

Estimated average glucose values in diabetes

A1C levels may be presented as estimated average glucose (eAG) values based on the same units (mg/dL or mmol/L) that patients routinely see in blood glucose measurements¹

- Based on approximately 2700 patient blood glucose measurements and frequent sampling¹:
 - A high correlation was found between A1C and average glucose values
- The use of eAG values is appropriate for patients with diabetes who are in stable control and without any suggestion of erythrocyte disorders, and not applicable to children and pregnant women¹

Correlation of A1C with eAG values¹

Consider presenting to the patient as, "If your A1C is ____, then your estimated average glucose reading over the past 3 months is ____." (using mg or mmol, based on patient's glucometer)

A1C (%)	mg/dL	mmol/L
5	97 (76-120)	5.4 (4.2-6.7)
6	126 (100-152)	7.0 (5.5-8.5)
7	154 (123-185)	8.6 (6.8-10.3)
8	183 (147-217)	10.2 (8.1-12.1)
9	212 (170-249)	11.8 (9.4-13.9)
10	240 (193-282)	13.4 (10.7-15.7)
11	269 (217-314)	14.9 (12.0-17.5)
12	298 (240-347)	16.5 (13.3-19.3)

Data in parentheses are 95% confidence intervals; ≥90% of the estimates fell within the ±15% range of the regression line.

- ▶ $eAG \text{ (mg/dL)} = 28.7 \times A1C - 46.7$
- ▶ $eAG \text{ (mmol/L)} = 1.59 \times A1C - 2.59$

When coaching your patients about A1C goals, consider asking them, "Are your daily blood sugar levels on track to help you meet your A1C goal?"

Reference: 1. Nathan DM, Kuenen J, Borg R, Zheng H, Schoenfeld D, Heine RJ; A1C-Derived Average Glucose (ADAG) Study Group. Translating the A1C assay into estimated average glucose values. *Diabetes Care*. 2008;31(8):1473-1478.