

## Assessment of Compliance Indicators for Examination Requests at University Hospital Center of Kati

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### Abstract

### Original Research Article

**Introduction:** The request for a radiological examination is a prescription sent to a radiologist by a doctor or another health professional with the required skills. The aim of our work was to analyze the compliance of examination requests in the medical imaging department of CHU-Kati. **Methodology:** This was a prospective and cross-sectional study of medical imaging examination requests in the Medical Imaging Department of Kati University Hospital over a period of one month from December 5, 2015 to January 5, 2016. The parameters studied were on the compliance criteria which are eight (8) in number, five of which are administrative (date of the request, requesting department, patient's surname and first name, patient's age, applicant's identification) and three (3) clinical (anatomical region, reason for the examination and purpose of the examination). **Results:** At the end of our study, we identified 300 imaging examination requests distributed as follows: standard radiography was 66% followed by ultrasound 19.69%, scanner 12% and radiography examinations with contrast product 2.33%. The largest number of bulletins belonged to the C.H.U of Kati with 53% followed by the military infirmary, 31.43% and other 15.57% of cases (Other means the other structures (C.H.U-Gabriel TOURE, C.H.U-Point G, clinics and medical practices)). The least noted administrative criterion was the patient's age with 25.33% of cases. The anatomical region requested on the reports was present in 100% of the cases, the reason for the examination represented 75.57% of the cases and only on 7.33% of the requests for examination existed the purpose of the examination. The information found on the requests was illegible in 3.33% of the cases and the profession of the patients was noted in 98.33% of the cases. The presence of all the administrative criteria of the requests for examination was nil Compared to the relationship between the qualification and the other criteria of conformity: The address of the patient was absent on almost all of the requests. The indication of the sex of the patients and the information on the profession of the patients were made rarely by the prescribers. All examination reports from general practitioners and T.S.S were signed and stamped in 100% of cases. The large number of bulletins that included a telephone number were made by general practitioners at 42.86%. **Conclusion:** We note that very few examination requests include all the compliance elements, which results in a very low compliance rate with 2.33% of cases.

**Keywords:** Request compliance, radiological examination, radiology department, patient, Kati University Hospital.

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## INTRODUCTION

The request for a radiological examination is a prescription sent to a radiologist by a doctor or another health professional with the required skills. It must allow the radiologist to understand the problem posed by the patient and the reasons for which the examination is requested. It is one of the supports of the contract that binds the prescriber to the patient and to

medical imaging [1]. The strategy for carrying out imaging examinations requires a good knowledge of the various criteria on examination requests. This implies a perfect knowledge of the rules for using imagery [2, 3]. Requests may be insufficiently informed. This does not help the radiologist in the effective performance of the examination. The accuracy of the test request is important because if the patient is unconscious, deaf or confused, the collection of important information

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becomes difficult and there is a significant risk of error. To avoid errors, requests for review must include compliance criteria. Which are administrative and technical criteria [4, 5]. Despite the relevance of this information, the level of information in the requests is often low. This is why it seemed important to us to initiate this work, the purpose of which is to analyze the compliance of examination requests in the medical imaging department of the CHU-Kati.

## METHODOLOGY

Our study was carried out in the Medical Imaging Department of the University Hospital of Kati. This was a prospective and cross-sectional study of medical imaging examination requests to assess their compliance over a period of one month from December 5, 2015 to January 5, 2016. We used the administrative criteria and the criteria clinics. The sampling was exhaustive on the imaging examination requests received in the department during the study period with 300 requests collected. All requests for medical imaging examinations recorded in the Medical Imaging department of the C.H.U-Kati were included in our

work. The data was collected from the radiological examination request forms. The parameters studied were on the compliance criteria which are eight (8) in number, five of which are administrative (date of the request, requesting department, patient's surname and first name, patient's age, applicant's identification) and three (3) clinical (anatomical region, reason for the examination and purpose of the examination).

## RESULTS

At the end of our study, we identified 300 imaging examination requests distributed as follows: standard radiography was 66% followed by ultrasound 19.69%, scanner 12% and radiography examinations with contrast product 2.33%. The largest number of bulletins belonged to the C.H.U of Kati with 53% followed by the military infirmary, 31.43% and other 15.57% of cases (Other means the other structures (C.H.U-Gabriel TOURE, C.H.U-Point G, clinics and medical practices)). Radiography without contrast product was more than half of the examinations requested, either 66% of cases (Figure 1).

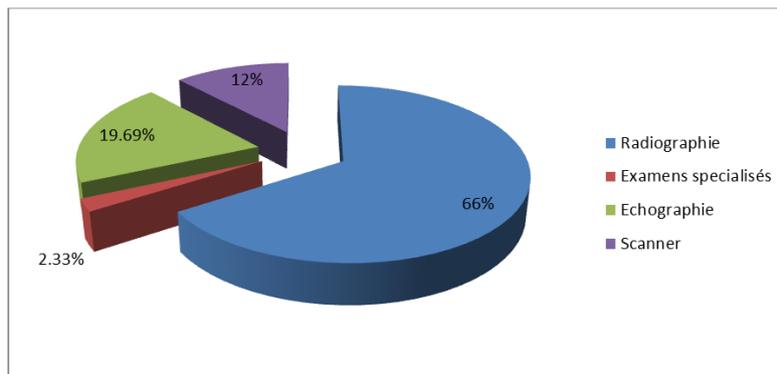


Figure 1: Breakdown of examinations requested according to their nature

Almost half of the bulletins did not include the applicant's qualification with 48% of cases and specialist doctors were represented with 30% of cases

followed by general practitioners, senior health technicians (TSS) and other prescribers (Figure 2).

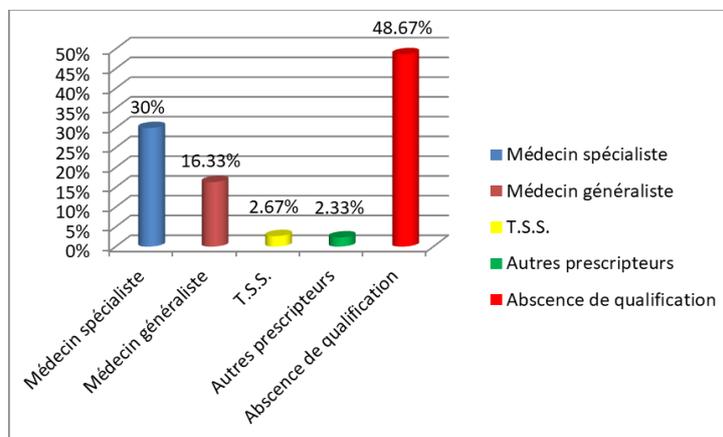


Figure 2: Distribution of prescribers according to their qualification

The external consultation made the greatest number of requests with 79.67% followed by emergencies with 10.33% of cases and hospitalized patients with 10% of cases.

The least noted administrative criterion was the patient's age with 25.33% of cases (Table I).

**Table I: Distribution of ballots according to the five (5) administrative criteria**

Administrative criteria	Presence		Absence		Total	
	Number	%	Number	%	Number	%
Date of demand	297	99	3	1	300	100
Patient identity	299	99,67	1	0,33	300	100
Patient's age	76	25,33	224	74,67	300	100
Requesting agency	132	44	168	56	300	100
Name and qualification of applicant	135	45	165	55	300	100

The anatomical region requested on the reports was present in 100% of the cases, the reason for the examination represented 75.57% of the cases and only

in 7.33% of the requests for examination existed the purpose of the examination (Table II).

**Table II: Distribution of ballots according to the three (3) technical criteria**

Technical criteria	Presence		Absence		Total	
	Number	%	Number	%	Number	%
Anatomical region	300	100	0	0	300	100
Reason for examination	227	75,57	73	24,33	300	100
Purpose of the examination	22	7,33	278	92,67	300	100

The information found on the requests was illegible in 3.33% of the cases and the profession of the patients was noted in 98.33% of the cases (Table III).

**Table III: Breakdown of examination requests according to the other compliance criteria**

Other compliance criteria	Presence		Absence		Total	
	Number	%	Number	%	Number	%
Patient's occupation	5	1,67	295	98,33	300	100
Patient sex	8	2,67	292	97,33	300	100
Patient address	7	2,33	293	97,67	300	100
Signature of the prescriber	289	96,33	11	3,67	300	100
Stamp of the prescriber or his department	278	92,67	22	7,33	300	100
Contact of the prescriber or his department	55	18,33	245	81,67	300	100
Readability of the request	290	96,67	10	3,33	300	100

For the relationship between radiographic examinations and the applicant's qualification, more than half of the requests for standard radiography did not include the applicant's qualification (53.03% of cases). CT examinations were mainly requested by medical specialists (47.22%). The request for examination of patients in external consultation was made by medical specialists in 35.56% of cases and 45.61% lacked the qualification of the applicant. For the relationship between the applicant's qualification and the presence of the prescription date, the prescription date was absent in 25% of cases on requests made by the T.S.S. The patient's name was 100% present on all examination requests with all qualifications except general practitioners (in 97.96% of cases). The patient's age was mentioned by the other prescribers in 71.42% of the cases, by the T.S.S in 37.50% of the cases. The applicant department was present in 50.68% of cases on the examination reports which did not include the

applicant's qualification. Only 7.53% of the exam requests that did not include the applicant's qualification had the applicant's name listed. The presence of all the administrative criteria of the requests for examination was null on the requests of the Technicians Superior of Health (T.S.S). The indication of the anatomical region was present in 100% of cases. The reason for the examination was 100% mentioned by the Superior Health Technicians (T.S.S). All the technical criteria for examination requests existed among specialist doctors with 5.55% of cases and 4.08% of cases for general practitioners. In general, the compliance indicators for examination requests were very low or even non-existent (0 to 5.56%). Regarding the relationship between the qualification and the other compliance criteria: The patient's address was absent on almost all of the requests. The indication of the sex of the patients and the information on the profession of the patients were made rarely by the prescribers. All examination

reports from general practitioners and T.S.S were signed and stamped in 100% of cases. The large number of bulletins that included a telephone number were made by general practitioners at 42.86%.

## DISCUSSION

### Administrative Compliance Criteria:

The presence of all the administrative criteria on the requests was low, i.e. 5% of the cases. This result is lower than those of the Haute Autorité de Santé (HAS), which received 63.7% on an assessment of compliance indicators during the 2010 campaign [5]. The patient's age was the least informed criterion with 25.33% of cases among the 5 administrative criteria. This may be related to the lack of knowledge by many patients of their civil age. The request date appeared on 99% of the requests. It is essential on a request because it allows to have an idea of the period of validity of the request and to follow the evolution of certain diseases. This result is consistent with those of Togola. K who also received 99% during his study [6, 7]. We found that almost all of the requests bore the name of the patient, that is 99.67% of the cases. The absence of this data must lead the radiologist to reject the request because a request for a radiological examination constitutes a contract which binds the prescriber, the patient and the radiologist [2, 8]. This result is consistent with that of N'Gadi [9, 10] and Togola K [6] who respectively found 98% and 99.5% of the cases. In our study, we found that the patient's age was present on the examination requests in 25.33% of cases. Age must absolutely be mentioned because imaging is an analysis of anatomical structures and variations are a function of age. Our result is consistent with those of Togola K. who found an absence of 75% [6]. The requesting department was not mentioned in 66% of requests. This result can be explained by the fact that the request form did not mention the requesting department. This rate is in line with that of Kouame Y N. [10] and higher than that of the HAS [5] which had found respectively 34.45% and 9% of requests not including the requesting department. The applicant's name and qualification appeared on 45% of the applications. This can be explained by the fact that most prescribers used their personal stamp which could also include their telephone number.

### Clinical Compliance Criteria:

We found in our study that the anatomical region was present in all requests, i.e. 100% of cases. This result is consistent with that of the HAS [5] which found that the anatomical region was filled in 98% of cases. The reason for the examination was absent on 24.43% of the examination requests. The presence of clinical information is very important in carrying out the examination. These results were superior to those of KOUAME Y N. [10] and Togola K. [6] who respectively found that 5.70% and 15.40% of the requests did not include the reason for the examination.

The purpose of the examination was absent in 92.67% of the cases on examination requests. The purpose of the examination is as important as the reason because it allows the conviction of the radiologist to be compared with that of the clinician. This rate leads us to believe that imaging examinations are not done to confirm a hypothesis, but to direct towards a diagnosis. This is not consistent with the objectives of imaging, which consists of confirming a hypothesis [6]. This result is the pocket of Togola K. [6] who had found 84.2% of the requests not including the finality.

It is lower than that of the HAS [5] which had found 71% of the finality of the examination.

## CONCLUSION

Among the five administrative criteria, the age of the patient was the least informed with 74.67% of the cases and the four others were mentioned in 44% to 99.67% of the cases. Concerning the three clinical criteria, rare are the requests that included a question asked (purpose of the examination) i.e. 7.33% of all the requests for examination and the other two (anatomical region and reason for the examination) had an attendance rate of 75.57% to 100% of cases. Consequently, we note that very few requests for examination include all the elements of compliance, which results in a very low rate of compliance with 2.33% of cases.

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