

New concept proposal

Body Position

Author	Kristin Gnodtke	Date last updated	22.12.2022
Project	PSSS	Contact person	Rita Achermann
Dataset release	2023.1	Consulted expert	-

1 Rationale

The patient's body position during clinical assessments, diagnostic measurements, or during treatment can play a vital role when interpreting the measurement results or treatment outcome. The PSSS project has created a concept *Body Position* for capturing the patient's body position during a stay in the intensive care unit (ICU). This concept can also be reused in composed concepts related to assessments or measurement if needed and it can be valuable beyond the intensive care setting.

2 Comparison to other standards/data models

2.1 HL7 FHIR

In HL7 FHIR, the body position is defined as an extension to the resource *Observation* (<https://www.hl7.org/fhir/extension-observation-bodyposition.html>) and here it is described as follows: "The position of the body when the observation was done, e.g. standing, sitting. To be used only when the body position is not pre-coordinated in the observation code."

2.2 UMLS

In UMLS, there are several definitions presented for the concept Body Position with the UMLS Concept Unique Identifier (CUI): C1262869. The most appropriate definition is the following: "The position or physical attitude of the body."

2.3 SNOMED CT

In SNOMED CT, the term body position can be found in the hierarchy of finding (9851009 |Body position finding (finding)|; 28 children concepts), and in the hierarchy of observations (397155001 |Body position (observable entity)|; 1 child).

2.4 DICOM

In DICOM, there is a Patient Position attribute with DICOM tag (0018, 5100)

describing the patient position relative to the equipment (<https://dicom.innolitics.com/ciods/ct-image/general-series/00185100>). The following defined terms are listed as possible values. However, they are not part of the DICOM controlled terminology.

- HFP : Head First-Prone
- HFS : Head First-Supine
- HFDR : Head First-Decubitus Right
- HFDL : Head First-Decubitus Left
- FFDR : Feet First-Decubitus Right
- FFDL : Feet First-Decubitus Left
- FFP : Feet First-Prone
- FFS : Feet First-Supine
- LFP : Left First-Prone
- LFS : Left First-Supine
- RFP : Right First-Prone
- RFS : Right First-Supine
- AFDR : Anterior First-Decubitus Right
- AFDL : Anterior First-Decubitus Left
- PFDR : Posterior First-Decubitus Right
- PFDL : Posterior First-Decubitus Left.

3 Concept information

Concept name	Description	Type	Standard	Value set	Meaning binding
Body Position	position of the body during a certain time interval, examination or therapy				SNOMED CT: 397155001 Body position (observable entity)
code	code, name, coding system and version used to describe the body position	Code	SNOMED CT	descendant of: 9851009 Body position finding (finding)	
start datetime	start datetime of the body position	temporal			
end datetime	stop datetime of the body position	temporal			

4 Impact on the SPHN Dataset

None.

5 Discussion

Temporal information (start datetime, end datetime) can be considered optional, as it is only of interest in certain contexts, e.g. the body position of a patient in intensive care or in geriatric care where the body position of a patient is changed at certain time intervals. If we want to describe the body position during a certain procedure, start datetime and end datetime might not be relevant. However, having start and end datetime can be useful to describe sequential changes in body positioning during one of multiple procedures which might impact the measurement results and is important to take into account when analyzing the data.

In DICOM, two patient position characteristics are combined into one term, e.g., HFS includes the information "head first" and "supine". However, the proposed value set contains codes holding only one position information at a time, e.g., 40199007 [Supine body position (finding)]. Therefore, a solution would need to be found for representing patient position information originating from DICOM tags with the proposed concept.

6 Examples

Body position data of a COVID patient in the ICU: prone position 21.03.2021, 10:15 – 16:15

Code: 1240000 [Prone body position (finding)]

Start datetime: 12.03.2021, 10:15

End datetime: 12.03.2021, 16:15

Body position during Blood Pressure taking: sitting

Code: 33586001 [Sitting position (finding)]