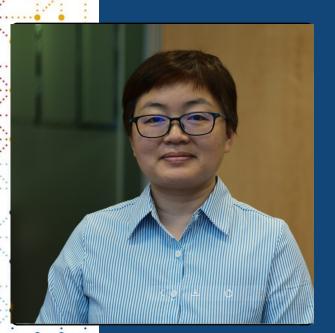


2023
EUROPE
INTERCHANGE
COPENHAGEN | 26-27 APRIL



Questionnaires, Ratings, and Scales Data Standards and Handling

Presented by Jintao Shi, Data Manager, BDS, Boehringer Ingelheim



Meet the Speaker

Jintao Shi

Title: Data Manager

Organization: Boehringer Ingelheim

Major in molecular biology during the master study.

With work experience as CRA, Data Manager and SGA

Disclaimer and Disclosures

• The views and opinions expressed in this presentation are those of the author(s) and do not necessarily reflect the official policy or position of CDISC.

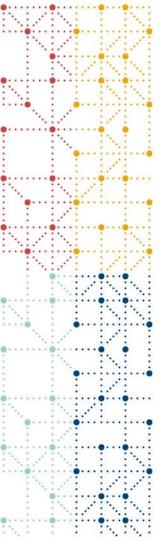
• The author(s) have no real or apparent conflicts of interest to report.





Agenda

- 1. CDISC QRS Standards
- 2. QRS Handling Practice
- 3. Sponsor QRS Library



CDISC Standards for QRS

CDISC Standards for QRS

Standards | CDISC







Education

Resources

Events Membership

Members Only

Foundational Data Exchange Therapeutic Areas Standards CDISC Library

<u>Questionnaires, Ratings and Scales (QRS)</u> - Each QRS instrument is a series of questions, tasks or assessments used in clinical research to provide a qualitative or quantitative assessment of a clinical concept or task-based observation.

The QRS team develops <u>Controlled Terminology</u> and <u>SDTM</u> (tabulation) supplements; the ADQRS Team develops <u>ADaM</u> (analysis) supplements.

SDTMIG RDF CORE

ADaM SDM-XML CDISC Biomedical Concepts

QRS Terminology Digital Data Flow

Medical Devices Glossary

Genomics Controlled Terminology



QRS Standards - Description

Description **QRS Supplements New QRS Supplements ORS Resources** Clinical Outcome Assessment (COA) olic domain and Named, well defined instrument Reliable and sensitive to change sessment of a Content validity and construct validity Fit for purpose, context of intended use CDISC creates supplements for four types of instruments: Questionnaires: Questionnaire instruments are stored in the Questionnaires (QS) domain and are named, standalone instruments designed to provide an assessment of a concept. Questionnaires often have a defined standard structure, format, and content; consist of conceptually related items that are typically scored; and usually document • Functional Tests: Functional Test instruments are stored in the Functional Tests (FT) domain and are named, standalone task-based evaluations, designed to provide an assessment of mobility, dexterity, and/or cognitive ability. A Functional Test is not a subjective assessment of how the subject generally performs a task. Rather, it is an objective Clinical Classifications and Disease Response: Clinical Classifications and Disease Response instruments or criteria are represented in the Disease Response and Clin Classification ECOG PERFORMANCE STATUS (RS) domain. Grade ECOG Clinical Classifications: Named instruments whose output is an ordinal or category. Fully active, able to carry on all pre-disease performance without restriction or biological status. Usually, the instrument will be published in a professional join Restricted in physically strenuous activity but ambulatory and able to carry out work of a professional's observation of a subject's health condition or status with input fro light or sedentary nature, e.g., light house work, office work data from clinical records or may involve a clinical judgment or interpretation of t or subject status. These physical manifestations may be findings that are typical Ambulatory and capable of all selfcare but unable to carry out any work activities. Up Clinical Classifications may be composite scores based on diverse inputs. This as and about more than 50% of waking hours seen in questionnaires. Capable of only limited selfcare, confined to bed or chair more than 50% of waking Disease Response: Named instruments or criteria whose output provides inform hours may include eradication of detectable disease, stabilization of disease, or disease This information will be obtained from trained healthcare professionals and may Completely disabled. Cannot carry on any selfcare. Totally confined to bed or chair data (e.g., CT Scan, MRI). Data from these criteria or instruments may be represe response instrument, the extent of disease response (e.g., partial response) wou Dead information would be represented in PR. RSSTRESC/RSSTRESN

RSORRES when RSTESTCD = ECOG101

QRS Standards –QRS Supplements

Description QRS Supplements New QRS Supplements		FAQ QRS Resources					
How can I acce	ss the published suppl	ements?					
QRS Supplem	nents						
Displaying 1 - 280	of 280						
SDTM Domain/	ADaM Dataset Perr	mission	QRS I	Name Starts With	QRS Name Conta	ains	
SDTM Domair	n/ADaM [Pe	rmission					
CAT Contains							
CAT COTTUINS	'						
		Apply					
					SDTM Domain/ADaM		Version
QRS Name		Sh	ort Name (-	CAT)	Dataset	Permission	Release Date
10-Meter Wal	lk/Run	10	-METER WALI	K/RUN	ADaM	Public Domain	Version: 1.0
							17 Feb 2022
10-Meter Wal	lk/Run	10	-METER WALI	K/RUN	FT	Public Domain	Version: 1.0
							18 Jan 2022
12-Item Mult	iple Sclerosis Walking S	Scale M:	SWS-12		QS	No Response	N/A
						Received	
6 Minute Wal	k Test	SI	(MINUTE WA	LK	FT	Public Domain	Version: 1.0
							21 May 2014
Abnormallm	อโปรกรายเ Mausmont Sa	ala au Al	MC		, pc	RuhliciDemain	VENVernion 11 0

About 200 QRS supplements are published:

- QRS Types
 - >10 Functional Tests,
 - About 50 Clinical Classifications
 - >100 Questionnaires
- Disease areas most frequently covered
 - Mental health
 - Neurology
 - Endocrine



QRS Standards - FAQ

QRS Supplements New QRS Supplements FAQ **ORS** Resources Description What is included in a QRS Supplement? Are there QRS-like instruments for which How does the FDA Clinical Outcome Assessment (COA) program relate to QRS supplements? I don't see any domains other than QS in What are the different types of FDA COAs? What are the different ADaM data structu How is QRS low and high anchor information for visual analog scales (VAS) and numeric rating sales (NRS) handled? Where can I find QRS Controlled Termino How does CDISC develop QRS Supplements? How does CDISC handle copyrighted inst How can I get involved in developing CDISC QRS supplements? What do I do if the instrument I'm interes How can I access the published supplements? What QRS suppgual variable names are included in QRS supplements?

CDISC 2023 Europe Interchange

QRS Standards – QRS Resources

Mainly for QS-FT-CC

- General Business Rules
- --CAT Rules
- --TEST-CD Rules
- Response Rules

QRS Naming and Business Rules

QRS Supplement Request Form

QRS Therapeutic Area User Guide COA Cross Reference Table

FACIT Item Bank

Through the ePROVIDE platform and the PROQOLID, PROLABELS and PROINSIGHT databases, Mapi Research Trust creates vital links among those at every level of Patient-Centered Outcomes studies.

Visit https://eprovide.mapi-trust.org/ for more information.

CDISC and Mapi Research Trust work together to ensure copyrighted instruments are available to CDISC to create QRS supplements by leveraging PROQOLID™, Mapi Research Trust's comprehensive online database designed to assist academic researchers, physicians, students, pharmaceutical companies, health authorities, and international organizations in the search and evaluation of COAs.

 About 200 QRS instruments referred in 35 TAUGs

Dozens of approved QRS specific NSV *For example:*

Anchor Text High and Low

QRS NSV Registry FT QS RS Summary

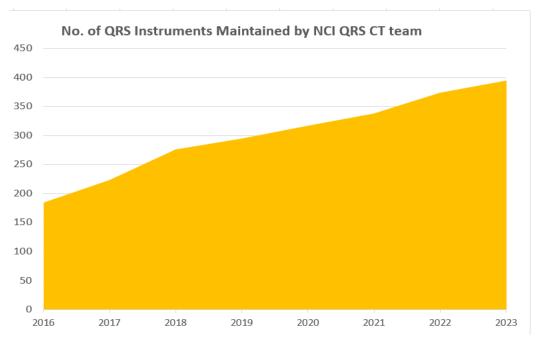
- Anchor Numeric Value High and Low
- Conditional Branched Item Indicator
- Collected Administrator Identifier
- Preprinted Administrator Identifier
- Preprinted Respondent Identifier



ORS Resources

QRS Controlled Terminologies

- About 50% SDTM and ADaM controlled terminologies (CT) terms are for QRS
- Continue to increase





QRS CT – QS FT CC Category

For about 400 QRS instruments

Code	Code Code	Codelist Extensible (Yes/No)	Codelist Name	CDISC Submission	on Value	CDISC Synonym(s)	CDISC Definition	NCI Preferred Term
C118971		Yes	Category of Clinical Classification	CCCAT		Category of Clinical Classification	A grouping of observations within the Disease Response and Clin Classification domain.	CDISC Clinical Classification Category Terminology
C102111	C118971		Category of Clinical Classification	AIMS		AIMS01	Abnormal Involuntary Movement Scale (AIMS) (Guy W. Ed. ECDEU Assessment Manual for Psychopharmacology. Rockville MD: US Dept of Health, Education and Welfare. 1976, Publication No. (ADM) 76-338). CDISC believes this instrument to be in the public domain, but you should perform your own assessment.	Abnormal Involuntary Movement Scale Clinical Classification
 C115304		 Yes	 Category of Functional Test	 FTCAT	1	Category of Functional Test	A grouping of observations within the Functional Tests domain.	CDISC Functional Test Category
0113304		163	Category of Functional Test	TICAT		Category of Functional Test	A grouping of observations within the Functional Tests domain.	Terminology
C141686	C115304		Category of Functional Test	10-METER WALK	/RUN	Ten Meter Walk/Run; TENMW1	10-Meter Walk/Run (McDonald CM, Henricson EK, Abresch RT, et al. The 6-minute walk test and other clinical endpoints in duchenne muscular dystrophy: reliability, concurrent validity, and minimal clinically important differences from a multicenter study. Muscle Nerve. 2013;48(3):357-68.). CDISC believes this instrument to be in the public domain, but you should perform your own assessment.	10-Meter Walk/Run Test Functional Test
C100129		Yes	Category of Questionnaire	QSCAT		Category of Questionnaire	A grouping of observations within the Questionnaires domain.	CDISC Questionnaire Category Terminology
C187516	C100129		Category of Questionnaire	ABC		ABC01	Activities-Specific Balance Confidence Scale (ABC) (Powell LE, Myers AM. The Activities-specific Balance Confidence (ABC) Scale. J Gerontol A Biol Sci Med Sci. 1995 Jan;50A(1):M28-34. ABC scale Anita M. Myers, 1995. All rights reserved.). No part of the Activities-Specific Balance Confidence Scale may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of Anita M. Myers and payment of any applicable fees. Copyright Anita M. Myers, 1995. All rights reserved.	Scale Questionnaire



QRS CT – QS FT CC Test Code and Test Name

QRS –TEST-CD (for about 320 QRS instruments) about 19900 rows
QRS response --ORRES/STRESC (for about 15 QRS instruments) >700 rows

	Code	Codelist Code	Codelist Extensible (Yes/No)	Codelist Name	CDISC Submission Value	CDISC Synonym(s)
	C182464		No	Abnormal Involuntary Movement Scale Clinical Classification ORRES for AIMS0101 Through AIMS0107 TN/TC	AIMS0101T07OR	Abnormal Involuntary Movement Scale Clinical Classification
	C182674	C182464		Abnormal Involuntary Movement Scale Clinical Classification ORRES for AIMS0101 Through AIMS0107 TN/TC	Mild	AIMS0101 through AIMS0107-Mild
:	C182673	C182464		Abnormal Involuntary Movement Scale Clinical Classification ORRES for AIMS0101 Through AIMS0107 TN/TC	Minimal, may be extreme normal	AIMS0101 through AIMS0107-Minimal, may be extreme
	C182675	C182464		Abnormal Involuntary Movement Scale Clinical Classification ORRES for AIMS0101 Through AIMS0107 TN/TC	Moderate	AIMS0101 through AIMS0107-Moderate
	C182672	C182464		Abnormal Involuntary Movement Scale Clinical Classification ORRES for AIMS0101 Through AIMS0107 TN/TC	None	AIMS0101 through AIMS0107-None
	C182676	C182464		Abnormal Involuntary Movement Scale Clinical Classification ORRES for AIMS0101 Through AIMS0107 TN/TC	Severe	AIMS0101 through AIMS0107-Severe
	C182502		No	Abnormal Involuntary Movement Scale Clinical Classification STRESC for AIMS0101 Through AIMS0107 TN/TC	AIMS0101T07STR	Abnormal Involuntary Movement Scale Clinical Classification
	C182677	C182502		Abnormal Involuntary Movement Scale Clinical Classification STRESC for AIMS0101 Through AIMS0107 TN/TC	0	AIMS0101 through AIMS0107-0
	C182678	C182502		Abnormal Involuntary Movement Scale Clinical Classification STRESC for AIMS0101 Through AIMS0107 TN/TC	1	AIMS0101 through AIMS0107-1
1.1.1	C182679	C182502		Abnormal Involuntary Movement Scale Clinical Classification STRESC for AIMS0101 Through AIMS0107 TN/TC	2	AIMS0101 through AIMS0107-2
	C182680	C182502		Abnormal Involuntary Movement Scale Clinical Classification STRESC for AIMS0101 Through AIMS0107 TN/TC	3	AIMS0101 through AIMS0107-3
	C182681	C182502		Abnormal Involuntary Movement Scale Clinical Classification STRESC for AIMS0101 Through AIMS0107 TN/TC	4	AIMS0101 through AIMS0107-4
	C101805		No	Abnormal Involuntary Movement Scale Clinical Classification Test Code	AIMS01TC	Abnormal Involuntary Movement Scale Clinical Classification
	C102034	C101805		Abnormal Involuntary Movement Scale Clinical Classification Test Code	AIMS0101	AIMS01-Muscles of Facial Expression
	C102035	C101805		Abnormal Involuntary Movement Scale Clinical Classification Test Code	AIMS0102	AIMS01-Lips and Perioral Area
	C102036	C101805		Abnormal Involuntary Movement Scale Clinical Classification Test Code	AIMS0103	AIMS01-Jaw
21	C102037	C101805		Abnormal Involuntary Movement Scale Clinical Classification Test Code	AIMS0104	AIMS01-Tongue
	C102038	C101805		Abnormal Involuntary Movement Scale Clinical Classification Test Code	AIMS0105	AIMS01-Upper Extremities
. 1 /	C102039	C101805		Abnormal Involuntary Movement Scale Clinical Classification Test Code	AIMS0106	AIMS01-Lower Extremities
	C102040	C101805		Abnormal Involuntary Movement Scale Clinical Classification Test Code	AIMS0107	AIMS01-Neck, Shoulders, Hips
		C101805		Abnormal Involuntary Movement Scale Clinical Classification Test Code	AIMS0108	AIMS01-Severity of Abnormal Movements
	C102042	C101805		Abnormal Involuntary Movement Scale Clinical Classification Test Code	AIMS0109	AIMS01-Incapacitation due Abn Movements
	C102043	C101805		Abnormal Involuntary Movement Scale Clinical Classification Test Code	AIMS0110	AIMS01-Patient Awareness Abn Movements
	C102044	C101805		Abnormal Involuntary Movement Scale Clinical Classification Test Code	AIMS0111	AIMS01-Current Problems Teeth/Dentures
	C102045	C101805		Abnormal Involuntary Movement Scale Clinical Classification Test Code	AIMS0112	AIMS01-Patient Usually Wear Dentures
	C101806		No	Abnormal Involuntary Movement Scale Clinical Classification Test Name	AIMS01TN	Abnormal Involuntary Movement Scale Clinical Classification
	C102044	C101806		Abnormal Involuntary Movement Scale Clinical Classification Test Name	AIMS01-Current Problems Teeth/Dentures	AIMS01-Current Problems Teeth/Dentures
	C102042	C101806		Abnormal Involuntary Movement Scale Clinical Classification Test Name	AIMS01-Incapacitation due Abn Movements	AIMS01-Incapacitation due Abn Movements
	C102036	C101806		Abnormal Involuntary Movement Scale Clinical Classification Test Name	AIMS01-Jaw	AIMS01-Jaw
	C102035	C101806		Abnormal Involuntary Movement Scale Clinical Classification Test Name	AIMS01-Lips and Perioral Area	AIMS01-Lips and Perioral Area
(C102039	C101806		Abnormal Involuntary Movement Scale Clinical Classification Test Name	AIMS01-Lower Extremities	AIMS01-Lower Extremities
1	C102034	C101806		Abnormal Involuntary Movement Scale Clinical Classification Test Name	AIMS01-Muscles of Facial Expression	AIMS01-Muscles of Facial Expression
		C101806		Abnormal Involuntary Movement Scale Clinical Classification Test Name	AIMS01-Neck, Shoulders, Hips	AIMS01-Neck, Shoulders, Hips
		C101806		Abnormal Involuntary Movement Scale Clinical Classification Test Name	AIMS01-Patient Awareness Abn Movements	AIMS01-Patient Awareness Abn Movements
		C101806		Abnormal Involuntary Movement Scale Clinical Classification Test Name	AIMS01-Patient Usually Wear Dentures	AIMS01-Patient Usually Wear Dentures
		C101806		Abnormal Involuntary Movement Scale Clinical Classification Test Name	AIMS01-Severity of Abnormal Movements	AIMS01-Severity of Abnormal Movements
	C102037	C101806		Abnormal Involuntary Movement Scale Clinical Classification Test Name	AIMS01-Tongue	AIMS01-Tongue
	C102038	C101806		Abnormal Involuntary Movement Scale Clinical Classification Test Name	AIMS01-Upper Extremities	AIMS01-Upper Extremities

QRS CT - ADaM

GAD02 SDTM Test Code and Test Name

Codelist Name	CDISC Submission Value	CDISC Synonym(s)
.	¥	▼
Generalized Anxiety Disorder - 7	GAD02TC	Generalized Anxiety Disorder -
Version 2 Questionnaire Test Code		7 Version 2 Questionnaire Test
Generalized Anxiety Disorder - 7	GAD0201	GAD02-Feeling Nervous
Version 2 Questionnaire Test Code		Anxious or On Edge
Generalized Anxiety Disorder - 7	GAD0208	GAD02-Total Score
Version 2 Questionnaire Test Code		
Generalized Anxiety Disorder - 7	GAD02TN	Generalized Anxiety Disorder -
Version 2 Questionnaire Test Name		7 Version 2 Questionnaire Test
Generalized Anxiety Disorder - 7	GAD02-Feeling Nervous	GAD02-Feeling Nervous
Version 2 Questionnaire Test Name	Anxious or On Edge	Anxious or On Edge
Generalized Anxiety Disorder - 7	GAD02-Total Score	GAD02-Total Score
Version 2 Questionnaire Test Name		

GAD02 ADaM Parameter Code and Parameter Name

Codelist Name		CDISC Submission Value		CDISC Synonym(s)	
	*		*	▼	
Generalized Anxiety Disorder - 7 Version Questionnaire Parameter Code	12	GAD02PC		Generalized Anxiety Disorder - 7 Version 2 Questionnaire Parameter Code	
Generalized Anxiety Disorder - 7 Versior Questionnaire Parameter Code	12	GAD02TS		GAD02-Total Score - Analysis	
Generalized Anxiety Disorder - 7 Version Questionnaire Parameter Name	12	GAD02PN		Generalized Anxiety Disorder - 7 Version 2 Questionnaire Parameter Name	
Generalized Anxiety Disorder - 7 Versior Questionnaire Parameter Name	1 2	GAD02-Total Scor - Analysis	е	GAD02-Total Score - Analysis	

Source SDTM score values may not be suitable for analysis because the values may need to be imputed or transformed. Recalculations of collected values may be needed per analysis rules



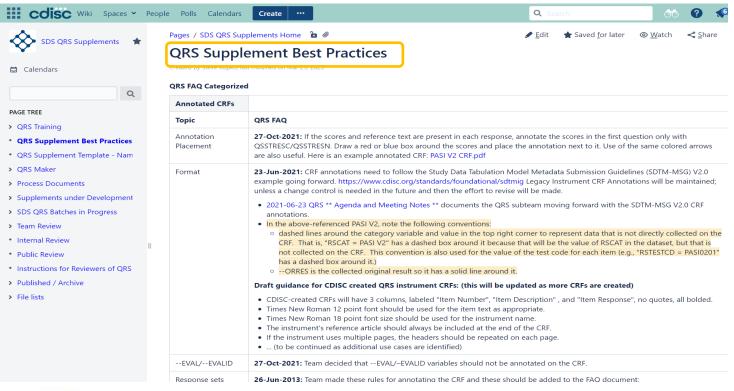
CDISC Published QRS Standards

CDISC Published QS-FT-CC Standards	Notes
SDTM CTCAT	The most basic standard. Synonym and definition are equally important.
SDTM CT -TEST-CD	Test Code and Test Name based onCAT. May not be available evenCAT is created.
SDTM CT Response Codelist(s)	ORRES and STRESC for some public domain instruments,
QRS Supplement SDTM	Created and maintained by SDS QRS sub-team, normally created after SDTM QRS CT publish.
ADaM CT PARAM-CD	Parameter and parameter code for subscale and total scores of some instrument, and where items from different SDTM versions are combined for analysis purposes.
QRS Supplement ADaM	Maintained by ADQRS team for some QRS instruments.



CDISC wiki – **SDS** QRS Supplements

QRS Supplement Best Practices

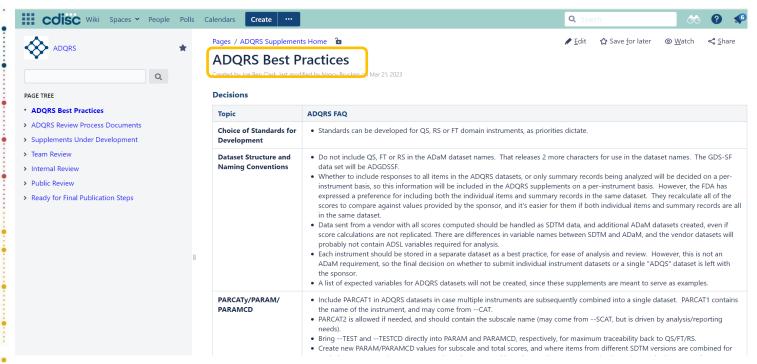






CDISC wiki – ADQRS Supplements

ADQRS Best Practices









QRS Handling Practices

QRS-like But Not QRS

Sponsor-defined general single-Item assessment concepts for assessment of symptoms or other, may be evaluated using sponsor-defined general codelist scales, visual analog scales (VAS) or numeric rating scales (NRS), with extreme variability in data collection and analysis methods.

◆ TAUG <u>Therapeutic Area User Guide for Psoriasis</u> section 4.2

Evaluation data based on microscopic data represented in MI domain.

- Gleason Score with details in TAUG <u>Therapeutic Area User Guide for Prostate Cancer</u>
- Global Histologic Disease Activity Score (GHAS) with details in TAUG (<u>Crohn's Disease Therapeutic Area User Guide</u>)
- * Robarts Histopathology Index (RHI) with details in TAUG (Crohn's Disease Therapeutic Area User Guide)



QS, FT and RS Differentiation

- Start with the descriptions on CDISC website for questionnaire, functional test, clinical classification and disease response. CDISC QRS supplements can also be good references.
- QS vs.RS: instruments were considered as QS due to historical reason and have been/will be switched to RS

Abnormal Involuntary Movement Scale (AIMS)	Functional Assessment Questionnaire (FAQ)
Barnes Akathisia Rating Scale (BARS)	Functional Assessment Questionnaire (FAQ-NACC)
Baseline Dyspnea Index (BDI)	Karnofsky Performance Scale (KPS SCALE)
Brief Psychiatric Rating Scale-Anchored (BPRS-A)	Kurtzke Expanded Disability Status Scale (EDSS) - to be updated
Disability Rating Scale (DRS)	Kurtzke Functional Systems Scores (KFSS)
Disease Steps	Transition Dyspnea Index (TDI)
Eastern Cooperative Oncology Group Performance Status (ECOG)	Unified Parkinson's Disease Rating Scale UPDRS

• QS vs.FT: instruments was considered as QS due to historical reason and will be switched to FT

Alzheimer's Disease Assessment Scale - Cognitive (ADAS-Cog) - to be updated



Language & UK vs. US version



US English is the strongly preferred language for QRS terminology. UK English version will NOT be treated as a separate version if both UK and US versions exist.

HADS(<u>Hospital Anxiety and Depression Scale</u>)

UK and US versions for HADS:

questions are the same, minor differences on the responses.
Use the published CDISC CT for CAT, -TEST/CD. CDISC does NOT control responses from copyrighted instruments so sponsors may create custom response terminology for UK vs US versions of HADS, which would then be able to describe and distinguish the different responses between the two country versions.

21

Missing QRS Data

- When any individual QRS instrument item is not done, record for the item shall be populated in SDTM dataset with --STAT="NOT DONE".
- When the whole QRS instrument assessment is not done, "QSALL", "FTALL", and "RSALL" shall NOT be used as the Test Code. Authorities recommended to address the missing QRS data ALWAYS at the individual item level.
- REASND shall be populated if the reason for NOT DONE is available, otherwise –
 REASND shall be set as null.



Conditional Branching Concept

CDISC QRS team discussed with FDA and will be reviewed again 2Q23: if the item is not done due to conditional branching, SUPP datasets prepared to show Conditional Branching Item Indicator as "Y".

- When assigned conditionally branched responses are not documented in the instrument's instructions or a user manual:
- 1.QNAM = "--CBRFL", QLABEL = "Conditional Branched Item Indicator ", QVAL = "Y"
- 2.--ORRES, --STRESC, and --STRESN are set to null
- When assigned conditionally branched responses are documented in instructions or a user manual:
- 1.QNAM = "--CBRFL", QLABEL = "Conditional Branched Item Indicator", QVAL = "Y"
- 2.The --ORRES responses are represented as "None" for severity items, "Not at all" for interference items
- 3.If numeric response values are assigned, they are represented as –STRESC /--STRESN. If no numeric response assigned, –STRESC /--STRESN are set to null



--ORRESU/--STRESU Handling

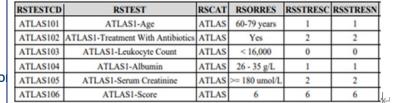
Physiologic Variable RSORRESU	High Abnormal Range					Low Abnormal Range				
V	+4	+3	+2	+1	0	+1	+2	+3	+4	Points
Temperature - rectal (°C) RSTESTCD=Al	PCH101	39°-40.9°		38.5°-38.9°	36°-38.4°	34°-35.9°	32°-33.9°	30°-31.9°	≤ 29.9°	RSORI
Mean Arterial Pressure - mm Hg RSTEST	CD=APCH1	02 30–159	110-129		70-109		50-69		≤ 49	KSOKI
Heart Rate RSTESTCD=APCH103 (ventricular response)	≥ 180	140-179	110-139		70-109		55-69	40-54	≤ 39	
Respiratory Rate RSTESTCD=APCH104 (non-ventilated or ventilated)	≥ 50	35-49		25-34	12-24	10-11	6–9		≤ 5	
Oxygenation: A-aDO ₂ or PaO ₂ (mm Hg) a. FIO ₂ \geq 0.5 record A-aDO ₂ $RSTESTCD$	=APCH105A	350-499	200-349		< 200					
b. FIO ₂ < 0.5 record only PaO ₂ RSTESTC	D=APCH10	5B			$PO_2 > 70$	PO ₂ 61-70		PO ₂ 55-60	PO ₂ < 55	
Arterial pH (preferred) RSTESTCD=APC	H106A	7.6–7.69		7.5–7.59	7.33-7.49		7.25-7.32	7.15–7.24	< 7.15	
Serum HCO ₃ (venous mMol/L) (Not preferred, use if no ABGs)		6B 1−51.9		32-40.9	22-31.9		18-21.9	15-17.9	< 15	
Serum Sodium (mMol/L) RSTESTCD=A	PCH107	160-179	155-159	150-154	130-149		120-129	111-119	≤ 110	
Serum Potassium (mMol/L) RSTESTCD=	APCH108	6-6.9		5.5-5.9	3.5-5.4	3-3.4	2.5-2.9		< 2.5	

Units are pre-defined in the questions, --ORRESU/-STRESU values are populated

Units are included in the predefined responses, --ORRESU/--STRESU are null

RSTESTCD	RSTEST	RSCAT	RSORRES	RSORRESU	RSSTRESC	RSSTRESN
APCH101	APCH1- Temperature - Rectal	APACHE II	38.5-38.9	С	1	1
APCH102	APCH1-Mean Arterial Pressure	APACHE II	110-129	mmHg	2	2
APCH103	APCH1-Heart Rate	APACHE II	70-109	beats/min	0	0
APCH104	APCH1- Respiratory Rate	APACHE II	>=50	breaths/min	4	4
APCH105A	APCH1- Oxygenation: A-aDO2	APACHE II				
APCH105B	APCH1- Oxygenation: PaO2	APACHE II	61-70	mmHg	1	1
APCH106A	APCH1- Arterial pH	APACHE II	<7.15		4	4
APCH106B	APCH1-Serum HCO3	APACHE II				
APCH107	APCH1-Serum Sodium	APACHE II	150-154	mmol/L	1	1
APCH108	APCH1-Serum Potassium	APACHE II	3.5-5.4	mmol/L	0	0

Beet Deer Deer Deer Deer Deer Deer Deer D								
	RSSTRESC/RSSTRESN							
			1		RSORRES			
Parameter		0 Points	1 Point	2 Points				
Age RSTESTCD	=ATLAS101 <	60 years	60 - 79 years	>= 80 years				
Treatment with systemic antibiotics		lo RSTESTO	CD=ATLAS102	Yes				
during CDI therapy (>= 1	day)							
Leukocyte count (total)	<	16,000	16,000 - 25,000	>25,000 RSTES	TCD=ATLAS103			
Albumin (serum) RSTES	TCD=ATLAS104 >	35 g/L	26 - 35 g/L	<= 25 g/L				
Serum creatinine (as a measure of		= 120 umol/L	121 – 179	>= 180				
renal function) RSTEST	CD=ATLAS105		umol/L	umol/L				





Total Score and Sub-total Score

- Subtotal and total scores are represented in--ORRES, --STRESC, and -STRESN
- If scores are received or derived by the sponsor, it is recommended that they are submitted to SDTM and verified in ADaM whenever feasible.
- Details could be documented in SDRG and ADRG.

About -DRVFL

Concept aligned in 2018

Scenario	DRVFL (derived flag)
Derived by the sponsor in EDC	Y (ORESS could be null)
Investigator calculate the score and written on a CRF	<null></null>
Received from external data supplier	<null></null>

Upcoming changes:

The SDS team is considering to deprecate the --DRVFL variable in SDTMIG V4.0.

CDISC QRS has stopped using it, all derived data are considered as captured data moving forward.

--LOC, --LAT and --DIR

- QRS --TEST/CDs and definitions must be verbatim to how they appear on the "standard" QRS instruments. The pre-specified anatomical locations that appear on the instrument need to be pre-coordinated into the QRS --TEST-CDs and described in the definitions AS THEY ARE.
- Location, Laterality, Directionality (--LOC, --DIR, --LAT) values controlled by CTs shall NOT be used in general because they may look different from the instrument.

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Row	STUDYID	DOMAIN	USUBJID	RSSEQ	RSTESTCD	RSTEST	RSCAT	RSSCAT	RSORRES	RSSTRESC	RSSTRESN	RSSTAT	VISITNUM	RSDTC
1	STUDYX	RS	P0001	1	AIMS0101	AIMS01-Muscles of Facial Expression	AIMS	FACIAL AND ORAL MOVEMENTS	Minimal, may be extreme normal	1	1		2	
2	STUDYX	RS	P0001	2	AIMS0102	AIMS01-Lips and Perioral Area	AIMS	FACIAL AND ORAL MOVEMENTS	None	0	0		2	2013-04- 18
3	STUDYX	RS	P0001	3	AIMS0103	AIMS01-Jaw	AIMS	FACIAL AND ORAL MOVEMENTS	Mild	2	2		2	2013-04- 18
4	STUDYX	RS	P0001	4	AIMS0104	AIMS01-Tongue	AIMS	FACIAL AND ORAL MOVEMENTS	Moderate	3	3		2	2013-04- 18
5	STUDYX	RS	P0001	5	AIMS0105	AIMS01-Upper Extremities	AIMS	EXTREMITY MOVEMENTS	Severe	4	4		2	2013-04- 18
6	STUDYX	RS	P0001	6	AIMS0106	AIMS01-Lower Extremities	AIMS	EXTREMITY MOVEMENTS	Mild	2	2		2	2013-04- 18

Exception: Instrument without standard CRF Example: Pain Intensity (PI)

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R	ow S	STUDYID	DOMAIN	USUBJID	QSSEQ	QSTESTCD	QSTEST	QSCAT	QSSCAT	QSORRES	QSSTRESC	QSSTRESN	QSLOC	QSLAT	QSMETHOD	VISITNUM	QSDTC	QSDY	QSEVLINT
	1 8	STUDYX	QS	2324- P0002	1	PI0105	PI01-Least Pain Intensity	PI	DIABETIC PERIPHERAL NEUROPATHY PAIN	SEVERE	3	3	FOOT	RIGHT	VERBAL RATING SCALE 4- POINT	1	2004-01- 03	1	-PT24H
:	2 8	STUDYX	QS	2324- P0002	2	PI0105	PI01-Least Pain Intensity	PI	DIABETIC PERIPHERAL NEUROPATHY PAIN	MODERATE	2	2	FOOT	RIGHT	VERBAL RATING SCALE 4- POINT	2	2004-01- 09	7	-PT24H
	3 8	STUDYX	QS	2324- P0002	3	PI0105	PI01-Least Pain Intensity	PI	DIABETIC PERIPHERAL NEUROPATHY PAIN	MILD	1	1	FOOT	RIGHT	VERBAL RATING SCALE 4- POINT	3	2004-01- 16	14	-PT24H

When --ORRES >200 characters

Pre-defined response > 200 characters

Answer for Actual Attempts Only

Actual Lethality/Medical Damage:

0. No physical damage or very minor physical damage (e.g., surface scratches).

۷.	Moderate physical damage; medical attention	(>
_	burns; bleeding of major vessel).	M
3.	Moderately severe physical damage; medical	
	intact; third-degree burns less than 20% of	(e
4.	Severe physical damage; medical hospitaliza	
L	burns over 20% of body; extensive blood l	bι

 Minor physical damage (e.g., lethargic speed Selected on the instrument ← 2 Moderate physical damage: medical attention >200-character-)←

Noderately-severe-physical-damage;-medicalospitalization and likely intensive care required e.g., comatose with reflexes intact; third-degree ourns-less-than-20%-of-body;-extensive-blood-loss-

without reflexes; third-degree-burns over 20% of

body; extensive-blood-loss-with-unstable-vital-

signs; major damage to a vital area) ←

ut-can-recover; major-fractures)← Severe-physical-damage; medical-hospitalization-

5. Death with intensive care required (e.g., comatose Moderately-severe-physicaldamage; medicalhospitalization-and-likelyintensive-care-required← Severe-physical-damage; 4← medical-hospitalization-withintensive-care-required←

QSORRES-in-mapping-←

(shortened <= 200 character) ←

Free-text response >200 characters for field with --TEST CD assigned

SUICIDAL IDEATION

Ask questions 1 and 2. If both are negative, proceed to "Suicidal Behavior" section. If the answer to question 2 is "yes", ask questions 3, 4 and 5. If the answer to question 1 and/or 2 is "yes", complete "Intensity of Ideation" section below.

Prior to Study **Entry: Time** He/She Felt Most Suicidal

Since Study Start:

1. Wish to be Dead

Subject endorses thoughts about a wish to be dead or not aliv Have you wished you were dead or wished you could go to Inappropriate to use the "shorten" approach. Additional text could be stored in SUPP.

Yes No

QSSTRESC-

/QSSTRESN

If yes, describe:



VAS

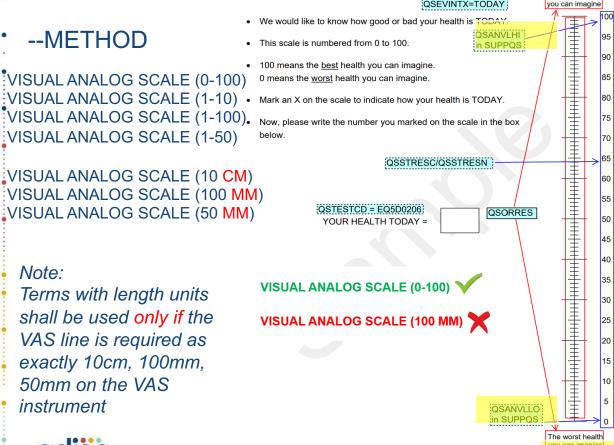
--METHOD

VISUAL ANALOG SCALE (0-100) VISUAL ANALOG SCALE (1-100). VISUAL ANALOG SCALE (1-50)

VISUAL ANALOG SCALE (10 CM) VISUAL ANALOG SCALE (100 MM) VISUAL ANALOG SCALE (50 MM)

Note:

Terms with length units shall be used only if the VAS line is required as exactly 10cm, 100mm, 50mm on the VAS instrument





ANTXHI (Anchor Text High)

ANTXLO (Anchor Text Low)

ANVLHI (Anchor Numeric Value High)

ANVLLO (Anchor Numeric Value Low)



CDISC 2023 Europe Interchang

Do Not Use -- EVAL / -- EVALID

For QRS, evaluator is rarely collected on CRF, and it's not called "evaluator". For example, EPDS has "Administered/Reviewed by"; ADCS-ADL MCI has "Examiner initials"; DAD has "Respondent" and "Rater"; "DRS has "Name of Person Completing Form"; etc. If –EVAL is used, there is difficulty to know what it truly means.

- ✓ Administrative information shall be presented in SDTM dataset only if it is explicitly collected on an instrument.
- ✓ Some QRS specific Non-Standard Variables (NSVs) represent collected administrator or respondent details, which are captured in SUPP domains.

Example: "COLAID" for "Collected Administrator Identifier"

Domain	SUPP QNAM	SUPP QLABEL
QS	QSCOLAID	Collected Administrator Identifier
FT	FTCOLAID	Collected Administrator Identifier
RS	RSCOLAID	Collected Administrator Identifier



QRS Supplemental Variables

All QRS supplemental qualifier variables (SUPPQUAL) have been reviewed to meet the current NSV naming rules. QRS NSV Registry FT QS RS Summary contains the list of existing QRS SUPPQUAL variable along with the new SUPPQUAL(NSV) name included in the NSV Registry.

When using a QRS supplement that includes QRS suppqual variables, users need to reference the QRS NSV Registry FT QS RS Summary and use the current NSV Registry variables.



Future changes: QRS supplemental QNAM/QLABEL values will be turned into QXPARM-CDs in the SDTMIG v4.0. Data will be stored in the QX domain.





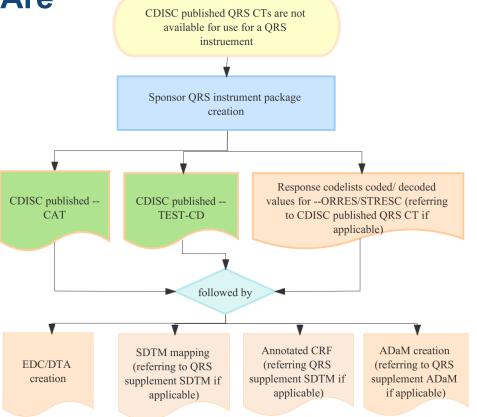
QRS – Sponsor QRS Metadata

CDISC Published QRS CTs Are Available For Use

The most important components would be —CAT and —TEST-CD.

--CAT definition shall be checked to ensure the same QRS instrument correct version is referred to. If not sponsorspecific custom CTs shall be created.

Sponsor can decide how to use the ORRES/STRESC codelists. For example, sponsor can choose to include ORRES and corresponding STRESC values in the same codelist as decoded/coded (or reversed) values for EDC setup.

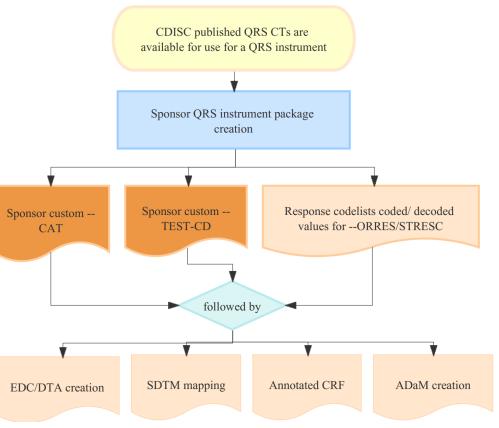




CDISC Published QRS CTs are Not Available For Use

Due to the large number of QRS and its wider use in clinical trials, people may find that plenty of QRS instruments used in clinical trials are not covered by CDISC published QRS CTs.

- Sponsor-specific custom QRS package will need to be created following QRS general rules and naming conventions.
- Could mimic CDISC published QRS CTs for sponsor-specific QRS CTs creation, but it is recommended to have sponsorspecific identifiers to differentiate the sponsor-specific QRS CTs and CDISC published QRS CTs.

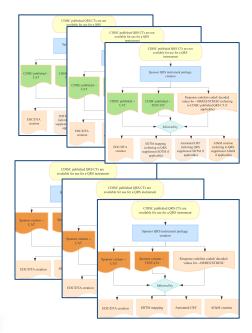


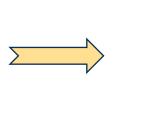


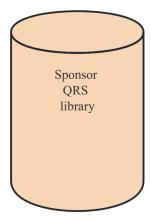
Sponsor QRS Library

Dozens or hundreds of standard QRS instruments could be commonly used/re-used by a sponsor depends on the pipeline in different therapeutic areas.

A well maintained QRS library at sponsor will be very helpful to reduce repetition work and improve data quality and compliance.

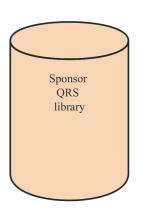








Sponsor QRS Library



- QRS catalogue for QRS instruments and versions
- Clear definitions and version control for better tracking
- Easily differentiate sponsor custom CTs and CDISC published QRS CTs
- SDTM CT shall be maintained in a way that enable easy data collection system setup (EDC QRS form for internal QRS, and DTA for external QRS), SDTM transformation, and other downstream work
- **•** ...





Abnormal Involuntary Movement Scale (AIMS)

Code	Code Value		CDISC Synonym(s)	CDISC Definition	NCI Preferred Term		
C118971		Category of Clinical Classification	CCCAT		A grouping of observations within the Disease Response and Clin Classification domain.	CDISC Clinical Classification Category Terminology	
C102111	C118971	Category of Clinical Classification	AIMS		Abnormal Involuntary Movement Scale (AIMS) (Guy W. Ed. ECDEU Assessment Manual for Psychopharmacology. Rockville MD: US Dept of	Abnormal Involuntary Movement Scale Clinical Classification	

			Assessment Manual for Psychopharmacology, Rockwile MD. US Dept of Classification Machine Charles and Marker, 2012, Dublished to Mac (Alba, 22 and United to Machine Charles and Marker, 2012, Dublished to Machine Charles and Marker (2012, Dublished to Machine).				US Dept of Classification						
						Abnormal Involuntary Moven Clinical Classification Test (voluntary Movement al Classification Test		cale test code.	CDISC Clinical Classification All Terminology	//S Test Code
C101806			nvoluntary Movement So assification Test Name	cale AIMS01TN		Involuntary Movemenical Classification T		normal Involuntary Movement So	cale test name		DISC Clinical Class erminology	sification AIMS Test Name	sion
C102044	4 C182464 Abnormal Involuntary Movement Scale Clinical Classification ORRES for AlMS0101 Through AlMS0107 TN/TC				IS0101T07OR Abnormal Involuntary Movement Scale Offinical Classification ORRES for AlMS0101 Through				al result for AIMS0101 CDISC Clinical Classification Abnormal Involuntary Movement Scale AIMS0101 Through AIMS0107 Original Response Terminology				
C102042	C182674	C182464	Abnormal Involuntary Mo	wement Scale Mild		MS0107 TN/TC	4S0107_Mild	107 Mild. Abnormal Involuntary Movement Scale original result for AIMS0101 Abnormal Involuntary Movement Scale AIMS0101					
C102036		C182466		al Involuntary Movement : Classification ORRES fo			mal Involunta Clinical Clas:		untary Moveme	ent Scale original result for All		SC Clinical Classification Abnormal I Comment Scale AIMS0110 Original Res	
C182502		Clinical Classifi	luntary Movement Scale fication STRESC for ough AIMS0107 TN/TC	AIMS0101T07STR	Scale Clinical Classification AIMS0101 through AIMS0107 test and test code. Mov					CDISC Clinical Classification A Movement Scale AlMS0101 The Standardized Character Respo	rough AIMS0107	nology mal Involuntary Movement Scale A al Result - Aware, mild distress	JMS0110
C182677	7 C182502	Clinical Classifi	luntary Movement Scale fication STRESC for ough AIMS0107 TN/TC					Abnormal Involuntary Movement Scale AlMS0101 Through AlMS0107 Standardized Character Result 0 al Result - Aware, moderate of					
C182678	2678 C182502 Abnormal Involuntary Movement Scale Clinical Classification STRESC for AIMS0101 Through AIMS0107 TN/TC		fication STRESC for		AlMS0101 through			ary Movement Scale standardized character result for AMS0107-Minimal, may be extreme normal .		Abnormal Involuntary Movement Scale AIMS0101 Through AIMS0107 Standardized Character Result 1		mal Involuntary Movement Scale AlMS0110 al Result - Aware, no distress	
C182679	9 C182502		luntary Movement Scale fication STRESC for		2 AlMS0101 through AlMS0107-2 Abnormal Involunt AlMS0101 through			ary Movement Scale standardized character result for AIMS0107-Mild.		Abnormal Involuntary Movement Through AIMS0107 Standardize		mal Involuntary Movement Scale A	MMS0110
C182504		nvoluntary Movement S assification STRESC for	or		Abnormal Involuntary Movement Scale standardized character result for AIMS0110 test and test code.			CDISC Clinical Classification Abnormal Involuntary Movement Scale AMS0110 Standardized Character Response Terminology		Abnormal Involuntary Movement Scale AIMS0101 Through AIMS0107 Standardized Character Result 3		al Result - Aware, severe distress	
C182697	C182504 Abnormal In	nvoluntary Movement S assification STRESC fo	Scale 0	AMS0110-0	Abnormal Involuntary Movement Scale standardized character result for AIMS0110-No awareness.		result for Abnor	bnormal Involuntary Movement Scale AIMS0110 tandardized Character Result 0 er result for		Abnormal Involuntary Movement Scale AlMS0101		mal Involuntary Movement Scale AIMS0110 al Result - No awareness	
C182698	C182504 Abnormal In	nvoluntary Movement S assification STRESC fo			Abnormal Involuntary Movement St AIMS0110-Aware, no distress.	cale standardized character r		ormal Involuntary Movement Scale AIMS0110 Indardized Character Result 1		Through AlMS0107 Standardized Character Result 4		C Clinical Classification Abnormal I	Involuntary
	C182504 Abnormal In Clinical Clas AIMS0110 T	nvoluntary Movement S assification STRESC fo TN/TC	or		Abnormal Involuntary Movement So AlMS0110-Aware, mild distress.		Stand	Abnormal Involuntary Movement Scale AIMS0110 er result for Standardized Character Result 2		CDISC Clinical Classification Abnormal Involuntary Movement Scale AIMS0108 Through AIMS0109 Standardized Character Response Terminology		ment Scale AlMS0111 Through AlM al Response Terminology	IS0112
C182700		nvoluntary Movement S assification STRESC fo TN/TC		3 AIMS0110-3	Abnormal Involuntary Movement Si AIMS0110-Aware, moderate distre			ormal Involuntary Movement Scale AIMS0110 ndardized Character Result 3	er result for	Abnormal Involuntary Movemen		mal Involuntary Movement Scale A	
C182701		nvoluntary Movement S assification STRESC fo TN/TC		AIMS0110-4	Abnormal Involuntary Movement S AIMS0110-Aware, severe distress.			ormal Involuntary Movement Scale AIMS0110 ndardized Character Result 4	er result for	Through AIMS0109 Standardize Abnormal Involuntary Movemen		g	
C182505	Abnormal In Clinical Clas	nvoluntary Movement S assification STRESC fo Through AIMS0112 TN	or NTC	Scale Clinical Classification STRESC for AIMS0111 Through	AIMS0111 through AIMS0112 test		Mover	ISC Clinical Classification Abnormal Involuntary rement Scale AlMS0111 Through AlMS0112 ndardized Character Response Terminology		Through AlMS0109 Standardize Abnormal Involuntary Movemen	ed Character Result 1	mal Involuntary Movement Scale AIMS0111 gh AIMS0112 Original Result - Yes	
C182704	Clinical Clas	AMS0112 TN/TC Abnormal Involuntary Movement Scale OAMS0111 through AMS0112-0 Abnormal Involuntary Movement Scale standards OAMS0111 through AMS0112-NO AMS0111 through AMS0112-NO AMS0111 through AMS0112-NO OAMS0111 through AMS0112-NO OAMS0112-NO OAMS0111 th		cale standardized character r		ormal Involuntary Movement Scale AIMS0111 ough AIMS0112 Standardized Character Result 0		Through AlMS0109 Standardize		Driginal Result - None, normal			
C182705	C182505 Abnormal In Clinical Clas	nvoluntary Movement S assification STRESC fo Through AIMS0112 TN	Scale 1		Abnormal Involuntary Movement So AIMS0111 through AIMS0112-Yes.		esult for Abnor throu	ormal Involuntary Movement Scale AIMS0111 ugh AIMS0112 Standardized Character Result 1	er result for	Abnormal Involuntary Movemen Through AIMS0109 Standardize		/ Movement Scale AIMS0108 Driginal Result - Severe	
C182691	1 C182503	Clinical Classifi	luntary Movement Scale fication STRESC for ough AIMS0109 TN/TC		4 AIMS0108 through AIMS0			Movement Scale standardized chara IS0109-Severe.	cter result for	Abnormal Involuntary Movemen Through AIMS0109 Standardize			



AIMS Code Table

	Instruement	Abnormal Invo	oluntary Movement Scale (A	IMS)									
	Category	CCCAT = AIN	MS (Synonym=AIMS01)										
•	Detinition		Abnormal Involuntary Movement Scale (AIMS) (Guy W. Ed. ECDEU Assessment Manual for Psychopharmacology. Rockville MD: US Dept of Health, Education and Welfare. 1976, Publication No. (ADM) 76-338). CDISC believes this instrument to be in the public domain, but you should perform your own assessment.										
	Field	RSTESTCD -	RSTEST	RSSCAT	RSMETHOD	RSORRES	RSORRESU	RSSTRESC	- RSSTRESCU -	RSSTRESI <sp-qnam< th=""><th>SP-QLABEL -</th></sp-qnam<>	SP-QLABEL -		
	1		AIMS01-Muscles of Facial Expression	FACIAL AND ORAL MOVEMENTS	<null></null>	None		0		0			
•	1					Minimal, may be extreme normal		1		1			
	1					Mild		2		2			
	1					Moderate		3		3			
	1					Severe		4		4			
	2			FACIAL AND ORAL MOVEMENTS	<null></null>	None		0		0			
	2					Minimal, may be extreme normal		1		1			
	2					Mild		2		2			
	2					Moderate		3		3			
	2					Severe		4		4			
	$\overline{}$	$\overline{}$					$\overline{}$	$\overline{}$					

- One code table for one version of QRS instrument.
- Except --CAT, --TEST-CD, --ORRES, and --STRESC, other fields, for example, --METHOD, --SCAT, --ORRESU, --STRESU, and supplemental variables if applicable, are all included in one code table.
- Annotated CRF can be maintained together with the code table



Example of How to Use QRS Code Table

- ◆ EDC QRS form setup
 - ✓ EDC FormOID (come from QRS category)
 - ✓ EDC Form Name (QRS full name with abbreviation)
 - ✓ EDC FieldOID (come from Test Code)
 - ✓ EDC Field Label (come from Test Name)
 - ✓ Codelists attached to the fields (--ORRES/--STRESC set up as decoded/coded values)
 - ✓ EDC FieldOID for Supplemental variable (come from QNAM)
 - ✓ EDC Field Label for Supplemental variable (come from QLABEL)
- DTA preparation
 - ✓ Code table can be provided to data supplier as QRS data transfer specification
- SDTM mapping specifications
 - ✓ Codetable shall be a very good reference
- Other applicable





A special thanks to Steve and Jordan from CDISC QRS team!

Thank You!

