

Instructions for using the rtCGM-Profi-Check knowledge test

This questionnaire is suitable to assess how well prepared individuals with insulin-treated diabetes are to use an rtCGM system for continuous glucose monitoring. It allows diabetes teams to assess learning needs prior to rtCGM training and to evaluate the success of appropriate training.

On behalf of the “Arbeitsgemeinschaft für Diabetes und Technologie (AGDT) e. V.” and the “Arbeitsgemeinschaft für Pädiatrische Diabetologie (ADPD) e. V.” within the German Diabetes Society (Deutsche Diabetes Gesellschaft (DDG) e. V.), rtCGM experts developed and psychometrically evaluated this 40-item questionnaire. It is available free of charge to all diabetes teams for non-commercial use in consultations and trainings. Please direct inquiries about other uses to the boards of the two working groups mentioned above.

Instructions for use and evaluation of the test

- a) Introduce the test to persons with diabetes as a way to uncover missing knowledge, which will be deepened in a subsequent consultation or training. There should explicitly be no pressure to perform.
- b) Allow sufficient time to answer the questions. There is no upper limit to the time.
- c) To evaluate the test, first check that all questions have been answered. If four or more answers are missing, the test should not be scored.
- d) If fewer than four answers are missing, the missing answers can be replaced with answer five.
- e) Use the answer template and score the answers according to the rtCGM system used or planned (see cover sheet of the questionnaire).
- f) Calculate the scale sum score (number of correct answers), which can range from 0 (minimum) to 40 (maximum).
- g) Since the development of the test, there have been minor technical changes or recommendations for use. Please include these innovations in the evaluation, if applicable.

Normalization: The creation of norm values is not useful for a knowledge test, since it is not a matter of classifying an individual person in relation to a background population, but rather of recording necessary knowledge or deficits. The 40 items represent the necessary knowledge for the use of rtCGM systems, so that every user should be able to answer every question correctly.

Product-specific solution sheet for the "rtCGM-Profi-Check" knowledge test

item number	correct answer			
	Dexcom G4/G5	Medtronic	Eversense	Dexcom G6
1	2	2	2	2
2	4	4	4	4
3	2	2	2	4
4	4	4	4	4
5	2	2	2	4
6	2	2	2	2
7	4	4	4	4
8	2	2	2	2
9	1	1	1	1
10	2	2	2	2
11	3	3	3	3
12	3	3	3	3
13	3	3	3	3
14	1	1	1	1
15	2	2	2	2
16	2	2	2	2
17	3	3	3	3
18	4	4	4	4
19	3	3	3	3
20	2	2	2	2
21	3	3	3	3
22	4	4	4	4
23	1	1	1*	1
24	3	3	3	3
25	1	2	1	1
26	3	3	3	3
27	4	4	4	4
28	1	2	1	1
29	2	2	2	2
30	1	1	1	1
31	3	3	3	3
32	1	1	1	1
33	3	3	3	3
34	3	3	3	3
35	3	3	3	3
36	3	3	3	3
37	3	3	3	3
38	1	1	1	1
39	2	2	2	2
40	2	2	2	2

1* this item is not applicable to this rtCGM-System

Evaluation according to topics

The knowledge test on rtCGM covers the most important contents and topics of the SPECTRUM training program, for example:

Topics	Number of items	Maximal sum score
Relationship between blood and tissue glucose	1; 2; 7; 8; 9; 18	6
Correct calibration	5; 6; 20; 30	4
Influences on the accuracy of tissue glucose measurement	3; 4; 21; 23	4
CGM in everyday life	10; 11; 13; 14; 15	5
Technical basics	12; 16; 17; 33; 35	5
Interpretation of trend arrows	19; 25; 28	3
Therapy adjustment to glucose data	22; 34; 37	3
CGM alarms and their adjustment	24; 26; 27; 38	4
Analysis of CGM data	29; 31; 32; 36; 39; 40	6

The separate evaluation by topic gives a quick overview of where specific training is still necessary.

Interested parties will receive a macro on demand from the authors for automated differentiated evaluation of the raw data in Excel.