Conventional Units and SI Units in JAMA and the Archives Journals

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In the United States, most physicians and other health care professionals use conventional units for most commonly encountered clinical measurements (eg, blood pressure), and most clinical laboratories report many laboratory values by means of conventional units. To serve these readers, but also to serve the needs of readers in countries where SI units are used, JAMA and the Archives Journals have adopted an approach for reporting units of measure that includes a combination of SI units and conventional units. | Measurements of length, area, volume, and mass are reported by means of metric units rather than English units (Table).

Time

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The SI unit for time is the second, although minute, hour, and day also are used. Other units of time, such as week, month, and year, are not part of the SI but also are used. The abbreviations for minute, hour, and day are min, h, and d, respectively, and the abbreviations for week, month, and year are wk, mo, and y, respectively. These abbreviations are used in tables, figures and virgule constructions. (See , Abbreviations, Units of Measure.) |

Length, Area, Volume, Mass

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Measurements of length, area, volume, and mass are reported by means of metric units rather than English units (Table). In less formal, nonscientific texts such as essays, use of nonmetric units, such as miles or inches, and the use of idioms, such as “An ounce of

prevention is worth a pound of cure," are acceptable. In addition, if the nonmetric unit was used as part of a survey or questionnaire, the original measure should be retained.The patients were asked, "Do you have difficulty walking 15 feet?" |

Visual Acuity

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Visual acuity should be reported on the basis of how the measurement was determined. For example, using the Snellen fraction with English units, 20/20 or 20/100 indicates that the person being evaluated can see at 20 ft what a person with "normal visual acuity" can see at 20 ft or at 100 ft, respectively. The equivalent metric measurements for visual acuity are 6/6 and 6/30, respectively. (See , Nomenclature, Ophthalmology Terms.) |

Temperature

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The Celsius scale (°C) is used for temperature measurement rather than the base SI unit for temperature, the kelvin (K), which has little application in medicine. Although both kelvin and Celsius scales have the same interval value for temperature differences, they differ in their absolute values. For example, a temperature of 273.15 K is equal to 0°C. Temperature values generally are reported in degrees Celsius, and values given in degrees Fahrenheit (°F) are converted to degrees Celsius (°C).(°F - 32)(0.556) = °C |

Pressure

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Blood pressure and intraocular pressure are reported in millimeters of mercury (mm Hg); cerebrospinal fluid pressure is reported as centimeters of water (cm H2O). The pascal (newton per square meter [N/m2]) is the recommended SI unit for pressure but generally is not used for reporting these common physiologic pressure measurements. Partial pressure of gases (eg, of oxygen and carbon dioxide) may be reported as millimeters of mercury (mm Hg) or as kilopascals (kPa). (See also , Nomenclature, Pulmonary, Respiratory, and Blood Gas Terminology.) |

Energy

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The calorie is the unit of measure often used in chemistry and biochemistry for reporting heat energy. A value of 1 calorie is the amount of energy (heat) required to raise the temperature of 1 g of pure water by 1°C. The joule is the preferred SI unit for energy, and calories and kilocalories may be converted to joules (J) and kilojoules (kJ) by using the following formulas: 1 calorie = 4.186 J 1 kilocalorie = 4.186 kJ JAMA and the Archives Journals prefer to report heat energy in calories or kilocalories. Formerly a distinction was made between this “small

Solutions and Concentration

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A molar solution contains 1 mol (1 g molecular weight) of solute in 1 L of solution. The SI style for reporting molar solutions is mol/L; for solutions with millimolar concentrations, mmol/L is used; and for solutions with micromolar concentrations, µmol/L is used. The concentration is given as 4-mmol/L potassium chloride, not 4 mmol/L of potassium chloride.The gel was incubated at 40°C after applying 10 mL of a solution of 4-mmol/L potassium chloride and 5 mL of a solution of 1-mol/L sodium chloride. Molar concentrations of solutions and reagents also may be expressed by using M to designate molar and

Drug Doses

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Drug doses are expressed in conventional metric mass units (eg, milligrams or milligrams per kilogram), rather than in molar SI units. Moreover, certain drugs (such as insulin or heparin) may be prepared as mixtures and have no specific molecular weight, thereby precluding their expression in mass units. Although other drug dose units such as drops (for ophthalmologic preparations), grains (for aspirin), and various apothecary system measurements (eg, teaspoonfuls, ounces, and drams) may be encountered clinically, these units generally are not used. Also, the units for drug doses are often different from the units used to measure drug concentrations, such as

Currency

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Amounts of money in US, Canadian, and British currency are expressed as a decimal number or whole number preceded by the symbol for the unit of measure for the currency.The cost-effectiveness analysis suggested a $7000 difference between the 2 treatment strategies. In JAMA and the Archives Journals, for amounts reported in non-US currency, the current exchange rate should be used to calculate the amount in US dollars, and that amount should be shown in parentheses. A list of some international currencies and their symbols is provided in Table . Online currency converter programs also are available., The baseline amount for