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Diabetes

Current Awareness Bulletin

December 2025

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- **Quickfire health literacy: communicating with patients more effectively**
  30 minutes. Learn about the communication barriers patients may encounter, and ways to ensure they get the most from their care.

  Next sessions: 7th January 2026 @ 2pm and 19th February 2026 @ 3pm

Book a session today at https://forms.office.com/e/HyiSXfDaYV (these sessions will be held on a monthly basis)

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1. **Conversational agent interventions in diabetes care: a systematic review**

Authors: Wartakusumah R., Yamada A., Noguchi H., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[This systematic review aimed to evaluate the effectiveness, acceptability, and safety of conversational agent (CA) interventions in diabetes care. CAs are artificial intelligence driven tools that simulate human-like dialogue and have emerged as promising supports for self-management in chronic disease. We searched six electronic databases from inception to June 2024 and identified 16 eligible studies involving 9076 participants across 13 countries. Included studies varied in design, population, diabetes type, and intervention duration. Eleven studies assessed effectiveness, with most reporting improvements in glycemic control (e.g., HbA1c reductions of 0.3 % to 1.0 %), medication adherence, health behaviours (e.g., diet, physical activity), or mental health outcomes (e.g, anxiety). Thirteen studies examined acceptability and found that most users had positive emotional and motivational responses, though some expressed dissatisfaction with repetitive or impersonal interactions. Only four studies addressed safety, and while adverse events were rare, mechanisms such as clinical escalation protocols were inconsistently applied. Most studies were rated as weak in methodological quality, with small samples and limited use of control groups. In conclusion, CAs show promise as scalable, patient-centered tools for diabetes care. However, rigorous research is needed to better understand their clinical impact, safety, and suitability for diverse patient populations.]

2. Letter to editor: Malnutrition-related diabetes mellitus: Rushing toward “type 5” amid unresolved questions and limited evidence

Authors: Bhatt A., Bhavani P., Sapate A.K., et al.

Publication Date: 2025

Journal: Diabetes & Metabolic Syndrome: Clinical Research & Reviews

[We read with great interest the review by Misra et al., 2025 examining the concept of malnutrition-related diabetes mellitus (MRDM) and the recent proposal to reclassify it as “type 5 diabetes” [1]. The article provides a timely critique of this re-emerging concept, emphasizing historical ambiguity, poor-quality evidence, and limited epidemiological relevance in contemporary populations.]

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3. Prevalence of clinical obesity in the All of Us cohort

Authors: Ravussin E. and Yang S. *Lancet*

Publication Date: 2025

Journal: Diabetes & Endocrinology

[We read with interest the Correspondence by Zhiqi Yao and colleagues [1] published in *The Lancet Diabetes & Endocrinology*, which reports obesity prevalence data from the All of Us Reasearch Program database. Although we appreciate this valuable contribution to obesity research, we note misalignments between the reported prevalence of clinical obesity and the guidelines established by *The Lancet Diabetes & Endocrinology* Commission [2] on the definition and diagnostic criteria of clinical obesity.]

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4. Prevalence of clinical obesity in the All of Us cohort – Authors' reply

Authors: Yao Z. and Blaha M.J.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[We thank Eric Ravussin and Shengping Yang for their thoughtful engagement with our recent Correspondence. As they noted, our reported prevalence of confirmed obesity (68%) is higher than estimates derived using the traditional BMI-only approach. [1] This difference reflects our intentional effort to operationalise the diagnostic guidance from *The Lancet Diabetes & Endocrinology* Commission, [2] which emphasises identifying excess body fat rather than relying solely on BMI. Our aim was to apply the Commission's diagnostic guidance as faithfully and closely as possible. According to the Commission, excess adiposity can be confirmed by any of the following: (1) at least one body size measurement and BMI; (2) at least two body size measurements, regardless of BMI; (3) direct body fat assessment (eg, DEXA scan); or (4) a BMI of equal to or greater than 40 kg/m ^{2}.]

4. Revisiting malnutrition-related diabetes

Authors: Win R.C.N. and Misra S.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[Malnutrition-related diabetes has drifted in and out of global diabetes classification over the past 40 years. 1 2 It was removed from WHO diabetes classification in 1999, [2] but in 2025, it was again formally recognised by the International Diabetes Federation (IDF) and renamed type 5 diabetes. [3] This renewed attention, marked by the launch of a dedicated working group, reflects not a surge in global prevalence, but a long-overdue effort to address major gaps in research and recognition that have left this entity understudied.]

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5. Strengthening non-communicable disease care in all-hazards emergencies

Authors: Jobanputra K., Perone S.A., Ansbro É, et al.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[People with non-communicable diseases (NCDs) are particularly vulnerable to health service disruptions resulting from conflicts, natural disasters, and major disease outbreaks. The 2018 Political Declaration of the 3rd UN High-Level Meeting of the General Assembly on the Prevention and Control of NCDs called for the strengthening of health system resilience to withstand emergencies due to all hazards. Since this declaration, substantial progress has been made by countries and implementing organisations in the development of policies that reduce risk to people with NCDs, as well as the integration of NCDs in emergency preparedness and response measures. However, the increasing frequency of conflicts and natural disasters and the financing shortfall for NCDs have slowed progress. This Personal View describes key developments and lessons learned since the 2018 UN Political Declaration with regard to NCDs across the emergency management cycle, and highlights the current operational and policy challenges. We propose three areas of focus for further development, together with detailed actions for improving NCD care in emergencies.]

Children with diabetes

6. Associations between HbA $_{1c}$ and complications in children diagnosed with type 1 diabetes before age 6: A 30-year follow-up study

Journal: Moran C., Collyer T.A., Brown A., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims**: To examine 30-year glycemic trajectory in children with early-onset type 1 diabetes (T1D) and ascertain which stages of childhood and adolescence were most contributory to subsequent microvascular disease.]

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7. Understanding the mechanism of prediabetes remission in young people

Author: Taylor R.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[Prediabetes is an important clinical concern. Not only is it a harbinger of future type 2 diabetes—with all the attendant adverse effects on health and quality of life—but it also carries a markedly increased risk of premature cardiovascular disease. That risk is present even after excluding the effect of progression to type 2 diabetes. [1] The worldwide prevalence of this condition has risen sharply in the last few decades, but most worrying is the rise in younger than 40 years, including adolescents and children, given their increased susceptibility to rapid onset of serious complications of type 2 diabetes. A person younger than 40 years progressing to type 2 diabetes is expected to lose 14 years of life expectancy, with far more loss of healthy life years. [2] The economic effect on the future working population has not yet been widely recognised. All of these factors bring into sharp focus the need to understand the mechanism of return to normal glucose tolerance.]

Cardiovascular Disease

8. Association of aortic pulse wave velocity with cardiovascular outcomes and all-cause mortality in diabetes: A systematic review and meta-analysis

Authors: Zhang Z., Yang R., Wu W., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Aims**: Patients with diabetes have experienced excess cardiovascular (CV) diseases. Accurate prediction of CV risk has been one of the ultimate tasks of contemporary diabetology. Aortic stiffness (AS), a key indicator of vascular health, has been increasingly considered as a valuable biomarker for CV risk and mortality prediction. We sought to investigate and calculate the predictive value of AS measured by pulse wave velocity (PWV) for cardiovascular CV events and/or all-cause mortality for patients with diabetes.]

9. Beneficial effects of SGLT-2 inhibitors on cardiac autonomic function: surprises never end!

Authors: Patoulias D., Karakasis P., Rangraze I., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[Cardiovascular disease (CVD) still represents the leading cause of death at a global level, while individuals having type 2 diabetes (T2D) experience a significantly increased lifetime risk for CVD development and cardiovascular death, especially due to ischemic heart disease (IHD). [1] Sodium-glucose co-transporter-2 (SGLT-2) inhibitors, although primarily designed and approved for the treatment of T2D, are exerting a significant number of pleiotropic, beneficial effects beyond glycemia. 2 3 4 5 6 Therefore, this class is currently indicated for the treatment of heart failure (HF) across the spectrum of left ventricular ejection fraction (LVEF) and chronic kidney disease (CKD), regardless of the presence of baseline T2D, [7], [8] constituting a major drug class and a key player in the treatment of the recently described cardio-kidney-metabolic (CKM) syndrome. [9]]

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10. Beyond boundaries: exploring the latest guidelines for diabetes and cardiovascular health

Authors: Ruszala V. and Williams R.

Publication Date: 2025

Journal: Practice Nursing

[This article provides an overview of the link between cardiovascular disease and diabetes and its impact on practice. The European Society of Cardiology guidelines provide an overview of up-to-date recommendations, based on meta-analyses and recently published clinical trials, over the cardio-renal-metabolic spectrum. This guideline explores the management of diabetes with a focus on cardiovascular risk stratification, lifestyle and pharmacological management of cardiovascular risk factors and how to reduce the risk of heart failure and chronic kidney disease in those with diabetes.]

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11. Burden and progression of arterial calcification in type 1 diabetes predicts future cardiovascular disease

Authors: Hjortkjær H. Ø., Rossing P., Kofoed K.F.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Aims**: Even in the absence of kidney disease in persons with type 1 diabetes, there is an increased risk of cardiovascular (CV) disease through mechanisms not fully understood. This study aims to investigate whether evaluating arterial calcification can augment CV risk stratification in people with type 1 diabetes.]

12. Can Dual Incretin Receptor Agonists Exert Better Cardiovascular Protection than Selective GLP-1 Receptor Agonists? Highlights from SURPASS-CVOT

Author: Fadini G.P.

Publication Date: 2025

Journal: Diabetes Therapy

[Despite advances in cardiovascular risk reduction in type 2 diabetes (T2D), a persistent gap remains compared to individuals without diabetes. Glucagon-like peptide-1 receptor agonists (GLP-1RA) have provided consistent cardiovascular benefits. With more cardiovascular protective agents available for diabetes management, their incremental effect may be nearing a ceiling. The SURPASS-CVOT trial innovatively compared the dual GIP/GLP-1RA tirzepatide with the selective GLP-1RA dulaglutide, demonstrating noninferiority for major adverse cardiovascular events (MACE; HR 0.92; 95.3% CI 0.83-1.01; p = 0.086) and suggesting a potential 28% MACE risk reduction versus an imputed placebo. However, superiority over dulaglutide was narrowly missed. Despite greater improvements in glycemia (0.8% greater HbA1c reduction) and weight (7% greater weight loss), tirzepatide appeared to confer limited incremental cardiovascular benefit, raising questions about mechanism saturation or trial design constraints. Exploratory analyses showed promising benefits on mortality and renal function but require cautious interpretation. The trial's active comparator/imputed placebo design reflects an evolving ethical and therapeutic landscape in diabetes care. Whether dual incretin receptor agonism can meaningfully exceed current cardioprotective thresholds remains uncertain. By now, we may need new paradigms to overcome what may turn out to be a therapeutic ceiling for cardiovascular protection in the T2D population.]

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13. Cardiovascular outcomes of patients with type 2 diabetes after myocardial infarction and the impact of diabetes duration: a nationwide registry study

Authors: Kerola A.M., Juonala M., Kytö V.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims**: To study long-term cardiovascular outcomes following a myocardial infarction (MI) among patients with type 2 diabetes.]

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14. Cardiovascular risk in type 1 versus type 2 diabetes

Authors: Solini A.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[Diabetes is well known to be associated with an increased cardiovascular risk. Although much of the evidence has been generated in people living with type 2 diabetes, a similarly high cardiovascular burden has been reported for people with type 1 diabetes. [1] Over the 30-year follow-up of the Diabetes Control and Complications Trial (DCCT)/Epidemiology of Diabetes Interventions and Complications (EDIC) cohort, long-term microvascular and macrovascular complications and mortality were found to be strongly correlated, although age, diabetes

duration, and glycaemic control explained part of this association. [2] A subsequent analysis of DCCT/EDIC has indeed identified modifiable factors that might independently reduce risk of cardiovascular disease and mitigate the risk associated with poor glycaemic control. [3]]

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15. Effect of colchicine on platelet aggregation in patients with type 2 diabetes: Results from a randomized placebo-controlled trial

Authors: Baier J.M., Funck K.L., Vernstrøm L., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Background**: Patients with type 2 diabetes face an increased risk of cardiovascular disease (CVD), partly due to a prothrombotic state with increased platelet reactivity. Colchicine, an anti-inflammatory drug, has shown promise in reducing cardiovascular events, but its effects on platelet function remain unclear. This trial evaluated the effect of low-dose colchicine on platelet aggregation and platelet activation indices in patients with type 2 diabetes.]

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16. Elevated small dense low-density lipoprotein-cholesterol as a risk factor for lower extremity arterial disease in patients with type 2 diabetes mellitus

Authors: Zheng D., and Cui C.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Aims**: Small dense low-density lipoprotein-cholesterol (sdLDL-C) is an emerging atherogenic lipid marker, but its association with lower extremity arterial disease (LEAD) in type 2 diabetes mellitus (T2DM) remains underexplored. This study aimed to evaluate whether sdLDL-C independently predicts LEAD risk in T2DM patients.]

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17. The health stage of cardiovascular-kidney-metabolic (CKM) syndrome is useful for predicting all-cause mortality in patients with type 2 diabetes: a cohort study in a period prior to the standard use of recent pharmacotherapy

Authors: Nishizawa K., Tanaka M., Sato T., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Aim**: Cardiovascular-kidney-metabolic (CKM) syndrome is a recently defined systemic condition linking cardiovascular disease, chronic kidney disease and metabolic disorders including type 2 diabetes (T2D). Although the CKM staging has been proposed for integrated risk assessment, its association with all-cause mortality in patients with T2D remains unclear. We investigated the prognosis in patients with T2D assigned by the CKM health stage.]

18. The impact of glycemic variability on the 28-day prognosis of patients with cardiogenic shock with or without diabetes mellitus: A retrospective cohort study

Authors: Tian J., Zhao C., Li Y., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[Glycaemic variability (GV) may reflect sharp rises and acute fluctuations in blood glucose, which are associated with adverse cardiovascular events. The aim of this study was to investigate the effect of GV on 28-day outcome in patients with cardiogenic shock (CS) with or without diabetes mellitus (DM).]

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19. Periodontitis, accelerated biological aging, and advanced stages in cardiovascular-kidney-metabolic syndrome in U.S. Adults: A mediation analysis

Authors: Qi X., Sui J., Yang Z., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims**: Cardiovascular–Kidney–Metabolic (CKM) syndrome is a five-stage framework integrating cardiovascular, renal, and metabolic health. Periodontitis may contribute to multi-system conditions like CKM syndrome, but its overall impact and mechanisms remain unclear.]

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20. Possible correlation between Triglyceride/HDL ratio and subclinical myocardial damage in patients with cardiovascular risk factors

Authors: Cassano V., D'Arrigo G., Gori M., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims**: The triglyceride-to-high-density lipoprotein cholesterol (TG/HDL-C) ratio is considered a predictor of cardiovascular (CV) disease. The aim of the study was to evaluate the TG/HDL-C ratio as CV risk factor and its possible correlation with subclinical myocardial damage.]

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21. The rapidly increasing incidence of type 2 diabetes and macrovascular and microvascular complications disproportionately affects younger age groups: A decade of evidence from an international federated database

Authors: Anson M., Henney A.E., Edwards H., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims**: To characterise recent trends in incidence and prevalence of type 2 diabetes (T2D) associated complications, and their relative impact across the lifespan.]

22. Relationship between relative fat mass and coronary artery calcification in patients with type 2 diabetes

Authors: Ye J., Qin Y., Zhao L., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Aims**: Relative fat mass (RFM) is a promising tool for identifying individuals with obesity-related health risks. Given the unclear correlation, we aimed to investigate the association between RFM and coronary artery calcification (CAC) in individuals with T2DM.]

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23. Risk differences and underlying factors of cardiovascular events and mortality in patients with type 2 diabetes versus type 1 diabetes: a longitudinal cohort study of Swedish nationwide register data

Authors: Patsoukaki V., Lind L., Lampa E., et al.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[**Background**: Despite improvements in diabetes care and risk factor management, the residual risk for cardiovascular disease and premature death remains substantially elevated in people both with type 1 and type 2 diabetes. This study aimed to compare the risk of cardiovascular disease and mortality, as well as the contibution of underlying risk factors, between type 1 and type 2 diabetes.]

Diabetic Neuropathy

24. Associations between long-term metformin use, the risk of vitamin B12 deficiency, and neuropathy: An *All of Us* research Program study

Authors: Sepassi A., Wang J., Yankowski S., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

Aims: The primary objective of this study is to investigate the associations between long-term metformin use, vitamin B12 status, and peripheral neuropathy. Secondarily, we aim to explore the effect of time since diagnosis on the relationships between metformin use, vitamin B12 deficiency, and peripheral neuropathy.

Eye Diseases

25. Biomarkers of risk of switching to dexamethasone implant for the treatment of diabetic macular oedema in real clinical practice: a multicentric study

Author: Ruiz-Medrano J., Mirete P.U., Fernández-Jiménez M., et al.

Publication Date: 2025

Journal: British Journal of Ophthalmology

Objective: To establish the influence of different optical coherence tomography (OCT) biomarkers at baseline treatment on the potential response to anti-vascular endothelial growth factor (VEGF) treatment for diabetic macular oedema (DME).

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26. Evaluation of IDx-DR software for diabetic retinopathy screening in outpatient clinics: Efficacy, safety, and feasibility in a real-world setting

Authors: Huber S.L., Parzer V., Ludvik B., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Aims**: This study assessed the IDx-DR software's effectiveness as a diabetic retinopathy (DR) screening tool in a routine outpatient setting. It also evaluated the software's safety and feasibility.]

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27. Is there a link between dry eye disease and diabetes mellitus? A systematic review and meta-analysis

Author: Chen K.Y., Chan H.C., Chan C.M.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Background**: Keratoconjunctivitis sicca, or the dry eye disease (DED) is prevalent multifactorial disorder of the tears and ocular surface, which has lately been interested scholars, particularly in establishing its link with diabetes mellitus (DM). This study aimed to evaluate the association between DM and DED through a comprehensive systematic review and meta-analysis of existing published articles, and thus understand the attributed risks for DED development in diabetic patients.]

28. Mass spectrometry-based metabolomic and lipidomic profiling stratifies stages of diabetic retinopathy

Authors: Fang J., Wang H., Niu T., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims**: Diabetic retinopathy is a metabolic complication of diabetes. This study aimed to elucidate metabolic and lipidomic alterations associated with diabetic retinopathy progression and identify biomarkers for its diagnosis and staging.]

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29. Progress of diabetic retinopathy up to 24 years in patients with type 2 diabetes in Sweden: a cohort study from the Skaraborgs Diabetes Register

Authors: Garberg G., Boström K.B., Hjerpe P., et al.

Publication Date: 2025

Journal: BMJ Open Diabetes Research and Care

[**Introduction:** This study investigated the incidence of diabetic retinopathy (DR) and sight-threatening DR (STDR) through 2021 in patients diagnosed with type 2 diabetes (T2DM) in 1996–2004. The study also investigated risk factors associated with DR.]

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30. The role of artificial intelligence in diabetic retinopathy screening in type 1 diabetes: A systematic review

Authors: Sacchini F., Mancin S., Cangelosi G., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Background/objectives**: Diabetic retinopathy (DR) is one of the leading causes of blindness in adults worldwide and represents a critical complication in both type 1 (T1D) and type 2 (T2D) diabetes. Artificial Intelligence (AI) offers a promising opportunity to enhance both the accuracy of screening and the efficiency of ongoing care management, assisting healthcare providers in mitigating the incidence and complications of DR.]

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31. The use of fenofibrate in diabetic retinopathy: Narrative review

Authors: Dissanayake H.A., Kiire C.A., Preiss D., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[Diabetic retinopathy (DR) is a leading cause of blindness despite advances in treatment and there remains an unmet need for low-cost interventions to prevent and slow the progression of DR. Fenofibrate has shown promise as a useful adjunct in DR management and is licensed for use in the treatment of DR in a few countries. However, the data supporting the use of fenofibrate for the treatment of DR emerged from subsidiary analyses of the FIELD, ACCORD-

LIPID and its sub-study ACCORD-EYE trials, which were primarily designed to evaluate cardiovascular outcomes. The recently concluded LENS trial, designed to evaluate the effect of fenofibrate on progression of DR, has shown clear evidence of benefit over medium-term follow-up (i.e., 4–5 years), and confirmed its safety in people with type 1 or type 2 diabetes. These benefits appear to be independent of fenofibrate's lipid lowering effects and are more likely to be mediated via its direct effects on the eye. In this narrative review on the use of fenofibrate in the treatment of DR, we summarise the possible mechanisms of action, existing evidence from randomised trials, and implications for clinical practice and research.]

Kidney Disease

32. Associations of time in range and glycemic risk index with insulin resistance and diabetic kidney disease in patients with type 2 diabetes

Authors: Yang Z., Zheng B., Luo G., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications, 2025, 39(10), Article 109140.

[**Aims**: Effective glycemic control is essential for preventing complications and improving quality of life in patients with type 2 diabetes mellitus (T2DM). Identifying reliable glycemic indicators for the assessment of islet function and renal complications remains a major challenge in diabetology. Time in Range (TIR) and Glycemia Risk Index (GRI), two continuous glucose monitoring (CGM)-based metrics, have recently emerged as potential tools for assessing glycemic control beyond HbA1c. This study aims to assess the predictive value of TIR and GRI for islet function impairment and diabetic kidney disease (DKD) in patients with T2DM.]

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33. Author's response to the Letter to the Editor “Glucagon-like Peptide-1 receptor agonists versus dipeptidyl-peptidase 4 inhibitors in advanced chronic kidney disease and end stage kidney disease: Real world effectiveness and persistence of therapy”

Authors: Agarwal S., Sidra F.N.U., Lingvay I.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[We welcome the opportunity to respond to a letter to the editor by Borrás-Blasco, Valcuende-Rosique, and Cornejo on our article “Glucagon-like Peptide-1 receptor agonists versus dipeptidyl-peptidase 4 inhibitors in advanced chronic kidney disease and end stage kidney disease: Real world effectiveness and persistence of therapy”. [1] We thank the authors of the letter for highlighting the distinction between the concepts of medication adherence and persistence.]

34. Change in urine albumin-to-creatinine ratio and clinical outcomes in patients with chronic kidney disease and type 2 diabetes

Authors: Tangri N., Singh R., Chen Y., et al.

Publication Date: 2025

Journal: BMJ Open Diabetes Research and Care

[**Introduction:** This study aims to investigate the association between change in urine albumin-to-creatinine ratio (UACR) and clinical outcomes in patients with chronic kidney disease (CKD) and type 2 diabetes.]

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35. Clinical efficacy and cost effectiveness of SGLT2i in diabetic nephropathy: a large population-based study

Authors: Wang H.H., Chiu Y.W., Chung C.Y., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Objective**: To evaluate the clinical efficacy and cost-effectiveness of SGLT2i versus non-use in routine care for diabetic nephropathy.]

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36. Clinical outcomes of and risk factors for normoalbuminuric diabetic kidney disease

Authors: Kim J., Bae S., Yun D., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Background**: Albuminuria is a key prognostic marker of diabetic kidney disease (DKD), but some patients experience disease progression without developing albuminuria, a condition referred to as normoalbuminuric DKD. This study aimed to evaluate the prognosis of normoalbuminuric DKD and identify factors associated with progression.]

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37. Geriatric nutritional risk index predicts incident kidney failure with replacement therapy among patients with biopsy-proven diabetic nephropathy

Authors: Uemura T., Nishimoto M., Eriguchi M., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims**: The geriatric nutritional risk index (GNRI) is a predictor for kidney prognosis. However, malnutrition can lead to overestimation of creatinine-based estimated glomerular filtration rate (eGFR), particularly in diabetic nephropathy (DN). This study examined whether GNRI was associated with kidney prognosis after accounting for muscle mass-independent kidney function markers in DN.]

38. Global, regional, and national burden of type 1 diabetes mellitus and chronic kidney disease due to type 1 diabetes mellitus in children aged 0–14 years from 1990 to 2021

Authors: Li J., and Zhang J.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Background**: Type 1 diabetes mellitus (T1DM) and chronic kidney disease(CKD) due to T1DM pose a substantial global health burden. However, the epidemiology of T1DM and CKD due to T1DM in children aged 0–14 years remains poorly quantified worldwide. We aimed to evaluate the global burden and trends of these conditions in this pediatric population.]

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39. The health stage of cardiovascular-kidney-metabolic (CKM) syndrome is useful for predicting all-cause mortality in patients with type 2 diabetes: a cohort study in a period prior to the standard use of recent pharmacotherapy

Authors: Nishizawa K., Tanaka M., Sato T., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Aim**: Cardiovascular-kidney-metabolic (CKM) syndrome is a recently defined systemic condition linking cardiovascular disease, chronic kidney disease and metabolic disorders including type 2 diabetes (T2D). Although the CKM staging has been proposed for integrated risk assessment, its association with all-cause mortality in patients with T2D remains unclear. We investigated the prognosis in patients with T2D assigned by the CKM health stage.]

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40. Letter to the Editor "Glucagon-like Peptide-1 receptor agonists versus dipeptidyl-peptidase 4 inhibitors in advanced chronic kidney disease and end stage kidney disease: Real world effectiveness and persistence of therapy"

Authors: Borrás-Blasco J., Valcuende-Rosique A., Cornejo-Uixeda S.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[We read with great interest the recent article by Sidra et al. comparing real-world outcomes of glucagon-like peptide-1 receptor agonists (GLP-1RA) versus dipeptidyl-peptidase 4 inhibitors (DPP-4i) in patients with type 2 diabetes (T2D) and advanced chronic kidney disease (CKD) or end-stage kidney disease (ESKD). The study provides valuable observational data demonstrating that GLP-1RA therapy was associated with superior weight loss (mean −9.6 % vs −2.4 %) and greater glycemic improvement (mean HbA1c reduction −1.0 % vs +0.2 %) compared to DPP-4i over 36 months, while maintaining long-term treatment persistence in both groups (mean treatment duration exceeding 1000 days). [1] Real-world studies addressing long-term persistence are essential to complement the short- and medium-term data typically available from clinical trials.]

41. Relationship between flow-mediated dilation and urinary albumin-creatinine ratio in patients with type 2 diabetes mellitus

Authors: Fang Y., Jing L., Zhu Y., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Aims**: To investigate the association between Flow-Mediated Dilation (FMD) and the urinary albumin-to-creatinine ratio (UACR) in individuals with type 2 diabetes mellitus (T2DM).]

Liver Disease

42. Pericardial fat pad detected on chest X-ray is closely associated with metabolic dysfunction-associated steatotic liver disease and visceral fat accumulation in patients with type 2 diabetes

Authors: Watanabe K., Nishioka H., Takubo M., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Aim**: This study aimed to evaluate whether a pericardial fat pad (PFP) detected on chest X-ray can estimate metabolic dysfunction-associated steatotic liver disease (MASLD) and visceral fat accumulation.]

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43. The prevalence and correlates of advanced fibrosis in patients with and without diabetes mellitus and metabolic dysfunction-associated steatotic liver disease: A cross-sectional study

Authors: Muzurović E., Topić G., Todorović N., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Background**: The severity of liver fibrosis serves as a crucial prognostic indicator, reflecting liver-related and cardiovascular-related outcomes, as well as mortality in patients with metabolic dysfunction-associated steatotic liver disease (MASLD). Type 2 diabetes mellitus (T2DM) is a major risk factor for developing metabolic dysfunction-associated steatohepatitis (MASH), and in patients with both T2DM and MASH, identifying those with advanced fibrosis is critical.]

Diabetic Foot

44. Analysis of foot thermography images of diabetic patients using artificial intelligence: a scoping review

Authors: Wartakusumah R., Yamada A., Noguchi H., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[Artificial intelligence (AI) enhances thermal image analysis by providing advanced pattern recognition and improving the accuracy of diabetic foot condition detection. AI-driven thermography systems support clinicians, but research on AI for diabetic foot thermography is fragmented, with diverse algorithms and existing reviews focusing mainly on statistical performance. This review aimed to provide a comprehensive review of AI-based diabetic foot thermography, with a focus on condition detection, performance metrics, clinical implications, and existing research gaps. A scoping review was conducted using PubMed, MEDLINE, CINAHL, ScienceDirect, Scopus, and Google Scholar, with keywords “diabetic foot temperature,” “thermal imaging,” and “artificial intelligence,” including related MeSH terms. Eligible studies included original research and conference proceedings on AI-based foot thermography for diagnosing or monitoring diabetic adults. Literature reviews and meta - analyses were excluded. Sixty articles were reviewed. Most studies addressed increased temperature, followed by decreased temperature, and DFU severity classification pattern. AI performance ranged from 61% to 100%. Study environments were 46.67% controlled, 6.67% uncontrolled, and 46.67% unreported. AI applications included clinical decision support, remote monitoring, and reducing clinician workload. AI has advanced diabetic foot detection; however, additional studies in uncontrolled environments are needed to improve accuracy and enhance generalizability under real-world conditions.]

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45. Characterization of Microbial Profiles and Antimicrobial Resistance in Diabetic Foot Ulcers at a Tertiary Care Facility in Northern China

Authors: Zhang F., Yang C., Li M., et al.

Publication Date: 2025

Journal: Diabetes Therapy

[**Introduction**: There are differences in the microbiological and antimicrobial patterns of patients with diabetic foot infections (DFI) in different regions. Understanding the microbiological and antimicrobial patterns of patients with DFI in this region provides a basis for the empirical use of antibiotics in clinical practice.]

46. Low imaging-detected muscle mass as a prognostic factor for overall and amputation-free survival in patients undergoing lower extremity amputation

Authors: Patoulias D., Karakasis P., Rangraze I., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Background**: Amputations and sarcopenia are both increasing globally. This study investigates the association between imaging-detected muscle mass and outcomes after lower extremity amputation.]

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47. Prevention and management of diabetic foot problems

Author: Nazarko L.

Publication Date: 2025

Journal: Practice Nursing

[Type 1 and type 2 diabetes are associated with a number of complications, including peripheral arterial disease, neuropathy and soft tissue sepsis. These complications can lead to the need for amputation of the lower limb. The person with diabetes is 30 times more likely to require an amputation than a person without diabetes. The number of people developing diabetic foot disease and requiring amputations is rising. This article aims to explore the reasons why people with diabetes develop foot ulcers, and to enable the nurse to work with the person to reduce the risk of ulceration, identify foot problems and ensure that these are well managed.]

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48. Risk assessment modeling for diabetes-related lower extremity amputation using socioeconomic and behavioral health indicators

Author: Schmittling K.A.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[Lower extremity amputation (LEA) is a costly complication of diabetes, with disproportionate impacts among socially and medically vulnerable populations. While clinical predictors of LEA are well established, the role of behavioral health comorbidities, particularly alongside socioeconomic disparities, in amputation risk is unexplored. To evaluate sociodemographic and behavioral health predictors of LEA, a retrospective analysis of adult patients with diabetes was performed utilizing the Nationwide Inpatient Sample from 2018 to 2022. Sociodemographic and behavioral health characteristics were compared between patients that did and did not undergo LEA. Multivariable logistic regression was used to identify independent predictors of LEA using 2018–2021 data and was then tested on the 2022 validation cohort. Among 7.5 million adult patients with diabetes with inpatient events, patients undergoing LEA were significantly younger, more likely to be male, from lower income quartiles, and disproportionately Black, Hispanic, and Native American ($p < 0.001$). Substance use disorder was significantly more common among LEA patients (16.0 % vs 11.6 %). In adjusted analysis, several behavioral health conditions were independently associated with

increased LEA risk. The model demonstrated modest predictive performance in the testing cohort (AUC = 0.658). While not yet suitable for standalone clinical use, this model highlights that behavioral risk factors, especially in the context of sociodemographic characteristics, warrants increased attention in limb preservation strategies.]

Diabetes and pregnancy

49. Perinatal and postpartum insulin secretion capacity in women with early-onset and late-onset gestational diabetes

Authors: Katayama A., Hasegawa M., Morimoto E., et al.

Publication Date: 2025

Journal: BMJ Open Diabetes Research and Care

[**Introduction:** Gestational diabetes mellitus (GDM) is associated with metabolic risks and adverse maternal and fetal perinatal outcomes. This study aimed to compare pregnancy outcomes, postpartum glucose intolerance and insulin secretion capacity in women with early-onset GDM (EGDM, diagnosed<24 weeks) and late GDM (LGDM, diagnosed≥24 weeks) in Japan.]

Diabetes mellitus Type 1

50. Associations between HbA $_{1c}$ and complications in children diagnosed with type 1 diabetes before age 6: A 30-year follow-up study

Authors: Moran C., Collyer T.A., Brown A., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims**: To examine 30-year glycemic trajectory in children with early-onset type 1 diabetes (T1D) and ascertain which stages of childhood and adolescence were most contributory to subsequent microvascular disease.]

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51. BETTER sleep: Sleep quality among adults living with type 1 diabetes in Canada

Authors:Vézina-Im L.A., Turcotte A.F., Messier V., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Aims**: Identify correlates of poor sleep quality among people living with type 1 diabetes (PwT1D).]

52. Burden and progression of arterial calcification in type 1 diabetes predicts future cardiovascular disease

Authors: Hjortkjær H. Ø., Rossing P., Kofoed K.F.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Aims**: Even in the absence of kidney disease in persons with type 1 diabetes, there is an increased risk of cardiovascular (CV) disease through mechanisms not fully understood. This study aims to investigate whether evaluating arterial calcification can augment CV risk stratification in people with type 1 diabetes.]

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53. Correction to: Looping with Do-It-Yourself Artificial Pancreas Systems During Ramadan Fasting in Type 1 Diabetes Mellitus: Perspectives of a User and a Physician

Authors: Ahmed S., Khan-Gallo S.

Publication Date: 2025

Journal: Diabetes Therapy

[This corrects the article "Looping with Do-It-Yourself Artificial Pancreas Systems During Ramadan Fasting in Type 1 Diabetes Mellitus: Perspectives of a User and a Physician" in volume 11 on page 2453.]

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54. Excess mortality in type 1 diabetes patients in Belgium: A population based study

Authors: De Meester C., Van Ginckel A., Vinck I., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims**: Technological advances in the management of Type 1 diabetes (T1D) are expected to have beneficial effects on the mortality. The aim was to investigate the excess mortality and the life expectancy (LE) of adult patients with T1D living and receiving treatment in Belgium compared with the general population.]

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55. The interplay between psychological well-being, diabetes-related distress, and glycemic control: A continuous glucose monitoring analysis from a population of adolescents with type 1 diabetes

Authors: Bombaci B., Passanisi S., Longo A., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Aims**: This study aims to explore the relationships between glucose control, psychological well-being, and diabetes-related distress in a population of adolescents with T1D.]

56. Nationwide Trends in Type 1 and Type 2 Diabetes in France (2010-2019): A Population-Based Study Using a Machine Learning Classification Algorithm

Authors: Fagherazzi G., Serusclat P., Roux B., et al.

Publication Date: 2025

Journal: Diabetes Therapy

[**Introduction**: Diabetes represents an increasing public health challenge in France, yet national data distinguishing type 1 from type 2 diabetes and insulin use remain limited. This study aimed to describe trends in the epidemiology, care pathways and health outcomes of adult individuals living with type 1 or type 2 diabetes in France from 2010 to 2019. It focused on individuals treated or not with insulin and applied a predictive classification algorithm to accurately distinguish between diabetes types using real-world data.]

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57. Perceptions of the Benefits and Risks of Novel Therapies for Type 1 Diabetes: A Qualitative Study

Authors: Karpen S.R., Mellor R., DiMeglio L.A., et al.

Publication Date: 2025

Journal: Diabetes Therapy

[**Introduction**: Novel therapies, including disease-modifying and cell replacement therapies, may preserve or replace beta cells in people with type 1 diabetes. This study sought to understand how people living with type 1 diabetes or caring for someone with type 1 diabetes perceive the benefits and risks of novel therapies.]

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58. The role of artificial intelligence in diabetic retinopathy screening in type 1 diabetes: A systematic review

Authors: Sacchini F., Mancin S., Cangelosi G., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Background/objectives**: Diabetic retinopathy (DR) is one of the leading causes of blindness in adults worldwide and represents a critical complication in both type 1 (T1D) and type 2 (T2D) diabetes. Artificial Intelligence (AI) offers a promising opportunity to enhance both the accuracy of screening and the efficiency of ongoing care management, assisting healthcare providers in mitigating the incidence and complications of DR.]

59. Significance of the tyrosine kinase 2 gene in both type 1 and type 2 diabetes

Authors: Nagafuchi S., Mine K., Perveen R., et al.

Publication Date: 2025

Journal: BMJ Open Diabetes Research and Care

[The prevalence of diabetes is increasing globally. The International Diabetes Federation reported that the number of diabetes cases reached 425 million in 2017, and this is predicted to total 693 million globally by 2045. Most increases in the diabetic patients were type 2 (T2D), supposed to be due to the changes in lifestyle including overeating, obesity, low exercise, and aging. On the other hand, the number of type 1 diabetes (T1D) mainly caused by the autoimmunity against pancreatic β-cells is increasing at 3% every year. The rate of increase of T1D due to autoimmunity cannot explain the increasing level of T1D. Environmental factors including toxins and viruses are also considered to be responsible for the increasing prevalence of T1D.[1 2]]

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60. Use of commercially available automated insulin delivery systems in pregnant people with type 1 diabetes

Authors: Pham A.Q., Lingvay I., Ahmadi N., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims**: Automated insulin delivery (AID) systems are first-line therapy for type 1 diabetes, but commercially available AIDs in the United States are not approved for pregnancy. We aimed to compare glycemic control achieved during pregnancy by people with type 1 diabetes using AIDs versus standard of care therapy (multiple daily injections and sensor augmented pump therapy).]

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61. What type 1 diabetes endotype is most suitable for anti-CD3 antibodies prevention trials?

Authors: Wilson M.A.R. and Pozzilli P.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[Type 1 diabetes (T1D) is a heterogeneous autoimmune disease with multiple endotypes, each demonstrating distinct clinical and immunological characteristics. Teplizumab, an anti-CD3 monoclonal antibody, has emerged as a promising immunomodulatory therapy capable of delaying the progression of T1D in individuals with stage 2 disease. However, variability in therapeutic response suggests that certain endotypes may derive greater benefit from treatment. This review evaluates the suitability of different T1D endotypes (T1DE) for teplizumab prevention trials, with a particular focus on early-onset T1DE1 and T1DE2. Clinical trials demonstrate that individuals under 15 years of age, who demonstrate the highest immune activity, marked by aggressive T-cell infiltration and rapid pancreatic β-cell destruction, experience the most significant delay in disease progression following teplizumab treatment, highlighting the importance of early intervention. Furthermore, shifting individuals

from the rapidly progressing T1DE1 trajectory to the more gradual T1DE2 course may extend functional insulin production and improve long-term metabolic outcomes. This paper underscores the need for expanded endotype-specific prevention trials and optimised screening protocols to identify high-risk individuals at the earliest stage. Future research should explore teplizumab's efficacy in younger populations and refine predictive biomarkers to enhance personalised intervention strategies in T1D management.]

Diabetes mellitus Type 2

62. Associations of accelerometer-measured weekend sleep catch-up and loss with risk of type 2 diabetes: a prospective cohort study

Authors: Jiang Y., Su Z., Liu S., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims**: To investigate the relationship between weekend sleep catch-up and loss and risk of type 2 diabetes (T2D).]

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63. Effects of combination therapy with SGLT2 inhibitors and GLP-1 receptor agonists on CRT response and clinical outcomes in in type 2 diabetes mellitus patients receiving chronic anti-diabetic medications: A multicenter observational study

Authors: Sardu C., Marfella L.V., Rinaldi L., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Background**: Type-2-diabetes-mellitus (T2DM) impairs outcomes in patients undergoing cardiac-resynchronization-therapy-with-defibrillator (CRTd). While both sodium-glucose co-transporter 2 inhibitors (SGLT2i) and glucagon-like peptide-1 receptor agonists (GLP-1RAs) have cardiovascular benefits, their combination impact in CRTd-treated T2DM patients remains unclear.]

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64. Letter to the editor regarding “High rate of complications in a real-world cohort of youth with T2D: a multicenter analysis”

Authors: Mehta R. and Sah R.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[We read with interest the study by Patel et al. examining comorbidities and microvascular complications in a contemporary cohort of youth-onset type 2 diabetes (YoT2D). [1] The authors provide compelling evidence that even within a median of 1.8 years post-diagnosis, over 80 % of youth present with at least one comorbidity, and 21 % with a microvascular complication, despite the increasing availability of modern pharmacotherapies. Although the findings are sobering, several critical methodological and interpretative concerns merit further attention.]

65. Nationwide Trends in Type 1 and Type 2 Diabetes in France (2010-2019): A Population-Based Study Using a Machine Learning Classification Algorithm

Authors: Fagherazzi G., Serusclat P., Roux B., et al.

Publication Date: 2025

Journal: Diabetes Therapy

[**Introduction**: Diabetes represents an increasing public health challenge in France, yet national data distinguishing type 1 from type 2 diabetes and insulin use remain limited. This study aimed to describe trends in the epidemiology, care pathways and health outcomes of adult individuals living with type 1 or type 2 diabetes in France from 2010 to 2019. It focused on individuals treated or not with insulin and applied a predictive classification algorithm to accurately distinguish between diabetes types using real-world data.]

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66. Patient education and monitoring of sodium-glucose co-transporter 2 inhibitors in diabetes

Authors: Pignatelli-Ruiz M. and Hill M.C.

Publication Date: 2025

Journal: Practice Nursing

[Diabetes mellitus, particularly type 2 diabetes mellitus (T2DM), presents a growing public health challenge, with significant implications for cardiovascular and renal health. The introduction of sodium-glucose co-transporter-2 inhibitors (SGLT2i) has transformed management strategies, providing not only glycaemic control but also substantial cardio-renal protective benefits. This article critically evaluates local clinical guidelines from south east London, focusing on the use of SGLT2i in individuals with T2DM and chronic kidney disease. This article reviews pharmacological effects, cardiovascular and renal outcomes, and practical considerations for prescribing and monitoring these agents, including side effects and patient education. The authors also propose the implementation of general practice nurse-led approaches to enhance patient safety and education and promote integrated, patient-centred care.]

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67. Relationship between Weight Bias Internalization, Diabetes Stigma, and Perceptions of Healthcare Interactions among People with Type 2 Diabetes

Authors: Sims T.J., Kapoor R., Chinthammit C., et al.

Publication Date: 2025

Journal: Diabetes Therapy

[**Introduction**: Weight and diabetes stigma among healthcare professionals (HCPs) may negatively impact treatment decisions, patient outcomes, and physician-patient interactions. We assessed the relationship between weight stigma, diabetes stigma, perceptions of healthcare quality, and avoidance of healthcare among adults with type 2 diabetes (T2D).]

68. Response to letter to the editor regarding "High rate of complications in a real-world cohort of youth with T2D: A multicenter analysis

Authors: Wolf R.M., Channa R., Shah A.S.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[We appreciate the insightful commentary regarding our manuscript on the complications associated with youth-onset type 2 diabetes (YoT2D). [1] We acknowledge the limitations of our retrospective and cross-sectional design, as noted by the reviewer, particularly in the context of accurately defining complications at a single point in time.]

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69. Sex specific associations of sex hormones with brain volumes and cerebral blood flow: A cross sectional observational study within the look AHEAD type 2 diabetes cohort

Authors: Vaidya D., Yeboah-Kordieh Y., Howard M., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Background**: Females have greater brain volume and cerebral blood flow than males when controlling for intracranial volume and age. Brain volume decreases after menopause, suggesting a role of sex hormones. We studied the association of sex hormones with brain volume, white matter hyperintensity volumes and cerebral blood flow in people with Type 2 Diabetes and with overweight and obesity conditions that accelerate brain atrophy.]

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70. Significance of the tyrosine kinase 2 gene in both type 1 and type 2 diabetes

Authors: Nagafuchi S., Mine K., Perveen R., et al.

Publication Date: 2025

Journal: BMJ Open Diabetes Research and Care

[The prevalence of diabetes is increasing globally. The International Diabetes Federation reported that the number of diabetes cases reached 425 million in 2017, and this is predicted to total 693 million globally by 2045. Most increases in the diabetic patients were type 2 (T2D), supposed to be due to the changes in lifestyle including overeating, obesity, low exercise, and aging. On the other hand, the number of type 1 diabetes (T1D) mainly caused by the autoimmunity against pancreatic β-cells is increasing at 3% every year. The rate of increase of T1D due to autoimmunity cannot explain the increasing level of T1D. Environmental factors including toxins and viruses are also considered to be responsible for the increasing prevalence of T1D.[1 2]]

71. Sodium-glucose cotransporter-2 inhibitors and risk of autoimmune rheumatic diseases: population based cohort study

Authors: Hong B., Lee H., Jung K., et al.

Publication Date: 2025

Journal: BMJ

[**Objective**: To evaluate the use of sodium-glucose cotransporter-2 (SGLT-2) inhibitors and risk of autoimmune rheumatic diseases in adults with type 2 diabetes.]

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72. Therapeutic Inertia in an Insured Population with Type 2 Diabetes in the United States: A Retrospective Cohort Study

Authors: Boye K.S., Lage M.J., Terrell K.A., et al.

Publication Date: 2025

Journal: Diabetes Therapy

[**Introduction**: This study examines the characteristics of adults with type 2 diabetes (T2D) who were not initially treated with an antihyperglycemic agent (AHA).]

Diagnosis

73. Improving Diabetes and Pre-Diabetes Detection in the UK: Insights From HbA1c Screening in an Acute Hospital's Emergency Department.

Authors: Jude E.B., Saluja S., Heald A., et al.

Publication Date: 2025

Journal: Diabetes Therapy

[**Introduction**: Many individuals in the community have undiagnosed glucose intolerance, type 2 diabetes (T2D), and pre-diabetes (Pre-DM). This study explored screening for unknown glucose intolerance in the emergency department (ED) in an acute hospital.]

Glucose monitoring and control

74. Bedtime sliding scale insulin is unnecessary for hospitalized patients with bedtime glucose < 300 mg/dL: A nudge-based quasi-experiment

Authors: Flory J.H., Vertosick E.A., Kuperman G., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims**: Bedtime rapid-acting insulin is commonly given to hospitalized patients with moderate hyperglycemia. Its effectiveness has been evaluated in one randomized controlled trial (RCT), the results of which might not generalize to specific populations such as cancer patients.]

75. Combination of imeglimin and resistance exercise improves mitochondrial function and glucose metabolism in skeletal muscles

Authors: Ishiguro H., Minato K., Iwaasa K., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[The diabetes medication imeglimin, which operates through a novel mechanism of action and resistance training (RT), a significant exercise therapy, effectively enhances mitochondrial function in skeletal muscles and regulates blood glucose levels. However, the efficacy of the combination therapy remains unclear. The combination of imeglimin and RT enhanced mitochondrial function, reduced inflammatory cytokine levels, and upregulated the expression of anti-inflammatory and antioxidant-related genes as determined by RT-PCR. Additionally, there was an increase in the protein expression of peroxisome proliferator-activated receptor gamma coactivator 1-α (PGC1-α), a crucial regulator of mitochondrial biogenesis and glucose metabolism. This was accompanied by elevated levels of sirtuins (Sirt) 1 and 3, which positively regulate PGC1-α activity, as well as an increase in nicotinamide adenine dinucleotide (NAD +) levels, which are involved in Sirt1 and Sirt3 activity. Furthermore, an increase in the phosphorylation rate of protein kinase B (Akt), which plays a role in insulin signaling, and upregulation of glucose transporter type 4 (GLUT4), which is involved in glucose uptake, were observed. These findings suggest that the combination of imeglimin and RT is a promising therapeutic approach to enhance mitochondrial function and glucose metabolic capacity.]

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76. The interplay between psychological well-being, diabetes-related distress, and glycemic control: A continuous glucose monitoring analysis from a population of adolescents with type 1 diabetes

Authors: Bombaci B., Passanisi S., Longo A., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Aims**: This study aims to explore the relationships between glucose control, psychological well-being, and diabetes-related distress in a population of adolescents with T1D.]

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77. Optimising obesity management: integrating continuous glucose monitoring with GLP-1 receptor agonists

Authors: Gupta P. and Pozzilli P.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[Obesity management is evolving with the integration of digital and pharmacological innovations. Continuous Glucose Monitoring (CGM) offers dynamic insights into glucose variability, while glucagon-like peptide-1 receptor agonists (GLP-1 RAs), such as semaglutide, demonstrate potent weight loss and glycaemic control – even in non-diabetic populations. The synergy of CGM and GLP-1RAs enables personalised treatment by capturing real-time

metabolic responses, with CGM offering behavioural feedback and GLP-1 RAs addressing hyperinsulinaemia and appetite dysregulation. Yet, no randomised controlled trials have assessed their combined use in obesity without diabetes, representing a critical evidence gap. Furthermore, CGM-derived metrics remain unstandardised in this context, limiting their interpretive value. Looking ahead, AI-driven CGM analysis could predict individual responsiveness to therapy, refining interventions and supporting long-term metabolic health. Together, these tools offer a promising path to breaking the cycle of insulin resistance and obesity.]

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78. Synergistic association of estimated glucose disposal rate and neutrophil-to-albumin ratio with accelerated biological aging

Authors: Wang B., Liu S., Li Q., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Background**: Biological age (BA) is a more accurate indicator of aging-related functional decline and disease risk than chronological age (CA). Insulin resistance and chronic inflammation are established hallmarks linked to the aging process; however, their synergistic relationship with biological age acceleration is not yet well understood.]

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79. Using real-world data to predict findings of an ongoing phase IV trial: glycemic control of semaglutide versus standard of care

Authors: Sreedhara S.K., Schneeweiss S., D'Andrea E., et al.

Publication Date: 2025

Journal: BMJ Open Diabetes Research and Care

[**Objective:** Using national claims databases, we sought to emulate the design of the ongoing SEPRA trial and predict its findings, comparing the effects of once weekly semaglutide to SoC medications on glycemic control (A1C <7%) in type-2 diabetes mellitus (T2D).]

Hypoglycaemia

80. Hypoglycaemic coma induced by a falsified semaglutide product: a case report

Authors: Antonacci G., Bortignon E., Bolognesi M., et al.

Publication Date: 2025

Journal: European Journal of Hospital Pharmacy

[Semaglutide (Ozempic, Rybelsus, Wegovy) is a GLP-1 receptor agonist used for the treatment of type 2 diabetes and, more recently, weight management. Due to its efficacy in weight loss, semaglutide has gained worldwide popularity, particularly the branded version Ozempic, resulting in off-label use by people seeking rapid weight loss. The resulting high demand has led to an increase in falsified products sold by unregulated online marketplaces. We present a case of a 31-year-old woman who was admitted to the emergency room in a hypoglycaemic coma after self-administrating semaglutide (Ozempic) obtained from a website.

Toxicological analysis showed that the vial contained insulin instead of semaglutide, therefore leading to severe hypoglycaemia. This case highlights the growing concern regarding falsified medicines sold in the online drug market and the associated risk of severe adverse events. We reported the case to the Italian Medicines Agency (AIFA) and local authorities. We propose regulatory measures to mitigate similar incidents in the future.]

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81. Hypoglycemia-Related Hospitalization in Adults with Type 2 Diabetes Receiving Insulin in Japan: Real-World Analysis Using the Medical Data Vision Database

Authors: Miyatsuka T., Kino M., De Laguiche E., et al.

Publication Date: 2025

Journal: Diabetes Therapy

[**Introduction**: Although many people with diabetes are treated with insulin in Japan, data on the incidence of hypoglycemia in this population are limited. This real-world, retrospective, cohort analysis assessed the incidence of hypoglycemia-related hospitalization, and the time to first hypoglycemia-related hospitalization, after insulin initiation in adults with type 2 diabetes (T2D) in Japan.]

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82. Sacubitril/Valsartan-Induced Hypoglycemia After Gastric Bypass: A Case Report with Documented Endogenous Hyperinsulinemia

Authors: Guetlin M., Joubert M., Morera J., et al.

Publication Date: 2025

Journal: Diabetes Therapy

[Post-bariatric hypoglycemia (PBH) is a frequent yet complex complication following Roux-en-Y gastric bypass, typically related to exaggerated insulin responses after rapid glucose absorption. Identifying alternative or contributing mechanisms is particularly challenging in this population due to altered anatomy and limited access to standard diagnostic tools. We describe the case of a 65-year-old man with a history of type 2 diabetes, obesity, and cardiac sarcoidosis, who achieved diabetes remission after gastric bypass. Several months later, he developed frequent postprandial and nocturnal hypoglycemic episodes despite strict dietary adjustments. Continuous glucose monitoring showed 38% time below range. A 72-h fasting test revealed inappropriately high proinsulin and C-peptide levels, indicating endogenous hyperinsulinemia. The patient was receiving sacubitril/valsartan for heart failure. Upon discontinuation of this treatment due to worsening renal function, hypoglycemic episodes resolved completely, and a repeat fasting test was normal. This is, to our knowledge, the first case report describing sacubitril/valsartan-associated hypoglycemia in a patient post-gastric bypass surgery, and the first to document inappropriate insulin secretion under treatment using a fasting test. Preclinical data suggest that neprilysin inhibition may enhance insulin secretion, possibly via increased GLP-1 bioavailability. While sacubitril/valsartan has demonstrated cardiovascular benefit, its metabolic effects remain underrecognized. Given the growing number of patients who have undergone bariatric surgery and the widespread use of this medication, clinicians should consider its potential role in refractory hypoglycemia. Early identification may avoid unnecessary investigations and support appropriate therapeutic adjustments.]

Insulin therapies

83. The central role of recovery of β-cell function in the remission of prediabetes: a prospective cohort study in Canada

Authors: Retnakaran R., Pu J., Shen J., et al.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[**Background**: The mechanistic basis underlying the remission of prediabetes (ie, the return to normoglycaemia) has been suggested to be amelioration of insulin resistance without improvement of β-cell function. We aimed to characterise the relative contributions of changes in insulin sensitivity and β-cell function to the remission of prediabetes]

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84. Degludec insulin versus efsitora insulin in diabetes mellitus management: A systematic review and meta-analysis

Authors: De Oliveira H.M., Ruelas M.G., Flávio-Reis V.H.P., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Purpose**: To compare the efficacy and safety of next-generation basal insulin efsitora versus insulin degludec in managing type 1 and type 2 diabetes.]

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85. Effectiveness and Safety of Insulin Glargine 300 U/ml in High-Risk Subgroups (Renal Impairment and Older Age ≥ 70 years) of Insulin-Naïve People with Type 2 Diabetes: A Post hoc Analysis of Real-World ATOS Study

Authors: Tirosh A., Khan N., Vargas-Uricoechea H., et al.

Publication Date: 2025

Journal: Diabetes Therapy

[**Introduction**: This post hoc analysis of an A Toujeo® Observational Study (ATOS) aims to evaluate the real-world effectiveness and safety of insulin glargine 300 U/ml (Gla-300) in high-risk subgroups of insulin-naïve people with type 2 diabetes (PwT2D) from multiple geographical regions (Asia, the Middle East, North Africa, Latin America, and Eastern Europe).]

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86. Quantifying Patient Preferences for Basal Insulin Treatments in Adults Living with Type 2 Diabetes: A Discrete Choice Experiment in Canada, Spain, France, and Japan

Authors: Jones A.M., Hallworth P., Tatlock S., et al. *Diabetes Therapy* 2025, 16(10): 1933-1954.

[**Introduction**: Basal insulin injections have historically been administered via once-daily (OD) or twice-daily (BD) injections. Once-weekly (OW) basal insulin injections have recently been developed. This study aimed to quantify the relative importance of the administration frequency in basal insulin treatment preferences of people living with T2D in Canada, Spain,

France, and Japan, using a discrete choice experiment (DCE).]

Management of diabetes (diet, exercise, lifestyle)

87. Untangling the role of diet quality and other risk factors in the severity of metabolic syndrome: Insights from the Hoveyzeh Cohort study using structural equation modelling

Authors: Bakhshimoghaddam F., Maraghi E., Hadianfard A.M., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims**: In this study, we aim to employ structural equation modeling (SEM) to assess the relationships between adherence to diet quality scores, such as the Dietary Diversity Score (DDS), Paleolithic Diet Score (PDS), and EAT-Lancet Diet Score, and other risk factors, including, demographic, socio-economic, behavioral, and clinical characteristics, with MetS severity.]

Mental health and diabetes

88. The interplay between psychological well-being, diabetes-related distress, and glycemic control: A continuous glucose monitoring analysis from a population of adolescents with type 1 diabetes

Authors: Bombaci B., Passanisi S., Longo A., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Aims**: This study aims to explore the relationships between glucose control, psychological well-being, and diabetes-related distress in a population of adolescents with T1D.]

Pharmacological management of diabetes

89. Association of tirzepatide with erectile dysfunction in people with type 2 diabetes

Authors: Cowart K., Murphy C. Carris N.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Aims**: To evaluate the association between tirzepatide and the risk of developing erectile dysfunction (ED) in men with type 2 diabetes (T2D), compared with sitagliptin, injectable semaglutide, and dulaglutide.]

90. Comparative effectiveness and prescribing patterns of dapagliflozin vs empagliflozin in type 2 diabetes patients: a target trial emulation

Authors: Yang I.N., Chong K.S., Peng Z.Y., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims**: This study aimed to compare the real-world effectiveness of dapagliflozin versus empagliflozin in patients with type 2 diabetes (T2D) and to examine prescribing patterns across specialties.]

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91. Comparative efficacy and safety of Glucagon-like pepetide-1 receptor agonists with metformin in Asian versus non-Asian patients with type 2 diabetes: A systematic review and meta-analysis

Authors: Li W., Huang L., Wang R., et al.

Publication Date: 2025

Journal: Diabetes, Obesity and Metabolism

[**Aims**: In type 2 diabetes, glucagon-like peptide-1 receptor agonists (GLP-1RAs) in combination with metformin show better efficacy than metformin alone. Nevertheless, the reactions of different ethnic groups, especially Asian and non-Asian populations, are still controversial. To give clinical medication usage an evidence-based foundation, this meta-analysis examined GLP-1RAs' safety and efficacy when combined with metformin in the treatment of type 2 diabetes mellitus.]

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92. Ecnoglutide, a biased GLP-1 receptor agonist as a potential new player for type 2 diabetes management?

Authors: Scheen A.J.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[GLP-1 receptor agonists have been used to treat type 2 diabetes since 2005 and gained approval for weight management in 2014. [1] However, a high between-individual heterogeneity should be acknowledged regarding the glucose-lowering potency and weight reduction efficacy. Furthermore, GLP-1 receptor agonists are associated with side-effects, especially gastrointestinal disturbances, leading some patients to prematurely abandon treatment. Therefore, there is increasing interest in producing more effective and more tolerable GLP-1 receptor agonists by fine tuning engagement with downstream signalling networks. [2] New GLP-1 analogues have been constructed to favour G-protein activation over β-arrestin recruitment, thus reducing receptor desensitisation, enhancing cAMP production, and ultimately optimising metabolic effects. The concept is commonly referred to as biased agonism. [3] Ecnoglutide is a high-affinity, cAMP-biased, DPP-4-resistant acylated GLP-1 receptor agonist, exhibiting reduced GLP-1 receptor internalisation. 45 It has a half-live of 124–138 h, which is suitable for once-weekly administration. [4]]

93. Efficacy and safety of cAMP-biased GLP-1 receptor agonist ecnoglutide versus dulaglutide in patients with type 2 diabetes and elevated glucose concentrations on metformin monotherapy (EECOH-2): a 52-week, multicentre, open-label, non-inferiority, randomised, phase 3 trial

Authors: He Y., Mi N., Cheng Z., et al.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[**Background**: Ecnoglutide is a novel biased GLP-1 receptor agonist that preferentially activates the cAMP pathway over β-arrestin recruitment. We aimed to assess both non-inferiority and superiority of ecnoglutide versus dulaglutide, also a GLP-1 receptor agonist, in patients with type 2 diabetes.]

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94. Growing evidence for semaglutide efficacy in Asian adults with obesity

Authors: Sumithran P. and Baur L.A.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[An estimated 2·1 billion adults worldwide are affected by overweight and obesity, a figure projected to reach 3·8 billion by 2050. [1] A particular escalation in the number of individuals with overweight and obesity is forecast in Asia, [1] which is home to around 60% of the world's population. Given that the amount of visceral adiposity in individuals and the risk of obesity-related complications are greater in Asian populations compared with populations of European descent at a given BMI, [2] the health effect of excess weight in Asia is expected to rise substantially over the next 30 years. [1]]

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95. Identifying predictors of sodium-glucose cotransporter 2 inhibitor and glucagon-like peptide 1 agonist use in hospital among adults with diabetes

Authors: Pak L.M.K., Le M.V., Kevat D., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[We read with interest Raudanskis and colleagues' study on the associations with sodium-glucose cotransporter 2 inhibitor (SGLT2i) and glucagon-like peptide-1 receptor agonist (GLP-1RA) prescription in adult inpatients with diabetes. They identified elevated glycated haemoglobin (HbA1c), younger patient age, and cardiologist-led care as the strongest factors associated with prescribing these medications between 2015 and 2020. However, we note with interest the perhaps under-recognized inter-hospital heterogeneity in medication usage. Compared with reference hospital 0, the study reported odds ratios of SGLT2i/GLP-1RA usage ranging from 0.19 to 0.96 across six institutions. [1] We postulate this heterogeneity may relate to individual hospitals' resources, for example, whether they had a specialized diabetes team or implemented SLT2i/GLP-1RA-prescription decision-support algorithms.]

96. Investigating the association between incretin-based therapies and thyroid cancer incidence among US Medicare beneficiaries with diabetes

Authors: Acheampong C.O., Buse J.B., Klein K.R., et al.

Publication Date: 2025

Journal: BMJ Open Diabetes Research and Care

[**Introduction**: Preclinical studies suggest a potential link between glucagon-like peptide 1 receptor agonists (GLP-1RA) and thyroid cancer (TC), yet it is unclear if this risk translates to humans.]

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97. Long-term comparative effectiveness of once-weekly semaglutide versus alternative treatments in a real-world US adult population with type 2 diabetes: a randomized pragmatic clinical trial

Authors: Buse J.B., Christensen H.N., Harty B.J., et al.

Publication Date: 2025

Journal: BMJ Open Diabetes Research and Care

[**Introduction:** This study evaluated the long-term effectiveness of once-weekly subcutaneous semaglutide versus alternative treatment in adults with type 2 diabetes (T2D) in routine clinical practice.]

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98. Once-weekly semaglutide 2·4 mg in an Asian population with obesity, defined as BMI ≥25 kg/m 2, in South Korea and Thailand (STEP 11): a randomised, double-blind, placebo-controlled, phase 3 trial

Authors: Lim S., Buranapin S., Bao X., et al.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[**Background**: Consistent with WHO recommendations, obesity is defined as BMI ≥25 kg/m^2 in many Asian populations because of increased health risks at lower BMIs than in other populations. We aimed to investigate the efficacy and safety of once-weekly subcutaneous semaglutide 2·4 mg versus placebo in an Asian population with BMI ≥25 kg/m^2, together with lifestyle interventions.]

99. Predicting the occurrence of DKA following sodium glucose co-transporter-2 inhibitors: An international cohort study

Authors: Fralick M., Lassen M.C.H., Rangrej J., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Background**: Sodium glucose co-transporter 2 inhibitors (SGLT2i) are associated with a small-magnitude but higher risk of diabetic ketoacidosis (DKA). However, objectively identifying patients at lowest and highest risk of DKA is challenging.]

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100. Response to letter to the editor by Lai-Ming Kathleen Pak et al on: Identifying predictors of SGLT2 inhibitor and GLP1R agonist use in hospital among adults with diabetes

Authors: Colacci M., Raudanskis A., Fralick M.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[We thank Pak et al. for their thoughtful comments on our manuscript examining patient, physician, and hospital-level factors associated with the prescription of sodium-glucose cotransporter 2 inhibitors (SGLT2i) and glucagon-like peptide-1 receptor agonists (GLP-1RA). [1, 2]]

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101. What is the hidden cost of expensive drugs?

Author: The Lancet Diabetes & Endocrinology.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[Worldwide, nations are facing an alarming rise in metabolic diseases—particularly type 2 diabetes and obesity, and related complications. In response to this rise and the resulting burden on health-care systems, management of these conditions has shifted. Once centred on lifestyle modifications—such as dietary change, physical activity, and behavioural support—treatments for metabolic diseases have become increasingly reliant on pharmacological interventions. This change is particularly evident in high-income countries, where drugs such as semaglutide and tirzepatide often dominate media coverage.]

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102. Considerations and interactions with GLP-1 receptor agonists

Author: Specialist Pharmacy Service

Publication Date: 2025

Specialist Pharmacy Service

[Signposting key risks and interactions of GLP-1 receptor agonists in diabetes, obesity, and weight management.]

103. Overcoming therapeutic inertia in primary care: a multisite quality initiative to increase guideline-based prescribing for patients with diabetes

Authors: Latreille M.W., Tompkins B.J., Repp A.B., et al.

Publication Date: 2025

Journal: BMJ Open Quality

[**Background**: Therapeutic inertia (TI), the failure to intensify or de-intensify treatment when appropriate, is a contributor to poor guideline adherence in diabetes treatment, including the suboptimal use of sodium-glucose cotransporter 2 inhibitors (SGLT-2is) and glucagon-like peptide-1 receptor agonists (GLP-1RAs).]

Prevention of diabetes (diet, exercise, lifestyle)

104. Preventing type 2 diabetes: a qualitative study exploring the complexity of health-related practices in people with prediabete

Authors: Barry E., Greenhalgh T., Papoutsi C., et al.

Publication Date: 2025

Journal: BJGP Open

[**Background**: Despite the introduction of primary care-based diabetes prevention strategies, labelling people with prediabetes and encouraging behaviour change, type 2 diabetes continues to rise, causing significant morbidity and mortality.

Aim: To examine how a prediabetes diagnosis influences a person's health-related practices.]

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105. Tackling inequalities in diabetes prevention: a UK and global perspective

Authors: Bashir T.

Publication Date: 2025

Journal: Practice Nursing

[Tahira Bashir highlights the need to tackle health inequalities in diabetes care, discussing strategies to improve prevention among at-risk groups.]

Prevention of diabetes (diet, exercise, lifestyle)

106. The interplay between psychological well-being, diabetes-related distress, and glycemic control: A continuous glucose monitoring analysis from a population of adolescents with type 1 diabetes

Authors: Bombaci B., Passanisi S., Longo A., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Aims**: This study aims to explore the relationships between glucose control, psychological well-being, and diabetes-related distress in a population of adolescents with T1D.]

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107. Understanding the mechanism of prediabetes remission in young people

Author: Taylor R.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[Prediabetes is an important clinical concern. Not only is it a harbinger of future type 2 diabetes—with all the attendant adverse effects on health and quality of life—but it also carries a markedly increased risk of premature cardiovascular disease. That risk is present even after excluding the effect of progression to type 2 diabetes. [1] The worldwide prevalence of this condition has risen sharply in the last few decades, but most worrying is the rise in younger than 40 years, including adolescents and children, given their increased susceptibility to rapid onset of serious complications of type 2 diabetes. A person younger than 40 years progressing to type 2 diabetes is expected to lose 14 years of life expectancy, with far more loss of healthy life years. [2] The economic effect on the future working population has not yet been widely recognised. All of these factors bring into sharp focus the need to understand the mechanism of return to normal glucose tolerance.]
