

Characteristics of good practice – how to be a good radiographer

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Abstract The study's objective was to define the characteristics of 'good practice' in radiography.

Method Observations of six radiographers performing CT examinations on patients, and in-depth interviews with four radiographers. Interviews and observations are analysed using Kvale's phenomenological method.

Results Radiographers perform examinations differently. Differences are especially apparent in regard to how they relate to their patients. The radiographers viewed their job in three different ways: those who saw radiography as a technical job; those ambivalent as to whether the job is of a technical or a relational nature; and those who sought to utilise technique via the patient. Good radiography is characterised by the combination and integration of technical and patient-oriented actions.

Discussion The results of this study challenge the profession's view of its own practice and the overall value criteria to employ when evaluating radiographic practice.

Keywords: health worker role, patient-professional relationship, professional expertise in radiography

Introduction

The professional role of radiographers has been debated in various fora in recent years, by, among others, Day,¹ Alderson and Hogg,² Snaith and Hardy,³ and Yilder.⁴ Day¹ asks: 'What is a 'good' radiographer, and how do we know when we have seen one?' What does this imply? Day uses the term 'expert' to describe a good radiographer. He emphasises the manner in which the actions and routines of professional practice are performed. He says: 'an expert is someone capable of doing the right thing at the right time'. What are the 'right actions' that the radiographer performs 'at the right time'? The radiographer combines care for the patient with the use of technological equipment. This requires a combination of care and technique.

What does it mean to 'act adequately' in x-ray situations? What does it mean to 'do the right thing at the right time'? How can this be observed in the way a radiographer works? However, Day's¹ article does not specify standards for 'good practice'. Alderson and Hogg discuss the legal aspects of advanced radiographic practice. They provide examples of good practice that include safeguarding data, the need to keep detailed protocols, the need to be aware of limits and when to ask for advice.² Snaith and Hardy discuss the radiographer's career progression³ and Yilder develops a model for expertise in medical imaging.⁴ None of the above, with the exception of Day,¹ who describes how therapeutic radiographers work, describes what the radiographers are actually doing.

The concept of the 'right actions', as performed by the radiographers who are considered to be good practitioners, should be studied. Is it a question of how these actions are performed, rather than the actual actions themselves? To achieve a more comprehensive understanding, I made an observational study at a radiology unit in Norway – i.e. by actually practicing as a radiographer, while observing my colleagues' performance.

The main focus during observations was on radiographers working in a computer tomography (CT) lab. The reason for this choice is that radiographers perform CT examinations fairly

frequently, they work independently, and the examination involves seriously ill patients, so excellent technical skill and good general care is required. It was decided to observe ordinary, competent radiographers, a random sample drawn from those working in the lab.

The objective of this article is to present various descriptions of practice, as well as the reflections of a radiographer, in order to try and find an answer to the main question: what is good radiography?

The role of radiography

The role and function of radiography has been debated extensively and internationally. In 2003, the International Society of Radiographers and Radiological Technologists (ISSRT) presented the results of several years of extensive work.⁸ Regarding the responsibilities of the radiographer, seven key areas integrated into the daily practice of the radiographer are identified and described. These areas include patient care, the use of technology, optimisation of dose, clinical responsibility, administrative aspects, quality assurance and education.

Theories about optimal performance

In order to recognise the 'good' radiographer, a review of how different theoreticians describe him or her is needed. Dreyfus, *et al.*⁵ say that the expert knows what needs to be done in different situations without having to think about the reason for it. The expert is able to appraise and immediately comprehend the situation. Schøn⁶ holds that a reflective awareness of problems is required when tasks are complex and unpredictable. Understanding practice means a combination of performance and reflection on practice. The practitioner must be able to grasp what is special for each situation. Schøn⁶ claims, therefore, that one cannot limit one's practice to merely adhering to standard procedures. The practitioner cannot always simply refer to standard criteria when appraising a situation or making decisions on procedure, but must also act in accordance with past experience, intuition and a feeling for reality in any given situation.⁶

Neither Schön nor Dreyfus have observed the practice of health workers. Patricia Benner, however, has done so.⁷ She wanted to find out what characterised the expert nurse compared to the novice. She found three main differences in their approach. First, the novice acts according to abstract principles, while the expert uses previous experience as a blueprint for his or her actions. Second, the novice views a situation as consisting of different pieces of information, while the expert sees the whole, in which something may be relevant in one situation, while something else is relevant in another. Third, the expert shows by concrete action that he or she is involved in the situation and acts according to that, while the novice takes up the position of an outsider in the situation. Benner⁷ claims that the experienced expert has an intuitive comprehension of any given situation. He or she approaches a problem without considering fruitless alternative options, and has a deep understanding of the whole situation.

In the performance of radiography, the combination of care and the use of advanced technology represent a special challenge. The philosopher Skjervheim reflects upon the relationship between man and technology.¹⁰ He establishes a distinction between objects and persons, distinguishes between dealing with objects and dealing with people, and warns against treating people as objects.¹⁰ Technical actions are actions that have a specific objective in mind; practical actions are seen as actions in the social sphere, modelled on commonly or universally valid norms or values. Only in relation to objects is it considered legitimate to only act technically. Skjervheim¹⁰ claims that a purely instrumental approach has its use in many situations, but there are limits as to when such an approach can be adequate. To approach people in the same manner is to objectify them, which Skjervheim calls 'the instrumental mistake'.

Method

With regard to science theory, this study is based on the traditions of hermeneutics and phenomenology, undertaking an observational study to find out how radiographers performed their job. Ethical permission had been given by the hospital to gather information about health workers and patients.

Field studies were carried out at the radiology department of a university hospital. Six radiographers were observed, five women and one man, for three working days. The choice of subject was random, depending on who happened to be working at the CT lab at the particular time. The radiographers had all extensive work experience and all had worked in a CT lab for between six and 20 years. All of them also instruct and counsel colleagues and students. The patients undergoing examinations in the CT lab were mainly being examined due to cancer. During the course of the working day the researcher took notes and wrote down word for word any comments overheard. Immediately after finishing work, more extensive notes were made from observations.

In addition, four radiographers were interviewed. The interviews were carried out in connection with the observations. The interview consisted of open questions about the examinations and their thoughts, how they felt and views about their work. Each interview lasted for about one and a half hours. The radiographers mostly discussed their professional practice and about events that had affected them in the past. A tape recorder was used, and the interviews were transcribed shortly after completion.

The collection of data was carried out during the autumn of 2005. The interviews were analysed using Kvale's

phenomenological method of analysis for qualitative data.¹¹ In order to obtain a unified or holistic understanding of the content of the interviews, each text was divided into unities of meaning, after which the interviews were considered together and grouped into themes, according to similarities and differences. Descriptions of practice were considered part of the interviews.

Observations and interviews are analysed with reference to ISSRT's description of function, to the descriptions of 'good practice' that the researcher have referred to, and to Skjervheim's understanding of different ways of treating people.¹⁰ In this discussion, theoretical perspectives that are described include the radiographers' own description of their function or role, the theoretician's definition of what an expert is, and an understanding of the distinction between technique and human being.

In this study, 30 CT examinations involving six different radiographers are observed and conversations with about 20 radiographers, and interviews with four radiographers are analysed. This is a study with limited scope but it shows a certain correlation between the observations and the radiographers' statements that will represent other radiographers in the same situation. When findings are compared with the theory, this limited qualitative study will have transfer value related to Kvale's analytic generalising.¹¹

Questions

What is the difference between radiographers who perform optimally, and those who do not? What is a 'radiographer expert'?

Description of practice

Analysis of the radiographers' actions

All radiographers employ technology in a way that leads to optimal images, technically, they conduct the examination well. Radiographers examinations are well documented on the computer and regulations regarding quality assurance are adhered to. They also safeguard patient security in regard to possible reactions to the contrast medium, and enquire about allergies. The radiographers adhere to hygienic procedures, and handle medicines and other substances correctly.

The radiographers differ in how they meet the patients and, especially, how contact with the patients is maintained throughout the examination. The difference is in how the radiographers treat their patients.

Some of the radiographers talked to the patient before, during and after the examination.

They are friendly, accessible and establish contact. They are concerned with the patient's experience throughout, they focus on the patient while skilfully dealing with the technical side of the examination. They operate machinery and technology adequately in accordance with requisition forms and place the patient in the correct projection position in order to produce optimal x-ray images. These actions were performed in a manner that the patients experienced as 'good'. This is a triple challenge; they are technically skilful, they treat the patient well, and integrate technology to the best interest of the patient. All of this is integrated in the same 'operation'.

Other radiographers do not talk to the patient much. They do not express interest in how the patient experienced the examination. They perform the examination in a technical manner, they approach the patient and technical procedures in a similar way.

The analysis shows that the difference between the practitioners lies in their treatment and care of their patients.

Presentation interviews and analysis

By talking to the radiographers it is confirmed that they have different thoughts about their own professional role.

The radiographers all described their job as technical and they all view their practice as two-sided; on the one hand their job is to operate specialised technical equipment, on the other, they are supposed to take care of patients. This is apparent when one of the radiographers says that, 'The important thing for me is to get a good screening and also to take care of the patient. Both are important.'

However, the similarities end here. The radiographers work differently in regard to how they integrate these aspects. They emphasise differently the importance of contact accorded to the patient. Based on how they express their own practice in relation to this, radiographers may be divided into three groups, according to how they view their job:

- 1 Those that see it as a purely technical job.
- 2 Those that see it partly as a technical job, but partly a health worker's job.
- 3 Those that see it as a health worker's job where the patient is at the centre of the radiographer's actions.

Primarily a technical job

Some radiographers clearly express themselves in terms that indicate that, to them, the job is of a technical nature. They say this explicitly, and this is apparent when they talk among themselves. When radiographers talk about patients, they refer to them not by name or by gender, but by the patients' diagnosis or by the organ under examination. The objectification is apparent in statements like: 'We must consider whether we should include the liver on this thorax screening.'

This was demonstrated by one of the radiographers. She sees her job as technical. When the researcher asked whether she would like to say something about her job, she answered: 'I like having a technical job. I have to frequently update my skills, and there are new labs every week, new tasks and challenges all the time. To create something – I really appreciate taking x-rays. We have greater freedom now to evaluate pictures and make decisions. I check what they (the doctors) ask for, and then I look at the image I have produced. I am content in being able to help someone who maybe has had a problem for a long time, and then maybe something is diagnosed. Then I feel useful.'

When the radiographers expressed being ambivalent regarding whether the job is of a technical or a relational nature, they say that it is important to care for the patient. However, at the same time they see effectiveness as being opposed to care. When under pressure, they choose not to emphasise contact with the patient. One said: 'It is important to get through the program, I need to finish before the late shift arrives, so I don't have time for unnecessary talk and other nonsense, I have to make the best possible use of each minute. Another says: 'I want to be kind to the patient, but if you are too kind you may be exploited, the patients won't leave the room, so you need to keep a certain distance.' This radiographer compares her work to factory work, 'We can't work at full speed and at the same time be nice and friendly,' she says.

Their statements also show that the radiographers were concerned with the patient's situation. One says: 'I realise quickly whether the patient is apprehensive, and I also notice it if they are claustrophobic. Then they look at the machinery, and it is the way they look – they will say for instance: 'will I go all the way in there...', or something... so I notice this very quickly and then I can reassure them.' The radiographers' statements showed they

want to relate according to patients' behaviours, but that their approaches are primarily technical.

Some choose to focus on technique through the patient and the patient through technique.

Some of the radiographers emphasised that contact with the patient is very important in their work. One said: 'I am so skilled and drilled in the technical aspects of the job that I don't have to think about it every time I examine a patient. Technique is pre-programmed, so I can concentrate on the patient instead. It is possible to still see the patient when I do the other things. Had I been uncertain about procedures, about the job I am supposed to do, getting these pictures, I wouldn't be able to focus on the patient.'

Another said: 'I try to imagine being the patient.' This radiographer is aware that the patient may be anxious. This is apparent when she says: 'I try to make the patient relax as much as possible and give the impression that CT is a safe place. I want the patient to feel cared for, not just a number in a production line. I encourage the patient to speak, to communicate.' The radiographer says that she consciously looks the patients in the eye when talking to them.

Discussion

The observations and the interviews showed that the radiographers view their professional role in one of three possible ways when defining good radiographic practice.

Different ways of interpreting patients' response

Observations showed that the radiographers differed when it came to how they organised the examination in such a way that the patient remains comfortable throughout. Observations coincide with attitudes revealed in the interviews. Their statements demonstrate that they interpret patient welfare differently. To some radiographers, it is important that the patient is comfortable in the situation, while others ignore the perspective of the patient, and focus on the effectiveness of the department. According to ISSRT's description of the radiographer's responsibility, one may conclude that the radiographers interpret their responsibility differently when it comes to patient care.

Different ways of seeing the patient

Observations suggest that some radiographers 'objectify' patients and approach them in a similar way to which they would approach the technical aspect of radiography, while others treat the patient as a human being in a technical context. When radiographers objectify a patient in this manner, this can be interpreted as if radiographers behave unilaterally in a technical manner, and make the mistake that Skjervheim¹⁰ describes. In this case, it appears as if the radiographers' approach to their professional function is purely technical. They seem to 'forget' that the patient is a human being. Radiographers who merely instruct the patient may be unconscious of the objectification of the patient. It seems as if the radiographers do not reflect on the differences between relating to people versus objects.

Radiographers who treat patients as individuals demonstrated that they view patients in one of two ways, either as an example of the 'typical' patient, or as a unique individual with unique needs. The radiographers' statements suggested that those who see their function as purely technical treat patients as a homogenous group. Observations and interviews suggest that some radiographer view patients in this one-sided way. Patients are 'formed' according to the radiographer's model of a patient.

In this model, the radiographer has decided in advance what is important and what is less important to the patient. This is

apparent in the radiographers' statements, in which they interpret what is important to the patient. When the patient is apprehensive, the radiographer tries to meet the patient. If the radiographers suggest that the patient only seeks contact and attention, they overlook the patient's needs. They then concentrate on technique.

The interviews show that radiographers actually wish to take care of the patient as a fellow human being, but that in order to get through the examination as quickly as possible, the relationship aspect is disregarded. The technical actions are then seen as primary; how these actions are performed, and the patient's needs, seems to be of less importance. This may be interpreted as if the radiographer is partly aware of the patient's needs, and then meets the patient as a person. This material suggests that radiographers are partly aware of the 'instrumental mistake' as described by Skjervheim.¹⁰

The third group of radiographers sees technique through the patient. These radiographers meet each patient as an individual with unique needs. Their statements suggest that they see technology as a means to perform the examination. The patient remains central to the examination. The patient is seen as a fellow human being with individual needs that the radiographer seeks to meet. The relationship is understood in a technical context. This study shows that these radiographers approach technique in a technical way, and see the patient as an individual.

Where man and technology – the patient and the x-ray machine – meet, the radiographer is confronted with several challenges. Radiographers must be able to handle complex equipment with technical skill, but these skills must be integrated in the way each person is dealt with. Meeting the patient can be something of a double challenge, as the radiographer must meet each patient as a human being, while at the same time employing technology to further the interests of the patient. The radiographer must understand how the use of technical equipment is experienced by the patient, and must utilise technology in a humane way. All of this implies a unified approach, using technology in a way that the patient will see as 'good'.

Radiographers with different levels of knowledge

Who are the supposed experts? Could the 'expert' be the radiographer whose priority is on technique, or is it the radiographer who sees the patient, takes care of the patient, and adjusts techniques to suit the patient and examination in question?

By drawing on the findings, it can be seen that the radiographer who performs x-ray examinations in a purely technical manner may be compared to Benner's⁷ description of a novice, following standard procedures when performing the examination. Neither is this in keeping with Schøn's description of the expert.

Radiographers whose statements show that they are ambivalent in relation to technique and patient contact cannot be considered experts, according to the findings of the works cited. These radiographers disregard the patient's welfare in order to get through the examination as quickly as possible. The radiographer's statement about not managing to be 'nice and efficient at the same time' suggests that she is unable to integrate technical and patient-oriented actions.

It seems that the radiographers who place the patient at the centre of their actions can be considered to be at the level of an expert, as Dreyfus, *et al.* describe them.⁵ The radiographer who expresses that her skills are so good that she is able to focus on the patient even as she is performing technical tasks demonstrates that she possesses the competence of an expert. Schøn⁶ claims that the expert must be able to seamlessly handle occurrences. The

observation suggests that the patient experiences well-being even when undergoing an x-ray examination. The radiographer's body language suggests confidence, shows respect, and that attention is being paid to the patient's integrity. According to Benner's⁷ description, this is characteristic of the expert. The expert is a practitioner with an extensive understanding of the unique situation. The radiographer must be able to integrate technical and human-oriented actions in order to perform radiography well. Benner⁷ sees the expert as someone who does not have to think about the tasks she meets, but acts according to the needs of the situation. In the interview, the radiographer who takes the perspective of the patient says that she does not think much about what she is doing, as these skills have been 'ingrained'. This suggests that she developed the competence of the expert. The radiographer's statements may also be seen in relation to how Schøn⁶ describes the expert as someone who reflects in certain situations, but cannot always account for the evaluations and considerations that form the basis of a decision. Radiographers who reduce their patients to technical considerations can hardly be described as experts, as the term has been defined by the works cited in this study.

Some radiographers demonstrate that they are technically skilful, but they do not integrate technique and patient. How can it be suggested that these radiographers are practicing at the optimal level? What values prevail in this specific cultural environment?

Conclusion

When observing radiographers during their work, it was noticed that the radiographers performed their function in different ways. By emphasising patient contact in different ways, the whole examination turned out differently.

The radiographer statements show that some of them meet the patient as if this relation itself is of value, while others 'technify' the patient. A third group of radiographers are ambivalent in regard to technology and patient contact. Their statements show that they want to meet the patient as a human being, but they tend to objectify the patient when it comes to practice.

The culture of the radiology department stresses the technical aspect, regarded as the most important part of the function and practice of radiography. The ideal is to be highly effective and to perform tasks with a high degree of accuracy.

The expert radiographer may be described as a radiographer who takes good care of the patient while also handling the technical side adequately. Technical tasks must be performed efficiently, but the radiographer must not 'technify' the patient, rather treat him or her as a fellow human being. The radiographer should act as a bridge between technology and the patient, and should take into account how technology affects the patient. Only then can the radiographer be seen as 'good' practitioner, and qualify as an expert.

The fact that the culture of the professional milieu does not seem to value the patient's perspective is a challenge to the profession. When the work culture of the department overlooks the relational aspects as a requirement for excellence, wonders what practitioners and patients alike are likely to lose. It can be held that the radiographers need to discuss whether the profession benefits from the fact that the professional milieu values technical skill alone as the sole criterion for excellence and 'good practice'.

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