2. Mason RA. The obstructed airway in head and neck surgery. Anaesthesia 1999;54: 625–8.
3. Podder S, Dutta A, Chari P. Retrolaryngeal extension of goiter in a morbidly obese patient leading to a difficult airway. Anaesthesia 2000;55:1219–21.
4. Kanaya N, Nakayama M, Seki S, Kawana S, Watanabe H, Namiki A. Two person technique for fiberscope aided tracheal intubation in a patient with long and narrow reteropharyngeal airspace. Anesth Analg 2001;92:1611–3.
5. Arya VK, Dutta A, Chari P, Sharma RK. Difficult reterograde endotracheal intubation: the role of a pharyngeal loop. Anesth Analg 2002;94:470–3.

The "Gauge" System for the Medical Use

To the Editor:

The size of needles and catheters is categorized by the "gauge" system. Medical references about the definition of "gauge" are not available. In the early 19th century, Peter Stubs invented the so-called "gauge" system but a definition was not included, and only an arbitrary conversion table for the iron wire existed (1). Recently, the International Organization for Standardization (ISO) published some guidelines for the dimensions of needles and catheters (Tables 1 and 2) (2–4). For the needles, ISO standards for inner and outer diameters (ID and OD) are available, but for the catheters, only OD standards are available. In addition, the needles and catheters of the same gauge appear to have different IDs and ODs. Thus, whenever we want to know the exact ID or OD of needles or catheters, e.g., combined spinal-epidural techniques, spinal needle insertion through an introducer, comparison with French system or guidewire insertion during the retrograde intubation etc., we have to refer to the manufacturer's catalog or contact the customer representatives. We suggest that ISO should set some guidelines for IDs of catheters because it is ID that mainly determines the amount of flow through the catheter, and that all the standards should be revised to offer less variability in the ID and OD of needles and catheters.

Wonsik Ahn, MD
Jae-Hyon Bahk, MD
Young-Jin Lim, MD
Department of Anesthesiology and Clinical Research Institute
Seoul National University Hospital
Seoul, Republic of Korea

References
1. Iserson KV. The origins of the gauge system for medical equipment. J Emerg Med 1987;5:45–8.
2. ISO 9626: Stainless steel needle tubing for the manufacture of medical devices, 1st ed. Geneva: International Organization for Standardization, 1991:1–2.
3. ISO 9626: Stainless steel needle tubing for the manufacture of medical devices, Amendment 1. Geneva: International Organization for Standardization, 2001:1–2.
4. ISO 10555-5: Sterile, single-use intravascular catheters—Part 5: Over-needle peripheral catheters, 1st ed. Geneva: International Organization for Standardization, 1996:1–3.

DOI: 10.1213/01.ANE.0000025152.75597.49

Pharmacological Prevention of Postanesthetic Shivering

To the Editor:

We question why in their study investigating drugs for preventing postanesthetic shivering Piper et al compared placebo with dolasetron and clonidine (1). We also wonder why they state that "a dose-response study would be scientifically important and economically justified only if its side-effect profile were significantly superior to that of established drugs."

Table 1. Dimensions of Medical Needles

Gauge*	Range of outside diameters (mm)		Minimum inside diameter of tubing (mm)		
	Minimum	Maximum	Normal-walled	Thinwalled	Extra-thinwalled
29	0.324	0.351	0.133	0.190	—
27	0.400	0.420	0.184	0.241	—
26	0.440	0.470	0.232	0.292	—
25	0.500	0.530	0.232	0.292	—
22	0.698	0.730	0.390	0.440	0.522
20	0.860	0.920	0.560	0.635	0.687
19	1.030	1.100	0.648	0.750	0.850
18	1.200	1.300	0.790	0.910	1.041
17	1.400	1.510	0.950	1.156	1.244
16	1.600	1.690	1.100	1.283	1.390
14	1.950	2.150	1.500	1.600	1.727

* Needle gauge selection is based on the commonly used medical products of large market share.
(This table was modified from ISO 9626:1991/Amd.1:2001 and is reproduced with the permission of the International Organization for Standardization [ISO]. These standards can be obtained from any ISO member and from the Web site of the ISO Central Secretariat at the following address: http://www.iso.org. Copyright remains with ISO.)

Table 2. Gauge and Corresponding Sizes of Intravascular Catheters

Gauge*	Range of actual outside diameter (mm)	Nominal outside diameter of catheter tube (mm)
24	0.650–0.749	0.7
22	0.750–0.949	0.8; 0.9
20	0.950–1.149	1.0; 1.1
18	1.150–1.349	1.2; 1.3
16	1.550–1.849	1.6; 1.7; 1.8
14	1.850–2.249	1.9; 2.0; 2.1; 2.2

* Catheter gauge selection is based on the commonly used medical products of large market share.
(This table was modified from ISO 10555-5:1996 and is reproduced with the permission of the International Organization for Standardization [ISO]. These standards can be obtained from any ISO member and from the Web site of the ISO Central Secretariat at the following address: http://www.iso.org. Copyright remains with ISO.)