Sustainability In The OR

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With LED surgical lights, there are several factors that add to their high level of sustainability and reduced environmental impact. Specific LED lights and their features that contribute to the following factors should be considered when purchasing new LEDs.

Efficient Energy Use: Reduced power consumption is an obvious benefit to LED technology. The more efficient lights can use little more than one watt of power per LED. For example, if a light head is equipped with 90 LEDs, it would use 100-110 watts at maximum light intensity (maximum brightness permitted in surgical lights is 160,000 lux). Unique lighting design allows LEDs to operate at peak efficiency, requiring far less power than traditional halogen lights.

Low Heat: LEDs are not only more efficient but they also produce less heat. The light wave output by LEDs can be directed and contained to visible light, eliminating the output of UV and infrared light waves. UV and infrared light produce excessive heat, which makes the surgical staff uncomfortable and can have a drying effect on the surgical site of the patient. These hot surgical lights require the staff to turn down the temperature in the operating room to help keep everyone comfortable. When this is done, the patient under anesthesia can become too cold so a warming blanket/device must be used. This additional heat created by conventional lights not only uses more power in the light but also requires additional power usage to keep the staff and the patient comfortable.

Long LED Life: It is proven that LEDs have a longer life expectancy than current

lighting solutions (halogen bulbs, etc). With LEDs, there is no longer a need to replace burned-out bulbs, eliminating the creation of additional waste. There are surgical LEDs on the market currently that have been rated to last for 50,000 hours. This equates to over 20 years of use. This long life helps hospitals realize a greater return on their capital investment. Durability of the light head also contributes to the long life. It is important that the light head is made of robust material to handle the everyday wear-and-tear of an OR/ED/Trauma room.

Light Head Construction: Construction of the light head and packaging can have an effect on the green footprint of an LED light. Light heads can now be made of recyclable material (aluminum, glass, etc.) for effective disposal when they do reach end-of-life. Most light vendors have also worked to keep their light heads free of chemicals such as polyvinyl chloride, mercury, etc. In addition, the packaging for lights must be minimized and be easily recyclable.

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