

IMPACT® formulas have over 80 publications, with the most common clinical outcomes being a reduction in infectious complications and length of stay. The below seeks to detail the specifics on outcome data that have been published to date. This may be helpful in the identification of specific outcomes as they relate to quality measures.

IMPACT® Formulas and Data in Surgical Site Infections (Wound Infection)

First Author	Study Design	Surgery Type	Administration Method Showing Positive Results	Study size	% Reduction in SSIs or SSI risk (study vs control)
Horie 2006	Non-randomized	Colorectal	Pre-op	67	100 (0% vs 11.8%)
Waitzberg 2006	Meta-Analysis	GI/ H+N/ Cardiac	Average of pre/peri/post	2305	37 (4.9% vs 8.1%)
Takeuchi 2007	RCT	Esophageal	Peri-op	40	100 (0% vs. 30%)
Celik 2009	RCT	Gyn-Onc	Peri-op	50	80 (4% vs 20%)
Shirakawa 2011	Historical Control	Upper GI	Pre-op	31	100 (0% vs. 30.8%)
Falewee 2014	RCT	H+N	Peri-op	64	73 (11.8% vs. 43.5%)
Chapman 2015	QI Clin Outcomes	Gyn-Onc	Post-op	338	78 (Class 2 and 3 SSI; 4% vs 7%)
Banerjee 2017	QI Clin Outcomes	Colorectal	PreOp	772	100 (0% vs. 2.65%)

1

IMPACT® Formulas and Data in Wound Complications

First Author	Study Design	Surgery Type	Administration Method Showing Positive Results	Study size	% Reduction in Wound Cx
Farreras 2005	RCT	Gastric	Post	60	100 (0% vs. 26.7%)
Chapman 2015	QI Clin Outcomes	Gyn-Onc	Post-op	338	41 (19.6% vs 33%)

IMPACT® Formulas and Data in Anastomotic Leak

First Author	Study Design	Surgery Type	Administration Method Showing Positive Results	Study size	% Reduction in Leak or Risk of Leak
Waitzberg 2006	Meta-Analysis	GI/ H+N/ Cardiac	Average of pre/peri/post	2305 (meta-analysis)	44 (4.6% vs 8.4%)
Marano 2013	RCT	Gastrectomy	Post-op	109	49 (3.7% vs 7.3%)

IMPACT® Formulas and Data in Urinary Tract Infection (UTI)

First Author	Study Design	Surgery Type	Administration Method Showing Positive Results	Study size	% Reduction in UTI or Risk of UTI
Farber 2005	Historical Control	Trauma	Post	38	50 (33% vs 65%)
Waitzberg 2006	Meta-Analysis	GI/ H+N/ Cardiac	Average of pre/peri/post	2305	47 (2.2% vs 4.9%)
Bertrand 2014	Case-controlled	Bladder	Pre	60	64 (16.7% vs 46.7%)

IMPACT® Formulas and Data in Pneumonia

First Author	Study Design	Surgery Type	Administration Method Showing Positive Results	Study size	% Reduction in Pneumonia or Risk of Pneumonia
Tepaske 2001	RCT	Cardiac	Pre and peri	50	67 (13% vs 41%)
Farber 2005	Historical Control	Trauma	Post	38	77 (12% vs 52%)
Waitzberg 2006	Meta-Analysis	GI/ H+N/ Cardiac	Average of pre/peri/post	2305	47 (5.3% vs 10.9%)

2

IMPACT® Formulas and Data in Abdominal Abscess

First Author	Study Design	Surgery Type	Administration Method Showing Positive Results	Study size	% Reduction in Risk of Abdominal Abscess
Waitzberg 2006	Meta-Analysis	GI/ H+N/ Cardiac	Average of pre/peri/post	2305	54 (2.2% vs 5.4%)

IMPACT® Formulas and Antibiotic (AB) Use

First Author	Study Design	Surgery Type	Administration Method Showing Positive Results	Study size	% Reduction in AB use
Braga 1999	RCT	Gastric/Panc/CR	Peri	207	34 (6.7 vs 9 days)
Gianotti 2002	RCT	CR/Esoph/Panc	Pre and Peri	305	53, 46 (6, 6.3 vs. 9.2 days)
Braga 2002	RCT	Colorectal	Pre and Peri (with infection)	200	37, 44 (6.5, 6.2 vs. 8.9 days)
Hamilton-Reeves 2016	RCT	Bladder	Peri	29	39 (14% vs 53%)

IMPACT® Formulas and Pharyngeal Leaks/Fistulas

First Author	Study Design	Surgery Type	Administration Method Showing Positive Results	Study size	% Reduction in Pharyngeal Leak/Fistula
Rowan 2016	QI Clin Outcomes	Head/Neck	Periop	195	63 (8.7% vs 24%)

3

IMPACT® Formulas and Readmission

First Author	Study Design	Surgery Type	Administration Method Showing Positive Results	Study size	% Reduction in Readmission
Majumder 2016	QI Clin Outcomes	Ventral hernia	PreOp + Enhanced Recovery Protocol (ERP) Bundle	200	75 (4% vs 16%)
Banerjee 2017	QI Clin Outcomes	Colorectal	PreOp	772	50-58 (6% vs 12% 30d; 10% vs 23% 90d; 14% vs 33% 180 d)

IMPACT® Formulas and Systemic Inflammatory Response Syndrome (SIRS) Days

First Author	Study Design	Surgery Type	Administration Method Showing Positive Results	Study size	% Reduction in SIRS Days
Weimann 1998	RCT	Trauma	Post	29	60 (8.3 vs 13.3)
Takeuchi 2007	RCT	Esophageal	Peri	40	33 (3 days vs. 4 days)
Okamoto 2009	RCT	Gastrectomy	Preop	60	74 (0.77 vs. 1.34 days)
Suzuki 2010	RCT	Pancreatic	Periop	30	50 (2.4 vs 3.6 days)

IMPACT® Formulas and Intensive Care Unit Length of Stay (ICU LOS)

First Author	Study Design	Surgery Type	Administration Method Showing Positive Results	Study size	% Reduction in ICU LOS
Takeuchi 2007	RCT	Esophageal	Peri	40	45 (5.5 days vs. 7 days)

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