

Mortality Rates from Stray Energy Burn Bowel Injuries Using Unshielded Monopolar Laparoscopic Instruments:

Description	USA Data
Number of monopolar laparoscopic procedures performed in the USA every year: <ul style="list-style-type: none"> 3 million laparoscopic procedures annually in USA¹ 85% use monopolar electro-surgical energy¹ 	2,550,000 procedures annually
Incidence of stray energy burn bowel injuries during laparoscopic surgery: <ul style="list-style-type: none"> (1.3 bowel injuries in 1000 procedures)* (50% are due to thermal injury)^{2-5,9} 	6.5 injuries per 10,000 procedures
Incidence of death from thermal bowel injuries during laparoscopic surgery: <ul style="list-style-type: none"> Intestinal perforation manifests into fecal peritonitis, with a mortality rate of 25%⁶ (6.5 injuries per 10,000 procedures)* (25%) = 1.63 deaths per 10,000 procedures 	1.6 deaths per 10,000 procedures
Number of preventable monopolar laparoscopic deaths over a 10 year period: <ul style="list-style-type: none"> (2,550,000 procedures annually)*(0.01625% risk)*(10 years) = 4,144 	4,144 deaths over 10 years
Number of preventable monopolar laparoscopic deaths per year: <ul style="list-style-type: none"> (2,550,000 procedures annually)*(0.01625% risk) = 414 	400- 500 deaths per year
Number of preventable monopolar laparoscopic deaths per day: <ul style="list-style-type: none"> (2,550,000 procedures annually)*(0.01625% risk) / (365 days) = 1.14 	1-2 deaths per day

Complication Rates from All Stray Energy Burn Injuries Using Unshielded Monopolar Laparoscopic Instruments:

Description	USA Data
Preventable stray energy burns occur 0.6- 5 per 1,000 procedures⁷	0.6- 5 stray energy burn injuries per 1,000 procedures
Number of preventable monopolar laparoscopic burns over a 10 year period : <ul style="list-style-type: none"> 2.8 stray energy burn injuries in 1000 procedures (average)⁷ (2,550,000 procedures per year)*(2.8 injuries per 1,000 procedures)* (10 years) = 71,400 stray energy burn injuries in 10 years 	71,400 injuries over 10 years
Number of minutes between preventable monopolar laparoscopic burns: <ul style="list-style-type: none"> (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 	Every 90 minutes a patient is burned

Estimated incidence of preventable patient injury, from stray energy burns, per active general surgeon in the USA:

Description	USA Data
Number of active general surgeons in the USA⁸	19,273 general surgeon
Potential rate of patient injury, per general surgeon in the USA <ul style="list-style-type: none"> (7,140 patient injuries per year, from preventable stray energy burns) / (19,273 surgeons) = 0.37 patient injuries per year, per general surgeon = potential of 37% chance of patient injury, per general surgeon 	1 in 3 USA surgeons may have a preventable patient injury per year, from stray energy

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