Briefing Note for the review by the Editorial Advisory Group of proposed changes to 129376004 |Construction - action (qualifier value)|

21 October 2024

Change 129376004 |Construction - action (qualifier value)| from the 257903006 |Repair - action (qualifier value)| hierarchy to be direct subtype of 129284003 |Surgical action (qualifier value)|

<< 129376004 |Construction - action (qualifier value)|

<< 410614008 |Construction (procedure)|

Purpose

This briefing note explains the issues related to the classification of the 129376004 |Construction - action (qualifier value)| under 257903006 |Repair - action (qualifier value)| and seeks advice and agreement from the EAG about making 129376004 |Construction - action (qualifier value)| a direct subtype of 129284003 |Surgical action (qualifier value)|.

Background

129376004 |Construction - action (qualifier value)| is currently a direct subtype of 257903006 |Repair - action (qualifier value)|, with 16 subtypes. Subtypes include:

- 257741005 |Anastomosis - action (qualifier value)|
- 360021005 |Bypass - action (qualifier value)|
- 424208002 |Shunt - action (qualifier value)|
- 129354008 |Exteriorization - action (qualifier value)|
- 129355009 |Marsupialization - action (qualifier value)|.

There are 1458 procedure concepts modeled with << 129376004 |Construction - action (qualifier value)| in the terminology grouped under 410614008 |Construction (procedure)|. Most of them refer to the construction of anastomosis, bypass, shunts and stomas.

The current position of 129376004 |Construction - action (qualifier value)| in the terminology implies that all constructions are reparative procedures as 410614008 |Construction (procedure)| is a direct subtype of 4365001 |Surgical repair (procedure)|.

The question is whether a construction is always a reparative action or not. If the answer is no, then we should consider changing the location of 129376004 |Construction - action (qualifier value)| to be a subtype of 129284003 |Surgical action (qualifier value)|

Issues

1. The construction of a stoma, which is "a surgically created opening from an area inside the body to the outside" (https://www.cancer.gov/publications/dictionaries/cancer-terms/def/stoma), is not necessarily aimed at repair of a body structure, but rather to exteriorize a part of a structure. In SCT currently, all stomas are reparative procedures (e.g. 397108006 |Esophagostomy operation (procedure)|, 54956002 |Gastrostomy (procedure)|, 1303805000 |Construction of stoma of trachea (procedure)|, 61063002 |Ureterostomy (procedure)|). Given the definition above, we must consider whether this is correct.
2. An anastomosis may be performed to reconstruct a structure after a resection. In those cases, the terming is more appropriately "Reconstruction" or "Repair" of X [body structure] using/by an anastomosis.
3. Because 129376004 |Construction - action (qualifier value)| and subtypes are currently classified as reparative actions, some concepts termed "Repair of X" are currently modeled using only subtypes of 129376004 |Construction - action (qualifier value)|,such as << 257741005 |Anastomosis - action (qualifier value)|. These concepts will automatically classify as a Repair procedure. As such, even when the reparative action is not exclusively the anastomosis, there is no need to add another Repair - action to the model.

Examples:

● 443112004 |**Repair** of partial anomalous pulmonary venous connection by direct anomalous vein anastomosis to left atrium (procedure)|
● 443112004 |**Repair** of partial anomalous pulmonary venous connection by direct anomalous vein anastomosis to left atrium (procedure)|).

Movement of 129376004 |Construction - action (qualifier value)| to a direct subtype of 129284003 |Surgical action (qualifier value)|will require an additional repair role group to maintain the same defining relationships and classification.
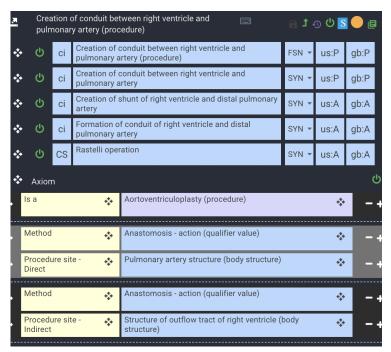
4. In SCT, exteriorization and marsupialization procedures are subsumed by 4365001 |Surgical repair (procedure)|. This is incorrect because marsupialization is "to open and sew by the edges" (https://www.merriam-webster.com/medical/marsupializing) and exteriorization is "to bring out of the body" (https://www.merriam-webster.com/dictionary/exteriorize).

5. Although marsupialization may be considered a reparative procedure, that is not common (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10884132/). If a repair is performed during or using marsupialization, it should be stated as a repair or reconstruction in the descriptions. None of the concepts from the 118627006 |Marsupialization (procedure)| hierarchy in the terminology refers to repair procedures.

6. Exteriorization procedures are sometimes used for the exteriorization of repaired injuries, where the injured body structure is exteriorized after repair to have visual access and monitor the healing process, but in these cases the objective of the exteriorization is not reparative, e.g. 398801000 |Exteriorization of colon (procedure)| (https://pubmed.ncbi.nlm.nih.gov/7259495/). Other types of exteriorization procedures refer to the transfer of a body structure from a deep position to a more superficial one, like in the case of 80104006 |Exteriorization of carotid artery (procedure)| (https://pubmed.ncbi.nlm.nih.gov/7091858/). Finally, the construction of a stoma is the exteriorization of a tubular structure through a body wall and is not aimed to repair such structures, but to carry the content to the exterior. In none of the cases described above is the exteriorization a reparative procedure.

If making 129376004 |Construction - action (qualifier value)| a direct subtype of 129284003 |Surgical action (qualifier value)| is agreed, concepts representing both a reparative procedure and a construction using << 129376004 |Construction - action (qualifier value)|as a target value for the Method (attribute), should be modeled with two RG: one for the reparative procedure and one for the construction part of the procedure. In other words, when the purpose of the procedure is the repair, a second RG is needed to represent the construction part of the procedure.

Examples of concepts with similar terming but different modeling:

Plastic repair of aorta and end-to-end anastomosis of aorta (procedure)

ci	Plastic repair of aorta and end-to-end anastomosis of aorta (procedure)		FSN ▾	us:P	gb:P
ci	Plastic repair of aorta and end-to-end anastomosis of aorta		SYN ▾	us:P	gb:P

Axiom

Is a	Arterial anastomosis (procedure)	− +
Method	Direct anastomosis - action (qualifier value)	− +
Procedure site - Direct	Aortic structure (body structure)	− +
Method	Plastic operation (qualifier value)	− +
Procedure site - Direct	Aortic structure (body structure)	− +

Creation of conduit between right ventricle and pulmonary artery (procedure)

ci	Creation of conduit between right ventricle and pulmonary artery (procedure)	FSN ▾	us:P	gb:P
ci	Creation of conduit between right ventricle and pulmonary artery	SYN ▾	us:P	gb:P
ci	Creation of shunt of right ventricle and distal pulmonary artery	SYN ▾	us:A	gb:A
ci	Formation of conduit of right ventricle and distal pulmonary artery	SYN ▾	us:A	gb:A
CS	Rastelli operation	SYN ▾	us:A	gb:A

Axiom

Is a	Aortoventriculoplasty (procedure)	− +
Method	Anastomosis - action (qualifier value)	− +
Procedure site - Direct	Pulmonary artery structure (body structure)	− +
Method	Anastomosis - action (qualifier value)	− +
Procedure site - Indirect	Structure of outflow tract of right ventricle (body structure)	− +

Example of non-reparative anastomosis, where the anastomoses are not aimed to Repair, but just to create a passage between two structures. Incorrect SD stated parent

Next Steps if changes are approved

Terming

Non-reparative procedure concepts modeled with << 129376004 |Construction - action (qualifier value)|

To distinguish between construction and repair procedures, state the term "construction" in the description for those concepts describing exclusively construction procedures.

Examples:

- Construction of anastomosis of X [body structure]
- Construction of shunt of X [body structure] to Y [body structure]
- Construction of stoma of X [body structure]

Repair concepts stating the term "repair" in the descriptions, currently modeled only with << 129376004 |Construction - action (qualifier value)|

Revise the descriptions for the reparative procedures where an anastomosis, stoma, exteriorization or marsupialization is used but not related with the reparative procedure by terming them as "Reconstruction/repair and anastomosis/stoma/exteriorization/marsupialization of X".

Examples:

- Reconstruction of X and anastomosis of Y [body structure]
  - 762058009 |Reconstruction of microtia with free flap and microvascular anastomosis (procedure)|
  - 233130005 |Repair of double outlet left ventricle with direct right ventricle to pulmonary trunk anastomosis and ventricular septal defect closure (procedure)|
  - 175338002 |Plastic repair of aorta and end-to-end anastomosis of aorta (procedure)|
- Repair of X and exteriorization of Y [body structure]
  - No current examples in the terminology
- Repair of X and marsupialization of Y [body structure]
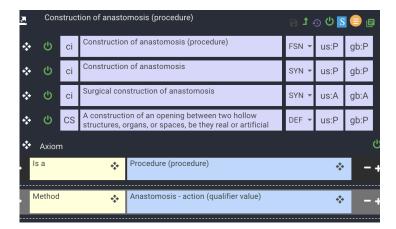 - No current examples in the terminology

Model for concepts where terms "Repair" or "Reconstruction" are not stated in the descriptions, use a single RG to model the construction procedure.
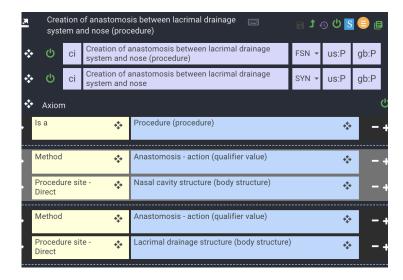
Single RG

260686004 |Method (attribute)| = << 129376004 |Construction - action (qualifier value)|

78817002 |Construction of anastomosis (procedure)|

			Construction of anastomosis (procedure)				
	⏻	ci	Construction of anastomosis (procedure)	FSN ▾	us:P	gb:P
	⏻	ci	Construction of anastomosis	SYN ▾	us:P	gb:P
	⏻	ci	Surgical construction of anastomosis	SYN ▾	us:A	gb:A
	⏻	CS	A construction of an opening between two hollow structures, organs, or spaces, be they real or artificial	DEF ▾	us:P	gb:P

Axiom

Is a	Procedure (procedure)
Method	Anastomosis - action (qualifier value)

419630005 |Creation of anastomosis between lacrimal drainage system and nose (procedure)|

			Creation of anastomosis between lacrimal drainage system and nose (procedure)				
	⏻	ci	Creation of anastomosis between lacrimal drainage system and nose (procedure)	FSN ▾	us:P	gb:P
	⏻	ci	Creation of anastomosis between lacrimal drainage system and nose	SYN ▾	us:P	gb:P

Axiom

Is a	Procedure (procedure)
Method	Anastomosis - action (qualifier value)
Procedure site - Direct	Nasal cavity structure (body structure)
Method	Anastomosis - action (qualifier value)
Procedure site - Direct	Lacrimal drainage structure (body structure)

Model for "Reconstruction/repair using/by anastomosis/stoma/exteriorization/marsupialization of X", use two RG: The first to model the reparative procedure and the second to define the construction part of the procedure.

First RG
- 260686004 |Method (attribute)| = << 257903006 |Repair - action (qualifier value)|

Second RG
- 260686004 |Method (attribute)| = << 129376004 |Construction - action (qualifier value)|

762058009 |Reconstruction of microtia with free flap and microvascular anastomosis (procedure)|
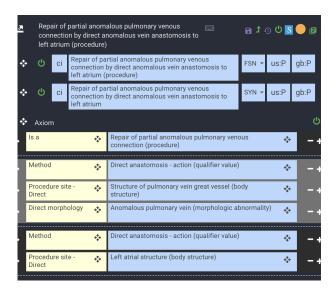
Reconstruction of microtia with free flap and microvascular anastomosis (procedure)	
ci	Reconstruction of microtia with free flap and microvascular anastomosis (procedure) — FSN · us:P gb:P
ci	Reconstruction of microtia with free flap and microvascular anastomosis — SYN · us:P gb:P

Axiom

Is a	Procedure (procedure)
Has focus	Microtia (disorder)
Method	Distant flap reconstruction - action (qualifier value)
Procedure site - Direct	External ear structure (body structure)
Direct morphology	Abnormal smallness (morphologic abnormality)
Direct substance	Free flap (substance)
Method	Microvascular anastomosis - action (qualifier value)
Procedure site - Direct	Blood vessel structure (body structure)
Direct substance	Free flap (substance)

175475006 |Plastic repair of renal artery and end-to-end anastomosis of renal artery (procedure)|

Plastic repair of renal artery and end-to-end anastomosis of renal artery (procedure)	
ci	Plastic repair of renal artery and end-to-end anastomosis of renal artery (procedure) — FSN · us:P gb:P
ci	Plastic repair of renal artery and end-to-end anastomosis of renal artery — SYN · us:P gb:P

Axiom

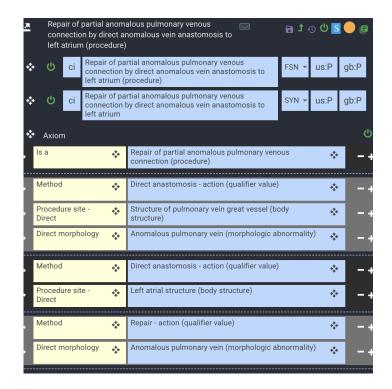| Is a	Procedure (procedure)
Method	Anastomosis - action (qualifier value)
Procedure site - Direct	Structure of renal artery (body structure)
Method	Plastic operation (qualifier value)
Procedure site - Direct	Structure of renal artery (body structure)

443112004 |Repair of partial anomalous pulmonary venous connection by direct anomalous vein anastomosis to left atrium (procedure)|. Current model

New model example

Approvals	Date	Name
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CSRM team		Jane Millar

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