Medical imaging and consent: when is an X-ray assault?

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Abstract
New Zealand patients have rights in relation to their healthcare including the right to consent to medical treatment. Medical imaging is the third largest category of hospital procedure in New Zealand and it constitutes a circumstance where examination without consent could be assault. New Zealand assault law is unique, and medical radiation technologists (MRTs) must be educated about their responsibilities. A literature review was conducted focusing on the medicolegal aspects of consent as it relates to medical imaging. This was compared to the practical realities of practicing radiography as experienced by the author. Finally, the guidance given by the professional bodies for MRTs in New Zealand was examined to determine whether it adequately informs MRTs of the responsibilities and provides them with a framework to guide their practice. Medical imaging is a diverse area presenting a range of challenging circumstances for consent. Currently, the consent framework and guidance provided by professional bodies is insufficient and in need of updating.

Medical Imaging as Assault

Section 2 of the Crimes Act 1961 has consolidated the separate common law concepts of ‘assault’ and ‘battery’ into a single concept of assault. Thus, assault includes intentionally applying or attempting to apply force, either directly or indirectly, and threatening to apply force. It is possible for any of these scenarios to occur in the context of medical imaging.

All medical imaging examinations require the MRT to touch the patient. For example, in a lumbar spine X-ray, the MRT must palpate to feel bone prominences on the pelvis to ensure that the spine is not rotated in a way that will obscure or mimic pathology. In addition, to ensure the requisite anatomy is included on the radiograph, the MRT will usually feel for the lower margin of the ribs and sometimes the pubic bone. Depending upon the patient body habitus, it may be necessary to push with reasonable force to feel the required bony markers. This is a significant amount of physical contact when even a bare touch can constitute an assault.

Assault does not, however, require actual touching of a person provided that the person feels threatened and has
grounds to believe the person making the threat has the immediate ability to apply force.\(^7\) In medical imaging, this can mean that an MRT ‘in a hurry, pushing and pulling machinery in a loud and boisterous manner, could produce fear of contact’ that a patient who has not had adequate explanation of the examination could see as assault.\(^5(p. 43)\) While it is unlikely that the MRT would manipulate an X-ray tube to deliberately frighten a patient, in the unfamiliar environment of the radiology department and under the pressure of a stressful health situation, it is not unexpected that a patient would feel threatened by the movement of equipment.

The actus reus or act of assault is easily satisfied in medical imaging, meaning much rests on the additional mens rea or mental requirement of intention.\(^3\) In common law, assault can be committed recklessly.\(^7\) This lower threshold is one that could potentially be met frequently in the practice of radiography, where operator familiarity can lead the MRT to neglect to be cognisant of patient fears or because speed is essential in emergency situations. It is therefore to the New Zealand MRT’s benefit that Section 2(1) requires intention. It is not disputed that MRTs have the intention to touch their patients to manipulate them into the desired position for diagnosis; what is less clear is whether this intention is sufficient to support an allegation of assault.

The courts have expanded by requiring either hostile purpose or a situation where consent cannot be reasonably assumed to find that there has been an assault.\(^8\) This is a result of the fact that the statutory definition of assault ‘covers a broad range of human conduct’\(^2(p. 562)\) and Parliament cannot have intended all of these to constitute criminal acts. While it is not impossible, it is unlikely hostility will be an issue in the hospital environment. Consent is therefore the focus of this discussion.

**Consent**

The requirement of consent arises as a result of Right 7 in the Health and Disability Services Code of Consumer Rights (the Code) to make an informed choice and give informed consent, and Section 11 of the New Zealand Bill of Rights Act which gives everyone the right to decline medical treatment. In sum, ‘the patient’s autonomy should always be considered when performing diagnostic or therapeutic procedures’.\(^9(p. 367)\) Under Right 7(3) of the Code, patients have the right to consent ‘to the extent appropriate to his or her level of competence’. This suggests that a patient may be able to sufficiently understand and consent to one procedure but not another. Without consent, an examination will be an assault. As Lord Donaldson MR stated in *Re F*, ‘[i]n the absence of consent all, or almost all, medical treatment and all surgical treatment... is unlawful, however beneficial such treatment might be’.\(^10(p. 12)\) Three significant issues are raised: whether imaging is medical treatment, whether there are different levels of consent for different examinations and what ‘everyone’ means.

**Examinations and Consent**

It could be argued that medical imaging is not a treatment at all but rather it is merely examination and as such is exempt from consent requirements. It is submitted that most medical professionals would dispute this on the basis that diagnostics are an integral part of the care pathway. This is confirmed by Ehrlich and Daly who state that the right to refuse treatment ‘implies the right to refuse examination’.\(^11(p. 68)\) The more likely explanation, therefore, is that consent can differ depending upon the procedure.

**Consent: A Sliding Scale**

The concept of a sliding scale of consent has been recognised in the literature. Hall and Procházka have said, ‘simple consent protects patients against assault and battery in the form of unwanted medical interventions. The higher standard of informed consent further safeguards patients’ rights to autonomy, self-determination and inviolability’.\(^12(p. 533)\) Parelli has similarly said, ‘informed consent as distinguished from consent is not required for all medical procedures’.\(^13(p. 833)\) In the United States, *Cobbs v Grant* held the level of consent required for different procedures could be distinguished on the basis of complexity, that is, ‘common’ procedures do not require full informed consent, however, ‘more complicated’ procedures do.\(^14\) What then, is a ‘common’ medical imaging examination and what is a ‘complex’ one, and what type of consent is required for each?

General X-ray is arguably the simplest area of medical imaging. X-ray has been used to examine patients since 1896\(^15\) and has been extensively developed to optimise results and minimise radiation risks.\(^16\) At its most basic, medical imaging involves little more than the gentle turning of a limb to obtain the correct position for examination\(^17\) and a radiation dose equivalent to 3 hours background radiation.\(^17\) It is strongly argued that routine X-rays such as these, fall within the ‘common procedures’ of the *Cobbs* classification and as such do not require informed consent. The corresponding most basic form of consent is implied consent. The Royal Australian and New Zealand College of Radiologists (RANZCR) guidelines are clear that where the risks are very low ‘a patient may give implied consent by placing their hand or foot on the X-ray machine’.\(^18(\text{para 5.1.1})\)
The risk with implied consent is the potential to confuse compliance with consent. The Society of Radiographers (SoR) in the United Kingdom has recognised that implied consent still requires ‘the patient to be provided with sufficient information on which to proceed with the examination’ to distinguish it from mere compliance.19 It is good practice for the MRT to explain what will happen during an X-ray prior to beginning the examination. It has even been suggested that it is imperative the MRT ‘thoroughly explain what will happen during an examination’ to avoid allegations of assault.13(p. 108) The SoR has stated that ‘the amount [of information] will depend on the nature of the examination and whether there are any significant risks attached to the procedure’.19(p. 6) The SoR’s emphasis on ‘significant’ seems to indicate that where the radiation dose is extremely low the MRT needs only to describe what will happen during the examination in order to obtain valid consent. If the patient proceeds to follow the MRT’s instructions then, in the same way that there is ‘a clear assent’ where a doctor says they would like to examine a patient and that patient proceeds to undress,20(p. 1551) consent to the X-ray examination can be implied. Despite this, it is suggested that all MRTs should verbally confirm the patient has understood and agrees to continue with the examination.19

At their most complex, medical imaging examinations involve highly specialised equipment, significant radiation doses in excess of 8 months background radiation17 and intravenous contrast medium to which it is possible to have an anaphylactic reaction. Clearly, a different standard of consent will be applicable in these cases. At the very least, more detail must be given about the risks of the examination. It is suggested that these examinations fall within the ‘complex’ realm of the Cobbs criteria and require full informed consent.

Negating Consent

Even if the appropriate consent is sought, there is a serious risk that consent will be negated by the circumstances in which it is given. In addition to capacity and sufficient information, consent must comprise of voluntary agreement by the patient.19 It is not acceptable that a patient’s consent is sought when they are lying on the X-ray table or scanner bed.21 As Parelli said, ‘the imaging professional must be careful not to add any other influences that might truly render a patient…unable to make a decision’,13(p. 108) including seeking consent in the intimidating environment of the radiology department. In practice, this might not be possible. MRTs cannot assume that patients attending a department for an examination have already given consent because often patients are unaware of the exact nature of the procedure they will undergo.22 Thus, consent is an issue that must be revisited at the time the examination will occur. It is furthermore suggested that consenting a patient outside the X-ray or scanner room is also insufficient, as many patients will not feel fully informed without seeing the machine used for the examination. There is no simple solution to this problem beyond awareness on the part of the MRT and careful situational evaluation of the patient.

Capacity

The courts have placed limits on the section 11 right to consent and ‘[e]veryone’ in respect of section 11 must mean ‘every person who is competent to consent’.23(p. 374) The Code presumes that everyone has capacity to consent unless there are reasonable grounds to believe otherwise.24 The MRT must, therefore, ‘be able to assess the level of a patient’s understanding’ to determine whether they have the ability to consent.19(para 6.3.2) Such assessment is inherently subjective. The case law has enunciated considerations25 reflected in the RANZCR guidelines. The guidelines state ‘a person is judged to be capable of giving consent if they are able to comprehend the information given to them about, and weigh the risks and benefits of, a medical imaging examination’.18(para 6) It is suggested that this is insufficient in the context of a broad range of examinations with varying complexities and risks. It seems that in dentistry the level of capacity needed to consent can vary according to the procedures. There ‘the gravity of the procedure’ is considered when determining whether patients have ‘capacity to consent to the particular form of treatment proposed’26(p. 2) (emphasis added). A similar approach should be seen in imaging. If there are different levels of consent required for different imaging examinations then it is likely a correspondingly different level of capacity will be required however, detailed analysis of this is beyond the scope of this discussion.

Consent in Medical Imaging in New Zealand

There is very little express guidance for MRTs when it comes to their obligation to obtain consent or the potential ramifications of failing to do so. Currently, there is no reference to consent in the MRT Board (MRTB) Code of Ethics. The Code requires MRTs to maintain ‘a working knowledge of all legislation pertinent to their practice’ and operate within that legislation however, the subsequent reference to ensure that they operate within their registered scope of practice27(para 2) suggests that this contemplates regulation of the practice of radiography rather than patient rights. In addition, the
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Guidelines for Administration of Medicines does not include any reference to consent, although it requires a client is informed of the ‘purpose of medicine as appropriate, and provid[ed] access to relevant client information leaflets’. Provision of leaflets can be argued to provide adequate information for consent, however, such practice does not account for language and literacy barriers and if the process ends without confirming the patient agrees to continue, consent has not been obtained. RANZCR does have guidelines, which are ‘[i]ntended to provide guidance to radiologists and the medical imaging team’ meaning MRTs can look to these for guidance however, this does not excuse the registration and professional bodies of MRTs lack of recognition of this important right.

The lack of emphasis on patient consent by the MRTB may be because the responsibility to obtain consent is actually delegated to the MRT by the radiologist who retains ultimate responsibility. Such an approach is inappropriate. A radiologist is a highly specialised doctor and undoubtedly an expert in the field of image interpretation, however, it is the MRT who is trained to perform radiographic examinations and is best placed to offer explanations of what will occur during the procedure. MRTs are registered health professionals under the Health Practitioners Competency Assurance Act 2003 and as such can be subject to complaints under Part 4 of the Act. This suggests MRTs are capable of bearing the responsibility for obtaining consent for the procedures they perform.

A further explanation for the lack of protocols is that consent procedure is managed on an individual departmental basis. This leaves MRTs working in practices without comprehensive policy and procedure manuals without recourse to standard methodology and at risk of being misinformed about their responsibilities. Doctors, nurses, dentists, physiotherapists, speech therapists and occupational therapists all have consent policies, either incorporated in their code of ethics or expanded in a dedicated policy. It is suggested that the MRTB should also have a policy on consent.

Conclusion

The practice of radiography inherently satisfies the actus reus of assault, however, New Zealand law also requires the mental element of intent. For an assault, an MRT must not only intend to perform the examination but also do so without consent. Because of the enormous variety of examinations and the range of complexity and risks, there is undoubtedly a scale of consent that varies depending upon the procedure. For the most routine, lowest risk examinations, implied consent is sufficient. Where the examination is more complicated and involves more risk, informed consent is required. Currently, there are no explicit guidelines for MRTs. This is an area that is likely managed on a departmental basis; however, it is strongly argued that it should be addressed by the MRTB. At a minimum, the need to obtain consent should be written into the MRT Code of Ethics.

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Conflict of Interest

The author declares no conflict of interest.

References

1. Ministry of Health. Hospital Events 2008/09 and 2009/10. Report. Wellington, New Zealand: New Zealand Government; 2012.
2. Simester AP, Brookbanks WJ. Principles of Criminal Law, 3rd edn. Brookers Ltd, Wellington, 2007.
3. Crimes Act 1961, s2(1).
4. Bontrager KL, Lampignano JP. Textbook of Radiographic Positioning and Related Anatomy, 7th edn. Mosby Elsevier, Missouri, 2010.
5. Cole v. Turner (1704) 6 Mod 147; 87 ER 907.
6. Obergfell AM. Law and Ethics in Diagnostic Imaging and Therapeutic Radiology. WB Saunders Company, Philadelphia, 1995.
7. R v. Venna [1976] QB 421; [1975] 3 All ER 788.
8. Laws of New Zealand, (online looseleaf ed, LexisNexis); [155].
9. Adler A, Carlton R. Introduction to Radiography and Patient Care, 2nd edn. WB Saunders Company, Philadelphia, PA, 1999.
10. Re F (Mental Patient: Sterilisation) [1990] 2 AC 1 at 12.
11. Ehrlich RA, Daly JA. Patient Care in Radiography, 7th edn. Mosby Elsevier, Missouri 2009.
12. Hall D, Prochazka AV, Fink AS. Informed consent for clinical treatment. Can Med Assoc J 2012; 184(5): 533–40 at 533.
13. Parelli R. Medicolegal Issues for Diagnostic Imaging Professionals. Taylor & Francis Group, Florida, 2009.
14. Cobbs v. Grant 8 Cal.3d 229, 104 Cal.Rptr. 505 Cal. At 244-245.
15. Nondestructive Testing Resource Centre. History of Radiology. Iowa: NDT Resource Centre; [22 March 2014; cited 2016 January 16]. Available from: http://www.ndt-ed.org/EducationResources/CommunityCollege/Radiography/Introduction/history.htm.
16. Brant W, Helms C. Fundamentals of Diagnostic Radiology. Lippincott Williams & Wilkins, Philadelphia, 2007.
17. Simpson M. Radiation from x-rays is generally minimal. Ohio: Ohio University. Available from: http://www.oucom.ohiou.edu/communications/FamilyMedicine/2011/3428.htm (accessed January 2011).
18. Royal Australian and New Zealand College of Radiologists. Medical Imaging Consent Guidelines (Version 2, 2012) [guideline online]. C2012 [cited April 2015]. Available from: Royal Australian and New Zealand College of Radiologists Online.
19. Freeman C. Consent to imaging and radiotherapy treatment examinations: an ethical perspective and good practice guide for the radiography workforce. Society of Radiographers 2007.
20. Brewley S. The law, medical students, and assault. BMJ 1992; 304: 1551.
21. Mathers SA, Chesson RA, McKenzie GA. Informed consent for radiological procedures: a Scottish survey. Clin Gov Int J 2005; 10: 145.
22. Chesson RA, McKenzie GA, Mathers SA. What do patients know about ultrasound, CT and MRI? Clin Radiol 2002; 57: 477–82.
23. Re S [1992] 1 NZLR 363 at 374.
24. Health and Disability Commission. Code of Consumer Rights. Wellington (NZ), 1996 2. Right 7.
25. Re C (Adult: Refusal of Treatment) [1994] 1 WLR 290.
26. Dental Council New Zealand. Practice Standard on Informed Consent [standard online]. C2005. [cited April 2015]. Available from: The Dental Council of New Zealand Online.
27. Medical Radiation Technologists Board. Code of Ethics. Wellington, New Zealand: MRTB; 2004 [cited 2014 April]. Available from: http://www.mrtboard.org.nz/assets_mrtb/Uploads/Code-of-Ethics-for-Medical-Radiation-Technologists2.pdf.
28. New Zealand Institute of Medical Radiation Technologists. Guidelines for Administration of Medicines [guideline online]. C2009 [cited April 2015]. Available from: New Zealand Institute of Medical Radiation Technologists Online.
29. New Zealand Medical Council. Information – choice of treatment and informed consent [internet]. Wellington, New Zealand: NZMC; 2011 [cited 2016 January 16]. Available from: https://www.mcnz.org.nz/assets/News-and-Publications/Statements/Information-choice-of-treatment-and-informed-consent.pdf (accessed January 2016).
30. New Zealand Nurses Organisation. Code of Ethics. Wellington, New Zealand: NZNO; 2010 [cited 2016 January 16]. Available from: http://www.nzno.org.nz/Portals/0/publications/Code%20of%20Ethics%202010.pdf.
31. Dental Council of New Zealand. Standards Framework for Oral Health Practitioners. Wellington, New Zealand: DCNZ; 2014 [cited 2016 January 16]. Available from: http://www.dcnz.org.nz/assets/uploads/Practice-standards/Standards-Framework-for-Oral-Health-Practitioners.pdf.
32. Physiotherapy Board New Zealand. Code of Ethics. Wellington, New Zealand: PBNZ; 2011 [cited 2016 January 16]. Available from: http://www.physioboard.org.nz/sites/default/files/NZ_Physiotherapy_Code_of_Ethics_with_commentary_FINAL_0.pdf (accessed January 2016).
33. New Zealand Speech-Language Therapists Association. Code of Ethics. Auckland, New Zealand: NZSLTA; 2008 [cited 2016 January 16]. Available from: http://www.speechtherapy.org.nz/wp-content/uploads/2013/09/Code-of-Ethics-2008.pdf.
34. Occupational Therapists Board. Code of Ethics. Wellington, New Zealand: OTB; 2015 [cited 2016 January 16]. Available from: http://www.otboard.org.nz/wp-content/uploads/2015/04/CodeofEthics_April2015-1.pdf.