

## Patient perceptions of communication with diagnostic radiographers

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### ABSTRACT

**Introduction:** The aims of this study were to (1) examine what makes a communication encounter with a diagnostic radiographer effective from the patient's perspective and (2) explore the impact of communication skills on the relationship between a diagnostic radiographer and their patient.

**Methods:** Semi-structured interviews were conducted with 10 patients immediately after their imaging examination. Completed interviews were analysed using an inductive approach.

**Results:** Five themes were identified in the qualitative data. (1) Introduction and Greeting, (2) Explanation/Instruction, (3) Feeling at ease, (4) Clear communication and (5) Gentle manner.

**Conclusion:** These results have identified that effective communication promotes the development of rapport and trust between the radiographer and patient. These findings have implications for practitioners, educators and university programs and should be considered in the development of communication skills training programs for diagnostic radiography students.

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### Introduction

High level communication skills are an essential component in establishing and maintaining effective relationships between health practitioners and their patients.<sup>1</sup> There is a plethora of evidence available throughout the medical, nursing and allied health literature regarding the benefits of effective communication to both the patient and practitioner. Benefits to the patient include increased treatment compliance, enhanced satisfaction, provision of emotional support, reduced anxiety, symptom relief and support for informed decision making.<sup>2–7</sup> Furthermore, it has been reported that effective communication may result in improvements in blood pressure, pain management and recovery time for patients.<sup>2,3</sup> Benefits to the practitioner include increased job satisfaction and reduced stress levels and emotional burnout.<sup>3</sup> Given the strength and importance of this evidence it is imperative that health professionals receive communication skills training in their university degrees.

### Educational approaches to developing communication skills

Communication skills are a core element of pre-registration programs in medicine, nursing and allied health. There are a variety of ways that communication is taught to students. Examples include the use of standardized patients,<sup>8–10</sup> structured teaching sessions,<sup>11</sup> on-line learning units,<sup>12</sup> role plays,<sup>13</sup> drama workshops/forum theatre, where students are given the opportunity to practice adaptation of communication skills to a variety of clinical situations,<sup>1</sup> improvisational exercises<sup>14</sup> and group work.<sup>15</sup> These are facilitated by academic staff, standardized patients or even a student's peers, particularly when providing feedback to identify strengths and areas for improvement.<sup>16</sup>

### Communication skills of diagnostic radiographers

Diagnostic radiographers tend to have shorter more focused communication exchanges with patients when compared to other health professionals.<sup>17</sup> For example, a radiographer completing a chest x-ray will only spend 5–10 min with a patient, from greeting the patient and checking their identification, providing the patient with instructions during their examination through to ending the examination. This means that the radiographer has to build rapport and trust with the patient in a short period of time.<sup>17</sup> Additionally, the radiographer is often one of the first health professionals to see

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the patient at a time when they may be experiencing high degrees of stress, anxiety or pain in relation to their symptoms and potential diagnosis.<sup>4</sup> Radiographers must possess effective communication skills to minimise any anxiety the patient may be experiencing and to provide the patient with the information that they need.<sup>4</sup> Therefore it is essential that radiographers are aware of what makes a communication encounter with a patient and/or their family effective in the delivery of high quality patient care and that diagnostic radiography students learn these skills during their education.

The Medical Radiation Practice Board of Australia's professional capabilities for medical radiation practice<sup>18</sup> identify communication and collaboration as a domain of practice. By the conclusion of their academic program radiography students must demonstrate proficiency in; communicating clearly and with empathy to the patient and/or their family, establishing a trusting relationship with the patient and/or their family, clearly explaining the imaging examination and altering their communication style to meet the needs of the patient. These standards also apply to the ongoing registration of qualified radiographers. Similarly, the Australian Society of Medical Imaging and Radiation Therapy<sup>19</sup> has published Professional Practice Standards (PPS) to promote best practice in communication. Domain 2 of the PPS outlines that the radiographer must maintain effective communication skills with the patient and their family, recognize potential communication barriers and alter their technique accordingly. Both documents state the need for the radiographer to act as an advocate for their patient. The inclusion of communication skills as a professional standard is reflected in the policies and guidelines for safe and effective practice of several international organizations, including the New Zealand Medical Radiation Technologists Board,<sup>20</sup> the American Society of Radiologic Technologists,<sup>21</sup> the Canadian Association of Medical Radiation Technologists<sup>22</sup> and the UK Health and Care Professions Council.<sup>23</sup> This further reinforces the importance of ensuring that radiography students are provided with effective learning opportunities to develop their communication skills throughout the course curriculum, including through the provision of feedback during clinical placement.

There is a paucity of information regarding the characteristics of effective communication between radiographers and patients, from the patient's perspective.<sup>24</sup> Data exist regarding factors influencing qualified radiographers' communication with patients from the radiographer's perspective.<sup>25</sup> Results demonstrated that a radiographers' communication was influenced by four factors – radiographer characteristics (preferred communication style, confidence in communicating with patients), patient characteristics (e.g. a radiographer would communicate less with a trauma patient), need to produce a diagnostic image (the radiographer may praise the patient as a means of reinforcing positive behaviours) and the need to keep the radiology department running (e.g. communication with a patient will reduce when there are a lot of patients waiting). The author concludes that these four factors must be considered when developing communication skills training programs for radiographers.<sup>25</sup> We have not been able to locate any further research examining the characteristics of effective communication between radiographers and patients from the patient's perspective.

Current methods of teaching communication skills to radiography students are largely based on educators' views and clinical expertise. Studies completed to date have focused on the use of structured workshops and role play to teach communication skills to radiography students. They do not include the patient's perspective on effective communication. Halkett, McKay and Shaw<sup>4</sup> examined the effectiveness of providing structured workshops to 3rd year diagnostic radiography students by administering

questionnaires pre and post training. 27 students attended three workshops which aimed to improve a students' ability to take an accurate patient history. The workshops involved the students learning effective communication techniques and history taking skills derived from the literature and the clinical expertise of the facilitators, in addition to participating in role plays with simulated patients. Students' confidence in their communication skills increased after the training and they reported feeling highly satisfied with the workshops provided. Similarly, Reid-Searl, Bowman, McAllister, Cowling and Spuur<sup>13</sup> discuss the use of an educator transforming into a patient using a silicone body mask to assist first year radiography and sonography students in developing their communication and empathy skills. Students took part in a range of scenarios including obtaining a patient history and performing non-invasive procedures. 11 students participated in a post-intervention focus group to ascertain views on the use of this tool to teach communication skills. Key themes of "benefits of consolidating patient care, knowledge through interacting with someone real, learning made fun, awareness of empathy, development of skills of therapeutic communication, engaged problem solving and purposeful reflection" were identified. Whilst this was viewed by students as a useful way to learn these skills, participants commented that they required repeated exposure to this teaching technique to increase their confidence when communicating with patients.

Current communication skills training programs for radiography students do not include patient perceptions of effective communication. It is essential to understand what an effective communication encounter looks like from the patients' perspective as this may inform the development of new and innovative communication skills training methods for radiography students and tools for eliciting feedback from patients.

The aim of this exploratory study was to examine what makes a communication encounter with a diagnostic radiographer effective from the patient's perspective. Additionally, we sought to explore the impact of these communication skills on the relationship between a radiographer and their patient.

## Methods

### *Ethical issues*

Key ethical considerations in this study were patient consent and confidentiality. The researcher waited in a separate area of the department and did not have contact with the patient during the consent process to ensure the patient did not feel coerced or pressured to participate in the study.

All interviews were conducted in a private space within the medical imaging practice to encourage patients to speak freely. This was of particular importance as we wanted the patient to provide an honest account of their experience.

### *Ethics approval*

Ethics approval was obtained from the University of Sydney Human Research Ethics Committee (Project No. 2014/951)

### *Participant recruitment*

A purposive sampling approach<sup>26</sup> was used to recruit 10 participants from two private medical imaging practices in metropolitan Sydney. Flyers were placed in reception and the changing areas of each imaging practice providing general information about the research study. Participants must have seen a diagnostic radiographer and be able to take part in a semi-structured interview conducted in

English. Patients were approached by a radiographer at the conclusion of their imaging session inviting them to take part in the study. The researchers did not approach participants until after they had expressed interest in participating in the study, at which time they were given a Participant Information Statement and consent form. The researchers ceased participant recruitment at the point of data saturation, which occurred when all researchers agreed that no new information was being provided in participant responses.

#### Data collection

Semi-structured interviews were conducted immediately after the participant's encounter with a radiographer. Interview questions focused on what the patient liked and didn't like about the way the radiographer communicated with them and how it made them feel. Other questions focused on whether the participant understood and remembered the instructions given to them by the radiographer and if there was anything the radiographer could do to enhance their communication. Additionally, participants were asked if the experience had left them with a good impression of the radiographer's abilities and whether they would be willing to see this radiographer again for an imaging examination. Imaging examinations were completed by either a qualified diagnostic radiographer or final year radiography student. Demographic information was collected from each participant and is summarized in [Table 1](#).

#### Data analysis

A qualitative descriptive approach was used in this study to describe participants' perceptions of their interaction with a radiographer.<sup>27</sup> Interviews were audio recorded, transcribed and thematically analysed by the researchers using an inductive approach.<sup>28</sup> Each transcript was segmented into meaning units with each being assigned a code describing the patient's experiences of their encounter with the radiographer. The coding of the meaning units by the first author was verified by the co-researchers. A random selection of 5 meaning units per transcript were independently coded by each co-author. Codes were compared and modified to ensure they accurately reflected the meaning of the participants' words. In this way consensus on the coding was reached.

The codes were grouped to inform the creation of five (5) themes. Remaining codes that were unable to be grouped under a theme were removed from the thematic analysis as they were not deemed to be significant.

## Results

This section outlines five distinct themes that were identified in the interview data. These themes included (1) Introduction and Greeting, (2) Explanation/Instruction, (3) Feeling at ease, (4) Clear communication and (5) Gentle manner. Sub-themes were identified and described for Themes 2 and 3. The themes identified were

the same regardless of whether a qualified or student radiographer performed the examination.

#### Theme 1: Introduction and Greeting

In this theme, participants described the importance of feeling welcomed by the radiographer at the beginning of the interaction. It was not only important for the radiographer to introduce themselves and their role before proceeding with the examination, but it was also essential that the radiographer displayed welcoming behaviours and gestures. This is supported by participant 2 who commented that the radiographer "shook my hand when I met him, introduced himself straight off, just seemed like a very nice person." Conversely participant 10 noted that "I don't think that she (radiographer) introduced herself. Addressing themselves and introducing themselves is the most important thing."

#### Theme 2: explanation/instruction

In this theme, participants discussed how the radiographer explained the imaging procedure to them and how this assisted them in understanding what they had to do during the procedure (e.g. hold your breath for a chest x-ray) and what to expect. Some participants also described how the radiographer provided a demonstration showing them the positioning they were required to perform for the examination, with the participant then being able to copy what they saw. Sub themes of knowing what to do, reducing uncertainty and feeling confident were identified from interview responses

Participants discussed the importance of explanation and demonstration, and the impact that it had when this was and wasn't done effectively by the radiographer. In some instances the participant reported that it was the fear of the unknown, with one participant describing the impact when the radiographer didn't explain to them before the procedure what was going to happen or where the imaging room was once they had changed into a gown, thereby further elevating their anxiety levels. Clear, specific, easy to understand instructions were reported as being important.

Participants reported feeling confident and having a reduced level of uncertainty when effective communication was provided by the radiographer. Some participants reported that they felt they weren't being treated as "just another patient", with participant 4 stating "he (radiographer) explained everything, what he was taking, which angle and why which was good."

#### Theme 3: feeling at ease

In this theme, participants discussed what the radiographer did to assist in building rapport and making the participant feel at ease. Participants spoke of how the radiographer took their time and didn't rush, spoke nicely (friendly tone of voice) and with respect and made things pleasant by providing the patient with the opportunity to ask questions. One participant commented that they were made to feel like they were the only person in the room. Sub themes of concern for patient comfort (both physical and psychological) and patient safety were identified from interview responses. Several participants reported that the care shown by the radiographer made them feel relaxed and safe. A quote from one female participant demonstrated this; "Because it's a male as well, you take your clothes off and you've just got the gown on and I felt totally safe." Other participants' spoke of the importance of being asked how they were feeling, e.g. enquiring about pain levels and if they were comfortable, which resulted in the participant reporting that they felt cared for. Participant 6 discussed the importance of the radiographer identifying themselves as a student, with this

**Table 1**  
Participant demographics.

Participant Demographics (n = 10)	
Female	80%
Male	20%
Age Range:	
46-55	20%
56-65	50%
66-75	20%
75+	10%

disclosure making them feel comfortable as they felt they could choose if they were happy for a student to perform the imaging examination.

Several participants reported that the above behaviours assisted them to feel confident in the radiographers' abilities and instilled confidence that the radiographer was going to do the best job possible. One of the overarching statements that was continually reported was that 'it made me feel comfortable.' Interestingly, these views were not altered when a repeat image was required.

It was evident from the participant responses that when the patient felt these aspects of communication weren't effectively performed it had a significant impact on their feelings throughout the entire imaging examination. Examples given by participants included the radiographer being offhand or not overly friendly, resulting in the participant feeling tense during the entire examination.

#### Theme 4: clear communication

In this theme, participants discussed the importance of the radiographer speaking slowly and clearly when they were giving instructions and ensuring that the participant understood what was expected of them. This theme overlaps with themes 2 and 3. The difference in this theme related to the way the radiographer spoke to the patient, e.g. clear pronunciation and/or appropriate voice volume for the patient to hear instructions. Clear communication by the radiographer assisted in facilitating building of trust with the participant. This is supported by Participant 3 who stated that the radiographer's communication was "plain, clear, fully understood and very easy to be able to have had this scan." Participant 8 described that "it's good if you can understand what the student is saying, if they speak clearly. I think that's really important. If you don't speak directly to someone and clearly you'd miss out on that for a start."

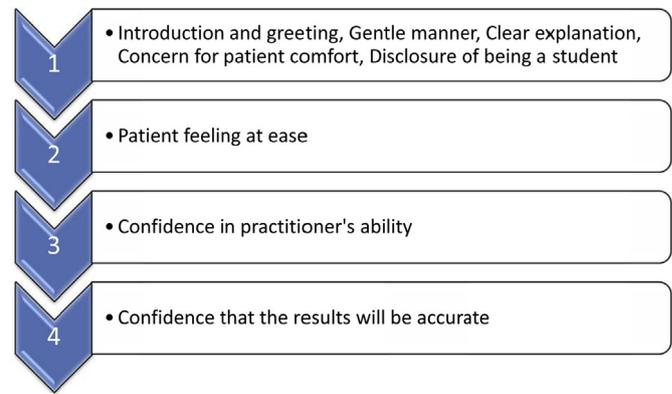
#### Theme 5: gentle manner

In this theme, participants described the radiographer's manner. Participants associated manner with their overall impression of the radiographer. Participant 4 described how they liked the radiographer's manner and tone of voice. "Sometimes you get people and they're rough but the radiographer was really just a gentle person." Similarly, Participant 3 stated that they didn't feel "that the radiographer was pushing them around, with everything done gently and caringly." Participant 10 stated that the radiographer "didn't speak condescendingly but the participant was not impressed with the radiographer." Upon further exploration Participant 10 explained that this feeling was related to the radiographer not providing them with instructions of what they needed to do during the examination and a lack of comfort. The participant concluded that they would not refer the radiography practice to others due to a perceived bad experience with the radiographer.

Fig. 1 summarizes the impact of effective communication on the patient-practitioner relationship during an imaging examination, drawing on the themes identified above. Effective communication facilitates confidence in the radiographers' ability and a belief that the imaging results will be accurate.

## Discussion

The aim of this study was to examine what makes a communication encounter with a radiographer effective from the patient's perspective. Additionally, we sought to explore the impact of communication on the relationship between a radiographer and their patient. This research is important as different professions



**Figure 1.** Impact of effective communication on a patient undergoing an imaging examination.

require different communication skills. For example, speech pathologists who work with patients over a number of weeks have long term communication encounters whereas professions such as radiography have shorter and often 'one off' encounters with patients which may require a different set of communication skills.<sup>17</sup> The responses received in this study demonstrate that effective communication goes beyond a radiographer greeting and introducing themselves to a patient. Effective communication resulted in the patient feeling comfortable with the imaging procedure and confident in the radiographer's abilities. This is an important finding that has not been demonstrated in previous studies.

Our research has demonstrated that providing the patient with clear instructions, information, explanation and demonstration before the examination may assist in reducing patient anxiety and uncertainty and is an essential component of the interaction between the radiographer and patient. This view is supported by Halkett et al.<sup>29</sup> who found patients undergoing radiation therapy had increased confidence if they knew what to do and to expect. The patient is also more likely to remember the instructions they have been provided at the beginning of the examination.<sup>29</sup> Doyle and Stanton<sup>30</sup> propose that the provision of information prior to an examination may increase patient satisfaction with the imaging process and create more realistic expectations from the patient's point of view. Similarly Makely<sup>31</sup> state that radiography patients who have received clear instructions prior to the examination are more likely to cooperate with the radiographer. They conclude that this can lead to reduced radiation exposure as there may be fewer repeat examinations, in addition to reducing patient discomfort and the overall cost of the examination.

The impact of establishing and building rapport with the patient from the beginning of the interaction should not be underestimated.<sup>32,33</sup> Our study has demonstrated the importance of the radiographer enquiring about and responding to the patients' physical and psychological needs. Participants discussed the importance of being spoken to with respect and feeling that they were being listened to. When this did not happen participants reported that they were less likely to want to be seen by the radiographer for a future interaction. Several participants also described how they would have liked the radiographer to enquire about their comfort levels and how they were feeling. These participants described the impact that this had on their view of the radiographer, stating that they did not feel confident or comfortable with the examination. This is supported by the work of Doyle and Stanton<sup>30</sup> who found increased patient satisfaction between a mammographer and patient when the mammographer established a rapport with the patient early on in the imaging examination. They concluded that the patient was more likely to return for

further screening if they had a positive experience. There was no indication in this research that the patient would not return for a future scan, only that they would not want to be seen by the same radiographer. These findings have implications for employers as they highlight the importance of providing ongoing communication skills training for radiographers.

#### Practice implications

Our research has demonstrated the importance of effective communication and its impact on patient perceptions of the radiographer and their abilities. When a patient perceives that the radiographer has communicated well, they feel confident in the radiographers' ability to do a good job and perform the imaging examination correctly. Thus, in giving student's feedback educators should not only focus on technical skills but on communication skills as well. Educators should be modelling and providing feedback to students on the elements of communication identified in this study. Students should be encouraged to ask the patient how well they communicated with them during the examination, thereby ensuring high quality interactions between a patient and radiographer. It is important to note however that Stacey, Stickley and Rush<sup>34</sup> recommend caution when utilizing patient perceptions in student assessment during a clinical placement. Any comments must be viewed as one component of the overall judgement of a student's communication skills, with the view/s of qualified radiographers and the student's own self-reflection playing a role in the assessment process.

#### Implications for university programs

This research has demonstrated the need for university educators to incorporate patient feedback into communication skills training programs for student radiographers. It is vital that students are aware of what patients perceive as being important, in conjunction with what we as educators' feel is important in building a rapport with the patient.

#### Limitations

A limitation of this study is that participant recruitment was limited to 2 private medical imaging practices. It would be beneficial for this study to be repeated with patients across a range of settings, including hospitals, to ascertain if the findings are replicated or if different themes emerge.

#### Future research

This study has identified the need for further research examining the use and effectiveness of direct patient feedback in the development of student radiographers' communication skills. The results from this study could inform the development of a tool that elicits direct feedback from patients to assist the development of their communication skills (both verbal and non-verbal).

#### Conclusion

The purpose of this study was to (1) examine what makes a communication encounter with a diagnostic radiographer effective from the patient's perspective and (2) explore the impact of communication on the patient/practitioner relationship. This study has demonstrated that attending to the patients' physical and psychological needs is of paramount importance as it allows the patient to feel confident and comfortable with the imaging examination. Clear and comprehensive explanation to the patient of

what to expect enables the patient to feel at ease throughout all stages of the imaging encounter. These results have identified that effective communication promotes the development of rapport and trust between the radiographer and patient. Study findings provide an insight into the patient's perspective of effective communication and should be incorporated into communication skills training programs.

#### Conflict of interest statement

None.

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#### Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.radi.2019.04.002>.

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