

SI Unit

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SI Unit

- International System of Units
- international Committee for Weights and Measures
- Uniformity of quantities and units, minimize No. of unit
- constructed from 7 base units
- WHO recommend adoption of SI

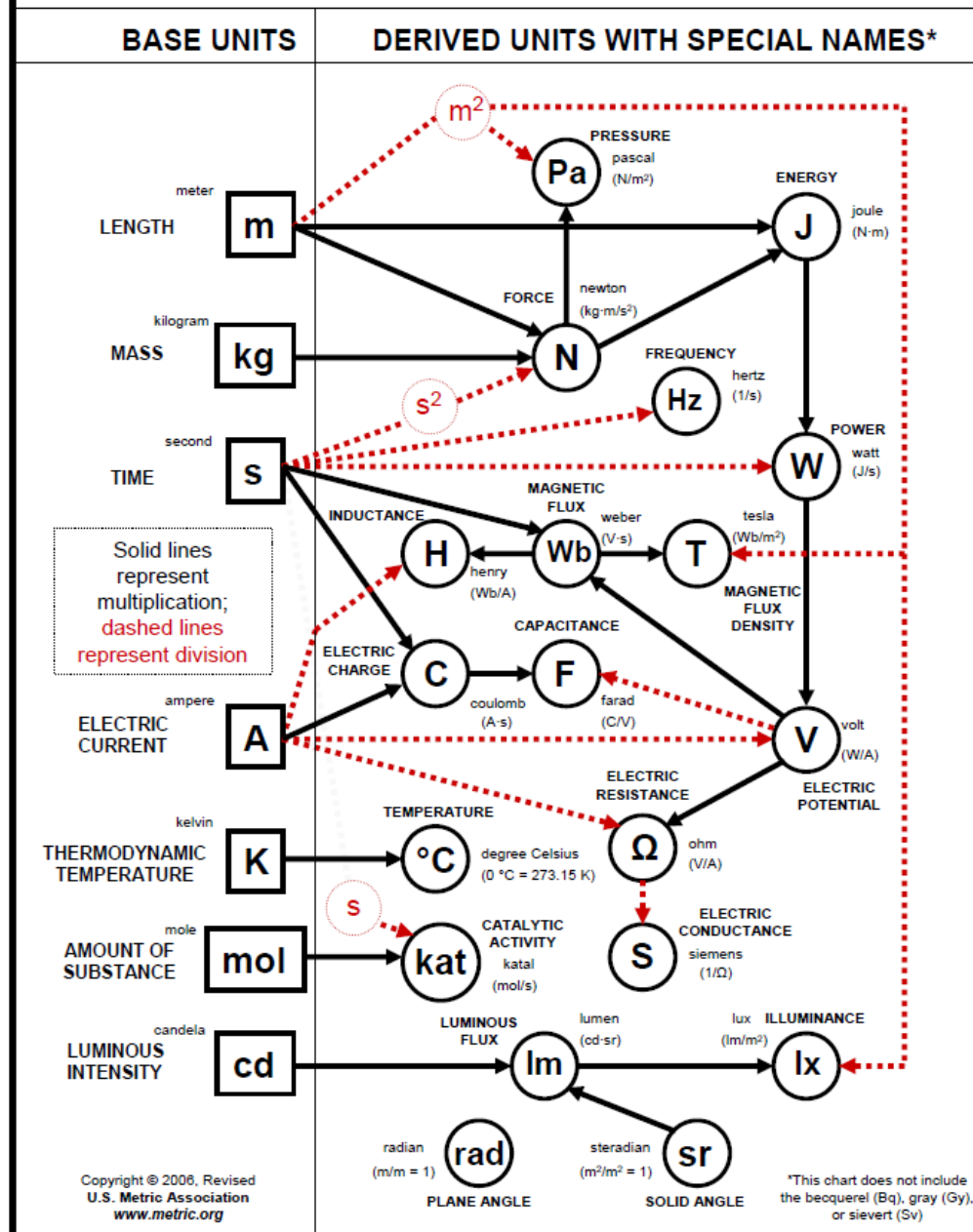
Base Units

Qunatity	Base Unit Name	SI unit symbol
Length	미터(meter)	m
Mass	킬로그램(kilogram)	kg
Time	초(second)	s
Electric current	암페어(ampere)	A
Thermodynamic temperature	켈빈(Kelvin)	K
Amount of substance	몰(mole)	mol
Luminous intensity	칸델라(candela)	cd

Derived Units

Quantity	Name	SI symbol	Derived from
Area	square meter	m ²	m ²
Volume	cubic meter	m ³	m ³
Speed, velocity	meter per second	m/s	m/s
Specific volumes	Cubic meter per kilogram	m ³ /kg	m ³ /kg
concentration	Mole per cubic meter	mol/m ³	mol/m ³
Frequency	hertz	Hz	S ⁻¹
Density, mass density	Kilogram per cubic meter	kg/m ³	kg/m ³
Force	newton	N	kg•m
Pressure, stress	pascal	Pa	
Work, energy	joule	J	
Luminous flux	Lumen	Lm	
Power, radiant flux	Watt	W	
Electric potential	Volt	V	
Electric charge	Coulomb	C	
Electric resistance	Ohm	Ω	
Capacitance	Farad	F	
Magnetic flux	Weber	Wb	
Magnetic flux density	Tesla	T	
Inductance	henry	H	

SI UNITS



Prefixs

Factor	Prefix	Symbol
10^{24}	yotta	Y
10^{21}	zetta	Z
10^{18}	exa	E
10^{15}	peta	P
10^{12}	tera	T
10^9	giga	G
10^6	mega	M
10^3	Kilo	k
10^2	hecto	h
10^1	deca	da
10^{-1}	deci	d
10^{-2}	centi	c
10^{-3}	milli	m
10^{-6}	micro	μ
10^{-9}	nano	n
10^{-12}	pico	p
10^{-15}	femto	f
10^{-18}	atto	a
10^{-21}	zetto	z

Capitalization

- written lowercase roman when spell-out, leave space
 - 135 cm, 250 g, 150 W, 23 lx, 370 K, 37.5 °C
 - Units from proper name should be capitalized
 - N for newton, K for kelvin, A for ampere
 - 'L' is prefer for liter than 'l'
- Abbreviation or symbols for units are also written lowercase
 - (o) Five milliliters of supernatant was extracted.
 - (x) Five mL of supernatant was extracted.
- Some SI prefix
 - no space between prefix and units
 - M for mega, m for milli,
 - mg for milligram, MHz for megahertz
 - one prefix only
 - (o) 8 ng
 - (x) 8 mμg

Capitalization

- Spellout when use ordinals, use arabic when two units of ordinal
 - the sixth turn
 - the 24th anniversary
 - The 5th, 8th, and 10th hypothesis were tested.
- Spellout when use the first phrase of sentence
 - (o) Eighty doctors were ...
 - (x) 80 doctors were ...
 - (o) The 30-day...

Products & Quotients of Unit symbols

- The product of 2 or more units should be indicated by space or a raised multiplication dot.
 - (o) newton meter or N m or N·m
 - (x) N X m
- Abbreviated & nonabbreviated form should not be combined
 - (x) newton·m or N·meter
- Prefer to use abbreviated SI unit when denote a quantity of measurement
 - (o) 50 N·m
 - (x) 50 newton meter
- Quotient of unit is expressed by forward slash (/) or negative exponents
 - (o) $\mu\text{g}/\text{L}$ or $\mu\text{g L}^{-1}$ or $\mu\text{g}\cdot\text{L}^{-1}$
 - (x) $\mu\text{g per L}$
- Spell out in a quotient or in text, use per
 - (o) joules per second (x) joules/second

Products & Quotients of Unit symbols

- use capital 'X' when express volume
 - (o) 10 X 35 X 40 mm, or 10 by 35 by 40 mm
- Do not use 'by' before range
 - (o) Growth increased 0.1 to 0.3 g/d
 - (x) Growth increased by 0.1 to 0.3 g/d

Format, style, and Punctuation

- Exponents
 - (o) m^2 (x) *sq m*
- Plurals; unit symbols are not expressed in the plural form.
 - (o) 1 L , 70 L, 1 g, 1500 g
 - (x) *1 Ls 70 Ls, 1 gs, 1500 gs*
- Subject-Verb Agreement;
 - unit measurement are treated as collective singular noun
 - *To control fever, 500mg of Tylenol was [not were] administered ...*
- Beginning of Sentence, title, Subtitle
 - A unit of measure that follows a number at the beginning of a sentence, title should not be abbreviated.

Format, style, and Punctuation

- Avoid placing other words between 2 or more SI symbol
larval density averaged 30.2 g/m²
(x) 30.2 g of larvae/m² or 30.2 grams of larvae per square meter
10 m³/s or Ten cubic meters per second,
(x) 10 cubic meters/s or 10 m³/second or 10 cubic meters/second
- Abbreviations
 - most units of measure are abbreviated used with numerals, but certain unit should be spelled out
 - (o) Lengths, in millimeters, were or Lengths (mm) were ...
 - (x) Lengths (in mm) were
- Punctuation
 - Symbols or abbreviation units of measure are not followed by a period unless at the end of a sentence.
 - *The patient's weigh was 75 kg [not 75 kg .] and had increased by 10%.*
- Hyphens
 - used to join 2 spelled-out units of measure
 - when the combination used as an adjective
 - *an 8-L container a 10-mm strip*

Use of numerals with Units

- Spacing

- full space should appear between arabic numeral
- except %, °, and normal and molar solutions
- 140 nmol/L (*not 140nmol/L*), 125 mm Hg, 40% adherence rate
- 45° angle, temperature of 37.5°C

- Expressing Quantities

- use only numbers between 0.1 and 1000
- Use appropriate prefix; 0.003 mL is expressed as 3 µL

- Decimal format

- numeric values less than 1 require placement of 0 before the decimal
 - (o) 0.123 (x) .123
- some static values are reported without the use of 0 before decimal
 - P<.001
- fraction should not be used with SI units.
 - (o) 2.5 kg (x) 2^{1/2} kg
 - Mixed fraction occasionally used in the text

Use of numerals with Units

- Number spacing
 - SI does not use commas in number
 - (o) 1234 123 456
 - (x) 1,234 123,456
 - 4 digit are expressed without spacing in postal code, page number, registration identifier
 - Eg) Protocol 00005876
- Multiplication of numbers
 - should be indicated by the multiplication sign (x)
 - used to express are, volume, matrix, magnification

Symbols and expression

- Set off common mathematical operators all the equality symbols from variables and number by a space or thin space . When the symbols are modifying a number than serving operators, close them up to numeral
 - +2.5 difference , 40X lens objectives
 - $x < y < z$
- Don not use operator symbols between 2 words
 - (o) at greater than -2 °C
 - (x) at >-2 °C
 - (o) the target zone equals the optimum plus
 - (x) the target zone = the optimum +
- Close up the center dot, product dot indicating multiplication
- Wavy lines are used to approximate line
- Symbol for vector are lowercase letter set in bold upright, not italic; the scalar are lowercase letter in italic
- aggregation or fence
 - mathematics { [()] }, prose or non-mathematics ([{ }])

-예제 1-

A complete blood count revealed a white-cell count of 5400 per cubic millimeter, with a differential count of 69% granulocytes, 16% lymphocytes, 12% monocytes, 2.5% eosinophils, and 0.1% basophils. The hemoglobin level was 12.3 g per deciliter (7.6 mmol per liter), and the platelet count was 212,000 per cubic millimeter. The serum creatinine level was 1.1 mg per deciliter (97.2 μ mol per liter), and the urea nitrogen level was 11 mg per deciliter (3.9 mmol per liter). The results of liver-function tests, the erythrocyte sedimentation rate, and the C-reactive protein level were normal. Testing for HIV was negative. A chest radiograph (Fig. 1) revealed a left lower-lobe cavity with an

-SI단위를 존중하는 NEJM-

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Results At hospitals performing at least 100 on-pump CABG operations (82 446 cases at 408 sites), the rates of blood transfusion ranged from 7.8% to 92.8% for RBCs, 0% to 97.5% for fresh-frozen plasma, and 0.4% to 90.4% for platelets. Multivariable analysis including data from all 798 sites (102 470 cases) revealed that after adjustment for patient-level risk factors, hospital transfusion rates varied by geographic location ($P=.007$), academic status ($P=.03$), and hospital volume ($P<.001$). However, these 3 hospital characteristics combined only explained 11.1% of the variation in hospital risk-adjusted RBC usage. Case mix explained 20.1% of the variation between hospitals in RBC usage.

Results Among women following advanced cancer diagnosis compared with controls, at least 1 screening mammogram was received by 8.9% (95% confidence interval [CI], 8.6%-9.1%) vs 22.0% (95% CI, 21.7%-22.5%); Papanicolaou test screening was received by 5.8% (95% CI, 5.6%-6.1%) vs 12.5% (95% CI, 12.2%-12.8%). Among men following advanced cancer diagnosis compared with controls, PSA test was received by 15.0% (95% CI, 14.7%-15.3%) vs 27.2% (95% CI, 26.8%-27.6%). For all patients following advanced diagnosis compared with controls, lower GI endoscopy was received by 1.7% (95% CI, 1.6%-1.8%) vs 4.7% (95% CI, 4.6%-4.9%). Screening was more frequent among patients with a recent history of screening (16.2% [95% CI, 15.4%-16.9%] of these patients had mammography, 14.7% [95% CI, 13.7%-15.6%] had a Papanicolaou test, 23.3% [95% CI, 22.6%-24.0%] had a PSA test, and 6.1% [95% CI, 5.2%-7.0%] had lower GI endoscopy).

-mmHg vs mm Hg-

following a very low fat diet. Her physical exam now reveals a moderately overweight woman in marked distress as a result of pain and vomiting. Her vital signs include a temperature of 37.5°C, pulse of 102, blood pressure 154/79 mm Hg, respiratory rate of 18, and body mass index of 36. Her physical

Ann Intern Med 2010

The change from baseline in the systolic blood pressure at 24 months was -2.0 mm Hg in the everolimus group and -1.5 mm Hg in the placebo group (P=0.76); the corresponding changes in diastolic blood pressure were -2.7 mm Hg and -2.6 mm Hg (P=0.89).

NEJM 2010

전증을 진단하였다(Fig. 3). 제19병일 호흡곤란을 호소하여 시행한 동맥혈가스분석검사에서 pH 7.48, pCO₂ 42 mmHg, pO₂ 62 mmHg, HCO₃ 31 mmol/L, 산소포화도 93%였고 응급으로 시행한 폐색전증 CT에서 우하엽과 우중엽 폐동맥 내에 충만결손을 보여 폐혈관색전증을 진단하고 헤파린을 정주하였다(Fig. 4). 폐혈전색전증의 원인을 찾기 위해 시행한

국내 학술지

-학술지마다 표기방식이 다르다-

Diverticulosis and therefore diverticulitis are increasing, what consequently increases complication rate. The prevalence of perforated sigmoid in diverticular disease in the western countries has increased from 2.4/100.000 in 1986 to 3.8/100.000 in 2000.¹ Another distressing factor is that during the last 20 years, standardized annual age rates of admission and surgical intervention have increased by 16% from 20.1/100.00 to 23.2/100.000, whereas in-patient and population mortality remained unchanged.²

Alim Phar Ther 2007

The major hypothesis concerning the propensity to form diverticula focuses on dietary fibre.^{9, 13, 15} Most studies support a strong inverse relationship between population fibre intake and the prevalence of diverticulosis. One study of approximately 47 000 men found a relative risk of 0.58 for the presence of diverticulosis comparing the quintile with the highest average fibre intake with the quintile with the lowest intake.¹⁵

Ann Intern Med 2007

-각각 다른 p값 표기-

able analysis including data from all 798 sites (102 470 cases) revealed that after adjustment for patient-level risk factors, hospital transfusion rates varied by geographic location ($P=.007$), academic status ($P=.03$), and hospital volume ($P<.001$). However, these 3 hospital characteristics combined only explained 11.1% of the variation in hospital risk-adjusted RBC usage. Case mix explained 20.1% of the variation between hospitals in RBC usage.

JAMA 2010

stroke risk increased among participants with an eGFR <60 ml/min/1.73 m² (relative risk 1.43, 95% confidence interval 1.31 to 1.57; $P<0.001$) but not among those with an eGFR of 60-90 ml/min/1.73 m² (1.07, 0.98 to 1.17;

Ann Intern Med 2010

terlipressin patients experienced combined partial response or treatment success as compared with placebo (16/56, 29% vs 10/56, 18%, respectively; $P = .181$). Conversely, a greater number of placebo patients experienced

Gastroenterology 2010

population (an increase with fidaxomicin of 10.5 percentage points; 95% CI, 3.1 to 17.7; $P=0.006$) and 77.7% (206 of 265 patients) versus 67.1% (190 of 283) in the per-protocol population (an increase

NEJM 2010

수식, 연산, 공식의 사용

22.8 ± 26.5 ng per milliliter (range, 0.4 to 185.0). In addition, no plasma accumulation was found between day 1 and the end of therapy. The mean end-of-therapy fecal concentration of fidaxomicin was 1225.1 ± 759.0 μ g per gram (range, 31.7 to 4640.0), which is 4900 times as high as the minimum inhibitory concentration of 0.25 μ g per milliliter for 90% of isolates against *C. difficile*.

of lymph-node metastases.¹⁶ Occult metastases may be more important in the case of larger tumors (combined hazard ratio, $1.32 \times 1.40 = 1.85$) (Table 2). This observation was also noted in an analysis of the National Cancer Institute's Surveillance, Epidemiology, and End Results data with respect to the clinical significance of micrometastases.¹⁷ Occult metastases were more likely to

interval for vaccine efficacy to exclude 20%. Vaccine efficacy was defined as $100\% \times (1 - [r_v/r_p])$, with r_v , the incidence rate among vaccine recipients, defined as C_v , the number of primary efficacy cases among vaccine recipients, divided by τ_v , the total person-years of follow-up among vaccine recipients. Similarly, r_p , the incidence rate among placebo recipients, was defined as C_p , the number of primary efficacy cases among placebo

ZS rats (tumor incidence, 100% vs 16.6%, $P = 7.8 \times 10^{-6}$; multiplicity, 11 ± 3.8 vs 0.5 ± 0.3 , $P < .001$). Replenishing zinc led to reduced S100A8/A9 mRNA levels at both time points and a low tumorigenic outcome in ZR vs nonreplenished ZD rats (incidence, 100% vs 28.9%, $P = 5.0 \times 10^{-5}$; multiplicity, 11 ± 3.8 vs 0.6 ± 0.4 , $P < .001$). Thus, esophageal S100A8/A9 mRNA levels were regulated by zinc and were associated directly with the risk of developing tumors in zinc-modulated rats.

연산자 사용

formula,¹⁰ of 30 to 89 ml per minute per 1.73 m² of body-surface area) or stage I chronic kidney disease (i.e., estimated GFR ≥90 ml per minute) plus an estimated single kidney volume exceeding 1000 ml. Exclusion criteria were subarachnoid bleeding, severe infection, life-threatening urinary tract or cyst infection, severe liver disease, cancer, hypercholesterolemia (i.e., total cholesterol level ≥352 mg per deciliter [9.1 mmol per liter]), hypertriglyceridemia (i.e., triglyceride level ≥496 mg per deciliter [5.6 mmol per liter]), thrombocytopenia (i.e., platelet count ≤100,000

stroke risk increased among participants with an eGFR <60 ml/min/1.73 m² (relative risk 1.43, 95% confidence interval 1.31 to 1.57; P<0.001) but not among those with an eGFR of 60-90 ml/min/1.73 m² (1.07, 0.98 to 1.17; P=0.15). Significant heterogeneity existed between estimates among patients with an eGFR <60 ml/min/1.73 m² (P<0.001). In subgroup analyses among participants with an eGFR <60 ml/min/1.73 m², heterogeneity was significant in Asians compared with non-Asians (1.96, 1.73 to 2.23 v 1.25, 1.16 to 1.35; P<0.001), and those with an eGFR of 40-60 ml/min/1.73 m² v <40 ml/min/1.73 m² (1.28, 1.04 to 1.56 v 1.77, 1.32 to 2.38; P<0.01).

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괄호 표현

mathematics { [()] }, prose or non-mathematics ([{ }])

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ing out differences due to patient-level risk factors. A hospital's risk-adjusted RBC usage rate was calculated as $1/\{1 + \exp[-(\alpha + \beta_j)]\}$ where the constant α was chosen to reflect the baseline probability of receiving RBCs for an "average" patient and β_j denotes the j-th hospital's random intercept parameter. Percentiles were based on the esti-

JAMA 2010

-CONFIDENCE INTERVAL-

against persistent infection with specific HPV types ranged from 78.7% for HPV-16 (95% CI, 55.5 to 90.9) to 96.0% for HPV-18 (95% CI, 75.6 to 99.9). The vaccine was also efficacious in reducing detection of DNA at any time for all four HPV types (efficacy, 44.7%; 95% CI, 31.5 to 55.6) Reductions in DNA detection of individual HPV

NEJM 2010

least 25/30 days. Resting heart rate was reduced from baseline levels in the β blocker groups at each assessment (-10.6 (95% confidence interval -13.2 to -7.9) beats/min (n=89) at month 5; -9.4 (-12.1 to -6.7) beats/min (n=76) at month 10; -6.8 (-9.9 to -3.6) beats/min (n=59) at month 16), but essentially unchanged in the placebo groups (-1.1 (-3.7 to 1.5)

BMJ 2010

ceived an average daily dose of 9.8 mg (95% CI, 8.8-10.8 mg), whereas the placebo group received a mean of 208.3 mg (95% CI, 163.1-253.5 mg) for an average daily dose of 10.4 mg (95% CI, 9.3-11.4 mg). For weeks 17 through 24, 12% (13 of 108) in the buprenorphine implant group received a mean dose of 56.9 mg (95% CI, 29.2-84.6 mg) and an average daily dose of 12.7 mg (95% CI, 10.1-15.2 mg) for a median of 3 days, whereas 20% (11 of 55) in the placebo group received a mean of 175.8

JAMA 2010

tients have suggested that LDL-C lowering beneath the current target, generally to lower than 70 mg/dL, may be associated with improved outcomes in individuals with diabetes.⁸⁻¹⁸ (To convert cholesterol values to mmol/L, multiply by 0.0259). Several studies using statin therapy in high-risk patients with diabetes also have suggested that further reduction in CVD events may be achieved in individuals who are at or below current LDL-C targets.¹⁸⁻²⁵ In addition, antihypertensive treatment to levels below recommended goals (systolic blood pressure [SBP] <130 mm Hg) may delay progression of microalbuminuria to clinical proteinuria in diabetes,²⁶ but the utility of this target in preventing CVD has not been assessed. Because no studies have specifically evaluated the benefits and risks of aggressive treatment targets for both LDL-C and BP in individuals with diabetes, the optimal treatment targets remain elusive.

A large body of epidemiologic data in American Indians, a population with

Institutes of Health, and all participating American Indian communities.

Recruitment

Participants were 548 men and women with type 2 diabetes, aged 40 years or older, enrolled between May 2003 and July 2004 at 4 clinical centers in the United States: southwestern Oklahoma; Phoenix, Arizona; northeastern Arizona; and South Dakota. All participants were American Indians as defined by Indian Health Service criteria.³⁰

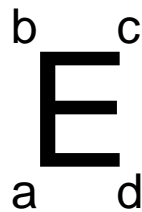
The participants were randomized to the aggressive (n=276) or standard treatment group (n=272) using the urn method stratified by clinical center and sex.

Eligibility criteria included documented type 2 diabetes,^{31,32} plus LDL-C of at least 100 mg/dL and SBP greater than 130 mm Hg within the previous 12 months.

Major exclusion criteria were characteristics that might preclude trial completion or confound the out-

comes in the aggressive and standard groups, respectively. Secondary goals were diastolic BP (DBP) of 75 mm Hg or lower and 85 mm Hg or lower, respectively. Step 1 drugs were angiotensin-converting enzyme (ACE) inhibitors or angiotensin II receptor blockers (ARB), in case of intolerance to ACE inhibitors. Step 2 was use of hydrochlorothiazide. Steps 3 to 5 added calcium channel blockers, β -blockers, and then α -blockers and other vasodilators. Treatment for DBP was at the physician's discretion once SBP target was reached.

The algorithm for achieving lipid goals was based on recommendations of the National Cholesterol Education Program Adult Treatment Panel III.^{6,33} Goals for LDL-C were 70 mg/dL or lower and 100 mg/dL or lower and non-high-density lipoprotein cholesterol (non-HDL-C) goals were 100 mg/dL or lower and 130 mg/dL or lower in the aggressive and standard groups, respectively. If lifestyle modification was unsuccessful, use of a statin drug was ini-



a = atomic number

b = mass number

c = charge number

d = in a molecular formula

tion of fluorine 18 (^{18}F) fluorodeoxyglucose (11.1–17.9 mCi [411–662 MBq]).

Clinical trial number

Because the data used in analyses of the STS ACSD represent a limited data set (no direct patient identifiers) that was originally collected for nonresearch purposes, and the investigators do not know the identity of individual patients, the analysis of these data was declared by the Duke University Health System Institutional Review Board to be research not involving human subjects and is therefore considered exempt (Duke University Health System Protocol 00005876).

JAMA 2010

KAMJE workshop



Unit, SI, grammar!
Grandma!!!