

OPERAČNÍ STRES A KOMPLIKACE VE STŘEVNÍ CHIRURGII

Z. Šerclová, Nemocnice Hořovice

Quality Assessment in High-Acuity Surgery

Volume and Mortality Are Not Enough

Charles M. Vollmer, Jr, MD; Wade Pratt, BA; Tsafirir Vanounou, MD, MBA;
Shishir K. Maithel, MD; Mark P. Callery, MD

Arch Surg. 2007;142:371-380

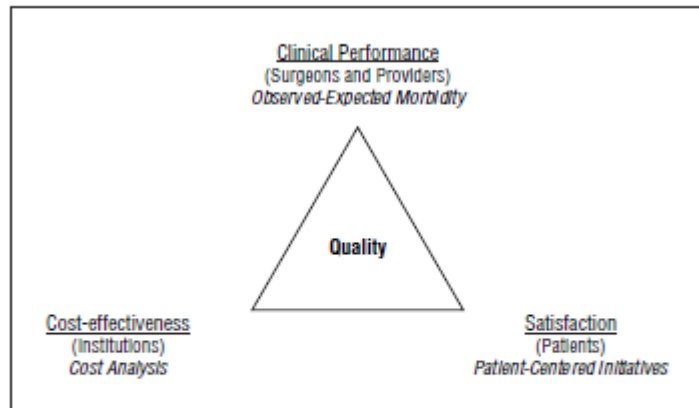


Figure 3. The Quality Triangle provides a new definition of quality that reflects the partnerships and objectives of health care professionals, institutions, and patients. Each vertex represents the components of quality (underlined), potential stakeholders (in parentheses), and the proposed metrics for assessment (italicized).

Table 1. Definitions of Outcomes Used for Traditional Surgical Quality Assessment

Outcome	Definition
Postoperative complications* Minor (Clavien I-II)	Complications requiring pharmacologic treatment, including hyperalimentation, antibiotic agents, and blood transfusions
Major (Clavien III-V)	Complications requiring surgical, endoscopic, or radiologic intervention; complications resulting in organ dysfunction or death
Mortality	Death during the initial hospitalization or within 30 d of hospital discharge or death due to any surgical complication at any time
Hospitalization duration	Days from the initial operation to hospital discharge
Intensive care unit transfer	Treatment in an intensive care setting on or after postoperative day 1, excluding admissions to the intensive care unit directly from the operating room
Blood transfusion	Administration of packed red blood cells postoperatively, excluding blood products received during the initial operation
Patient discharge disposition	Hospital discharge to 1 of 3 options after the initial operation: to home, to home with arrangements for visiting nurse assistance, or to a rehabilitation facility
Hospital readmission	Readmission for management of postoperative complications within 30 d of hospital discharge
Repeated operation	Surgical exploration during initial hospitalization or within 30 d of hospital discharge
Total hospital costs	Costs from the initial operation to hospital discharge plus any costs incurred during hospital readmissions within 30 d postoperatively

*Severity of complications was graded according to the Clavien complication scheme.²¹

KOLOREKTÁLNÍ CHIRURGIE a komplikace

- Akutní / Elektivní operace
- Příprava k operaci u elektivních operací
 - PRECONDITIONING
- Volba rozsahu operace/ přístupu
 - Pacient/chirurg
- Perioperační péče- výsledek- zvládnutí komplikace

AKUTNÍ OPERACE

Table 2 Time of day, seniority of medical staff, and 30 day mortality. *Time of anaesthetic induction

Time of day*	n	Consultant anaesthetist present (%)	Consultant surgeon present (%)	30 day mortality (%)
08:00–17:59	1044	75.2	80.8	14.2
18:00–23:59	442	54.8	67.7	17.8
00:00–07:59	152	40.8	61.8	20.3

British Journal of Anaesthesia 109 (3): 368–75 (2012)
Advance Access publication 22 June 2012 · doi:10.1093/bja/aes165

BJA

Variations in mortality after emergency laparotomy: the first report of the UK Emergency Laparotomy Network

D. I. Saunders¹, D. Murray^{2*}, A. C. Pichel³, S. Varley³, C. J. Peden⁴, on behalf of the members of the UK Emergency Laparotomy Network



Doporučené postupy chirurgické léčby pacientů s nespecifickými střevními záněty – 1. část: předoperační příprava

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Doporučení: U každého pacienta s IBD je před plánovanou operací nutné zhodnocení stavu výživy, které spočívá v nutričním screeningu. Při zjištění rizika malnutrice je nezbytné podrobné vyšetření její závažnosti s následnou intervencí (*EBM 2b, doporučení: B*).

Doporučení: U malnutričních pacientů je indikována předoperační nutriční podpora i za cenu odložení operace (*EBM 2b, doporučení: A*). Preferována je vždy enterální výživa. Pokud není enterální cestou možné dosáhnout aspoň 60% energetické potřeby, je indikována parenterální nebo kombinovaná výživa (*EBM 2b, doporučení: A*).

Doporučení: Aerobní cvičení (několik týdnů), zanechání kouření (čtyři týdny) a vyloučení alkoholu (čtyři týdny) před operací snižuje riziko pooperačních komplikací (*EBM 2–3, doporučení: B*). U anemických pacientů je před operací indikována suplementace železa. Podání transfuze před operací zvyšuje výskyt pooperačních komplikací a mělo by být indikováno pouze u středně a těžce anemických pacientů (hemoglobin < 90 g/l).

Operační stres a volba přístupu

MINIINVAZÍVNÍ CHIRURGIE



MÉNĚ STRESU ?

Laparoskopické techniky

- Tendence ke komplikovanějším operacím
- Význam:
 - Krátkodobá rekonvalescence,
 - Menší jizva- ale extrakce preparátu
 - Možná menší frekvence ileu
 - Komplikace
 - Fertilita po operaci

40% pp neuspokojivé výsledky Pfannenstielova řezu

Mattioli G, Pini-Prato A, Barabino A, Gandullia P, Avanzini S, Laparoscopic approach for childchildren with inflammatory bowel diseases. *Pediatr Surg Int* 2011; **27**: 839-846

Otevřená x laparoskopická kolorektální chirurgie a operační trauma ???

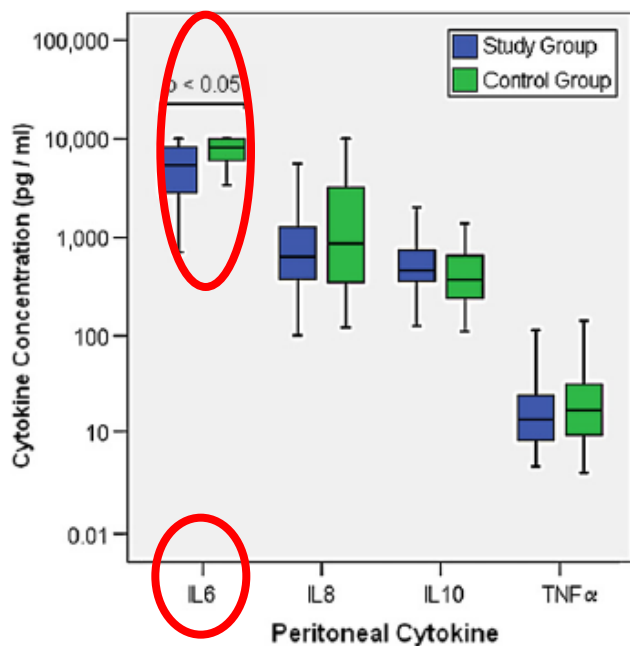


FIG. 1. Peritoneal cytokine concentrations in Study versus Control group. Coloured bars: medians with interquartile ranges, error bars: 95% confidence intervals.

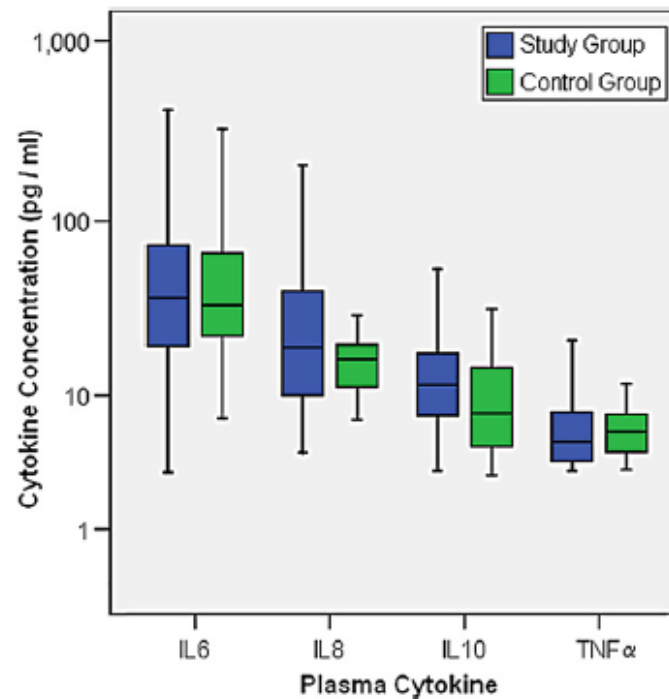


FIG. 2. Plasma cytokine concentrations in Study versus Control group. Coloured bars: medians with interquartile ranges, error bars: 95% confidence intervals.

Comparison of the clinical and economic outcomes between open and minimally invasive appendectomy and colectomy: evidence from a large commercial payer database

Terrence M. Fullum · Joseph A. Ladapo ·
Bijan J. Borah · Candace L. Gunnarsson

Surg Endosc (2010) 24:845–853
DOI 10.1007/s00464-009-0675-0

2005/2006 – US data – plátci péče

Kolektomie OPEN/ MIS 69/31%
Apendektomie OPEN/ MIS 30/70%

	Total	Any infection <i>n</i> (%)	Cost for episode of care (\$) ^b Mean	Adjusted cost for episode of care (\$) ^c Mean	Difference in means (\$) ^e <i>n</i> (95% CI)
Colectomy					
MIS	842	203 (24) ^a	27,031.37 ^d	29,278.4 ^d	15,181.37 (11,295.85–19,066.89) ^e
Open	1,903	728 (38) ^a	47,091.40 ^d	44,459.77 ^d	
Appendectomy					
MIS	5,304	863 (16) ^a	11,298.16 ^d	11,552.41 ^d	700.66 (28.8–1,372.52) ^d
Open	2,228	435 (20) ^a	14,031.95 ^d	12,253.07 ^d	

From: Effect of Minimally Invasive Surgery on the Risk for Surgical Site Infections: Results From the National Surgical Quality Improvement Program (NSQIP) Database

JAMA Surg. 2014;149(10):1039-1044. doi:10.1001/jamasurg.2014.292

Table. Propensity Model–Adjusted Outcomes for Surgical Approach for Patients Undergoing Selected Procedures Within the NSQIP Database (2005-2011)

SSI	Approach, No. (%) of Patients			P Value	OR (95% CI) ^a	P Value
	Overall	Open Surgery	MIS			
Appendectomy^b						
Superficial	888 (2.4)	689 (3.7)	199 (1.1)	<.001	0.28 (0.24-0.33)	<.001
Deep	264 (0.7)	220 (1.2)	44 (0.2)	<.001	0.19 (0.14-0.27)	<.001
Organ space	896 (2.4)	428 (2.3)	468 (2.5)	.20	1.09 (0.96-1.25)	.1
Overall	1983 (5.4)	1284 (7.0)	699 (3.8)	<.001	0.52 (0.48-0.58)	<.001
Colectomy^b						
Superficial	6497 (7.6)	3997 (9.3)	2500 (5.8)	<.001	0.60 (0.57-0.63)	<.001
Deep	1133 (1.3)	763 (1.8)	370 (0.9)	<.001	0.48 (0.42-0.54)	<.001
Organ space	3194 (3.7)	1970 (4.6)	1224 (2.8)	<.001	0.61 (0.56-0.65)	<.001
Overall	10 417 (12.1)	6429 (15.0)	3988 (9.3)	<.001	0.58 (0.55-0.61)	<.001
Hysterectomy						
Superficial	390 (1.8)	278 (2.5)	112 (1.0)	<.001	0.39 (0.32-0.49)	<.001
Deep	84 (0.4)	71 (0.6)	13 (0.1)	<.001	0.18 (0.10-0.33)	<.001
Organ space	158 (0.7)	85 (0.8)	73 (0.7)	.40	0.86 (0.63-1.17)	.30
Overall	632 (2.8)	434 (3.9)	198 (1.8)	<.001	0.44 (0.37-0.53)	<.001
Radical Prostatectomy						
Superficial	62 (1.1)	43 (1.5)	19 (0.7)	.002	0.44 (0.25-0.75)	.003
Deep	9 (0.2)	9 (0.3)	0	.003	NA	NA
Organ space	28 (0.5)	19 (0.7)	9 (0.3)	.06	0.47 (0.21-1.04)	.06
Overall	99 (1.7)	71 (2.4)	28 (1.0)	<.001	0.39 (0.25-0.61)	<.001

Abbreviations: MIS, minimally invasive surgery; NA, not applicable; NSQIP, National Surgical Quality Improvement Program; OR, odds ratio; SSI, surgical site infection.

^a Indicates comparison of odds between the open surgery and MIS approaches.

^b Because the same patient might experience superficial, deep, or organ space SSI, the numbers provided in the column might not total the overall SSI.

Table Title

Propensity Model–Adjusted Outcomes for Surgical Approach for Patients Undergoing Selected Procedures Within the NSQIP Database (2005-2011)

A laparoscopic approach reduces short-term complications and length of stay following ileocolic resection in Crohn's disease: an analysis of outcomes from the NSQIP database

Y. Lee*, F. J. Fleming*, A.-P. Deeb*, D. Gunzler†, S. Messing† and J. R. T. Monson*

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	Total population	Laparoscopic group	Open group	P-value
Total group	1917	644 (33.6)	1273 (66.4)	
Male gender	884 (46.1)	257 (39.9)	627 (49.3)	0.0001
Mean age (years)	40.6 ± 14.9	37.6 ± 14.7	42.1 ± 14.8	< 0.0001
Preoperative systemic sepsis	155 (8.1)	26 (4.0)	129 (10.1)	< 0.0001
Emergency case	109 (5.7)	15 (2.3)	94 (7.4)	< 0.0001
ASA class III/IV/V	511 (26.7)	119 (18.5)	392 (30.8)	< 0.0001
Intra-operative transfusion	92 (4.8)	9 (1.4)	83 (6.5)	< 0.0001
Wound class III/IV	621 (32.4)	142 (22.1)	479 (37.6)	< 0.0001
Operation time ≥ 180 min (75th centile)	480 (25.0)	140 (21.7)	340 (26.7)	0.018
Return to operating room	90 (4.7)	25 (3.9)	65 (5.1)	0.231
Postoperative systemic sepsis	112 (5.8)	20 (3.1)	92 (7.2)	0.0003
Days from operation to discharge	6.8 ± 6.2	5.4 ± 4	7.5 ± 7	< 0.0001

Nemocní OPEN: významně vyšší ASA, více předoperační sepse, více SSI III-IV delší hospitalizace, více pooperačních septických komplikací stejná frekvence re- operací

A laparoscopic approach reduces short-term complications and length of stay following ileocolic resection in Crohn's disease: an analysis of outcomes from the NSQIP database

Y. Lee*, F. J. Fleming*, A.-P. Deeb*, D. Gunzler†, S. Messing† and J. R. T. Monson*

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Factor	Days from operation until discharge \pm SE (<i>P</i> -value)
Laparoscopic approach <i>vs</i> open approach	-1.08 days \pm 0.29 (0.0002)
Male gender	+0.83 days \pm 0.26 (0.0016)
ASA Class III/IV/V	+1.19 days \pm 0.32 (0.0002)
Operation time \geq 180 minutes (75th centile)	+0.96 days \pm 0.31 (0.0019)
Intra-operative blood transfusion – yes <i>vs</i> no	+2.91 days \pm 0.64 (< 0.0001)
Preoperative anaemia	-0.75 days \pm 0.28 (0.008)
Bleeding disorder	+3.09 days \pm 0.91 (0.0007)
Functional status: dependent	+3.52 days \pm 0.85 (< 0.0001)
Preoperative systemic sepsis	+1.96 days \pm 0.53 (0.0002)
Predischarge major complication <i>vs</i> none	+13.37 days \pm 0.82 (< 0.0001)
Predischarge minor complication <i>vs</i> none	+5.43 days \pm 1.0 (< 0.0001)

Review

Non-surgical complications after laparoscopic and open surgery for colorectal cancer – A systematic review of randomised controlled trials

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I.H.M. Borel Rinkes ^b, M.E. Hamaker ^c

EJSO 41 (2015) 1118–1127

Reported outcome.

Outcome	Number of studies addressing outcome (n = 18)	References	Median reported incidence		Range in reported incidence	
			Lap	Open	Lap	Open
Cardiac complications	10	11,13,24,25,27,29–31,34,36	1%	2%	0–4%	1–7%
Pulmonary complications	18	11,13,15,23–37	2%	4%	0–11%	0–11%
Overall morbidity	16	11,13,15,23–26,28–31,33–37	31%	33%	11–69%	20–55%
Mortality	16	11,13,15,23–26,28–30,32–37	1%	2%	0–4%	0–5%
Urogenital complications	16	13,23–37	5%	5%	1–35%	0–35%
Neuropsychological complications	6	29–31,34–36	1%	2%	0–1%	0–4%
Vascular complications	8	15,25,29–32,34,36	1%	2%	0–3%	0–6%
Renal complications	4	28,30,34,35	1%	1%	0–2%	0–1%
Other non-surgical complications	11	11,13,24,26,28–30,33–36	3%	2%	0–35%	1–44%

Lap: Laparoscopic surgery group; Open: Open surgery group.

Méně kardiálních komplikací po laparoskopii

The Impact of Open Versus Laparoscopic Resection for Colon Cancer on C-Reactive Protein Concentrations as a Predictor of Postoperative Infective Complications

Ann Surg Oncol (2015) 22:938–943

DOI 10.1245/s10434-014-4065-z

Michelle L. Ramanathan, MBChB¹, Graham MacKay, MD², Jonathan Platt, MBChB¹, Paul G. Horgan, PhD¹, and Donald C. McMillan, PhD¹

- 344 pp open x laparo KR chirurgie
- Inf komplikace 28 vs 25% - ns

TABLE 2 The relationship between serial postoperative values of C-reactive protein and the development of infective complications following open versus laparoscopic surgery for colon cancer ($n = 344$)

	No infective complication ($n = 251$)			Infective complication ($n = 93$)		
	Open surgery ($n = 137$)	Laparoscopic ($n = 114$)	p -Value	Open surgery ($n = 54$)	Laparoscopic ($n = 39$)	p value
Preop CRP	9 (1–209)	4 (1–45)	<0.001	9 (1–101)	5 (2–28)	0.019
CRP day 1	103 (4–229)	60 (18–173)	<0.001	117 (2–240)	112 (43–236)	0.092
CRP day 2	169 (20–320)	116 (32–317)	<0.001	201 (82–358)	188 (60–392)	0.193
CRP day 3	160 (6–352)	129 (44–316)	<0.001	220 (78–430)	226 (40–339)	0.635
CRP day 4	110 (6–388)	87 (28–346)	0.196	187 (23–415)	233 (27–314)	0.923

Data are expressed as median (range)

Preop preoperative, CRP C-reactive protein (mg/l)

Rizika komplikací

A Multicentre Evaluation of Risk Factors for Anastomotic Leakage After Restorative Proctocolectomy with Ileal Pouch-Anal Anastomosis for Inflammatory Bowel Disease

Salomeh Sahami,^a Sanne A. L. Bartels,^a André D'Hoore,^b Tonia Young Fadok,^c Pieter J. Tanis,^a Robert Lindeboom,^d Anthony de Buck van Overstraeten,^b Albert M. Wolthuis^b



Journal of Crohn's and Colitis, 2015, 1–6

640 pp IPAA

Nezávislým rizikem leaku (15%) (multivar. analýza)

ASA > 2, BMI > 25, déka nemoci > 5let, kortikoidy a anti TNF

Technique of last resort: characteristics of patients undergoing open surgery in the laparoscopic era

Hamza Guend · David Y. Lee · Elizabeth A. Myers ·
Nipa D. Gandhi · Vesna Cekic · Richard L. Whelan

Surg Endosc (2015) 29:2763–2769

- 3 miniinvasive chirurgové- 2 nemocnice NY
- 2000-2011..... 1080 kolorektálních resekcí
 - 141 (14%) OPEN / 939 LAPARO (86%)

Table 5 Major and minor complications

Complications	Open (%)	MICR (%)	<i>p</i> value
Major complications rate	40 (28.4)	126 (13.4)	<0.001
Re-operation	14 (9.4)	32 (3.4)	0.0002
Abscess/leak	5 (3.6)	22 (2.3)	0.40
Atrial fibrillation	5 (3.6)	12 (1.3)	0.04
SBO	5 (3.6)	17 (1.8)	0.18
Pneumonia	1 (0.7)	17 (1.8)	NA
Cardiac event	2 (1.4)	9 (1.0)	NA
Respiratory failure	2 (1.4)	9 (1.0)	NA
DVT	3 (2.1)	3 (0.3)	NA
PE	1 (0.7)	2 (0.2)	NA
<i>C. difficile</i>	2 (1.4)	3 (0.3)	NA
Minor Complications rate	19 (13.5)	103 (11.0)	0.19
UTI	5 (3.6)	36 (3.8)	0.87
Wound infection	14 (9.93)	67 (7.1)	0.24
Total	60 (42.6)	229 (24.4)	<0.001

UTI urinary tract infection, *SBO* small bowel obstruction, *DVT* deep venous thrombosis, *PE* pulmonary embolus, *C. difficile* clostridium difficile infection

Technique of last resort: characteristics of patients undergoing open surgery in the laparoscopic era

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Nemocní indikovaní k OPEN

- Polymorbidnější
- Více reoperace
- Více multiviscerální resekce
- Více IBD
- **? Specializovaná centra OPEN?**

Table 2 Medical co-morbidities

Co-morbidities	Open (%)	MICR (%)	<i>p</i> value
Chalrson index ≥ 2 (%)*	34.4	22.1	0.0029
Renal disease	12 (8.5)	27 (2.9)	0.0004
CVA/TIA	10 (7.1)	35 (3.7)	0.031
Cardiac disease	22 (15.6)	111 (11.8)	0.102
GERD	6 (4.3)	77 (8.2)	0.051
Atrial fibrillation	8 (5.7)	36 (3.8)	0.303
COPD	6 (4.3)	35 (3.7)	0.378
Diabetes Mellitus	21 (14.9)	113 (12.0)	0.168
Prior abdominal surgery	75 (65.2)	319 (41.8)	<0.001
Prior colonic resection	22 (15.6)	20 (2.1)	<0.001
Gynecologic surgery	4 (2.8)	104 (11.1)	0.001
Appendectomy	17 (12.1)	84 (9.0)	0.119
Cesarean section	9 (6.4)	37 (3.9)	0.09

Trend: laparoskopické re operace, řešení kompl.

REVIEW

Laparoscopic surgery for complex Crohn's disease

M. Tavernier, G. Lebreton, A. Alves*

Table 1 Literature review of comparative studies evaluating laparoscopy (Lapscop) for recurrent (R) or complicated (Comp) forms of Crohn's Disease (CD).

Authors	Year	No. of patients	Intra-operative intestinal injury	Operative duration (min)	Conversion	Stoma	Morbidity	Re-operation	Major complications	Hospital stay (days)
Hasegawa [17]	2003	I: 45 R: 16	ND ND	180 210^a	6.7% 12.5%	ND ND	13% 19%	ND ND	ND ND	8 8
Moorthy [18]	2004	I: 31 R: 26	ND ND	127 118	13% 42%^a	ND ND	ND ND	ND ND	16% 15.4%	7 8
Chaudhary [19]	2010	I: 29 R: 30	ND ND	85 125^a	10.3% 6.7%	ND ND	24% 17%	ND ND	ND ND	3 3
Pinto [20]	2011	I: 80 R: 50	1.25% 2%	182 201	18.7% 32%	17% 10%	36% 40%	10% 6%	12.5% 12%	6.7 7.4
Brouquet [21]	2010	Open: 33 Lapscop: 29	0% 17% ^a	226 215	31%	18% 24%	30% 38%	6% 7%	15% 10%	9 9
Aytac [22]	2012	Open: 26 Lapscop: 26	11.5% 7.6%	158 169	11.5%	ND	69% 38%	0% 7.6%	3.8% 15.2%	6.9 6.4
Wu [23]	1997	Comp: 24 Uncomp: 22	0% 0%	152 139	12.5% 0%	ND ND	4.1% 9%	ND ND	ND	4 4.5
Goyer [24]	2009	Comp: 54 Uncomp: 70	9% 5%	214^a 191	37%^a 14%	39%^a 9%	17% 17%	0% 4.3%	7% 6%	8 7
Beyer-Berjot [25]	2013	Comp: 11 Uncomp: 22	0% 0%	120 120	9% 0%	9% 14%	18% 32%	ND ND	0% 9%	8 9

I: initial resection; R: repeat resection; Open: laparotomy; Lapscop: laparoscopy; Comp: Complicated CD; Uncomp: Uncomplicated CD; ND: no data.

^a Bold text: statistically significant difference.

Menší jizvy → scareless chirurgie

- SILS single port laparoscopic surgery
 - 1992 Petrosi
 - Méně bolesti, rychlejší rekonvalescence
 - Nákladnější



Oxidative stress in multi-port and single-port cholecystectomy

George Pappas-Gogos, MD, MSc,^{a,*} Constantinos C. Tellis, PhD,^b
 Grigorios Trypsianis, PhD,^c Konstantinos E. Tsimogiannis, MD, MSc,^a
 Evangelos C. Tsimoyiannis, MD, FACS,^a
 Constantinos E. Simopoulos, MD, FACS,^d Michael Pitiakoudis, MD, FACS,^d
 and Alexandros D. Tselepis, MD, PhD^b

Table 2 – Variations of the OS markers in relation to the procedure.

OS markers	Type of procedure		P value
	LSSC	LC	
8-epiPGF_{2α} levels			
Preoperative	60.97 ± 13.33	55.70 ± 9.16	0.183 [*]
T ₆ h	60.03 ± 18.44	45.05 ± 7.64	0.003 [*]
T ₂₄ h	64.02 ± 16.54	44.68 ± 9.17	<0.001 [*]
P value	0.720 [†]	<0.001 [†]	
UA levels			
Preoperative	5.94 ± 1.79	6.07 ± 1.00	0.779 [*]
T ₆ h	5.30 ± 0.87	5.42 ± 1.31	0.724 [*]
T ₂₄ h	4.98 ± 0.85	6.09 ± 1.60	0.021 [*]
P value	0.056 [†]	0.205 [†]	

All markers are expressed as mean ± standard deviation.

^{*}Statistical significance between the two groups within each measurement (Student t-test).

[†]Statistical significance between the three different measurements within each group (one-way ANOVA).

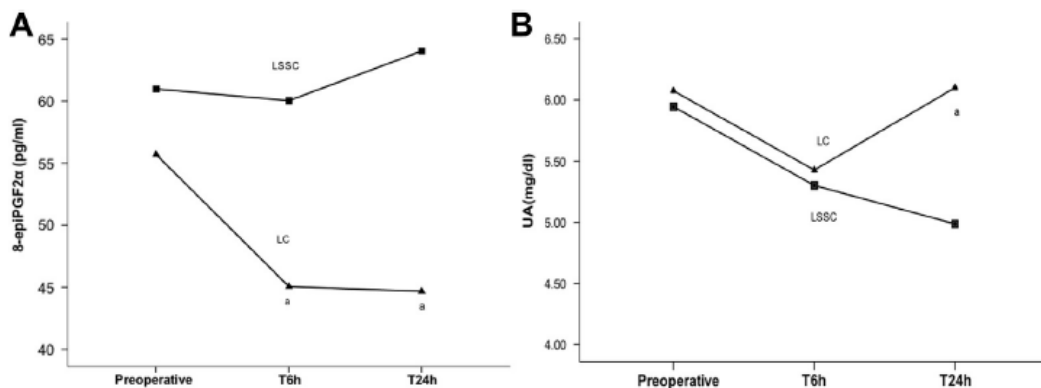


Figure – (A) Levels of 8-epiPGF_{2α}. (B) Levels of UA. ^aStatistically significant difference compared with LSSC.

Méně invazivní neznamená méně stresu

NOTES

- natural orifice transluminal endoscopic surgery
- 2004 Kalloo
- SILS + transvaginální extrakce prep.
- MA-NOS- Mini- laparoscopy asisted

NOTES

NOSE – natural orifice specimen
extraction

(Worhius, 2015- vyšší CRP a IL-6)

Ta-TME – transanální TME + extrakce

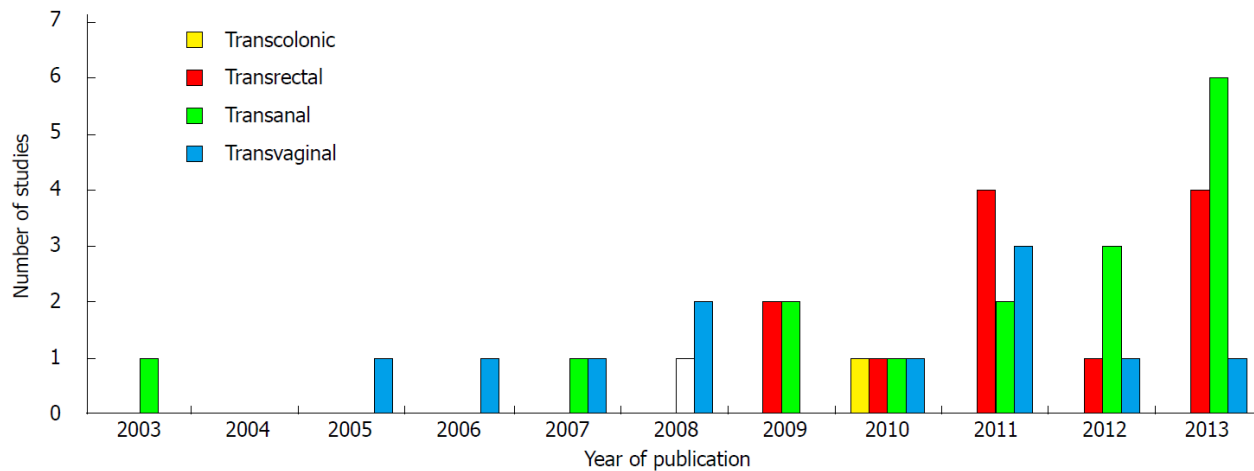


Laparoscopic natural orifice specimen extraction-colectomy: A systematic review

World J Gastroenterol 2014 September 28; 20(36): 12981-12992

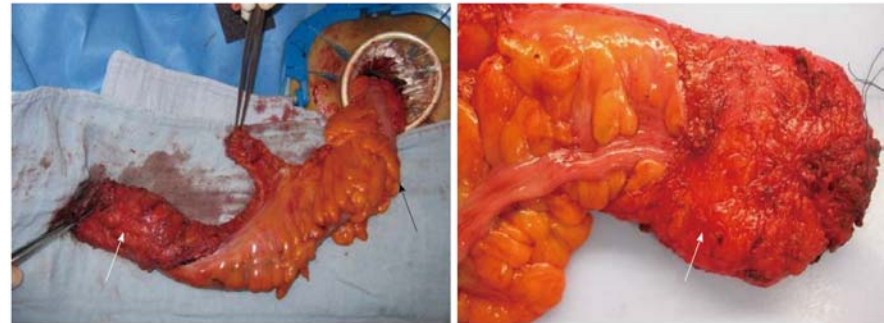
Albert M Wolthuis, Anthony de Buck van Overstraeten, André D'Hoore

Figure 1 Study flow chart: Search strategy. NOSE: Natural orifice specimen extraction.



Méně bolesti
Méně anagetik
Méně kýl

? Komplikace
? Abdom kontaminace

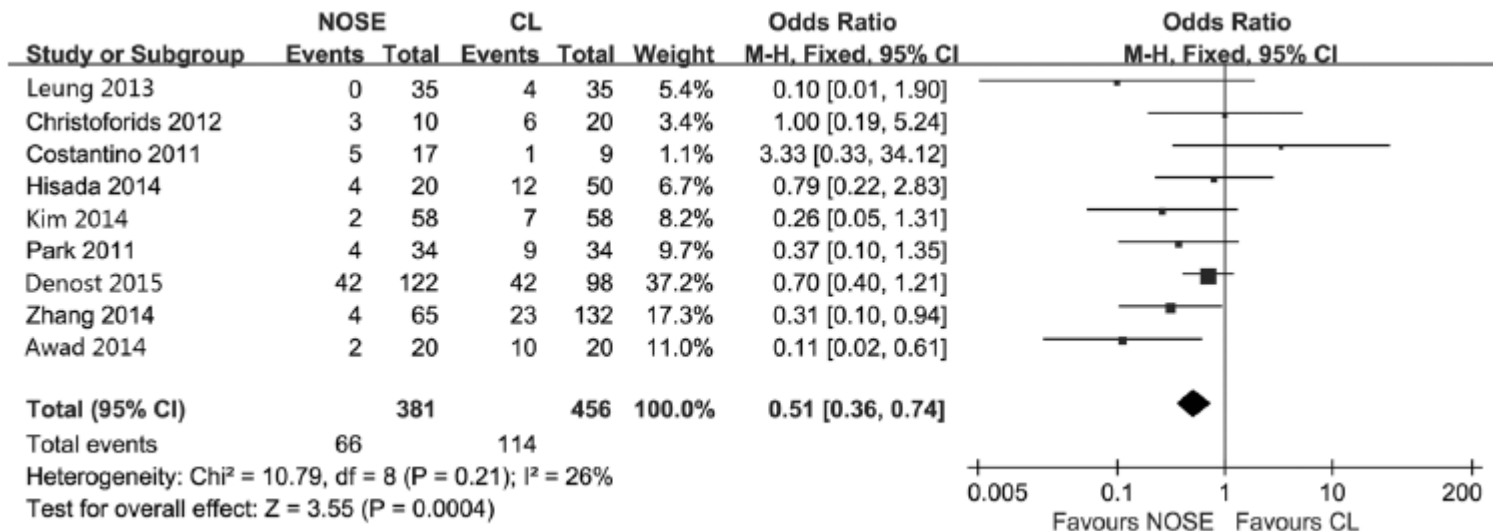


Laparoscopic resection with natural orifice specimen extraction versus conventional laparoscopy for colorectal disease: a meta-analysis

Int J Colorectal Dis (2015) 30:1479–1488
DOI 10.1007/s00384-015-2337-0

Bin Ma¹ · Xuan-zhang Huang¹ · Peng Gao¹ · Jun-hua Zhao¹ · Yong-xi Song¹ · Jing-xu Sun¹ · Xiao-wan Chen¹ · Zhen-ning Wang¹

- 9 studií / 847 pp
- NOSE- kratší hospitalizace, rychlejší rekonvalescence, méně komplikací



Prospective evaluation of peritoneal fluid contamination following transabdominal vs. transanal specimen extraction in laparoscopic left-sided colorectal resections

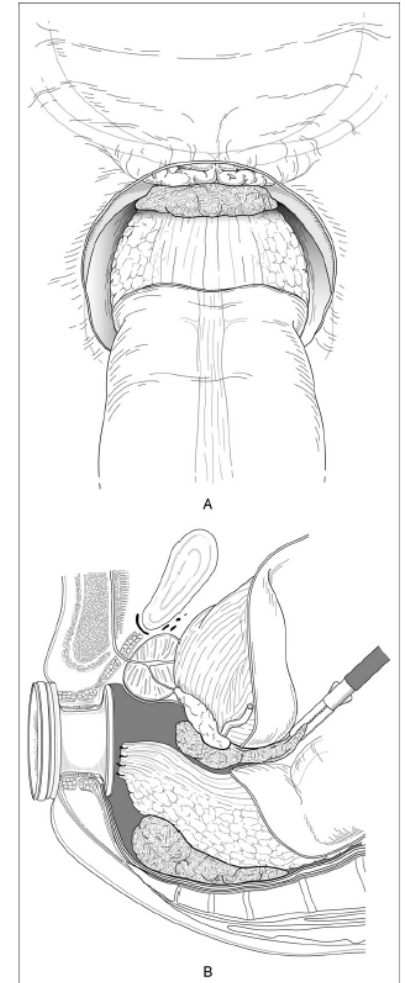
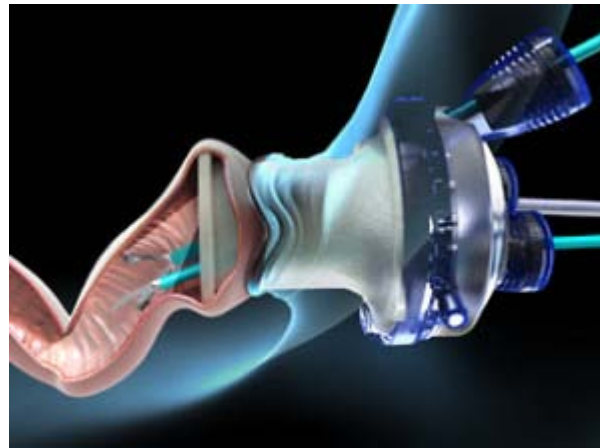
Federico A. Costantino · Michele Diana ·
James Wall · Joel Leroy · Didier Mutter ·
Jacques Marescaux

Surg Endosc (2012) 26:1495–1500

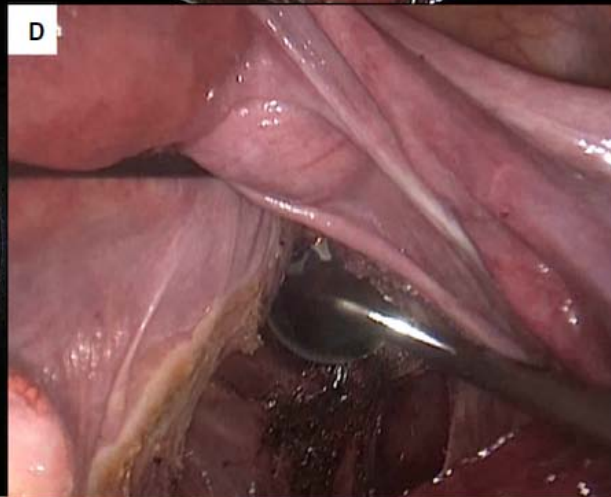
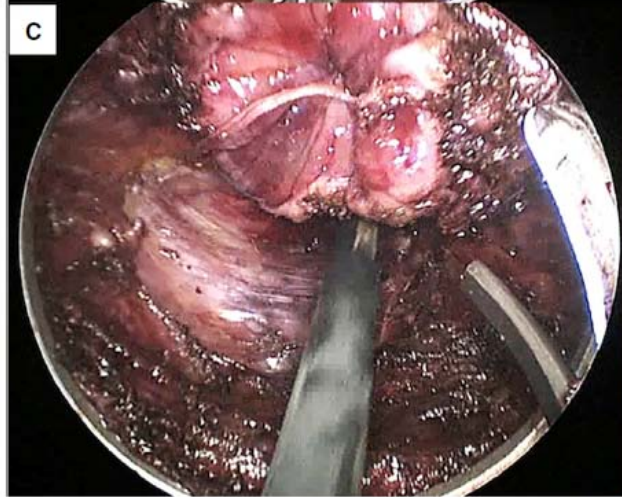
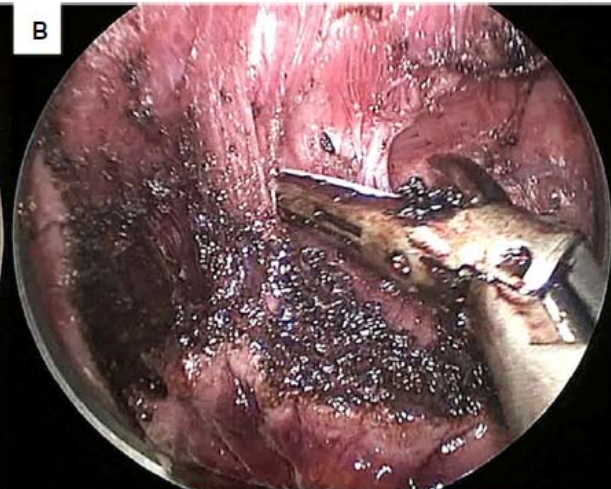
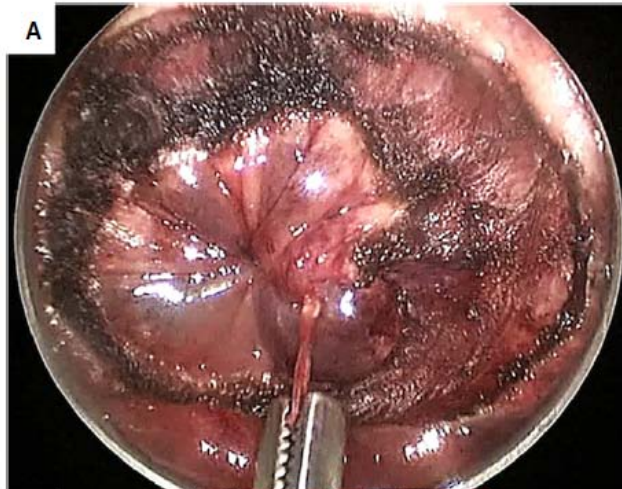
DOI 10.1007/s00464-011-2066-6

	NOSE (<i>n</i> = 17)	Non-NOSE (<i>n</i> = 9)	<i>P</i>
24-h visual analog scale [mean (SD)]	2.81 (2.6)	3.28 (2.49)	0.35
Analgesic requirement			
PCA cumulative doses ^a [mean (SD)]	13.9 (15.6)	13.3 (11.7)	0.38
Paracetamol IV (g) [mean (SD)]	15 (14.5)	6.8 (5.3)	0.08
Paracetamol po (g) [mean (SD)]	8.3 (3.27)	15.1 (9.17)	0.007
Tramadol po (mg) [mean (SD)]	377.77 (227.91)	671.42 (579.4)	0.02
Peritoneal contamination (%)	100	88.9	0.23
Overall complications (<i>n</i>)	5/17	1/9	0.41
Major complications ^b (%)	1/17	1/9	1
Anastomotic leak (<i>n</i>)	1	0	0.37
Length of stay (days) [mean (SD)]	6.62 (3.98)	7.43 (6.65)	0.58

TAMIS transanal miniinvasive surgery



TARD- transanal rectal dissection



TaTME a NOSE

Table 1 Patient characteristics of published clinical series on transanal TME with laparoscopic assistance

Series	Sylla <i>et al.</i> , 2010 ¹⁰⁴	Chen <i>et al.</i> , 2010 ¹⁰⁷	Tuech <i>et al.</i> , 2011 ¹⁰⁹	Zorron <i>et al.</i> , 2012 ¹⁰⁸	Dumont <i>et al.</i> , 2012 ¹¹²	Lacy <i>et al.</i> , 2013 ¹¹¹	Velthuis <i>et al.</i> , 2013 ¹¹⁰	de Lacy <i>et al.</i> , 2013 ¹¹⁴	Rouanet <i>et al.</i> , 2013 ¹¹³	Sylla <i>et al.</i> , 2013 ¹¹⁵
<i>n</i>	1	1	1	2	4	3	5	20	30	5
Age (years) [†]	76	47	45	54, 73	66.8 (60–76)	73 (71–75)	69.4 (63–79)	65 (44–77)	65 (43–82)	48.6 (36–63)
Gender	F	M	F	M (1), F (1)	M (4)	M (1), F (2)	M (3), F (2)	M (11), F (9)	M (30)	M (3), F (2)
BMI (kg/m ²) [†]	20	22	20	NR	23.4 (22.4–24.5)	21.7 (16–25)	NR	25.3 (19–33)	26.0 (21.0–32.4)	25.7 (22–28)
Tumor location (cm) [†]	6 cm from AV	5 cm from AV	3 cm from DL	6, 8 cm from AV	5.3 (4–7) cm from AV	9.7 (9–10) cm from AV	6 (5–8) cm from AV	6.5 (2–15) cm from AV	<5 cm from AV (<i>n</i> = 20), 5–10 cm from AV (<i>n</i> = 10)	5.7 (4–10) cm from AV
Preoperative TNM stage (<i>n</i>)	T2N2	NR	T1sm3	T3N0M0 (1), NR (1)	T3N0 (3), T3N1 (1)	T2N0M0 (1), T3N0M0 (2)	T2N0 (1), T3N0 (3), T3N2 (1)	High-grade dysplasia polyps (3), other staging NR	pT1sm3 (after TEM) (1), T2 (1), T3 (21), T4 (7)	T1N0M0 (2), T2N0M0 (1), T3N0M0 (2)
Neoadjuvant CRT	Yes	Yes	No	No	Yes	Yes (2), No (1)	Yes	Yes (14), No (6)	Yes (29), No (1)	Yes (2), No (3)

[†]Given as mean (range) for series with *n* ≥ 3.

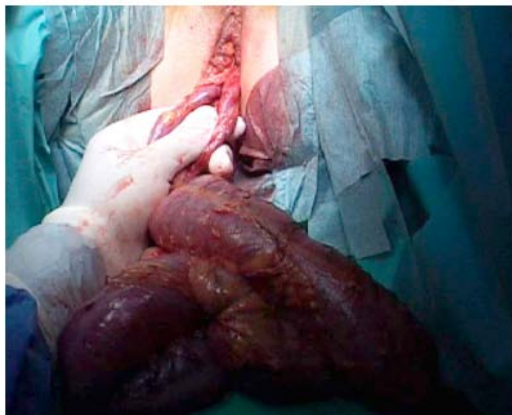
AV, anal verge; BMI, body mass index; CRT, chemoradiation therapy; DL, dentate line; NR, not reported; TME, total mesorectal excision.

Celkem 52 pacientů do roku 2013

Minimal invasive surgery: NOSE and NOTES in ulcerative colitis

Marta M. Tasende · Salvadora Delgado · Marta Jimenez · Gabriel Diaz del Gobbo ·
María Fernández-Hevia · Borja DeLacy · Jaume Balust · Antonio M. Lacy

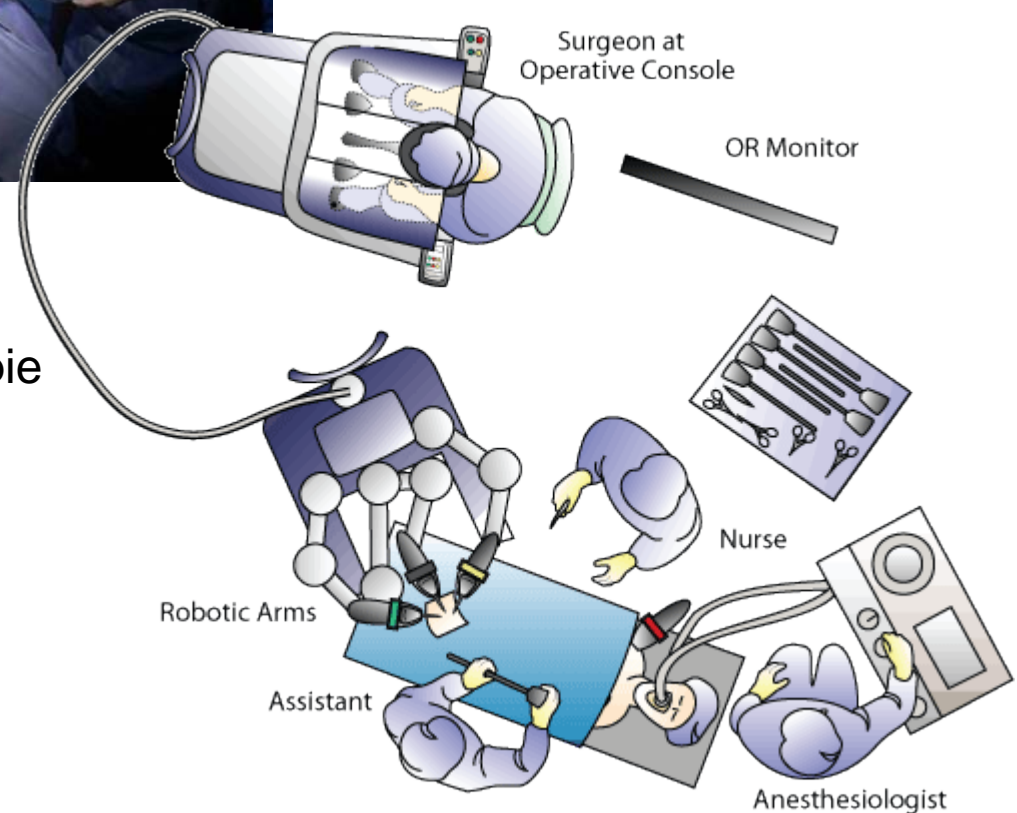
- 1. minilaparo SCE + NOSE
- 2. transanální exstirpace rekta + laparo.,
gelport do místa na stomii a elevace ilea-
pouch



Robotická chirurgie



Dražší
Delší
Stejné výsledky jako laparoskopie
Kratší výuka
Lepší later. disekce v pánvi



Fast-track surgery versus traditional perioperative care in laparoscopic colorectal cancer surgery: a meta-analysis

Zhao *et al. BMC Cancer* 2014, **14**:607
<http://www.biomedcentral.com/1471-2407/14/607>

Jun-hua Zhao[†], Jing-xu Sun[†], Peng Gao, Xiao-wan Chen, Yong-xi Song, Xuan-zhang Huang, Hui-mian Xu and Zhen-ning Wang*

• 5 studií /1317 pp

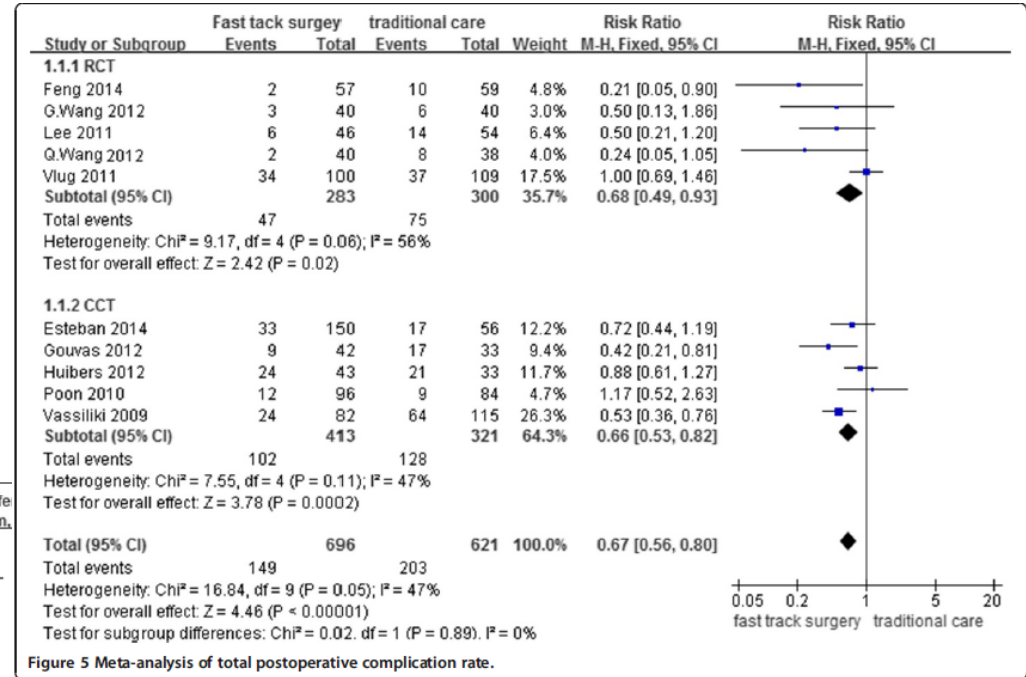


Figure 5 Meta-analysis of total postoperative complication rate.

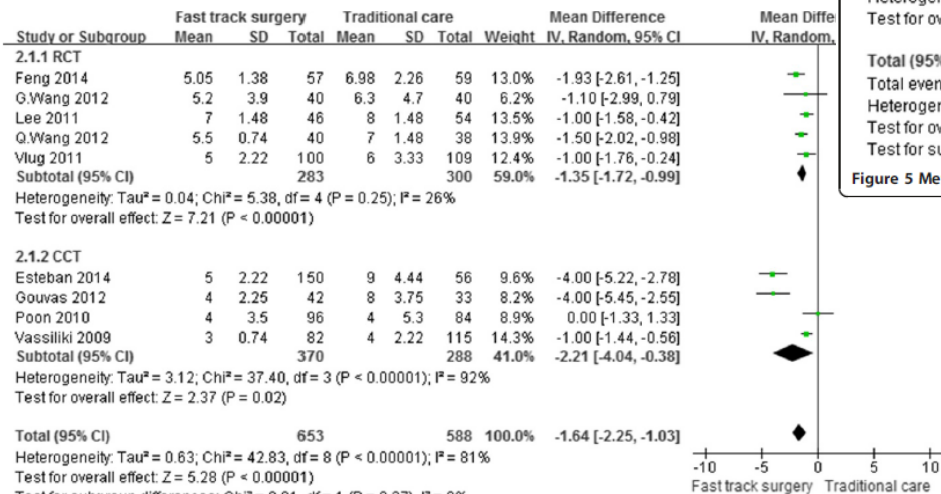


Figure 2 Meta-analysis of postoperative hospital stay.

Fast-track colorectal surgery: protocol adherence influences postoperative outcomes

Int J Colorectal Dis (2013) 28:103–109
DOI 10.1007/s00384-012-1569-5

Francesco Feroci • Elisa Lenzi • Maddalena Baraghini •
Alessia Garzi • Andrea Vannucchi • Stefano Cantafio •
Marco Scatizzi

Table 4 Analysis of ERAS protocol adherence rate on clinical outcomes

Protocol adherence	Patients N=606	Length of stay	30-day morbidity	30-day non surgical morbidity	Readmission
<65 %	105 (17.3)	10 (3–39)	42 (40)	15 (14.2)	
70–80 %	170 (28.1)	8 (3–49)	56 (32.9)	16 (9.4)	
85–95 %	223 (36.8)	6 (3–56)	50 (22.4)	14 (6.2)	
100 %	108 (17.8)	4 (3–21)	14 (12.9)	6 (5.5)	
100 % vs. 85–95 %		<0.0001	0.053	0.50	
100 % vs. <65 %		<0.0001	<0.0001		
100 % vs. 70–80 %		<0.0001	<0.0001		
85–95 % vs. 70–80 %		<0.0001	0.05		
85–95 % vs. <65 %		<0.0001			0.732
70–80 % vs. <65 %		<0.0001			0.416

Table 5 Postoperative outcomes for patients without complications

	Length of stay	Solid diet tolerance	Mobilization	First bowel movement	First flatus	First stool
<65 %	10 (3–39)	5 (0–8)	3 (1–6)	3 (1–5)	4 (1–8)	5.5 (1–9)
70–80 %	8 (3–49)	4 (1–3)	2 (1–1)	2 (1–2)	3 (1–3)	5 (1–6)
85–95 %	6 (3–56)	2 (1–6)	1 (1–2)	1 (0–4)	2 (0–5)	4 (1–9)
100 %	4 (3–21)	2 (0–9)	1 (0–3)	1 (1–5)	2 (1–7)	3 (1–9)
100 % vs. 85–95 %	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
100 % vs. <65 %	<0.0001	0.001	<0.0001	<0.0001	<0.0001	<0.0001
100 % vs. 70–80 %	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.001
85–95 % vs. 70–80 %	<0.0001	<0.0001	0.041	0.005	<0.0001	0.028
85–95 % vs. <65 %	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
70–80 % vs. <65 %	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

Čím vyšší adherence – tím lepší výsledky!
Rychlé odstranění PMK- LOS
Časný p.o. příjem - ↓ morbiditu, re-admise
(multivar. analýza)

The incidence of hypoxemia during surgery: evidence from two institutions

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Department of Anesthesia, Critical Care, & Pain Medicine, Mas:
Fruit St, Jackson 458, Boston, MA 02114, USA

Published in final edited form as:

Can J Anaesth. 2010 October ; 57(10): 888–897. doi:10.1007/s12630-010-9366-5.

- Více než 95 tis anest. Záznamů
- 6,8% nemocných více 2 minutovou epizodu hypoxie (SpO2 pod 90)
- 3,5% nemocných více než 2 min těžké hypoxie (SpO2 pod 85%)

Každých 29 hodin operačního času někdo trpí hypoxií

Trendy v KR chirurgii

- Dobrá příprava- specifické guidelines
- Miniinvazivní techniky... ? Op. stresu ?
 - Redukce chirurgických a non chirurgických komplikací
 - NOSE ?
- Pacienti indikovaní k open přístupu- komplikovanější
- FT perioperační péče v kombinaci s non invazivními technikami ... analgezie, anestezie