



ARUP COMPLIANCE WITH THE UNIFIED CODE FOR UNITS OF MEASUREMENTS (UCUM)

Do ARUP's units of measure comply with Clinical Vocabulary Standards as outlined by Meaningful Use Requirements (Center for Medicare and Medicaid Services)?

ARUP uses The Unified Code for Units of Measure (UCUM) as needed. In 2009, ARUP reviewed the UCUM document along with other authoritative resources¹ to develop the ARUP Style Guide for Units of Measure.² Although the UCUM guide³ is the recommended vocabulary standard to use when reporting diagnostic study results and laboratory tests for [Meaningful Use](#), it does not address all possible units of measure for laboratory test results (e.g., CAE units, ETU/mL, wk, LIV) nor does it consider character length limitations for result fields within respective laboratory information systems.

Some units of measure in the ARUP Style Guide will vary from UCUM because:

- Character limitation of our laboratory information system is ~10 characters. Legacy systems for some of our clients have a six-character limit.
- In some cases, preference was given to highly recognizable notation systems that are familiar to practicing clinicians.
- In FDA-approved special kits, the unit of measure reported in the FDA approval process must be used.

Example of ARUP review and choice of "24h" to represent the concept of one day:

Recommended change	Variations noted in ARUP patient charts	Justification for choice (authoritative resource used)
24h	d 24 h 24 24 hrs	"h" for hour(s)—accepted by AMA, SI, UCUM, and practicing clinician "24" for day—accepted by SI and MD; concept of 24 is more precise than "d" (UCUM uses "d"). To conserve space, unnecessary spaces between letters/words were eliminated.

1. Authoritative resources reviewed included The Unified Code for Units of Measure (UCUM); American Medical Association Manual of Style (AMA); Joint Commission: Accreditation, Health Care, Certification (JCAHO); International System of Units (SI); and Stedman's Medical Dictionary; and practicing clinician perspective.
2. The ARUP Style Guide for Units of Measure is available in the [LTD Style Guide](#). It is used by the labs to guide selection of a unit of measure when new tests are developed.

The [ARUP Key to Units and Abbreviations](#) is a compilation of abbreviations that may appear on a patient chart or in the ARUP Laboratory Test Directory.
3. The [Unified Code for Units of Measure](#) provides a single coding system for units to facilitate unambiguous electronic communication. UCUM differs from prior systems (e.g., SI, ANSI) in that it resolves name conflicts among different units and provides a more complete list of current units used in practice. UCUM focuses on the code for the unit and less about the print version. Because the needs in practice are often different from the ideal propositions of a logical coding system, "a coding system that is to be useful in practice must cover the requirements and habits of the practice—even some of the bad habits," according to the UCUM Introduction.