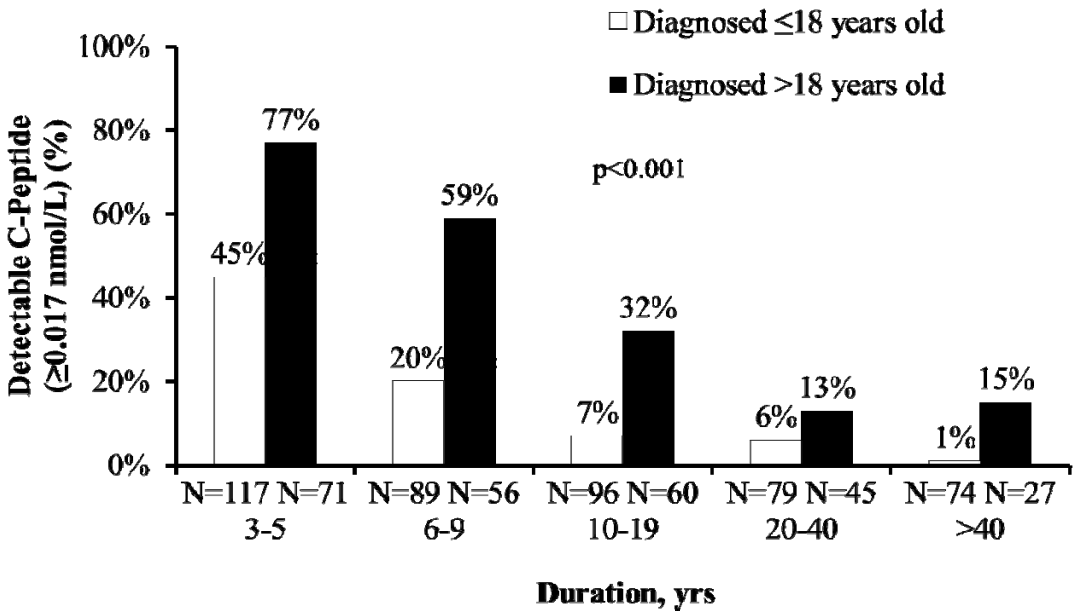
SUPPLEMENTARY DATA

Supplementary Table 1. Participant Characteristics

Total- *n*	**919**
Female- *n (%)*	494 (54)
Race- *n (%)*	
White Non-Hispanic	840 (91)
Black Non-Hispanic	31 (3)
Hispanic	27 (3)
Other	21 (2)
Age- *mean±SD (range)*	37.2±18.9 (5-88)
Diagnosis Age-*median (25th, 75th percentile)*	14 (7, 26)
Type 1 Diabetes Duration-*median (25th, 75th percentile)*	13 (6, 30)
HbA1c, % (mmol/mol)- *mean±SD*	8.0%±1.5 (64±16.4)

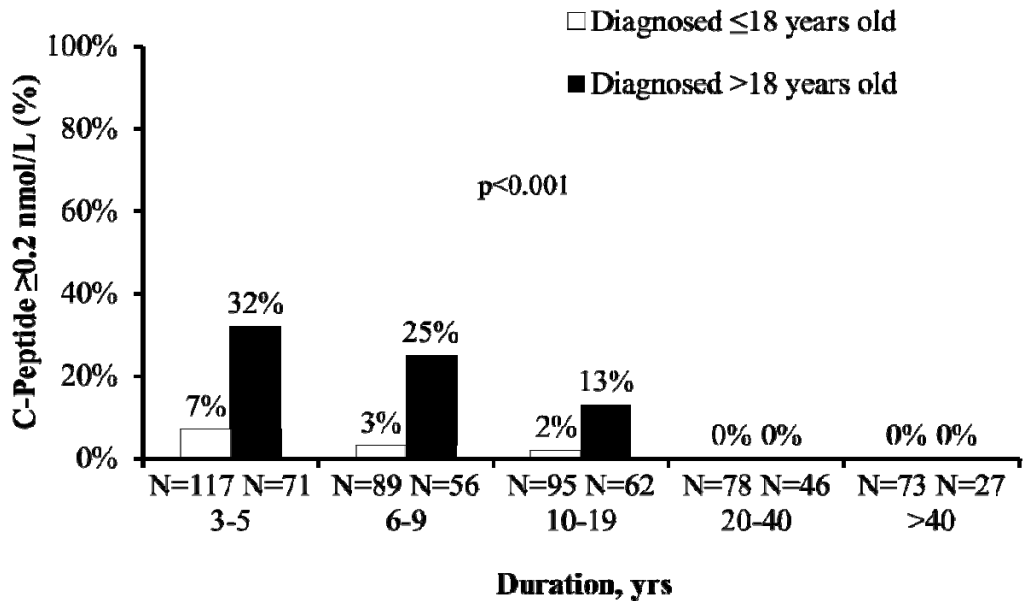
Supplementary Figure 1A. Proportion of Subjects with Detectable (≥0.017 nmol/L) Nonfasting C-peptide, according to Age at Diagnosis and Duration of T1D, among Validation Subgroup



* P value assessing the relationship between diagnosis age and diabetes duration (continuous variables) and detectable C-peptide.

SUPPLEMENTARY DATA

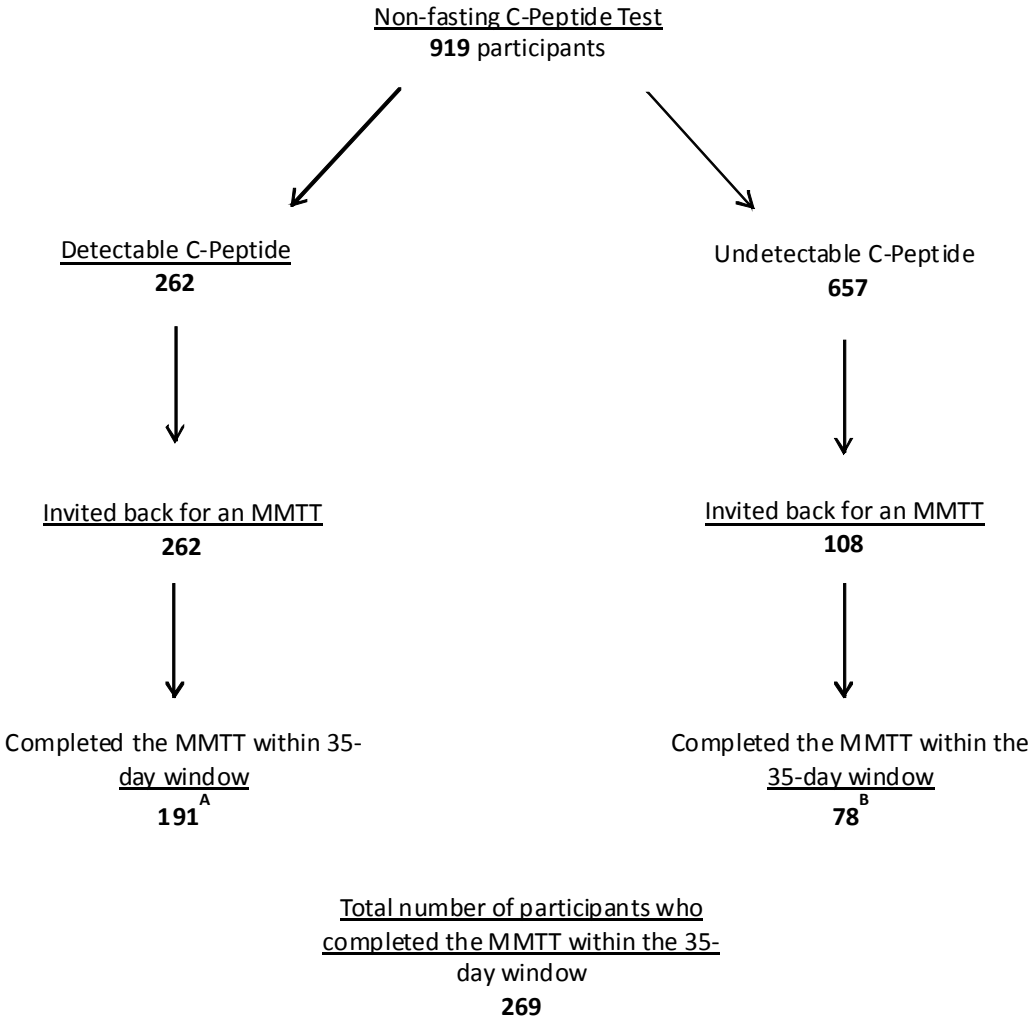
Supplementary Figure 1B. Proportion of Subjects with Nonfasting C-Peptide ≥0.2 nmol/L, according to Age at Diagnosis and Duration of T1D, among Validation Subgroup



* P value assessing the relationship between diagnosis age and diabetes duration (continuous variables) and C-peptide ≥0.2 nmol/L.

SUPPLEMENTARY DATA

Supplementary Figure 2. Number of Participants Who Completed the MMTT



A. No differences in gender, race, current age, and diagnosis age between the 191 with detectable C-peptide who returned for MMTT versus the 71 who did not.

B. No differences in gender, race, and current age between 78 with undetectable C-peptide who underwent MMTT versus the 579 who did not; however, those who underwent the MMTT were diagnosed older (18.5 year versus 14.9 years).

SUPPLEMENTARY DATA

Mixed Meal Tolerance Test (MMTT)

MMTTs were performed as previously reported[4]. Briefly, participants were instructed to come in for the MMTT procedure after fasting for 10 hours and with a glucose between 70-200 mg/dL. No rapid acting insulin was allowed within 2h before the start of the test which commenced before 10 am. Long acting insulin was allowed to be administered as scheduled and regular insulin up to 6 hours before the test. Continuous subcutaneous insulin infusion at a basal rate was allowed during the test, while any correction or bolus doses of rapid acting insulin was only allowed ≥2h before the start of the test. Participants ingested the Boost® High Protein Drink (Nestle HealthCare Nutrition, Inc.), dosed according to weight (6 mL/kg to a maximum of 360 mL), over 5 minutes. Blood samples were collected prior to ingestion of the Boost® High Protein Drink (-10 and 0 min), and at 30, 60, 90 and 120 min after the Boost ingestion.

C-Peptide

Determination of C-peptide levels is performed by a two site immuno-enzymometeric assay using a Tosoh 2000 auto-analyzer (TOSOH, Biosciences, Inc., South San Francisco, CA). The C-peptide assay is calibrated against the WHO IS 84/510 standard and has a sensitivity level of 0.05 ng/mL. The inter-assay CVs for the Low, Medium and High C peptide controls are 3.2%, 1.6% and 1.8%, respectively. The laboratory participates in the external proficiency evaluation program of the College of American Pathologists (CAP).

HbA1c

Measurement of the relative proportion of hemoglobin subclasses and calculation of the HbA1c levels are performed by a dedicated analyzer (TOSOH, Biosciences, Inc., South San Francisco, CA) using nonporous ion exchange high performance chromatography to achieve rapid and precise separation of stable HbA1c from other hemoglobin fractions. A set of QC samples with low and high HbA1c levels are analyzed multiple times every day and the inter-assay CVs for the low and high QC samples are 0.9% and 0.6%, respectively. The laboratory participates in the external proficiency evaluation program of the College of American Pathologists (CAP) and maintains Level-1 laboratory certification by the National Glycohemoglobin Standardization Program (NGPS).

Glucose

Determination of fasting and stimulated glucose in human samples is performed enzymatically using Roche reagents on a Roche Module P Chemistry autoanalyzer (Roche Diagnostics Inc., Indianapolis, IN). The analytical method is based on the glucose hexokinase method described by Schmidt and Bergmeyer (1974) and Peterson and Young (1958) and recognized as the most specific method for the determination of glucose. The assay sensitivity is 2 mg/dL. The intra-assay CVs for High, Medium and Low Glucose level samples are 0.8%, 0.7% and 1.1% respectively. The inter-assay CVs for High, Medium and Low Glucose level samples are 1.2%, 1.7% and 1.4% respectively. The laboratory participates in the external proficiency evaluation program of the College of American Pathologists (CAP).

SUPPLEMENTARY DATA

List of Investigators and Sites

A listing of the T1D Exchange Clinic Network sites participating in the Residual C-Peptide in Patients with Type 1 Diabetes Study with participating principal investigators (PI), co-investigators (I), coordinators (C), and number of participants recruited per site is included below:

Philadelphia, PA Children's Hospital of Philadelphia (n=5) Steven Willi (PI); Tammy Calvano (C) **Aurora, CO Barbara Davis Center for Childhood Diabetes** (n=49) Georgeanna Klingensmith (PI); Heidi Haro (C) **Syracuse, NY SUNY Upstate Medical University** (n=87) Ruth Weinstock (PI); Suzan Bzdick (C) **New York City, NY Naomi Berrie Diabetes Center, Columbia University P&S** (n=70) Robin Goland (PI); Ellen Greenberg (C) **Ann Arbor, MI University of Michigan** (n=11) Joyce Lee (PI); Ashley Eason (C) **Indianapolis, IN Riley Hospital for Children, Indiana University School of Medicine** (n=105) Linda DiMeglio (PI); Stephanie Woerner (C) **Portland, OR Harold Schnitzer Diabetes Health Center at Oregon Health and Science University** (n=89) Andrew Ahmann (PI); Rebecca Fitch (C) **Buffalo, NY Women and Children's Hospital of Buffalo Diabetes Center** (n=48) Kathleen Bethin (PI); Michelle Ecker (C) **Seattle, WA University of Washington, Diabetes Care Center** (n=11) Irl Hirsch (PI); Christina Peterson (C) **Idaho Falls, ID Rocky Mountain Diabetes & Osteoporosis Center, PA** (n=95) David Liljenquist (PI); Brandon Robison (C) **Minneapolis, MN International Diabetes Center/Park Nicollet Adult Endocrinology** (n=29) Richard Bergenstal (PI); Beth Olson (C) **New Haven, CT Yale Pediatric Diabetes Program** (n=18) Eda Cengiz (PI); Amy Steffen (C) **Los Angeles, CA University of Southern California - Community Diabetes Initiatives** (n=47) Anne Peters (PI); Perez Hinton (C) **St. Louis, MO Washington University** (n=32) Janet McGill (PI); Lori Buechler (C) **Iowa City, IA University of Iowa Children's Hospital** (n=5) Eva Tsalikian (PI); Joanne Cabbage (C) **Kansas City, MO Children's Mercy Hospital** (n=17) Mark Clements (PI); Lois Hester (C) **Detroit, MI Henry Ford Health System** (n=36) Davida Kruger (PI); Heather Remtema (C) **Gainesville, FL University of Florida** (n=20) Desmond Schatz (PI); Jamie Thomas (C) **Columbus, OH Central Ohio Pediatrics Endocrinology and Diabetes Services** (n=28) William Zipf (PI); Diane Seiple (C) **Tampa, FL University of South Florida Diabetes Center** (n=17) Henry Rodriguez (PI); Danielle Henson (C) **Nashville, TN Vanderbilt Eskind Diabetes Clinic** (n=17) Jill Simmons (PI); Faith Brendle (C) **Minneapolis, MN University of Minnesota** (n=9) Brandon Nathan (PI); Kara Schmid (C) **Ocean Springs, MS The Diabetes Center, PLLC** (n=40) Kathleen Arnold (PI); Sharon Sellers (C) **Worcester, MA University of Massachusetts Medical School** (n=13) David Harlan (PI); Lisa Hubacz (C) **Durham, NC University of North Carolina Diabetes Care Center** (n=35) John Buse (PI); Julie Tricome (C) **Philadelphia, PA University of Pennsylvania School of Medicine/Rodebaugh Diabetes Center** (n=12) Michael Rickels (PI); Cornelia Dalton-Bakes (C) **Findlay, OH Blanchard Valley Medical Associates** (n=6) Leroy Schroeder (PI); Amanda Roark (C) **Nashville, TN Vanderbilt Eskind Diabetes Clinic** (n=14) Amy Potter (PI); Faith Brendle (C)