

DICOM Correction Item

Correction Number CP-436	
Log Summary: Additional Dose Volume Histogram Type	
Type of Modification	Name of Standard
Omission	PS 3 2003
Rationale for Correction: In the RT DVH Module of the RT Dose object the DVH Type (3004,0001) has enumerated values DIFFERENTIAL and CUMULATIVE. In Brachytherapy treatment planning there is an additional type of DVHs (NATURAL) used to eliminate the influences of the steep dose gradient that is typical for Brachytherapy.	
Sections of documents affected	
PS 3.3, C.8.8.4 (RT DVH Module)	
Correction Wording:	

Add to PS 3.3, Section 2 Normative References

Anderson, LL: "A "natural" volume-dose histogram for brachytherapy", Medical Physics 13(6) pp 898-903, 1986.

In PS 3.3, Section C.8.8.4 (RT DVH Module), Table C.8-36 (RT DVH Module Attributes) modify the following attributes:

Attribute Name	Tag	Type	Attribute Description
>DVH Type	(3004,0001)	1	Type of DVH. Enumerated Values: DIFFERENTIAL = differential dose-volume histogram CUMULATIVE = cumulative dose-volume histogram <u>NATURAL = natural dose volume histogram</u>
>DVH Volume Units	(3004,0054)	1	Volume axis units. Enumerated Values: CM3 = cubic centimeters PERCENT = percent <u>PER U= volume per u with u(dose)=dose^{-3/2}. See C.8.8.4.3.</u>
>DVH Data	(3004,0058)	1	A data stream describing the dose bin widths D_n and associated volumes V_n <u>in DVH Volume Units (3004,0054)</u> in the order $D_1 V_1, D_2 V_2, \dots, D_n V_n$.

In PS 3.3, after Section C.8.8.4.2, add the following:

C.8.8.4.3 DVH Volume Units

The unit PER U is defined in: Anderson, LL: "A "natural" volume-dose histogram for brachytherapy", Medical Physics 13(6) pp 898-903, 1986.