selected: Verification of correct patient, procedure, and site.	4. Measures of Success: Zero sentinel events and near misses related to wrong-patient, wrong-procedure/surgery, and wrong-site
2. Purpose: To eliminate wrong-patient, wrong-procedure, and wrong-site surgery.	5. Existing Barriers: Physician cooperation Staff turnover: Agency staff
3. Goals and Objectives: <ul style="list-style-type: none">• To review the process of verifying the right-patient, right-procedure, and right-site.• To redesign the parts of the process that may contribute to a potential adverse outcome.• Evaluate compliance	6. Timeline: Meetings scheduled every Friday from 2/20/04 until project completion

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Step 2: Diagram the Process Step

Cardiovascular Lab

1. Patient is scheduled for surgery by:
 - a. Physician evaluating patient in their private office.
 - b. Physician notifies the staff of the patient and procedure by faxing.
 - c. Physician evaluates the patient on the admitted unit/floor.
 - d. Physician notifies the staff through verbal communication.
2. Patient interviewed:
 - a. Cath lab staff contacts the patient to verify and discuss date time, procedure, and pre-admission requirements
3. Pre-admission procedure (2-3 days prior to procedure):
 - a. The nurse fills out "Physician Order of Services" per verbal order from the attending physician.
 - b. The nurse meets with the patient and discusses pre-registration instructions, need for passport, labs, x-ray, and EKG.
 - c. Admission office pre-registers patient for the procedure; labs, x-ray and EKG.
 - d. Day prior to the procedure: labs, x-ray, and EKG are reviewed by the nurse and any abnormal results are reported to the attending MD.
4. Admission to the Cath Lab:
 - a. Outpatients register with the admission office.

The admission office notifies the cath lab and provides the nurse with the patient's admission package, or the patient reports to the cath lab and the cath lab nurse obtains the admission package from the admission office. Initial assessment and preparation is conducted, labs are reviewed.
 - b. Inpatient

The cath lab nurse goes to the patient's bedside to conduct the initial assessment and preparation for the procedure. Labs and the consent are reviewed.
 - c. Physician performs initial assessment and fills out the anesthesia plan of care on the conscious sedation record and obtains consent for procedure.
5. Patient is taken to the Cath Lab:
 - a. Patient is prepped
 - b. Physician notified when patient is prepped
 - c. Procedure starts
6. Recovery and Discharge:
 - a. Outpatients recovered and discharged with instructions
 - b. Inpatients are recovered and returned to the floor
 - c. Patient satisfaction survey completed

Process Step	Failure Mode	Effect of Failure
1. Patient is scheduled for Survey: a. M.D. evaluates the patient in the private office b. M.D. notifies the staff of the patient and procedure by faxing information or by verbal communication. c. M.D. evaluates the patient on the admitted unit. d. M.D. notifies the staff through verbal communication.	Miscommunication or incorrect information faxed to the cath lab. ~Doctor documents on the wrong medical record. ~Doctor evaluates the wrong patient through consultation. ~ Miscommunication.	~ Wrong patient scheduled. ~ Delay in the correct procedure ~ Nurse evaluates the wrong patient, or preps the wrong patient.
2. Patient Interviewed: a. Cath lab staff contacts the patient to verify and discuss date, time, procedure, and pre-admission requirements.	~Wrong patient verified and scheduled.	~ Pre-admission completed on the wrong patient, including: labs, EKG, and x-ray.
3. Pre-admission procedure (two- three days prior) a. Nurse fills out the <i>Physician Order of Service form</i> , per verbal order of the attending M.D. b. Nurse meets with the patient to discuss pre-registration instructions, need for pass port, labs, x-ray, and EKG. c. Admission office pre-registers the patient for the procedure, labs, x-ray, and EKG. d. Prior to the procedure labs, x-ray and EKG are reviewed by the nurse & abnormal are reported to the attending M.D.	~ Nurse fills out the <i>physician order of service form</i> , per verbal order from the attending physician.	~ Wrong patient information is transcribed. ~ Wrong patient is scheduled for a procedure. ~ Pre-admission process intervention is completed on the wrong patient including labs, x-ray, and EKG. ~ Non-payment of the hospital bill secondary to inadequate documentation.

Step 3. Brainstorm Potential Failure Modes and Determine their Effects

Process Step	Failure Mode	Effect of Failure
4. Admission to the Cath Lab: a. The patient registers with the admission office. The admission office notifies the cath lab and provides the nurse with the patient admission package. b. The patient reports to the cath lab. The cath lab nurse obtains the admission package from the admission office. c. Initial nursing assessment and preparation for procedure conducted, final labs reviewed by nurse and physician. d. If the patient is inpatient then the cath lab nurse goes to the patient's bedside to conduct an initial assessment and prepares the patient for the procedure, nurse reviews labs and ensures that the consent is signed. e. Physician assessment, consent, CS	~ Admission office enters the wrong patient information. ~ Initial nursing and physician assessments conducted on the wrong patient.	~ Incorrect patient documentation conducted leading to the wrong patient scheduled for the wrong procedure. ~ Wrong patient prepared for the procedure. ~ Wrong billing for the patient and the pre-op process conducted.
5. Patient to the cath lab. a. Patient is prepped. b. Physician notified when the patient is prepared. c. Procedure starts.	~ Wrong patient, procedure, and site.	~ Patient suffers medically ~ More supplies used; increased cost. ~ Negative public media coverage
6. Recovery and Discharge. a. Outpatients recovered and discharged with instructions. b. Inpatients recovered/returned to floor c. Patient satisfaction survey's done.	~ Discharge complications	~ Delay in the recovery process ~ Failure to conduct a follow up evaluation.

Criticality Analysis

Criticality analysis is a technique for prioritizing failure modes. It is a procedure by which each potential failure mode is ranked according to the following defined criteria:

- ❖ **Severity:** the degree of seriousness of the injury that could ultimately result from the effect.
- ❖ **Frequency:** the likelihood that something will happen.
- ❖ **Detectability:** the degree to which something can be detected.

Severity Score

Rating	Definition
1	Mode of failure would produce no significant impact on the results of the process, with no impact on the clinical outcome.
3	Mode of failure would produce mild impact on the result of the process if not detected. Negative impact on the clinical outcome is low.
5	Mode of failure would produce moderate impact on the result of the process if not detected. Negative impact on the clinical outcome is moderate.
7	Mode of failure would produce significant impact on the result of the process if not detected. Significant impact on the clinical outcome would be moderately high.
10	Mode of failure would cause the entire process to fail if not detected, resulting in a virtual certainty of negative impact on the clinical outcome

Frequency (occurrence) score

Rating	Definition
1	Likely to occur very infrequently, once in a hundred years.
3	Likely to occur infrequently, once every five years.
5	Likely to occur with moderate frequency, once a year.
7	Likely to occur with significant frequency, once a month.
10	Likely to occur with high frequency, one or more times a day.

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Detectability Score	
Rating	Definition
1	Very easy to detect, so the failure is virtually certain to be detected after it has occurred.
3	Fairly easy to detect, so there is a significant likelihood the failure will be detected after it has occurred.
5	Moderately detectable, so there is a moderate likelihood the failure will be detected after it has occurred.
7	Moderately difficult to detect, so there is a low likelihood the failure will be detected after it has occurred.
10	Extremely difficult to detect, so there is essentially no chance the failure will be detected after it has occurred.

Step 4.
Prioritizing the
Failure Mode
continued

Step 5. Identify
Root Causes of
Failure Modes

Process Step	Failure Mode	Effect of Failure	Severity	Occurrence	Detectability	Criticality Index	Priority
1. Patient is scheduled for Survey: a. M.D. evaluates the patient in the private office b. M.D. notifies the staff of the patient and procedure by faxing information or by verbal communication. c. M.D. evaluates the patient on the admitted unit. d. M.D. notifies the staff through verbal communication.	Miscommunication or incorrect information faxed to the cath lab. ~Doctor documents on the wrong medical record. ~Doctor evaluates the wrong patient through consultation. ~ Miscommunication.	~ Wrong patient scheduled. ~ Delay in the correct procedure ~ Nurse evaluates the wrong patient, or preps the wrong patient.	4	3	3	36%	2
2. Patient Interviewed: a. Cath lab staff contacts the patient to verify and discuss date, time, procedure, and pre-admission requirements.	~Wrong patient verified and scheduled.	~ Pre-admission completed on the wrong patient, including: labs, EKG, and x-ray.	5	3	1	15%	6
3. Pre-admission procedure (two- three days prior) a. Nurse fills out the Physician Order of Service form , per verbal order of the attending M.D. b. Nurse meets with the patient to discuss pre-registration instructions, need for pass port, labs, x-ray, and EKG. c. Admission office pre-registers the patient for the procedure, labs, x-ray, and EKG. d. Prior to the procedure labs, x-ray and EKG are reviewed by the nurse & abnormal are reported to the attending M.D.	~ Nurse fills out the physician order of service form , per verbal order from the attending physician.	~ Wrong patient information is transcribed. ~ Wrong patient is scheduled for a procedure. ~ Pre-admission process intervention is completed on the wrong patient including labs, x-ray, and EKG. ~ Non-payment of the hospital bill secondary to inadequate documentation.	5	3	1	15%	5

Step 4. Prioritizing the Failure Mode

Process Step	Failure Mode	Effect of Failure	Severity	Occurrence	Detectability	Criticality Index	Priority
4. Admission to the Cath Lab: a. The patient registers with the admission office. The admission office notifies the cath lab and provides the nurse with the patient admission package. b.The patient reports to the cath lab. The cath lab nurse obtains the admission package from the admission office. c. Initial nursing assessment and preparation for procedure conducted, final labs reviewed by nurse and physician. d. If the patient is inpatient then the cath lab nurse goes to the patient's bedside to conduct an initial assessment and prepares the patient for the procedure, nurse reviews labs and ensures that the consent is signed. e. Physician assessment, consent, CS	~ Admission office enters the wrong patient information. ~ Initial nursing and physician assessments conducted on the wrong patient.	~ Incorrect patient documentation conducted leading to the wrong patient scheduled for the wrong procedure. ~ Wrong patient prepared for the procedure. ~ Wrong billing for the patient and the pre-op process conducted.	5	1	3	15%	4
5. Patient to the cath lab. a. Patient is prepped. b. Physician notified when the patient is prepared. c. Procedure starts.	~ Wrong patient, procedure, and site.	~ Patient suffers medically ~ More supplies used; increased cost. ~ Negative public media coverage	10	1	7	70%	1
6. Recovery and Discharge. a. Outpatients recovered and discharged with instructions. b.Inpatients recovered/returned to floor	~ Discharge complications	~ Delay in the recovery process ~ Failure to conduct a follow up evaluation.	5	3	2	30%	3

Process Step	Failure Mode	Effect of Failure	Priority
1. Patient is scheduled for Survey: a. MD evaluates the patient in the private office b. MD notifies the staff of the patient and procedure by faxing information or by verbal communication. c. MD evaluates the patient on the admitted unit. d. MD notifies the staff through verbal communication.	Miscommunication or incorrect information faxed to the cath lab. ~Doctor documents on the wrong medical record. ~Doctor evaluates the wrong patient through consultation. ~ Miscommunication.	~ Wrong patient scheduled. ~ Delay in the correct procedure ~ Nurse evaluates the wrong patient, or preps the wrong patient.	2
2. Patient Interviewed: a. Cath lab staff contacts the patient to verify and discuss date, time, procedure, and pre-admission requirements.	~Wrong patient verified and scheduled.	~ Pre-admission completed on the wrong patient, including: labs, EKG, and x-ray.	6
3. Pre-admission procedure (two- three days prior) a. Nurse fills out the Physician Order of Service form, per verbal order of the attending MD. b. Nurse meets with the patient to discuss pre-registration instructions, need for pass port, labs, x-ray, and EKG. c. Admission office pre-registers the patient for the procedure, labs, x-ray, and EKG. d. Prior to the procedure labs, x-ray and EKG are reviewed by the nurse & abnormal are reported to the attending MD.	~ Nurse fills out the physician order of service form , per verbal order from the attending physician.	~ Wrong patient information is transcribed. ~ Wrong patient is scheduled for a procedure. ~ Pre-admission process intervention is completed on the wrong patient including labs, x-ray, and EKG. ~ Non-payment of the hospital bill secondary to inadequate documentation.	5

Process Step	Failure Mode	Effect of Failure	Priority
4. Admission to the Cath Lab: a. The patient registers with the admission office. The admission office notifies the cath lab and provides the nurse with the patient admission package. b.The patient reports to the cath lab. The cath lab nurse obtains the admission package from the admission office. c. Initial nursing assessment and preparation for procedure conducted, final labs reviewed by nurse and physician. d. If the patient is inpatient then the cath lab nurse goes to the patient's bedside to conduct an initial assessment and prepares the patient for the procedure, nurse reviews labs and ensures that the consent is signed. e. Physician assessment, consent, CS	~ Admission office enters the wrong patient information. ~ Initial nursing and physician assessments conducted on the wrong patient.	~ Incorrect patient documentation conducted leading to the wrong patient scheduled for the wrong procedure. ~ Wrong patient prepared for the procedure. ~ Wrong billing for the patient and the pre-op process conducted.	4
5. Patient to the cath lab. a. Patient is prepped. b. Physician notified when the patient is prepared. c. Procedure starts.	~ Wrong patient, procedure, and site.	~ Patient suffers medically ~ More supplies used; increased cost. ~ Negative public media coverage	1
6. Recovery and Discharge. a. Outpatients recovered and discharged with instructions. b.Inpatients recovered/returned to floor	~ Discharge complications	~ Delay in the recovery process ~ Failure to conduct a follow up evaluation.	3

Step 6.
Redesign
the
Process

Process Step	Failure Mode	Effect of Failure	Cause of Failure	Severity	Occurrence	Detectability	Criticality Index	Priority	Solution
1. Patient is scheduled for surgery	Miscommunication or incorrect information faxed to the cath lab. ~Doctor documents on the wrong medical record. ~Doctor evaluates the wrong patient through consultation. ~ Miscommunication.	~ Wrong patient scheduled. ~ Delay in the correct procedure ~ Nurse evaluates the wrong patient, or preps the wrong patient.	~ Doctor gave the wrong patient name. ~ Information faxed was not legible or incorrectly faxed. ~ Delay in documentation. ~ Incorrect interpretation of the documents.	4	3	3	36%	2	~ All physicians must fill out the physician order of service form and it can be hand delivered or fax. ~Admission procedure process will not be initiated until physician order of service form is completed by the MD.
2. Patient interviewed.	~Wrong patient verified and scheduled.	~ Pre-admission completed on the wrong patient, including: labs, EKG, and x-ray.	~ Patient knowledge deficit. ~ Inadequate patient verification by the attending physician. ~ Inadequate patient identifiers used.	5	3	1	15%	6	~Verification with the MD of patient, procedure,pre-admission requirements, prior to the patient interview.
3. Pre-admission admission procedure (two-three days) prior.	~ Nurse fills out the physician order of service form , per verbal order from the attending physician.	~ Wrong patient information is transcribed. ~ Wrong patient is scheduled for a procedure. ~ Pre-admission process intervention is completed on the wrong patient including labs, x-ray, and EKG. ~ Non-payment of the hospital bill secondary to inadequate documentation.	~ Unclear practice; the patient should not be pre-registered without the attending physician's signature. ~ The patient is registered by admitting without the MD's signature.	5	3	1	15%	5	~ All physicians must fill out the physician order of service form and it can be hand delivered or fax. ~Admission procedure process will not be initiated until physician order of service form

NUR 3/04

Governor Juan F. Luis Hospital & Medical Center
Surgical/Invasive Verification and Time Out Form

Surgeon Verification

Initial Appropriate Space

Proposed Surgical Procedure: _____

1. I have verified the operative site and side by review of the following
and placed my initials in indelible ink on the patient's operative site: Right _____ Left _____

- Physical Examination
- Review of Radiological studies (if applicable) Multiple Structures _____ (i.e.: fingers, toes)
- Informed Consent
- Patient/Family confirmation of the operative site and side Level _____ (i.e.: vertebral, or spinal)

Date _____ Time _____ Surgeon's Signature _____ Print Name _____

Anesthesiologist Verification

Initial Appropriate Space

1. I have verified the operative site and side by review of the following: Right _____ Left _____

- Clinical Examination
- Review of the Medical Record, Radiological Reports (if applicable).
- Marking of the Surgical Site confirmed Multiple Structures _____ (ie: fingers, toes)
- Patient/Family confirmation of the operative site and side Level _____ (ie: vertebral, or spinal)

Date _____ Time _____ Anesthesiologist Signature _____ Print Name _____

TIME OUT PROCESS

The Surgical Team has orally verified the above noted items in the Operating room before induction of Anesthesia

Patient Name and Visit Number ☐ Yes ☐ No

Right _____ Left _____
Multiple Structures _____
Level _____

Proposed Surgical Procedure: _____

The following items are in agreement with the surgical procedure, and location:

Attending M.D. Pre-Operative Note ☐ Yes ☐ No Surgical Site Marked Yes ☐ No ☐
Operative Schedule ☐ Yes ☐ No Completed Consent Yes ☐ No ☐

Date _____ Time _____
Circulating Nurse's Signature _____ Print Name _____


Attending Anesthesiologist's Signature _____ Print Name _____

Attending Surgeon's Signature _____ Print Name _____

Comments or Discrepancy Resolution (if needed)

Circulating Nurse's Signature _____ Print Name _____
Date _____ Time _____

NUR 3/04

 <p>Governor Juan F. Luis Hospital & Medical Center</p> <p>Dr. Andre Galiber Sr.</p> <p>Cardiovascular and Hemodynamic Laboratory</p>
<h3><u>Post Procedure Patient Assessment</u></h3> <p><i>To be completed by an RN within 10 days after discharge!</i></p>
<ol style="list-style-type: none"> Have you noticed any redden areas or skin break-down to your back? _____ Have you noticed any swelling, redness, fever, drainage, or odor to the procedure area (groin, chest)? _____ Have you experienced any pain in the procedure area? _____ Do you have a follow up appointment scheduled with your physician? _____ Do you have any questions related to your prescribed medicines and/or treatment? _____
<p>Patient Name: _____</p> <p>Cath and Angio number: _____</p> <p>Procedure Date: _____</p> <p>Procedure Performed: _____</p> <p>Person retrieving questionnaire: _____</p> <p>Date of questionnaire: _____</p> <p>Cc: Cath chart: (CVL)</p>
<p>To be filed in Medical Records after evaluation completed- NUR- 3/04</p>

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A photograph showing the interior of a mobile cardiac catheterization lab. The room is brightly lit with light-colored walls and floor. In the center is a blue patient table mounted on a mobile cart. Above the table is a large, white C-arm X-ray machine. To the left, there are white cabinets and a sink. To the right, there's a doorway leading to another room. Various medical monitors and equipment are visible in the background.

A photograph of a white mobile cardiac catheterization lab unit. It's a large, boxy trailer with a set of stairs leading up to a small entrance. There are blue and grey stripes along the side. The unit is parked on a paved surface with some trees in the background.

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A photograph of a long, white modular cardiac catheterization lab unit. It's a rectangular building on wheels, parked on a grassy area. There's a small tree in front of it and a brick building in the background.

Modular Cath Lab

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Governor Juan F. Luis Hospital & Medical Center
 Dr. Andre Galiber Sr.
 Cardiovascular and Hemodynamic Laboratory

Patient Satisfaction Survey

Obtained 5 days after discharge; to be conducted by a cath lab staff member and the following scale is to be used to answer the questions

<i>Yes (Y)</i>		<i>No (N)</i>
1. Was your overall experience in the cath lab pleasant?	<input type="checkbox"/>	Comments:
2. Was the staff helpful or supportive in addressing your concerns and questions related to the procedure?	<input type="checkbox"/>	Comments:
3. Was the pre-procedure instructions or teaching material provided to you helpful?	<input type="checkbox"/>	Comments:
4. Was your overall hospitalization pleasant?	<input type="checkbox"/>	Comments:
5. Do you have any suggestions for improvements?	<input type="checkbox"/>	Comments:

Patient Name: _____

Cath & Angio Number: _____

Procedure performed & Date: _____

Person retrieving and Date of questionnaire: _____

Cc: Performance Improvement: (Nursing)