

Surgical Brainstorm: Cameras & Video Systems

Jim Roselius, National Sales Manager, Vision Systems, Panasonic System Networks Company

What are the top three considerations surgical professionals should make when purchasing surgical cameras & videos system?

April 16, 2010



1. Sensitivity. While some would argue resolution is the #1 consideration, sensitivity may rank higher. The surgeon must see details to make accurate decisions, but needs to see those details in a wide variety of contrast conditions. The surgeon must limit light as well because it generates heat, or because it might wash out the picture and cause false coloring. Especially in arthroscopic surgery where the bright bone areas and the dark cavity areas create extreme contrast, the camera must be sensitive so that the fine details in the light areas are not lost in over-saturation nor lost in the hidden and shaded areas. If you can avoid increasing gain to get the light and contrast you need, you will avoid the interference of noise.

2. Resolution. The sharpest image is a must-have and the clarity should be derived from true resolution, with careful and controlled addition of detail enhancement. This means using HD cameras. Even in procedures where smaller scopes have limited bandwidth, the more data in the more data out. By using HD, the temptation to increase detail and contouring enhancement will be kept in check. Limiting enhancement also limits added noise, the source of surgeon eye fatigue.

3. Color Performance. The cameras must be able to produce both accurate and repeatable true color performance. But they also must have the capability for adjustment so that different looks and parameter settings can be stored for quick and easy selection, depending on the procedure or surgeon's preference. Fine color matrix adjustments are a must because true color of internal organs is often critical in diagnosis and treatment situations. Although the color matrix and gamma capabilities should be comprehensive, they need to be easily stored and set up by the manufacturers so they are a simple and quick selection for the surgeon.

Surgical Brainstorm: Cameras & Video Systems

Published on Surgical Products (<http://www.surgicalproductsmag.com>)

Source URL (retrieved on 01/30/2015 - 8:20am):

<http://www.surgicalproductsmag.com/articles/2010/04/surgical-brainstorm-cameras-video-systems>