

7.1 Authoring

Authoring SNOMED CT postcoordinated expressions can be performed using two main techniques:

1. *Language-based authoring*: This technique involves the author constructing a SNOMED CT expression using the Compositional Grammar syntax defined in Chapter 5.
2. *Form-based authoring*: This technique involves the author entering values into separate fields of a form, and the clinical system automatically composing the values together into a syntactically correct SNOMED CT expression.

Language-Based Authoring

Language-based authoring is useful for situations in which expressions must be defined which don't necessarily conform to a consistent structure. To use language-based authoring, the user must be familiar with the basic features of the Compositional Grammar syntax. There are, however, a number of ways in which a tool can support the user while creating expressions, including:

- Validating the syntactical correctness of the expression as it is authored;
- Checking the expression for conformance against the concept model;
- Automatically populating or correcting the term associated with a concept reference;
- Providing integrated tools to search the SNOMED CT hierarchy for concept references to include in the expression;
- Filtering the concept search to those concepts which are valid to use at the given point in the expression (e.g. only showing attribute concepts, or those within the valid range of the given attribute); and
- Suggesting the set of valid operators or characters that may be used at a given point in the expression;

Some applications allow free text to be entered into patient records, which can either be manually or automatically processed to transform into SNOMED CT Compositional Grammar expressions. This approach relies on either trained staff that are available to do the processing in a timely manner, or NLP (Natural Language Processing) software which is able to generate reliable postcoordinated expressions for clinician review.

Form-Based Authoring

Form-based authoring is particularly useful when non-technical users need to create postcoordinated expressions which have a consistent structure. In these situations, it may be useful to create an 'expression template' in which the attribute values are represented by slots. The slots in these expression templates can then be replaced by the values that the user enters into the associated fields of the form. It may also be useful to restrict the valid values that may be entered into each field (and therefore each slot) using an expression constraint. The diagram below illustrates this approach.

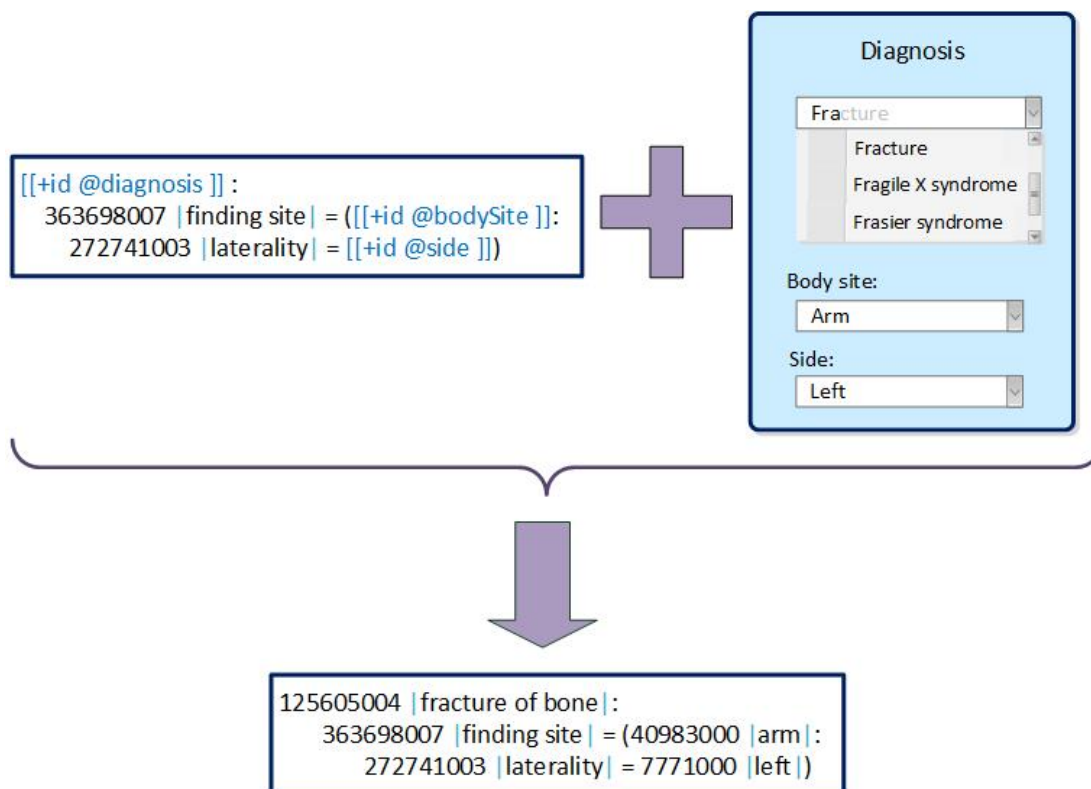


Figure 5: Form-based expression authoring

For more information on adding refinements to expressions during data entry, please refer to [section 2.7 of the Records Services Guide](#).

