

Supplementary Appendix

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

Supplement to: The Juvenile Diabetes Research Foundation Continuous Glucose Monitoring Study Group.
Continuous glucose monitoring and intensive treatment of type 1 diabetes. N Engl J Med 2008;359:1464-76.
DOI: 10.1056/NEJMoa0805017.

Supplemental Table 1. Study Outcomes at 13 Weeks by Treatment Group According to Age Group

| | Age Group | | | | | | | | |
|----------------------------------------------|--------------|-----------------|---------|----------------|-----------------|---------|---------------|-----------------|---------|
| | ≥25 Years | | | 15 to 24 Years | | | 8 to 14 Years | | |
| | CGM N=52 | Control N=46 | P value | CGM N=57 | Control N=53 | P value | CGM N=56 | Control N=58 | P value |
| Glycated hemoglobin level* | | | | | | | | | |
| Baseline (%) <i>mean ± SD</i> | 7.6 ± 0.5 | 7.6 ± 0.5 | | 8.0 ± 0.7 | 7.9 ± 0.8 | | 8.0 ± 0.7 | 7.9 ± 0.6 | |
| Change from baseline (%) <i>mean ± SD</i> | -0.49 ± 0.50 | -0.20 ± 0.45 | <0.001 | -0.38 ± 0.56 | -0.16 ± 0.60 | 0.14 | -0.45 ± 0.75 | -0.21 ± 0.45 | 0.04 |
| Relative decrease by ≥10% <i>no.(%)</i> | 13 (25) | 6 (13) | 0.08 | 13 (24) | 6 (12) | 0.18 | 17 (31) | 7 (12) | 0.03 |
| Absolute decrease by ≥0.5% <i>no. (%)</i> | 24 (47) | 10 (22) | 0.005 | 25 (46) | 16 (32) | 0.20 | 26 (47) | 16 (28) | 0.04 |
| Relative increase ≥10% <i>no. (%)</i> | 0 | 0 | NA | 2 (4) | 3 (6) | 0.66 | 2 (4) | 0 | 0.24 |
| Absolute increase ≥0.5% <i>no. (%)</i> | 0 | 2 (4) | 0.22 | 5 (9) | 6 (12) | 0.67 | 6 (11) | 1 (2) | 0.08 |
| 13-week level <7.0% <i>no. (%)</i> | 22 (43) | 6 (13) | 0.002 | 10 (19) | 4 (8) | 0.06 | 14 (25) | 4 (7) | 0.006 |
| CGM Glucose Data[†] | | | | | | | | | |
| Glucose Level <i>mean minutes/day</i> | | | | | | | | | |
| <i>Baseline:13 weeks</i> | | | | | | | | | |
| 71-180 mg/dL | 854:972 | 811:866 | 0.02 | 691:807 | 697:727 | 0.02 | 646:764 | 710:707 | 0.04 |
| >180 mg/dL | 497:401 | 549:486 | 0.09 | 650:557 | 641:622 | 0.05 | 745:635 | 671:681 | 0.09 |

| | | | | | | | | | |
|--------------------------|-----------|-----------|------|-----------|-----------|------|-----------|-----------|------|
| >250 mg/dL | 149:94 | 181:166 | 0.03 | 271:209 | 265:255 | 0.03 | 343:235 | 282:285 | 0.03 |
| ≤70 mg/dL | 89:67 | 80:88 | 0.34 | 99:76 | 102:91 | 0.53 | 49:41 | 59:52 | 0.43 |
| ≤50 mg/dL | 32:13 | 22:22 | 0.56 | 37:23 | 42:34 | 0.24 | 17:8 | 18:14 | 0.17 |
| Absolute rate of change | | | | | | | | | |
| <i>mean mg/dL/min</i> | | | | | | | | | |
| <i>Baseline:26 weeks</i> | 0.73:0.72 | 0.72:0.70 | 0.59 | 0.85:0.84 | 0.86:0.87 | 0.36 | 0.84:0.82 | 0.83:0.84 | 0.24 |

*13-week glycated hemoglobin data were not available for four subjects who dropped out of the study and five subjects who missed the 13-week visit (see Supplemental Figure 1)

†CGM glucose data were obtained following completion of the 13 week visit with the CGM group using an unblinded device and the control group using a blinded device. Data were missing in the CGM group for four subjects in the 15 to 24 age group and one in the 8 to 14 age group and in the control group for two subjects in the ≥25 age group, five in the 15 to 24 age group and seven in the 8 to 14 age group. To convert glucose in mg/dL to mmol/liter, multiply by 0.0555.

Supplemental Table 2. Glycated Hemoglobin Outcome at 26 Weeks by Treatment Group According to Age Group in Subgroups Based on Insulin Modality and Baseline Glycated Hemoglobin

| | Age Group | | | | | |
|----------------------------------------------------|--------------|--------------|----------------|--------------|---------------|--------------|
| | ≥25 Years | | 15 to 24 Years | | 8 to 14 Years | |
| | CGM | Control | CGM | Control | CGM | Control |
| Insulin Modality: Pump | N=43 | N=39 | N=38 | N=40 | N=47 | N=49 |
| Baseline Glycated Hemoglobin (%) <i>mean ± SD</i> | 7.5 ± 0.4 | 7.7 ± 0.5 | 7.9 ± 0.6 | 7.9 ± 0.8 | 8.0 ± 0.7 | 7.9 ± 0.6 |
| Change from baseline (%) <i>mean ± SD</i> | -0.50 ± 0.51 | +0.02 ± 0.47 | -0.19 ± 0.69 | -0.26 ± 0.63 | -0.39 ± 0.92 | -0.25 ± 0.55 |
| Insulin Modality: Multiple Daily Injections | N=9 | N=7 | N=19 | N=13 | N=9 | N=9 |
| Baseline Glycated Hemoglobin (%) <i>mean ± SD</i> | 7.9 ± 0.6 | 7.3 ± 0.4 | 8.2 ± 0.9 | 8.1 ± 0.9 | 8.1 ± 0.6 | 8.1 ± 0.7 |
| Change from baseline (%) <i>mean ± SD</i> | -0.54 ± 0.85 | +0.04 ± 0.34 | -0.16 ± 0.60 | -0.08 ± 0.55 | -0.30 ± 0.85 | -0.08 ± 0.51 |
| Baseline Glycated Hemoglobin: ≤8.0% | N=43 | N=40 | N=34 | N=36 | N=32 | N=34 |
| Baseline Glycated Hemoglobin (%) <i>mean ± SD</i> | 7.4 ± 0.3 | 7.5 ± 0.3 | 7.5 ± 0.3 | 7.5 ± 0.3 | 7.5 ± 0.3 | 7.4 ± 0.3 |
| Change from baseline (%) <i>mean ± SD</i> | -0.44 ± 0.44 | +0.09 ± 0.35 | -0.17 ± 0.63 | -0.12 ± 0.62 | -0.05 ± 0.74 | -0.10 ± 0.41 |
| Baseline Glycated Hemoglobin: >8.0% | N=9 | N=6 | N=23 | N=17 | N=24 | N=24 |
| Baseline Glycated Hemoglobin (%) <i>mean ± SD</i> | 8.4 ± 0.4 | 8.6 ± 0.4 | 8.7 ± 0.6 | 8.9 ± 0.6 | 8.6 ± 0.5 | 8.5 ± 0.3 |
| Change from baseline (%) <i>mean ± SD</i> | -0.86 ± 0.95 | -0.43 ± 0.72 | -0.20 ± 0.70 | -0.40 ± 0.56 | -0.80 ± 0.93 | -0.40 ± 0.66 |

Supplemental Figure 1. Flow chart indicating visit and study completion in each treatment group according to age group: A: ≥ 25 years age group. B: 15 to 24 years age group. C: 8 to 14 years age group.

Figure 1A

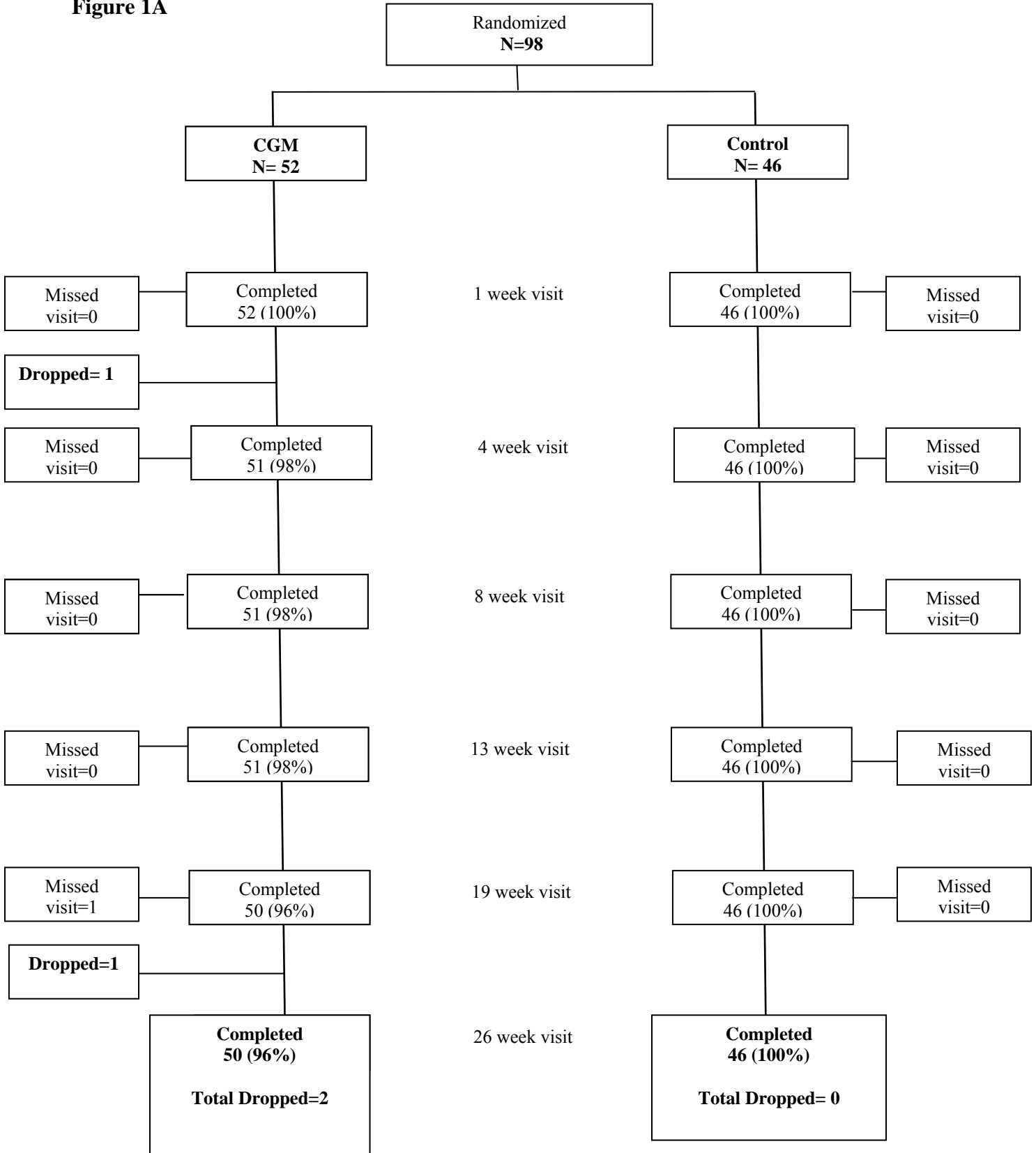


Figure 1B

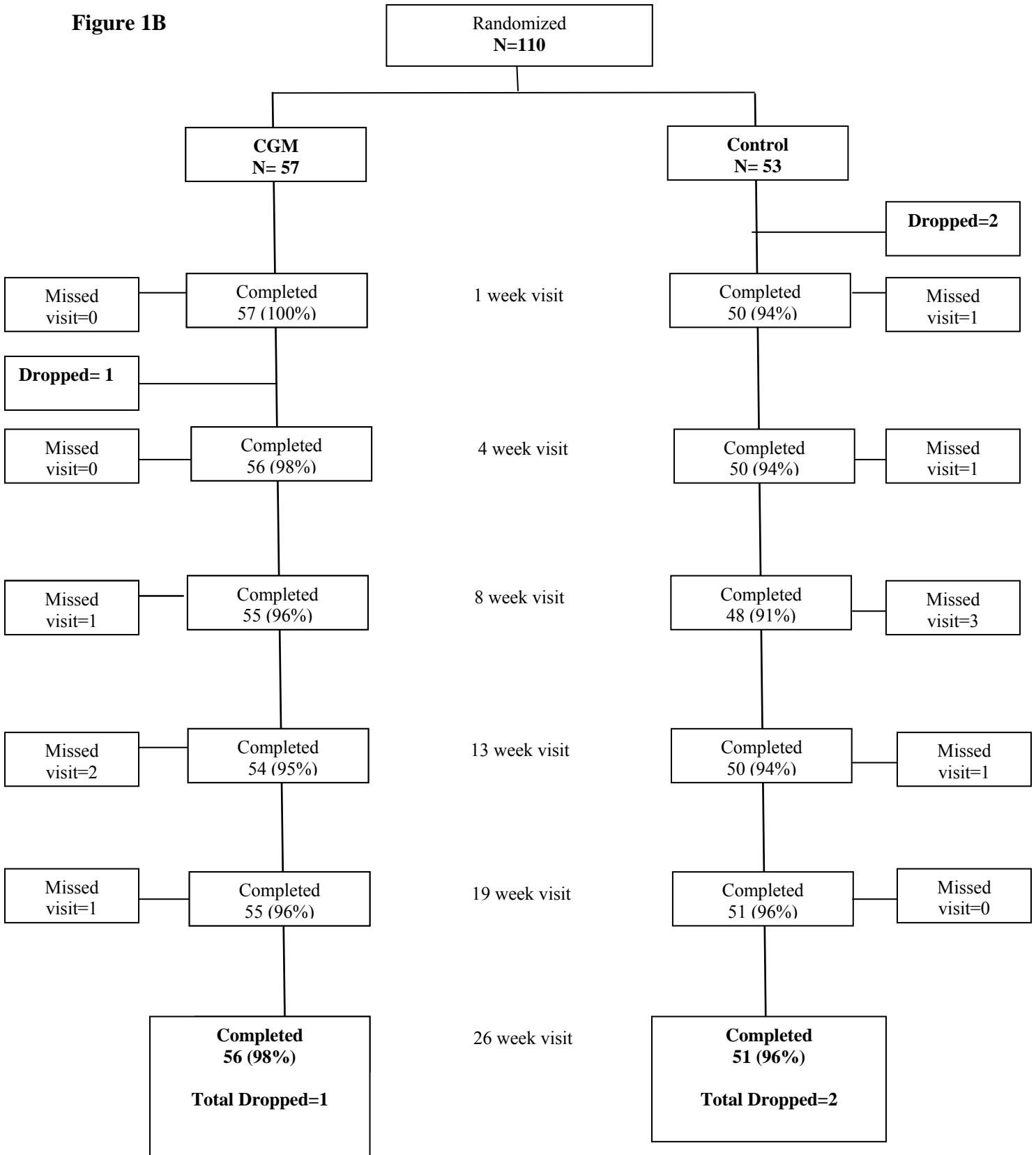


Figure 1C

