Health & Care Information Model:

nl.nfu.GlasgowComaScale-v1.2.1

Status:Final
Release:2015
Release status: Published

Managed by:

Better health
through better IT

Nictiz

Content

1. nl.nfu.GlasgowComaScale-v1.2.1

DCM::CoderList	Kerngroep Registratie aan de Bron
DCM::ContactInformation.Address	*
DCM::ContactInformation.Name	*
DCM::ContactInformation.Telecom	*
DCM::ContentAuthorList	Projectgroep Generieke Overdrachtsgegevens & Kerngroep Registratie aan de Bron
DCM::CreationDate	29-11-2012
DCM::DeprecatedDate	
DCM::DescriptionLanguage	nl
DCM::EndorsingAuthority.Address	
DCM::EndorsingAuthority.Name	NFU
DCM::EndorsingAuthority.Telecom	
DCM::Id	2.16.840.1.113883.2.4.3.11.60.40.3.12.8
DCM::KeywordList	Glascow coma schaal
DCM::LifecycleStatus	Final
DCM::ModelerList	Kerngroep Registratie aan de Bron
DCM::Name	nl.nfu.GlasgowComaScale
DCM::PublicationDate	1-4-2015
DCM::PublicationStatus	Published
DCM::ReviewerList	Projectgroep Generieke Overdrachtsgegevens & Kerngroep Registratie aan de Bron
DCM::RevisionDate	16-7-2015
DCM::Superseeds	
DCM::Version	1.2.1
HCIM::PublicationLanguage	EN

1.1   Revision History

Publicatieversie 1.0 (15-02-2013)
-

Publicatieversie 1.1 (01-07-2013)
-

Publicatieversie 1.2 (01-04-2015)
Bevat: ZIB-227, ZIB-228, ZIB-229, ZIB-230, ZIB-231, ZIB-232, ZIB-308, ZIB-311, ZIB-361.

Incl. algemene wijzigingsverzoeken:
ZIB-94, ZIB-154, ZIB-200, ZIB-201, ZIB-309, ZIB-324, ZIB-326.

Publicatieversie 1.2.1 (16-07-2015)
Bevat: ZIB-414.

1.2   Concept

Fifteen-point scale for expressing a person's level of consciousness, from fully awake to deep unconsciousness, in a number: the so-called EMV score.
The Glasgow Coma Scale score or EMV (Eye-Motor-Verbal) score is a scale to measure the extent of consciousness, based on eye, verbal and motor responses to specific prescribed sound and pain stimuli.

1.3   Mindmap

1.4 Purpose

The GCS score provides the opportunity to document a clinical observation of a patient's conscious state with a validated instrument which makes use of a patient's responses to stimuli.

1.5 Patient Population

1.6 Evidence Base

The Glasgow Coma Scale is used to evaluate a patient's consciousness by means of three elements:

1. opening eyes (eye response);
2. answering questions (verbal response);
3. motor response.

The three response values are looked at individually and as a whole. The total is referred to as the EMV score. The minimum total score is 3 and the maximum is 15. A slightly altered scale is used for infants (age 0-2) and toddlers (age 2-5).

The EMV score can be expressed as a combination of each of the three individual scores, such as: E3M2V4 (opens eyes when spoken to, arms stretch in response to pain and patient produces incomprehensible sounds).
If one of the EMV elements cannot be evaluated - such as might be the case if a patient is intubated and incapable of verbally responding, or is paralyzed/weak and incapable of fulfilling the motor request, then the individual score is included (score 1), but with an extra comment.
V1T is used for an intubated patient, in which t = 'tube'.
Clinical decisions must be based on each of the specific data of the eyes, motor and verbal responses and, if evaluation is not possible, an explicit explanation.

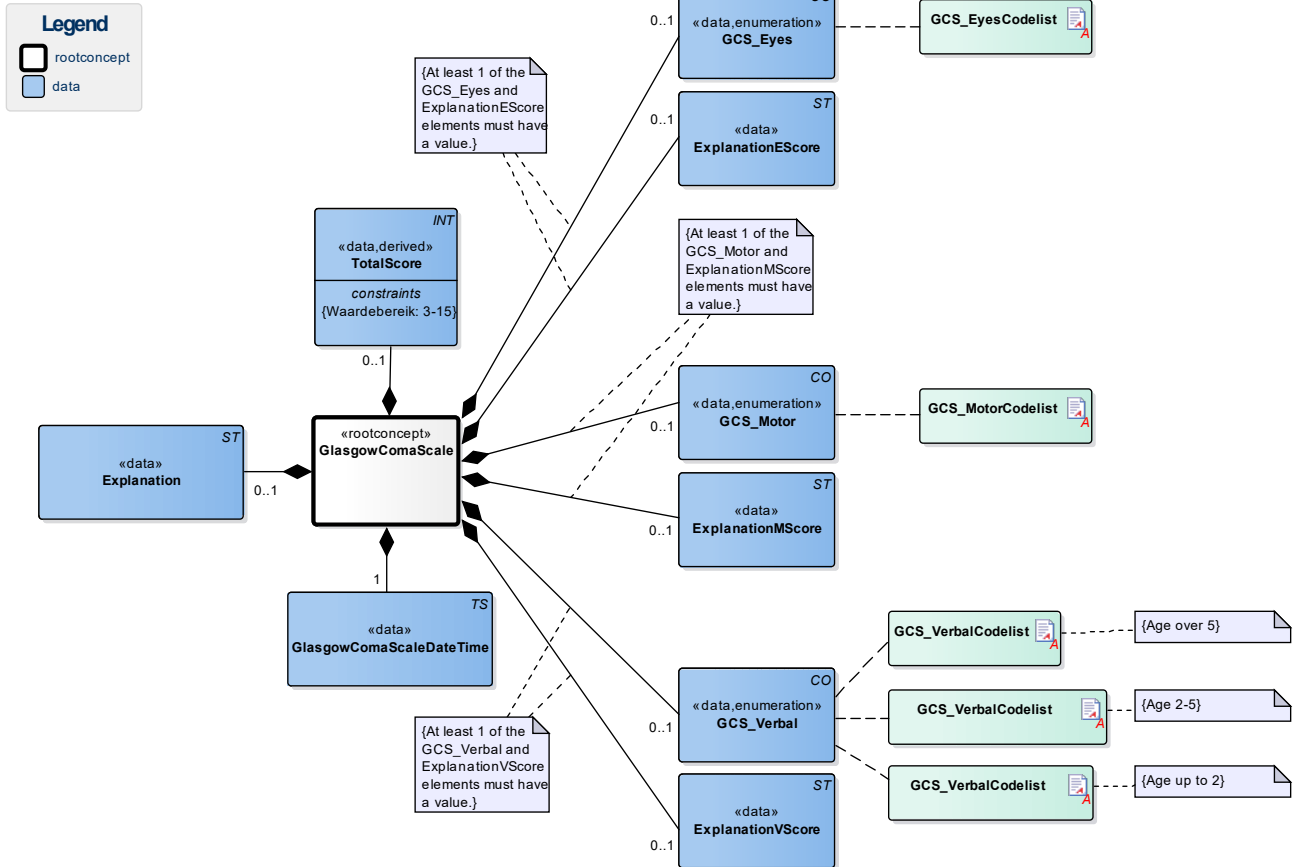Standard values for the total score, depending on age:
0-6 months : 9 and up
6-12 months : 11 and up
1-2 : 12 and up
2-5 : 13 and up
> 5 : 14 and up

1.7 Information Model

Legend
- rootconcept
- data

{At least 1 of the GCS_Eyes and ExplanationEScore elements must have a value.}

«data,enumeration» **GCS_Eyes** — CO — 0..1 — GCS_EyesCodelist

«data» **ExplanationEScore** — ST — 0..1

«data,derived» **TotalScore** — INT
constraints
{Waardebereik: 3-15}
0..1

{At least 1 of the GCS_Motor and ExplanationMScore elements must have a value.}

«data» **Explanation** — ST — 0..1 → «rootconcept» **GlasgowComaScale**

«data,enumeration» **GCS_Motor** — CO — 0..1 — GCS_MotorCodelist

«data» **ExplanationMScore** — ST — 0..1

«data» **GlasgowComaScaleDateTime** — TS — 1

{At least 1 of the GCS_Verbal and ExplanationVScore elements must have a value.}

«data,enumeration» **GCS_Verbal** — CO — 0..1
- GCS_VerbalCodelist — {Age over 5}
- GCS_VerbalCodelist — {Age 2-5}
- GCS_VerbalCodelist — {Age up to 2}

«data» **ExplanationVScore** — ST — 0..1

«rootconcept»	GlasgowComaScale	
Definitie	Root concept of the GlasgowComaScale building block. This root concept contains all data elements of the GlasgowComaScale building block.	
Datatype		
DCM::ConceptId	NL-CM:12.8.1	
DCM::DefinitionCode	SNOMED CT: 386554004 Glasgow coma scale (assessment scale)	
Opties		

«data»	GlasgowComaScaleDateTime	
Definitie	Time at which the EMV score was determined.	
Datatype	TS	
DCM::ConceptId	NL-CM:12.8.8	
Opties		

«data»	GCS_Eyes	
Definitie	Best eye response to a stimulus. The element is mandatory, but does not require a numerical value. If no value is given, the reason for this is to be provided in the ExplanationEScore concept.	
Datatype	CO	
DCM::ConceptId	NL-CM:12.8.2	
DCM::DefinitionCode	SNOMED CT: 281395000 Glasgow coma score eye opening subscore (observable entity)	
DCM::ExampleValue	3	

DCM::ValueSet	GCS_EyesCodelist	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.8.1
Opties		

«data»	ExplanationEScore	
Definitie	Reason why no eye response test could be done. This is to be entered as free text. An often-used notation is the abbreviation c (closed), in the event that the eyes are closed.	
Datatype	ST	
DCM::ConceptId	NL-CM:12.8.3	
Opties		

«data»	GCS_Motor	
Definitie	Best motor response to a stimulus. The element is mandatory, but does not require a numerical value. If no value is given, the reason for this is to be provided in the ExplanationMScore concept.	
Datatype	CO	
DCM::ConceptId	NL-CM:12.8.4	
DCM::DefinitionCode	SNOMED CT: 281396004 Glasgow Coma Score motor response subscore	
DCM::ExampleValue	4	
DCM::ValueSet	GCS_MotorCodelist	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.8.2
Opties		

«data»	ExplanationMScore	
Definitie	Reason why no motor response test could be done. This is to be entered as free text.	
Datatype	ST	
DCM::ConceptId	NL-CM:12.8.5	
DCM::ExampleValue	Spierverslappers	
Opties		

«data»	GCS_Verbal	
Definitie	Best verbal response to a stimulus. The element is mandatory, but does not require a numerical value. If no value is given, the reason for this is to be provided in the ExplanationVScore concept.	
Datatype	CO	
DCM::ConceptId	NL-CM:12.8.6	
DCM::DefinitionCode	SNOMED CT: 281397008 Glasgow coma score verbal response subscore (observable entity)	
DCM::ExampleValue	3	
DCM::ValueSet	GCS_VerbalCodelist	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.8.3
DCM::ValueSet	GCS_VerbalCodelist	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.8.4
DCM::ValueSet	GCS_VerbalCodelist	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.8.5

Opties	

«data»	**ExplanationVScore**
Definitie	Reason why no verbal response test could be done. This is to be entered as free text. An often-used notation is the addition 'Tube' for an intubated patient.
Datatype	ST
DCM::ConceptId	NL-CM:12.8.7
DCM::ExampleValue	Vtube
Opties	

«data»	**TotalScore**	
Definitie	The sum of the EMV scores, expressed as a number on a scale from 3-15. The value does not have to be recorded, as it can always be calculated based on the individual scores, and as recording the total is not common for a difficult to determine individual score.	
Datatype	INT	
DCM::ConceptId	NL-CM:12.8.10	
DCM::ExampleValue	10	
Opties		
Constraint	Waardebereik: 3-15	

«data»	**Explanation**	
Definitie	Comment on (the context of) the EMV score measurement, such as any problems or factors that may influence interpretation.	
Datatype	ST	
DCM::ConceptId	NL-CM:12.8.9	
DCM::ExampleValue	Patient was direct voor intubatie volkomen helder; reageert nu minder maar is ook onderkoeld (temperatuur rectaal 35°C).	
Opties		

«document»	**GCS_EyesCodelist**	
Definitie		
Datatype		
DCM::ValueSetId	2.16.840.1.113883.2.4.3.11.60.40.2.12.8.1	
Opties		

GCS_EyesCodelijst				**OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.8.1**	
Concept Name	**Value**	**Concept Code**	**Coding Syst. Name**	**Coding System OID**	**Description**
Spontaneous	4	E4	GCS_Eyes	2.16.840.1.113883.2.4.3.11.60.40.4.2.1	Spontaan [De ogen worden spontaan geopend]
To verbal stimuli, command, speech	3	E3	GCS_Eyes	2.16.840.1.113883.2.4.3.11.60.40.4.2.1	Bij aanspreken of aanroepen [De ogen worden pas geopend op aanspreken van de patiënt]
To pain only	2	E2	GCS_Eyes	2.16.840.1.113883.2.4.3.11.60.40.4.2.1	Bij pijn [De ogen worden pas geopend bij een pijnprikkel]
No response	1	E1	GCS_Eyes	2.16.840.1.113883.2.4.3.11.60.40.4.2.1	Geen reactie [De ogen blijven gesloten]

«document»	GCS_MotorCodelist				
Definitie					
Datatype					
DCM::ValueSetId	2.16.840.1.113883.2.4.3.11. 60.40.2.12.8.2				
Opties					

GCS_MotorCodelijst			OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.8.2		
Concept Name	**Value**	**Concept Code**	**Coding Syst. Name**	**Coding System OID**	**Description**
Obeys	6	M6	GCS_Motor	2.16.840.1.1138 83.2.4.3.11.60.4 0.4.2.2	Voert opdracht uit [Een eenvoudig bevel wordt uitgevoerd]
Localises pain	5	M5	GCS_Motor	2.16.840.1.1138 83.2.4.3.11.60.4 0.4.2.2	Lokaliseren [In staat zijn de pijn duidelijk te localiseren]
Withdrawal response	4	M4	GCS_Motor	2.16.840.1.1138 83.2.4.3.11.60.4 0.4.2.2	Terugtrekken [In staat om een afwerende of wegtrekkende beweging te maken op een pijnprikkel]
Flexor response	3	M3	GCS_Motor	2.16.840.1.1138 83.2.4.3.11.60.4 0.4.2.2	Buigreactie [Armen en handen op krampachtige manier geplooid. Meestal benen gestrekt.]
Extensor response	2	M2	GCS_Motor	2.16.840.1.1138 83.2.4.3.11.60.4 0.4.2.2	Strekreactie [Armen en handen op krampachtige manier geplooid met naar buitengedraaide hand. Mogelijk alle spieren van het lichaam gespannen]
No response	1	M1	GCS_Motor	2.16.840.1.1138 83.2.4.3.11.60.4 0.4.2.2	Geen reactie op pijnprikkel [Geen enkele lichamelijke reactie op een pijnprikkel]

«document»	GCS_VerbalCodelist				
Definitie					
Datatype					
DCM::ValueSetId	2.16.840.1.113883.2.4.3.11. 60.40.2.12.8.3				
Opties					

GCS_VerbalCodelijst			OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.8.3		
Concept Name	**Value**	**Concept Code**	**Coding Syst. Name**	**Coding System OID**	**Description**
Oriented	5	V5	GCS_Verbal	2.16.840.1.113883. 2.4.3.11.60.40.4.2.3	Georiënteerd [Helder en duidelijk bewust van de situatie]
Confused	4	V4	GCS_Verbal	2.16.840.1.113883. 2.4.3.11.60.40.4.2.3	Verward [Verwarde conversatie maar wel in staat om te antwoorden op de vragen]
Inappropriate speech	3	V3	GCS_Verbal	2.16.840.1.113883. 2.4.3.11.60.40.4.2.3	Inadequaat [Woorden zijn te verstaan maar vormen geen zinnen]
Incomprehensible sounds	2	V2	GCS_Verbal	2.16.840.1.113883. 2.4.3.11.60.40.4.2.3	Onverstaanbaar [De spraak is niet te verstaan]
No response	1	V1	GCS_Verbal	2.16.840.1.113883. 2.4.3.11.60.40.4.2.3	Geen reactie [Geen enkel verbale response]

«document»	GCS_VerbalCodelist	
Definitie		
Datatype		
DCM::ValueSetId	2.16.840.1.113883.2.4.3.11.60.40.2.12.8.4	
Opties		

GCS_VerbalCodelijstKleuter			OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.8.4		
Concept Name	**Value**	**Concept Code**	**Coding Syst. Name**	**Coding System OID**	**Description**
Oriented	5	V5	GCS_Verbal	2.16.840.1.113883.2.4.3.11.60.40.4.2.3	Adequate woorden en zinnen [Woorden of kleine zinnen in context van de situatie]
Confused	4	V4	GCS_Verbal	2.16.840.1.113883.2.4.3.11.60.40.4.2.3	Onjuiste woorden [Verwarde woorden]
Inappropriate speech	3	V3	GCS_Verbal	2.16.840.1.113883.2.4.3.11.60.40.4.2.3	Huilen [Aanhoudend huilen of krijsen]
Incomprehensible sounds	2	V2	GCS_Verbal	2.16.840.1.113883.2.4.3.11.60.40.4.2.3	Kreunen [Alleen kreunen]
No response	1	V1	GCS_Verbal	2.16.840.1.113883.2.4.3.11.60.40.4.2.3	Geen reactie [Geen enkel verbale response]

«document»	GCS_VerbalCodelist	
Definitie		
Datatype		
DCM::ValueSetId	2.16.840.1.113883.2.4.3.11.60.40.2.12.8.5	
Opties		

GCS_VerbalCodelijstBaby			OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.8.5		
Concept Name	**Value**	**Concept Code**	**Coding Syst. Name**	**Coding System OID**	**Description**
Oriented	5	V5	GCS_Verbal	2.16.840.1.113883.2.4.3.11.60.40.4.2.3	Lachen en huilen [Lacht of huilt zachtjes]
Confused	4	V4	GCS_Verbal	2.16.840.1.113883.2.4.3.11.60.40.4.2.3	Huilen [Huilt en is onpasselijk]
Inappropriate speech	3	V3	GCS_Verbal	2.16.840.1.113883.2.4.3.11.60.40.4.2.3	Niet adequaat huilen [Aanhoudend huilen of krijsen]
Incomprehensible sounds	2	V2	GCS_Verbal	2.16.840.1.113883.2.4.3.11.60.40.4.2.3	Kreunen [Kreunen en onrustig/rusteloos]
No response	1	V1	GCS_Verbal	2.16.840.1.113883.2.4.3.11.60.40.4.2.3	Geen reactie [Geen enkel verbale response]

1.8   Example Instances

GlasgowComa ScaleDatumTijd	GCS_ Eyes	GCS_ Motor	GCS_ Verbal	TotaalScore	Toelichting
08-02-2013 6:43	2	4	5	11	Beste score voor intubatie, kleding stond in brand

GlasgowComa ScaleDatumTijd	GCS_ Eyes	GCS_ Motor	GCS_ Verbal	TotaalScore	Toelichting
07-02-2013 11:34	4	4	1		Lijkt adequaat

GlasgowComa ScaleDatumTijd	GCS_ Eyes	GCS_ Motor	GCS_ Verbal	TotaalScore	Toelichting
07-02-2013 8:00	1	1	1	3	Zonder spierverslappers na 2 uur reanimatie

1.9 Instructions

1.10 Interpretation

1.11 Care Process

1.12 Example of the Instrument

1.13 Constraints

1.14 Issues

1.15 References

1. openEHR-EHR-OBSERVATION.glasgow_coma.v1[Online] Beschikbaar op:
http://www.openehr.org/knowledge/ [Geraadpleegd: 23 februari 2015].

2. Glasgow Coma Schaal [Online] Beschikbaar op:
http://www.tabellenboekje.nl/menselijk-lichaam-tabel-glasgow-coma-schaal.php#glasgow-coma-schaal-volwassen [Geraadpleegd: 23 februari 2015].

1.16 Functional Model

1.17 Traceability to other Standards

1.18 Disclaimer

The program 'Registratie aan de Bron' [Registration at the Source] is a collaboration between the NFU (Nederlandse Federatie van Universitair Medische Centra, [Netherlands Federation of University Medical Centers]) and Nictiz, hereinafter referred to as the partners. Other parties outside the university medical centers and Nictiz also made important contributions to and worked within 'Registration at the Source'. The parties pay the utmost attention to the reliability and topicality of the data in these Healthcare Information Building Blocks (Clinical Building Block). Omissions and inaccuracies may however occur. The parties are not liable for any damages resulting from omissions or inaccuracies in the information provided, nor are they liable for damages resulting from problems caused by or inherent to distributing information on the internet, such as malfunctions, interruptions, errors or delays in information or services provided by the parties to you or by you to the parties via a website or via e-mail, or any other digital means.

The parties will also not accept liability for any damages resulting from the use of data, advice or ideas provided by or on behalf of the parties by means of this Healthcare Information Building Block.
The parties will not accept any liability for the content of information in this Healthcare Information Building Block to which or from which a hyperlink is referred.
In the event of contradictions in said Healthcare Information Building Block documents and files, the most recent and highest version of the listed order in the revisions will indicate the priority of the documents in question. If information included in the digital version of this Healthcare Information Building Block is also distributed in writing, the written version will be leading in cases of textual differences. This will apply if both have the same version number and date. A definitive version has priority over a draft version. A revised version has priority over previous versions.

1.19 Terms of Use

The user may use the information in this Healthcare Information Building Block without limitations. The copyright provisions in the paragraph in question apply to copying, distributing and passing on information from this Healthcare Information Building Block.

1.20 Copyrights

The user may copy, distribute and pass on the information in this Healthcare Information Building Block under the conditions that apply for Creative Commons license Attribution-NonCommercial-ShareAlike 3.0 Netherlands (CC BY-NC-SA-3.0),

The content is available under Creative Commons Attribution-NonCommercial-ShareAlike 3.0 (also see http://creativecommons.org/licenses/by-nc-sa/3.0/nl/)