Light Sources for Beginners

An in depth look at surgical light sources and their differences as compiled by the experts at AA Medical Store.

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FEATURES

LIGHT BULBS

LED

LED bulbs have a lifespan of 50,000 surgical hours. They are environmentally friendly because they reduce environmental waste by preventing frequent changes of light bulbs. Other LED bulb advantages are they produce less heat and require a much lower wattage to produce the same intensity of light (lumens) in that of Xenon bulbs.

LED LIGHT SOURCES
Stryker L9000

XENON

Xenon bulbs have lifespan of 500 surgical hours. They produce anywhere from 1800-2000 lumens.

XENON LIGHT SOURCES
Stryker x8000
LIGHT CABLES

A light cable transmits light from the light source to the endoscope during minimally invasive surgical procedures. The light is transmitted from the source through an optical cable and a scope.

STRYKER SAFELIGHT™ FIBER OPTIC CABLE

The cable features Electronic Scope-Sensing Technology (ESST), which detects when the cable is disconnected from the scope adapter, and automatically powers off the light source to prevent burns and fires.

The cable will work with all manufacturers of light sources with a SafeLight™ Scope Adapter.

STANDARD FIBER OPTIC CABLE

Made with a silicone outer coating to prolong life cycle of the cable.

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>TYPE OF ADAPTER</th>
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<tbody>
<tr>
<td>0233050088</td>
<td>SafeLight™ Wolf Scope Adapter</td>
</tr>
<tr>
<td>0233050087</td>
<td>SafeLight™ Henke/Dyonics/Storz Scope Adapter</td>
</tr>
<tr>
<td>0233050086</td>
<td>SafeLight™ Olympus Scope Adapter</td>
</tr>
<tr>
<td>0233050192</td>
<td>SafeLight™ Circon Scope Adapter</td>
</tr>
</tbody>
</table>
IN-OFFICE LIGHTING

In-office lighting provides a portable option that takes up less space and is easy to transport from room to room.

MANEUVERABLE

Light sources on wheels so they can easily be moved from room to room.

WEARABLE

Headlights are now available in LED lighting for a brighter intensity headlight. Brightness and sizes are adjustable.
SAFETY FEATURES

Look for these particular safety features to help prevent unwanted accidents in the operating room.

LOCKING MECHANISMS

Allows the locking of the fiber optic cable in the cable clamp, or light port, to prevent from accidental disconnections of the cable from the system.

STANDBY MODE

Standby mode is used when a light source is powered on, but not in use. It reduces light output to a minimum, thereby reducing the heat generated at the tip of the light cable or scope.

ELECTRONIC SCOPE SENSING TECHNOLOGY (ESST)

Electronic Scope-Sensing Technology (ESST), which detects when the cable is disconnected from the scope adapter, and automatically powers off the light source to prevent burns and fires.
TERMINOLOGY

FIBER OPTIC CABLE
A cable containing one or more optical fibers that are used to carry light.

LUMENS
The lumen scale describes the amount of light, or brightness, that the human eye perceives.

DID YOU KNOW?
Before the development of surgical lighting, operating rooms were built towards the south-east with windows in the ceiling to benefit from the natural sunlight as much as possible.

In 1880, the first surgical lights were being used. It wasn’t until 1968 when LED light technology was first introduced that lighting in the operating room became much more efficient.

An illustration of the inside of a fiber optic cable.
RECOMMENDATIONS

Our recommended light source system is highlighted in blue below. Additionally, we’ve outlined the top systems from each of the top video endoscopy manufacturers and provided the key specifications below.

CONMED LINVATEC

<table>
<thead>
<tr>
<th>LIGHT SOURCE MODEL</th>
<th>TYPE OF BULB</th>
<th>WATTS</th>
<th>SAFETY FEATURES</th>
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</thead>
<tbody>
<tr>
<td>ConMed Linvatec LS7700</td>
<td>Xenon</td>
<td>300-Watt</td>
<td>Standby, locking guide, bulb-saver feature</td>
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<tr>
<td>ConMed Linvatec LS7500</td>
<td>Xenon</td>
<td>300-Watt</td>
<td>Standby, locking guide</td>
</tr>
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</table>

KARL STORZ

- Karl Storz 300 Watt Xenon Light Source
- Karl Storz 175 Watt Xenon Nova
- Karl Storz 100 Watt Xenon Light Source

OLYMPUS

- Olympus CLV-S190 Visera Elite
- Olympus CLV-180 Evis Exera II
- Olympus CLV-160 Evis Exera

SMITH & NEPHEW

- Smith & Nephew 500 XL Light Source
- Smith & Nephew 420 XL Light Source
- Smith & Nephew 300 XL Light Source

STRYKER

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<td>Stryker L9000</td>
<td>LED</td>
<td>400-Watt</td>
<td>ESST, Standby, locking guide</td>
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<td>Stryker x8000</td>
<td>Xenon</td>
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<td>Standby, locking guide</td>
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