

2.1. Authoring of Precoordinated Concepts

Expression templates can be used to author precoordinated clinical meanings by providing reusable patterns for the definition of similar concepts. Expression templates can define the set of attributes and attribute values that may be used to define concepts in a specific hierarchy or subhierarchy, thereby assisting SNOMED CT authors to create concepts in a consistent way. They can also be used together with an input file to either create or update batches of concepts very efficiently. Using expression templates to author SNOMED CT concepts can help to improve the quality of the terminology, by controlling the consistency of the definitions, and by validating concept definition against appropriate templates. Similarly, they can also be used as a metric to measure the quality of given subhierarchy.

In summary, expression templates can be used by terminology authors to:

- Create a single concept, or a batch of concepts;
- Update the definition of a concept (or batch of concepts) to conform to a particular pattern;
- Validate the definition of concept or a set of concepts;
- Define quality metrics for a particular subhierarchy.

The table below shows an expression template that may be used to define computed tomography (CT) concepts of a particular body site (e.g. CT of right arm). The 'bodysite' slot represents the placeholder, which is subsequently replaced with a specific body site concept to form a complete concept definition.

Template (diagram)	Template (syntax)
	<pre>71388002 Procedure : { 363704007 Procedure site = [[+ id @bodysite]], 260686004 Method = 3122510 04 Computed tomography imaging action }</pre>

Table 2.1-1: An example expression template

The following table shows the expressions that result when processing the template using a specific slot value:

bodysite	Resulting Expression
48979004 Structure of left lower leg (body structure)	<pre>71388002 Procedure : { 363704007 Procedure site = 48979004 Structure of left lower leg , 260686004 Method = 312251004 Computed tomography imaging action }</pre>
368209003 Right upper arm structure (body structure)	<pre>71388002 Procedure : { 363704007 Procedure site = 368209003 Right upper arm structure , 260686004 Method = 312251004 Computed tomography imaging action }</pre>

Table 2.1-2: Expressions that result from populating the example expression template