

# Type 2 Diabetes “Reversal” vs. “Remission”

Hallberg Legacy Course

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# Speaker Disclosure

- No disclosures. No history of funding from food or pharmaceutical companies.




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CONSENSUS STATEMENT | NOVEMBER 01 2009

2009

## How Do We Define Cure of Diabetes?

John B. Buse, MD, PHD; Sonia Caprio, MD; William T. Cefalu, MD; Antonio Ceriello, MD; Stefano Del Prato, MD; Silvio E. Inzucchi, MD; Sue McLaughlin, BS, RD, CDE, CPT; Gordon L. Phillips, II, MD; R. Paul Robertson, MD; Francesco Rubino, MD; Richard Kahn, PHD; M. Sue Kirkman, MD 

- Defining remission or cure of diabetes is not as straightforward as it may seem
- Medically:
  - cure may be defined as restoration to good health ,vs.
  - remission is defined as abatement or disappearance of the signs and symptoms of a disease
    - Implicit in remission is the possibility of recurrence of the disease.
- Many clinicians consider true cure to be limited to acute diseases, eg., bacterial pneumonia and antibiotics
- For a chronic illness such as diabetes, it may be more accurate to use the term remission

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- However, “cure” is the “more hopeful and definitive term” after some period of time has elapsed vs. “prolonged remission,” which is “probably less satisfactory to patients.”
- What if remission lasts a lifetime?
- Hence, it may make sense operationally to consider prolonged remission of diabetes essentially equivalent to cure. This is analogous to certain cancers, where cure is defined as complete remission of sufficient duration that the future risk of recurrence is felt to be very low.

# GLOBAL REPORT ON DIABETES



2016

“...a very low-calorie diet can lead...to the **reversal** of hyperglycaemia typical of type 2 diabetes – the **reversal** may be maintained so long as weight is not regained”

Available at <https://www.who.int/publications/i/item/9789241565257>

Roglic, Gojka. "WHO Global report on diabetes: A summary." *International Journal of Noncommunicable Diseases* 1.1 (2016): 3-8.



*Review*

# Reversing Type 2 Diabetes: A Narrative Review of the Evidence

Sarah J Hallberg <sup>1,2,3,\*</sup> , Victoria M Gershuni <sup>4</sup>, Tamara L Hazbun <sup>2,3</sup>  
and Shaminie J Athinarayanan <sup>1</sup> 

## Results:

Evidence exists that T2D **reversal** is achievable using bariatric surgery, low-calorie diets (LCD), or carbohydrate restriction (LC).

Review

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Because type 2 diabetes is diagnosed based on elevated blood sugar, if your blood sugar remains normal without the use of diabetes-specific medications (other than metformin) and you no longer meet the diagnostic criteria, you have reversed your type 2 diabetes.

- It is important to note that the term “cure” has not been applied to T2D, as there does exist the potential for re-occurrence, which has been well documented in the literature.

Review

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Sarah J Hallberg <sup>1,2,3,\*</sup>, Victoria M Gershuni <sup>4</sup>, Tamara L Hazbun <sup>2,3</sup>  
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- **Conclusion:** Given the state of evidence for T2D reversal, healthcare providers need to be educated on reversal options so they can actively engage in counseling patients who may desire this approach to their disease.



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PMCID: PMC8825709

PMID: [34459898](https://pubmed.ncbi.nlm.nih.gov/34459898/)

## Consensus Report: Definition and Interpretation of Remission in Type 2 Diabetes

[Matthew C Riddle](#), [William T Cefalu](#), [Philip H Evans](#), [Hertzel C Gerstein](#), [Michael A Nauck](#), [William K Oh](#),  
[Amy E Rothberg](#), [Carel W le Roux](#), [Francesco Rubino](#), [Philip Schauer](#), [Roy Taylor](#), and [Douglas Twenefour](#)

An international expert group was convened by the American Diabetes Association. For clinical guidance.

This group proposed “**remission**” as the most appropriate descriptive term, and HbA1c <6.5% measured at least 3 months after cessation of glucose-lowering pharmacotherapy as the usual diagnostic criterion.

Medications discontinued must include metformin and GLP-1 inhibitors, even if these are prescribed for other uses, i.e., not for glycemic control.

# Why ”reversal?”

- Preferred the term “reversal,” because “it gives patients *hope*”

**Source::** (from previous slide) Riddle MC, Cefalu WT, Evans PH. et al., Consensus Report: Definition and Interpretation of Remission in Type 2 Diabetes. J Clin Endocrinol Metab. 2022 Jan 1;107(1):1-9. doi: 10.1210/clinem/dgab585.

"Sarah's wonderful work demonstrated so clearly that the pandemic of Type 2 Diabetes was not a mystery. It was a problem we had eaten our way into, and we can eat our way out again! Read this book to find out more!"

Dr. David Unwin, Royal College of General Practitioners Clinical Expert in Diabetes

Sarah Hallberg wanted to make a positive, lasting difference in her patients' lives. But when she collided with the chronically frustrating aspects of the American healthcare system - entrenched thinking, overreliance on meds, contentment to manage long-term conditions rather than seek root causes - **she pursued a new way, and found it.**

At the weight loss clinic she led in Lafayette, Indiana, she discovered that the standard approach - a low-fat diet = weight loss and good health - had zero scientific support. Dr. Hallberg's clinic adopted a model of a low-carbohydrate, high-fat diet. Her patients lost weight. Those who also suffered from diabetes saw their condition improve or 'go away.'

Over the next several years, Dr. Hallberg and her team embarked on a journey to study the health effects of the low-carb diet; their pioneering research led to their most crucial finding: **Diabetes need not simply be managed but can be reversed by diet.**

While battling terminal cancer, Dr. Hallberg wrote this crucial, inspiring account of how we can all eat better to live better and longer. As important, this book - her first and last - is a searing indictment of what happens when we leave status quo thinking unchallenged, and how it impacts quality of life for us and those we love.

"She was the Johnny Appleseed of type 2 diabetes research."  
Former U.S. Senator and Governor Bob Kerrey

"A passionate plea and a testament to a life dedicated to healing."  
Peter Attia, MD, #1 *New York Times* bestselling author of *Outlive*

# STATUS QUO THINKING IS HARMING YOUR HEALTH

A PHYSICIAN'S FINAL PLEA



DR. SARAH HALLBERG

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