



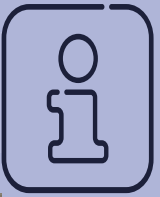
SMVD Narayana Superspeciality hospital, Jammu.

Dissertation on FMEA in the radiology department of NH.

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TITLE OF PROJECT:

FMEA (FAILURE MODE EFFECT ANALYSIS) OF RADIOLOGY DEPARTMENT

ABSTRACT:

Background: The purpose of this dissertation was to conduct a Failure Mode and Effect Analysis on the departmental weaknesses of the radiology unit and provide ideas to address such failures in order to revitalize the unit and increase customer satisfaction. Failures represents a gap in the cheese layers that causes system halt, thus they must be carefully rectified and effectively stacked to prevent the occurrence.

Methodology: This qualitative research employing descriptive and non-intervention methods was conducted at the radiology department equipped with X-ray, CT, and MRI technology.

Exclusions Of The Study- Ultrasound and mammography.

500+ sample patient files were analyzed, and the flaws were marked daily, based on the tests carried out at the hospital's radiological diagnostic unit. Basic random probability sampling was used to collect the data from the various subunits for the day shift diagnostics at the radiology department.

ABSTRACT:

Results: Rankings were assigned based on event severity, incidence, and detection feasibility after the department witnessed the failures. Results were generated using MS excel. The department's top few failures out of a total of 45 defects were then represented by the RPN. These flaws were further divided into six main types of mistakes. The diagnostic technique revealed that the most frequent problem was inappropriate practice or procedure.

Conclusion: When the hospital was made aware of the radiology department's latent difficulties, effective process adjustments were possible. On the basis of the outcomes produced by the result, suggestions were provided. Through the active participation of seniors and employees, FMEA was effectively used to identify and prioritize potential failure modes of the diagnosis unit.



INTRODUCTION



This department is open 24 hours a day, seven days a week, with the most patients arriving in the morning and evening. With a high patient load, mistakes are certain to occur at any point throughout the patient diagnostic process. Once identified, these mistakes might offer a boost to the management process as well as consumer satisfaction.

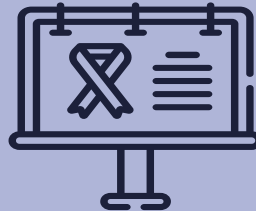
The hospital was observing several inconsistencies in this area, and patient satisfaction was low because of the long wait time for reports. As a result, the study's goal was developed in response to the hospital's requirement to investigate departmental shortcomings to develop better management strategies to minimize client complaints.

This dissertation aimed to undertake a Failure Mode and Effect Analysis on the radiology unit's departmental weaknesses and offer solutions to overcome those failures for the unit's invigoration and client satisfaction as a result. This research was aided in detecting any possible threats to the radiology department and may assist in reducing future liabilities

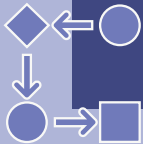
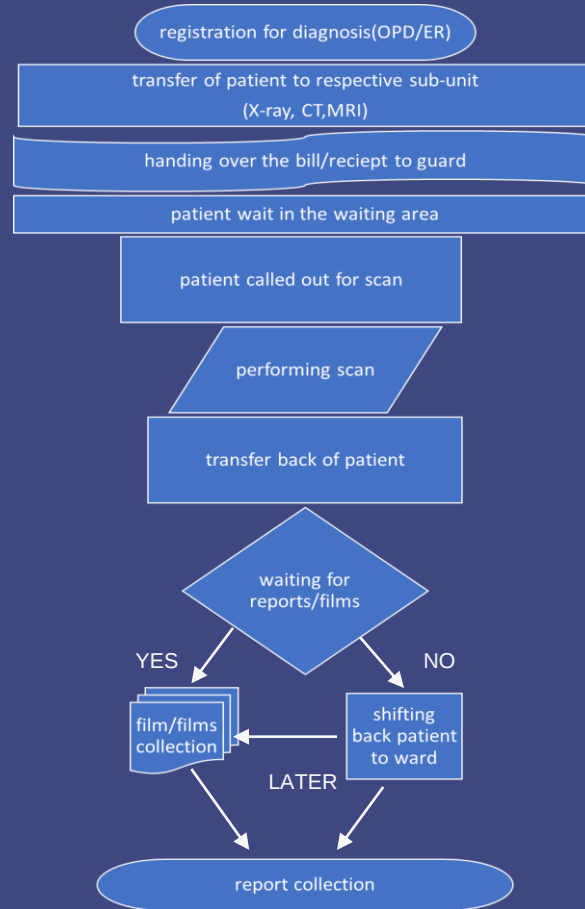
INTRODUCTION

The objectives of the study performed were:

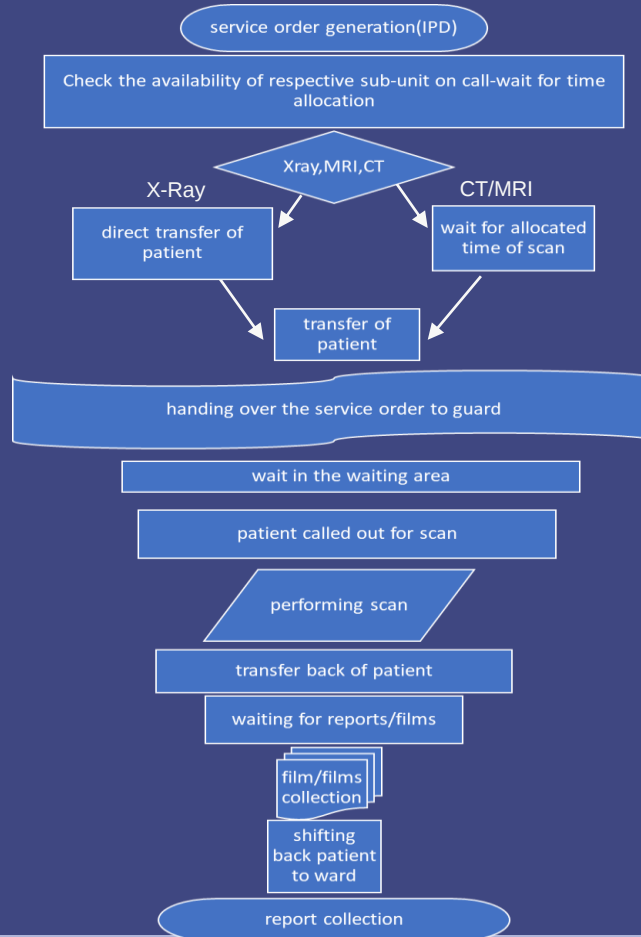
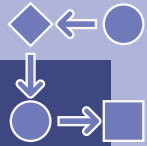
- To check the reasons for defects in the processes, categorizing them based on the Error type.
- To assess the potential impact of those defects on the process, which might result in failure of performance.
- To figure out what else may go wrong in the system.



The Process Flow For OPD/ER Patients In Radiology Department

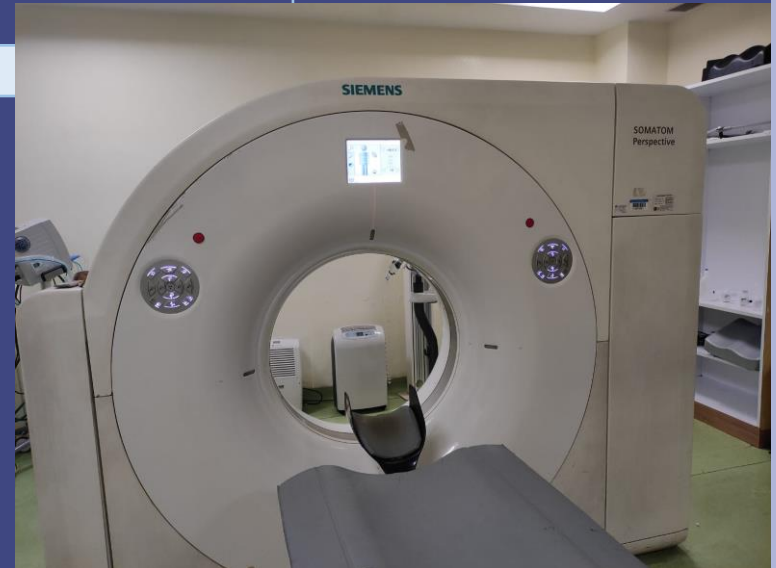


The Process Flow For IPD Patients In Radiology Department



Scope of services of Radiology Department

Scope of services	Radiology
	128 slice CT
	1.5 Tesla MRI
	Color Doppler
	X-Ray fluoroscopy
	Mammography
	Fibroscan
	Ultrasound





RESEARCH QUESTION

What actions taken by the radiological diagnosis department at Nararyana Hospital in Katra, Jammu, between the months of April and June resulted to flaws in the overall diagnostic process and further failure of the complete patient care management?

RESEARCH DESIGN

In order to determine the type and scope of failures happening in the hospital's radiology department, qualitative research employing exploratory/descriptive and non-intervention methods was conducted. Primary and secondary data were used to analyze the findings.

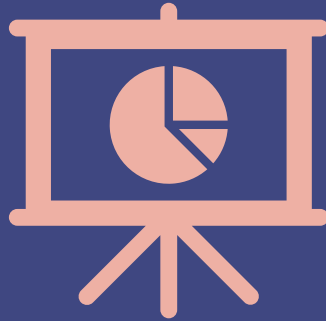
STUDY SETTING

The radiology department with its X-ray, CT, and MRI equipment serves as the study's location. Mammography and ultrasound are not included. All OPD/ER and IPD patients who needed diagnostic imaging as part of their treatment plan were included in the group.

RESULTS

- For each process step listed below, the failure scenarios, their consequences, causes, and current controls are displayed together with the process step and key input. The RPN is generated after taking into account the severity, incidence, and detection.

$$RPN = S * O * D$$



Severity scale

Effect	Criteria: Severity of Effect Defined	Ranking
Hazardous: Without Warning	May endanger operator. Failure mode affects safe system operation and / or involves noncompliance with government regulation. Failure will occur <u>WITHOUT</u> warning.	10
Hazardous: With Warning	May endanger operator. Failure mode affects safe System operation and / or involves noncompliance with government regulation. Failure will occur <u>WITH</u> warning.	9
Very High	Major disruption to process. 100% of product may have to be scrapped. System / item inoperable, loss of primary function. Customer very dissatisfied.	8
High	Minor disruption to process. Product may have to be sorted and a portion (less than 100%) scrapped. System operable, but at a reduced level of performance. Customer dissatisfied.	7
Moderate	Minor disruption to process. A portion (less than 100%) may have to be scrapped (no sorting). System / item operable, but some comfort / convenience item(s) inoperable. Customers experience discomfort.	6
Low	Minor disruption to process. 100% of product may have to be reworked. System / item operable, but some comfort / convenience item(s) operable at reduced level of performance. Customer experiences some dissatisfaction.	5
Very Low	Minor disruption to process. The product may have to be sorted and a portion (less than 100%) reworked.	4
Minor	Minor disruption to process. A portion (less than 100%) of the product may have to be reworked on-line externally.	3
Very Minor	Minor disruption to process. A portion (less than 100%) of the product may have to be reworked on-line but internally.	2
None	No effect.	1

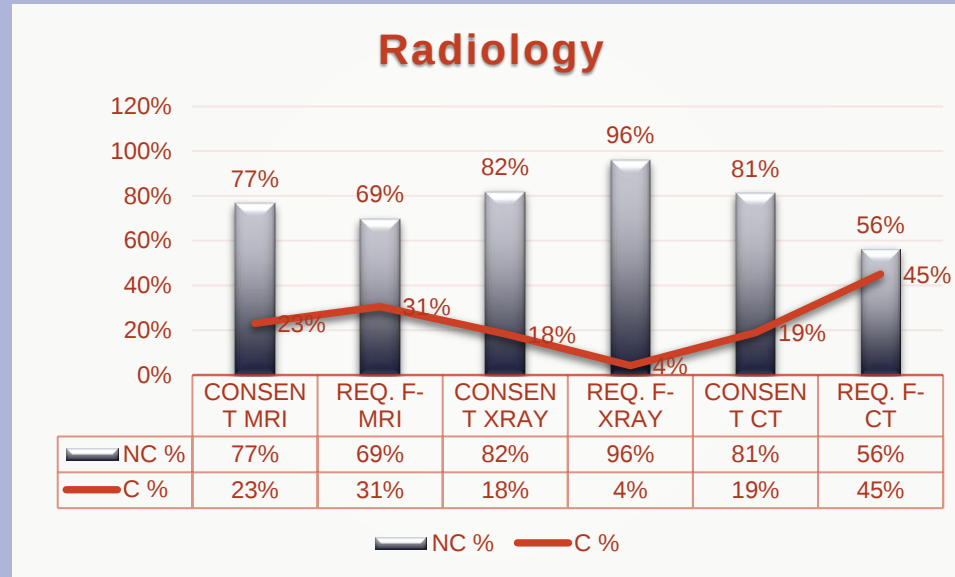
Occurrence scale

Probability of Failure	Possible Failure Rates	Cpk	Ranking
<u>Very High:</u>	≥ 1 in 2	< 0.33	10
Failure is almost inevitable	1 in 3	≥ 0.33	9
<u>High:</u> Generally associated with processes similar to previous processes that have often failed	1 in 8	≥ 0.51	8
	1 in 20	≥ 0.67	7
<u>Moderate:</u> Generally associated with processes similar to	1 in 80	≥ 0.83	6
previous processes which have	1 in 400	≥ 1.00	5
experienced occasional failures, but not in major proportions	1 in 2,000	≥ 1.17	4
<u>Low:</u> Isolated failures associated with similar processes	1 in 15,000	≥ 1.33	3
<u>Very Low:</u> Only isolated failures associated with almost identical processes	1 in 150,000	≥ 1.5	2
<u>Remote:</u> Failure is unlikely. No failures ever associated with almost identical processes	≤ 1 in 1,500,000	≥ 1.67	1

Detection scale

Detection	Criteria: Likelihood the existence of a defect will be detected by test content before product advances to next or subsequent process	Ranking
Almost Impossible	Test content detects < 80 % of failures	10
Very Remote	Test content must detect 80 % of failures	9
Remote	Test content must detect 82.5 % of failures	8
Very Low	Test content must detect 85 % of failures	7
Low	Test content must detect 87.5 % of failures	6
Moderate	Test content must detect 90 % of failures	5
Moderately High	Test content must detect 92.5 % of failures	4
High	Test content must detect 95 % of failures	3
Very High	Test content must detect 97.5 % of failures	2
Almost Certain	Test content must detect 99.5 % of failures	1

Files checked for non-compliance of consent and requisition form



Registration process FMEA



Process Step	Key Process Input	Potential Failure Mode	Potential Failure Effects	S E V	Potential Causes	O C C	Current Controls	Error type	D E T	R P N
Registration for diagnosis	Bill generation OPD	wrong scan/service written	wrong service performed	8	lack of attention	6	dual identification of person through MRN and ID band	Human error	3	144
Registration for diagnosis	service order generation for IPD	right patient name for right scan but wrong service MRN	bill transcription on another person	7	lack of attention to MRN	5	dual identification of person through MRN and verbal	Transcription error	3	105
Registration for diagnosis	bill generation for OPD	registration person not available in radiology reception	patient has to relocate to other reception for bill generation	4	understaffing	7	alloted time for each shift	Incorrect practise/procedure	4	112

Transfer Process FMEA



Process Step	Key Process Input	Potential Failure Mode	Potential Failure Effects	S E V	Potential Causes	O C C	Current Controls	Error type	D E T	R P N
transfer of pateint	transfer of (IPD/ER) patient to wheelchair	seat belts not used for transfer, lift not operational/in use for other stretcher bed patient transfer, GDA unavailable	patient could fall	5	non-operational seat belts, irresponsible staff	7	maintenance check for seat belts	Management error	3	105
transfer of pateint	transfer of (IPD/ER) patient to the desired departmen	delays due to nurse paperwork, patient sent before the	delay in the entire process- patient not transfer on time, other patients at	3	understaffing , reckless behaviour	7	pre-scheduling of IPD patients	Human error	6	126
transfer of pateint	OPD patient	patient goes for other tests	delay in the entire process	2	lack of knowledge	6	nil	Incorrect practise/proc	7	84

Waiting Before Scan Process FMEA



Process Step	Key Process Input	Potential Failure Mode	Potential Failure Effects	S E V	Potential Causes	O C C	Current Controls	Error type	D E T	R P N
waiting in the waiting area	wait while the name is called out	prioritisation of known patients	waiting patients outrage	2	prioritization of few patients before others	4	calling patients based on bill generation time	Incorrect practise/procedure	7	56
waiting in the waiting area	wait while the name is called out	patient/attendants standing while waiting	makes wait time seems more	3	lesser number of wait chairs at	6	only patients are allowed to sit in waiting	Management error	5	90
waiting in the waiting area	wait while the name is called out	improper communication of wait time before scan	patient outrage, patient crowd at waiting area	4	understaffing ,IPD and OPD patient load at the same time	6	OPD patients are given priority for scans in the morning, only	Communication error	8	192

Calling Patients For Scans Process FMEA



Process Step	Key Process Input	Potential Failure Mode	Potential Failure Effects	S E V	Potential Causes	O C C	Current Controls	Error type	D E T	R P N
calling patients for scan	patient called for scan	confusion between similar name patient	wrong scan performance	4	not using MRN as identification for patients	5	MRN and UHID used for patient identification, then verbal confirmation is used	Human error	3	60

Performance Of Scan/Procedure Process FMEA

Process Step	Key Process Input	Potential Failure Mode	Potential Failure Effects	S E V	Potential Causes	O C C	Current Controls	Error type	D E T	R P N
performance of scans	scan performance at respective subunit	patient not ready clinically for scan, patient overload	delay in the entire process	3	lack of knowledge of procedure, understaffing,	5	creatinine value reporting before scan, prescheduling of IPD patients	Incorrect practise/procedure	5	75
performance of scans	scan performance at respective subunit	nurse unavailable for cannula insertion	delay in the entire process	3	understaffing	6	calling different nurse for insertion	Management error	7	126
performance of scans	scan performance at respective subunit	patient sent without file, consent and requisition form	staff not known about patient history (could get communicable disease), legal action could be taken against hospital, patient could die/get critical, allergic reaction against contrast	8	understaffing, lack of knowledge of importance of consents and other paperwork	9	files, forms and requisition forms mandatory before scans	Incorrect practise/procedure	4	288
performance of scans	scan performance at respective subunit	patient sent with improper consent and requisition form	contrast details not mentioned on requisition form, LMP not mentioned	7	patient harm, delay in diagnosis	9	files should be sent along with the patient for proper history check and scan, with filled consent and requisition form	Incorrect practise/procedure	4	252

Performance Of Scan/Procedure Process FMEA

Process Step	Key Process Input	Potential Failure Mode	Potential Failure Effects	S E V	Potential Causes	O C C	Current Controls	Error type	D E T	R P N
performance of scans	scan performance at respective subunit	patient not informed about dress change	delay in the entire process	3	understaffing , lack of knowledge of procedure	6	screening by the staff	Incorrect practise/procedure	4	72
performance of scans	scan performance at respective subunit	improper screening of patient for metallic obejects/elect rodes	ReDos of scans,patient harm	9	No screening before scan performance	7	screening by the staff	Incorrect practise/procedure	5	315
performance of scans	scan performance at respective subunit	critical/panic values not documented by staff	No documentaion maintainence by staff, difficult to reach the informed person and have a control over the entire process	4	technical staff not allowed to create a panic value	8	critical value register maintainance(not in use), percentage of critical values	Incorrect practise/procedure	4	128
performance of scans	scan performance at respective subunit	technical staff not wearing TLD badges, misplaced TLD, TLD left at home	staff safety is at stake, No accurate TLD dose report	9	no proper storage system for TLD badge in unit, internal theft of TLD badge	9	common storage space is provided for TLD	Incorrect practise/procedure	4	324

Performance Of Scan/Procedure Process FMEA

Process Step	Key Process Input	Potential Failure Mode	Potential Failure Effects	SEV	Potential Causes	OCC	Current Controls	Error type	DET	RPN
performance of scans	scan performance at respective subunit	patient not mentally ready for scan	delay in scan , next patient's wait time increases	3	no psychological counselling before scan	6	regular monitoring of wait time in policy (not in use)	Incorrect practise/proc edure	5	90
performance of scans	scan performance at respective subunit	unstable patient IPD with sedation requirements	waste of time getting patient ready	8	sedative required for patient but MO not present along with patient.	9	MO must be present with unstable patient sent for scan, sedation monitoring sheet	Incorrect practise/proc edure	7	504
performance of scans	scan performance at respective subunit	scan missing from the software	ReDos of scans,dissatisfaction of customers	8	lack of attention, understaffing	3	percentage of redos(not in use)	Incorrect practise/proc edure	8	192
performance of scans	scan performance at respective subunit	technical staff forgot to lock door while scan performance	staff received radiations	9	staff ignorant to flourescent light while scan performance, door not locked	4	flourescent light while scan performance/locked doors	Incorrect practise/proc edure	9	324

Performance Of Scan/Procedure Process FMEA

Process Step	Key Process Input	Potential Failure Mode	Potential Failure Effects	S E V	Potential Causes	O C C	Current Controls	Error type	D E T	R P N
performance of scans	scan performance at respective subunit	patient unstable while scan performance, empty oxygen cylinder, unavailable nurse staff	interruption in scan, patient sufferings	9	natural cause	3	crash cart available for use, oxygen cylinder for use	Incorrect practise/procedure	5	135
performance of scans	scan performance at respective subunit	nurse/respective nurse unavailable while the scans are being performed	patient could suffer	7	understaffing	6	nil	Management error	6	252
performance of scans	portable Xray	no cassette identification	misplace of scans	6	no knowledge	10	nil	Incorrect practise/procedure	5	300
performance of scans	Patient details on syngovia software	wrong MRN or patient name on the software	wrong report generation	8	lack of attention or overload of patients	3	identifying patient through MRN or UHID instead of names	transcription error	5	120
performance of scans	administration of contrast	contrast medium out of stock	delay in taking patient on table	4	understaffing of nurse, improper management of inventory	3	nil	Management error	5	60
performance of scans	administration of contrast	cannula out while administration	delay in scan of patient	7	improper cannula insertion	3	nil	Incorrect practise/procedure	7	147

Transfer Back Of Patient Process FMEA



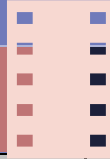
Process Step	Key Process Input	Potential Failure Mode	Potential Failure Effects	S E V	Potential Causes	O C C	Current Controls	Error type	D E T	R P N
transfer Back of patient	taking patient from table to stretcher bed	patient fall, discomfort while transfer/tear of patient clothes while lifting	patient injury due to fall	6	no use of lift sheets while patient transfer from table to bed	8	nil	Incorrect practise/procedure	4	192
transfer Back of patient	patient getting up from table after scan	patient fall as the position of table not fit to move	patient fall/injury, dissatisfaction	5	miscommunication to get up before setting the table location	1	nil	Incorrect practise/procedure	5	25
transfer Back of patient	taking patient from table to stretcher bed	unavailable GDA/nurse staff	delay in patient transfer after scan	2	GDA busy in staff's personal work, staff unavailable	6	2 GDA staffs alloted to the department	Incorrect practise/procedure	6	72

Waiting For Reports/Films Process FMEA



Process Step	Key Process Input	Potential Failure Mode	Potential Failure Effects	S E V	Potential Causes	O C C	Current Controls	Error type	D E T	R P N
waiting for reports/film	film generation	film generated but no record	more number of films used for	2	understaffing to keep track	8	record keeping	Management error	3	48
waiting for reports/film	film generation	films out of stock	delay in film generation	2	no extra inventory of	4	inventory maintenance	Management error	5	40
waiting for reports/film	film generation	printing machine not	delay in film generation,	2	technical issue	5	inform engineering	Electronic error	4	40
waiting for reports/film	transfer to MOKSHA software for report generation	film generation system not connected with the reporting software(MOKSHA)/technical error	delays in report generation,disatisfaction of customer	3	technical lag,	4	engineering staff informed	Electronic error	3	36

Film Collection Process FMEA



Process Step	Key Process Input	Potential Failure Mode	Potential Failure Effects	S E V	Potential Causes	O C C	Current Controls	Error type	D E T	R P N
film collection	collection of films after scan	film collection at the same area of scan	patient overcrowding at waiting area	3	culture of film dispatch at the same location of scans	10	report and film collection at dispatch counter	Management error	4	120
film collection	collection of films after scan	wrong film given to wrong patient	delay in treatment, regeneration of film, film overuse	5	guards/GDA staff handing over the film to patient	6	film dispatch at dispatch counter	Human error	4	120
film collection	collection of films after scan	file not sent along with patient film(both IP and OP)	delay in treatment	5	understaffing , guards/GDA dispatching the films	6	nil	Human error	5	150
film collection	collection of films after scan	misplaced films	reprint of films	5	delay in treatment, dissatisfaction	7	nil	Human error	7	245

Report Collection Process FMEA



Process Step	Key Process Input	Potential Failure Mode	Potential Failure Effects	S E V	Potential Causes	O C C	Current Controls	Error type	D E T	R P N
report collection	report generation	error in report generation	wrong diagnosis	8	patient overload, lack of attention, distractions	1	percentage of errors reporting	Human error	6	48
report collection	report generation	delivery of report to wrong person	wrong treatment plan generation	5	lack of attention, understaffing	2	nil	Human error	4	40

Shifting IP Patients To Ward Process FMEA

Process Step	Key Process Input	Potential Failure Mode	Potential Failure Effects	S E V	Potential Causes	O C C	Current Controls	Error type	D E T	R P N
shifting IP patient to ward	shifting patient with films and brought files	misplaced file	delay in patient shift	5	technical staff showing file to radiologist in reporting room	4	nil	Human error	4	80

Environment Process FMEA

Process Step	Key Process Input	Potential Failure Mode	Potential Failure Effects	S E V	Potential Causes	O C C	Current Controls	Error type	D E T	R P N
environment management	check for temperture and moisture	diagnostic machines improper functioning	delay in scans, inoperable machines	8	maintainenc e staff irregularity in checking	1	regular mintainence check	Electronic error	1	8
environment management	maintainenc e check of devices	due preventive maintenance and calibration checks	imaging quality degradation	7	maintainenc e staff irregularity in checking	1	regular mintainence check	Management error	1	7
environment management	display of quaterly TLD doses in department	updated TLD dose reports not displayed in the department	staff demotivation to wear TLD	3	staff safety at stake, quality of the department left uncommunic ated	8	updated reports should be displayed in the department along with the licenses	Management error	4	96

TOP 20 RPN of the unit.

Process steps with their failure mode	Sum of SEV	Sum of OCC	Sum of DET	Sum of RPN
Registration for diagnosis	8	6	3	144
wrong scan/service written	8	6	3	144
transfer of pateint	3	7	6	126
delays due to nurse paperwork, patient sent before the scheduled time of scan, GDA unavailable	3	7	6	126
waiting in the waiting area	4	6	8	192
improper communication of wait time before scan	4	6	8	192
performance of scans	102	89	80	3407
nurse unavailable for cannula insertion	3	6	7	126
cannula out while administration	7	3	7	147
critical/panic values not documented by staff	4	8	4	128
improper screening of patient for metallic obejects/electrodes	9	7	5	315
no cassette identification mark used for multiple xrays	6	10	5	300
nurse/respective nurse unavailable while the scans are being performed	7	6	6	252
patient sent with improper consent and requisition form	7	9	4	252
patient sent without file, consent and requisition form	8	9	4	288
patient unstable while scan performance, empty oxygen cylinder, unavailable nurse staff	9	3	5	135
scan missing from the software	8	3	8	192
technical staff forgot to lock door while scan performance	9	4	9	324
technical staff not wearing TLD badges, misplaced TLD, TLD left at home	9	9	4	324
unstable patient IPD with sedation requirements	8	9	7	504
wrong MRN or patient name on the software	8	3	5	120

TOP 20 RPN of the unit.



Process steps with their failure mode	Sum of SEV	Sum of OCC	Sum of DET	Sum of RPN
transfer Back of patient	6	8	4	192
patient fall, discomfort while transfer/tear of patient clothes while lifting	6	8	4	192
film collection	18	29	20	635
file not sent along with patient film(both IP and OP)	5	6	5	150
film collection at the same area of scan	3	10	4	120
misplaced films	5	7	7	245
wrong film given to wrong patient	5	6	4	120

Overall Process Errors

The errors were then classified in 6 fields including: Communication Error, Electronic Error, Human Error, Incorrect Practice/procedure, Management Error and Transcription error.

The below table (table 2) shows the error type categorization of failure mode along with their RPN.

Error type	Sum of RPN
Communication error	192
Electronic error	84
Human error	1013
Incorrect practise/procedure	3687
Management error	944
Transcription error	225

Overall Process Errors

Error type	Potential Failure Mode	Sum of RPN
Communication error	improper communication of wait time before scan	192
Electronic error	printing machine not working due to technical issue	40
	diagnostic machines improper functioning	8
	film generation system not connected with the reporting software(MOKSHA)/technical error	36
Human error	delivery of report to wrong person	40
	wrong scan/service written	144
	confusion between similar name patient	60
	delays due to nurse paperwork, patient sent before the scheduled time of scan, GDA unavailable	126
	error in report generation	48
	file not sent along with patient film(both IP and OP)	150
	misplaced file	80
	misplaced films	245
	wrong film given to wrong patient	120

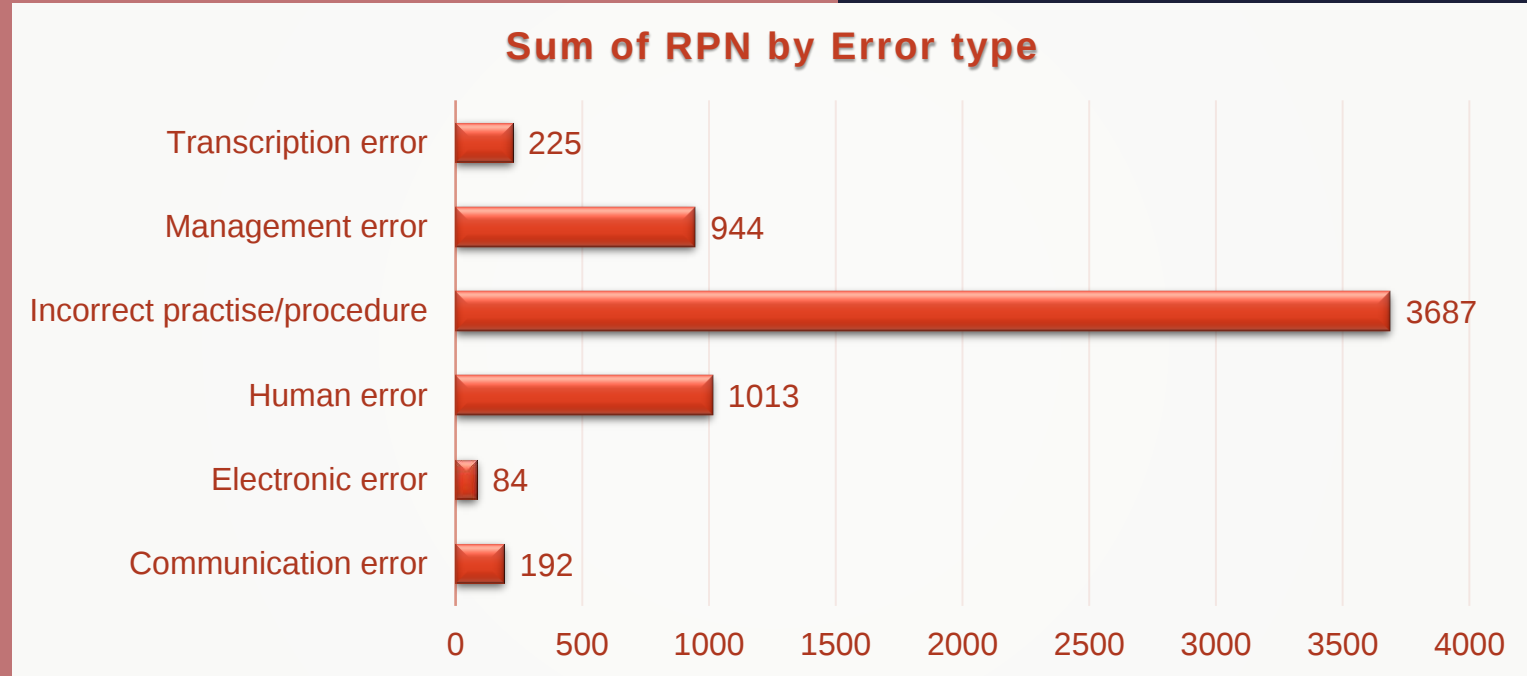
Overall Process Errors

Error type	Potential Failure Mode	Sum of RPN
Incorrect practise/procedure	cannula out while administration	147
	critical/panic values not documented by staff	128
	improper screening of patient for metallic obojects/electrodes	315
	no cassette identification mark used for multiple xrays	300
	patient fall as the position of table not fit to move	25
	patient fall, discomfort while transfer/tear of patient clothes while lifting	192
	patient goes for other tests	84
	patient not informed about dress change	72
	patient not mentally ready for scan	90
	patient not ready clinically for scan, patient overload	75
	patient sent with improper consent and requisition form	252
	patient sent without file, consent and requisition form	288
	patient unstable while scan performance, empty oxygen cylinder, unavailable nurse staff	135
	prioritisation of known patients	56
	registration person not available in radiology reception	112
	scan missing from the software	192
	technical staff forgot to lock door while scan performance	324
	technical staff not wearing TLD badges, misplaced TLD, TLD left at home	324
	unavailable GDA/nurse staff	72
	unstable patient IPD with sedation requirements	504

Overall Process Errors

Error type	Potential Failure Mode	Sum of RPN
Management error	nurse unavailable for cannula insertion	126
	contrast medium out of stock	60
	due preventive maintenance and calibration checks	7
	film collection at the same area of scan	120
	film generated but no record maintained	48
	films out of stock	40
	nurse/respective nurse unavailable while the scans are being performed	252
	patient/attendants standing while waiting	90
	seat belts not used for transfer, lift not operational/in use for other stretcher bed patient transfer, GDA unavailable	105
	updated TLD dose reports not displayed in the department	96
Transcription error	right patient name for right scan but wrong service MRN	105
	wrong MRN or patient name on the software	120

Error type and sum of RPNs by error



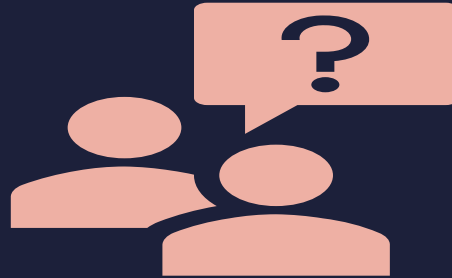


CONCLUSION

- The sedation of unstable patients was one of the top 5 failures in the radiology unit since they were brought in without the MOs and anaesthesiologists, wasting time on that patient as the technical team waited for the patient to remain stable without anaesthesia.
- The technical staff's failure to lock the door while the scan is being executed, may expose someone other than the patient;
- The improper screening of patients prior to scans for metallic or other objects that could necessitate repeat scans;
- The complete absence of stickers to identify the cassettes when performing multiple portable X-rays;
- The transfer of patients to the radiology department for scans or biopsies without a proper file, consent, or request form.

RECOMMENDATIONS

- The hospital can address the top 5 RPNs initially in order to work effectively on these inconveniencies, and the next 5 RPNs will be addressed after that for the department's sustained progress.
- Incorrect practise/procedure & errors while performance of scans- was one of the major cause of errors in the department. Working on it would increase the satisfaction level of the customers significantly.



RECOMMENDATIONS: (specific to failures/errors)

- Sedation required patients
- Unfilled/improper consent/requisition forms.

- Check for proper cannula insertion
- Send file along with patient.

- Films given to wrong person
- Overcrowding at waiting area of sub-unit.

- Nurse unavailable at the time of scan.
- Misplaced films
- No use of lift sheets for patient transfer from bed to scan table.

Training of Medical Officers

Training of nurse staff

Film collection at dispatch counter

Management of staff/supplies



Training of Technical staff

Avoid communication gaps/
do pt. counselling in unavoidable delays

Scheduling of IP patients at the evening time or early morning time

- Staff not wearing TLD badge
- Check for metallic objects
- Lock doors at the time of scan
- Critical value documentation
- Identification marks on X-Ray cassettes

- Improper communication of wait times before scans
- Counselling before scan

it
ALWAYS
SEEMS
IMPOSSIBLE
UNTIL
it is
DONE.

“Thank-you!”

