

New concept proposal

Body Surface Area

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Dataset release	2023.1	Consulted expert	-

1 Rationale

The body surface area (BSA) is an important patient characteristic. It is a prognostic marker, e.g. in chronic heart failure patients. It is used for normalizing measurements, such as cardiac output, and it is needed for calculating or adjusting dosage of certain medications, such as cytostatics. Therefore, it should be added to the SPHN Dataset.

2 Comparison to other standards/data models

2.1 SNOMED CT

SNOMED CT provides an identifier for the concept: 301898006 |Body surface area (observable entity)|.

2.2 LOINC

In LOINC, there are the following 4 codes related to BSA:

8277-6 Body surface area

3140-1 Body surface area Derived from formula

3139-3 Body surface area Measured

8278-4 Formula used to compute body surface area

2.3 UMLS

In UMLS, there are 9 definitions for Body Mass Index (BMI). The top three definitions are outlined below.

The two dimensional measure of the outer layer of the body. **(MSH)**

A measure of the 2-dimensional extent of the body surface (i.e., the skin). Body surface area (BSA) can be calculated by mathematical formula or from a chart that relates height to weight. BSA is often an important factor in dosing. **(NCI) (NCI)**

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3 Concept information

Concept name	Description	Type	Value set	Meaning binding
Body Surface Area	two dimensional measure of the outer layer of the body			SNOMED CT: 301898006 Body surface area (observable entity)
surface area	value and unit of the body surface area (BSA)	Quantity	Unit: m2	
determination datetime	datetime of determination of the body surface area (BSA)	temporal		
calculation method	name of the formula used to calculate the body surface area (BSA)	qualitative	du bois; mosteller; other	

4 Impact on the SPHN Dataset

None.

5 Discussion

BSA is calculated based on weight and height of the individual and there are different formulas. The most common formulas are Du Bois formula and Mosteller formula. Results can differ in adults at extremes of height and weight when using the two different formulas [1].

6 Example

Surface area: Value: 1,73

Unit: m²

Determination datetime: 2021-02-07T08:20:30+01:00

7 References

- [1] Fancher KM, Sacco AJ, Gwin RC, Gormley LK, Mitchell CB. Comparison of two different formulas for body surface area in adults at extremes of height and weight. *J Oncol Pharm Pract*. 2016 Oct;22(5):690-5. doi: 10.1177/1078155215599669. Epub 2015 Sep 18. PMID: 26385906.