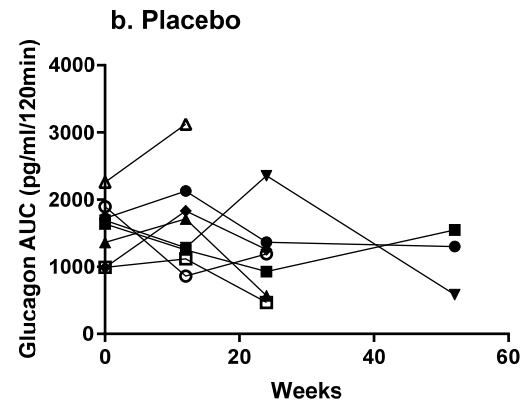
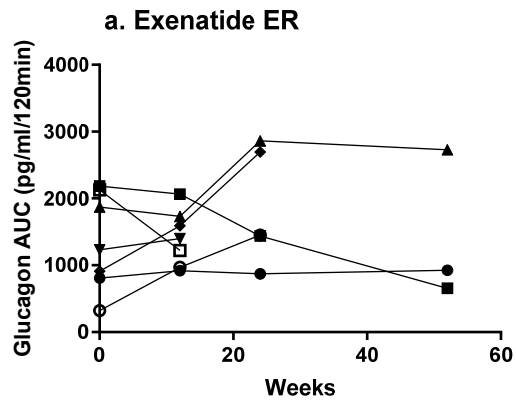


**Supplemental Figure 1: Change in metabolic parameters.** The relationship between the changes in HbA1c (%) (a) and in weight (b) are shown. There was not a significant relationship at either 12 or 24 mos.



**Supplemental Figure 2:** Effects of treatment on glucagon during MMTTs. The AUC during each MMTT is shown. Each symbol represents a participant.

**Supplemental Table 1A and B:**

<b>Table 1A: Baseline Characteristics*</b>				
Characteristic	<b>Exenatide-ER (n=40)</b>		<b>Placebo (n=39)</b>	
Gender (n male)(%)	11 (28%)		14 (36%)	
Race (n white)(%)	34 (85%)		35 (90%)	
Age yrs	38.6 (12.06)		33.5 (11.4)	
BMI (kg/m <sup>2</sup> )	29.31 (6.35)		29.4 (6.34)	
HbA1c (%)	7.40 (0.81)		7.81 (0.78)	
Duration of T1D (yrs) <sup>^</sup>	22.1 (12.03)		17.1 (9.76)	
Daily insulin use (U/kg/d)	0.56 (0.17)#		0.62 (0.18)#	
C-peptide <sup>+</sup> (n)(%)	16 (40)		17 (43.6)	
<b>Table 1B: Baseline characteristics based on C-peptide detection during the baseline MMTT*</b>				
	<b>Exenatide-ER</b>		<b>Placebo</b>	
C-peptide:	Positive (n=16)	Negative (24)	Positive (17)	Negative (22)
Age	38.6 (14.2)	38.5 (10.7)	35.5 (25.5)	31.9 (10.7)
Sex (n male)	2	9	6	8
Duration of T1D (yrs)	17.4 (14.1)	25 (9.79)	12.7 (6.82)	20.3 (10.5)
HbA1c	7.3 (0.8)	7.55 (0.78)	7.91 (0.72)	7.74 (0.84)
BMI*	29.0 (6.12)	30.52 (7.0)	29.0 (6.57)	29.75 (6.3)
C-peptide AUC**	0.278 (0.315)	0	0.214 (0.279)	0
C-peptide peak (pmol/ml)	0.177 (0.22)	0	0.124 (0.178)	0
Glucose AUC	270.2 (41.9)	279.7 (46.6)	288.1 (14.5)	270.2 (41.9)

\* Mean, SD

<sup>^</sup> the duration of T1D was longer in the exenatide ER group vs placebo, p=0.046

\*\* ln(AUC pmol/ml /120+1)

<sup>^^</sup>Duration of diabetes in C-pep neg vs pos p = 0.0018 (Student's t-test)

# In the Exenatide-ER group, 9 (22.5%) were using multiple daily injections and 31 (77.5%) were using insulin pumps. In the Placebo group, 11 (28%) were using multiple daily injections and 27 were using insulin pumps (p=ns).

Supplemental Table 2a. Adverse Events On Study Drug

Organ Class	Bydureon (n=39)							Placebo (n=35)						
	Event	n(%) Subj	Event Rate	Gr 3 Event	n(%) Gr 3 Subj	Gr 4 Event	n(%) Gr 4 Subj	Event	n(%) Subj	Event Rate	Gr 3 Event	n(%) Gr 3 Subj	Gr 4 Event	n(%) Gr 4 Subj
ALL BODY SYSTEM	448	38	2.67	40	11	12	3 (7.7%)	375	28	2.72	28	9 (25.7%)	0	0 (0.0%)
BLOOD AND LYMPHATIC SYSTEM DISORDERS	3	2	0.02	0	0 (0.0%)	0	0 (0.0%)	0	0	0.00	0	0 (0.0%)	0	0 (0.0%)
CARDIAC DISORDERS	1	1	0.01	0	0 (0.0%)	0	0 (0.0%)	0	0	0.00	0	0 (0.0%)	0	0 (0.0%)
EYE DISORDERS	2	2	0.01	0	0 (0.0%)	0	0 (0.0%)	3	2	0.02	0	0 (0.0%)	0	0 (0.0%)
GASTROINT ESTINAL DISORDERS	48	22	0.29	1	1 (2.6%)	0	0 (0.0%)	39	8	0.28	0	0 (0.0%)	0	0 (0.0%)
GENERAL DISORDERS AND ADMINISTRATION SITE CONDITIONS	39	15	0.23	0	0 (0.0%)	0	0 (0.0%)	23	10	0.17	0	0 (0.0%)	0	0 (0.0%)
INFECTIONS AND INFESTATIONS	11	10	0.07	1	1 (2.6%)	0	0 (0.0%)	16	10	0.12	1	1 (2.9%)	0	0 (0.0%)
INJURY, POISONING AND PROCEDURAL COMPLICATIONS	1	1	0.01	0	0 (0.0%)	0	0 (0.0%)	1	1	0.01	0	0 (0.0%)	0	0 (0.0%)
INVESTIGATIONS	4	2	0.02	0	0 (0.0%)	0	0 (0.0%)	0	0	0.00	0	0 (0.0%)	0	0 (0.0%)
METABOLISM & NUTRITION DISORDERS	289	25	1.72	37	8 (20.5%)	10	3 (7.7%)	249	23	1.80	27	9 (25.7%)	0	0 (0.0%)
MUSCULOSKELETAL AND CONNECTIVE TISSUE DISORDERS	11	7	0.07	0	0 (0.0%)	0	0 (0.0%)	4	4	0.03	0	0 (0.0%)	0	0 (0.0%)
NEOPLASMS BENIGN, MALIGNANT AND UNSPECIFIED (INCL CYSTS AND PO	1	1	0.01	0	0 (0.0%)	0	0 (0.0%)	0	0	0.00	0	0 (0.0%)	0	0 (0.0%)
NERVOUS SYSTEM DISORDERS	8	6	0.05	1	1 (2.6%)	0	0 (0.0%)	10	5	0.07	0	0 (0.0%)	0	0 (0.0%)
PSYCHIATRIC DISORDERS	3	2	0.02	0	0 (0.0%)	2	1 (2.6%)	0	0	0.00	0	0 (0.0%)	0	0 (0.0%)
RENAL AND URINARY DISORDERS	0	0	0.00	0	0 (0.0%)	0	0 (0.0%)	1	1	0.01	0	0 (0.0%)	0	0 (0.0%)
RESPIRATORY, THORACIC AND MEDIASTINAL DISORDERS	3	3	0.02	0	0 (0.0%)	0	0 (0.0%)	9	6	0.07	0	0 (0.0%)	0	0 (0.0%)
SKIN AND SUBCUTANEOUS TISSUE DISORDERS	18	15	0.11	0	0 (0.0%)	0	0 (0.0%)	15	9	0.11	0	0 (0.0%)	0	0 (0.0%)
VASCULAR DISORDERS	0	0	0.00	0	0 (0.0%)	0	0 (0.0%)	1	1	0.01	0	0 (0.0%)	0	0 (0.0%)

Supplemental Table 2b Adverse Events Off Study Drug

Organ Class	Bydureon (n=37)							Placebo (n=26)						
	Event	n(%)	Event Rate	Gr 3	n(%)	Gr 4	n(%)	Event	n(%)	Event Rate	Gr 3	n(%)	Gr 4	n(%)
		Subj		Event	Gr 3 Subj	Event	Gr 4 Subj		Event		Gr 3 Subj	Event	Gr 4 Subj	
ALL BODY SYSTEM	201	29	0.87	23	12 (32.4%)	4	3 (8.1%)	287	25	1.72	25	8 (30.8%)	5	3 (11.5%)
EYE DISORDERS	4	3	0.02	1	1 (2.7%)	0	0 (0.0%)	3	2	0.02	0	0 (0.0%)	0	0 (0.0%)
GASTROINTESTINAL DISORDERS	10	6	0.04	1	1 (2.7%)	0	0 (0.0%)	8	6	0.05	0	0 (0.0%)	0	0 (0.0%)
GENERAL DISORDERS AND ADMINISTRATION SITE CONDITIONS	6	4	0.03	0	0 (0.0%)	0	0 (0.0%)	1	1	0.01	0	0 (0.0%)	0	0 (0.0%)
INFECTIONS AND INFESTATIONS	10	6	0.04	0	0 (0.0%)	0	0 (0.0%)	6	6	0.04	1	1 (3.8%)	0	0 (0.0%)
INJURY, POISONING AND PROCEDURAL COMPLICATIONS	2	2	0.01	0	0 (0.0%)	0	0 (0.0%)	1	1	0.01	0	0 (0.0%)	0	0 (0.0%)
INVESTIGATIONS	1	1	0.00	0	0 (0.0%)	0	0 (0.0%)	3	2	0.02	0	0 (0.0%)	0	0 (0.0%)
METABOLISM & NUTRITION DISORDERS	148	23	0.64	19	10 (27.0%)	4	3 (8.1%)	244	22	1.46	24	7 (26.9%)	4	2 (7.7%)
MUSCULOSKELETAL AND CONNECTIVE TISSUE DISORDERS	6	4	0.03	1	1 (2.7%)	0	0 (0.0%)	5	1	0.03	0	0 (0.0%)	0	0 (0.0%)
NEOPLASMS BENIGN, MALIGNANT AND UNSPECIFIED (INCL CYSTS AND	1	1	0.00	0	0 (0.0%)	0	0 (0.0%)	0	0	0.00	0	0 (0.0%)	0	0 (0.0%)
NERVOUS SYSTEM DISORDERS	0	0	0.00	0	0 (0.0%)	0	0 (0.0%)	3	2	0.02	0	0 (0.0%)	0	0 (0.0%)
RESPIRATORY, THORACIC AND MEDIASTINAL DISORDERS	2	2	0.01	0	0 (0.0%)	0	0 (0.0%)	7	5	0.04	0	0 (0.0%)	1	1 (3.8%)
SKIN AND SUBCUTANEOUS TISSUE DISORDERS	2	1	0.01	0	0 (0.0%)	0	0 (0.0%)	1	1	0.01	0	0 (0.0%)	0	0 (0.0%)
SURGICAL AND MEDICAL PROCEDURES	5	3	0.02	1	1 (2.7%)	0	0 (0.0%)	0	0	0.00	0	0 (0.0%)	0	0 (0.0%)

**Supplemental Table 3: Serious Adverse Events:**

Term	Exenatide ER		Placebo	
	Affected/at Risk (%)	# events	Affected/at Risk (%)	# events
Anaphylaxis	0/39 (0%)	0	1/35 (2.86%)	1
Infections and infestations	1/39 (2.56%)	1	0/35 (0%)	0
Pelvic infection	0/39 (0%)	0	1/35 (2.86%)	1
Urinary tract infection	0/39 (0%)	0	1/35 (2.86%)	1
Acidosis (DKA)	1/39 (2.56%)	2	0/35 (0%)	0
Hyperglycemia	1/39 (2.56%)	1	0/35 (0%)	0
Hypoglycemia	3/39 (7.69%)	6	0/35 (0%)	0