

## Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

**eTable 1. Participating Hospitals**

Hospital	Catchment population	Study start
<b>Sweden</b>		
Academic Hospital, Uppsala	250.000	April 2010
Eskilstuna County Hospital	180.000	December 2011
Helsingborg Hospital	350.000	January 2011
Hudiksvalls Hospital	120.000	September 2010
Karolinska University Hospital, Stockholm	500.000	November 2010
Skåne University hospital, Malmö	350.000	February 2011
University Hospital Linköping	300.000	April 2010
Vrinnevis Hospital, Norrköping	180.000	April 2010
Västmanland Hospital, Västerås	260.000	September 2010
<b>Norway</b>		
Akershus University Hospital	500.000	February 2010
Bærum Hospital, Vestre Viken HF	180.000	October 2011
Diakonhjemmet Hospital, Oslo	130.000	February 2010
Drammen Hospital, Vestre Viken HF	240.000	February 2010
Haukeland University Hospital, Bergen	400.000	April 2010
Innlandet Hospital, Hamar	180.000	February 2010
Molde Hospital, Helse Nordmøre	70.000	January 2011
North-Trøndelag Hospital Trust, Levanger	100.000	February 2010
Oslo University Hospital, Ullevål	250.000	February 2010
Stavanger University Hospital	320.000	February 2010
University Hospital of North Norway, Tromsø	100.000	June 2010
Østfold Hospital, Fredrikstad	280.000	December 2011
<b>Total Catchment population</b>	<b>5.220.000</b>	

Hospitals participating in the SCANDIV trial in Sweden and Norway with respect to catchment population and time of study start.

## eBox 1. Items Covered by CRF for the Index Admission

### Patient registration form

1. Surgeon's name
2. Sex (patient)
3. Weight (kg)
4. Height (cm)
5. Admission date: (dd.mm.yyyy)
6. Admission, approximate time: (hh:mm)
7. Symptom debute, date: (dd.mm.yyyy)
8. Symptom debut, approximate time: (hh:mm)
9. ASA score
10. Previous diverticulitis:
11. Previous abdominal surgery:
12. If yes: Year(s)
13. Cause
14. Co-morbidity
15. If other co-morbidity, describe:

### Inclusion criteria

16. Clinical suspicion of perforated diverticulitis indicating surgery
17. Free air and diverticulitis findings on CT scan
18. Age above 18 years
19. Patient tolerates general anaesthesia
20. Written consent given
21. Pregnant
22. Bowel obstruction

### Preoperative phase and operation

23. Start of antibiotic treatment:
24. Type of antibiotics given:
25. Comments:
26. Operation start, date: (dd.mm.yyyy)
27. Operation start, time: (hh:mm)
28. Operation end, date: (dd.mm.yyyy)
29. Operation end, time: (hh:mm)
30. Hinchey grade of peritonitis:
31. Comments:
32. Amount of saline used for rinsing of the abdominal cavity (minimum 4 litres): (liter)
33. Procedure:
34. Reason if not operated according to randomization:
35. Defunctioning stoma
36. Peroperative complications:
37. If yes, specify:
38. Epidural anaesthesia:
39. Estimated blood loss: (ml)
40. Most experienced surgeon on the operation team:

### Postoperative phase

41. Number of days in intensive care (excluded standard postoperative observation)
42. Number of blood units given:
43. Postoperative complications:
44. If other postoperative complications, specify:
45. Reoperations:
46. Reason and type of reoperation:
47. Maximum postoperative CRP (mg/L):
48. Minimum Haemoglobin (g/dL) :
49. Discharge date: (dd.mm.yyyy)
50. Discharged to:
51. If discharged to other facility, describe:
52. Clavien-Dindo classification of Surgical Complications:

## **eBox 2.** Items Covered by CRF for 3-Month and 1-Year Follow-up

### **Follow up form 3 months and 1 Year**

1. Date: (dd.mm.yyyy)
2. Deceased
3. Date of death: (dd.mm.yyyy)
4. Cause of death:

### **Postoperative phase**

5. Unplanned readmissions:
6. Reason:
7. Postoperative events not registered before:
8. If other event, specify:
9. Reoperations:
10. Reason and type of reoperation:
11. Postoperative colonexamination of Patients treated with laparoscopic lavage:
12. Date of colonexamination (dd.mm.yyyy)
13. Findings after colonexamination
14. Clavien-Dindo classification of Surgical Complications:

### **Quality of life**

15. Current quality of life
16. Current quality of health
17. Current energy level

### **Bowel function**

18. Stoma:
19. Alteration of stool patterns after operation:
20. If yes, specify
21. Abdominal pain:
22. Compared to before operation:
23. Stoma problems:
24. Kind of problems:
25. If other kind of problems, specify:

### **Social life**

26. Alteration in social contact:
27. Specify:
28. Sexual function compared to before operation:
29. Specify:

**eTable 2. Patients With False Preoperative Diagnosis**

<b>Allocation</b>	<b>Diagnosis</b>	<b>n</b>
<b>Laparoscopic lavage (n=12)</b>	Tumor diagnosed at initial abdominal inspection	3
	Perforation in the right colon	2
	Perforated appendicitis	1
	Perforated ischemic colitis	1
	Small bowel perforation	2
	Peptic ulcer	2
	Uncertain site of perforation	1
<b>Primary resection (n=13)</b>	Tumor diagnosed at initial abdominal inspection	3
	Tumor suspected at initial abdominal inspection <sup>a</sup>	1
	Perforation in the right colon	1
	Perforated appendicitis	1
	Perforated ischemic colitis	1
	Small bowel perforation	1
	Peptic ulcer	2
	Uncertain site of perforation	3

<sup>a</sup> Fecal peritonitis and suspicion of malign tumor in the transverse colon, for this reason performed oncologic resection, at histopathology found perforated diverticulitis.

**eTable 3. Diverticulitis Patients Deceased Within 90 Days of Surgery**

Allocation		Age (y)	Hinchey grade	CCI	Time from surgery to death (days)	Cause of death
&	Procedure					
<b>Laparoscopic lavage (n=12)</b>						
	Laparoscopic Lavage	72	III	7	15	B-cell lymphoma with loss of strength due to perforated diverticulitis
	Laparoscopic Lavage	87	III	6	12	Secondary peritonitis/pneumonia
	Laparoscopic Lavage	70	III	3	21	Perforated diverticulitis and sepsis
	Laparoscopic Lavage	81	III	9	55	Pneumonia
	Laparoscopic Lavage	72	III	10	78	Malign melanoma
	Laparoscopic Lavage	88	III	6	51	Died in rehabilitation center probably secondary to perforated diverticulitis
	Hartmann's Procedure	77	IV	7	0	Perforated diverticulitis and sepsis
	Hartmann's Procedure	81	IV	6	0	Perforated diverticulitis and sepsis
	Hartmann's Procedure	74	IV	6	18	Acute myocardial infarction
	Hartmann's Procedure	83	IV	7	9	Perforated diverticulitis and sepsis
	Hartmann's Procedure	84	IV	6	11	Postoperative bleeding, refused reoperation
	Primary resection and anastomosis	88	IV	7	5	Multiple organ failure
<b>Primary resection (n=7)</b>						
	Hartmann's Procedure	58	III	3	10	Chronic obstructive lung disease, gastrointestinal bleeding?
	Hartmann's Procedure	89	III	6	7	Postoperative renal and circulation failure
	Hartmann's Procedure	94	III	6	0	Perforated diverticulitis and sepsis
	Hartmann's Procedure	86	III	7	65	Acute myocardial infarction
	Hartmann's Procedure	57	III	4	58	Glioblastoma, Pneumonia, Heart failure
	Hartmann's Procedure	96	IV	7	5	Multiple organ failure
	Hartmann's Procedure	89	IV	6	1	Multiple organ failure
	Mean age (SD):	80.3 (10.9)	Mean CCI (SD):	6.3 (1.7)		
	Mean age whole study group (SD):	67.9(14.3)	Mean CCI whole study group (SD):	4.2 (2.2)		

Abbreviation: CCI=Charlson comorbidity index

**eTable 4.** Mixed-Effect Model Analysis

Dependent variable: Severe complication			
	B	Sig.	Exp(B)
Randomized to resection	-.128	.736	.880
Age in years	.011	.575	1.011
Female	-.542	.185	.581
BMI	-.044	.287	.957
ASAseverityscore (ASA=1 is reference)	0		
ASAseverityscore = 2	1.195	.221	3.305
ASAseverityscore = 3	2.267	.028	9.648
ASAseverityscore = 4 or 5	4.238	.001	69.256
Constant	-2.016	.284	.133
Var(Center) n=187	0.000		

**eTable 5.** Logistic Regression of Possible Confounding Factors

Dependent variable: Severe complication						
	B	S.E.	Wald	df	Sig.	Exp(B)
Randomized to resection	-.159	.421	.142	1	.707	.853
Centersize (operations during study)	.012	.021	.351	1	.554	1.012
Centersize by catchmentpopulation	.000	.000	.144	1	.704	1.000
Most experienced surgeon on the team (colorectal surgeon is reference)			.125	2	.940	
Most experienced Surgeon on the team = general surgeon	-.226	.642	.124	1	.725	.798
Most experienced surgeon on the team = resident	-.042	.578	.005	1	.942	.959
Age in years	.013	.021	.374	1	.541	1.013
Female	-.717	.424	2.855	1	.091	.488
BMI	-.049	.043	1.286	1	.257	.952
ASA severity score (ASA=1 is reference)			14.346	3	.002	
ASA severity score = 2	1.541	1.134	1.849	1	.174	4.671
ASA severity score = 3	2.451	1.179	4.318	1	.038	11.595
ASA severity score = 4 or 5	4.459	1.429	9.738	1	.002	86.432
Constant	-2.255	2.147	1.103	1	.294	.105
n=180						
Dependent variable: Severe complication						
	B	S.E.	Wald	df	Sig.	Exp(B)
Randomized to resection	-.220	.359	.377	1	.539	.802
ASA severity score (ASA=1 is reference)			27.899	3	.000	
ASA severity score = 2	1.625	1.061	2.345	1	.126	5.078
ASA severity score = 3	2.866	1.047	7.486	1	.006	17.559
ASA severity score = 4 or 5	5.016	1.275	15.485	1	.000	150.765
Constant	-3.141	1.035	9.207	1	.002	.043
n=197						