

Comparing real-time (RT-CGM) and intermittently scanned continuous glucose monitoring (IS-CGM)* in adults with type 1 diabetes (ALERTT1): a 6-month, prospective, multicenter, randomised controlled trial[†]

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Background

People with type 1 diabetes (T1D) can continuously monitor their glucose levels on demand with IS-CGM, or in real time with RT-CGM.

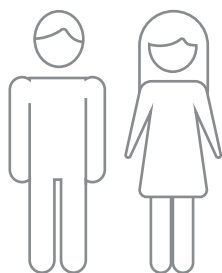
However, it is unclear whether switching from IS-CGM to RT-CGM with alert functionality offers additional benefits.

Objective

Evaluate if use of switching from IS-CGM to RT-CGM with alert functionality improves glycemic outcomes and quality of life in adults with T1D.








Methods

Participants Eligibility



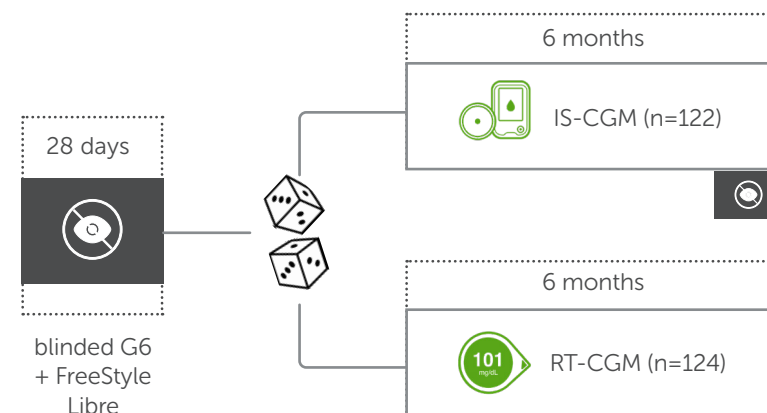
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Participants

-  Adults ≥ 18 years
-  Participants with a diagnosis of T1D ≥ 6 mo
-  Using FreeStyle Libre IS-CGM system ≥ 6 mo
-  Participants are on intensified insulin therapy/insulin pump therapy
-  A1C $\leq 10\%$
-  The participant is willing to wear the glucose monitoring device $>80\%$ of the time
-  The participant is willing to download glucose monitoring data at regular intervals

Methods

Multicenter, double arm, open label, parallel group, randomized clinical trial.

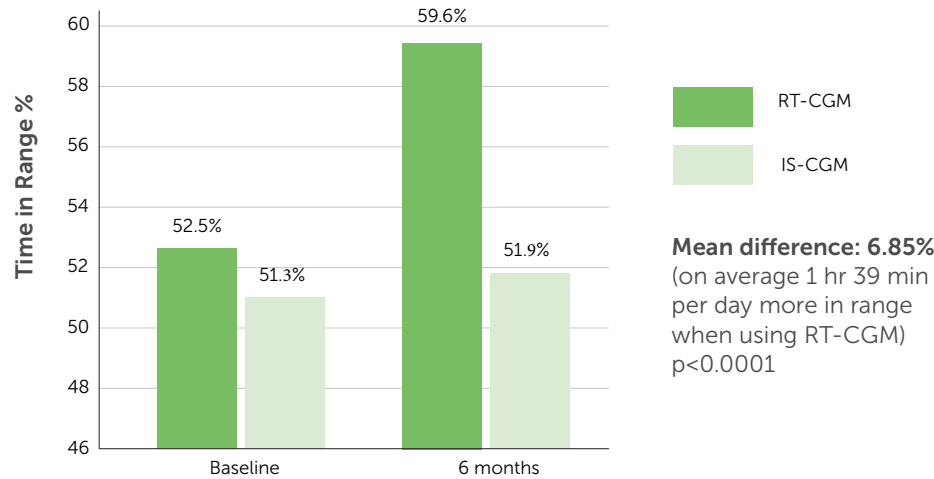


Results



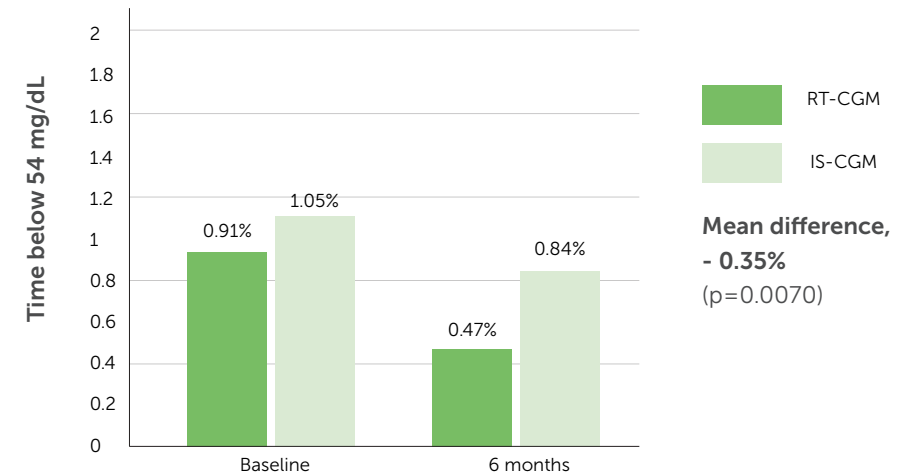
Time in Range

Difference in Time in Range (70-180 mg/dL) after 6 months between the control and intervention group.



Hypoglycemia

After switching to RT-CGM, time < 54 mg/dL almost halved, resulting at month 6 in a mean difference of -0.35% (-0.61 to -0.10 ; $p = 0.0070$)



A1C

A1C decreased in RT-CGM group compared to IS-CGM and this difference persisted up to 6 months.

-0.36% Mean difference at 6 months in A1C
[95% CI, -0.48 to -0.24]; $p < 0.0001$

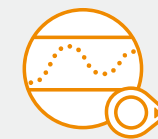
Key takeaways



RT-CGM was superior to IS-CGM in allowing patients to achieve improved TIR[†], A1C, and less time in hypoglycemia.



48% patients on RT-CGM reached an A1C $< 7\%$ without severe hypoglycemia.



Results show that the participants had less fear of hypoglycemia with RT-CGM than IS-CGM use. Mean difference of -2.62% ($p < 0.0071$).

For more information, visit provider.dexcom.com

*IS-CGM used in this trial was FreeStyle Libre 14 day system

† This clinical summary of the published article is interpreted by Dexcom

‡ Recommendations from the International Consensus on Time in Range, 2019 recommend individualized glycemic targets for high risk and/or older adults with a focus on reducing the percentage of time spent less than 70 mg/dL and preventing excessive hyperglycemia.

1. Comparing real-time and intermittently scanned continuous glucose monitoring in adults with type 1 diabetes (ALERTT1): a 6-month, prospective, multicentre, randomised controlled trial
Visser, Margaretha M et al. The Lancet, Volume 397, Issue 10291, 2275 - 2283

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