

Supplementary Online Content

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

eAppendix. Clinical Trial Protocol

Information on the protocol for this observational study is available at the clinical trials registration website (<https://clinicaltrials.gov/ct2/show/NCT00465829>).

eTable 1. Urinary incontinence prevalence at each assessment by whether urinary incontinence status was observed or missing at follow-up assessments (N=1987).

	Whether Urinary Incontinence Status Known								
	1 Year			2 Year			3 Year		
	Observed (N=1738)	Missing (N=249)	<i>P</i> *	Observed (N=1236)	Missing (N=751)	<i>P</i> *	Observed (N=1156)	Missing (N=831)	<i>P</i> *
Urinary incontinence prevalence									
Baseline	43.5% missing=0	43.4% missing=0	0.23	34.4% missing=0	58.5% missing=0	<.0001	34.9% missing=0	55.5% missing=0	<.0001
Year 1	-	-		4.9% missing=143	36.3% missing=106		6.6% missing=134	30.9% missing=115	
Year 2	20.6% missing=361	21.0% missing=68		-	-		8.1% missing=258	42.2% missing=171	
Year 3	22.2% missing=424	21.2% missing=79		8.9% missing=243	48.9% missing=260		-	-	

*Adjusted for factors independently related to missing follow-up data (i.e., site, age, and baseline smoking status).

eTable 2a. Modeled frequency of urinary incontinence episodes and prevalence of any-, stress-, and urgency-type urinary incontinence before and after bariatric surgery.

	Model-Based Estimates, %(95% CI)				Adjusted <i>P</i> -value		
	Baseline	1 Year	2 Years	3 Years	Years 1, 2, 3 vs Baseline ^a	Year 2 vs Year 1	Year 3 vs Year 2
Women (N=1565)							
Frequency of urinary incontinence					<.0001	0.01	0.51
Never	23.9(21.6-26.1)	52.1(49.4-54.9)	49.3(46.4-52.2)	47.4(44.4-50.4)			
<Monthly	15.9(14.0-17.9)	22.7(20.3-25.0)	21.3(18.9-23.8)	20.3(17.9-22.7)			
Monthly	12.1(10.4-13.9)	10.2(8.5-11.9)	9.7(7.9-11.4)	11.6(9.6-13.5)			
Weekly	22.8(20.4-25.2)	9.4(7.8-11.1)	12.6(10.6-14.6)	12.9(10.9-15.0)			
Daily	25.3(22.5-28.0)	5.5(4.3-6.7)	7.1(5.6-8.6)	7.8(6.2-9.4)			
Prevalent urinary incontinence (≥weekly)							
Any-type	49.3(46.9-51.9)	18.3(16.4-20.4)	23.4(21.2-25.7)	24.0(21.8-26.5)	<.0001	<.0001	0.93
Stress-type	42.7(40.3-45.3)	14.1(12.4-16.0)	17.3(15.4-19.4)	18.7(16.7-21.0)	<.0001	<.01	0.48
Urgency-type	33.3(31.0-35.7)	12.2(10.6-14.0)	16.9(15.1-19.1)	17.1(15.2-19.3)	<.0001	<.0001	0.99
Men (N=422)							
Frequency of urinary incontinence					<.0001	0.96	0.84
Never	55.6(50.6-60.6)	74.1(69.4-78.7)	73.2(68.2-78.2)	69.7(64.3-75.1)			
<Monthly	16.7(12.9-20.6)	13.3(9.6-17.0)	11.2(7.6-14.8)	12.3(8.4-16.3)			
Monthly	7.5(4.9-10.1)	3.8(1.9-5.8)	6.7(3.9-9.6)	6.9(3.9-9.8)			
Weekly	10.8(7.6-13.9)	5.7(3.3-8.2)	5.7(3.1-8.2)	7.3(4.2-10.3)			
Daily	9.4(6.3-12.4)	3.1(1.4-4.8)	3.2(1.4-5.1)	3.8(1.7-6)			
Prevalent urinary incontinence (≥weekly)							
Any-type	21.8(18.2-26.1)	9.8(7.2-13.4)	10.4(7.6-14.2)	12.2(9.0-16.4)	<.001	0.99	0.77
Stress-type	4.3(2.7-6.8)	2.6(1.4-4.9)	2.6(1.3-5.1)	1.9(0.8-4.3)	NS ^b	NS ^b	NS ^b
Urgency-type	15.9(12.8-19.8)	6.0(4.0-8.9)	6.7(4.5-9.9)	8.2(5.6-11.9)	<.01	0.93	0.76

^aEach follow-up time point was compared to baseline.

^bOverall *P* value for a time effect was 0.31 so pairwise comparisons were not made.

eTable 2b. Modeled frequency of urinary incontinence episodes and prevalence of any-, stress-, and urgency-type urinary incontinence before and after bariatric surgery (sensitivity analysis).

	Pattern-Mixture Model-Based Estimates, %(95% CI)				Adjusted P-value		
	Baseline	1 Year	2 Years	3 Years	Years 1, 2, 3 vs Baseline ^a	Year 2 vs Year 1	Year 3 vs Year 2
Women (N=1565)							
Frequency of urinary incontinence					<.0001	<.01	0.15
Never	24.2(21.7-26.7)	56.2(53.2-59.2)	53.6(50.6-56.7)	52.0(48.9-55.1)			
<Monthly	14.8(12.7-16.9)	22.2(19.5-24.9)	20.7(18.0-23.4)	19.6(16.9-22.2)			
Monthly	10.7(8.8-12.5)	8.7(7.0-10.4)	8.2(6.5-10.0)	9.8(7.9-11.8)			
Weekly	23.5(20.6-26.4)	8.4(6.8-10.0)	11.4(9.4-13.5)	11.8(9.8-13.9)			
Daily	26.8(23.5-30.2)	4.4(3.3-5.6)	6.0(4.6-7.5)	6.8(5.2-8.3)			
Prevalent urinary incontinence (≥weekly)							
Any-type	49.3(46.9-51.9)	18.3(16.4-20.4)	22.9(20.7-25.2)	24.0(21.8-26.5)	<.0001	<.0001	0.29
Stress-type	42.5(40.1-45.1)	14.0(12.3-15.9)	17.0(15.0-19.1)	18.7(16.7-21.0)	<.0001	<.01	0.11
Urgency-type	33.4(31.1-35.8)	12.1(10.5-13.9)	16.8(14.9-19.0)	17.4(15.4-19.7)	<.0001	<.0001	0.58
Men (N=422)							
Frequency of urinary incontinence					<.0001	0.45	0.57
Never	54.3(47.6-61.0)	75.4(69.9-80.8)	74.3(68.4-80.3)	71.8(65.9-77.7)			
<Monthly	14.1(9.9-18.3)	10.8(7.1-14.5)	8.4(5.2-11.7)	9.7(6.1-13.3)			
Monthly	6.6(3.6-9.6)	3.2(1.2-5.2)	5.4(2.6-8.2)	5.6(2.7-8.6)			
Weekly	7.2(4.2-10.2)	3.5(1.5-5.5)	3.4(1.5-5.3)	4.3(2-.06.6)			
Daily	17.7(10.6-24.9)	7.1(3.0-11.2)	8.4(3.7-13.2)	8.6(3.9-13.3)			
Prevalent urinary incontinence (≥weekly)							
Any-type	21.8(18.2-26.1)	10.7(7.8-14.4)	10.6(7.8-14.5)	12.5(9.2-16.9)	<.001	0.98	0.33
Stress-type	4.4(2.8-7.0)	3.7(1.4-9.8)	4.5(1.6-12.7)	5.3(0.5-54.0)	0.67;0.25;0.77	0.90	0.37
Urgency-type	15.9(12.8-19.8)	6.5(4.3-9.9)	6.6(4.5-9.7)	8.6(5.8-12.6)	<.01	0.90	0.23

^aEach follow-up time point was compared to baseline.

eTable 3a. Observed urinary incontinence remission and incidence after bariatric surgery.

	Observed Number/Total (%)					
	1 Year		2 Years		3 Years	
Women						
Remission since baseline						
Any-type urinary incontinence	451/674	(66.9)	373/620	(60.2)	355/601	(59.1)
Complete remission	195/674	(28.9)	166/620	(26.8)	165/601	(27.5)
Stress-type urinary incontinence	397/554	(71.7)	348/511	(68.1)	324/493	(65.7)
Urgency-type urinary incontinence	320/443	(72.2)	240/395	(60.8)	238/393	(60.6)
Incidence since baseline	27/699	(3.9)	42/621	(6.8)	44/587	(7.5)
Men						
Remission since baseline						
Any-type urinary incontinence	55/82	(67.1)	52/73	(71.2)	48/69	(69.6)
Complete remission	40/82	(48.8)	34/73	(46.6)	31/69	(44.9)
Stress-type urinary incontinence	10/13	(76.9)	13/15	(86.7)	14/14	(100.0)
Urgency-type urinary incontinence	42/59	(71.2)	40/55	(72.7)	37/50	(74.0)
Incidence since baseline	11/283	(3.9)	12/244	(4.9)	17/227	(7.5)

eTable 3b. Modeled urinary incontinence remission and incidence after bariatric surgery (sensitivity analysis).

	n	Pattern-Mixture Model-Based Estimates, % (95% CI)			Adjusted P value	
		1 Year	2 Years	3 Years	Year 2 vs Year 1	Year 3 vs Year 2
Women						
Remission since baseline						
Any-type urinary incontinence	772	67.0(63.7-70.6)	60.5(56.9-64.3)	59.4(55.8-63.2)	<.001	0.53
Complete remission		28.6(25.4-32.3)	28.1(24.8-31.8)	30.5(27.2-34.2)	0.80	0.25
Stress-type urinary incontinence	666	70.6(67.0-74.4)	67.9(64.2-71.8)	64.9(61.0-69.0)	0.17	0.14
Urgency-type urinary incontinence	524	71.9(67.9-76.1)	60.3(55.8-65.2)	59.2(54.7-64.2)	<.0001	0.66
Incidence since baseline	793	4.0(2.8-5.9)	6.7(5.0-8.9)	7.9(6.0-10.3)	0.01	0.35
Men						
Remission since baseline						
Any-type urinary incontinence	92	67.1(57.8-77.9)	68.3(58.8-79.3)	70.6(61.2-81.5)	0.79	0.66
Complete remission		48.4(38.8-60.5)	48.2(38.1-61.0)	49.5(38.9-63.0)	0.97	0.83
Stress-type urinary incontinence	20	*	*	*	*	*
Urgency-type urinary incontinence	67	71.8(61.3-84)	71.1(60.9-83.2)	72.7(61.8-85.6)	0.89	0.80
Incidence since baseline	330	4.4(2.4-7.8)	4.7(2.6-8.5)	7.7(4.8-12.5)	0.83	0.13

* Too rare to model.