DICOM Correction Item

<table>
<thead>
<tr>
<th>Correction Number</th>
<th>CP-383</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Summary: MR Spectroscopy Fixes</td>
<td></td>
</tr>
<tr>
<td>Type of Modification</td>
<td>Name of Standard</td>
</tr>
<tr>
<td>Clarification</td>
<td>PS 3.3 2003</td>
</tr>
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</table>

Rationale for Correction

The defined terms for some MR image and spectroscopy attributes differ gratuitously. Rationalize them.

The condition on Coverage of k-Space in the MR Spectroscopy Pulse Sequence Module is incorrectly predicated on a 3D image rather than VOLUME spectroscopy acquisition type.

The requirement on Volume Localization Sequence in the MR Spectroscopy Module is difficult to understand and is reworded to be consistent with the pattern used elsewhere.

The MR Spectroscopy Frame Type functional group macro is specifically called out in the text of C.8.14.3.1 to be only allowed in the Per-Frame Functional Groups Sequence, meaning that even if all the values are the same it may not be used in the Shared Functional Groups Sequence. This is gratuitously different from the similar MR Image Frame Type functional group macro usage, and seems to be present for no apparent reason. Delete this restriction.

Sections of documents affected

PS 3.3 C.8.13
PS 3.3 C.8.14

Correction Wording:

Change the following existing sections:

C.8.13.4   MR Pulse Sequence Module

Table C.8.13-14
MR PULSE SEQUENCE MODULE ATTRIBUTES

<table>
<thead>
<tr>
<th>Attribute Name</th>
<th>Tag</th>
<th>Type</th>
<th>Attribute Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Spectrally Selected Suppression</td>
<td>(0018,9025)</td>
<td>1C</td>
<td>Spectrally Selected Suppression. Defined Terms: FAT WATER FAT_AND_WATER SILICON_GEL NONE Required if Image Type (0008,0008) Value 1 is ORIGINAL or MIXED. May be present otherwise.</td>
</tr>
</tbody>
</table>
Coverage of k-Space (0018,9094) 1C Coverage of k-Space in the ky-kz plane. Defined Terms: FULL ELLIPTICAL WEIGHTED Required if Image Type (0008,0008) Value 1 is ORIGINAL or MIXED and MR Acquisition Type (0018,0023) equals 3D. Otherwise may be present if Image Type (0008,0008) Value 1 is DERIVED and MR Acquisition Type (0018,0023) equals 3D.

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C.8.14.1 MR Spectroscopy Module

Table C.8.14-1
MR SPECTROSCOPY MODULE ATTRIBUTES

<table>
<thead>
<tr>
<th>Attribute Name</th>
<th>Tag</th>
<th>Type</th>
<th>Attribute Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume Localization Sequence</td>
<td>(0018,9126)</td>
<td>1C</td>
<td>A sequence of one or more Items that provide the position of RF excitations used to select a volume of tissue. The selected volume is described by the intersection of the sequence Items.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Required if Volume Localization Technique (0018,9054) is other than NONE, otherwise may be present if Image Type (0008,0008) Value 1 is DERIVED on the same condition.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Required if Image Type (0008,0008) Value 1 is ORIGINAL or MIXED and Volume Localization Technique (0018,9054) is other than NONE. May be present if Volume Localization Technique (0018,9054) is other than NONE.</td>
</tr>
</tbody>
</table>
C.8.14.2 MR Spectroscopy Pulse Sequence Module

Table C.8.14-2
MR SPECTROSCOPY PULSE SEQUENCE MODULE ATTRIBUTES

<table>
<thead>
<tr>
<th>Attribute Name</th>
<th>Tag</th>
<th>Type</th>
<th>Attribute Description</th>
</tr>
</thead>
</table>
| Spectrally Selected Suppression      | (0018,9025)        | 1C   | Spectrally Selected Suppression.  
  Defined Terms:  
  WATER  
  FAT  
  FAT_AND_WATER  
  SILICON_GEL  
  NONE  
  Required if Image Type (0008,0008)  
  Value 1 is ORIGINAL or MIXED. May be present otherwise. |
| Coverage of k-Space                   | (0018,9094)        | 1C   | Coverage of k-Space.  
  Defined Terms:  
  FULL  
  CYLINDRICAL  
  ELLIPSOIDAL  
  WEIGHTED  
  Required if Image Type (0008,0008)  
  Value 1 is ORIGINAL or MIXED and MR Spectroscopy Acquisition Type (0018,0023,9200) equals 3DVOLUME.  
  Otherwise may be present if Image Type (0008,0008) Value 1 is DERIVED and MR Spectroscopy Acquisition Type (0018,0023,9200) equals 3DVOLUME. |

C.8.14.3.1 MR Spectroscopy Frame Type Macro

Table C.8.14-3 specifies the attributes of the MR Spectroscopy Frame Type Functional Group macro.

This Functional Group Macro may only be part of the Per-frame Functional Groups Sequence (0008,9124)-attribute.