

BN: Percutaneous transluminal angioplasty (PTA)

Informational briefing note for Community of Practice and member countries.

Status - Open for review and comment

Purpose

To provide information on the review and remodeling of the Angioplasty concepts and definitions recognized as DUPLICATE or AMBIGUOUS after analysis, review and agreement with clinicians and Editorial Advisory Group (EAG) members.

Background

The trigger for this review was a CRS request that came from the Netherlands pointing out that in the International release there are confusing terms mixing the notion of angioplasty as sometimes using a balloon catheter, sometimes not; sometimes using imaging guidance, sometimes not, and inconsistent naming and modeling as a result.

Having completed extensive analysis, review and discussion with the EAG, DICOM and expert clinicians from the Netherlands, agreement was reached to remove duplicate angioplasty concepts and rename and remodel others

Issues/problem statement

In SNOMED CT there are various different names and models for Angioplasty that result in the following issues for both translation and selection of appropriate concepts for recording in the EHR.

- Inconsistency in naming and modeling of interventional radiology specifically PTA; Percutaneous/Transluminal/Percutaneous transluminal
- Potentially high no. duplicates
- Synonyms confusing; Mixed-up synonyms
- Mix of devices, catheter vs balloon
- Imaging and contrast not modeled or mentioned in FSN

Examples:

Pulmonary artery:

425979008 Percutaneous transluminal balloon angioplasty of pulmonary artery (procedure)

425948009 Percutaneous angioplasty of pulmonary artery (procedure)

233214006 |Angioplasty of pulmonary artery (procedure)| **SYN: Balloon dilatation of pulmonary artery**

Subclavian artery:

431485005 Percutaneous transluminal angioplasty of subclavian artery using fluoroscopic guidance with contrast (procedure)

3261007 Angioplasty of subclavian artery (procedure) **SYN: Balloon angioplasty of subclavian artery**

418738003 Fluoroscopic angioplasty of subclavian artery (procedure)

175454003 Percutaneous angioplasty of subclavian artery (procedure)

Grouper concepts:

68457009 |Percutaneous transluminal balloon angioplasty (procedure)| **SYN: PCA - Percutaneous angioplasty; Percutaneous angioplasty**

433106006 |Percutaneous transluminal angioplasty using fluoroscopic guidance with contrast (procedure)|

5431005 |Percutaneous transluminal angioplasty (procedure)|

419806005 |Angioplasty using fluoroscopic guidance with contrast (procedure)|

446878003 |Transluminal angioplasty (procedure)|

Blood vessel/artery:

418285008 |Angioplasty of blood vessel (procedure)|

233258006 |Angioplasty of artery (procedure)| **SYN: Balloon angioplasty of artery; balloon dilatation of artery**

276861004 |Percutaneous balloon angioplasty of artery (procedure)

426674009 |Percutaneous transluminal balloon angioplasty of artery (procedure)|

175354004 |Percutaneous transluminal balloon angioplasty of aorta (procedure)|

233263005 |Angioplasty of aorta (procedure)| **SYN: Balloon angioplasty of aorta**

Proposed solution

Remove duplicate angioplasty concepts; rename and remodel others. Details of discussions and consultation can be found here and on this EAG meeting page: [2024-06-03 SNOMED Editorial Advisory Group Conference Call](#)

An FSN of: Percutaneous Transluminal angioplasty of X blood vessel using [imaging] guidance with contrast has been added to those concepts understood to be procedures carried out in this same way. Where balloon is noted in FSN then add corresponding device; where description says eg. balloon but

FSN does not, then remove the description and create a new concept for the variant concept.

Impact to Content

- Improved classification results with consistent naming pattern and removal of duplicate concepts under top-level concept:
 - 446878003 | Transluminal angioplasty of blood vessel (procedure)
- Inactivated duplicates and ambiguous concepts; Retain as per chronology all else being equal
 - 11 concepts with FSN “Angioplasty of X body structure” inactivated as Ambiguous
 - 9 concepts with FSN “Percutaneous angioplasty of X body structure” inactivated as Ambiguous
 - 16 concepts with FSN “Angioplasty of X body structure using fluoroscopic guidance” inactivated as Duplicate
 - 19 concepts with FSN “Percutaneous angioplasty of X body structure using fluoroscopic guidance” inactivated as Duplicate
- Inactivated synonyms and pointed to the appropriate replacements
- Created replacement concepts to include imaging modality variations
- Renamed and remodeled existing concepts to match template:
[https://confluence.ihtsdotools.org/display/SCTEMPLATES/Percutaneous+transluminal+angioplasty+of+blood+vessel+using+imaging+guidance+with+contrast+\(procedure\)+Ready+for+review](https://confluence.ihtsdotools.org/display/SCTEMPLATES/Percutaneous+transluminal+angioplasty+of+blood+vessel+using+imaging+guidance+with+contrast+(procedure)+Ready+for+review) ie. FSN of “Percutaneous Transluminal angioplasty of X blood vessel using [imaging] guidance with contrast” has been added to those concepts understood to be procedures carried out in this same way.
- Where balloon noted in FSN, added corresponding device; where description says eg. balloon but FSN does not, then removed the description and created a new concept for the variant concept.

Report of changes can be viewed here:

[*InactivatedConcepts_QIMHA1-171_20240906_123249_prod_mharry*](#)

Link to template:

<https://confluence.ihtsdotools.org/display/SCTEMPLATES/Percutaneous+transluminal+angioplasty+of+blood+vessel+using+imaging+guidance+with+contrast+%28procedure%29+Ready+for+review>

Next Steps

Publish the changes

Release date

November 1st, 2024

[...]

References here:

[Coronary angioplasty and stent insertion - How it's performed - NHS - https://stanfordhealthcare.org/medical-treatments/a/angioplasty.html](https://stanfordhealthcare.org/medical-treatments/a/angioplasty.html)

<https://www.ncbi.nlm.nih.gov/books/NBK565853/>

<https://uvahealth.com/services/aortic-artery-disease/atherectomy-angioplasty>

<https://www.youtube.com/watch?v=bzasYRhmOWg>

<https://www.heartandstroke.ca/heart-disease/treatments/surgery-and-other-procedures/atherectomy#:~:text=What%20is%20an%20atherectomy%3F,to%20keep%20the%20artery%20open.>

<https://my.clevelandclinic.org/health/treatments/22060-angioplasty> (defines it as balloon angioplasty)

<https://www.mayoclinic.org/tests-procedures/coronary-angioplasty/about/pac-20384761> (also defines it as balloon angioplasty for coronary arteries)

<https://www.webmd.com/heart-disease/what-to-know-nonsurgical-procedures-cad> ((defines it as balloon angioplasty)

<https://www.clinicalkey.com/#!/content/book/3-s2.0-B978070207524700080X?scrollTo=%23h0000302> (refers only to the use of a balloon catheter)

https://www.uptodate.com/contents/endovascular-intervention-for-the-treatment-of-stenosis-in-the-arteriovenous-access?search=angioplasty&source=search_result&selectedTitle=3~150&usage_type=default&display_rank=3#H1918434075 ("Angioplasty uses an intravascular balloon positioned within the stenosis to expand the region")

Approvals	Date	Name
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