

## Preface to Table of Example UCUM Codes for Electronic Messaging

Attached is a first draft of an enumeration of The Unified Code for Units of Measure (UCUM), designed to make it clear what the UCUM syntax would produce for specific unit patterns in electronic communication. This early version, composed in a relatively short time frame, is based on content provided by Intermountain Healthcare, from a National Library of Medicine/Regenstrief Institute project that is analyzing raw units from more than 23 laboratory sources and their translation to UCUM (<http://unitsofmeasure.org/>) and from the HL7 table of units. In this version we have not included all of the content from all of these sources. Specifically for this version, we excluded units for which we could not quickly find definitions or clear patterns of usage, units of measure that we believed would only be used in pharmacy dispensing, and units used for purely clinical reporting (e.g. cigarette pack-years). We have included most of the pure metric units that were in the source table whether they apply directly to the laboratory or not because they will be generally useful and because we could not always be sure what should be excluded.

We have included a row number in the first column of the table. Please use this number when suggesting changes or identifying problems with a given term. This number has no significance beyond identifying a unique row in this table. In particular, it does not officially denote a UCUM code. The table is ordered alphabetically by the content of the column Description of the Unit.

Some details of the UCUM syntax follow, but for a more complete explanation than this please refer to the full UCUM specification at <http://unitsofmeasure.org/>.

The UCUM codes that you see in the table are mixed-case ASCII text. The standard metric units all have their usual mixed-case representation, so milligram per deciliter is portrayed in UCUM as mg/dL. US, British, and other special units are usually enclosed in square brackets, e.g. inches is [in\_i] (inches international) — the “i” is needed because the British inch and the US inch were slightly different until about 1980 when all parties agreed the international inch. In UCUM a dot (.) means multiply, a number to the right of a string means a power, and the divisor sign (/) means divide. So m<sup>2</sup> means meter squared.

Strings that are often included in units of measure but are adornments for human reading and that are not formally units of measure are enclosed in curly brackets {}. For example, mg/mol{creat} means milligram per mole of creatinine.

UCUM does not formally specify what to put inside of the curly brackets except to insist there be no spaces, because spaces will break the parser and the UCUM units converter. In principle, users could adjust the contents of any such curly brackets because they aren't a formal part of UCUM. In this table, we encourage the use of the same string consistently within curly brackets, e.g. {creat} for creatinine and {Hb} for hemoglobin. However, this is not an absolute constraint of UCUM, and, when needed, users may adjust the content within the curly brackets.

## **Version History for Table of Example UCUM Codes for Electronic Messaging**

- Version 1.0 (09/23/2011): Initial release
- Version 1.1 (10/04/2011): Contains corrections to six of the UCUM units.