

## Original Research Article

# AUDIT OF REPEAT IMAGING REQUESTS AND FACTORS CONTRIBUTING TO REPEAT CT/MRI EXAMINATIONS: AN OBSERVATIONAL STUDY

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### ABSTRACT

**Background:** Repeat CT and MRI examinations are frequently performed in tertiary care hospitals for clinical reassessment, follow-up, and treatment monitoring. While many repeat studies are appropriate and clinically necessary, a considerable proportion may be avoidable due to poor documentation, non-availability of prior imaging, or communication gaps between departments and institutions. Such repetition can increase patient burden, resource utilization, and workload in radiology services. Auditing repeat imaging requests is therefore important to identify patterns of use and factors contributing to unnecessary duplication. **Aim:** To audit repeat imaging requests and identify factors contributing to repeat CT and MRI examinations in a tertiary care hospital.

**Materials and Methods:** This observational study was conducted in the Department of Radiology of a tertiary care hospital and included 150 patients who underwent repeat CT or MRI examinations. Data were collected from radiology request forms, imaging registers, hospital information systems, and picture archiving and communication system records using a structured proforma. Variables recorded included age, sex, imaging modality, patient status, source of referral, referring department, anatomical region examined, interval between previous and repeat imaging, availability of prior imaging, adequacy of clinical details, mention of prior imaging, reason for repeat examination, and justification status. Data were analyzed using SPSS version 27.0. Categorical variables were expressed as frequencies and percentages, and associations were tested using chi-square or Fisher's exact test. A p-value of less than 0.05 was considered statistically significant.

**Results:** Among the 150 patients, the majority belonged to the 31–50 years age group (38.67%), and males predominated (61.33%). CT constituted 64.00% of repeat imaging, while MRI accounted for 36.00%. Most repeat examinations were performed in inpatients (68.00%). Brain imaging was the most commonly repeated examination (30.67%), followed by abdomen and pelvis (25.33%). The most frequent interval between scans was 8–30 days (31.33%). Previous imaging was unavailable in 45.33% of cases, and clinical details were inadequate in 38.67%. Disease progression (26.67%) and follow-up/post-treatment evaluation (21.33%) were the commonest reasons for repeat imaging. Overall, 58.67% of repeat examinations were clinically justified, whereas 28.00% were potentially avoidable and 13.33% were likely unnecessary. Avoidable or unnecessary repeat imaging was significantly associated with non-availability of previous imaging ( $p < 0.001$ ), inadequate clinical details ( $p < 0.001$ ), and referral from other departments or institutions ( $p = 0.003$ ).

**Conclusion:** Repeat CT and MRI examinations were common in this tertiary care setting and were influenced by both genuine clinical need and preventable

system-related factors. Improved documentation, better access to prior imaging, and stronger interdepartmental communication may reduce unnecessary repeat imaging and enhance the quality of radiology services.

**Keywords:** Repeat imaging; Computed tomography; Magnetic resonance imaging; Radiology audit.

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## INTRODUCTION

Musculoskeletal infections comprise a broad Advanced diagnostic imaging has become an essential component of contemporary clinical care because CT and MRI play major roles in diagnosis, triage, treatment planning, follow-up, and monitoring of response to therapy. Their widespread availability and increasing integration into routine workflows have improved diagnostic confidence across emergency, inpatient, and outpatient settings. At the same time, the growth in imaging utilization has raised concern about low-value imaging, duplicated examinations, and repetition of studies that may not add meaningful clinical information. Repeat imaging is not inherently inappropriate, since many patients legitimately require reassessment because of disease progression, postoperative evaluation, treatment response, or change in clinical status. However, repeated CT or MRI performed in the absence of a clear indication can increase costs, burden radiology services, delay access for other patients, and reduce overall efficiency of care.<sup>[1]</sup> The problem of repeat imaging requests is closely linked to the broader issue of imaging appropriateness. In many healthcare settings, imaging requests are influenced not only by clinical need but also by defensive medicine, uncertainty in decision-making, easy access to imaging, fragmented patient pathways, and variation in clinician experience. These factors may encourage repeat examinations even when prior imaging is available or when another imaging strategy would be more appropriate. Evidence-based referral guidelines and appropriateness frameworks have therefore become increasingly important in radiology practice, as they support better matching of imaging to the clinical question and help reduce unnecessary utilization. In this context, auditing repeat CT and MRI requests is a practical quality-improvement approach because it helps identify whether repetition is driven mainly by disease-related need or by remediable systems failures in ordering practice.<sup>[2]</sup> Repeat imaging also has important patient-safety implications. While MRI does not involve ionizing radiation, CT contributes to cumulative radiation exposure, especially when examinations are repeated over short intervals or across multiple episodes of care. Beyond radiation, repeated imaging may expose patients to repeated contrast administration, prolong emergency or inpatient stay, increase anxiety, and trigger further downstream investigations resulting from incidental findings. These issues are particularly relevant in tertiary care hospitals, where patients often have complex disease, multiple referrals, and serial imaging across departments. For this reason,

any attempt to optimize repeat imaging must balance the need to avoid unnecessary duplication with the obligation to preserve timely and clinically justified reassessment.<sup>[3]</sup> Another major determinant of repeat CT/MRI examinations is the quality of the imaging request itself. Radiology request forms are the main channel through which the referring clinician communicates the clinical problem, provisional diagnosis, relevant findings, prior imaging history, and the precise question to be answered by imaging. When this information is incomplete, vague, or absent, the radiologist may be unable to assess appropriateness effectively, compare with previous examinations, or recommend the most suitable modality. Poorly completed request forms can therefore contribute to repeated or suboptimal imaging, either because the initial study was not optimally targeted or because subsequent clinicians are unable to understand what was previously done and why. Audits of radiology request quality remain highly relevant in tertiary centers because they reflect the operational interface between clinicians and radiology services.<sup>[4]</sup> Access to previous imaging and reports is equally important in preventing avoidable repetition. In ideal practice, clinicians and radiologists should be able to review prior CT or MRI examinations, compare current findings with earlier studies, and determine whether repeat imaging is necessary. In reality, previous studies may be unavailable, inaccessible, inadequately transferred, or not mentioned in the new request. This problem is particularly common when patients move between departments, present again after outside evaluation, or are referred from other institutions. Lack of interoperability and poor image-sharing pathways can therefore convert potentially avoidable duplication into routine practice. Strengthening electronic image-sharing systems and ensuring continuity of information across care settings are increasingly recognized as central measures for reducing unnecessary repeat imaging and improving coordination of care.<sup>[5]</sup> In addition to access and documentation issues, institutional workflow factors may also influence repeat imaging behavior. Tertiary care hospitals typically manage acutely ill patients, referrals from peripheral centers, and cases requiring multidisciplinary input. Such environments naturally generate a higher volume of follow-up and interval imaging. At the same time, they are vulnerable to repeat requests caused by transitions in care, multiple treating teams, and differences in interpretation of previous findings. Repeat imaging may therefore arise from a mixture of justified clinical necessity and potentially preventable organizational causes. An audit-based observational approach is well suited to disentangle these elements because it allows the

examination of referral patterns, modality use, body-region distribution, prior-image availability, quality of request documentation, and the reasons recorded for repetition in routine practice.<sup>[6]</sup>

## MATERIALS AND METHODS

This observational study was conducted in the Department of Radiology of a tertiary care hospital to audit repeat imaging requests and identify factors contributing to repeat CT and MRI examinations. The study was designed to evaluate the frequency, pattern, justification, and determinants of repeat advanced imaging in routine hospital practice. The audit approach was chosen to assess existing imaging utilization behavior without influencing clinical decision-making, thereby reflecting real-world practice.

The study included 150 patients who underwent repeat CT or MRI examinations and whose imaging requests were available for review. Patients were selected from imaging records and request forms maintained in the radiology department. Each case represented one repeat imaging episode, and the audit focused on those requests in which CT or MRI had been repeated for the same patient, either for the same clinical indication or within a clinically relevant interval, as documented in hospital records.

**Eligibility Criteria:** The study included patients of either sex and all eligible age groups who had undergone a repeat CT or MRI examination and for whom complete imaging request details, clinical indication, and prior imaging information were available in the hospital records. Cases were included when the repeat imaging examination could be linked to a previous CT or MRI study performed for a similar or related clinical concern. Patients with incomplete records, missing prior imaging details, duplicate entries, or repeat examinations performed solely for image-guided interventions or technical post-processing purposes were excluded from the analysis.

### Methodology

Data were collected from radiology request forms, imaging registers, hospital information systems, and picture archiving and communication system records. A structured data collection proforma was used to ensure uniform extraction of relevant information for each included case. For every repeat CT or MRI request, details were recorded regarding patient demographics, referring department, inpatient or outpatient status, imaging modality, anatomical region examined, documented clinical indication, availability of previous imaging reports, interval from previous imaging, reason for repeat request, and whether the repeat study was clinically justified based on the information provided. The request forms were also reviewed for completeness of documentation, including provisional diagnosis, relevant clinical findings, and mention of prior imaging.

**Study Variables and audit parameters:** The primary audit parameter was the occurrence of a repeat CT or MRI examination. Important variables assessed included age, sex, type of imaging modality (CT or MRI), body region imaged, requesting specialty, source of referral, presence or absence of prior imaging records at the time of request, adequacy of clinical details on the request form, interval between original and repeat examination, and documented indication for repeat imaging. Additional parameters included change in clinical status, suspected disease progression, need for post-treatment or post-operative evaluation, poor quality or incomplete previous study, non-availability of previous images or reports, repeat imaging due to referral from another clinician or institution, patient transfer between departments, and administrative or communication-related issues. The audit also evaluated whether the repeat examination was appropriate, potentially avoidable, or likely unnecessary based on available documentation and radiological review criteria.

**Outcome Measures:** The primary outcome measure was the proportion and pattern of repeat CT and MRI requests identified in the audited sample. Secondary outcome measures included the distribution of repeat imaging by modality and anatomical region, common clinical and administrative reasons for repeat imaging, proportion of requests with adequate clinical justification, frequency of unavailable prior imaging at the time of repeat request, and factors associated with potentially avoidable repeat examinations. The study further aimed to identify system-level and clinician-related contributors to repeat imaging in order to inform quality improvement measures in radiology utilization.

**Statistical Analysis:** The collected data were entered and analyzed using SPSS version 27.0. Descriptive statistics were used to summarize the study findings. Categorical variables such as sex, modality, referring department, reason for repeat imaging, and justification status were expressed as frequencies and percentages. Continuous variables such as age and interval between previous and repeat imaging were summarized using mean and standard deviation or median and interquartile range, depending on the distribution of data. Associations between repeat imaging characteristics and contributing factors were assessed using the chi-square test or Fisher's exact test for categorical variables. For continuous variables, the independent samples t-test or Mann-Whitney U test was applied as appropriate. A p-value of less than 0.05 was considered statistically significant.

## RESULTS

The present study included a total of 150 patients who underwent repeat CT or MRI examinations. The demographic characteristics of the study population are summarized in Table 1. The majority of patients

belonged to the 31–50 years age group (38.67%), followed by those aged 51–70 years (29.33%). Younger patients aged  $\leq 30$  years constituted 21.33% of the study population, while only 10.67% were above 70 years of age. This indicates that repeat imaging was more frequently observed in the middle-aged population. In terms of gender distribution, males predominated with 61.33% of cases, whereas females accounted for 38.67%, suggesting a higher utilization of repeat imaging among male patients in this cohort.

Table 2 presents the distribution of repeat imaging according to modality, patient status, and referral source. CT scans constituted the majority of repeat imaging examinations (64.00%), while MRI accounted for 36.00%. This reflects the greater reliance on CT imaging in acute and follow-up clinical scenarios. A significant proportion of repeat imaging was observed among inpatients (68.00%), compared to outpatients (32.00%), indicating that hospitalized patients are more likely to undergo repeated imaging, possibly due to disease severity or need for close monitoring. Regarding the source of referral, more than half of the repeat imaging requests (56.00%) originated from the same department, while 28.00% were from different departments and 16.00% were from outside institutions.

The distribution of repeat imaging according to referring department and anatomical region is shown in Table 3. Medicine and allied specialties were the most common contributors (22.67%), followed by Emergency/Trauma (19.33%) and Neurosurgery/Neurology (17.33%). Surgical specialties accounted for 14.67% of cases, while Orthopedics (9.33%), Oncology (7.33%), and ICU/Critical care (6.00%) contributed smaller proportions. This pattern indicates that both acute care settings and chronic disease management specialties significantly contribute to repeat imaging requests. In terms of anatomical regions, the brain was the most frequently imaged site (30.67%), followed by abdomen and pelvis (25.33%) and chest (18.67%). Spine imaging accounted for 14.67%, while extremities (6.67%) and other regions (4.00%) were less commonly involved.

Table 4 outlines the interval between previous and repeat imaging along with documentation-related parameters. The most common interval for repeat imaging was 8–30 days (31.33%), followed by 2–7 days (26.00%), indicating that a substantial proportion of repeat examinations occurred within a

short time frame. Notably, 12.00% of repeat imaging was performed within 24 hours, which may reflect urgent clinical reassessment. Regarding documentation, previous imaging was available in 54.67% of cases, whereas it was not available in 45.33%, indicating a significant gap in access to prior imaging. Clinical details were adequately documented in 61.33% of cases, while 38.67% had inadequate information. Additionally, prior imaging was mentioned in only 49.33% of request forms, with 50.67% lacking such documentation.

The reasons for repeat imaging and their justification status are detailed in Table 5. The most common reason for repeat imaging was disease progression or clinical deterioration (26.67%), followed by follow-up or post-treatment evaluation (21.33%). Non-availability of previous imaging accounted for 18.67% of cases, while poor quality of prior imaging contributed to 12.00%. Other reasons included referral from another clinician (10.67%), incomplete clinical details (6.67%), and administrative issues (4.00%). With respect to justification, 58.67% of repeat imaging examinations were considered clinically justified. However, 28.00% were categorized as potentially avoidable, and 13.33% were deemed likely unnecessary, indicating that a considerable proportion of repeat imaging could potentially be reduced through better practices.

Table 6 demonstrates the association between key factors and avoidable or unnecessary repeat imaging. A statistically significant association was observed between the availability of previous imaging and the likelihood of avoidable repeat imaging ( $p < 0.001$ ). Among patients with prior imaging available, only 26.83% had avoidable or unnecessary repeat examinations, compared to 58.82% when prior imaging was not available. Similarly, adequacy of clinical details showed a significant association ( $p < 0.001$ ), with avoidable imaging observed in 62.07% of cases with inadequate clinical information, compared to 28.26% when adequate details were provided. Referral source also demonstrated a significant relationship ( $p = 0.003$ ), with higher rates of avoidable imaging seen in cases referred from other departments or institutions (57.58%) compared to the same department (28.57%). However, no statistically significant association was found between imaging modality and avoidable imaging ( $p = 0.089$ ), although a higher proportion of avoidable imaging was observed with CT (45.83%) compared to MRI (33.33%).

**Table 1: Demographic Characteristics of Study Population (n = 150)**

Variable	Category	Frequency (n)	Percentage (%)
Age group (years)	$\leq 30$	32	21.33
	31–50	58	38.67
	51–70	44	29.33
	$> 70$	16	10.67
Sex	Male	92	61.33
	Female	58	38.67

**Table 2: Distribution of Repeat Imaging by Modality, Patient Status and Referral Source (n = 150)**

Variable	Category	Frequency (n)	Percentage (%)
Imaging modality	CT	96	64.00
	MRI	54	36.00
Patient status	Inpatient	102	68.00
	Outpatient	48	32.00
Source of referral	Same department	84	56.00
	Different department	42	28.00
	Outside institution	24	16.00

**Table 3: Distribution According to Referring Department and Anatomical Region (n = 150)**

Variable	Category	Frequency (n)	Percentage (%)
Referring department	Medicine & allied	34	22.67
	Emergency/Trauma	29	19.33
	Neurosurgery/Neurology	26	17.33
	Surgery & allied	22	14.67
	Orthopedics	14	9.33
	Oncology	11	7.33
	ICU/Critical care	9	6.00
	Others	5	3.33
Anatomical region	Brain	46	30.67
	Abdomen & pelvis	38	25.33
	Chest	28	18.67
	Spine	22	14.67
	Extremities	10	6.67
	Others	6	4.00

**Table 4: Interval Between Previous and Repeat Imaging and Documentation Parameters (n = 150)**

Variable	Category	Frequency (n)	Percentage (%)
Interval between scans	Within 24 hours	18	12.00
	2-7 days	39	26.00
	8-30 days	47	31.33
	1-3 months	28	18.67
	>3 months	18	12.00
Previous imaging availability	Available	82	54.67
	Not available	68	45.33
Adequacy of clinical details	Adequate	92	61.33
	Inadequate	58	38.67
Mention of prior imaging	Yes	74	49.33
	No	76	50.67

**Table 5: Reasons for Repeat Imaging and Justification Status (n = 150)**

Variable	Category	Frequency (n)	Percentage (%)
Reason for repeat imaging	Disease progression	40	26.67
	Follow-up/post-treatment	32	21.33
	Previous imaging not available	28	18.67
	Poor quality prior imaging	18	12.00
	Referral from another clinician	16	10.67
	Incomplete clinical details	10	6.67
	Administrative issues	6	4.00
Justification status	Clinically justified	88	58.67
	Potentially avoidable	42	28.00
	Likely unnecessary	20	13.33

**Table 6: Association of Key Factors with Avoidable / Unnecessary Repeat Imaging**

Variable	Category	Avoidable/Unnecessary n (%)	Justified n (%)	Total	p-value
Previous imaging availability	Available (n=82)	22 (26.83)	60 (73.17)	82	<0.001
	Not available (n=68)	40 (58.82)	28 (41.18)	68	
Clinical details	Adequate (n=92)	26 (28.26)	66 (71.74)	92	<0.001
	Inadequate (n=58)	36 (62.07)	22 (37.93)	58	
Referral source	Same department (n=84)	24 (28.57)	60 (71.43)	84	0.003
	Other departments/institutions (n=66)	38 (57.58)	28 (42.42)	66	
Imaging modality	CT (n=96)	44 (45.83)	52 (54.17)	96	0.089
	MRI (n=54)	18 (33.33)	36 (66.67)	54	

## DISCUSSION

The demographic profile in the present study showed that repeat CT/MRI examinations were more common in middle-aged adults, with 38.67% of patients in the 31–50-year group and 29.33% in the 51–70-year group, while males constituted 61.33% of the sample. This pattern is broadly comparable to the study by Ahn et al. (2021),<sup>[7]</sup> who analyzed 1,054 patients undergoing repeat CT/MRI at emergency department revisits and reported a mean age of 56.0 ± 15.7 years with 50.5% male patients. Although our study demonstrated a stronger male predominance and a slightly younger concentration, both studies indicate that repeat advanced imaging is largely concentrated in adult and middle-to-late age groups rather than the very elderly. This may reflect the higher burden of trauma, neurologic disease, abdominal emergencies, and chronic disease follow-up in these age categories.

In the present study, CT formed the majority of repeat imaging requests (64.00%), MRI accounted for 36.00%, and most repeat examinations were performed in inpatients (68.00%). This predominance of CT is consistent with the findings of Haley et al. (2009),<sup>[8]</sup> who studied 410 trauma transfers and found that 53% of referred patients underwent repeat imaging, largely in acute-care settings, with the repeated-imaging group being more severely injured and experiencing longer transfer delays. Our high inpatient proportion likely reflects a similar pattern, where acutely ill or transferred patients require rapid reassessment and CT is preferred because of speed, accessibility, and utility in emergency decision-making. The finding that 44.00% of our referrals came from outside the same department also supports the concept that transitions in care increase the chance of imaging duplication.

Regarding the specialty distribution and anatomical site of repeated imaging, medicine and allied specialties were the commonest referring group in our study (22.67%), followed by emergency/trauma (19.33%) and neurosurgery/neurology (17.33%). Anatomically, brain imaging was the most frequent repeat examination (30.67%), followed by abdomen and pelvis (25.33%) and chest (18.67%). These findings correspond well with the nationwide analysis by Chen et al. (2012),<sup>[9]</sup> in which 21.5% of 2,152,292 patients underwent repeat CT/MRI within 90 days, and repeat imaging was most commonly associated with malignancy (31.8%), neurologic disorders (24.0%), and brain or spinal injury (25.3%). The predominance of brain imaging in our study is therefore in keeping with published evidence showing that neurologic and brain/spinal indications are among the strongest drivers of repeat advanced imaging.

The interval analysis in our study showed that 12.00% of repeat scans were performed within 24 hours, 26.00% within 2–7 days, and 31.33% within 8–30 days, indicating that 69.33% of all repeat

examinations occurred within the first month. This short-interval pattern is similar to that reported by Lee et al. (2019),<sup>[10]</sup> who found that 10% of patients undergoing CT for abdominal pain in the emergency department had a repeat CT within 1 month; importantly, only 30% of those repeat scans showed new or worsened findings. In our series, disease progression accounted for 26.67% of repeats and follow-up/post-treatment evaluation for 21.33%, suggesting that although a considerable fraction of early repeat imaging is clinically meaningful, a substantial subset may still represent reassessment without major new radiologic yield.

Documentation-related findings in the present study revealed that previous imaging was available in only 54.67% of cases, adequate clinical details were provided in 61.33%, and prior imaging was explicitly mentioned on just 49.33% of request forms. These findings compare favorably, but still indicate important deficiencies, when viewed against the audit by Rajanikanth Rao et al. (2014),<sup>[11]</sup> of 200 CT/MRI request forms, where clinical diagnosis was absent in 42%, clinical details were missing in 62%, and age/sex were absent in 35% of forms. Compared with that audit, our forms were better completed overall, yet the fact that nearly two-fifths of our requests still had inadequate clinical details suggests that incomplete requisitions remain a major operational factor predisposing to repeat imaging.

The quality of radiology requests in our study also deserves attention, because 38.67% of requests lacked adequate clinical details and 50.67% failed to mention prior imaging, both of which can directly impair justification of repeat examinations. This trend is supported by Kasalak et al. (2021),<sup>[12]</sup> who evaluated 673 radiologic requests using RI-RADS and found that only 23.6% were fully adequate, while 76.4% were barely adequate, considerably limited, or deficient. Their analysis also showed that indication, requesting specialty, and body region significantly influenced request quality. Although the inadequacy rate in our study was lower than that reported by Kasalak et al., both studies point to the same underlying issue: poor-quality requests compromise radiologic decision-making and can contribute to unnecessary or avoidable repeat scanning.

In terms of reasons for repetition, our study found that disease progression/clinical deterioration was the commonest indication (26.67%), followed by follow-up/post-treatment evaluation (21.33%), non-availability of previous imaging (18.67%), and poor-quality prior imaging (12.00%). These observations are comparable to the trauma-transfer study by Moore et al. (2013),<sup>[13]</sup> who reported duplicate CT in 28% of transferred patients; the most common reason was lack of thin-section multiplanar data on transferred images (37%), and repeat imaging altered management in 42% of cases. The comparison suggests that, as in our study, some repeat imaging is justified by genuine clinical need or technical inadequacy, but a substantial proportion arises from

failures in image transfer and technical completeness rather than new pathology alone.

With respect to appropriateness, 58.67% of repeat examinations in our study were clinically justified, while 28.00% were potentially avoidable and 13.33% were likely unnecessary. The significance of previous-image access was further reinforced by our Table 6, where avoidable/unnecessary imaging occurred in 58.82% of patients when previous imaging was unavailable, compared with only 26.83% when it was available. This is consistent with Bailey et al. (2013),<sup>[14]</sup> who showed in 800 repeated emergency visits for back pain that 22.4% resulted in repeated imaging, and that use of health information exchange was associated with 64% lower odds of repeat imaging (odds ratio 0.36). Our data similarly support the idea that better access to prior imaging and reports can substantially reduce low-value repeat examinations.

The association analysis in our study also showed that inadequate clinical details were strongly linked with avoidable/unnecessary repeat imaging (62.07% vs 28.26% when details were adequate;  $p < 0.001$ ), and referrals from other departments or institutions had higher avoidable/unnecessary rates than same-department referrals (57.58% vs 28.57%;  $p = 0.003$ ). These findings have important economic implications and align with Jung et al. (2015),<sup>[15]</sup> who found that health information exchange was associated with an estimated annual saving of \$32,460 in avoided repeat imaging, or \$2.57 per patient; although advanced imaging constituted only 13% of avoided repeat procedures, it accounted for 50% of savings. In our setting, where CT and MRI together formed 100% of audited repeat examinations and 41.33% were avoidable or unnecessary, even modest improvements in documentation, interoperability, and interdepartmental image sharing could therefore yield meaningful reductions in both patient burden and institutional cost.

## CONCLUSION

Repeat CT and MRI examinations in this tertiary care hospital were common and were driven by both valid clinical indications and avoidable system-related factors. Although most repeat imaging was clinically justified, a substantial proportion was potentially avoidable or unnecessary, particularly when prior imaging was unavailable, clinical details were inadequate, or referrals came from other departments or institutions. The findings highlight the need for better documentation, improved access to previous imaging records, and stronger interdepartmental communication. Regular audit of imaging requests may help optimize imaging utilization, reduce unnecessary repetition, and improve the overall quality of radiology services.

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