

## Mortality Rates from Stray Energy Burn Bowel Injuries Using Non-AEM Monopolar Laparoscopic Instruments:

Description	USA Data
<b>Number of monopolar laparoscopic procedures performed in the USA every year:</b> <ul style="list-style-type: none"> <li>3 million laparoscopic procedures annually in USA<sup>4</sup></li> <li>85% use monopolar electrosurgical energy<sup>1</sup></li> </ul>	<b>2,550,000 procedures annually</b>
<b>Incidence of stray energy burn bowel injuries during laparoscopic surgery:</b> <ul style="list-style-type: none"> <li>(1.3 bowel injuries in 1000 procedures)*(50% are due to thermal injury)<sup>2-5</sup></li> </ul>	<b>6.5 injuries per 10,000 procedures</b>
<b>Incidence of death from thermal bowel injuries during laparoscopic surgery:</b> <ul style="list-style-type: none"> <li>Intestinal perforation manifests into fecal peritonitis, with a mortality rate of 25%<sup>6</sup></li> <li>(6.5 injuries per 10,000 procedures)*(25%) = 1.63 deaths per 10,000 procedures</li> </ul>	<b>1.6 deaths per 10,000 procedures</b>
<b>Number of preventable monopolar laparoscopic deaths over a 10 year period:</b> <ul style="list-style-type: none"> <li>(2,550,000 procedures annually)*(0.01625% risk)*(10 years) = 4,144</li> </ul>	<b>4,144 deaths over 10 years</b>
<b>Number of preventable monopolar laparoscopic deaths per year:</b> <ul style="list-style-type: none"> <li>(2,550,000 procedures annually)*(0.01625% risk) = 414</li> </ul>	<b>400 - 500 deaths per year</b>
<b>Number of preventable monopolar laparoscopic deaths per day:</b> <ul style="list-style-type: none"> <li>(2,550,000 procedures annually)*(0.01625% risk) / (365 days) = 1.14</li> </ul>	<b>1 - 2 deaths per day</b>

## Complication Rates from All Stray Energy Burn Injuries Using Non-AEM Monopolar Laparoscopic Instruments:

Description	USA Data
<b>Preventable stray energy burns occur 0.6 – 5 per 1,000 procedures<sup>7</sup></b>	<b>0.6 – 5 stray energy burn injuries per 1,000 procedures</b>
<b>Number of preventable monopolar laparoscopic burns over a 10 year period:</b> <ul style="list-style-type: none"> <li>2.8 stray energy burn injuries in 1000 procedures (average)<sup>7</sup></li> <li>(2,550,000 procedures per year)*(2.8 injuries per 1,000 procedures)*(10 years) = 71,400 stray energy burn injuries in 10 years</li> </ul>	<b>71,400 injuries over 10 years</b>
<b>Number of minutes between preventable monopolar laparoscopic burns:</b> <ul style="list-style-type: none"> <li>(2,550,000 procedures)*(2.8 injuries/ 1,000 procedures)/(365 days)*(24 hours/day)*(60 min/hour) = every 73 minutes a patient stray energy burn occurs</li> </ul>	<b>Every 90 minutes a patient is burned</b>

### REFERENCES

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