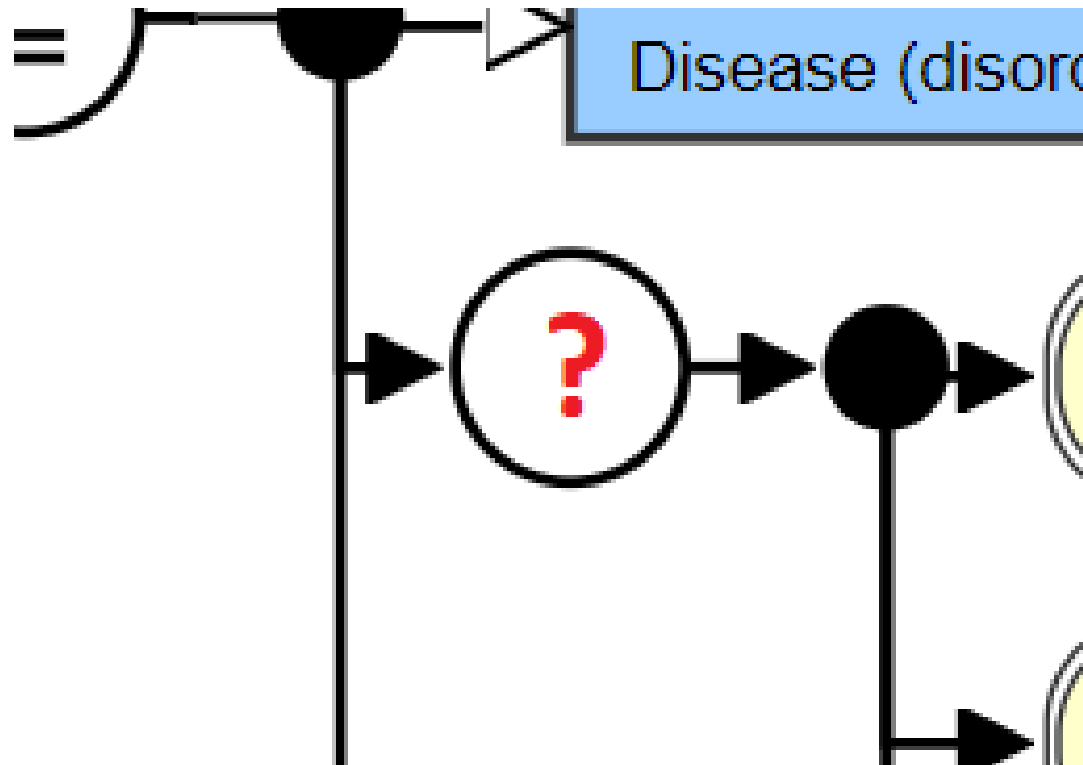


Making Role Groups Explicit



[Complete document](#)

Basic Assumptions

- Role groups are not just syntactic features they have clear meanings, just as any other SNOMED relation
- OWL requires them to be modelled as object properties with description logic semantics
- Question
 - Which is/are the explicit meaning(s) of the role group relation?
 - Can it be derived from current modelling patterns?
- Method (work in progress):
 - Inspection of frequent representational patterns
 - Analysis of examples
 - Interpreting role groups

	Pattern	Count		Pattern	Count		Pattern	Count
1	Diso ass_morp MoAb Diso fin_site BoSt	40297	10	Proc dir_subs Subs Proc method__ QuVa Proc pro_sind BoSt	2226	18	Diso ass_morp MoAb Diso fin_site BoSt Diso occurren QuVa	1555
2	Proc method__ QuVa Proc pro_sidi BoSt	18539	11	Proc method__ QuVa Proc pro_sidi BoSt Proc usi_subs Subs	2168	19	Situ ass_find Diso Situ fin_cont QuVa Situ sub_reco Pers Situ tem_cont QuVa	1502
3	Diso ass_morp MoAb Diso fin_site BoSt Diso occurren QuVa Diso pat_proc QuVa	9167	12	Find has_intel QuVa Find interpre Proc	2112	20	Find cau_agen Subs Find has_real QuVa	1459
4	Find has_intel QuVa Find interpre ObEn	5681	13	Situ ass_proc Proc Situ pro_cont QuVa Situ sub_reco Pers Situ tem_cont QuVa	2087	21	Find ass_morp MoAb Find fin_site BoSt	1430
5	Proc dir_morp MoAb Proc method__ QuVa Proc pro_sidi BoSt	4307	14	Diso has_intel QuVa Diso interpre Proc	2076	22	Proc dir_subs Subs Proc method__ QuVa	1364
6	CIDr has_boss Subs CIDr has_prai Subs CIDr has_psdu UnOf CIDr has_psdv QuVa CIDr has_psnu QuVa CIDr has_psnv QuVa	4129	15	Diso ass_morp MoAb Diso fin_site BoSt Diso pat_proc QuVa	1979	23	Diso has_intel QuVa Diso interpre ObEn	1336
7	Proc method__ QuVa Proc pro_sidi BoSt Proc usi_devi PhOb	2799	16	Diso cau_agen Orga Diso pat_proc QuVa	1948	24	Proc has_intel QuVa Proc method__ QuVa Proc pro_sidi BoSt	1321
8	Proc dir_devi PhOb Proc method__ QuVa Proc pro_sind BoSt	2688	17	Proc method__ QuVa Proc pro_site BoSt	1743	25	CIDr has_boss Subs CIDr has_csdu QuVa CIDr has_csdv QuVa CIDr has_csnu QuVa CIDr has_csnv QuVa CIDr has_prai Subs	1244
9	Diso ass_morp MoAb Diso cau_agen Orga Diso fin_site BoSt Diso pat_proc QuVa	2236						

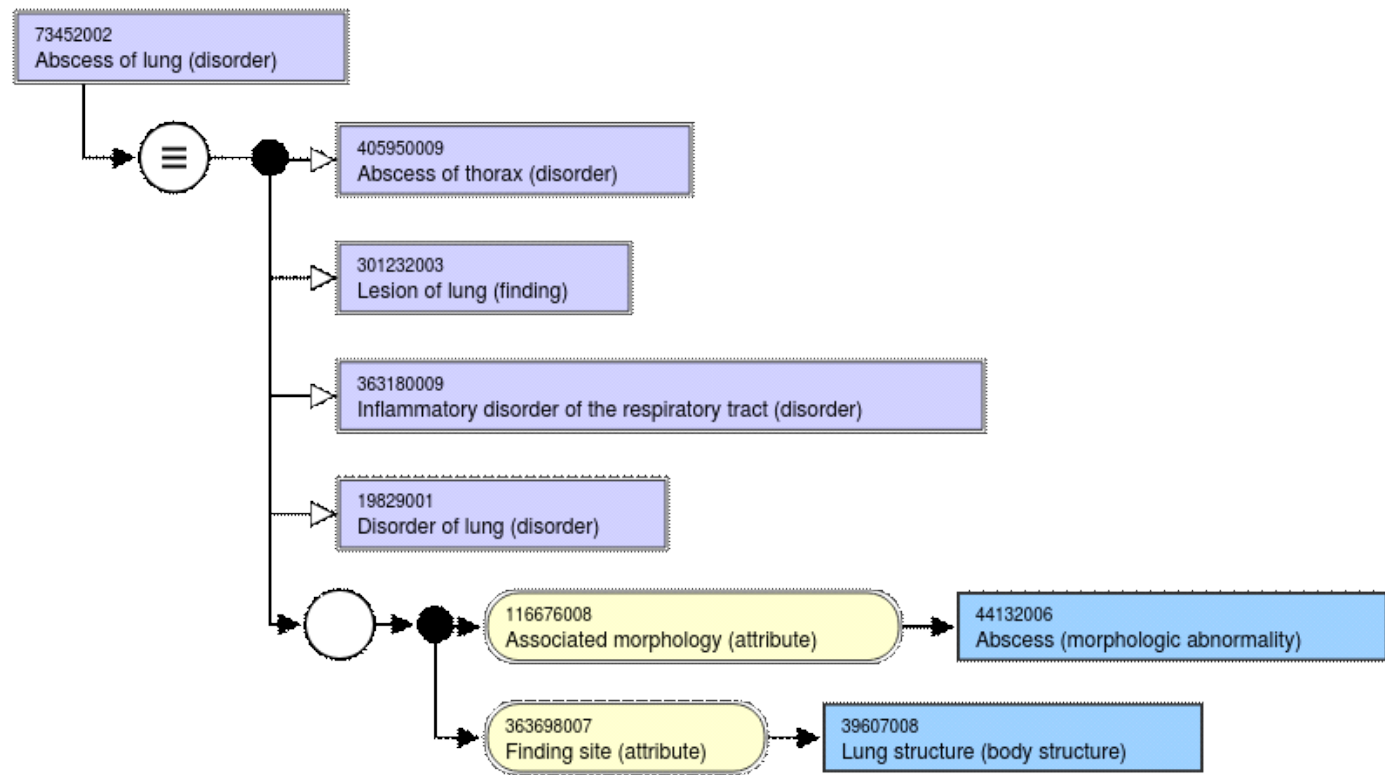
[→ complete table](#)

Pattern 1

Diso|ass_morp|MoAb
Diso|fin_site|BoSt

Occurrence: 40297

Example



RG
Interpretation

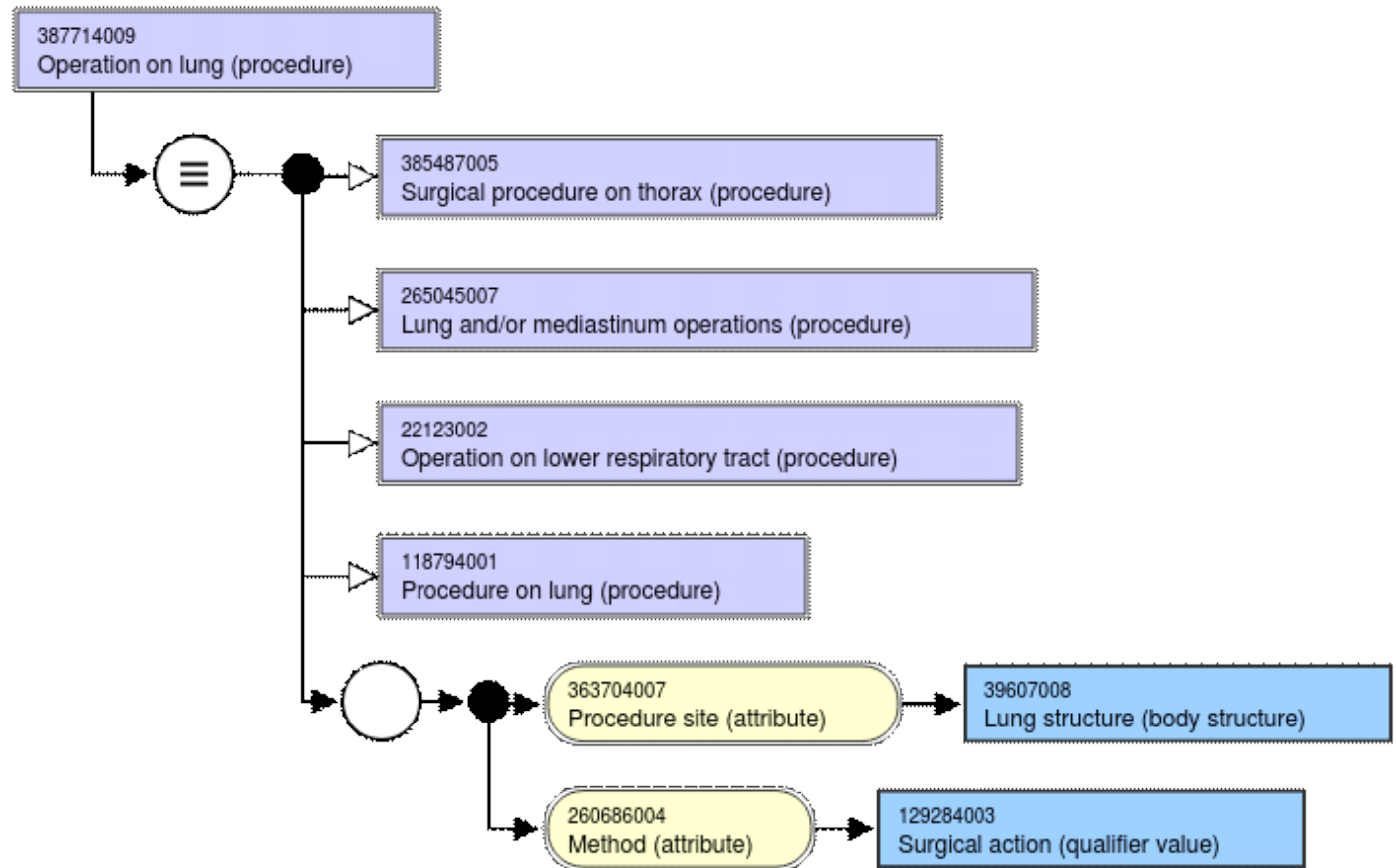
includes

Pattern 2

Proc|method__|QuVa
Proc|pro_sidi|BoSt

Occurrence: 18539

Example

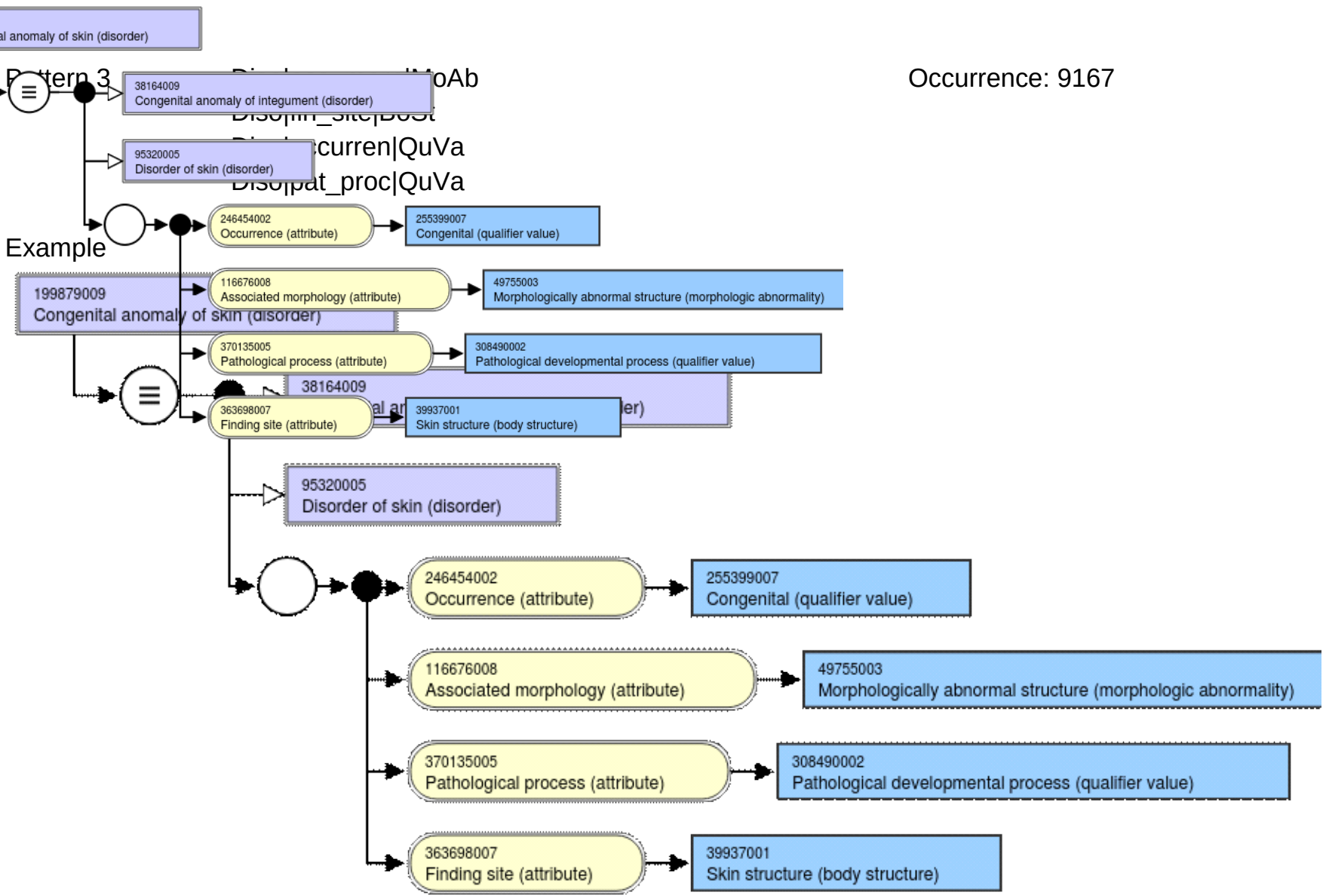


RG
Interpretation

Includes

Occurrence: 9167

Example



RG
Interpretation

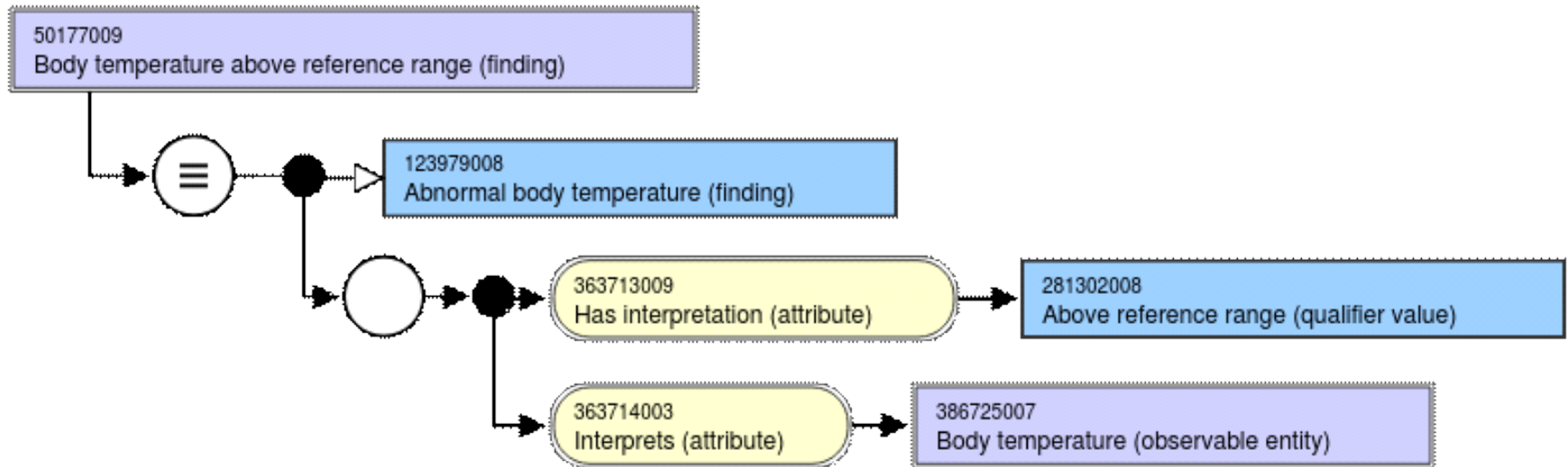
Includes

Pattern 4

Find|has_inte|QuVa
Find|interpre|ObEn

Occurrence: 5681

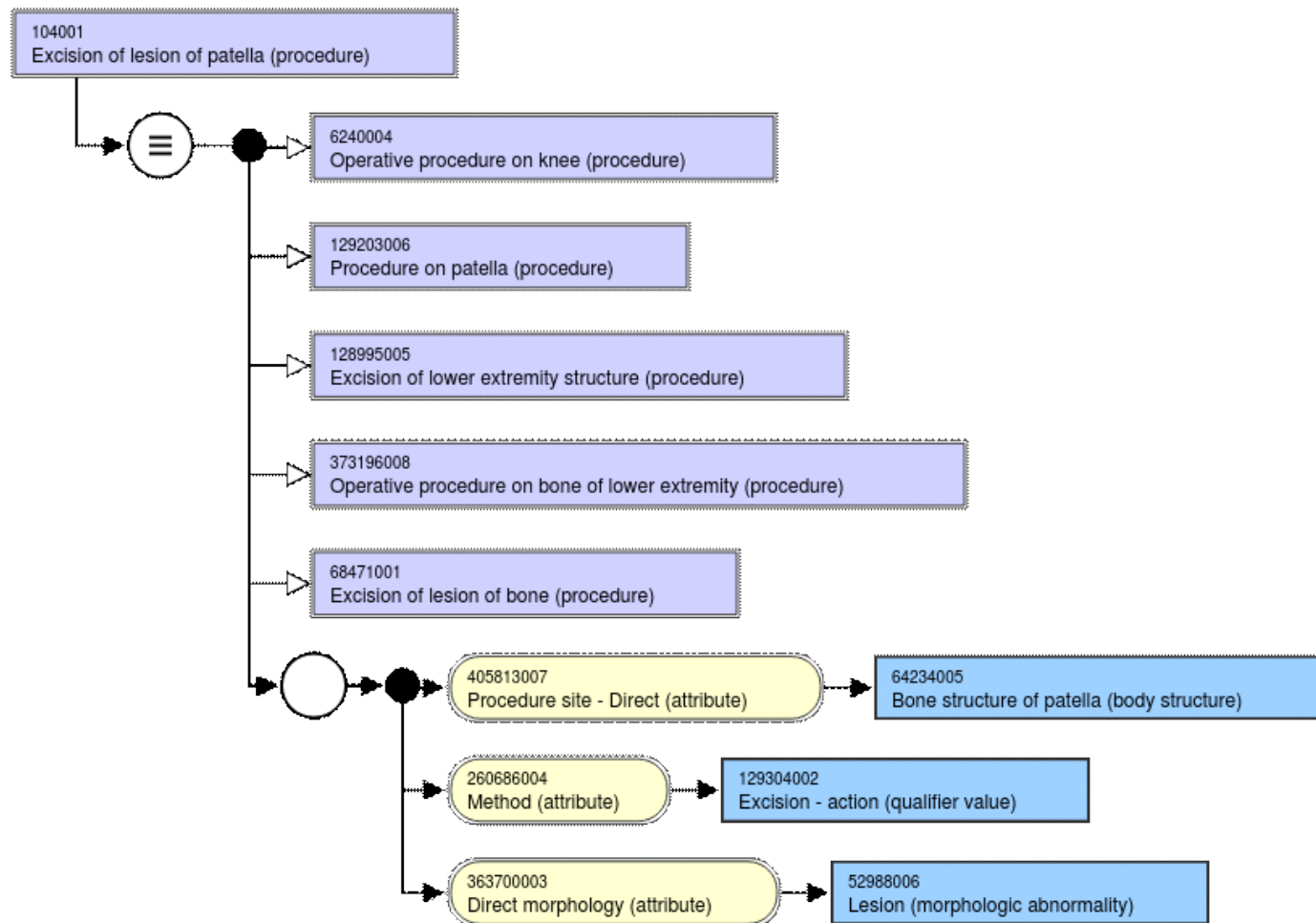
Example



RG
Interpretation

(?)

Example

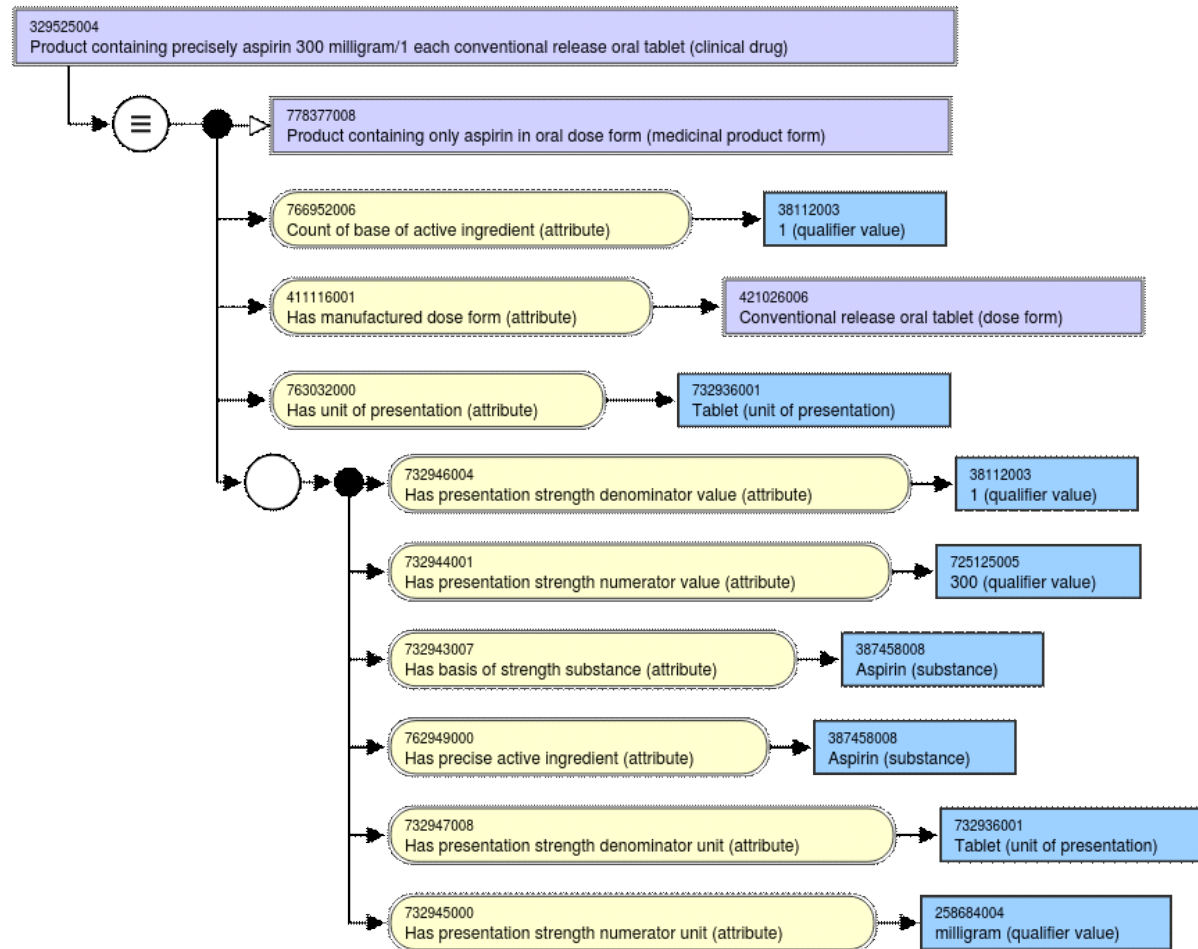


Pattern 6

CIDr|has_boss|Subs
 CIDr|has_prai|Subs
 CIDr|has_psdU|UnOf
 CIDr|has_psdV|QuVa
 CIDr|has_psnU|QuVa
 CIDr|has_psnV|QuVa

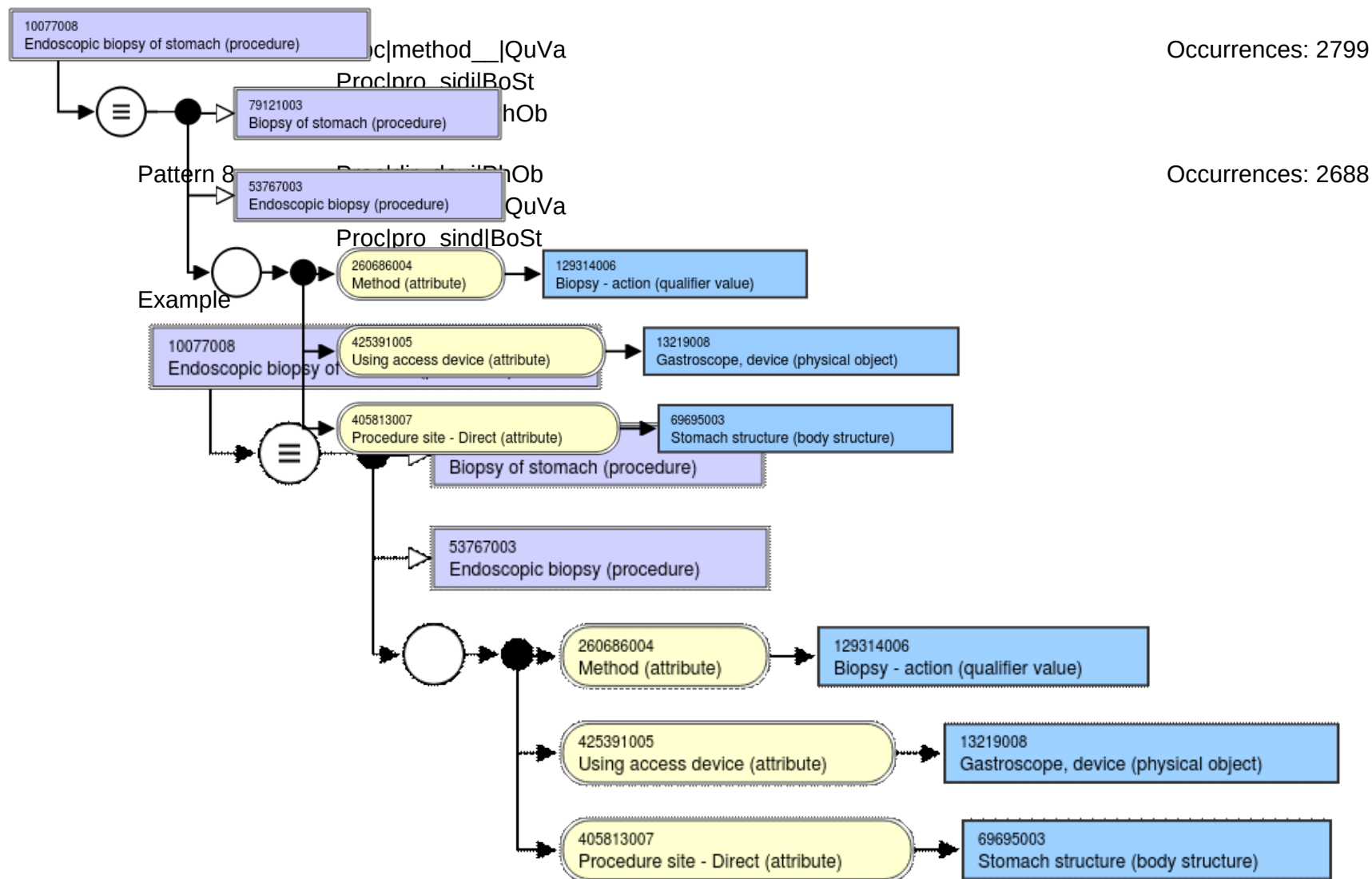
Occurrence: 4129

Example



RG
 Interpretation

Includes



RG
Interpretation

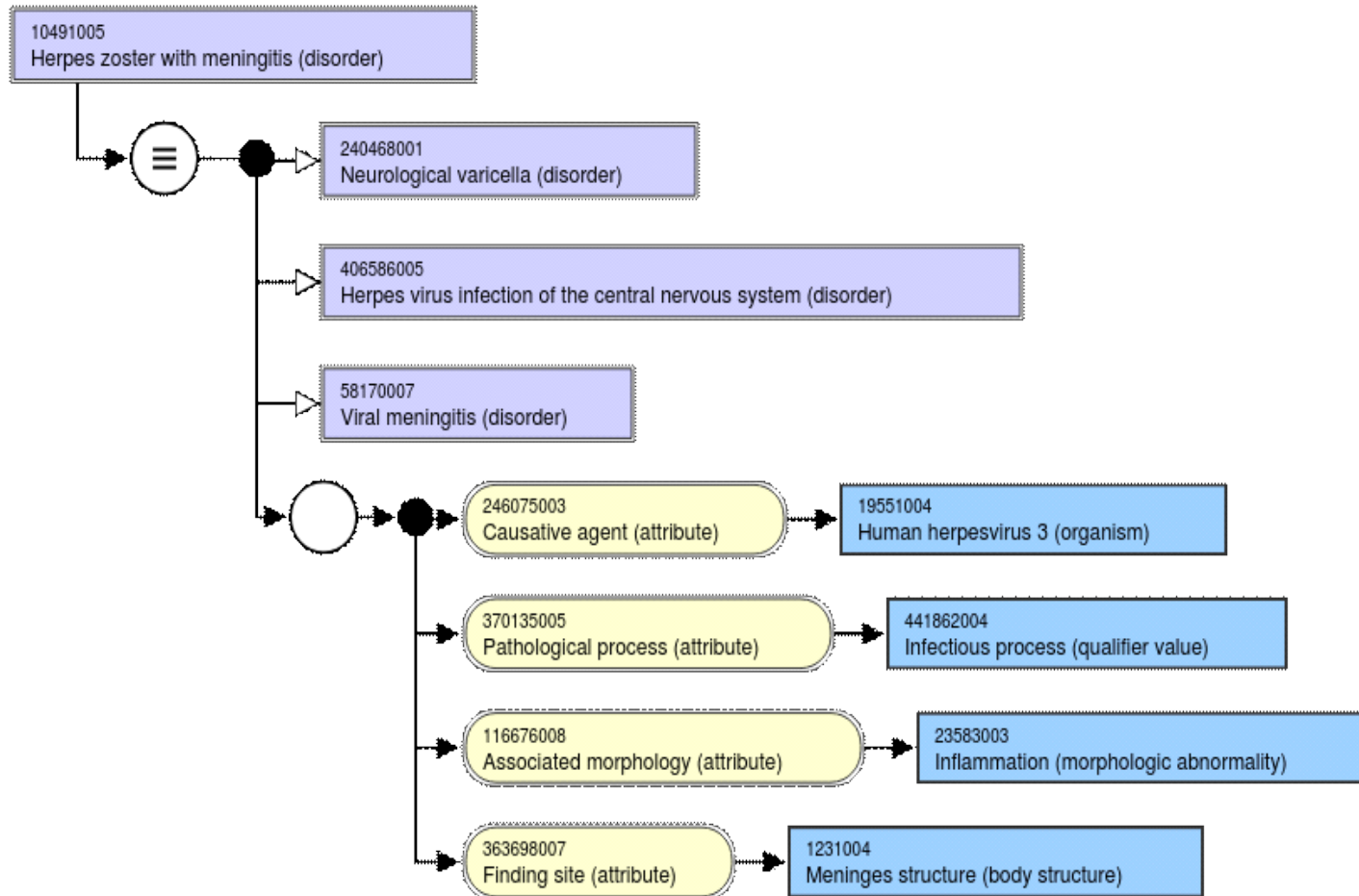
Includes

Pattern 9

Diso|ass_morp|MoAb
Diso|cau_agen|Orga
Diso|fin_site|BoSt
Diso|pat_proc|QuVa

Occurrences: 2236

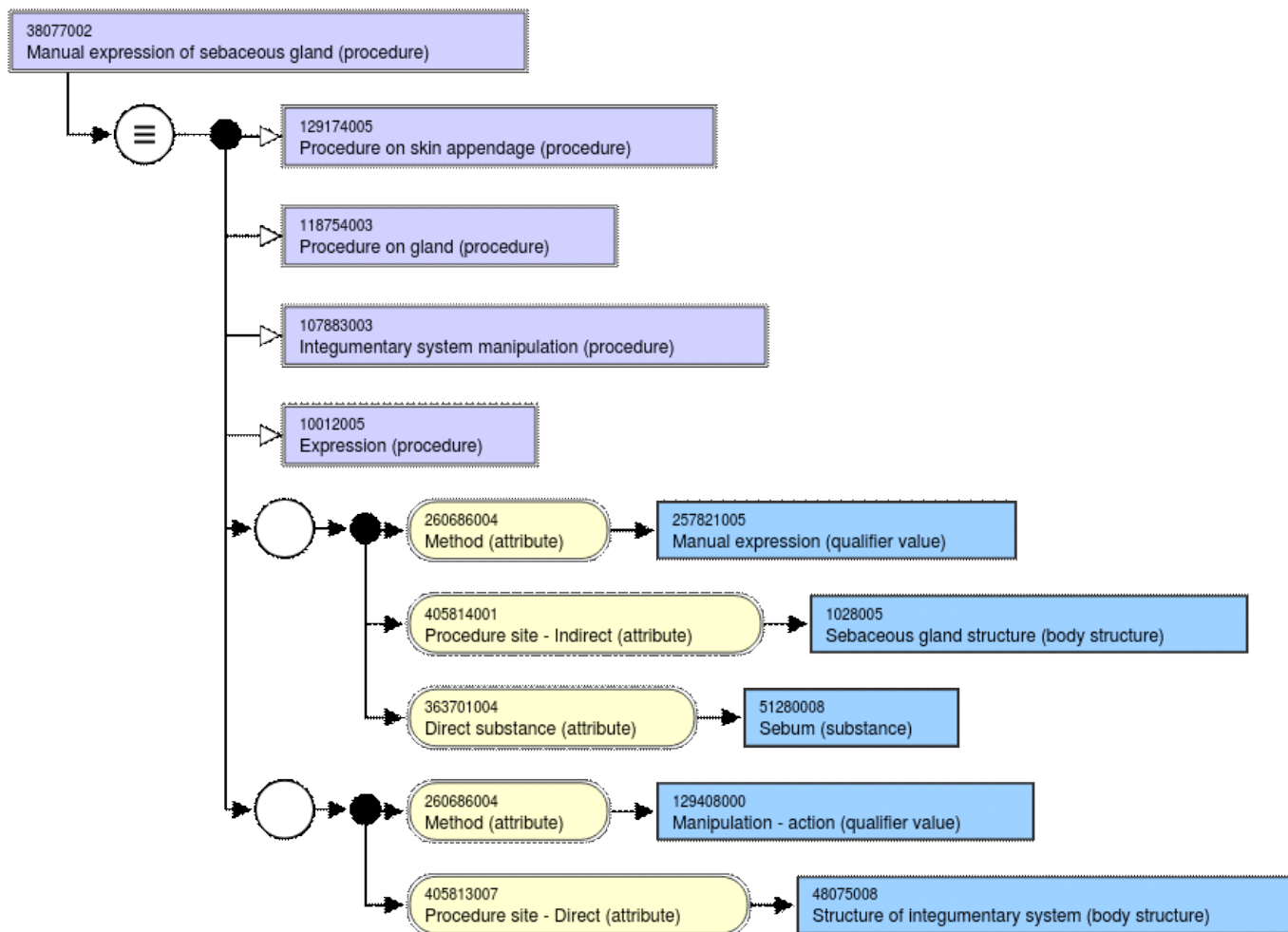
Example



RG
Interpretation

Includes

Example

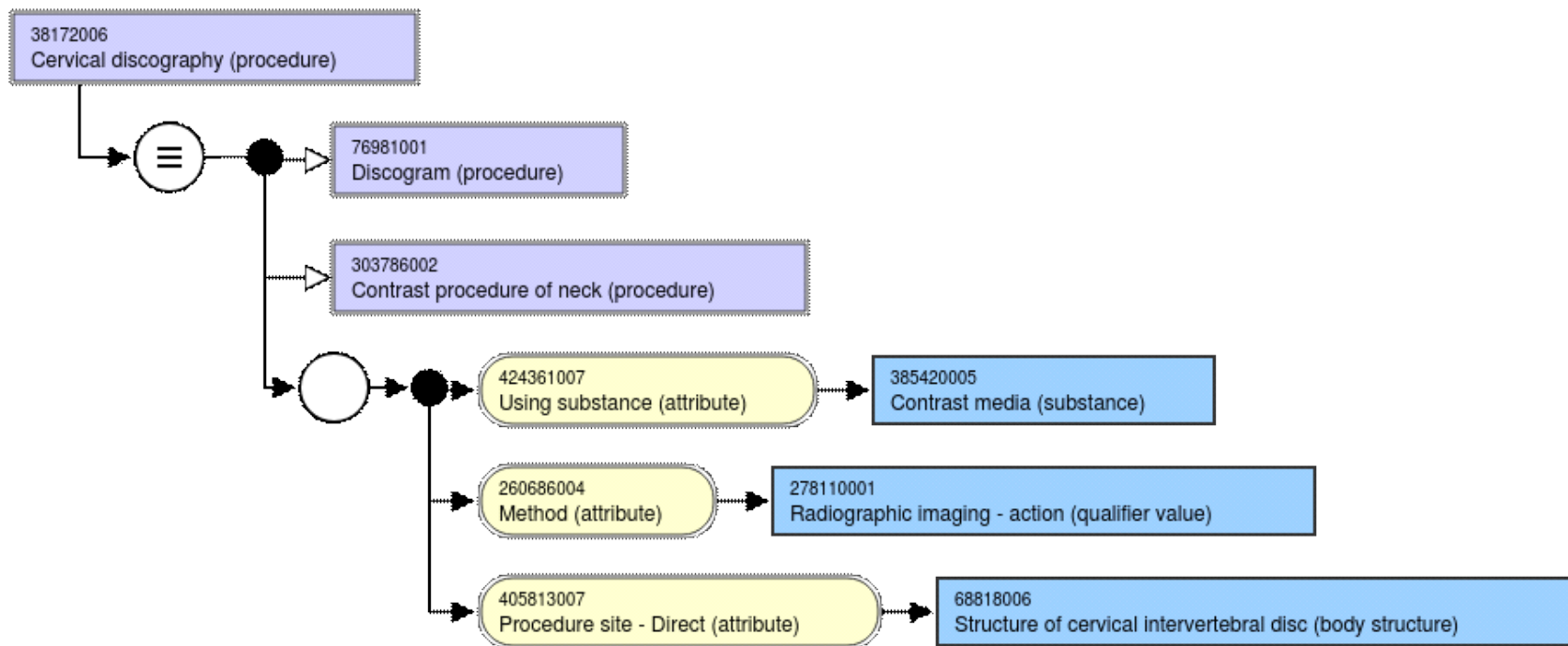


Pattern 11

Proc|method__|QuVa
Proc|pro_sidi|BoSt
Proc|usi_subs|Subs

Occurrences: 2168

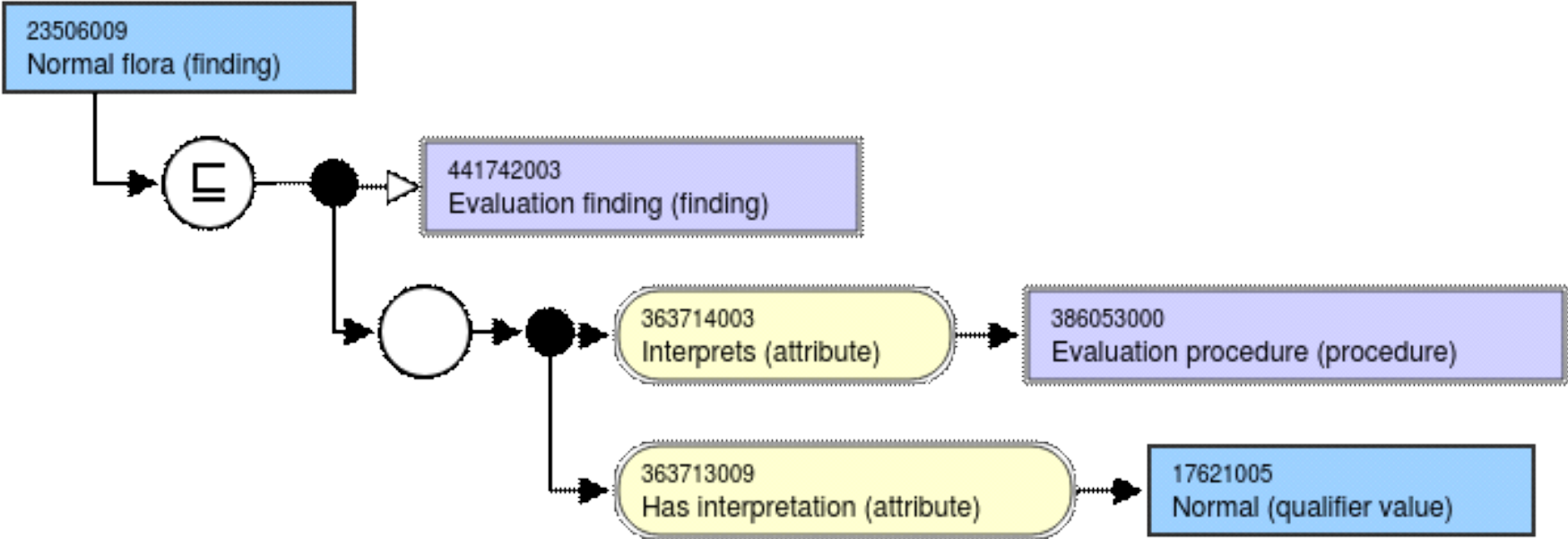
Example



RG
Interpretation

Includes

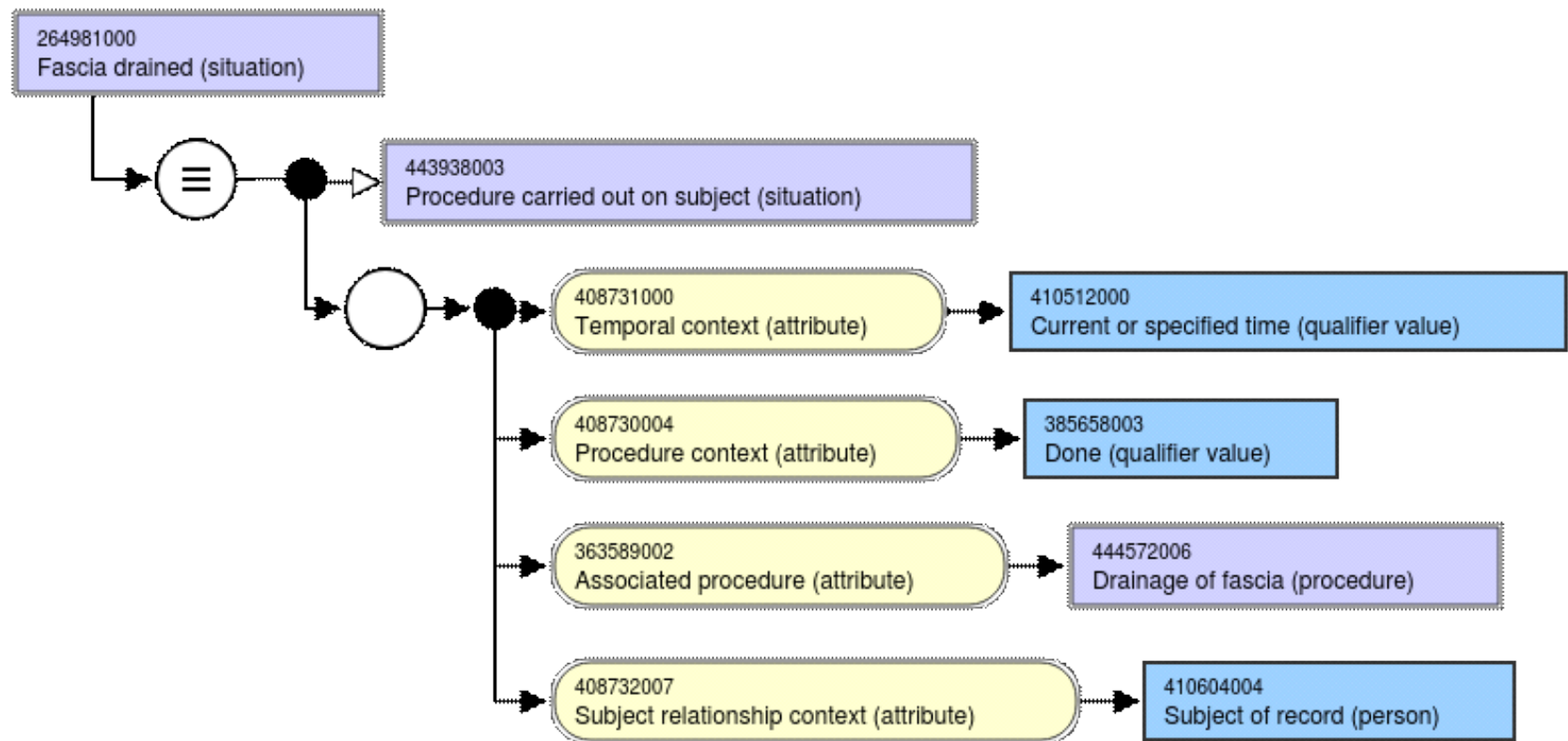
Example



RG
Interpretation

?

Example

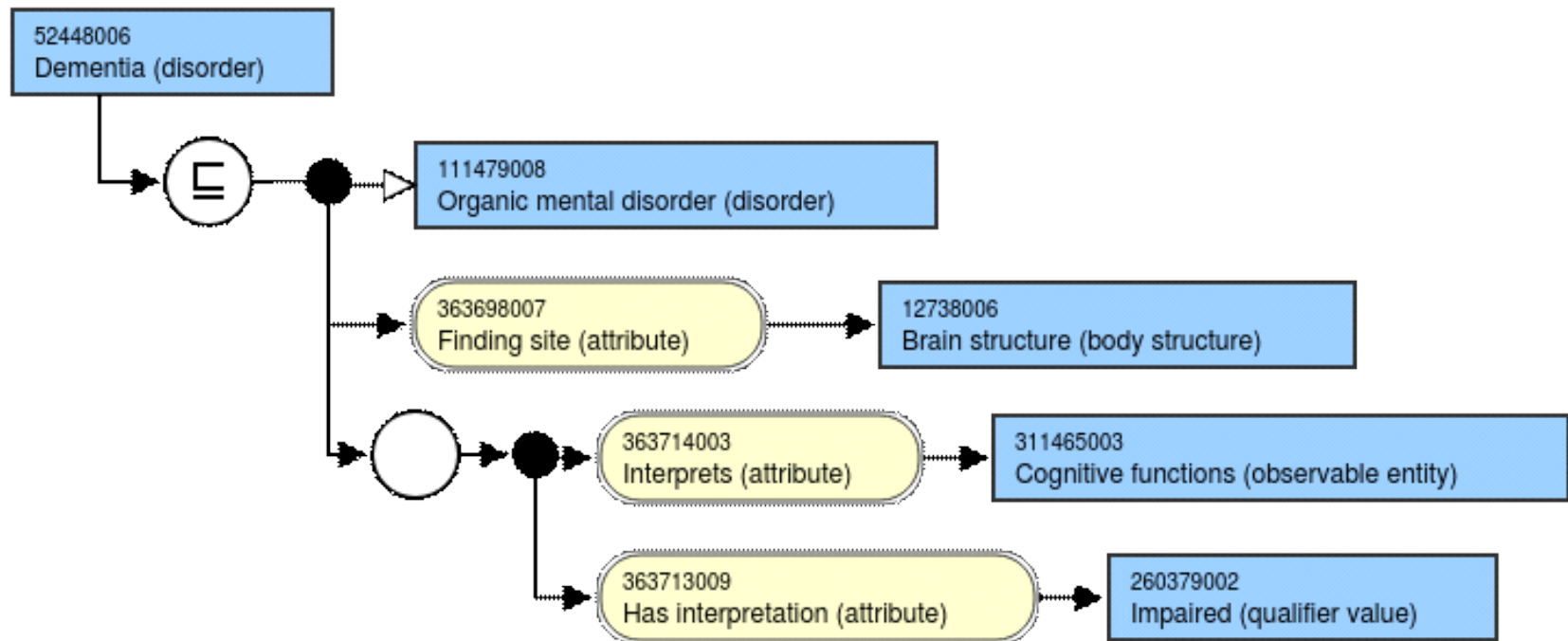


Pattern 14

Situ|ass_proc|Proc
Situ|pro_cont|QuVa
Situ|sub_reco|Pers
Situ|tem_cont|QuVa

Occurrences: 2112

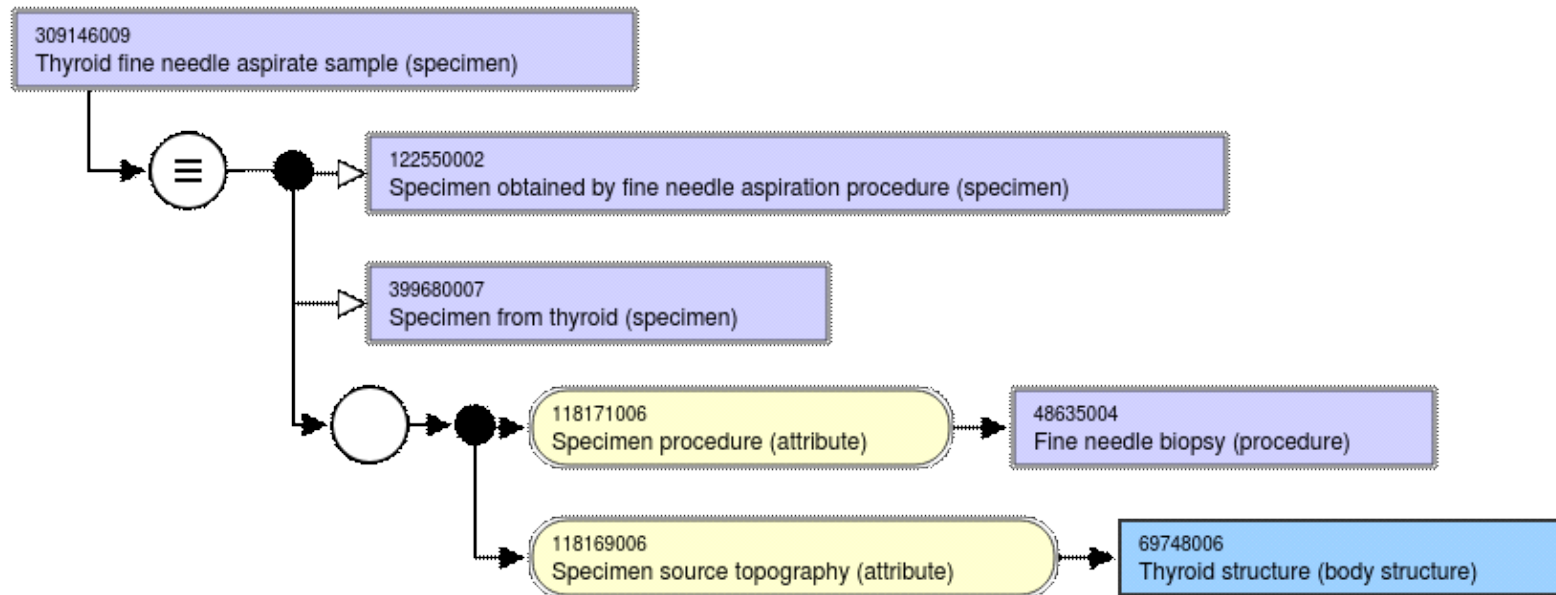
Example



RG
Interpretation

includes

Example

RG
Interpretation**includes**

Comment

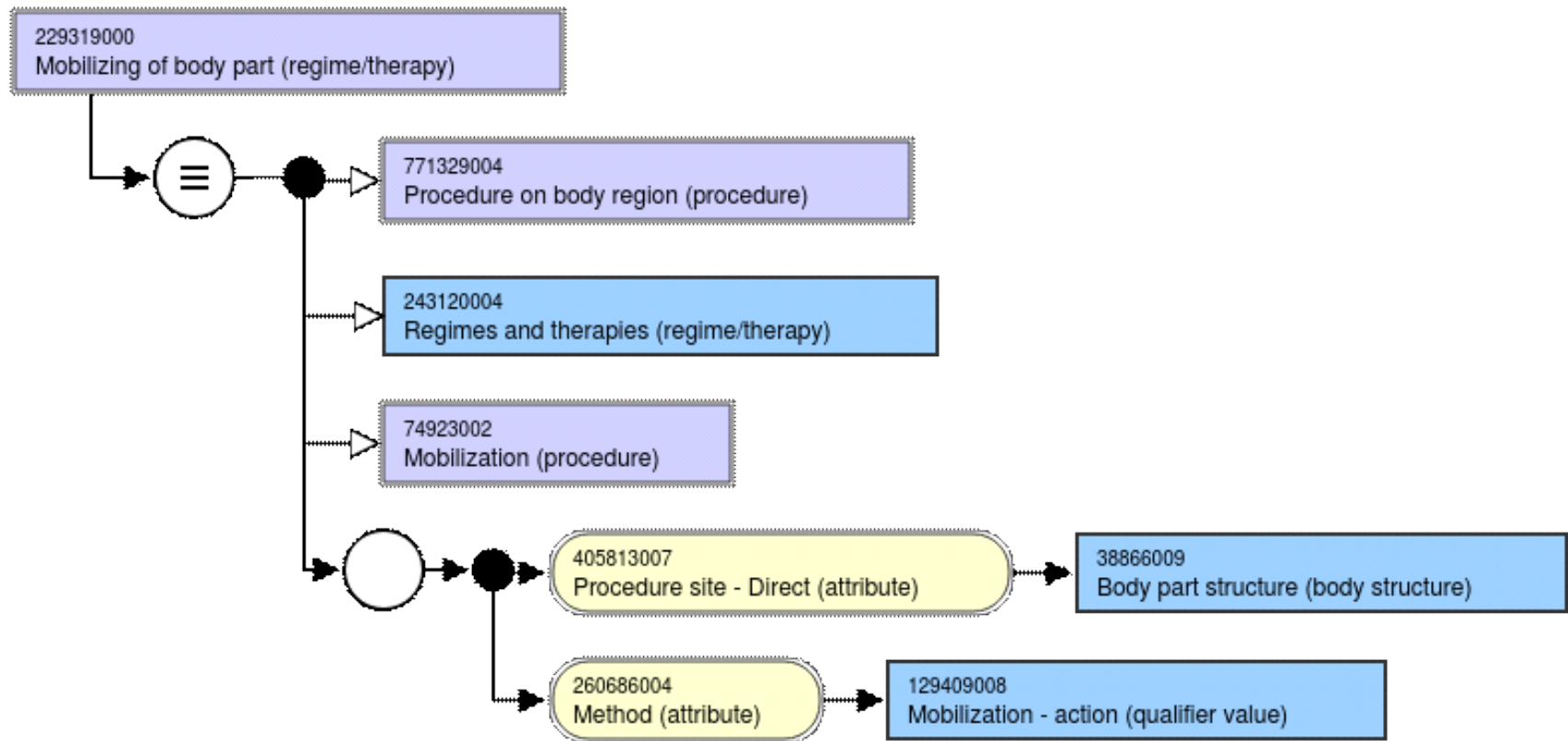
Parts of a possibly heterogeneous specimen.
 At the right hand site a possible modelling pattern could be:
 is_outcome_of some (Fine_needle_biopsy and has_participant some Thyroid_structure)

Pattern 54

ReTh|pro_site|Proc
ReTh|method__|QuVa

Occurrences: 214

Example



RG
Interpretation

includes

The relation **includes**

- From BioTopLite2
- Most general spatiotemporal inclusion
- Transitive
- Reflexive

