

1	Status	Final Text
2	Date of Last Update	2015/11/10
3	Person Assigned	David Clunie
4		mailto:dclunie@dclunie.com
5	Submitter Name	David Clunie
6		mailto:dclunie@dclunie.com
7	Submission Date	2015/03/12

8	Correction Number CP-1473	
9	Log Summary: Transverse positioning of pre-clinical research small animal subjects	
10	Name of Standard	
11	PS3.3, PS3.16 2015c	
12	Rationale for Correction:	
13	DICOM is used for the output of human and dedicated small animal imaging devices. The existing patient positioning information	
14	does not address some of the possible positions for patients relative to the machine.	
15	For "conventional" gantries in which the long axis bore is oriented perpendicular to gravity (parallel to the floor or bench), the positioning	
16	information covers the head and feet first case, but not transverse (across the bore) positioning with the head to the left or right of	
17	the machine.	
18	Correction Wording:	

Amend DICOM PS3.3 as follows (changes to existing text are bold and underlined for additions and ~~struckthrough~~ for removals):

C.7.3 Common Series IE Modules

...

C.7.3.1 General Series Module

...

Table C.7-5a. General Series Module Attributes

Attribute Name	Tag	Type	Attribute Description
...
Patient Position	(0018,5100)	2C	<p>Patient position descriptor relative to the equipment. Required for images where Patient Orientation Code Sequence (0054,0410) is not present and whose SOP Class is one of the following: CT ("1.2.840.10008.5.1.4.1.1.2") or MR ("1.2.840.10008.5.1.4.1.1.4") or Enhanced CT ("1.2.840.10008.5.1.4.1.1.2.1") or Enhanced MR Image ("1.2.840.10008.5.1.4.1.1.4.1") or Enhanced Color MR Image ("1.2.840.10008.5.1.4.1.1.4.3") or MR Spectroscopy ("1.2.840.10008.5.1.4.1.1.4.2") Storage SOP Classes.</p> <p>May be present for other SOP Classes if Patient Orientation Code Sequence (0054,0410) is not present.</p> <p>See Section C.7.3.1.1.2 for Defined Terms and further explanation.</p>
...

...

C.7.3.1.1 General Series Attribute Descriptions

...

C.7.3.1.1.2 Patient Position

Patient Position (0018,5100) specifies the position of the patient relative to the imaging equipment space. This attribute is intended for annotation purposes only. It does not provide an exact mathematical relationship of the patient to the imaging equipment.

When facing the front of the imaging equipment, Head First is defined as the patient's head being positioned toward the front of the imaging equipment (**i.e., head entering the front of the equipment**). Feet First is defined as the patient's feet being positioned toward the front of the imaging equipment (**i.e., feet entering the front of the equipment**). **Left First is defined as the patient's left side being positioned towards the front of the imaging equipment (i.e., patient's left side entering the front of the equipment).** **Right First is defined as the patient's right being positioned towards the front of the imaging equipment (i.e., patient's right side entering the front of the equipment).** Prone is defined as the patient's face being positioned in a downward (gravity) direction. Supine is defined as the patient's face being in an upward direction. Decubitus Right is defined as the patient's right side being in a downward direction. Decubitus Left is defined as the patient's left side being in a downward direction.

Defined Terms:

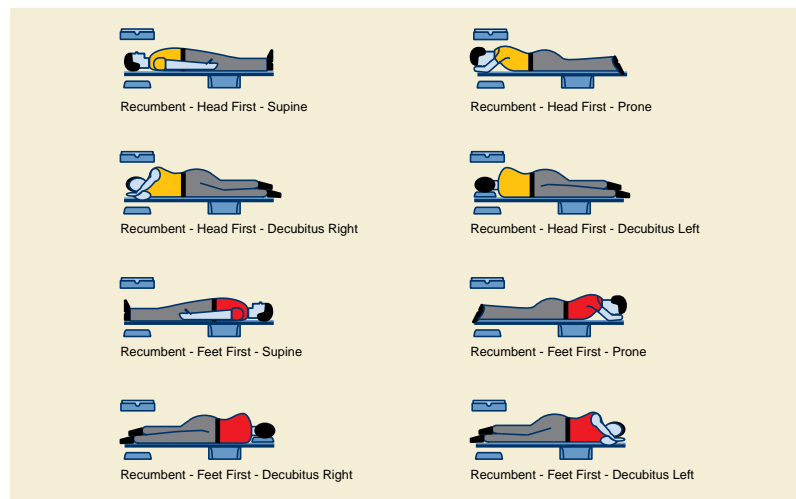
HFP Head First-Prone
HFS Head First-Supine
HFDR Head First-Decubitus Right
HFDL Head First-Decubitus Left
FFP Feet First-Prone
FFS Feet First-Supine
FFDR Feet First-Decubitus Right
FFDL Feet First-Decubitus Left

2	LFP	Left First-Prone
3	LFS	Left First-Supine
6	RFP	Right First-Prone
8	RFS	Right First-Supine
90	AFDR	Anterior First-Decubitus Right
12	AFDL	Anterior First-Decubitus Left
13	PFDR	Posterior First-Decubitus Right
16	PFDL	Posterior First-Decubitus Left

17 **Note**

- 18 1. **For quadrupeds, separate concepts for ventral and dorsal are not introduced, rather it is expected that anterior and posterior will be considered synonymous as they are when applied to the trunk.**
- 19
- 20 2. **There are no decubitus variants of left or right first, since for imaging equipment that is aligned horizontally with respect to gravity the patient cannot be both decubitus and have the left or right side towards the front of the imaging equipment.**
- 21
- 22
- 23 3. **There are no prone or supine variants of anterior or posterior first, since for imaging equipment that is aligned horizontally with respect to gravity the patient cannot be prone or supine and have the anterior or posterior side towards the front of the imaging equipment.**
- 24
- 25

26 The Figure C.7.3.1.1.2-1 illustrates **some of** these Defined Terms for imaging equipment with a table, such as in X-Ray Angiography.
 27 The orientation of the patient related to gravity is always recumbent.



28 **Figure C.7.3.1.1.2-1. Representation of the Eight Different Patient Positions on the X-Ray Table**

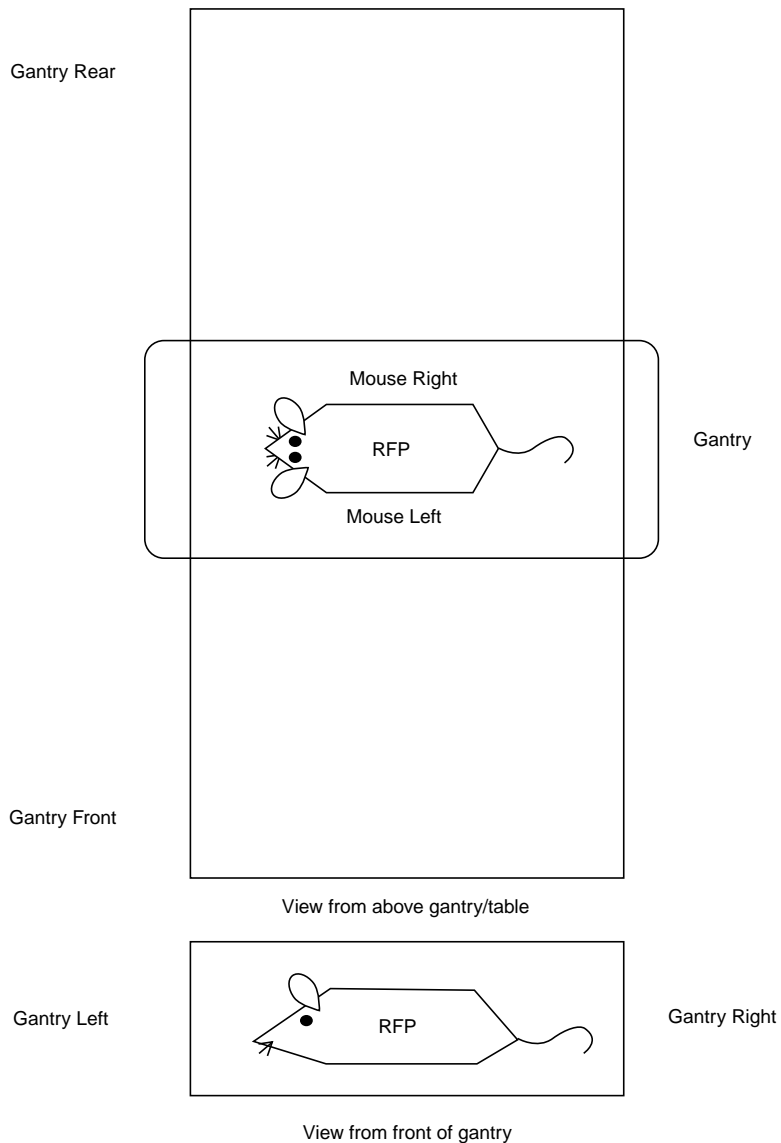


Figure C.7.3.1.1.2-2. Example of Right First-Prone (RFP) Patient Position Relative to the Gantry and Table for a Small Animal

Amend DICOM PS3.16 as follows (changes to existing text are bold and underlined for additions and ~~struckthrough~~ for removals):

CID 21 Patient Equipment Relationship

Type: Extensible
 Version: ~~20040322~~yyyymmdd

Table CID 21. Patient Equipment Relationship

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-CT Concept ID	UMLS Concept Unique ID
SRT	R-10516	oblique	399366008	C1302343

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-CT Concept ID	UMLS Concept Unique ID
SRT	F-10470	headfirst	102540008	C0522020
SRT	F-10480	feet-first	102541007	C0522022
SRT	R-10515	transverse	399220000	C1302259
DCM	126830	left first		
DCM	126831	right first		
DCM	126832	posterior first		
DCM	126833	anterior first		

Note

1. The use of this Context Group in the Patient Orientation Modifier Code Sequence (0054,0412) of the PS3.3 A.5 "Nuclear Medicine Image IOD" and the PS3.3 A.21 "Positron Emission Tomography Image IOD" requires a Coding Scheme Designator value of "99SDM".
2. In a prior version of this Context Group, the codes G-5190 and G-5191 were specified for the concepts "headfirst" and "feet-first". The use of these codes is deprecated as they are not actually in SNOMED. Although there is minimal possibility of misinterpretation with SOP Instances that may include the deprecated use, receiving applications should be aware of this change; see Annex J.
3. For devices that do not have a conventional gantry geometry, the vendor of that device may describe in the Conformance Statement how the codes are interpreted with respect to the device geometry.
4. **(126830, DCM, "left first"), (126831, DCM, "right first"), (126832, DCM, "posterior first) and (126833, DCM, "anterior first) are more specific than (R-10515, SRT, "transverse") in that they specify which side of the patient is towards the front of the equipment.**
5. **For quadrupeds, separate concepts for ventral and dorsal are not introduced, rather it is expected that anterior and posterior will be considered synonymous as they are when applied to the trunk.**

D DICOM Controlled Terminology Definitions (Normative)

This Annex specifies the meanings of codes defined in DICOM, either explicitly or by reference to another part of DICOM or an external reference document or standard.

DICOM Code Definitions (Coding Scheme Designator "DCM" Coding Scheme Version "01")

Table D-1. DICOM Controlled Terminology Definitions

Code Value	Code Meaning	Definition	Notes
126830	left first	<u>The body position of the imaging subject relative to the imaging equipment is with the subject's left side positioned towards the front of the equipment viewed from the front</u>	
126831	right first	<u>The body position of the imaging subject relative to the imaging equipment is with the subject's right side positioned towards the front of the equipment viewed from the front</u>	
126832	posterior first	<u>The body position of the imaging subject relative to the imaging equipment is with the subject's posterior (dorsal) side positioned towards the front of the equipment viewed from the front</u>	
126833	anterior first	<u>The body position of the imaging subject relative to the imaging equipment is with the subject's anterior (ventral) side positioned towards the front of the equipment viewed from the front</u>	