Australian Government
Australian Radiation Protection and Nuclear Safety Agency

arpansa

Resolution of comments from public submissions on *Code for Radiation Protection in Dental Exposure.* Radiation Protection Series C-7

Public consultation period: 2 September 2024 – 12 October 2024

The Radiation Health Committee (RHC) is formed under the *Australian Radiation Protection and Nuclear Safety Act 1998*, to advise the CEO of the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) upon request, and to develop, draft, and review publications, policies, codes, and standards in relation to radiation protection. ARPANSA maintains a body of Commonwealth regulatory publications in the Radiation Protection Series (RPS) and regularly reviews and updates older publications in the series. The present document, the *Code for Radiation Protection in Dental Exposure* (RPS C-7), was drafted as part of this review process.

RPS C-7 sets out the requirements in Australia for the protection of patients, their carers and comforters, and volunteers in biomedical research projects, in relation to their exposure to ionising radiation. The RHC has developed this Code in the light of the previous *Code of Practice for Radiation Protection in Dentistry* (RPS 10) and the current *Code for Radiation Protection in Medical Exposure (2019)* (RPS C-5), having regard to the requirements relating to medical exposure described in the International Atomic Energy Agency's (IAEA) *Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards, General Safety Requirements (GSR) Part 3* (IAEA 2014).

The RHC Working Group included members from the State regulators from Queensland, Tasmania, and Victoria, as well as ARPANSA. Further input was also provided from all jurisdictional radiation regulators through the wider RHC, and through targeted consultation with industry bodies prior to its endorsement for public consultation in the period from 2 September 2024 to 12 October 2024. During the consultation process comments on the document were submitted by individuals and on behalf of organisations and professional bodies including Dental Health Services Victoria, SA Dental, the Australian Dental Association, the Australian Dental and Oral Health Therapists' Association, the Dental Hygienists Association of Australia, and the Australian Society of Medical Imaging and Radiation Therapy. Following consultation, changes were made to address received feedback, with the document endorsed for publication by the RHC on 19 November 2024, to then be approved for publication by the Radiation Health and Safety Advisory Council on 21 November 2024.

Commenter	Comment	Resolution
1	This appears to be comprehensive and comprehensible. No particular comments, apart from the fact that it is pleasing to see that there is provision for the future use of DRLs in this field. The objectives are appropriate and appear to be addressed in the body of the text.	Noted.
2	Please see attached organisational response document for feedback (see below) Clause 3.1.3 *The Responsible Person must ensure that no individual receives a dental exposure as a carer or comforter unless he or she has received, and has indicated an understanding of, relevant information on radiation protection and information on the radiation risks prior to providing care and comfort to an individual undergoing a radiological procedure. The Responsible Person must ensure that the requirements specified in clause 3.2.16 are fulfilled for the optimisation of protection and safety for any radiological procedure in which an individual acts as a carer or comforter and that consent is given and documented.* Comment - As dental radiography is considered low risk, the risk to an individual providing care and comfort to an individual undergoing a radiological procedure is minimal. Ensuring that carers and comforters receive and indicate an understanding of radiation risks implies that the risk is more significant. Clause 3.1.4 *The Responsible Person must ensure that:* *a. the radiological dental practitioner performing or authorising the radiological procedure is responsible for ensuring overall protection and safety for patients in the planning and delivery of the dental exposure, including the*	The comment is noted, but the carers and comforters may not understand the nature of the risk without having it explained to them. Further, dental procedures, though low risk, are not no risk so some effort to optimise protection and safety is expected in any situation. Response to first question: As outlined in section 1.4 Scope in the draft code, the requirements are intended to be applied using a graded approach and interpreted accordingly. The majority of dental diagnostic imaging is considered 'routine' and some considerable effort is made by professional organisations and dental training institutions to detail the expectations of practitioners in relation to dental imaging. The establishment or refining of such routine processes and procedures must, nevertheless, be informed by sound radiation safety advice from a qualified expert and, for the majority of dental diagnostic imaging, provided personnel have received the appropriate training and the equipment and facilities are fit for purpose, this is likely to be the extent of the qualified expert collaboration required. In some circumstances however, particularly in complex treatment procedures or if unusual or novel equipment is to be used, more overt and specific collaboration with a qualified expert may be necessary to ensure optimisation of protection and safety in that circumstance. Response to second question: The typographical error has been noted and corrected." Response to first question: One-off training is seldom adequate in any working environment. To be effective, training ought to be iterative in nature with the initial training followed up and reinforced by subsequent training sessions. These need not be burdensome but routine refresher training is

Commenter	Comment	Resolution
	justification of the radiological procedure as required in clauses 3.1.7 and 3.2.1–3.2.6 and the optimisation of protection and safety, in collaboration with the qualified expert5 and the operator as required in clauses 3.2.7–3.2.18 and 3.3.1 Comment - Definition of Qualified Expert5 For the purposes of this Code, a medical physicist as defined in the Code for Radiation Protection in Medical Exposure (2019), (RPS C-5) is a qualified expert. Dental practices and dental organisations do not have medical physicists on staff for collaboration. This requirement has cost and resource implications. Given the low exposures associated with dental radiography, the requirement is not commensurate to the risk (with the exception of Cone Beam CT- CBCT). Question: Is collaboration with the qualified expert required for all dental radiological procedures eg intraoral dental radiography, OPG and CBCT? Question: Where is clause 3.2.18? Schedule A.1 *the provision of information to and appropriate induction and on-going training for all persons with responsibilities for patient radiation protection* Comment - All SA Dental clinical staff currently receive induction and one-off mandatory training in radiation safety. On-going training requirement does not seem commensurate to the risk.	always good practice. This is supported in the CPD activities accepted by the various professions. Training in the use of a new piece of equipment might be one way of providing reinforcement of basic concepts. Response to second question: The superseded code is still a useful document, though outdated. Its effect as a regulatory document will diminish over time. In particular, that document came bundled with some guidance material which some dental practitioners might find useful.

Commenter	Comment	Resolution
	Question: Is this for generic reasons eg for new equipment or CPD? Appendix 2 *Related codes and guidance* *Code of Practice and Safety Guide for Radiation Protection in Dentistry (2005*) Question: How can you refer to this document if it is superseded?	
3	The Australian Dental and Oral Health Therapists' Association strongly supports the updated code, in particular the removal of the reference to dentists and dental ""auxillaries."" Oral health therapists, dental therapists, and dental hygienists (collectively oral health professionals) are an integral and ever growing part of the oral health workforce. Referral to all health professionals who can expose dental radiographs as radiological dental practitioners is a welcome change and reflective of contemporary practice. Specific feedback on clauses is as follows: 3.1.11 - clarity around what would constitute an acknowledged professional college or authority is recommended - for example, is ADOHTA considered a professional authority? 3.4 - The Code should differentiate between minor and significant incidents, providing a tiered approach to investigation and reporting. Clear criteria should be established for what constitutes a ""substantially greater than intended"" exposure to avoid over-reporting.	Response to first point: Acknowledgement of a professional college or authority needs to come from the members of the profession. The worth of the protocols, procedures and advice developed or provided by such colleges or authorities are only or relevance if the members of those professions consider them so. It would not be usual for such professions or authorities to be driven to provide anything other than best practice advice etc. Nevertheless, to help ensure any protocols, procedures and advice provided by such professions and authorities relating to radiation safety and protection is suitable, there is a requirement in this code for responsible persons to ensure that the radiological procedures used are limited to those for which the arrangements for optimisation of radiation protection and safety have been made in collaboration with a qualified expert. Response to second point: The comment is noted, but not accepted as being a practical solution as the intent is circumstance and practitioner dependent. Response to third point: The recommendation is noted. It is expected that all jurisdictions will adopt this code, once published, and consequently, this will become the nation-wide expectation from a regulatory perspective. The tools by which the implementation of the code is given effect in each jurisdiction might vary from jurisdiction to jurisdiction, but the standard should be consistent across the country. The professions, themselves, can further progress national consistency of practice by publishing their best practice

Commenter	Comment	Resolution
	3.5.2 - it is recommended national standards are enforced to complement this Code. Currently each and state and territory has different legislation, this inconsistency can be confusing for employers and restrictive in scope. National standards would make the Code easier to enforce. 3.5.3 - examples of sufficient evidence would be useful as an appendix Schedule A - Provision of template plans or simplified versions tailored for smaller practices would be beneficial, particularly for smaller practices.	expectations for dental X-ray imaging and by assisting practitioners in adopting them. Response to fourth and fifth points: It is agreed that some examples might be of assistance, but these would limit the scope of this document. These would best be provided in guidance documents produced by the various regulators or professions.
4	Comment #1 Many of the requirements in the Dental Code are similar to the Medical Exposure Code(RPS C-5) . However, there are very distinct differences between Medical and Dental exposure as mentioned below : • Dental exposures are mostly internal referral – generated within a practice and carried out in the practice. • Radiologist reporting is not required. • There is no established QA guideline for dental imaging equipment. Comment#2 The terminology of 'Radiological Dental practitioner' may not be appropriate and may be misleading. These professionals are not similar to Medical Radiation Practitioners such as Diagnostic Radiographer/Radiation Therapist/ Nuclear Medicine Technologist. It is unfair to give such title to Dental practitioners such as Dentist, Dental hygienist, Dental Therapist , Oral Health Therapist, Dental Assistant and Dental Nurse.	Response to comment 1: The views of the commenter have been noted, but the scenarios cited are not always the case and, as a consequence of the recent publication of this code and the Standard for Radiation Safety and Performance Testing of Diagnostic Imaging Apparatus, perhaps the next step will be the preparation of QA guidelines. Response to comment 2: The generic term 'radiological dental practitioner' has been coined for the specific purpose of this code. It is equivalent to the term 'radiological medical practitioner' in the Medical Code. In that code as in this code, medical radiation technologists are represented under the more generic term 'operators'. These generic terms are used to allow some flexibility in who might be included within the group. Response to Comment 3: Noted. Dental practices benefit from having medical physicist involvement. The reference to medical physicists in the draft code is simply to clarify that, amongst others, medical physicists will be able to fulfill the role of the qualified expert.

Commenter	Comment	Resolution
	Comment#3 Section 3.1.4- Qualified Expert- Medical Physicist has been explicitly mentioned in the code as a qualified expert. I have never seen or heard that Medical Physicist is involved in a Dental Practice unless to carry out compliance Testing of equipment. Comment #4 Dosimetry – This is not radiotherapy practice. Any reference to the term "Dosimetry" should be removed rather reference to regular QA may be adequate. Section - 3.2.14 .e – " *periodic checks of the calibration and conditions of operation of dosimetry equipment, reference equipment and monitoring equipment. These must be traceable to relevant national standards."* Above statement may not be relevant to a dental practice and should be removed . Comment #4 Section 3.2.11 Calibration – The term calibration may be misleading . Is this referring to calibration of radiation monitoring equipment or compliance testing or quality assurance of the actual dental x-ray equipment ? Comment #5 Pregnancy Status – What is the necessity of determining 'the pregnancy status of a female patient of child-bearing capacity' for dental exposure . It is dental exposure and scatter to fetus is negligible , specially for intra oral .	Response to first Comment 4: Although typical dental radiation procedures are currently conducted for imaging purposes, the scope of the draft code is not limited to diagnostic imaging - hence the use of a more generic term - 'dental exposure'. Further, the term 'dosimetry' is not always confined to radiation therapy procedures. Any circumstance within which the measurement of radiation doses is undertaken is dosimetry. Response to second Comment 4: With a more general mind-set, the term 'calibration' is correct. Response to Comment 5: The series of questions from this commenter seems to indicate that dental exposures have no risks associated with them. While many dental exposures are low risk, they are not no risk. There are 4 clauses which relate to the consideration of the pregnancy status of patients. None of these is a requirement, per se. The use of the term is in the form of qualifiers or reminders in relation to the matters a radiological dental practitioner must consider before requesting a radiological procedure. Response to Comment 6: The code is not limited solely to X-ray imaging, though it is accepted that it will be used mainly in the dental imaging arena. Though unusual, the use of this term is not incorrect. Response to Comment 7: Many devices, including microwave ovens and many other household appliances have safety interlocks. Likewise, dental radiation apparatus has safety interlocks which help prevent unintended exposures of people to radiation.

Commenter	Comment	Resolution
	Comment #6 Radiological Procedure – There are references to Radiological procedure in the code . The terminology may be misleading. Suggest to use simple terms like X-ray or radiography or radiographic imaging. Comment #7 Safety Interlock – " 3.1.15- The operator of dental radiological equipment must ensure that no safety interlock devices are bypassed at any time during routine clinical use of the equipment". What is the relevance of safety interlock ? This is not radiotherapy. Summary – The draft code may not be easy for dental practitioners to read and interpret unless a safety guide or regulatory expectation guideline is published to support the Code. It will be very difficult to implement the code in its current format and regulators workload may increase significantly due to the ambiguities in the code. We should be mindful that dental practices do not have access to a Medical Physicist or a Diagnostic Radiographer or a Radiologist (unless for reporting of OPG/CBCT). The code should be easy enough to read so the Dentist can understand the requirements from the code. Again, it is important to publish safety guide to implement the code. The code may adopt various guidelines and policies published by the Australian Dental Association and guidelines published by the European Commission such as RP 172 and RP 136. These codes provide clear guidelines	Response to Summary: It is acknowledged that this is a regulatory document which uses regulatory language. This is done so that the expectations of the document are clear and precise. This document does not pretend to be the 'go-to' document a dental practitioner would pick up day-to-day whilst doing their routine job. It is accepted that a guidance document would be more useful on a day-to-day basis. With this as a goal, some work has commenced to create a draft guidance document that will be consistent with the code for use at the practical level. Details such as and justification or referral criteria, equipment, quality assurance etc. for publication in that document may be sought from documents such as the Tasmanian published guidelines and patient referral criteria for CBCT as well as those published by the Australian Dental Association, guidelines published by the European Commission, e.g. RP 172 and RP 136. Such documents can be used to support the implementation of the code, but they are unlikely to be adopted by the code.

Commenter	Comment	Resolution
	on radiation risk from dental exposure, justification or referral criteria, equipment, quality assurance etc. Tasmania has also published guidelines and patient referral criteria for CBCT.	
5	Comment 1 Looking at the list of contributors it creates the impression that no dental practitioner/specialist has contributed to this document. This impression should be clarified. Comment 2 Section 2.1 – it states, in terms of Radiation Protection, that planned dental exposures requires an approach that differs from other planned exposures. • This document fails to clearly demonstrate an approach that differs. • It appears that many requirements from the medical exposure code (RPS C-5) have been transferred into draft dental code. • This creates an impression the 2 codes are similar, and that the interpretation should be similar – where in fact they are distinctively different. As example: ○ for a single patient a general dental practitioner can be a referrer, operator, and reporter of a radiographic image. This is not the case for a general medical practitioner. ○ All dental radiographic imaging can be reported on by the dental practitioner. It does not require radiologist reporting (unless a Medicare claim is submitted for extra-oral radiographic images). This is not the case for a general medical practitioner. Comment 3	Response to Comment 1: Input from different dental professions was sought, and relevant changes made, prior to the release of the document for public consultation. Response to Comment 2: The Code for Radiation Exposure in Planned Exposure Situations deals with all of the circumstances for which there is a need to protect workers and the public from the adverse effects of radiation in planned exposure situations. Medical and dental radiation exposure situations are the same in so far as the need to protect workers and the public from the adverse effects of radiation are concerned. For this reason, the Code for Radiation Exposure in Planned Exposure Situations applies to all medical and dental radiological practices and these matters have not been incorporated into the medical or the dental codes. The medical and dental codes are focussed on another aspect of the practices which are not covered in the Code for Radiation Exposure in Planned Exposure Situations - the intentional irradiation of humans for diagnostic or therapeutic purposes - and these other codes set out the additional arrangements that need to be in place to justifiably use radiation for the medical and dental purposes. Response to Comment 3: We are used to the concepts and terminology in the current 2005 dental code. This has had 20 years to become embedded in the relevant systems we have in Australia. The new code introduces new language which will, in time, become embedded in our day-to-day language. For example, when the 2005 code (RPS10) was prepared, although we introduced new terms such as 'responsible person' and these continue to be used in the new code, we did not have the array of nationally registered professionals to describe which we have now. In the old code, the term 'clinician' is used but now, because the working environment is more complex, we need to differentiate between the clinicians who have different functions or features. To do this, we have introduced some new terms which are consistent with similar terms in the medical code to assist in this differentiation. Similarly, this

Commenter	Comment	Resolution
	Overall, the draft is difficult to read and confusing in some respects, which in turn, makes it difficult to interpret. As examples. • Section 1.3 - Radiological dental practitioner – this terminology is misleading. • Section 3.1.15 - Safety interlock (Not entirely sure this is relevant to planned dental radiation exposures) • Section 2.2.2 - DRL's (Question the relevance of its inclusion within this document as there is no recognised DRL's for dentistry federally within Australia) • Section 2.2.2 – it is stated that there are no dose limits for dental radiographic imaging but there are Dose constraints (why relevant? And if deemed relevant, how is this going to be imposed if dosimetry badges are not mandatory) • Section 3.2.11 – Calibration (What does this refer to? Equipment, QA, Compliance testing) Overall comment This code is going to be challenging to implement in practice. It is difficult to read. It is confusing. Some of the terminology used is misleading. Some of the inclusions are irrelevant. It almost appears as if there was a copy and paste from the medical code that was applied. ARPANSA can learn from the New Zealand Code of Practice for Dental Radiology: ORS C4. This code is written well. It is Simple. It is Concise. It is Clear. This draft is far from that."	document is likely to have a 10 to 20-year life so it must be able to accommodate areas of change likely to occur during that period. Provisions have been made for the introduction of functions such as DRLs and for other radiation-related features which will become more and more relevant as the complexity of procedures and technology advances. Response to Overall Comment: It is acknowledged that this is a regulatory document which uses regulatory language. This is done so that the expectations of the document are clear and precise in an increasingly complex environment. This document does not pretend to be the 'go-to' document a dental practitioner would pick up day-to-day whilst doing their routine job. It is accepted that a guidance document would be more useful on a day-to-day basis. With this as a goal, some work has commenced to create a draft guidance document that will be consistent with the code for use at the practical level. Details such as and justification or referral criteria, equipment, quality assurance etc. for publication in that document may be sought from other documents such as the New Zealand document mentioned by the commenter.
6	The scope of the draft code is appropriate to the level required for the intended purpose and provide references on other relevant regulatory requirements.	Specific feedback response 1: The naming of the document is not as the commenter has stated, but checks for consistency throughout the document will be made.

Commenter	Comment	Resolution
	Quality and clarity: Do the requirements in the draft text represent the current consensus among specialists in the field and are these requirements expressed clearly and coherently?	Specific feedback response 2: While the comments have been noted, the sentence is an initial statement establishing some particular terms and how they inter-relate. Further detail on the functions and responsibilities is provided later in the text.
	There is some specific feedback on the document for consideration and clarification.	Specific feedback response 3: It is an implicit part of dentistry that there is a patient, and for that reason, they have not been explicitly referred to. However, the primary focus of the document is to facilitate the diagnostic of therapeutic radiological procedures whilst protecting the patients and so the proposed inclusion is accepted.
	The document does not match the specified new name for the document. The new document is called the 'Code of Practice for Radiation Protection in Dentistry (2024). Similar consistency is required on page 1, section 1.2.	Specific feedback response 4: Agreed. This technological change (inclusion of hyperlinks) will not change any text but will assist its online readability.
	Page 2, section 1.3, it states that "Responsibilities are also assigned to the radiological dental practitioner, who has the overall responsibility for the conduct of a radiological procedure and the operator, who initiates a dental exposure." It is unclear who has overall responsibility for the conduct of a radiological procedure. In addition, the wording "initiates" may create confusion. We suggest a rewording as "Responsibilities are also assigned to the radiological dental practitioner, who has the overall responsibility for the conduct of a radiological procedure, and the operator, who generates a dental exposure and has relevant responsibility under the Code." We also proposed the term "radiological dental practitioner" be reconsidered as "Dental radiation authoriser", or similar.	Specific feedback response 5: The Code for Radiation Exposure in Planned Exposure Situations deals with all of the circumstances for which there is a need to protect workers and the public from the adverse effects of radiation in planned exposure situations. Medical and dental radiation exposure situations are the same in so far as the need to protect workers and the public from the adverse effects of radiation are concerned. For this reason, the Code for Radiation Exposure in Planned Exposure Situations applies to all medical and dental radiological practices and these matters have not been incorporated into the medical or the dental codes. The medical and dental codes are focussed on another aspect of the practices which are not covered in the Code for Radiation Exposure in Planned Exposure Situations - the intentional irradiation of humans for diagnostic or therapeutic purposes - and these other codes set out the additional arrangements that need to be in place to justifiably use radiation for the medical and dental purposes.
	Page 2, section 1.4, it would be preferred to include patients as follows "…including exposure to patients, carers and comforters and to volunteers in dental research…".	

Commenter	Comment	Resolution
	Page 2, section 1.5, it would be useful to hyperlink the bold text to the relevant section of document with the glossary definition. In addition, consistency for each bold word is recommended.	Specific feedback response 6: Noted, but no change recommended.
	Page 3, section 2.1, it states “Protection during radiation exposures of patients in dentistry requires an approach that differs from radiation protection in other planned exposure situations”. An explanation is needed to justify why the Code “differs” from other radiation protection in other planned exposure situations, noting that consistency and radiation protection to exposures remain paramount.	Specific feedback response 7: Optimisation, in the context of a dental procedure, requires explanation of the concept rather than just a simple definition. The section on optimisation, section 2.2.2 attempts to do this.
	Page 3, section 2.1, 'In dental diagnostic procedures radiation is used to generate images or information that guide diagnosis or treatment.’ Reference to “images” is sufficient given “or information” creates ambiguity.	Specific feedback responses 8 and 9: Comments have been noted but the preference is to retain the current language which is more consistent with the language used elsewhere in the Radiation Protection Series of documents.
	Page 3, section 2.2, we recommend the term “optimisation” be defined in the glossary definition.	Specific feedback response 10: Although there are no DRLs in this area at present, there are likely to be during the life of this code. Whether there are some or not is immaterial in this document.
	Page 3, section 2.2.1, it states “At the first level, the use of radiation in dentistry is accepted as doing more good than harm to patients”. The current wording is ambiguous and would suggest strengthening this sentence as by adding “…and consistent with relevant clinical guidelines"". An alternative phrase to “…doing more good than harm to patients…” is preferred such as “…having benefits that outweigh the potential risks…”, which is similar wording used in section 2.2.2.	Specific feedback responses 11 and 12: Noted but not accepted. While this is important, to include the other persons would detract from the point being made.
	Page 3, section 2.2.1., it states “At the third level, the particular application must be judged to do more good than harm to a specific patient.” We suggest	Specific feedback responses 13 and 14: Comments noted. These are lists which mean the fault will be reported to both parties. No change.
		Specific feedback response 15: The intent here is to ensure appropriate techniques and optimisation arrangements are used when seeking to achieve the outcomes required of the radiological dental practitioner for the circumstance. Although the radiological dental practitioner may also be the operator in many circumstances, there may be situations where that is not the

Commenter	Comment	Resolution
	to as an alternative reword to "… judged to have benefits that outweigh the potential risk to a specific patient (developing foetus)." to be clear. Page 3, section 2.2.2, at present there are no DRLs for dental exposures, which is mentioned in 3.2.12. It should also be mentioned here. Page 3, section 2.2, we recommend the term "optimisation" be defined in the glossary definition. Page 5, section 3.1.5, we suggest including "…carer or comforter" to be correctly identified. i.e. "… ensure that a patient, carer or comforter (if applicable) is correctly identified for the intended radiological procedure…'. Page 6, section 3.1.12, we suggest including carer or comforter" to be correctly identified as per previous comment. i.e. "a. take reasonable steps to ensure that the patient, carer or comforter (if applicable) is correctly identified Page 7, section 3.1.16: it states under "c) where the fault could compromise patient safety or diagnosis, report it to: i. the Responsible Person ii. the radiological dental practitioner." Please be clear if fault needs to be reported to both the Responsible Person AND the radiological dental practitioner. Page 7, section 3.1.17: it states under "The operator must report any unintended or accidental exposure to: a. the Responsible Person in accordance with the procedures set out in the Radiation Management Plan b. the radiological dental practitioner." Please be clear if accidental exposure needs	case. In those circumstances, particularly for the situations listed, the radiological dental practitioner must ensure the procedures are afforded the benefit of specialist input. Specific feedback response 16: Suggestion noted and considered. The word 'routine' tends to indicate 'usual' more than 'of a certain type'. The latter meaning is the preferred meaning, particularly since it is a better word in the other circumstance in the draft where it is used. No change has been made. Specific feedback response 17: Employers have a responsibility to ensure staff are appropriately trained in relation to radiation hazards and associated expectations. This, necessarily, requires employers to keep appropriate lists. These can be used to satisfy this code as well as jurisdictional legislation. There is no duplication required, but if this is a requirement of several documents that should help to indicate that this is necessary. As for radiation management plans, their implementation should affect all staff, not just radiation safety officers. The responsibility to ensure all staff are adequately trained is borne by the Responsible Person. Specific feedback response 18: The generic term 'radiological dental practitioner' has been coined for the specific purpose of this code. It is equivalent to the term 'radiological medical practitioner' in the Medical Code. Generic terms such as this are used to allow some flexibility in who might be included within the group. The radiological consequences of irradiating an embryo are different from those of irradiating a fetus. Nevertheless, the context in this code is more generic in nature so, in the four instances where 'fetus' was quoted, these have been changed to 'embryo or fetus'. Specific feedback response 19: The Code for Radiation Exposure in Planned Exposure Situations deals with all of the circumstances for which there is a

Commenter	Comment	Resolution
	to be reported to both the Responsible Person AND the radiological dental practitioner. Page 9, section 3.2.10, reference to the "…in collaboration with the qualified expert or the operator…" is unclear and would suggest its removal without changing the intent of this section. Page 11, section 3.3.1, "…standard dental diagnostic procedures using intra-oral, panoramic and cephalometric examinations…", is unclear, and suggest replacing the term "standard" with "routine". Page 13, section 3.5.2, it states under "b. are named in a list maintained up to date by the Responsible Person and references in the facility's Radiation Management Plan". A name list register can be a significant administrative burden, and potentially duplicate existing state and territories regulations. We recommend it be reworded as ""b. must adhere to the facility's Radiation Management Plan". It would be preferred to also consider using the term and refer to the Radiation Safety Officer, who is typically appointed to implement the Radiation Management Plan. Page 22 the term for the definition term "Radiological dental practitioner" could be confused with the term dental practitioner used by the Dental Board of Australia. As per previous comment, we would suggest the term "Dental radiation authoriser", or similar, to avoid using the term dental practitioner, which generally describes those health professionals registered under the National Registration and Accreditation Scheme. In addition, consistency is recommendation with the following terms used: foetus, embryo, etc.	need to protect workers and the public from the adverse effects of radiation in planned exposure situations. Medical and dental radiation exposure situations are the same in so far as the need to protect workers and the public from the adverse effects of radiation are concerned. For this reason, the Code for Radiation Exposure in Planned Exposure Situations applies to all medical and dental radiological practices and these matters have not been incorporated into the medical or the dental codes. Also, the 2005 code came bundled in the same cover with a second document called ""Safety Guide for Radiation Protection in Dentistry (2005)"". The items identified as being missing from the draft code will be mentioned in either or both of these other documents. At this stage, no guidance to accompany the code has been prepared, however some work has commenced to create a draft guidance document that will be consistent with the code for use at the practical level.

Commenter	Comment	Resolution
	General comments, specific guidance in the 2005 Code included other topics that have been removed from this version. This includes Radiation Safety Officer, site requirements like structural shielding, persons in the room during exposure (if shielding is not available), multi-chair rooms, personal monitoring (eg, dosimeters), protective aprons (ie, lead aprons), etc. A supporting fact sheet may be helpful with relevant references to support the revised Code in these areas.	
7	The draft Code for Radiation Protection in Dental Exposure offers a substantial overhaul of industry regulations. We submit the following feedback to ARPANSA for its consideration. Overall comment – harmonise state and federal radiation control laws: ARPANSA should work to unify state and federal radiation control laws to reduce confusion, duplication, and compliance costs for practitioners. Draft section 2.2.2 Optimisation of protection: ARPANSA should continue to monitor the need for Diagnostic Reference Levels (DRLs) in dentistry. Draft section 3.2 Radiation protection for dental exposure: To optimise patient care and minimise radiation exposure, dental practitioners may request extra-oral radiographs prior to appointments, particularly in orthodontics. This allows for comprehensive treatment planning and reduces the need for multiple intra-oral radiographs during the visit. While statements 3.2.2b and 3.2.2c may not fully address this practice, it aligns with the broader principles of radiation protection in dentistry. Draft section 3.4 Unintended and accidental dental exposure: Regarding reporting unintended or accidental dental exposure, we recognise that jurisdictional requirements vary. As noted previously, harmonisation appears beneficial. Draft section 3.5.5 Radiation management plan:	Response to overall comment: It is expected that all jurisdictions will adopt this code, once published, and consequently, this will become the nation-wide expectation from a regulatory perspective. The tools by which the implementation of the code is given effect in each jurisdiction might vary from jurisdiction to jurisdiction, but the standard should be consistent across the country. The professions, themselves, can further progress national consistency of practice by publishing their best practice expectations for dental X-ray imaging and by assisting practitioners in adopting them. ARPANSA promotes national uniformity by supporting the development of, and publishing, documents such as the code for adoption in all jurisdictions. Response to specific comment 1: Noted. This is why the provision to adopt DRLs has been included. Response to specific comment 2: Noted. Response to specific comment 3: Noted. Refer to the response to the overall comment. Response to specific comment 4: It is noted that a number of jurisdictions public generic radiation management plans which may be adopted for use in 'generic' practices. In fact, however, no two businesses are identical and so some variation from business to business is likely. Likewise, the intersection between the radiation management plan with the regulatory context in one jurisdiction may differ from that in another. It is noted that some work has commenced to create a draft guidance document that will be consistent with

Commenter	Comment	Resolution
	To enhance radiation safety in dental practices, the ADA recommends that ARPANSA collaborate with states to develop standardised dental radiation management plan templates. Currently, the availability and content of these templates vary widely across jurisdictions. Consistent, nationally available templates would provide practitioners with a clearer framework for mitigating radiation risks. For cases where a third-party provider of radiographs is on-site, the Radiation Management Plan should clearly define the responsibilities of the "responsible" person. I.e. should the owner of the radiation source be required to develop the Radiation Management Plan (including calibration and verification) for their asset in such scenarios?	the code for use at the practical level. It is not the responsibility of ARPANSA to produce such a document, but the Radiation Health Committee does support the development of such a document. It is possible that a template or generic radiation management plan could be incorporated into such a guidance document. Response to specific comment 5: In the scenario outlined, the third-party provider of radiographs is likely to be the Responsible Person as set out in the code.
8	**Re: Public Consultation on Draft Code of Practice for Radiation Protection in Dentistry** Thank you for the opportunity to provide comments on the above Consultation, and I apologise for the late response. The Dental Hygienists Association of Australia supports all changes proposed in the Draft Code of Practice for Radiation Protection in Dentistry. We believe the draft Code reflects the current practice and legislative framework. We look forward to its implementation and will be very happy to support ARPNSA in communicating the new Code to our members as appropriate.	Noted.
9	**Application of the requirements of the Code** Clause 1.4 (Scope) says: • *The requirements of this Code should be applied using a graded approach and interpreted accordingly.*	Response: The commenter makes an important point. The way an inspector interprets the code can negatively impact the regulated entity if the inspector is naïve or untrained. The adequacy of the training of inspectors is not the domain of the code, however. Nevertheless, it is important to ensure that the language in the code is correct so that, if a matter is tested in legal proceedings it will be interpreted as expected by all parties. It is noted that most of the clauses in Section 3 contain 'must' statements, but these same

Commenter	Comment	Resolution
	• *Not all requirements specified in this Code are relevant for every dental radiation facility.* That is reasonable as the type and extent of radiation safety and protection measures can vary according to the size and nature of dental practices. And it is reasonable if you are able to read the Code in such a way. However Clause 1.5 (Interpretation) says: • *The presence of the term 'must' when it appears in this Code indicates that the requirement to which it refers is mandatory.* All but two of the requirements (in Section 3) have the term 'must' in them, so that does not leave much room for applying a graded approach, and the Code give no indication of which requirements, even though they are 'must do' requirements, may not be relevant to all dental facilities. My concern is about who decides what is relevant – will an overzealous inspector require a practice to comply fully with a requirement that the practice thought only applied at a 'low grade' or was not relevant at all. There may also be some small practices reading the 'must' statements and thinking that they will need to implement a whole suite of new measures. **The use of a qualified expert**	sections typically set out the circumstances in which or for which the 'must' requirement is made. Sections must be read in their entirety to ensure the correct meaning and intent is obtained. If an overzealous inspector does not do this, then any unsupportable request made by the inspector should be challenged. As for the graded approach, this can be applied to all aspects of the code - the code specifies what needs to be done and the graded approach affects how it might be done. Response: As outlined in section '1.4 Scope' in the draft code, the requirements are intended to be applied using a graded approach and interpreted accordingly. The majority of dental diagnostic imaging is considered 'routine' and some considerable effort is made by professional organisations and dental training institutions to detail the expectations of practitioners in relation to dental imaging. The establishment or refining of such routine processes and procedures must, nevertheless, be informed by sound radiation safety advice from a qualified expert and, for the majority of dental diagnostic imaging, provided personnel have received the appropriate training and the equipment and facilities are fit for purpose, this is likely to be the extent of the qualified expert collaboration required. In some circumstances however, particularly in complex treatment procedures or if unusual or novel equipment is to be used, more overt and specific collaboration with a qualified expert may be necessary to ensure optimisation of protection and safety in that circumstance. The typographical error in section 3.1.4 has been corrected.

Commenter	Comment	Resolution
	In my comments here, I am taking the view that a small dental practice should not be overburdened. Clause 3.1.4 is a 'must do' that requires the responsible person to collaborate, as required, with a qualified expert to achieve optimisation. I think it could be unreasonable for a small practice to have access to a qualified expert in all those situations the Code requires them to be used. It was pointed out to me that it would not really be difficult for a small practice because the practice could be guided by recommendations or policies of relevant organisations such as the ADA. If that is the case then the Code ought to clearly state that – the Code should, in line with the graded approach, allow some practices to follow such trusted guidance rather than having, via 'must do' requirements, to collaborate with a qualified expert. Perhaps the definition of qualified expert can be expanded to incorporate organisations, not just individuals. The end of Clause 3.1.4(a) refers to clause 3.3.1, but this does not mention the qualified expert. Should it be 3.3.2?	
10	**Operator – pg.6** 3.1.10 – Additional to the exception in this clause, if in particular circumstances that the operator do identified a better professional practice outside the provision prescribed under the Radiation Management Plan, then it should be feedback and discuss with the Responsible Person. 3.1.14 – maybe also beneficial to add that the operator need to ensure that all person required to be in attendance during the radiological procedures has been consented and documented. **Quality assurance for dental exposures – pg.10**	Response to comment re 3.1.10: Disagree with the comment. A radiation management plan is a plan for the typical range of things that happen in a practice. Plans need to be written in a way that will allow for unusual events or circumstances to be accommodated. Response to comment about 3.1.14: While it would be prudent for this information to be recorded and maintained, this is not a 'must do' requirement of this code because of the limited and peripheral nature of the exposure. This recommendation would best be set out in a guideline. Response to comment about section 3.2.14(iv): Disagree. Quality assurance

Commenter	Comment	Resolution
	3.2.14 (iv) – maybe can also add software or modification that could affect not only protection or safety of patient but also radiation dose in which case the process of justification needs to be repeated. I do come across the 'authorise health screening program' a few times in the draft code and wonder what that is? Is it like the school dental program? Just wondering as there are quite a bit of exception in the code for this mob that they are not required to follow.	would only be valid for established types of radiological procedures which would be known by the person undertaking the justification. Response to comment about health screening programs: Please refer to the definition of 'approved health screening program'. This is a screening program established and justified at the governmental level to identify health concerns across a population, consequently, the circumstances are controlled somewhat differently from those in routine dental exposure.
11	**Clause 1.4 (page 2)** Delete the sentence "Not all requirements specified in this Code are relevant for every dental radiation facility.". Reason - This is covered by the first sentence which references applying the requirements via a 'graded approach'. The document is relatively high-level, and so it is unclear what requirements should actually not be relevant for all practices. It is specified that 'must' statements are mandatory – but then we say via this statement that effectively they are not. **Footer 1 (page 2)** Is there a need to specify that, if there is a conflict between the Dental Code and the Medical Code in medical settings, that the Medical Code applies? Reason - To avoid any ambiguity, rather than specifying that the dental code is 'consistent' with medical code. **Footer 4 (page 4)** 1. Change the word 'request' to 'referral'. Reason - The term 'Referral guidelines' is used later in the document. For consistency of language, it is suggested that 'referral' is used in the footer. 2. Remove the sentence "However, contact information for the referrer must	Comment on clause 1.4: the commenter's perspective has been noted, but the inclusion of this sentence provides some necessary clarification in relation to the application of a graded approach. Comment on footer 1 on page 2: The intention of the footer is to advise that the intended actions and approaches are consistent and, to the extent achievable, as seamless as possible since dental exposures can occur in medical settings. The intention is not to imply a hierarchy across the codes. Comment on footer 4 on page 4: This footer deals with the request which is to be made by the radiological dental practitioner, not the referral made by another dental practitioner. Comment on clause 3.1.4(c): It is expected that the professions would provide guidance on this but, until they do, it will be the relevant regulatory authority which makes the determination. Additionally, if the relevant regulatory authority is not pleased with any guidance provided by the professions, the inclusion of these words will provide the means whereby the relevant regulatory authority can make the determination. Outcome: No change.

Commenter	Comment	Resolution
	be provided to facilitate further communication, should it be required."; or alternatively, change 'must' to 'should'. Reason - It seems to be mandated that the referrer provides their contact details – but they do not have any responsibilities under this Code per se. **Clause 3.1.4(c) (page 5)** Delete the words 'by the relevant regulatory authority and' Reason - Why does the relevant regulatory authority need to determine this? How would the regulatory authority do this in practice? This is a good example of applying the graded approach. It is expected that the profession would provide some guidance in this. **Clause 3.1.4(c) (page 5)** Change "delegation of responsibility" to "delegation of duties". Reason - While I note that this is consistent with the wording in the Medical Code, the responsible person should always have overall control (and therefore the responsibility and accountability). **Footer 5 (page 5)** Delete the footer in toto. Reason - The definition of 'qualified expert' is already adequately described in the Dental Code, and covers medical physicist. The footer does not seem to be a value add, and raises queries about why it needs to be mentioned at all. **Clause 3.1.11 (page 6)** Suggest delete this clause. Reason - Clause 3.1.11 (a)(ii) already states that the operator must not expose a person to ionising radiation unless the procedure is in accordance with written protocols.	Comment on clause 3.1.4(d): Agree. Change made to the code. A similar change ought to me made to the Medical Code. Comment on footer 5 on page 5: Comment noted. The footer merely provides a clarification that experience has shown has been considered necessary. No change. Comment on clause 3.1.11, page 6: Comment noted. The alternatives describe different attribution circumstances. No change. Comment on clause 3.1.13, page 6: The comment is noted, but the reason for a different level is unsound. This code attempts to ensure the same level of protection of unborn children as the Medical Code - no more, no less. No change. Comment on clause 3.2.16, page 11: The comment is noted, but the reason for a different level is unsound. This code attempts to ensure the same level of protection of carers or comforters as the Medical Code - no more, no less. No change. Comment on clause 3.5.2 (b) (page 13): The term 'maintained' is used in the Medical Code and is similar in meaning to 'kept'. No change. Comment on clause 3.5.4, page 13: It would be helpful for users to be provided some clarity on how long radiological data such as images ought to be kept, but while the requirement that certain records relating to the operation of the Responsible Person's business be kept can be stipulated in

Commenter	Comment	Resolution
	I am not clear if "follow the established protocol for the procedure" in part b is already covered in the words 'in accordance' in a(ii). Is the clause an add value? If not, it should be deleted. **Clause 3.1.13 (page 6)** - also relates to 3.2.10 (page 9) Consider reducing the investigation level to be less than 1 mSv. Reason - While I note that this is consistent with the wording in the Medical Code, this is dental, and the does to the uterus should be no-where near this. For this circumstance, should the investigation level be 0.5 mSv to make this a bit more realistic? **Clause 3.2.16 (page 11)** Consider reducing the 1 mSv dose constraint for carers or comforters for each diagnostic examination, and clarifying that the context is for a dental diagnostic examination. Reason - Given the context of this document (dentistry), should the dose constraint be lowered? **Clause 3.5.2 (b) (page 13)** Consider changing 'maintained up to date' to 'kept up to date' Reason - Simplification of language. **3.5.4 (page 13)** Consider how long images must be kept – should this be 7 years as well? Reason - Typically, a dental facility keeps the X-ray images, and the question of how long this image should be kept is asked. Also, is this level of detail needed in this Code? **Schedule A.1 (page 15)** Should the plan be commensurate with both the radiation sources and the radiation activity?	the code, the period for which images should be kept depends on the circumstances under which the images are made. In many instances, images are the property of the patient. Guidance, if produced, could provide some assistance if the images are to be held iin storage by the Responsible Person. Comment on Schedule A.1, page 15: The text in the Schedule provide for this level of flexibility. Comment on Appendix 2, page 18: The superseded code is still a useful document, though outdated. Its effect as a regulatory document will diminish over time. In particular, that document came bundled with some guidance material which some dental practitioners might find useful."

Commenter	Comment	Resolution
	Reason - At present, only radiation sources are mentioned, and it is queried if this should also be expanded to the use of the source as well (for example, a mobile dental unit source may be used differently, and have different measures to a fixed dental unit). **Appendix 2 (page 18)** For RSP10, remove the words "Code of Practice". The Dental Safety Guide may still provide guidance. Reason - While 'wrapped' in the one document, the dental Code and the dental Safety Guide are two separate and independent documents. It is unclear if the Safety Guide is to be made invalid. It is not clear why the dental Code is on this list.	
12	Thank you for the opportunity to submit feedback to the above consultation. Please see comments from the Australian Society of Medical Imaging and Radiation Therapy (ASMIRT). (ASMIRT Response - ARPANSA Dental Code 12.10.24.pdf) **ARPANSA Code for Radiation Protection in Dental Exposure** The Australian Society of Medical Imaging and Radiation Therapy (ASMIRT) is the peak body representing medical radiation practitioners in Australia. Our aims are to promote, encourage, cultivate and maintain the highest principles of practice and proficiency of medical radiation science, always mindful that the welfare of the patient should be at the centre of everything we do. Please find some feedback on the above document: **GENERAL COMMENTS** *ASMIRT suggests that there be a list of the specific types of examinations*	Comment 1: This code does not concern itself with who will be performing functions such as operating equipment. That is a matter for the regulators in

Commenter	Comment	Resolution
	performed and who can perform them. Who can perform cone bean CT of the mandible for example? *ASMIRT suggests reviewing the recency of the references, as it appears that the IAEAs Radiation Protection in Dental Radiology (Safety Report Series No.108) from 2022 has not been cited.* *ASMIRT seeks consistency of terminology. Dentists are Ahpra registered – ASMIRT suggests the use of their protected title.* 1.4 Scope Dose Limits not apply to dental exposures. *ASMIRT suggests an explanation for this statement which encompasses cone beam CT dose.* *ASMIRT is also concerned why there is no dose limit for a Comforter/Carer/staff for dental exposures, e.g. CBCT* 2.2 Principles for protection The main principles for radiation protection in dentistry are justification and optimisation. In dental exposures, the level of the radiation exposure (the dose) should be commensurate with the clinical objective. *ASMIRT suggests an explanation for this sentence. How is "commensurate" measured?* How does it differ from diagnostic radiology? It's planned, intentional and therefore has to be justified... ASMIRT recommend that dentists be provided education around the requirements for an X-ray. They are not required on an annual basis; they are required on a clinical needs basis. 2.2.1 – Dot point 2 • or a group of individuals at risk of a condition	the different domains. The code refers to these people simply as being operators. The code does concern itself with those requirements that need to be met by any person operating radiation equipment and puts in place related requirements relating to the safety of staff and patients. Comment 2: Noted. The drafters have been alerted to this omission. The list of references was not intended to be exhaustive, however. Comment 3: Ahpra terminology is used where applicable, but this is a code for a practice type (dental exposure), not a code for specific professions or professionals. Consequently, the terminology used needs to be generic to include all persons and professional/employment groups engaging in the practice type - hence the use of generic terms such as 'operator' and 'radiological dental practitioner'. Comment 4: Dose limits are a regulatory concept applicable only to workplaces and workers. Patients and carers are not workers and hence 'limits' do not apply to them. Nevertheless, the code provides a framework to ensure the optimisation of the protection of patients in their particular circumstance, and also the optimisation of the protection of carers - refer to sections such as 3.1.3, 3.1.14, 3.2.16. Comment 5: This is not a code for dentists; rather, it is a code for radiation protection in dental exposure. The education of dentists is a matter for the dental profession, however it typically includes the case by case clinical justification arrangements used by other professions such as the radiologists. It is not clear what point is being made here.

Commenter	Comment	Resolution
	ASMIRT suggests that it would be helpful to have an Example of a "group of individuals". 2.2.2 Optimisation ASMIRT queries the numbers of dentists that are able to understand and change exposure factors? Most OPG machines have pre-progammed protocols based on small, medium, large patients Diagnostic Reference Levels (DRLs There are currently not done in Australia. ASMIRT seeks to clarify if ARPANSA is going to collect the data and publish nDRLs? 3.1.1 The responsible person ASMIRT queries whether the dentist taking the X-ray and the referrer are usually the same person? 3.1.1 c - whenever clinically practicable, the patient or the patient's legal authorised representative is informed as appropriate of the expected benefits of the radiological procedure as well as the radiation risks, including risk to a fetus where appropriate *ASMIRT suggests that within an Australian document the wording should be reflective of Australian spelling - **"foetus"**.* ASMIRT also suggests the provision of references needed for foetal doses for dental X-rays, CBCT etc.... 3.1.1 d ASMIRT suggests that there would be no instance where consent in dental imaging is not obtained. 3.1.3 ASMIRT suggests inserting a reference to provide this info to carer/comforter	Comment 6: The inclusion of an example would serve to limit the text and lose the intent of the dot point. An example of such a group might be primary school students. The three dot points must be read together because the intent is to show, in a simple way, the different elements which comprise 'justification'. Comment 7: Noted. Comment 8: The current dental code was published in 2005. During the life of this code the complexity of radiological exposures is likely to increase. The inclusion of a reference to DRLs provides a means by which they can be introduced. Comment 9: In many less complex dental exposure situations the requester is also the operator, however as the complexity of dental exposure situations increases, these functions are increasingly undertaken by diffrernt individuals. Comment 10: The spelling of the word 'fetus' has been settled upon some years ago and is adopted in all ARPANSA publications. This code will use the standard ARPANSA spelling of words - including 'ionising' where others might use 'ionizing'. Comment 11: Suggestion noted. Comment 12: This could be guidance included in a guidance document.

Commenter	Comment	Resolution
	3.1.4a ASMIRT seeks clarity on the qualified expert. Does this mean a medical physicist? ASMIRT are not certain that any dental practice engages the services of a physicist. 3.1.5 ASMIRT suggests that the procedure performed has to match that requested (or least match to answer the clinical question) 3.1.14 ASMIRT suggests definitions of what constitutes them being required to be present. Is this a parent/carer? 3.1.8 States the clinical question that the diagnostic procedure should try to answer *ASMIRT suggests that this statement should also include relevant medical and clinical history which is a common omission on Requests from dentists for OPGs.* 3.1.12 b Suggests that the **Correct** requested procedure is to be performed on the patient *ASMIRT suggests the addition of the word correct.* ASMIRT suggests the addition the procedure performed has to match that requested (or least match to answer the clinical question) 3.1.14 - The operator must ensure that no person other than the patient is in the imaging area during a radiological procedure unless that person is required to be in attendance. *ASMIRT suggests that a definition of what constitutes a person being required to be present would be useful.*	Comment 13: While all medical physicists are qualified experts, others may also be considered qualified experts. Comment 14: This is covered within the section entitled 'Operator'. Comment 15: Intent accepted, however this is the sort of information best dealt with in guidance documentation. Coment 16: Intent accepted, however this is the sort of information best dealt with in guidance documentation. Comment 17: This is dealt with elswhere in this section so the regulatory aspects of this are covered. However, as it appears that, in practice, this is not done as well as it should be, some examples or guidance written into a guidance document might prove helpful. Comment 18: Intent accepted, however this is the sort of information best dealt with in guidance documentation. Comment 19: This further descriptive or explanatory information best dealt with in guidance documentation. In this instance one simple set of characteristics could be differentiating between intra-oral and extra-oral dental exposures.

Commenter	Comment	Resolution
	3.2.3c *ASMIRT seek clarity on what are the definition of characteristics of a dental exposure are?* *3.2.10d* *ASMIRT suggests adding in Examples of "relatively high doses" in dental imaging.* *The footnote explanation is not succinct.* *3.2.10e - exposure of an embryo or fetus, in particular for radiological procedures in which the uterus of a pregnant female patient is exposed to the useful radiation beam or could otherwise receive a dose of 1 mSv or greater.* *As per 3.1.1c ASMIRT suggests that within an Australian document the wording should be reflective of Australian spelling - "**foetus**".* *ASMIRT seek clarity on How a female's abdomen be exposed to the useful radiation beam in dental imaging?* *ASMIRT suggests Providing example/s of dental imaging exam/s that will result in a fetal dose of >1mSv.* Footer page 9 10 The term 'relatively high doses' is intended to apply in a given context. Depending on the context, the term 'relatively high doses' may also include doses from exposures in non-routine computed tomography procedures. *ASMIRT suggests considering the use of the Cone Beam CT and doses that can be measured.* 3.2.12 ASMIRT suggests that FRLs be established which can be compared to on an annual basis. Then ARPANSA can collect the data to establish nDRLs.	Comment 20: The footnote provides sufficient explanation for the purpose of the code, however the provision of in-context examples would best dealt with in guidance documentation. Comment 21: Firstly, see Comment 10 in relation to the spelling of 'fetus'. Secondly, while the prospect of excessive exposure of a female abdomen is unlikely at the mement, that is not a reason to not include these regulatory requirements. Further, these requirements could be relevant to future types of dental exposures and poorly or inappropriately executed current types of dental exposures. Without the regulatory requirements being set there would be no rules against which to address exceptionally poor practice. Comment 22: Please refer to response to Comment 20. Comment 23: Facility reference levels should be an implicit part of every aspect of any business which is striving for continuous improvement. In the radiation safety arena, this concept could be incorporated, as such, in the radiation management plan for the business (also refer to section 3.5.1). The code provides for this (although the words are not used). If this is in need of a greater profile, it could be expanded upon in a guidance document. Comment 24: As is the case for medical exposures, this will be dealt with via protocols in more typical situations but, in very unusual situations, a qualified expert might be called upon to provide more informed input into decision-making. Comment 25: The decision on who might be considered a qualified expert lies with the responsible person who, together with the radiological dental

Commenter	Comment	Resolution
	3.2.16 How is the does constraint calculated prior to the exposure? 3.3.2 - where it states "Where this is not practicable, the need for the shielding of the patient's abdomen should be considered and advice sought from a qualified expert." *ASMIRT seeks clarity on who would be considered a suitably qualified expert? (ASMIRT suggests that the list include a radiographer).* *ASMIRT seeks to clarify What is the potential exposure to the abdo? Is there evidence to support this risk?* 3.4.2b *What is the magnitude of "substantially"?* 3.4.2c *What is the risk to the fetus?* 3.4.3a Add to the end of the sentence *..by a qualified expert* 3.5.1 *Evidence of the review must be documented.* 3.5.3 a) Justification of each dental exposure has been carried out b) Optimisation of protection and safety for each dental exposure has been carried out.	practitioner, has the responsibility to ensure optimisation of protection of the patient and any unborn child. Guidance could be provided to provide the illustrations and examples being sought. Comment 26: The quantification of 'substantially' depends upon the context and the consequences. Illustrations and examples could be provided in guidance documents if considered necessary. Comment 27: The risk to the fetus from radiation exposure is only one aspect of the risk to the fetus that needs to be considered. There are other risks associated with such exposures which ccould directly or indirectly affect the fetus. Further explanation, if necessary, could be included in guidance material. Comment 28: This is not necessary because the statement implies that such expertise will be drawn upon when required. Comment 29: The code requires a review. Without documentation it will be difficult to demonstrate that a review has taken place, therfore any overt requirement for documentation is implicit but, nevertheless, should form part of the responsible person's radiation management plan. Comment 30: The code requires these things to occur. The responsible person needs to provide the wherewithal to demonstrate that the responsible person's responsibilities are being met. This includes providing a mechanism by which the relevant documentation is made en route. This is the 'how' type of guidance which could be provided in a guidance document.

Commenter	Comment	Resolution
	ASMIRT suggests that this information is updated in the Radiology Information System (RIS) as part of the patient record. *ASMIRT seeks clarity on whether the signature of the Operator would be sufficient.*	Comment 31: The scope of the code is not limited to dental imaging exposures. Nevertheless, in this instance, the word 'treating' refers to the activity undertaken by dental practitioner when providing their dental services to the patients.
	3.5.4 b (i) *When is imaging used for "treating" dental patients?* *DRLs is in point iii. No mention of patient dosimetry in clause 3.2.12 that we can see.* This needs to be stronger in clause 3.2.12 so FRLs are reviewed annually to identify any exposure creep	Comment 32: Typographical error corrected. The point about FRLs is addressed in Comment 23. Comment 33: Noted. Comment 34: Suggestion has been noted.
	3.5.4 c (i) *Not possible if images can be deleted from system*	Comment 35: Illustrations and examples are best dealt with in a guidance document.
	3.5.5b ASMIRT suggests that protection advice be provided by ARPANSA	Comment 36: Suggestion noted, but no change is necessary.
	AI (b) *ASMIRT suggests examples of such measures be provided*	Comment 37: Suggestion noted, but no change is necessary.
	A1d (ii) for female patients (add in of child bearing age), pregnancy status – *would this be all inclusive, so all women are asked their pregnancy status?*	Comment 38: The inclusion of this definition is to assist in showing to a reader where that particular term in used. Dose limits have a particular relevance, but not to patients, carers, comforters or volunteers. Comment 39: Refer to Comment 25. Also, this is a standard definition within the ARPANSA suite of RPS documents.

Commenter	Comment	Resolution
	A1d (iv) *or FRLs in the absence of nDRLS* Dose Limit (page 20) *ASMIRT a slightly confused by this. There are no dose limits for patients so who does this statement apply to? Is it Staff or Members of the public?* *Is this different to a dose constraint for carers or volunteers?* Dosimetry (page 20) Add *undertaken by a qualified expert* Radiological Dental Practitioner (page 22) *ASMIRT suggests that it needs to be a Dentist (as it is a protected title by Ahpra). A MRP can perform dental imaging but does not need to be described in this way. Please use consistent (and correct) titles protected by National Law.*	Comment 40: Refer to Comment 3.
13	One question that should be posed is "Why can't a dental assistant physically push the exposure button of intra-oral radiographs if strictly supervised by a licenced practitioner?" This is so we as dentists don't have to change gloves whilst taking radiographs to push the exposure button which wastes time, wastes gloves (aka not environmentally friendly) and potentially be poor infection control. Dentists would have to place the sensor, deglove, wash hands or use alcohol-based hand rub, push button, rewash hands, put on gloves and then attend to patient. This takes too long for patient comfort and safety.	Response: The issue has been noted, but it is suggested this is an issue best solved by reviewing professional practice. The 'pushing the button' concept links to clarity around who is responsible for making the exposure. This is a matter for professional boards and jurisdictional regulators.