TABLE II. Monthly.

Procedure	Machine-type tolerance		
	Non-IMRT	IMRT	SRS/SBRT
Dosimetry			
X-ray output constancy			
Electron output constancy		2%	
Backup monitor chamber constancy			
Typical dose rate[a] output constancy	NA	2% (@ IMRT dose rate)	2% (@ stereo dose rate, MU)
Photon beam profile constancy		1%	
Electron beam profile constancy		1%	
Electron beam energy constancy		2%/2 mm	
Mechanical			
Light/radiation field coincidence[b]		2 mm or 1% on a side	
Light/radiation field coincidence[b] (asymmetric)		1 mm or 1% on a side	
Distance check device for lasers compared with front pointer		1mm	
Gantry/collimator angle indicators (@ cardinal angles) (digital only)		1.0°	
Accessory trays (i.e., port film graticle tray)		2 mm	
Jaw position indicators (symmetric)[c]		2 mm	
Jaw position indicators (asymmetric)[d]		1 mm	
Cross-hair centering (walkout)		1 mm	
Treatment couch position indicators[e]	2 mm/1°	2 mm/1°	1 mm/0.5°
Wedge placement accuracy		2 mm	
Compensator placement accuracy[f]		1 mm	
Latching of wedges, blocking tray[g]		Functional	
Localizing lasers	±2 mm	±1 mm	< ±1 mm
Safety			
Laser guard-interlock test		Functional	
Respiratory gating			
Beam output constancy		2%	
Phase, amplitude beam control		Functional	
In-room respiratory monitoring system		Functional	
Gating interlock		Functional	

[a]Dose monitoring as a function of dose rate.
[b]Light/radiation field coincidence need only be checked monthly if light field is used for clinical setups.
[c]Tolerance is summation of total for each width or length.
[d]Asymmetric jaws should be checked at settings of 0.0 and 10.0.
[e]Lateral, longitudinal, and rotational.
[f]Compensator based IMRT (solid compensators) require a quantitative value for tray position (wedge or blocking tray slot) set at a maximum deviation of 1.0 mm from the center of the compensator tray mount and the cross hairs.
[g]Check at collimator/gantry angle combination that places the latch toward the floor.

cussed in Sec. II C. This task group (TG) considers that all of the tests included in the tables are important for ensuring the equipment to be suitable for high quality and safe radiation treatments. For example, in reference to physical wedge placement accuracy, Table II notes a monthly placement test with an accuracy of 2 mm. Deviations greater than 2 mm could result in errors as much as 2% at clinically relevant depths.

A *consistent beam profile* is an important quantity for accurate and reproducible dose delivery in radiotherapy. *Beam uniformity* was addressed in TG-40 Table II with flatness constancy, i.e., consistent flatness and symmetry tolerance levels. Constancy is specifically associated with flatness; however, symmetry tolerance can be interpreted as either absolute, regardless of reflection reference, or as constant values, taking into account the reflection reference, i.e., left to right or right to left. We believe this needs further interpretation in order to detect excessive changes in relative symmetry via sign change that would still fall within the tolerance of absolute symmetry value. For example, a cross-plane right/left symmetry drift from +3% to −3% is within the tolerance of TG-40 Table II but constitutes a beam shape change of 6%. Therefore, the monthly and annual tolerance values have been edited to take this into account and still