DICOM Correction Proposal

STATUS	Assigned
Date of Last Update	2024/01/05
Person Assigned	Kevin O'Donnell
Submitter Name	Kevin O'Donnell
Submission Date	2023/07/30

Correction Number	CP-2338
Log Summary: Add Antral Follicle Counts to OB/GYN SR	
Name of Standard PS 3.16	
Rationale for Correction: Antral Follicle Count (AFC) involves recording the number of antral follicles in a selected size range are present in a given ovary. The number of size categories and the size range for each category can be a local practice decision. It is common, but not required, to record the individual follicle size estimates on which the counts are based. Some follicles may be measured and counted, others may be counted but not measured, and others may be measured but not included in a specific category count. See also: https://obgyn.onlinelibrary.wiley.com/doi/full/10.1002/uog.18945 - Counting ovarian antral follicles by ultrasound: a practical guide (Consensus Opinion) – Ultrasound in Obstetrics and Gynecology 2017 Q. Guidance indicates report should identify day of cycle and whether woman is using hormones (particularly oral contraceptive pills). Should we add those to TID 5000? Q. Guidance also requests to record which technique was used for evaluation (real-time 2D-US, assessment of 2D-US cine-loops, 3D-US, sonography-based automated volume calculation) and specify maximum frequency of probe.	
Correction Wording:	

TID 5000 excerpt included unchanged for context:

TID 5000 OB-GYN ULTRASOUND PROCEDURE REPORT

This is the Template for the root of the content tree for the OB-GYN ultrasound procedure report.

Type: **Extensible**
Order: **Significant**
Root: **Yes**

Table TID 5000. OB-GYN Ultrasound Procedure Report

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	BCID 12024 "OB-GYN Ultrasound Report Document Title"	1	M		Root node

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
2	>	HAS CONCEPT MOD	INCLUDE	DTID 1204 "Language of Content Item and Descendants"	1	U		
…								
16	>	CONTAINS	INCLUDE	DTID 5012 "Ovaries Section"	1	U		
17	>	CONTAINS	INCLUDE	DTID 5013 "Follicles Section"	1	U		$Laterality = EV (7771000, SCT, "Left") $Number = EV (11879-4, LN, "Number of follicles in left ovary")
18	>	CONTAINS	INCLUDE	DTID 5013 "Follicles Section"	1	U		$Laterality = EV (24028007, SCT, "Right") $Number = EV (11880-2, LN, "Number of follicles in right ovary")
18a	**>**	**CONTAINS**	**NUM**	**EV (newcode08, DCM, "Total Antral Follicle Count")**	**1**	**U**		
…								

Content Item Descriptions

Row 6	No purpose of reference is specified.
Rows 17 & 18	**TODO If we keep EV (11879-4, LN, "Number of follicles in left ovary"), we should explain that number represents the number of follicles with recorded individual measurements? See below**
Row 18a	**This reflects the Antral Follicle Count (AFC) totaled across both ovaries.**

Modify TID 5013 "Follicles Section" as shown:

TID 5013 FOLLICLES SECTION

This Template contains follicle metrics for left or right ovarian follicles.

Table TID 5013. Parameters

Parameter Name	Parameter Usage
$Laterality	Ovary laterality
$Number	The number of follicles

Type: **Extensible**
Order: **Significant**
Root: **No**

Commented [OK1]: WG6Q This seems like an odd parameter to be passing in/constraining from the parent. Can we remove this without disruption? Row 4 could also go or we could add text relating it to "n" in Rows 5 and 6.

Table TID 5013. Follicles Section

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	DT (59776-5, LN, "Findings")	1	M		
2	>	HAS CONCEPT MOD	CODE	EV (363698007, SCT, "Finding Site")	1	M		DT (24162005, SCT, "Ovarian Follicle")
3	>	HAS CONCEPT MOD	CODE	EV (272741003, SCT, "Laterality")	1	M		$Laterality
4	>	CONTAINS	NUM	$Number	1	U		
5	>	CONTAINS	INCLUDE	DTID 5014 "Follicle Measurement Group"	1-n	U		
6	>	CONTAINS	INCLUDE	DTID 5016 "LWH Volume Group"	1-n	U		$GroupName = EV (24162005, SCT, "Ovarian Follicle") $Width = EV (103355008, SCT, "Width") $Length = EV (410668003, SCT, "Length") $Height = EV (121207, DCM, "Height") $Volume = EV (121221, DCM, "Volume of ellipsoid") $Method = DCID 7230 "Automation of Measurement" $Method = DCID 12025 "OB-GYN Ultrasound Beam Path"
7	**>**	**CONTAINS**	**INCLUDE**	**DTID 5XXX "Follicle Count Group"**	**1-n**	**U**		

Content Item Descriptions

Rows 4 & 7	**The sum of Row 7 follicle counts may or may not equal the value in Row 4. Follicles measured for the purpose of Row 7 will be included in Row 5, however some follicles counted in Row 7 might not be measured, and follicles measured in Row 5 might have a type or size that does not correspond to any count groups in Row 7.**

Add TID 5XXX Follicle Count Group

TID 5XXX FOLLICLE COUNT GROUP

This Template records a count of ovarian follicles of a given type and size range.

Type: **Extensible**

Order: **Significant**
Root: **No**

Table TID 5XXX. Follicle Count Group

	NL	Rel with Parent	VT	Concept Name	VM	Req Type	Condition	Value Set Constraint
1			CONTAINER	EV (newcode01, DCM, "Follicle Count Group")	1	M		
2	>	HAS OBS CONTEXT	TEXT	EV (125010, DCM, "Identifier")	1	U		
3	>	CONTAINS	CODE	EV (newcode10, DCM, "Follicle Type")	1	U		CID newcid1 Follicle Type
				Size Property?				
4	>	CONTAINS	NUM	EV (newcode02, DCM, "(Diameter) Range Start Value")	1	MC	IFF Row 4a is absent	
4a				EV (newcode02, DCM, "(Volume) Range Start Value")	1	MC	IFF Row 4 is absent	
5	>	CONTAINS	NUM	EV (newcode03, DCM, "(Diameter) Range End Value")	1	MC	IFF Row 4 is present	
5b				EV (newcode03, DCM, "(Volume) Range End Value")	1	MC	IFF Row 4a is present	
6	>	CONTAINS	NUM	EV (newcode07, DCM, "Number of Follicles in Range")	1	M		

> **Commented [OK2]:** It is common to measure/estimate follicle volumes and/or diameters. Follicle Count groups seem to be commonly based on diameter ranges. Do we want to also allow for size ranges defined in terms of volume? And if so, do we leave it to receivers to infer based on the units in the start/end range values?
> WG6 Type of Range – Vol, Diam
>
> Allow both.
>
> WG6Q Preferred pattern?

Content Item Descriptions

Row 2	Shall be unique among all groups of same laterality.
Row 3	Noting that there is some overlap in the type concepts.

Add CID newcid1 for Follicle Types

CID newcid1 Follicle Type

Resources: **HTML | FHIR JSON | FHIR XML | IHE SVS XML**
Keyword: **FollicleType**
FHIR Keyword: **dicom-cid-newcid1-FollicleType**
Type: **Extensible**
Version: **yyyymmdd**
UID: **newciduid1**

Table CID newcid1. Follicle Type

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept Unique ID
DCM	newcode12	Dominant Follicle		
DCM	newcode13	Antral Follicle		
DCM	newcode14	Secondary Follicle		
DCM	newcode15	Primary Follicle		
DCM	newcode16	Primordial Follicle		

Add definitions to PS 3.16 Annex D

Table D-1. DICOM Controlled Terminology Definitions

Code Value	Code Meaning	Definition	Notes
…			
newcode01	Follicle Count Group	The counted group of follicles that fall within a specified type and size range.	
newcode02	Range Start Value		
	Range End Value		
newcode07	Number of Follicles in Range	The number of follicles observed in a specified size range.	
newcode08	Total Antral Follicle Count	The total number of antral follicles counted in both ovaries.	
newcode10	Follicle Type	The type of ovarian follicle as determined by its developmental stage.	
newcode12	Dominant Follicle	An antral follicle that has grown to dominate its neighboring follicles which then undergo atresia. Typically, only one or two antral follicles will become dominant in each cycle and mature to ovulation.	Typically, >10mm in diameter. May reach 18mm to 25mm in diameter before ovulation.
newcode13	Antral Follicle	An ovarian follicle that has progressed from the secondary stage and has developed a small fluid-filled cavity called the antrum. Antral Follicles are also referred to as Tertiary Follicles or Graafian Follicles.	May be <1mm in diameter. Usually become detectable by ultrasound and distinguishable from other anechoic structures at 2mm diameter.
newcode14	Secondary Follicle	An ovarian follicle that has progressed from the primary stage and has added theca cells.	
newcode15	Primary Follicle	An ovarian follicle that has been activated from the primordial stage.	
newcode16	Primordial Follicle	An ovarian follicle that is quiescent in its original state.	Typically, between 0.025mm and 0.05mm in diameter.

125005	Biometry Group	Biometric assessment of.		FIX here?
…				