

## Inactivation Scenarios

### Addendum to Concept Inactivation – Proposed Amendments

This document provides a small number of worked examples for each inactivation reason incorporating the proposed changes as described in the document “Concept Inactivation – Proposed Amendments”.

The section numbering matches the section numbering in the main document.

## 2. Duplicate:

**Example 1 – simple duplicate with identical FSNs:**

*195705000 |Acute upper respiratory infection (disorder)|*  
*SAME\_AS 54398005 |Acute upper respiratory infection (disorder)|*

**Example 2 – duplicate with change of word order:**

*219078008 |Adverse reaction to typhoid vaccine (disorder)|*  
*SAME\_AS 293122006 |Typhoid vaccine adverse reaction|*

**FSN was then updated due to change in editorial policy:**

*293122006 |Adverse reaction to component of vaccine product containing Salmonella enterica subspecies enterica serovar Typhi antigen (disorder)|*

**Example 3 – duplicate with change of semantic tag:**

*281026004 |Husband alcoholic (finding)|*  
*SAME\_AS - 878802007 |Alcoholic husband (situation)|*

## 3. Ambiguous Concept

**Example 1 – an incorrect inactivation with correct solution:**

*149938008 |Excision of vulva &/or perineum (procedure)|*  
**POSSIBLY\_EQUIVALENT\_TO - 287968006 |Excision vulva and/or perineum (procedure)|**  
**POSSIBLY\_EQUIVALENT\_TO - 36901005 |Vulvectomy (procedure)|**

**Correct solution:** Should have been inactivated as a duplicate followed by disambiguation for all 3 options:

Resolve duplicate – both concepts have the same date so we can inactivate either concept:

149938008 |*Excision of vulva &/or perineum (procedure)*| (2002)

SAME\_AS

287968006 |*Excision vulva and/or perineum (procedure)*| (2002)

Resolve ambiguity – creation of new concept to provide full semantic equivalence:

287968006 |*Excision vulva and/or perineum (procedure)*|

POSSIBLY\_EQUIVALENT\_TO 36901005 |*Vulvectomy (procedure)*|

POSSIBLY\_EQUIVALENT\_TO 120198005 |*Perineum excision (procedure)*|

POSSIBLY\_EQUIVALENT\_TO new concept: |*Excision of vulva and perinium (procedure)*|

**Annotation:** User chooses appropriate “POSSIBLY\_EQUIVALENT\_TO” target concept.

If required resolve the AND – both concepts MUST be included in the patient notes:

*New concept |Excision of vulva and perinium (procedure)|*

EQUIVALENT\_TO 36901005 |*Vulvectomy (procedure)*|

EQUIVALENT\_TO 120198005 |*Perineum excision (procedure)*|

**Annotation:** Both “EQUIVALENT\_TO” concepts must be included in the patients notes to ensure semantic equivalence.

Finding suitable examples where an ambiguous concept exists but disambiguation results in only a single clinically meaningful concept has been a challenge. Many of the historical erroneous inactivation’s have been either an incomplete set of matching “POSSIBLY\_EQUIVALENT\_TO” concepts or ambiguity arising from an underlying classification concept.

**Example 2 - a single replaced by, incorrect example with correct solution:**

199375007 |High head at term - delivered (finding)|

POSSIBLY\_EQUIVALENT\_TO - 199373000 |*High head at term (finding)*|

**Correct solution:**

199375007 |High head at term - delivered (finding)|

REPLACED\_BY - 199373000 |*High head at term (finding)*|

**Annotation:** This is a classification concept where the “delivered” aspect indicates that the baby was delivered without an issue therefore the remaining clinically relevant aspect relates to the “high head at term”.

**Example 3 – suspected incorrect inactivation with correct solution:**

*166041009 Cow RAST test (procedure)*

**POSSIBLY\_EQUIVALENT\_TO 392408006 Cow dander specific immunoglobulin E antibody measurement (procedure)**

**Correct solution:**

*166041009 Cow RAST test (procedure)*

**REPLACED\_BY 392408006 Cow dander specific immunoglobulin E antibody measurement (procedure)**

*(could theoretically be judged ambiguous as to whether original code also covered RAST testing for antibodies to e.g., dietary beef or beef products, but this is clinically highly unlikely)*

*See below additional examples of incorrect inactivation with a current single “POSSIBLY\_EQUIVALENT\_TO target concept:*

**Example 1**

*41246003 Poisoning by anti-infective (disorder)*

**POSSIBLY\_EQUIVALENT\_TO 419639006 Poisoning caused by anti-infective agent (disorder)**

**Correct solution:**

*41246003 Poisoning by anti-infective (disorder)*

**SAME\_AS 419639006 Poisoning caused by anti-infective agent (disorder)**

**Example 2**

*102454003 Foreign body in trachea, bronchus and lung (disorder)*

**POSSIBLY\_EQUIVALENT\_TO 278696005 Aspiration of foreign body into lower respiratory tract (disorder)**

**Correct solution:**

*102454003 Foreign body in trachea, bronchus and lung (disorder)*

**POSSIBLY\_EQUIVALENT\_TO 54421009 Foreign body in trachea (disorder)**

**POSSIBLY\_EQUIVALENT\_TO 282461001 Foreign body in bronchus (disorder)**

**POSSIBLY\_EQUIVALENT\_TO 24385003 Foreign body in lung (disorder)**

**Note:** *102454003 Foreign body in trachea, bronchus and lung (disorder)* is a classification concept and from the subtypes confirms that the intention was that this is a grouper with each of the alternatives as subtypes e.g., this is a logical OR rather than an AND.

## 4. Non-Conformance to Editorial Policy

### Example 1 – use of the new “ALTERNATIVE” historical association

[349404008 |Rusch 30mL balloon 22Ch DT83002 2-way PTFE coated female length urethral Foley catheter \(physical object\)|](#)

REPLACED\_BY - [20568009 |Urinary catheter, device \(physical object\)|](#)

The real reason for inactivation was a change to editorial policy in which the detailed and often branded physical objects were agreed to be out of scope. Under the new proposals the following would be the appropriate inactivation:

Inactivation reason: “Non-Compliance to Editorial Policy”

[349404008 |Rusch 30mL balloon 22Ch DT83002 2-way PTFE coated female length urethral Foley catheter \(physical object\)|](#)

ALTERNATIVE - [34759008 |Urethral catheter, device \(physical object\)|](#)

**Annotation:** Editorial Policy to remove all branded urinary devices, an alternative concept is offered for consideration.

{[Link to Editorial Policy](#)}

### Example 2 – use of the new “ALTERNATIVE” historical association:

Concept originally inactivated as “Erroneous” in order to provide a historical association but should have been inactivated as “Non-Conformance to Editorial Policy.”

[280722001 |Soft tissue mass of pelvis \(morphologic abnormality\)|](#)

REPLACED\_BY - [278002000 |Soft tissue mass \(morphologic abnormality\)|](#)

*Updated solution:*

[280722001 |Soft tissue mass of pelvis \(morphologic abnormality\)|](#)

ALTERNATIVE - [278002000 |Soft tissue mass \(morphologic abnormality\)|](#)

**Annotation:** Editorial policy - agreement to remove conflation of morphology with specific anatomy

{[Link to Editorial Policy](#)}

## 5. Erroneous Concept

### Example 1 – correct inactivation reason of “Erroneous”

[262962009 |Rectus muscle sprain \(disorder\)|](#)

REPLACED\_BY - [871692005 |Strain of rectus abdominus muscle \(disorder\)|](#)

**Annotation:** Sprain applies to the tendon and strain applies to the muscle

**Example 2** - incorrect inactivation reason of “**Outdated**”:

[280722001](#) |*Soft tissue mass of pelvis (morphologic abnormality)*|  
**REPLACED\_BY** - [278002000](#) |*Soft tissue mass (morphologic abnormality)*|

The reason for inactivation was a change to editorial policy where it was decided to remove the conflation of anatomy with the morphology of the soft tissue mass. Inactivation reason should have been “Non-Conformance to editorial policy” but there was no option to provide a replacement – See Outdated Concept Example 2 above

**Example 3** – Inactivated as erroneous due to FSN construction when “**Duplicate**” would have been more appropriate.

[389816006](#) |*Hip DXA scan (procedure)*|  
**REPLACED\_BY** - [429529009](#) |*Dual energy X-ray absorptiometry of hip (procedure)*|

DXA, DEXA, and Dual energy X-ray absorptiometry all have the same meaning and so inactivation and so an inactivation of “**Duplicate**” would have been more appropriate.

[389816006](#) |*Hip DXA scan (procedure)*|  
**SAME\_AS** - [429529009](#) |*Dual energy X-ray absorptiometry of hip (procedure)*|

## 6. Outdated Concept

### Example 1

**Current Process** – concept inactivation of “**Ambiguous**” used as it provided the complete set of replacement concepts:

[116403009](#) |*Centers for Disease Control and Prevention group EF-4 (organism)*|  
**POSSIBLY\_EQUIVALENT\_TO** - [442202005](#) |*Neisseria animaloris (organism)*|  
**POSSIBLY\_EQUIVALENT\_TO** - [449121005](#) |*Neisseria zoodegmatis (organism)*|

**Proposed updated process:** - concept inactivated as “**Outdated Concept**”:

[116403009](#) |*Centers for Disease Control and Prevention group EF-4 (organism)*|  
**POSSIBLY\_REPLACED\_BY** - [442202005](#) |*Neisseria animaloris (organism)*|  
**POSSIBLY\_REPLACED\_BY**- [449121005](#) |*Neisseria zoodegmatis (organism)*|

**Annotation:** The CDC group name is outdated and replaced by one of the alternatives  
*{Link to Editorial Guidance – Inactivation of Complex or Group organism concepts}*

### Example 2

**Current Process** – **WAS\_A** historical association provided:

[236391006](#) |*Bright's disease (disorder)*|  
**WAS\_A** – [61503006](#) |*Acute nephritis (disorder)*|

*Proposed updated process:*

[236391006 |Bright's disease \(disorder\)|](#)  
REPLACED\_BY - [52845002 |Nephritis \(disorder\)|](#)

**Annotation:** Bright's disease (19<sup>th</sup> Century) described the oedema and albuminuria that we only now understand to be related specifically to kidney disease. At that time, however, it could be *any* disease: it was essentially originally a syndrome defined only and entirely by its presenting symptomatology. 'Nephritis' is considered to be the most appropriate replacement of the original symptom-based definition with a modern understanding of the underlying pathological process.

## 7. Concept Moved Elsewhere

Please note that as a group, while we all agree that the current inactivation mechanism for "Concept Moved Elsewhere" is not fit for purpose, it is not clear whether the proposed solution below is either – We would appreciate your comments.

### Example 1:

*Current process:*

[152756009 |GPC claim - registration examination signed \(finding\)|](#)  
MOVED\_TO - [370137002 |Extension Namespace {1000000} \(namespace concept\)|](#)

*Proposed updated process:*

[152756009 |GPC claim - registration examination signed \(finding\)|](#)  
DONATED\_TO  
- [370137002 |Extension Namespace {1000000} \(namespace concept\)| Preferred Term](#)  
- [UK, NHS Digital](#)  
- [999000011000000103 |SNOMED CT United Kingdom clinical extension module \(core metadata concept\)|](#)

**ALTERNATIVE:** 'No suitable alternative exists'

**Annotation:** This concept is specific to the UK General Practice patient registration process

### Example 2:

*Current process:*

[162782003 |On examination - edema of feet \(finding\)|](#)  
MOVED\_TO - [370137002 |Extension Namespace {1000000} \(namespace concept\)|](#)

*Proposed updated process:*

[162782003 |On examination - edema of feet \(finding\)|](#)  
DONATED\_TO

- 370137002 |*Extension Namespace {1000000} (namespace concept)| Preferred Term UK, NHS Digital*
- 999000011000000103 |*SNOMED CT United Kingdom clinical extension module (core metadata concept)*

ALTERNATIVE: 102576009 |*Edema of foot (finding)*|

**Annotation:** Although the change resulted from an editorial policy stating that the pre-coordinated pattern of O/E & C/O content was not permitted, this originated from the UK and they requested it be returned to them.  
 {*Link to Editorial Policy PCP-48*}

## 8. Meaning Unknown

**Example 1 – inactivated as “Erroneous” but more correctly in context of human anatomy should have been “Meaning Unknown”**

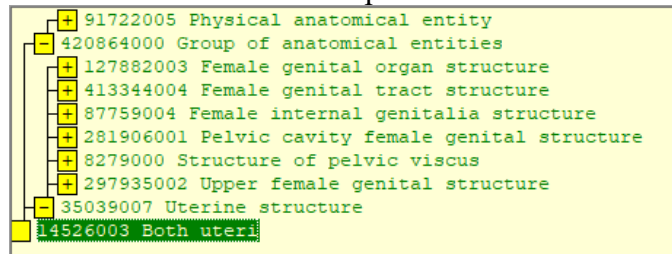
*14526003 Both uteri (body structure)*

REPLACED\_BY *35039007 Uterine structure (body structure)*

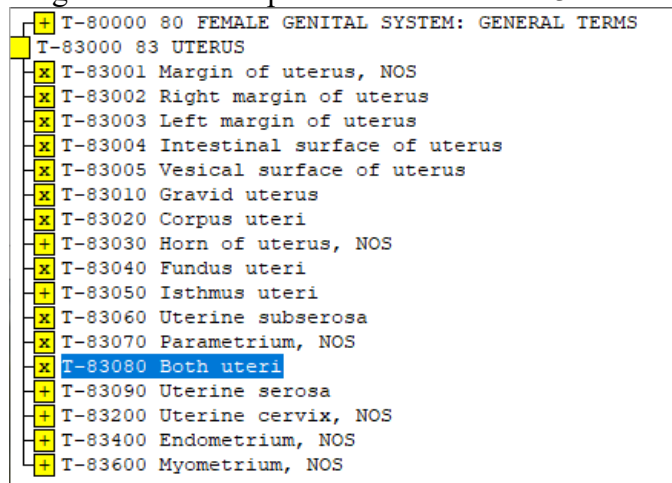
*History of concept:*

Originally inherited from SNOMED RT T-83080:

Pre-inactivation taxonomic position in SNOMED:



Original taxonomic position in SNOMED 3



**Annotation:** Should originally have been moved to the veterinary extension since it started life as a veterinary term used for mammals with two uteruses, including pigs, dogs, rabbits and cats. But by 2008 it had become detached from that original meaning and instead more fully integrated within a largely human-only anatomical model, where it has no meaning.

## 9. Classification concept

### Example 1 – inactivation using Limited/WAS\_A

*187895001 |Malignant neoplasm of upper respiratory tract, part unspecified (disorder)|  
WAS\_A - 363346000 |Malignant neoplastic disease (disorder)|*

*Inactivation using proposed new reason “Classification Concept”:*

*187895001 |Malignant neoplasm of upper respiratory tract, part unspecified (disorder)|  
REPLACED\_BY - 449066004 |Malignant neoplasm of upper respiratory tract (disorder)|*

**Annotation:** Inactivation of “Unspecified” classification concept  
Required Single “REPLACED\_BY” historical association to the concept  
without the “part unspecified”  
{[Link to Editorial Policy](#)}

### Example 2 – inactivation reason of “Classification Concept” that require multiple POSSIBLY\_REPLACED\_BY historical associations.

*189956009 |[M]Granular cell tumor or alveolar soft part sarcoma NOS (morphologic abnormality)|  
POSSIBLY\_REPLACED\_BY - 12169001 |Granular cell tumor (morphologic abnormality)|  
POSSIBLY\_REPLACED\_BY - 88195001 |Alveolar soft part sarcoma (morphologic abnormality)|*

**Annotation:** Inactivation of “Not otherwise specified” classification concept  
Required 2 “POSSIBLY\_REPLACED\_BY” historical associations due to the  
“OR” in the FSN  
{[Link to Editorial Policy](#)}