Appendix 1.

1. Intestinal obstruction/abdominal hernia

   ICD10 codes:

   K56 Paralytic ileus and intestinal obstruction without hernia

   K45 Other specified abdominal hernia with or without obstruction or gangrene

   K46 Unspecified abdominal hernia

   ICD9: 560, 551 and 552

   Surgical procedure codes: JFB00, JFB01, JAM00, JAM10, JAP00, JAP01, JFK96, JAS10,JAS 11JFK97, JFL00, JFL10, JFL11, JFL20, JFL96, JFB01, JFB01, JFB10, JFB13, JFB20, JFB21, JFB30, JFB31, JFB33, JFB34, JFB40, JFB41, JFB43, JFB44, JFB46, FB47, JFB50, JFB51, JFB53, JFB54, JFB60, JFB61, JFB63, JFB64, JFB96, JFB97)

2. Gallbladder disease (defined as cholelithiasis and cholecystitis)

   ICD 10 codes: K80.0, K80.1, K80.2, K80.3, K80.4, K80.5, K81.0, K81.1, K81.8, K81.9

   ICD-9 codes: 574-575

   Surgical procedure codes; JKA20, JKA21, JKA96, JKA97

3. Appendicitis

   ICD 10 codes; K35.2, K35.3, K35.8, K36.9, K37.9

   ICD9: 540-543

4. Hernia (inguinal, femoral, umbilical, ventral)

   ICD 10 codes; K40-K44,

   ICD9: 553

Surgical procedure codes

JAB00, JAB01, JAB04, JAB10, JAB11, JAB14, JAB20, JAB30, JAB40, JAB41, JAB44, JAB50, JAB51, JAB60, JAB61, JAB70, JAB71, JAB80, JAB81, JAB84, JAC10, JAC11, JAC14, JAC20, JAC30, JAC40, JAC41, JAC44, JAC50, JAC51, JAC60, JAC61, JAC70, JAC71, JAC80, JAC81, JAC84, JAD10, JAD11, JAD13, JAD20, JAD23, JAD30, JAD33, JAD40, JAD41, JAD43, JAD47, JAD50, JAD51, JAD60, JAD61, JAD63, JAD67, JAD70, JAD71, JAD73, JAD80, JAD81, JAD84, JAD87, JAE10, JAE11, JAE20, JAE30, jae40, JAE41, JAE50, JAE51, JAE60, JAE61, JAE70, JAE71, JAE80, JAE81, JAE84, JAF10, JAF11, JAF20, JAF30, JAF40, JAF41, JAF50, JAF51, JAF60, JAF61, JAF70, JAF7, JAF80, JAF81, JAF84, JAG10, JAG11, JAG20, JAG30, JAG40, JAG41, JAG50, JAG51, JAG60, JAG61, JAG70, JAG71, JAG80, JAG81, JAG84

5. Surgical diagnostic interventions: Laparotomy (JAH00), Laparoscopy (JAH01)

Appendix 2. Restricted Model Specifications for the Results of the Logistic Regression Analyses, and the Generalized Estimation Equation Analyses, Respectively, Shown in Table 2 and Appendix 3

The models were retrieved after backward elimination procedure, using p>.2 as exclusion criteria. The eligible possible confounders were: year of delivery, age, primiparity, smoking, and any bariatric surgery before inclusion.

Model specification

	Total cohort	Sub-cohort
Pregnancy 1		
Intestinal obstruction		
Operation	Year of delivery, Any bariatric surgery before inclusion	Crude only
ICD-code only	Primiparity	Crude only
Operation or ICD code	Year of delivery, any bariatric surgery before inclusion	Year of delivery, smoking, any bariatric surgery before inclusion
Appendicitis		
Operation	Crude only	Crude only
ICD-code only	Crude only	Crude only
Operation or ICD code	All potential confounders had p-value >.02	Crude only
Hernia		
Operation	Crude only	Crude only
ICD-code only	Crude only	Crude only
Operation or ICD code	Year of delivery, smoking, any bariatric surgery before inclusion	Crude only
Gallbladder disease		
Operation	Year of delivery, primiparity, age, any bariatric surgery before inclusion	Crude only
ICD-code only	All potential confounders had p-value >.02	All potential confounders had p-value >.02
Operation or ICD code	Year of delivery, age, any bariatric surgery before inclusion	Year of delivery, any bariatric surgery before inclusion
Laparotomy or laparoscopy	Primiparity, any bariatric surgery before inclusion	Smoking, any bariatric surgery before inclusion

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Any surgical procedure code[α]	Year of delivery, age, any bariatric surgery before inclusion	Year of delivery, smoking, any bariatric surgery before inclusion
Any surgical procedure or diagnosis code[α]	Year of delivery, smoking, any bariatric surgery before inclusion	Year of delivery, smoking, any bariatric surgery before inclusion

Pregnancy 2

Intestinal obstruction

Operation	Crude only	Crude only
ICD-code only	Crude only	Crude only
Operation or ICD code	Year of delivery	Crude only

Appendicitis

Operation	Crude only	Crude only
ICD-code only	Crude only	Crude only
Operation or ICD code	Crude oly	Crude only

Hernia

Operation	Crude only	Crude only
ICD-code only	Crude only	Crude only
Operation or ICD code	Year of delivery, age, any bariatric surgery before inclusion	Crude only

Gallbladder disease

Operation	Year of delivery, age	Crude only
ICD-code only	All potential confounders had p-value >.02	Crude only
Operation or ICD code	Year of delivery, age,	Crude only
Laparotomy or laparoscopy	Any bariatric surgery before inclusion	Crude only
Any surgical procedure code[α]	Year of delivery, smoking, any bariatric surgery before inclusion	Year of delivery, any bariatric surgery before inclusion
Any surgical procedure or diagnosis code[α]	Year of delivery, smoking	All potential confounders had p-value >.02

All pregnancies subsequent to inclusion

Intestinal obstruction

Operation	Year of delivery, any bariatric surgery before inclusion	Year of delivery, any bariatric surgery before inclusion
ICD-code only	All potential confounders had p-value >.02	Age, any bariatric surgery before inclusion
Operation or ICD code	Year of delivery, any bariatric surgery before inclusion	Year of delivery, any bariatric surgery before inclusion
Appendicitis		
Operation	Crude only	Crude only
ICD-code only	Crude only	Crude only
Operation or ICD code	All potential confounders had p-value >.02	Crude only
Hernia		
Operation	Year of delivery, age, primiparity, smoking, any bariatric surgery before inclusion	Crude only
ICD-code only	Year of delivery, age	
Operation or ICD code	Age, primiparity, smoking, any bariatric surgery before inclusion	Age, primiparity, smoking, any bariatric surgery before inclusion
Gallbladder disease		
Operation	Year of delivery, age, primiparity, any bariatric surgery before inclusion	Year of birth, age, primiparity, any bariatric surgery before inclusion
ICD-code only	All potential confounders had p-value >.02	All potential confounders had p-value >.02
Operation or ICD code	Year of delivery, age, any bariatric surgery before inclusion	Year of delivery, primiparity, any bariatric surgery before inclusion
Laparotomy or laparoscopy	Primiparity, any bariatric surgery before inclusion	Primiparity, any bariatric surgery before inclusion
Any surgical procedure code[α]	Year of delivery, age, any bariatric surgery before inclusion	Year of delivery, smoking, any bariatric surgery before inclusion
Any surgical procedure or diagnosis code[α]	Year of delivery, smoking, any bariatric surgery before inclusion	Year of delivery, smoking, any bariatric surgery before inclusion

Appendix 3. Risk of Maternal Abdominal Surgery and Diagnosis During Pregnancy in our Subcohort of Women Who Underwent Gastric Bypass Before Childbirth Compared With Controls Who Had a First-Trimester Body Mass Index >35 at First Pregnancy

	Cases		Controls		Crude		Adjusted[A]	
	n	(%)	n	(%)	OR	95%CI	OR	95%CI
Pregnancy 1, Total N	**N=1,240**		**N=14,669**					
Outcome category 1								
Intestinal obstruction								
Surgical procedure code	22	(1.8)	2	(0.0)	132.5	32.5-1162	-	-
Diagnosis code only	8	(0.6)	7	(0.0)	13.6	4.3-44.1	-	-
Surgical procedure or diagnosis code	30	(2.4)	9	(0.1)	40.4	19.1-85.3	24.3	10.5-56.0
Outcome category 2								
Appendicitis								
Surgical procedure code	0	(0.0)	2	(0.0)	0.0	0.0-63.0[B]	-	-
Diagnosis code only	2	(0.2)	10	(0.1)	2.4	0.3-11.1[B]	-	-
Surgical procedure or diagnosis code	2	(0.2)	12	(0.1)	2.0	0.2-8.9[B]	-	-
Outcome category 3								
Hernia								
Surgical procedure code	3	(0.2)	3	(0.0)	11.9	1.6-88.6[B]	-	-
Diagnosis code only	3	(0.2)	4	(0.0)	8.9	1.3-52.6[B]	-	-
Surgical procedure or diagnosis code	6	(0.5)	7	(0.0)	10.2	2.8-35.4[B]	-	-
Outcome category 4								
Gallbladder disease								
Surgical procedure code	6	(0.5)	12	(0.1)	5.9	1.8-17.1[B]		
Diagnosis code only	9	(0.7)	42	(0.3)	2.2	1.0-4.8	2.2	1.0-4.8
Surgical procedure or diagnosis code	15	(1.2)	54	(0.4)	3.3	1.9-5.9	2.1	1.1-3.9
Outcome category 5 **Laparotomy or laparoscopy***	21	(1.7)	16	(0.1)	15.8	8.2-30.3	8.9	4.4-18.0
Any surgical procedure code[α]	51	(4.1)	35	(0.2)	17.9	11.6-27.7	8.0	4.9-13.1
Any surgical procedure or diagnosis code[α]	70	(5.6)	97	(0.7)	9.0	6.6-12.3	5.9	4.1-8.5
Pregnancy 2, Total N	**N=423**		**N=9,702**					
Outcome category 1								
Intestinal obstruction								
Surgical procedure code	4	(0.9)	7	(0.1)	13.2	2.8-52.2[B]	-	-
Diagnosis code only	3	(0.7)	2	(0.0)	34.6	4.0-415[B]	-	-
Surgical procedure or diagnosis code	7	(1.7)	9	(0.1)	18.1	5.7-54.9[B]	-	-
Outcome category 2								
Appendicitis								

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Surgical procedure code	1 (0.2)	3 (0.0)	7.7	0.1-95.6 [B]	-	-
Diagnosis code only	0 (0.0)	3 (0.0)	0.0	0.0-55.6 [B]	-	-
Surgical procedure or diagnosis code	1 (0.2)	6 (0.1)	3.8	0.1-31.7 [B]	-	-
Outcome category 3 **Hernia**						
Surgical procedure code	2 (0.5)	4 (0.0)	11.5	1.0-80.6 [B]	-	-
Diagnosis code only	2 (0.5)	3 (0.0)	15.4	1.3-134.3 [B]	-	-
Surgical procedure or diagnosis code	4 (0.9)	7 (0.1)	13.2	2.8-52.2 [B]	-	-
Outcome category 4 **Gallbladder disease**						
Surgical procedure code	1 (0.2)	20 (0.2)	1.1	0.0-7.2 [B]	-	-
Diagnosis code only	1 (0.2)	32 (0.3)	0.7	0.0-4.3 [B]	-	-
Surgical procedure or diagnosis code	2 (0.5)	52 (0.5)	0.9	0.-3.4 [B]	-	-
Outcome category 5 **Laparotomy or laparoscopy***	3 (0.7)	8 (0.1)	8.7	1.5-36.3 [B]	-	-
Any surgical procedure code[α]	11 (2.6)	41 (0.4)	6.3	3.2-12.3	3.7	1.8-7.3
Any surgical procedure or diagnosis code[α]	14 (3.3)	81 (0.8)	4.1	2.3-7.2	4.1	2.3-7.2
All pregnancies subsequent to inclusion, Total N	**N=1,757**	**N=30,854**				
Outcome category 1 **Intestinal obstruction**						
Surgical procedure code	26 (1.5)	11 (0.0)	42.1	20.8-85.4	17.4	8.2-36.7
Diagnosis code only	12 (0.7)	12 (0.0)	17.7	7.7-40.7	12.6	5.7-27.9
Surgical procedure or diagnosis code	38 (2.2)	23 (0.1)	29.6	17.4-50.3	15.2	8.8-26.3
Outcome category 2 **Appendicitis**						
Surgical procedure code	1 (0.1)	7 (0.0)	2.5	0.3-30.4	-	-
Diagnosis code only	2 (0.1)	15 (0.0)	2.3	0.5-10.2	-	-
Surgical procedure or diagnosis code	3 (0.2)	22 (0.1)	2.4	0.7-8.0	-	-
Outcome category 3 **Hernia**						
Surgical procedure code	5 (0.3)	14 (0.0)	6.3	2.2-17.8	-	-
Diagnosis code only	6 (0.3)	16 (0.1)	6.6	2.3-18.8	-	-
Surgical procedure or diagnosis code	11 (0.6)	30 (0.1)	6.5	3.1-13.6	5.8	2.3-14.2
Outcome category 4 **Gallbladder disease**						
Surgical procedure code	7 (0.4)	38 (0.1)	3.2	1.4-7.3	1.6	0.6-4.2

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Diagnosis code only	10 (0.6)	97 (0.3)	1.8	0.9-3.5	1.8	0.9-3.5
Surgical procedure or diagnosis code	17 (1.0)	135 (0.4)	2.2	1.3-3.7	1.7	1.0-2.9
Outcome category 5 **Laparotomy or laparoscopy***	25 (1.4)	26 (0.1)	17.1	9.7-30.3	9.0	3.8-21.2
Any surgical procedure codeα	63 (3.6)	95 (0.3)	12.0	8.7-16.7	5.7	3.8-8.5
Any surgical procedure or diagnosis codeα	87 (5.0)	233 (0.8)	6.8	5.3-8.9	4.6	3.4-6.2

Results were obtained using uni-and multivariable linear regression analyses in separate analyses for first and second pregnancy respectively. Generalized estimating equations were performed to obtain ORs for repeated measurements (all subsequent pregnancies).

[A]Adjusted ORs obtained after stepwise backward selection procedure (exclusion of variables with p>=.2), where the possible confounders entered in the initial analyses consisted of: year of birth, maternal age, primiparity, smoking, bariatric surgery before inclusion. Detailed information on the final models is available in Appendix 2.

[B]Exact confidence interval
*Without the presence of any ICD-diagnosis codes or any surgical procedure codes for outcomes in outcome categories 1-4.

α In outcome category 1-5