

peer reviewed **OPINION ARTICLE**

Injection of contrast media by radiographers, is it ethical?

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Abstract

An opinion paper questioning the ethics of radiographers administering intravenous contrast media as this is not in their scope of practice.

Keywords code of conduct; adverse reactions; extravasation; misconduct

Introduction and discussion

The administration of intravenous contrast media (ICM) agents into patients by radiographers in South Africa is a complicated issue. In many overseas countries radiographers are legally entitled to administer ICM as part of role-extension. Some South African radiographers are willing to take this on as a form of role extension whilst others are not. In some imaging departments in the private sector, radiographers have no choice but to administer ICM in order to allow radiologists to focus mostly on reporting aspects. Radiographers in the public sector are however not allowed to administer ICM. The question that needs to be asked is whether it is ethical for radiographers to do so without proper training? This opinion article discusses the issue of radiographers injecting ICM in South Africa from ethical and legal points of view.

I will argue that the administration of ICM by radiographers in computed tomography (CT) departments is ethically and legally wrong. According to John Deigh, "Ethics is a study of what are good and bad ends to pursue in life and what is right and wrong to do in the conduct of life. It is therefore, above all, a practical discipline. Its primary aim is to determine how one ought to live and to determine what actions one ought to do in the conduct of one's life."^[1]

Radiographers in South Africa are governed by many laws, rules and regulations. The legislation involved in the way in which healthcare is rendered in South Africa includes The Constitution of the Republic of South Africa of 1996, National Health Act No. 61 of 2003, Mental Health Care Act No. 17 of 2002 and Promotion of

Access to Information Act No. 2 of 2000.^[2] Radiographers also have to abide by rules set out by the Health Professions Council of South Africa (HPCSA), the governing body which prescribes medical ethics and the code of conduct for radiographers.^[3]

Injection of ICM by radiographers who are not properly trained violates a number of patients' rights, codes of conduct and legislature. Firstly, it violates a patient's right to a healthy and safe environment.^[4,5] Secondly, it violates a patient's right to informed consent^[4,5,6] and thirdly, it violates the HPCSA code of ethical guidelines which states that the "core ethical values and standards required of health care practitioners includes respecting every patient, recognising the worth of the patient and working in the best interest of the patient."^[6] The mentioned rights and codes are violated since radiographers in South Africa are not adequately qualified to inject ICM as they have not received proper training in this regard.

Firstly, they are not suitably trained to deal with the various adverse reactions that may arise as a complication of ICM administration. In the case of an ICM reaction, a radiologist needs to manage it. The time taken for a radiologist to be called to deal with such a situation may however result in the demise of a patient, due to a delay in the appropriate treatment. This creates an unsafe and unhealthy environment for a patient. The HPCSA only allows for needle placement by radiographers and not the administration of contrast media. The administration of contrast media is still the responsibility of a radiologist.^[7]

Secondly, radiographers who inject ICM often do not inform their patients that they

are not suitably qualified to inject and deal with possible allergic reactions. This violates patients' right to give informed consent. Radiographers and radiologists are not acting in the best interest of patients when radiographers inject contrast media. Apart from possible adverse reactions, extravasation of ICM may also harm a patient; many radiographers do not know how to respond in such a situation.

Thirdly, injecting of ICM is not in the current regulations defining the scope of the profession of radiography.^[8] Radiographers who act outside their scope may be barred from practicing and charged with misconduct. Misconduct is when there is a breach of privileges and opportunities afforded to a radiographer as well as the breach of professional ethics.^[8] The practice of injecting ICM is a direct infringement of the rights of patients who are entitled to be treated and examined by health professionals who practice within their scope.^[9]

Literature suggests that it is of great importance that radiographers who inject ICM are aware of the characteristics of the agents they inject, the contraindications, and the potential risks of injecting such agents. This will enable them to react in a prompt and appropriate manner in the case of an adverse reaction.^[10] Adverse ICM reactions are considered inevitable because they may occur even if the product is administered correctly. There are three categories of ICM reactions: mild, intermediate and severe. Mild reactions include nausea, vomiting, and urticaria; intermediate reactions include bronchospasm; and severe reactions include pulmonary oedema, respiratory distress, cardiovascular and pulmonary collapse.^[11,12]

In South Africa, and many countries where radiographers are allowed to inject ICM, radiographers are not adequately trained and qualified to deal with adverse contrast media reactions.^[10] It is thus morally and ethically wrong to pressurise these radiographers to inject ICM; radiographers who engage in injecting ICM are also acting morally and ethically wrong. Results of a 2012 on-line survey indicated that the majority of radiographers in South Africa accept and agree that training on contrast media administration and revival training, as well as malpractice insurance are required.^[8] I agree with these findings.

One can argue that a radiologist can be called as soon as a contrast media problem arises, that radiographers and radiologists work as a team, that radiographers injecting ICM are cost-effective, save time and in the process develop specialised skills.^[13] From my point of view though, these arguments carry no weight because ultimately patients are being put at risk.

Concluding comments

To conclude, we as radiographers, should ask why so much responsibility is being placed on us when we are not fully trained and qualified to deal with adverse

contrast media reactions, especially as it is not in our scope of practice. We need to follow our prescribed guidelines and act ethically. We should not take on something which we are not properly trained for. After all, we are legally responsible and accountable for our professional actions and for any negligence.^[14] With that said, I am all in favour of role extension but with the proviso that radiographers receive comprehensive contrast media administration training and education.

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