

DICOM Correction Item

Correction Number	CP-1089		
Log Summary:	Clarify use of ESC		
Type of Modification	Name of Standard		
Modification	PS 3.5-2011		
Rationale for Correction:			
<p>Supplement 9 added the ESC character to the DICOM default character repertoire to support the encoding of ISO 2022 character set control sequences. However it did not explicitly limit its use to that purpose.</p> <p>There will be interoperability problems without such a restriction. For instance, an implementation might implement ISO 6429 (a.k.a. VT100) escape control sequences that control displays (format effectors); the use of such display controls is strictly limited in DICOM to ensure interoperability.</p> <p>As seen in the text of section 6.1.3, DICOM explicitly recognizes ISO 6429 as the definition for Control Characters, and that standard explicitly defines the meaning of ESC as the introducer for control character sequences. It cannot be used in DICOM text attributes with any other meaning, and controls should be allowed only insofar as they are explicitly permitted in the DICOM Standard.</p> <p>This change clarifies restriction of the ESC character to only ISO 2022 character set controls.</p>			
Sections of documents affected			
PS 3.5 Section 6.1.3			
Correction Wording:			

6.1.3 CONTROL CHARACTERS

Textual data that is interchanged may require some formatting information. Control Characters are used to indicate formatting, but their use in DICOM is kept to a minimum since some machines may handle them inappropriately. ISO 646:1990 and ISO 6429:1990 define Control Characters. As shown in Table 6.1-1 below, only a subset of four Control Characters from the C0 set shall be used in DICOM for the encoding of Control Characters in text strings.

**Table 6.1-1
DICOM CONTROL CHARACTERS AND THEIR ENCODING**

Acronym	Name	Coded Value
LF	Line Feed	00/10
FF	Form Feed	00/12
CR	Carriage Return	00/13
ESC	Escape	01/11

The ESC character shall be used only for ISO 2022 character set control sequences, in accordance with section 6.1.2.5.

In text strings (**value representation ST, LT, or UT**) a new line shall be represented as CR LF.