

The recently updated IEC 60601-2-43 standard requires, in sub-clause 203.6.4.5, the availability of a radiation dose map. Consensus was not garnered within the IEC Maintenance Team therefore the current standard does not specify the dose nor color scales of the map. In the US and Europe input was collected from technical and clinical experts regarding recommended dose and color scales. From this data there was a general consensus that the colors scale should be ordered from cool to hot in color temperature, corresponding to low and high dose respectively. However, there was a large variation regarding the recommended dose scales.

A group of technical experts from the US and Europe have agreed on the following dose color scale:

Step 0	0-100 mGy	Grey
Step 1	100-1000 mGy	Violet/Purple
Step 2	1000-2000 mGy	Blue
Step 3	2000-3000 mGy	Green
Step 4	3000-5000 mGy	Yellow
Step 5	5000-8000 mGy	Orange
Step 6	8000-12000 mGy	Red
Step 7	>12000 mGy	White

Rationale: the dose map displayed to the fluoroscope operator is intended to be a rough, corner-of-the-eye, indicator of the radiation dose distribution. For this purpose, steps with moderate dose increments are most appropriate, with sharp changes in color to make each step boundary completely obvious. The dose values were chosen in order to provide operators with an early indication of regions of the skin receiving higher doses, so that they can consider the need for optimization, and also allow monitoring to continue when the dose has increased to the level where tissue reactions are likely, so that operators can consider further modifications to their technique. A black and white option will also be available.