

Anastomosis, Bypass, and Shunt – Feedback 20240413

- 78817002 | Construction of anastomosis (procedure)|
 - o 1297063007 | Construction of bypass (procedure)|
 - Construction of bypass using graft (procedure)
 - o 88834003 | Construction of shunt (procedure)|
 - Construction of shunt using graft (procedure)

Feedback on Definitions - Proposed definitions for the April 2024 SEAG, are in bold black font.

ANASTOMOSIS - 78817002 | Construction of anastomosis (procedure)|

A cross-connection between adjacent channels, tubes, fibers, or other parts of a network.

In SCT: When the intention of the procedure is not related to a planned Bypass or Shunt, procedures should be modeled as anastomosis.

Feedback/Questions:

- The “In SCT:” part of the definition is confusing. When is a bypass or shunt not planned? **When is not stated in the Descriptions.**
- Can you provide an example of a procedure that “should be modeled as an anastomosis because it’s intention is not related to a planned bypass or shunt”? **When not stated in the descriptions or when it is described as an anastomosis, or when the procedure (anastomosis) has the purpose of repair.**
- Are we confusing things by including “fibers” in the definition of Anastomosis when it is not included for Bypass or Shunt? Anastomosis **usually** means a connection that is created between tubular structures. **Nerves can be anastomosed, as well as tendons. This preview: <https://pubmed.ncbi.nlm.nih.gov/10626240/>**
- What is the difference between construction of: “a cross-connection between channels or tubes” (for Anastomosis), a “channel” (for Bypass), and a “hole or passage” (for Shunt)? Would “channel/passage” work for all three? **Yes, it can be used for the three different terms.**
- Does adjacent mean side-by-side, or does it include connected lengthwise (end-to-end, in sequence) or both? How does “adjacent” relate to the existing values in bold? **In this case, the term “adjacent” means the distance between the structures to be anastomosed. It does not refer to the type of anastomosis.**
 - o [Construction - action \(qualifier value\)](#)
 - [Anastomosis - action \(qualifier value\)](#)
 - [Direct anastomosis - action \(qualifier value\)](#)
 - o [End-to-end anastomosis - action \(qualifier value\)](#)
 - o [End-to-side anastomosis - action \(qualifier value\)](#)
 - o [Side-to-side anastomosis \(qualifier value\)](#)
- Bypass and Shunt definitions begin with “Surgical procedure to construct...”. Where possible, we should be consistent across all definitions. **That can be done.**
- Should the FSNs all include “Surgical construction” since it is more explicit than “Construction”? I’m not sure of hard wiring this into the FSNs because of the ongoing problem defining “non-surgical” and “surgical”. However, the other definitions below lead with “Surgical procedure”. **Until the Surgical vs Non-surgical procedures is defined, I think it is a good idea to make such differentiation in the descriptions. We can use “Surgical procedure to construct...”**

BYPASS - 1297063007 | Construction of bypass (procedure)|

Surgical procedure to construct a channel carrying fluid around a part of a structure and back to the mainstream.

Feedback/Questions:

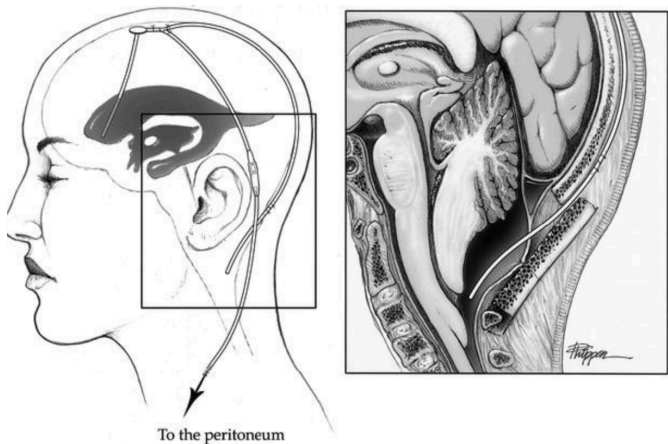
- Why do we use “fluid” here versus “liquid” for the Shunt definition? Does stool in the distal colon qualify as liquid or fluid? Should we use “fluid/content”? **To avoid confusion, we can use content instead of fluid or liquid.**
- With respect to “mainstream”, do shunts go off the “normal” flow path, whereas bypasses reconnect to the “normal” flow path? **Is correct.**
- For “**around a part of a structure and back to the mainstream**”, do we need to clarify “mainstream”? For example:
 - o **Surgical construction of a channel/passage to carry fluid/content around a structure in its normal path and then back to a structure in its normal path.** **This sounds like a good idea to clarify the concept.**
- Is it correct that 75506009 | Construction of stoma (procedure) | (-ostomy) is not a bypass because it does not go back into the mainstream/normal path? **Right.**

CONSTRUCTION OF BYPASS USING GRAFT - Construction of bypass using graft (procedure)

Surgical procedure performed for the construction of a channel carrying fluid around a part of a structure and back to the mainstream using a biological or synthetic graft.

Feedback/Questions:

- The |Construction of bypass (procedure)| definition uses “**Surgical procedure to construct a channel**” whereas this definition uses “**Surgical procedure performed for the construction of a channel**”. Whatever the final definitions end up being, I would align verbiage as much as possible. For example, perhaps consistently lead with “Surgical construction of”: **Right, we can do that.**
 - o **Surgical construction of a channel/passage, using a biological or synthetic graft, to carry fluid/content around a structure in its normal path and then back to a structure in its normal path.**
- The example below, provided for Bypass graft. seems like a Shunt rather than a Bypass since the peritoneum is not in the “mainstream” for this fluid. **The second image is picturing a channel between the brain ventricle and the cisterna magna... which is returning the content to the normal/mainstream.**



- Non-urgent and probably not solvable: If |Construction of bypass (procedure)| is the supertype of |Construction of bypass using graft (procedure)|, is there a need to explicitly differentiate “bypass using graft” from “bypass not using a graft”? **The difference is implied in the lack of the term “bypass” in the descriptions. IMO.**

SHUNT - 88834003 | Construction of shunt (procedure)|

Surgical procedure performed for the construction of a hole or passage that allows liquid to move from one structure to another.

Feedback/Questions:

- Is 75506009 | Construction of stoma (procedure) | (-ostomy) a shunt procedure? For colostomy, the liquid moves from one structure (the colon) to another structure (the abdominal wall) to take it external to the body. I don't think this is normally considered a shunt. **ostomy is not a shunt unless we consider the atmosphere as a Body structure. The content is not moving from the colon to the abdominal wall, but to the exterior.**
- Is **“move from one structure to another”** clear enough to differentiate this definition from Bypass which uses **“around a part of a structure and back to the mainstream”**?
 - o As worded, **“move from one structure to another”** does not exclude “moving it from the stomach around the jejunum to the ileum” (which would fit the definition for Bypass).
 - o Is it that the path is not along the mainstream/normal flow path? **Don't understand the question.**
- Is the use of “channel” for Bypass versus “hole or passage” for Shunt intentional? If so, the difference needs to be clearer. If not, I would use one term. **Not intentional, may be changed.**
- Is the use of “liquid” for Shunt versus “fluid” for Bypass accidental or intentional? **Not intentional, may be changed as needed.**
- Possibly consider something more like:
 - o **Surgical construction of a channel/passage to carry fluid/content from one structure to another structure not in its normal path.**

CONSTRUCTION OF SHUNT USING GRAFT - Construction of shunt using graft (procedure)

Surgical procedure performed for the construction of a hole or passage that allows liquid to move from one structure to another, using a connecting device.

Feedback/Questions:

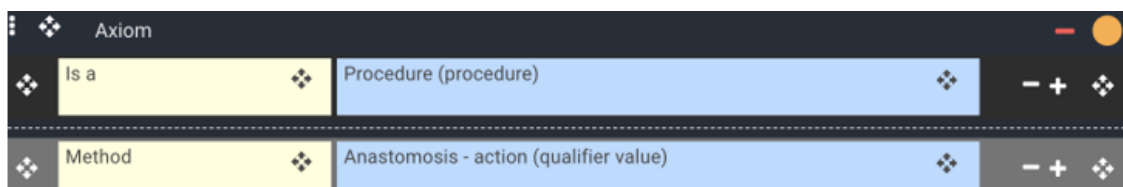
- Is there a reason that the Shunt graft is a “connecting device” while the Bypass graft is a “biological or synthetic graft”? If so, the distinction between “connecting device” and “synthetic graft” needs clarification. I think synthetic grafts, patches, mesh etc. may still fall under |Device| or |Physical object|.
- Possibly consider something more like:
 - o **Surgical construction of a channel/passage, using a ?????, to carry fluid/content from one structure to another structure not in its normal path.** **Here, we need to define the terming as a consensus.**

Feedback on Proposed Modeling

Proposed Step 3. Inactivate 360021005 |Bypass - action (qualifier value)| and 424208002 |Shunt - action (qualifier value)|. Instead of using those two Method (attribute) values, model using 245854003 |Proximal anastomosis (qualifier value)| and 245855002 |Distal anastomosis (qualifier value)|.

Feedback/Questions:

- The model for the 3 high-level concepts is as below. 1297063007 |Construction of bypass (procedure)| and 88834003 |Construction of shunt (procedure)| will be primitive. Will 78817002 |Construction of anastomosis (procedure)| be sufficiently defined?
 - o 78817002 |Construction of anastomosis (procedure)|
 - o 1297063007 |Construction of bypass (procedure)|
 - o 88834003 |Construction of shunt (procedure)|



- I am not sure that creating intermediate primitives for |Construction of bypass| and |Construction of shunt| makes things easier. The currently proposed definitions remain a bit confusing, and creation of the intermediate primitives

merely shifts the defining difference between a shunt and a bypass onto an intermediate primitive parent. Current modeling for Bypass (procedure) and Shunt (procedure) is through Method=Bypass – action and Method=Shunt –action, which is incorrect, because even when bypass and shunt may be used as verb, when talking about procedures connecting two structures for any means, another type of action is needed for modeling. Proposal is about modeling with proximal and distal anastomosis as values for method.

- If the difference between these two procedures is definable, and warrants two primitive concepts to make things “classify” correctly, why not just add actions that distinguish proximal and distal shunts and bypasses, retain the existing shunt and bypass actions, and sufficiently defined these shunt and bypass concepts? **Example:**
 - Anastomosis - action (qualifier value)
 - Shunt - action (qualifier value)
 - |Distal shunt - action (qualifier value)| (NEW)
 - |Proximal shunt - action (qualifier value)| (NEW)
 - Distal anastomosis (qualifier value)
 - |Distal bypass - action (qualifier value)| (NEW)
 - |Distal shunt - action (qualifier value)| (NEW)
 - Bypass - action (qualifier value)
 - |Distal bypass - action (qualifier value)| (NEW)
 - |Proximal bypass - action (qualifier value)| (NEW)
 - Proximal anastomosis (qualifier value)
 - |Proximal bypass - action (qualifier value)| (NEW)
 - |Proximal shunt - action (qualifier value)| (NEW)

This is not possible. There are not such things like Proximal shunts or Distal bypass and there is no need to add new actions when we have Proximal and distal anastomosis to be used.

- Regardless, the FSNs for 245854003 |Proximal anastomosis (qualifier value)| and 245855002 |Distal anastomosis (qualifier value)|.should be changed to: **Can be done.**
 - 245855002 |Distal anastomosis - **action** (qualifier value)|
 - 245854003 |Proximal anastomosis - **action** (qualifier value)|
- I have some concerns about conflating “site/location with “action” by including “Proximal” and “Distal” in actions but have not given this enough thought.
- I did not address the “Interposition” definitions or modeling until the higher-level issues are resolved.
- In the example below, we might investigate whether “Using device: Synthetic vascular graft” in each of the 2 top RGs might be a way to avoid the bottom 2 RGS altogether.

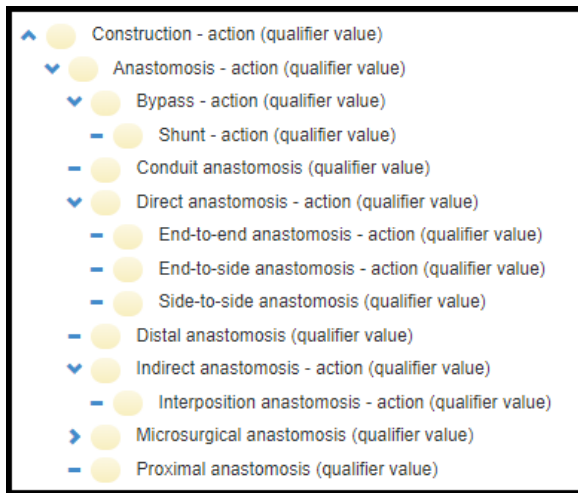
Creation of shunt from ascending aorta to left pulmonary artery using interposition tube prosthesis (procedure)						
ci	Creation of shunt from ascending aorta to left pulmonary artery using interposition tube prosthesis (procedure)	FSN	us:P	gb:P		+
ci	Creation of shunt from ascending aorta to left pulmonary artery using interposition tube prosthesis	SYN	us:P	gb:P		+
Axiom						
Is a	Construction of shunt (procedure)					
Method	Distal anastomosis (qualifier value)					
Procedure site - Direct	Structure of left pulmonary artery (body structure)					
Method	Proximal anastomosis (qualifier value)					
Procedure site - Direct	Ascending aorta structure (body structure)					
Method	Surgical insertion - action (qualifier value)					
Procedure site - Indirect	Structure of left pulmonary artery (body structure)					
Direct device	Synthetic vascular graft (physical object)					
Method	Surgical insertion - action (qualifier value)					
Procedure site - Indirect	Ascending aorta structure (body structure)					
Direct device	Synthetic vascular graft (physical object)					

- Minor point: I would skip adding trivial word order variations as description. Per the Editorial Guide, *“Naming conventions should not be based on word order preferences (e.g. to facilitate search or display). Creating multiple word order variants for these purposes is outside the scope of the International Release of SNOMED CT.”* **Agree.**

Construction of bypass (procedure) - New Concept						
ci	Construction of bypass (procedure)	FSN	us:P	gb:P		+
ci	Construction of bypass	SYN	us:P	gb:P		+
ci	Bypass construction	SYN	us:A	gb:A		+
ci	Surgical construction of bypass	SYN	us:A	gb:A		+
CS	Surgical procedure to construct a channel carrying fluid around a part of a structure and back to the main stream.	DEF	us:P	gb:P		+

- Unless there is a reason behind the distinction, we should be consistent in FSNs and use “Construction of” instead of “Creation of”. **Agree.**

Additional issues to consider with the current hierarchy:



- I assume that Conduit anastomosis (qualifier value) and the 18 concepts modeled with it will be addressed. **Correct.**
- Has it been clarified what will happen to the following attributes and the concepts modeled with them? If not related with bypass/shunt procedures, they will remain the same. **A review of 78817002 | Construction of anastomosis (procedure) | hierarchy is planned.**
 - Direct anastomosis - action (qualifier value) (used 24 times)
 - End-to-end anastomosis - action (qualifier value) (used 11 times)
 - End-to-side anastomosis - action (qualifier value) (used 7 times)
 - Side-to-side anastomosis (qualifier value) (used 7 times)
 - Indirect anastomosis - action (qualifier value) (used 5 times)