

5.4. Rationalize Search Results by Subsumption Checking

Filtering a search by using subsumption checking is an effective technique to enhance the display of search results. It reduces the list of search results by nesting the subsumed Concepts under the general Concept. If the user wishes to select a narrower Concept, they can expand the node to select the nested subtype.

An Example Illustrating Rationalization by Subsumption Cross-Checking

Unconstrained search for descriptions that begin with "hernia" returns a total of 49 Concepts which belong to many subtype hierarchies such as [Clinical Finding](#) and [Morphologic abnormalities](#).

The screenshot shows a search interface with a search box containing 'hernia'. To the right, a 'Filter by' dropdown menu is open, showing options: 'Select supertype ancestor', 'Procedure', 'Disorder', and 'Clinical Finding'. A 'Go' button is next to the dropdown. Below the search box, a list of search results is displayed, each preceded by a letter in a box: 'P hernia', 'S hernia', 'P hernia sac', 'P hernia belt', 'S hernia truss', 'P hernia repair', 'S hernia cerebri', 'P hernia adiposa', and 'P hernia of ovary'. At the bottom right, a box indicates 'Results found: 49'.

Figure 5.4-1: Rationalize search results by subsumption checking

Constraining a search for "hernia" by the "clinical findings" supertype returns 35 matches which is still considered to be a long list, many of which are subsumed by the general Concept "hernia". [see [Constrain searches by supertype ancestors](#)]

The screenshot shows the same search interface as Figure 5.4-1, but with the 'Filter by' dropdown menu set to 'Clinical Finding'. The search box still contains 'hernia'. The search results list is now shorter, showing: 'S hernia', 'S hernia cerebri', 'P hernia of ovary', 'S hernia of iris', 'S hernia of Bochdalek', 'S hernia of bladder', 'P hernia of mediastinum', 'P hernia hydrocoele complex', and 'P hernia, with obstruction'. At the bottom right, a box indicates 'Results found: 35'.

Figure 5.4-2: Rationalize search results by subsumption checking - clinical findings only

Rationalisation by subsumption cross-checking can further reduce the matches by nesting the subsumed Concepts such as | perineal hernia | under | hernia |. If the user wishes to select a narrower Concept, they can expand the node to select the nested subtype.

The screenshot shows a web-based search interface. On the left, there is a 'Search box' containing the text 'hernia'. Below it, the 'Search results' section displays a single entry: 'hernia'. To the left of the text 'hernia' is a small icon consisting of a square with an 'S' and a plus sign, which is being clicked by a mouse cursor. To the right of the search box, there is a 'Filter by' section with a dropdown menu currently set to 'Clinical Finding'. Below the dropdown, the options 'Procedure', 'Disorder', and 'Clinical Finding' are listed. A 'Go' button is located to the right of the dropdown. At the bottom right, a box indicates 'Results found: 1'.

Figure 5.4-3: Subsumed Concepts nested under "hernia"