

# **Wrong Site Surgery Root Cause Analysis Report**

**Analysis Name: Wrong Site Surgery**

**Principal Analyst: Bob Latino**

Printed: May 20, 2003



**Key Note Point Hospital  
401 Downe Road  
Mushaboom, IA 55442**

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## **PROACT® ROOT CAUSE ANALYSIS (RCA) PROCESS DESCRIPTION**

The following Root Cause Analysis (RCA) was conducted to help us determine the "true" root causes of the event analyzed. This PROACT® RCA analysis technique has been field-proven for over thirty years and replicates the tasks involved in any investigative occupation. The analysis was conducted to determine the physical, human and latent root causes associated with the event at hand.

Below is a quick overview of the RCA process used to determine our facility's "Significant Few" events:

1. PReserve Event Data - Outline the measures taken to collect the 5-P's (Parts, Position, People, Paper and Paradigms)
2. Order the Analysis Team - Delineates the formation of the team and its associated structure
3. Analyze the Event Data - The use of a disciplined, logical thought process to draw accurate and comprehensive conclusions based on facts
4. Communicate Findings and Recommendations - The effective and efficient means of getting RCA recommendations implemented through proper communication
5. Tracking for Bottom-Line Results - Ensuring the sustainability of successful outcomes by monitoring performance of implemented recommendations

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# Preserve

## **PReserve Event Data**

As in any investigative occupation, it is a REQUIREMENT that data (evidence) be collected from the scene and preserved in such a fashion as is appropriate for further analysis. As with the detective at a crime scene, the area is roped off and the scene preserved for the professionals who will come in and collect the necessary data.

PROACT® utilizes a data collection technique called the 5-P's. The 5-P's stand for the following five (5) data categories:

1. Parts – Physical or tangible evidence. Examples include process equipment, diagnostic equipment, fluid samples, etc.
2. Paper – Documentation. Examples include procedures, specifications, records, policies, test results, literature searches, etc.
3. Positional - Elements of time and space. Examples include times of occurrences, location of occurrences, frequency of occurrences, etc.
4. People - People sought to be interviewed regarding an event. Examples include management, administration, witnesses, engineers, hourly personnel, purchasing, etc.
5. Paradigms - People's belief systems that contribute to decision errors. "Cost reduction is #1", "It's the manufacturer's fault", "Poor design", etc.

## Data Collection

Category	Data	Strategy	Team Member	Date	Completed	Hours
Position	Location of Patient Record	Ask OR Supervisor where the patient record was located for access by the resident.	Bob Latino	1/20/2002	Yes	0.5
Position	Position of X-rays on Viewers	Determine how the OR Tech placed the X-ray on the viewer (orientation).	Bob Latino	1/20/2002	Yes	2
Position	X-ray Orientation	Determine the process in radiology by which the tech identifies orientation on the X-ray itself.	Bob Latino	1/20/2002	No	0
Position	"X" Marks on Patient	Determine when and where the "X"s were made on the patient body.	Bob Latino	1/20/2002	Yes	0.5
Position	Correct Ankle Needing Fusion	Determine which ankle actually needs the fusion.	Bob Latino	1/20/2002	No	0
Position	Time of Surgery	Record the time of day that the actually opening of the wrong ankle occurred.	Bob Latino	1/20/2002	Yes	1
Position	Location of OR Used	Determine which OR was used for the surgery and was it the correct one.	Bob Latino	1/20/2002	No	0
Position	Occurrence History	Research past RCA's to seek if similar situations have occurred because of the orientation of the OR rooms.	Bob Latino	1/20/2002	No	0
Paper	Patient Record	Review patient record and try to understand how one could misconstrue the intention expressed on the record. Validate that the record itself is indeed technically accurate.	Bob Latino	1/20/2002	Yes	0.5
Paper	X-ray Procedure	Obtain the procedure (if exists) that outlines how to appropriately mark the X-ray itself for orientation. Is procedure correct and if so, was it followed?	Bob Latino	1/20/2002	Yes	0.5

Category	Data	Strategy	Team Member	Date	Completed	Hours
Paper	Patient Record Procedure	Check for any procedures relevant to the development of the Patient Record and how it is distributed. Should this record have found its way by procedure to the OR resident prior to the surgery?	Bob Latino	1/20/2002	No	0
Paper	Room Scheduling Procedure	Determine the process by which schedulers schedule OR's. Is it correct and if so, why was this resident provided a different than normal room.	Bob Latino	1/20/2002	No	0
Paper	Work Schedules	Obtain the work schedules of all the parties involved; nurses, OR tech, radiologists, residents, etc.	Bob Latino	1/20/2002	No	0
Paper	Training Records	Obtain the pertinent training to confirm that all parties to this event were qualified to be in the positions that they were in.	Bob Latino	1/20/2002	No	0
Paper	Staffing Records	Determine that all personnel involved were qualified to be in their positions. Identify whether or not they were full time or temps.	Bob Latino	1/20/2002	No	0
Paper	Patient Med Records	Review patient med records and also their accessibility	Bob Latino	1/20/2002	Yes	3
Paper	OR Layouts	Obtain room layout diagrams to show orientation differences in various OR's.	Bob Latino	1/20/2002	No	0
Paper	Additional Costs of Event	Develop of list of incurred expenses directly as a result of the Wrong Site Surgery.	Bob Latino	1/20/2002	Yes	1
Parts	Computers	Review computers systems for their ability to communicated desired information according to procedure. Ensure that they are capable of meeting procedure that confirm that they are being used according to procedure.	Bob Latino	1/20/2002	No	0
Parts	PHOTOGRAP HS	Obtain photograph of surgical sites with pre-operative marking of site.	Bob Latino	1/20/2002	No	0

Category	Data	Strategy	Team Member	Date	Completed	Hours
Parts	Medication Given to Patient	Confirm that patient was given appropriate medication. Determine why the patient was asked to mark the affected area AFTER he was provided pre-op medication?	Bob Latino	1/20/2002	No	0
People	OR Scheduling Personnel	Why was different OR used in this case and why was the resident not informed of the change earlier?	Bob Latino	1/20/2002	No	0
People	Surgical Team	Were incisions from past surgeries on right ankle evident? Why was patient record not reviewed prior to surgery?	Bob Latino	1/20/2002	No	0
People	Pharmacy	Confirm that Pre-Op medication was correct and should patient have been asked to mark affected area after taking medication?	Bob Latino	1/20/2002	No	0
People	HR	Determine why decision were made to use temps on this surgical team and this resident after his previous work schedule.	Bob Latino	1/20/2002	No	0
Paradigms	The Nurses were Inexperienced	Confirm/deny through interviews with HR and training.	Bob Latino	1/20/2002	No	0
Paradigms	There was a Language Barrier	Interview affected staff to see if there is a prevalent feeling that some language barriers created some errors to occur.	Bob Latino	1/20/2002	No	0
People	Inexperienced OR Tech	Interview to see if the OR tech's actions were directly responsible for subsequent errors.	Bob Latino	1/20/2002	Yes	3
Paradigms	Wrong Room Orientation	Interview to see others felt that the room orientation actually had any impact on decision errors made.	Bob Latino	1/20/2002	No	0
People	Overworked Staff	Determine if there any validity to the fact that decision errors were made as a result of working long hours to the point that judgement was affected.	Bob Latino	1/3/2003	Yes	0

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Category	Data	Strategy	Team Member	Date	Completed	Hours
People	Interview Nursing Staff	Interview John Doe, RN	Bob Latino	1/3/2003	No	0
People	Interview Nursing Staff	Interview Jane Smith, RN	Bob Latino	1/3/2003	No	0

## Data Collection File Links

Category	Data	Team Member	Location	Name
Position	"X" Marks on Patient	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Wrong Site.jpg
Position	Correct Ankle Needing Fusion	Bob Latino	C:\Program Files\RCI\PROACT3\FileLinks\5	Progress Notes.pdf
Position	Time of Surgery	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Kantro Incident Report.doc
Position	Time of Surgery	Bob Latino	C:\Program Files\RCI\PROACT3\FileLinks\5	Yeung Incident Report.pdf
Position	Occurrence History	Bob Latino	C:\Program Files\RCI\PROACT3\FileLinks\5	Progress Notes.pdf
Paper	Patient Record	Bob Latino	C:\Program Files\RCI\PROACT3\FileLinks\5	Progress Notes.pdf
Paper	X-ray Procedure	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Surgical Policy and Procedure.doc
Paper	Patient Record Procedure	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Surgical Policy and Procedure.doc
Paper	Patient Med Records	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Lexington 2 Report.doc
Paper	Patient Med Records	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Lexington RN Report.doc
Paper	Patient Med Records	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	masteros, MD Report.doc
Paper	Additional Costs of Event	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Key Note Point Hospital Claim Info.doc

Category	Data	Team Member	Location	Name
Paper	Additional Costs of Event	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Key Note Point Hospital Pt Rates.doc
Parts	PHOTOGRAP HS	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Wrong Site.jpg
Parts	Medication Given to Patient	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Lexington RN Report.doc
Parts	Medication Given to Patient	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	masteros, MD Report.doc
Parts	Medication Given to Patient	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Lexington 2 Report.doc
People	Surgical Team	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Lexington RN Report.doc
People	HR	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Lexington RN Report.doc
Paradigms	There was a Language Barrier	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Lexington RN Report.doc
People	Inexperienced OR Tech	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Incident Report Form.doc
People	Inexperienced OR Tech	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Kantro Incident Report.doc
People	Inexperienced OR Tech	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Incident Report Page 2.doc
People	Inexperienced OR Tech	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Lexington 2 Report.doc
People	Inexperienced OR Tech	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Lexington RN Report.doc

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Category	Data	Team Member	Location	Name
People	Inexperienced OR Tech	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks\5	masteros, MD Report.doc
People	Overworked Staff	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks\5	Lexington RN Report.doc

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# Order

## Ordering the Analysis Team

Another prerequisite to the PROACT® RCA approach is that an appropriate team be formed for the analysis at hand. Such an effort involves the following:

1. Providing an unbiased team facilitator - Assigning a person to lead the analysis who has nothing to gain or lose by the outcome; an expert in the facilitation of the PROACT® RCA methodology.
2. Amassing a team of cross-functional members - Ensuring that the team itself is not biased with one perspective; allowing team members to be experts as well as objective observers.
3. Establishing a Team Charter (Terminal Objective) for the analysis - Gaining consensus on a one (1) paragraph statement that outlines the reason the team is together.
4. Establishing Critical Success Factors (CSF's) - Establishing CSF's that outline how the team will know when they have been successful.

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**Team Members**  
**Principal Analyst: Bob Latino**

<b>Name</b>	<b>Company</b>	<b>Title</b>	<b>Phone</b>	<b>Email</b>	<b>Read</b>	<b>Read/Write</b>	<b>Delete</b>
Bob Latino	Reliability Center, Inc.		804-458-0645	info@reliability.com	No	Yes	No
Bob Latino	Reliability Center, Inc.		804-458-0645		No	Yes	No
Bob Latino	Reliability Center, Inc.		804-458-0645		No	Yes	No
Bob Latino	Reliability Center, Inc.		804-458-0645		No	Yes	No
Bob Latino	RCI				No	Yes	No
Bob Latino	RCI				No	Yes	No
Bob Latino	RCI				No	Yes	No
Bob Latino	RCI				No	Yes	No

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## Charter

To identify the root causes of the Wrong Side Ankle Surgery. This includes identifying deficiencies in or lack of management systems. Appropriate recommendations for root causes will be communicated to management for rapid resolution.

## Critical Success Factors

- 1 - A cross-functional section of personnel/experts will participate in the analysis
- 2 - A disciplined RCA approach will be utilized
- 3 - All analysis hypotheses will be verified or disproven

## Dates

**Analysis Start Date:** 4/25/2003 8:15:35 AM

**Expected Completion Date:** 4/25/2003 8:15:35 AM

## Comments

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# Analyze

## Analyze the Event Data

Any undesirable outcome is a result of a series of "cause-and-effect" relationships. The data collected in the 5-P's section of this report will ultimately serve as proof (evidence) as to what actually did or did not occur.

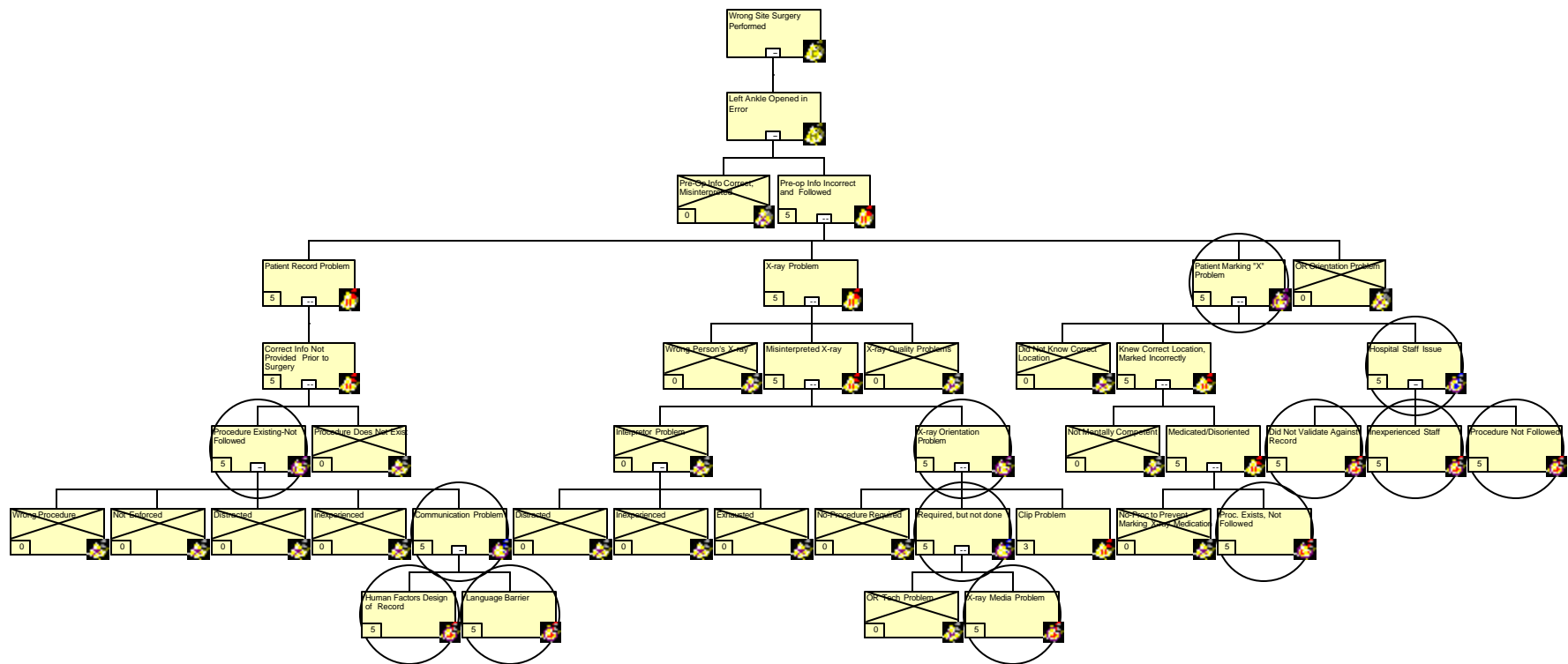
A logic tree will be used in the PROACT® RCA approach to graphically express the "cause-and-effect" relationships discussed earlier. In this approach, the top two levels of blocks represent the Event (Level 1) and the Modes (Level 2). From level to level represents a "cause-and-effect" relationship. These levels specifically represent the "undesirable outcomes" that did occur (facts only)!

From the MODE level, we do not know why they have occurred, just that they did. From this point we become hypothetical and repeatedly ask the question "How Can?".

As hypotheses are developed in this fashion, we use our 5-P's data to verify what is true and what is not true. In this fashion, facts lead our analyses not assumptions. This process is reiterated until we start to uncover the real root causes; the reasons that people make decision errors that lead to undesirable outcome.

Root causes originate from flawed systems in which people depend on to make informed decisions. We call these Latent Root Causes or Organizational Root Causes. Flawed organizational systems lead to poor decisions being made by well-intentioned individuals. We call these the Human Root Causes. Decision errors lead to Physical Root Causes, or events or conditions that are visible.

Only when we uncover the Latent Roots or Organizational System Roots are we actually conducting a "real" ROOT CAUSE analysis.



## Verification Logs

Hypothesis	Team Member	Verification Method	Outcome
Human Factors Design of Record	Bob Latino	Review record format and interview staff.	Interviews and record review indicate it is very easy to overlook completion of checkbox and there is a lack of documentary process to confirm that record is reviewed properly by the team prior to commencing surgery.
Knew Correct Location, Marked Incorrectly	Bob Latino	Pt marked wrong foot. Assigned Pre-op Nurse and Pt interviewed	Pre-op nurse indicated pt had received pre-op meds, was giddy and marked wrong foot. Pt then marked correct foot and nurse attempted to wash off incorrect mark. Pt had in fact per med record marked the correct site initially and Pre-op nurse did not verify record entry.
Language Barrier	Bob Latino	Review incident reports and interview staff involved in the occurrence.	Incident report revealed English as a Second Language confusion and this was confirmed in interviews with staff involved in the event.
Misinterpreted X-ray	Bob Latino	Interviews with OR Staff involved in the event and compare their information with medical record	Interviews demonstrate that medical record not reviewed for confirmation of correct side surgery prior to operation and x-ray posted in opposite or incorrect orientation on viewer.
OR Orientation Problem	Bob Latino	verification	
Patient Marking "X" Problem	Bob Latino	Review photograph of patients' ankles and incident reports.	Photograph supports claim of pre-op nurse that patient had mis-labeled both ankles. Incident report and interviews demonstrate nurse did not verify correct side surgery prior to procedure.
Patient Record Problem	Bob Latino	Review patient record	Information reveals inconsistencies in the patient record

Hypothesis	Team Member	Verification Method	Outcome
Pre-Op Info Correct, Misinterpreted	Bob Latino	Review Pre-op Information for areas which can be misinterpreted.	Based on entry in the progress notes., evidence reflects that the correct side was properly documented in the medical record
Pre-op Info Incorrect and Followed	Bob Latino	Review Pre-op checklist and consent documentation	Wrong side for surgery recorded on consent form and pre-op checklist item not marked as to correct side of surgery
Procedure Existing-Not Followed	Bob Latino	Interviews and policy and procedure to be examined.	Interviews reflect non-adherence to establish policy. Policy and procedure document does support the existence of a process.
Required, but not done	Bob Latino	Interviews with OR staff involved in the occurrence. Review OR Right Side Surgery Policy and Procedure.	Interviews revealed staff did not follow established policy and procedure.
X-ray Media Problem	Bob Latino	Review x-ray media	The x-ray media used was not labeled left or right. This was a process left to the x-ray department. Policy and procedure now under review.
X-ray Orientation Problem	Bob Latino	Review x-ray orientation during event and interview OR staff involved in the occurrence.	Evidence demonstrates OR tech placed x-ray on viewer wrong-side up and x-ray media not labelled left or right.
X-ray Problem	Bob Latino	Review x-ray used intraoperatively and interview OR staff members involved in use of intraoperative x-ray	Interviews and incident reports demonstrate that OR tech did not speak English well and that x-ray media not properly labeled "left" or "right."

## Verification File Links

Hypothesis	Team Member	Location	Name
Knew Correct Location, Marked Incorrectly	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Wrong Site.jpg
Language Barrier	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Lexington 2 Report.doc
Language Barrier	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Lexington RN Report.doc
Misinterpreted X-ray	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Lexington RN Report.doc
Misinterpreted X-ray	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Kantro Incident Report.doc
Misinterpreted X-ray	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Lexington 2 Report.doc
Misinterpreted X-ray	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	masteros, MD Report.doc
Misinterpreted X-ray	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Incident Report Page 2.doc
Patient Marking "X" Problem	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Wrong Site.jpg
Patient Marking "X" Problem	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Surgical Policy and Procedure.doc
Patient Marking "X" Problem	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Lexington 2 Report.doc

Hypothesis	Team Member	Location	Name
Patient Marking "X" Problem	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Lexington RN Report.doc
Patient Marking "X" Problem	Bob Latino	C:\Program Files\RCI\PROACT3\FileLinks\5	Preop Checklist.pdf
Pre-op Info Incorrect and Followed	Bob Latino	C:\Program Files\RCI\Proact3\FileLinks\5	Lexington 2 Report.doc
Pre-op Info Incorrect and Followed	Bob Latino	C:\Program Files\RCI\PROACT3\FileLinks\5	Preop Checklist.pdf
Pre-op Info Incorrect and Followed	Bob Latino	C:\Program Files\RCI\Proact3\FileLinks\5	Lexington RN Report.doc
Pre-op Info Incorrect and Followed	Bob Latino	C:\Program Files\RCI\Proact3\FileLinks\5	Lexington Add Report 6112002.doc
Pre-op Info Incorrect and Followed	Bob Latino	C:\Program Files\RCI\Proact3\FileLinks\5	Progress Notes.pdf
Pre-op Info Incorrect and Followed	Bob Latino	C:\Program Files\RCI\PROACT3\FileLinks\5	Key Note Point Hospital Consent form.pdf
Procedure Existing-Not Followed	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Incident Report Page 2.doc
Procedure Existing-Not Followed	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Lexington 2 Report.doc
Procedure Existing-Not Followed	Bob Latino	C:\PROGRAM FILES\RCI\DESKTOP\FileLinks\5	Lexington RN Report.doc

Hypothesis	Team Member	Location	Name
Procedure Existing-Not Followed	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Kantro Incident Report.doc
Procedure Existing-Not Followed	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Surgical Policy and Procedure.doc
Required, but not done	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Lexington RN Report.doc
Required, but not done	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Surgical Policy and Procedure.doc
X-ray Orientation Problem	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Kantro Incident Report.doc
X-ray Orientation Problem	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Incident Report Page 2.doc
X-ray Orientation Problem	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	masteros, MD Report.doc
X-ray Orientation Problem	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Lexington 2 Report.doc
X-ray Orientation Problem	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Lexington RN Report.doc
X-ray Problem	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Lexington 2 Report.doc
X-ray Problem	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Incident Report Page 2.doc
X-ray Problem	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Lexington RN Report.doc
X-ray Problem	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	masteros, MD Report.doc
X-ray Problem	Bob Latino	C:\PROGRAM FILES\RC\DESKTOP\FileLinks \5	Kantro Incident Report.doc

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# Communicate

## **Communicate Findings and Recommendations**

As with this report, an effective means of communication is necessary to get RCA recommendations approved and implemented. This primarily involves communicating the conclusions of the RCA and the recommendations as a result of the RCA.

The elements of this section are intended to communicate the summary of the findings of the RCA for management, as well as the detailed recommendations made by the RCA team members for resolution of the causes identified.

A RCA cannot be successful without the approval and implementation of the analysis recommendations.

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## **Event Summary**

Patient had unnecessary surgery on left ankle.

## **Summary of Findings**

Patient underwent wrong site surgery as a result of non-adherence to established policy, communication failures, staffing issues, and the absence of verification of right side surgery.

## **PROACT® Description**

PROACT® is a methodology developed by Reliability Center, Inc. (RCI) to help users analyze their organization's most costly problems. The term PROACT® is an acronym for PReserving Failure Data, Ordering the Analysis, Analyzing the Data, Communicating Findings and Recommendations and Tracking for Results.

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## Executive Summary Recommendations

Root Cause	Type	Recommendation	Responsible	Estimated Completion Date	Completed
Procedure Not Followed	Latent	Aggressive Education for Staff	Bob Latino	12/23/2002	Yes
Human Factors Design of Record	Latent	Modify current pre-op policy and checklist	Bob Latino	12/31/2002	No
Language Barrier	Latent	Develop and implement ESL Solution	Bob Latino	1/10/2003	Yes

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## Detailed Recommendations

Root Cause	Type	Recommendation	Completed
Procedure Not Followed	Latent	Behavioral change education at orientation and monthly in-service programs with unannounced surveillance by CNO of pre-op with patients	Yes
Human Factors Design of Record	Latent	Based on literature search information, the pre-op policy and procedure should be revised along with the pre-op checklist	No
Language Barrier	Latent	detailed recommendation...	Yes

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## Acknowledgements

Company	Position	Contributor	Expertise
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# Analysis-At-A-Glance

## Analysis-At-A-Glance

For the benefit of those that must oversee Root Cause Analysis (RCA) activities from the business perspective, this Analysis-At-A-Glance section provides such information.

In the PROACT® Root Cause Analysis process, there are three points where tasks are assigned to team members, they in:

1. data collection,
2. hypothesis verifications and,
3. the development and implement of recommendations.

At each of these points the analyst is afforded the opportunity to input the number of man-hours it took them to complete the task and to add any other associated costs to complete the task.

Analysis-At-A-Glance is the section where all of this information is brought together in a meaningful fashion. This is the location of where the estimated Return-On-Investment's (ROI-Year 1) reside for both the individual recommendations and the analysis as a whole. The detailed cost breakdowns are also available upon request in this section.

## Preserve Costs

Preserve Task	Team Member	Description	Total
Position: Location of Patient Record	Bob Latino	Manhours(0.5)	\$13.22
Position: Position of X-rays on Viewers	Bob Latino	Manhours(2)	\$52.88
Position: "X" Marks on Patient	Bob Latino	Manhours(0.5)	\$13.22
Position: Time of Surgery	Bob Latino	Manhours(1)	\$26.44
Paper: Patient Record	Bob Latino	Manhours(0.5)	\$13.22
Paper: X-ray Procedure	Bob Latino	Manhours(0.5)	\$13.22
Paper: Patient Med Records	Bob Latino	Manhours(3)	\$79.33
Paper: Additional Costs of Event	Bob Latino	Case Manager	\$150.00
Paper: Additional Costs of Event	Bob Latino	TPA	\$125.00
Paper: Additional Costs of Event	Bob Latino	Manhours(1)	\$26.44
People: Inexperienced OR Tech	Bob Latino	Manhours(3)	\$79.33
People: Inexperienced OR Tech	Bob Latino	Agency Nurse	\$55.00
People: Inexperienced OR Tech	Bob Latino	Surg Resident	\$100.00
People: Inexperienced OR Tech	Bob Latino	OR Tech	\$45.00
People: Inexperienced OR Tech	Bob Latino	Nursing Supervisor	\$6,665.00
People: Overworked Staff	Bob Latino	Manhours(0)	\$0.00
			\$7,457.30

## Verification Costs

Verification Task	Team Member	Description	Total
Review Pre-op Information for areas which can be misinterpreted.	Bob Latino	Manhours(0.5)	\$14.42
Review Pre-op checklist and consent documentation	Bob Latino	Manhours(1)	\$26.44
Review patient record	Bob Latino	Manhours(1)	\$26.44
Review patient record	Bob Latino	Nursing	\$66.65
Review patient record	Bob Latino	Copy of the record	\$700.00
Review patient record	Bob Latino	Contact Lens replacement	\$150.00
Review x-ray used intraoperatively and interview OR staff members involved in use of intraoperative x-ray	Bob Latino	Manhours(1)	\$26.44
Review photograph of patients' ankles and incident reports.	Bob Latino	Manhours(1.5)	\$39.66
Interviews and policy and procedure to be examined.	Bob Latino	Manhours(1)	\$26.44
Review record format and interview staff.	Bob Latino	Manhours(1)	\$26.44
Review incident reports and interview staff involved in the occurrence.	Bob Latino	Manhours(1)	\$26.44
Review incident reports and interview staff involved in the occurrence.	Bob Latino	Interpreter 1	\$65.00
Interviews with OR Staff involved in the event and compare their information with medical record	Bob Latino	Manhours(1.5)	\$39.66

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<b>Verification Task</b>	<b>Team Member</b>	<b>Description</b>	<b>Total</b>
Review x-ray orientation during event and interview OR staff involved in the occurrence.	Bob Latino	Manhours(1)	\$26.44
Interviews with OR staff involved in the occurrence. Review OR Right Side Surgery Policy and Procedure.	Bob Latino	Manhours(1)	\$26.44
Review x-ray media	Bob Latino	Manhours(1)	\$26.44
Pt marked wrong foot. Assigned Pre-op Nurse and Pt interviewed	Bob Latino	Manhours(2)	\$52.88
			\$1,366.23

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## Recommendation Costs

Related Cause	Team Member	Description	Total
Procedure Not Followed	Bob Latino	Staff In-service (96)	\$20,000.00
Procedure Not Followed	Bob Latino	Behavioral Change Consultant	\$15,000.00
Procedure Not Followed	Bob Latino	Manhours(3)	\$79.33
Human Factors Design of Record	John Smith	Report of results	\$750.00
Human Factors Design of Record	John Smith	Monitoring via QI of compliance	\$4,500.00
Human Factors Design of Record	John Smith	Staff training time	\$3,500.00
Human Factors Design of Record	John Smith	Training time of instructor	\$275.00
Human Factors Design of Record	John Smith	Manhours(10)	\$264.42
Language Barrier	Bob Latino	Manhours(4)	\$105.77
			\$44,474.52

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## PROACT® RCA Analysis-At-A-Glance Overview

### ANALYSIS AND TEAM DATA

Analysis Name:	Wrong Site Surgery
Principal Analyst:	Bob Latino
Team Members:	John Smith
Team Charter:	To identify the root causes of the Wrong Side Ankle Surgery. This includes identifying deficiencies in or lack of management systems. Appropriate recommendations for root causes will be communicated to management for rapid resolution.
Critical Success Factors:	<ul style="list-style-type: none"><li>- A cross-functional section of personnel/experts will participate in the analysis</li><li>- A disciplined RCA approach will be utilized</li><li>- All analysis hypotheses will be verified or disproven</li></ul>
Start Date:	4/25/2003 8:15:35 AM
Estimated Completion Date:	4/25/2003 8:15:35 AM
Estimated Cost of Event:	\$1,112,675.00

### STATUS OF PRESERVE

Number of Data Collection Tasks Assigned:	32
Number of Data Collection Tasks Complete:	10
% of Data Collection Tasks Completed:	31%

### STATUS OF ANALYZE

Number of Hypotheses:	39
Number of Verifications Assigned:	14
Number of Verifications Completed:	14
% of Verifications Completed:	100%

### STATUS OF COMMUNICATE

Number of Root Causes Identified:	13
Number of Recommendations Proposed:	3
Number of Recommendations Approved:	2
% of Recommendations Approved:	67%

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**NUMBER OF RECOMMENDATIONS**

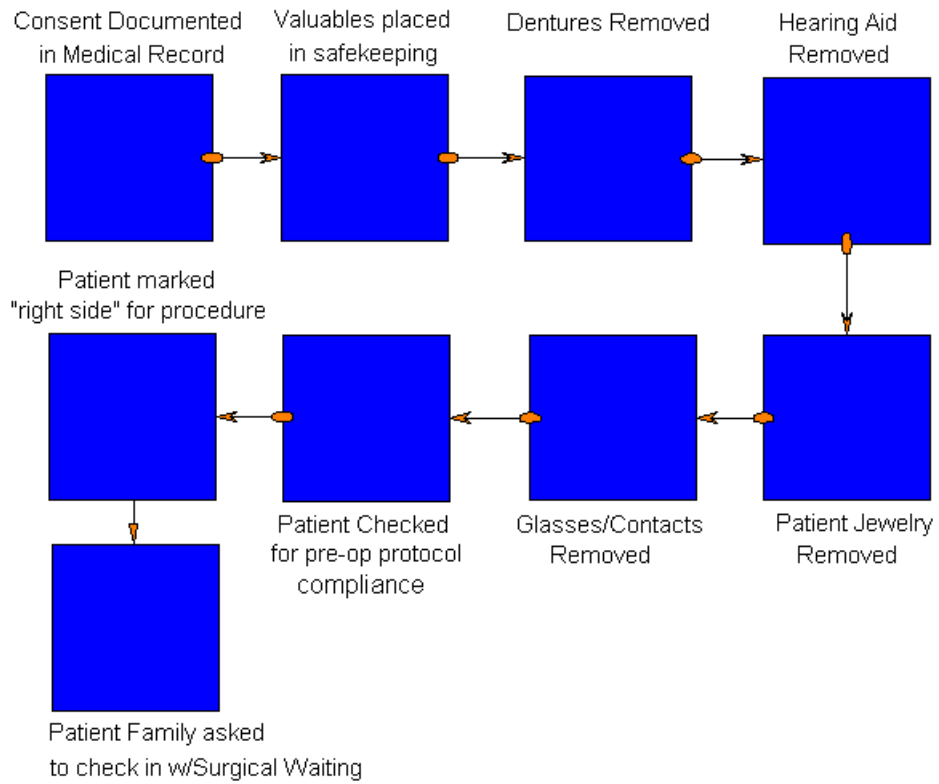
Approved:	2	67%
In-Process:	0	No Data
Completed:	2	100%

**ESTIMATED RETURN-ON-INVESTMENT (Year 1)**

Estimated Cost of Event/Benefit Derived if Eliminated:	\$1,112,675.00
Cost of Root Cause Analysis and Recommendations:	\$53,694.72 (see Details)
Estimated Return on Investment (Year 1) (%):	2072%

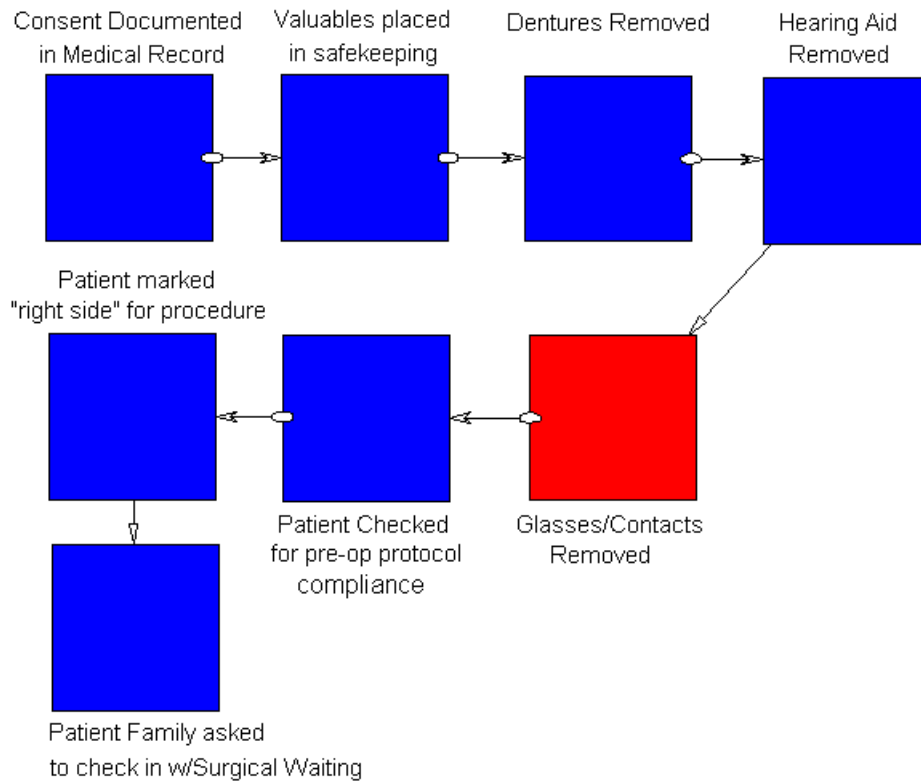
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## Process Flow Diagram - Designed Process



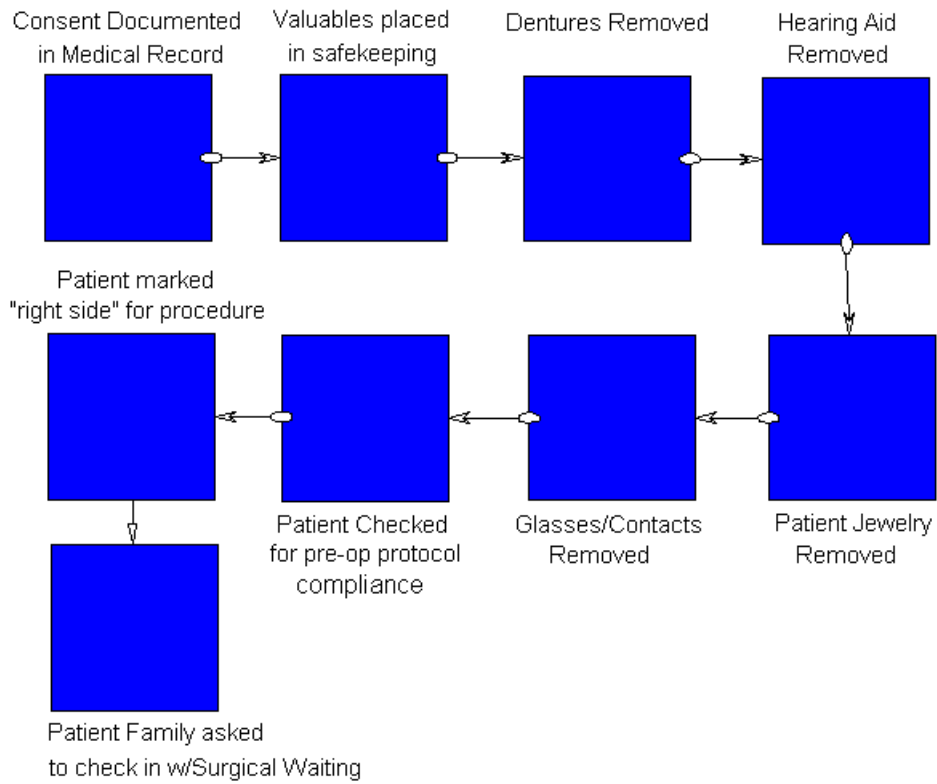
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## Process Flow Diagram - Process That Occurred



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## Process Flow Diagram - Proposed Modified Process



**Executive Summary: Root Cause Action Plan**

Root Cause	Suggested Resolution/ Action Plan	Metric to Track	Responsible	Estimated Completion Date	Approved	In-Process	Complete
Procedure Not Followed	Aggressive Education for Staff	Future Compliance	Bob Latino	12/23/2002	v		v
Human Factors Design of Record	Modify current pre-op policy and checklist	Increased compliance with pre-op procedure	John Smith	12/31/2002			
Language Barrier	Develop and implement ESL Solution	Proficiency Test Passage Rates	Bob Latino	1/10/2003	v		v



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### Executive Summary: Estimated Return-On-Investment (Year 1)

Est. % of Annual Loss	Root Causes Identified	Annual Losses (Potential Benefit)	Sum of Recommendations	Estimated ROI (Year 1)
75%	Procedure Not Followed	\$834,506.30	\$35,079.33	2379%
20%	Human Factors Design of Record	\$222,535.00	\$9,289.42	2396%
5%	Language Barrier	\$55,633.75	\$105.77	52599%

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