

Diabetes

Current Awareness Bulletin

August 2025

This bulletin uses content created and shared with permission by the Library at Milton Keynes University Hospital NHS Foundation Trust

Please contact the Academy Library to request any articles:

 ruh-tr.library@nhs.net

 01225 82 4897/4898



Carry out basic searches using the Knowledge and Library Hub.



Sign up to NHS OpenAthens to access our subscriptions.



Contact us to receive our bulletins via email each month.



Get personalised alerts via our KnowledgeShare service.

ruh.nhs.uk/library

New training via MS Teams available from the Academy Library:

- **Bitesize searching databases for evidence: a quick guide to help you develop your literature searching skills**
45 minutes. Learn how to transform a question into a search strategy, and how to find the best evidence in a database.
Next sessions: 27th August @ 1pm, 25th September @ 9am & 3rd October @ 10am
- **Simple and painless evidence into practice (BMJ Best Practice and the LKS Hub)**
30 minutes. Learn about quick and hassle-free ways to seamlessly incorporate evidence into your daily work.
Next sessions: 7th August @ 3pm, 5th September @ 3pm & 6th October @ 9am
- **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: 12th August @ 9am, 10th September @ 10am & 2nd October @ 11am

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

1. Comparison of the association between COVID-19 and new onset diabetes in a regional and national dataset

Authors: Lacy M.E., Smith A.P., Hammerslag L.R., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** This study examined new onset diabetes following COVID-19 infection in large datasets.]

2. Diabetes care cascade in Bangladesh: Identifying gaps and social determinants

Authors: Anika U.S., Rafi M.A., Hossain M.G.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** Precise and up-to-date data regarding the care gaps is essential to prioritize interventions and guide efficient resource allocation for management of diabetes in Bangladesh. The aim of the present study was to evaluate the diabetes care cascade and identify the social determinants influencing retention at each stage of care in Bangladesh.]

3. Family history of diabetes mellitus and risk of colorectal cancer: A nationwide cohort study

Authors: Chen Z, Kharazmi E, Liang Q, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** Studies have shown the association between personal history of diabetes mellitus (DM type 1/2) and risk of colorectal cancer (CRC). This study aims to find the association between the family history of diabetes and CRC risk.]

4. Green diabetes project: A comprehensive characterization of sustainable diabetes practices

Authors: Lopes V, Carvalho D, De Sousa Lages A.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Introduction:** Technological advancements in diabetes mellitus (DM) management have empowered individuals for self-care. However, the widespread use of disposable devices has contributed to significant waste generation. This study aimed to assess patients' knowledge of sustainability in DM management and identify factors associated with varying levels of environmental concern.]

5. Regulation of pancreatic β cells by exosomes from different sources

Authors: Gao Y, Chen Q, Wu Z, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[Diabetes is a chronic metabolic disorder with rising global prevalence, particularly in developed and high-income regions. Central to its pathogenesis is the dysfunction of pancreatic β -cells, alongside impaired glucose and lipid metabolism in peripheral insulin-responsive tissues. Exosomes are nano-sized extracellular vesicles essential for intercellular communication and have emerged as pivotal regulators of metabolic homeostasis. Secreted by virtually all cell types, exosomes encapsulate bioactive cargo that reflects their cellular origin and physiological state, thereby exerting diverse functional effects. Recent evidence highlights the role of exosomes derived from the liver, gut, adipose tissue, skeletal muscle, and mesenchymal stem cells in modulating β -cell proliferation, insulin secretion, and survival. In peripheral tissues exosomes also influence insulin sensitivity by regulating glucose and lipid metabolism, ultimately shaping β -cell responses under hyperglycemic conditions. A more comprehensive understanding of exosome-mediated crosstalk between metabolic organs and pancreatic β -cells could pave the way for the development of exosome-based diagnostic tools and therapeutic strategies aimed at improving early detection, prevention, and treatment of the diabetes.]

6. The relationship of inflammatory markers NLR and PLR with HbA1c in Turkish diabetic patients

Authors: Yazar B.T., Eren F, Oğuz E.F.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aim:** As inflammation plays a role in the pathogenesis of DM, we aimed to show the relationship between the best indicator of DM-HbA1c levels and inflammatory parameters Neutrophil-to-Lymphocyte Ratio (NLR) and Platelet-to-Lymphocyte Ratio (PLR) in the present study.]

Children with diabetes

7. Correction to Lancet Diabetes Endocrinol 2025; published online April 7

Author: Wilson, Claire A

Publication Date: 2025

Journal: *Lancet Diabetes & Endocrinology*

Clinicians, researchers, and policy makers involved in improving maternal and child health.

8. Development and validation of a scale measuring perceived barriers to physical activity in Spanish for children and adolescents with type 1 diabetes: the Physical Activity Barriers Scale for pediatric type 1 diabetes (PABS-1) questionnaire

Authors: García-Hermoso A, Huerta-Urbe N, Hormazábal-Aguayo I, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** To develop and validate the psychometric properties, reliability, and criterion validity of the Physical Activity Barriers Scale for pediatric type 1 diabetes (PABS-1) in Spanish-speaking children and adolescents with type 1 diabetes.]

9. New opportunities to prevent inequalities in child development?

Authors: Wilson C.A.

Publication Date: 2025

Journal: *Lancet Diabetes & Endocrinology*

[The in-utero metabolic environment is now a widely researched and well established focus in the study of the developmental origins of health and disease. However, research has focused more on metabolic outcomes than on neurodevelopmental outcomes in children. The systematic review and meta-analysis published in *The Lancet Diabetes & Endocrinology* by Wenrui Ye and colleagues ¹ adds to the growing evidence indicating a negative impact of maternal hyperglycaemia on neurodevelopmental outcomes; this finding has implications for clinicians, researchers, and policy makers involved in improving maternal and child health.]

10. Paediatric screening in Italy as a gateway to secondary prevention in type 1 diabetes

Authors: Messina M.V., Pozzilli P, Zampetti S.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[This article explores Italy's pioneering national paediatric screening initiative for type 1 diabetes (T1D), the first of its kind to be mandated by the Italian law for the general population aged 1–17 years. This initiative is designed to facilitate early detection and secondary prevention of T1D and coeliac disease (CD), aiming to identify children in presymptomatic stages of T1D, regardless of family history. Emphasis is placed on autoantibody screening for T1D and CD to refine risk prediction and enhance secondary prevention efforts. Furthermore, the anti-CD3 + T cell monoclonal antibody teplizumab, which may be considered at present for compassionate use only, represents a step forward in delaying T1D onset in stage 2 patients. Italy's comprehensive screening law, passed in 2023, allows for early detection of T1D minimising the risk of consequences such as DKA at diagnosis. The screening will also advance our understanding of T1D disease pathogenesis and progression. These insights advocate for tailored prevention strategies, thus improving the design of clinical trials.]

11. Using meta-analysis: what exercise helps kids with excess weight the most?

Authors: Frenn M.

Publication Date: 2025

Journal: Evidence-Based Nursing

[**Context:** The prevalence of childhood excess weight continues to grow, adding to risk of metabolic syndrome and type II diabetes.² Rigorous search methods were used to examine types of physical activity effective in reducing the risks of excess weight. Following quality assessment, study results from 3051 children 5–18 years old analysed with meta-analysis determined which types and amounts of physical activity resulted in improved markers of insulin resistance.]

Cardiovascular Disease

12. Advancing Cardiovascular, Kidney, and Metabolic Medicine: A Narrative Review of Insights and Innovations for the Future

Authors: Fernando K, Connolly D, Darcy E, et al.

Publication Date: 2025

Journal: Diabetes Therapy

[Cardiovascular, kidney and metabolic (CKM) conditions are interrelated, significantly contributing to morbidity, mortality and healthcare burden. Despite therapeutic advances, traditional disease-specific approaches often fail to address their complex interplay. Key therapeutic agents-including glucagon-like peptide-1 receptor agonists (GLP-1 RAs), dual GLP-1/glucose-dependent insulinotropic polypeptide RAs, sodium glucose co-transporter

inhibitors and the nonsteroidal mineralocorticoid receptor antagonist (MRA) finerenone-offer multi-organ benefits. Emerging therapies, such as triple receptor agonists and second-generation MRAs, target new pathways further expanding treatment options for CKM conditions. A holistic CKM management approach must address and recognise that conditions such as metabolic dysfunction-associated steatotic liver disease, metabolic dysfunction-associated steatohepatitis, obstructive sleep apnoea and obesity are part of the CKM spectrum. Frailty assessment is also important alongside CKM conditions, warranting comprehensive geriatric assessment and deprescribing when appropriate. Multidisciplinary care-including lifestyle interventions, pathway redesign, pharmacological advances and novel technologies-is essential for improving outcomes. As the CKM landscape evolves, future strategies should prioritise early intervention, personalised treatment and addressing unmet needs in high-risk populations. This review advocates for an integrated CKM framework, exploring treatment strategies, emerging therapies and technological innovations. It also examines the role of artificial intelligence and digital health tools in risk stratification, early diagnosis and long-term condition management, alongside ethical and regulatory considerations.]

13. The Association Between HbA1c Levels and the Risk of Myocardial Infarction and Stroke in People with Type 2 Diabetes: A Post Hoc Analysis of the REPRESENT Study

Authors: Romera I.C., Redondo-Antón J, Rubio-de Santos M, et al.

Publication Date: 2025

Journal: Diabetes Therapy

[Introduction: The aim of this work was to analyze the association between baseline glycated hemoglobin (HbA1c) levels and other factors on the risk of first myocardial infarction (MI) and on the risk of first stroke in people with type 2 diabetes (T2D) in Spain.]

14. Association between hemoglobin, albumin, lymphocyte, and platelet score and all-cause and cardiovascular mortality among population with diabetes: Evidence from the NHANES 2003–2016

Authors: He Y, Ma Z, Chen X, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[Introduction: This study investigated the relationship between the Hemoglobin, Albumin, Lymphocyte, and Platelets (HALP) score and all-cause and cardiovascular mortality risk in diabetes patients.]

15. Cardiovascular and renal outcomes between sodium-glucose cotransporter 2 inhibitors and dipeptidyl peptidase 4 inhibitors in patients with chronic kidney disease stages 4 and 5: a population-based study

Authors: Chen T.H., Wang T.H., Tsai M.L., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** Limited evidence exists regarding the benefits of sodium-glucose cotransporter 2 inhibitors (SGLT2i) in cardiovascular and renal outcomes in patients with advanced chronic kidney disease (CKD) with an estimated glomerular filtration rate (eGFR) < 30 mL/min per 1.73 m².]

16. Comparative efficacy and safety of SGLT2 inhibitor class members in patients with heart failure and type 2 diabetes: A systematic review and network meta-analysis of randomized controlled trials

Authors: Su A.Y., Csere M.M., Shan R, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[We conducted a systematic review with pairwise (PMA) and network meta -analyses (NMA) to evaluate sodium-glucose transport protein 2 inhibitor (SGLT2i) effects in patients with both heart failure (HF) and type 2 diabetes mellitus (T2DM). Five databases were searched up to April 15, 2025. Primary outcomes were all-cause mortality (ACM), cardiovascular death (CVD), all-cause hospitalization (ACH), and hospitalization for heart failure (HHF). SGLT2i class effects versus control were assessed via PMA and individual SGLT2i comparative efficacy via NMA plus ranking using p-scores. Seventeen randomized controlled trials (n = 17,809) were included. Arms included canagliflozin (n = 2), dapagliflozin (n = 6), empagliflozin (n = 6), ertugliflozin (n = 1), ipragliflozin (n = 1), sotagliflozin (n = 1), placebo (n = 13), and standard of care (n = 4). Compared to control, SGLT2i significantly reduced ACM (HR 0.87, 95 %CI 0.78 to 0.98, low quality of evidence [QoE]), ACH (HR 0.74, 95 %CI 0.62 to 0.88, high QoE), and HHF (HR 0.70, 95 %CI 0.63 to 0.77, low QoE); but not CVD (HR 0.87, 95 %CI 0.76 to 1.00, very low QoE). Canagliflozin ranked highest in decreasing ACM (p-score = 0.86), CVD (p-score = 0.82), and HHF (p-score = 0.88). In patients with HF and T2DM, SGLT2i class effects include ACM, ACH, and HHF reduction. Among SGLT2i, canagliflozin showed greatest ACM, CVD, and HHF benefit.]

17. Corneal confocal microscopy identifies early and definite diabetic cardiac autonomic neuropathy

Authors: Azmi S, Ferdousi M, Kalteniece A, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Objective:** Advanced cardiac autonomic neuropathy (CAN) is associated with increased mortality in people with diabetes. Early identification and reduction of risk factors can limit the progression of CAN. However, the diagnosis of early CAN relies on cardiac autonomic reflex

testing (CART's) which is not widely available. We have compared the diagnostic utility of corneal confocal microscopy (CCM) to CART's in diagnosing CAN.]

18. Effects of low-dose rivaroxaban combined with low-dose aspirin versus low-dose aspirin alone on *in vivo* platelet activation, endothelial function and inflammation in type 2 diabetes patients with stable atherosclerotic disease: the RivAsa randomized, crossover study

Authors: Rizzi A, Petrucci G, Sacco M, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** A very-low-dose regimen of the anti-factor Xa rivaroxaban combined with low-dose aspirin reduces vascular events more than aspirin alone in atherosclerotic patients, including those with type 2 diabetes (T2DM). Given the high platelet activation in T2DM patients, we investigated whether this combination reduces platelet activation versus aspirin alone and the possible mechanisms.]

19. Letter to “Relationship between life’s essential 8, vitamin D, and cardiometabolic outcomes

Authors: Xu W, Sun Z, Li Q.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[We read with great interest the article by Jia et al. on the relationship between cardiovascular health (CVH), vitamin D, and cardiometabolic outcomes [1]. The study provides valuable insights into the predictive value of Life’s Essential 8 (LE8) metrics and highlights the interaction between CVH and vitamin D. However, we would like to raise several points for further discussion and consideration.]

20. Nonlinear association between hemoglobin glycation index and mortality in ischemic stroke Patients: Insights from the MIMIC-IV database

Authors: Huang X, Huang L, Tao H, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** Hemoglobin glycation index (HGI) is closely associated with adverse outcomes in several diseases. However, few studies have investigated the correlation between HGI and prognosis in patients with critical ischemic stroke.]

21. The relationship between anthropometric indices and cardiovascular risk in patients with type 2 diabetes mellitus

Authors: Arslan S, Sahin K, Dal N, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Objective:** This study aimed to assess whether novel anthropometric indices—Visceral Adiposity Index (VAI), Conicity Index (CI), and Lipid Accumulation Product (LAP)—could predict Cardiovascular Disease (CVD) risk in individuals with Type 2 Diabetes Mellitus (T2DM).]

22. Risk factors for peripheral arterial disease in type 2 diabetes mellitus patients: A systematic review and *meta-analysis*

Authors: Rosana M, Yunir E, Saragih N, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Background:** Peripheral arterial disease (PAD) is a complication of type 2 diabetes mellitus (T2DM). No systematic review and meta-analysis has been conducted regarding the risk factors of PAD in T2DM populations.

Aim: To analyze the pooled effect estimates of risk factors of PAD in T2DM populations.]

23. Trends in use of sodium-glucose cotransporter 2 inhibitors among people with type 2 diabetes following hospitalisation with heart failure: A population-based study

Authors: Lin J, Milder T.Y., Deakin C.T., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** Sodium-glucose cotransporter 2 inhibitors (SGLT2i) are a pillar of therapy among people with both type 2 diabetes (T2D) and heart failure (HF). Despite being a population at high-risk of cardio-renal events, little is known on SGLT2i uptake following hospitalisation, a key opportunity for prescribing.]

24. Triglycerides to high density lipoprotein cholesterol ratio (TG/HDL), but not triglycerides and glucose product (TyG) index, is associated with arterial stiffness in prediabetes

Authors: Di Marco M, Scilletta S, Miano N, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** Prediabetes (preD) carries increased risk of cardiovascular (CV) events than normal-glucose-tolerance (NGT). Insulin resistance, a hallmark of preD, is closely linked to CV-risk, making its assessment crucial. Triglycerides-to-high-density-lipoprotein-cholesterol-ratio (TG/HDL) and triglycerides-and-glucose-product (TyG) have emerged as surrogate of insulin resistance. We aimed to evaluate the association of these indexes with CV-risk assessed through arterial stiffness in preD.]

25. Type 2 diabetes and cardiovascular conditions prediction in individuals with metabolic syndrome-associated lipoprotein lipase gene (*LPL*) single nucleotide polymorphisms (SNPs)

Authors: Fojas E.G., Haidery A, Naseeb S, et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Objective:** Metabolic syndrome (MetS) is predictive of increased risk of type 2 diabetes (T2D) and cardiovascular conditions (CVC). Lipoprotein lipase gene (*LPL*) single nucleotide polymorphisms (SNPs) may be of importance to the eventual diagnosis of T2D and CVC. This study aimed to predict the diagnosis of T2D and CVC amongst individuals with *LPL* SNPs rs268, rs11542065, rs116403115, rs118204057, rs118204061, rs144466625, and rs547644955.]

26. Unraveling the Connection between PCOS and renal Complications: Current insights and Future Directions

Authors: Peng H, Ren J, Zhao Y, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[Polycystic ovary syndrome (PCOS) represents the most prevalent endocrine disorder among women of reproductive age, affecting approximately 5–18% of females worldwide. Characterized by irregular ovulation, hyperandrogenism, and polycystic ovaries, hyperandrogenism is the defining feature. Recent evidence highlights that, in addition to its notable reproductive and metabolic consequences, PCOS may also contribute to an elevated risk of renal complications. This increased risk is attributed to chronic low-grade inflammation, hormonal dysregulation, and disturbances in lipid metabolism inherent to the condition. However, the pathological mechanisms, clinical manifestations, and progression of secondary renal damage in this cohort remain insufficiently studied. This review consolidates current

understanding of the relationship between PCOS and chronic kidney disease (CKD), aiming to clarify potential mechanisms by which PCOS may induce secondary renal dysfunction, encompassing both direct renal impairment and indirect damage mediated through systemic alterations. Furthermore, it advocates for comprehensive management strategies to mitigate renal risks in patients with PCOS, emphasizing the necessity of multidisciplinary approaches and further research to address these critical gaps.]

Diabetic Neuropathy

27. Corneal confocal microscopy identifies early and definite diabetic cardiac autonomic neuropathy

Authors: Azmi S, Ferdousi M, Kalteniece A, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Objective:** Advanced cardiac autonomic neuropathy (CAN) is associated with increased mortality in people with diabetes. Early identification and reduction of risk factors can limit the progression of CAN. However, the diagnosis of early CAN relies on cardiac autonomic reflex testing (CART's) which is not widely available. We have compared the diagnostic utility of corneal confocal microscopy (CCM) to CART's in diagnosing CAN.]

28. Diagnostic performance of graded tuning fork vibration thresholds as a stand-alone test and within clinical assessments of diabetic neuropathy

Authors: Bönhof G.J., Ziegler D, Sipola G, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** We aimed to provide new reference data for C64 Hz-Rydel-Seiffer tuning fork Vibration Sensation Thresholds (VST) for the clinical diagnosis of Diabetic Sensorimotor Polyneuropathy (DSPN) and to evaluate the diagnostic performance when used in combination with other clinical tests as implemented in the Neuropathy Disability Score (NDS).]

29. The Therapeutic Potential of Dipeptidyl Peptidase 4 Inhibitors and Glucagon-Like Peptide-1 Receptor Agonists in Diabetic Peripheral Neuropathy.

Authors: Panou T, Gouveri E, Popovic D.S., et al.

Publication Date: 2025

Journal: Diabetes Therapy

[Diabetic peripheral neuropathy (DPN) is one of the commonest complications of diabetes mellitus (DM). Current therapeutic approaches largely focus on pain management. However, less evidence is available on the clinical potential of two widely prescribed drug categories in DM management: dipeptidyl peptidase 4 inhibitors (DPP-4is) and glucagon-like peptide-1

receptor agonists (GLP-1RAs). In this review, we discuss evidence from both experimental and clinical studies on the potential utility of these drugs in the management of DPN. Immunohistochemical data indicate that agents in both categories promote neurite outgrowth, ion conduction, neuronal survival and Schwann cell function. Furthermore, intra-epidermal nerve fibre density has been reported to increase with DPP-4is or GLP-1RAs treatment. Moreover, electrophysiological studies have indicated a diverse, but mostly beneficial, effect on motor or sensory nerve conduction velocity. Clinical tests, such as the muscular grip or paw jumping control resembling neuropathic symptoms, have also confirmed the advantageous effect of DPP-4is and GLP-1RAs. Finally, limited but promising clinical data have shown improved somatosensory-evoked potentials and vibration perception threshold, as well as restored excitability and nerve size parameters. Nevertheless, further clinical studies are required to elucidate the exact role of DPP-4is and GLP-1RAs in DPN.]

Eye Diseases

30. Comments on the article “the association between age at diagnosis of diabetes and development of diabetic retinopathy and assessment of healthcare access as an effect modifier”

Authors: Asensio-Sánchez V.M.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[I am writing to provide feedback on the article “The association between age at diagnosis of diabetes and development of diabetic retinopathy and assessment of healthcare access as an effect modifier” ¹ published in Journal of Diabetes and its Complications. While the study addresses an important question regarding the relationship between age at diagnosis of diabetes and the development of diabetic retinopathy (DR), several methodological concerns should be addressed to strengthen the validity and generalizability of the findings.]

31. Is myopia associated with a reduced or increased risk of diabetic retinopathy? A systematic review and meta-analysis

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

Publication Date: 2025

Journal: Diabetes & Metabolic Syndrome: Clinical Research & Reviews

[Introduction: Diabetic retinopathy remains a leading cause of vision loss worldwide. Recent studies suggest that myopia, particularly due to axial elongation, may offer a protective effect against retinal microvascular damage.

Objectives: This systematic review and meta-analysis aimed to evaluate the association between myopia and diabetic retinopathy, quantify the strength of this relationship, and explore potential protective mechanisms.]

32. Response to rebuttal

Author: George, B

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[Thank you for your comments regarding our manuscript, “The association between age at diagnosis of diabetes and development of diabetic retinopathy and assessment of healthcare access as an effect modifier.” We welcome all feedback and comments as we aim to contribute to the overall knowledgebase of the scientific community.]

33. Semaglutide, central retinal thickness and continuous glucose monitoring in persons with type 2 diabetes: A post-hoc analysis from a randomised trial

Authors: Gullaksen S, Vernstrøm L, Sørensen S.S., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Aims:** Glycemic control is important for preventing diabetic retinopathy (DR), but rapid improvements could deteriorate the disease. In some, but not all studies, semaglutide is speculated to worsen DR, but the mechanism is unknown. Central retinal thickness (CRT) is an early marker of DR. Therefore, the objective was to investigate whether increased Time in Range (TIR (3.9–10.0 mmol/L)), was associated with reduced CRT in persons treated with semaglutide.]

34. A simple and accessible diabetic retinopathy risk prediction model: Establishment and validation in a hospital-based cohort of type 2 diabetes patients

Authors: Gao J.J., Liu H, Zhang T.Y., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** Diabetic retinopathy (DR) is a leading cause of vision loss, with early detection challenging due to asymptomatic progression and limited predictive tools. To address this, we aimed to develop and validate a risk nomogram for DR prediction in type 2 diabetes patients.]

Kidney Disease

35. Advancing Cardiovascular, Kidney, and Metabolic Medicine: A Narrative Review of Insights and Innovations for the Future

Authors: Fernando K, Connolly D, Darcy E, et al.

Publication Date: 2025

Journal: Diabetes Therapy

[Cardiovascular, kidney and metabolic (CKM) conditions are interrelated, significantly contributing to morbidity, mortality and healthcare burden. Despite therapeutic advances, traditional disease-specific approaches often fail to address their complex interplay. Key therapeutic agents-including glucagon-like peptide-1 receptor agonists (GLP-1 RAs), dual GLP-1/glucose-dependent insulintropic polypeptide RAs, sodium glucose co-transporter inhibitors and the nonsteroidal mineralocorticoid receptor antagonist (MRA) finerenone-offer multi-organ benefits. Emerging therapies, such as triple receptor agonists and second-generation MRAs, target new pathways further expanding treatment options for CKM conditions. A holistic CKM management approach must address and recognise that conditions such as metabolic dysfunction-associated steatotic liver disease, metabolic dysfunction-associated steatohepatitis, obstructive sleep apnoea and obesity are part of the CKM spectrum. Frailty assessment is also important alongside CKM conditions, warranting comprehensive geriatric assessment and deprescribing when appropriate. Multidisciplinary care-including lifestyle interventions, pathway redesign, pharmacological advances and novel technologies-is essential for improving outcomes. As the CKM landscape evolves, future strategies should prioritise early intervention, personalised treatment and addressing unmet needs in high-risk populations. This review advocates for an integrated CKM framework, exploring treatment strategies, emerging therapies and technological innovations. It also examines the role of artificial intelligence and digital health tools in risk stratification, early diagnosis and long-term condition management, alongside ethical and regulatory considerations.]

36. Cardiovascular and renal outcomes between sodium-glucose cotransporter 2 inhibitors and dipeptidyl peptidase 4 inhibitors in patients with chronic kidney disease stages 4 and 5: a population-based study

Authors: Chen T.H., Wang T.H., Tsai M.L., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** Limited evidence exists regarding the benefits of sodium-glucose cotransporter 2 inhibitors (SGLT2i) in cardiovascular and renal outcomes in patients with advanced chronic kidney disease (CKD) with an estimated glomerular filtration rate (eGFR) < 30 mL/min per 1.73 m².]

37. Correction to Lancet Diabetes Endocrinol 2025; 13: 374–83

Authors: Orandi BJ, Chen Y, Li Y, et al

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

GLP-1 receptor agonists in kidney transplant recipients with pre-existing diabetes: a retrospective cohort study.

38. Elevated Serum SERPINE2 Levels are Linked to Impaired Renal Function in Patients with Type 2 Diabetes Mellitus

Authors: Cao S, Tan Q, Yang L.

Publication Date: 2025

Journal: Diabetes Therapy

[**Introduction:** Diabetic nephropathy (DN) is the primary complication associated with diabetes mellitus and is increasingly acknowledged as the leading cause of end-stage renal disease worldwide, placing a significant economic burden on society. This study determined how blood serpin peptidase inhibitor clade E member 2 (SERPINE2) levels affect DN in individuals with type 2 diabetes mellitus (T2DM).]

39. Growth differentiation factor-15: A marker for diabetic kidney disease in patients with metabolic-associated fatty liver disease

Authors: Shora H.A., EL-Deen I.M., El-Lithy N.M., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Background:** Growth/differentiation factor-15 (GDF-15) plays a crucial role in modulating inflammation and fibrosis and is emerging as a potential biomarker in metabolic diseases. This study investigated the association between circulating GDF-15 levels and the development of diabetic kidney disease (DKD) in patients with type 2 diabetes mellitus (T2DM), with or without metabolic dysfunction-associated fatty liver disease (MAFLD).]

40. The impact of sex-related disparities on the association between triglyceride-glucose index and renal function decline in patients with type 2 diabetes: Insights from the ACCORD trial

Authors: Wang X, Zheng K, Hu X, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Background:** The triglyceride-glucose (TyG) index has emerged as a surrogate marker for insulin resistance and is associated with the incidence and progression of chronic kidney disease (CKD) in patients with type 2 diabetes.]

41. Letter to the Editor: Diabetic kidney disease screening – Real world evidence – A way to prevent future complications

Authors: Maheshwari A, Gupta A, Parikh R, et al.

Publication Date: 2025

Journal: Diabetes & Metabolic Syndrome: Clinical Research & Reviews

[According to the available literature, prolonged uncontrolled glucose levels can lead to both microvascular and macrovascular complications, with kidneys being most susceptible to microvascular damage [1]. Research by Alicic et al. reports that approximately 40 % of the people with diabetes eventually develop diabetic kidney disease (DKD) [2]. The prevention of the onset and progression of DKD depends on glucose control and the timely management of associated risk factors [3].]

42. Prevalence of diabetic kidney disease in Indian type 2 diabetes mellitus patients: A meta-analysis

Authors: Hoda F, Arshad M, Zayed S, et al.

Publication Date: 2025

Journal: Diabetes & Metabolic Syndrome: Clinical Research & Reviews

[**Introduction:** Diabetic Kidney Disease (DKD) is a major complication of Type 2 Diabetes Mellitus (T2DM) that contribute to end-stage renal disease (ESRD) globally, posing a major public health challenge. T2DM that poses a substantial burden on the Indian healthcare system. Therefore, the present study aimed to estimate the pooled prevalence of DKD among patients with T2DM in India.]

43. Urinary L-FABP: A Novel Biomarker for Evaluating Diabetic Nephropathy Onset and Progression. A Narrative Review

Authors: Satta E, Strollo F, Borgia L, et al.

Publication Date: 2025

Journal: Diabetes Therapy

[Patients with diabetes mellitus (DM) are at risk of developing diabetic nephropathy (DN), a condition whose onset and progression are linked to increased morbidity and mortality. Therefore, early recognition is crucial. Presently, this relies on the albumin excretion rate (AER) and glomerular filtration rate (GFR). Nevertheless, DN eventually affects patients with normal AER and GFR. Thus, further easy-to-handle biomarkers of DN onset/worsening are needed. Liver-type fatty acid-binding protein (L-FABP) has been associated with renal damage and could help predict/diagnose DN. We performed a literature selection to evaluate the performance of urinary excretion of such biomarker (urinary-L-FABP:uL-FABP) in predicting/diagnosing DN and its progression in diabetes. We evaluated 635 publications, 21 of which were included. Of these, 14 have cross-sectional design/arms and ten longitudinal design/arms. Cross-sectional studies showed uL-FABP to correlate with DN onset and severity in type-1 DM and type-2 DM, besides being higher than in healthy controls in the case of normoalbuminuria. Longitudinal studies showed baseline uL-FABP to predict DN onset in normoalbuminuric patients with T1DM and DN progression independently of diabetes type. The results suggest that uL-FABP is a marker of tubular damage detectable before increased albumin excretion and can represent the earliest sign of DN. Indeed, it discloses its onset and often predicts its severity in T2DM and patients with T1DM. Currently, uL-FABP can be routinely assessed and, being available as a point-of-care fast-test kit, may also become an easy-to-handle diagnostic tool for outpatients. In conclusion, uL-FABP represents a user-friendly biomarker of DN and can even predict DN progression in T2DM and T1DM over time.]

Complications (find here atherosclerosis, claudication, diabetic foot, ulcers etc)

44. Non-adherence to diabetes microvascular complications follow-up screening in the primary care population: Predictors, associated barriers, and facilitators

Authors: Fenwick E.K., Aravindhan A, Tan N.C., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** We determined the rates, predictors, and barriers/facilitators of non-adherence to annual follow-up screenings for Diabetic Retinopathy (DR), nephropathy (DN) and foot complications (DFC) screening in primary care patients with type 2 diabetes.]

Diabetic Foot

45. Association of Blood Heavy Metals with Diabetic Foot Ulcers in U.S. Adults with Diabetes: Insights from the 1999-2004 NHANES Data

Authors: Xing J.H., Yu Y, Teng L, et al.

Publication Date: 2025

Journal: Diabetes Therapy

[**Introduction:** Diabetic foot ulcers (DFU) are serious complications of diabetes. These ulcers significantly increase the risk of amputations. Many studies have examined how blood heavy metals affect insulin secretion in diabetes. However, research linking blood heavy metal exposure to DFU is limited. This study aims to explore the connection between blood heavy metal exposure and DFU in people with diabetes.]

46. Exploring Patient and Podiatrist Perspectives of the 'In-Remission' Status in Diabetes-Related Foot Disease

Authors: Donaldson G, Hendry G, Barn R.

Publication Date: 2025

Journal: Journal of Foot and Ankle Research

[**Background:** The term 'in-remission' has been historically associated with the disease status in cancer. In diabetes foot care, the term was introduced into risk stratification systems in order to support patient communication and healthcare prevention strategies post-ulceration. However, despite the inclusion of an 'in-remission' category into risk stratification systems, the adoption and perception of the terminology in clinical practice remains unknown. The aim of this study is to explore patient and clinician perceptions of the term 'in-remission' in the context of diabetes foot disease management.]

47. Follow-Up Magnetic Resonance Imaging in Monitoring Charcot Foot and Its Association with Total Contact Cast Treatment Duration and Long-Term Outcomes: A Retrospective Cohort Study

Authors: Schoug J, Katzman P, Uddman E, et al.

Publication Date: 2025

Journal: Journal of Foot and Ankle Research

[**Aims/Hypothesis:** Charcot foot (CF), a potentially debilitating complication of neuropathy, requires offloading to avoid foot deformities. Follow-up MRI examinations are often used to determine the optimal duration of total contact cast (TCC) offloading treatment. This study investigated the use of follow-up MRI during CF treatment and its relationship to offloading duration and risk of future surgery.]

48. Outcomes of Diabetic Toe Amputation With Versus Without Metatarsal Head Resection for Single Ray Wet Gangrene: A Preliminary Study

Authors: Yammine K, Honeine M, Mouawad J, et al.

Publication Date: 2025

Journal: Journal of Foot and Ankle Research

[**Background:** Diabetic wet gangrene of the toes is a serious condition that puts at risk the limb and life of patients. Two types of amputation are used when infection is around the metatarsophalangeal joint (MTPJ): complete toe disarticulation and toe amputation including metatarsal head resection. Because very few published papers analyzed the results of toe amputation for wet gangrene, our study aimed to evaluate the outcomes of both techniques.]

49. Retraction notice to “Extranodal natural killer/T-cell lymphoma masquerading a diabetic foot ulcer” [Diabetes Res. Clin. Pr. 137 (2018) 208–212]

Authors: Zhu D, Zhang X, Zhang D, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

This article has been retracted: please see Elsevier Policy on Article Withdrawal

Hyperuricemia

50. Metabolic crosstalk and therapeutic interplay between diabetes and hyperuricemia

Authors: Yang T, Luo L, Luo X, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[Hyperuricemia and diabetes mellitus (DM) are prevalent metabolic disorders with high comorbidity, imposing a substantial global public health burden. Their coexistence is not merely additive but synergistic, exacerbating metabolic dysregulation through mechanisms such as insulin resistance and β -cell apoptosis, ultimately establishing a vicious cycle. Both disorders induce acute and chronic damage to vital organs, particularly the cardiovascular, renal systems. Hyperuricemia aggravates diabetic complications, notably diabetic cardiomyopathy, nephropathy and retinopathy via oxidative stress, inflammation, and metabolic dysregulation. Current urate-lowering therapies (ULTs), such as xanthine oxidase inhibitors and urate transporter 1 (URAT1, also known as SLC22A12) antagonists, demonstrate potential benefits in ameliorating diabetic complications but face challenges including safety concerns and dose adjustments. Similarly, several glucose-lowering drugs also exhibit the benefits of improving hyperuricemia. This review summarizes the metabolic crosstalk and therapeutic interplay between hyperuricemia and DM, examines the pathogenic role of uric acid in diabetic complications, and discusses the benefits and challenges of existing ULTs and glucose-lowering drugs in disrupting this cycle of metabolic dysregulation and concurrent organ damage. We hope our findings deepen the comprehension of the

intricate metabolic crosstalk between glucose and urate homeostasis, providing novel therapeutic insights for patients with comorbid DM and hyperuricemia.]

Complications (find here atherosclerosis, claudication, diabetic foot, ulcers etc)

51. Association between maternal diabetes and neurodevelopmental outcomes in children: a systematic review and meta-analysis of 202 observational studies comprising 56·1 million pregnancies

Authors: Ye W, Luo C, Zhou J, et al.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[**Background:** Maternal diabetes might alter fetal brain development. However, well-designed systematic analyses are needed to comprehensively assess and quantify the association between maternal diabetes and neurodevelopmental outcomes in children. We aimed to synthesise and evaluate the available evidence on the effects of maternal diabetes on neurodevelopmental outcomes in children.]

52. Current approach to early gestational diabetes mellitus: A clinical update

Authors: Goyal A, Gupta Y.

Publication Date: 2025

Journal: Diabetes & Metabolic Syndrome: Clinical Research & Reviews

[**Aims:** Early gestational diabetes (eGDM) is defined as hyperglycemia diagnosed in early pregnancy (<20 weeks) which is not overt or pre-existing diabetes. This review summarizes our current understanding of eGDM and identifies future research gaps.]

53. Postpartum diabetes mellitus among patients with early gestational diabetes: A systematic review and meta-analysis

Authors: Weingarten S.J., Levy A.T., Al-Kouatly H.B., et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Aims:** It is unclear whether patients diagnosed with early gestational diabetes mellitus (GDM) (<24 weeks) are at higher risk of diabetes mellitus (DM) in the postpartum period compared to those with standard GDM (diagnosed ≥ 24 weeks). This study assessed if rate of DM diagnosed postpartum differs among patients with early versus standard GDM.]

54. Progression from gestational diabetes to type 2 diabetes mellitus: A prospective observational study from a resource constrained country-Pakistan

Authors: Riaz M, Waris N, Hossain N, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Objective:** To investigate long-term risk of type 2 diabetes mellitus (T2DM) following a diagnosis of gestational diabetes mellitus (GDM) and to identify associated factors with increased risk of early progression to T2DM.]

55. A retrospective study to investigate the risk factors for gestational diabetes mellitus and its impact on maternal and neonatal outcomes

Authors: Zhang X, Wang Y, Zhao H, et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Background:** Currently, risk factors for gestational diabetes mellitus (GDM) and its impact on maternal and neonatal outcomes have not been fully elucidated. Therefore, we performed a retrospective epidemiologic study to explore the above research objectives.]

56. Step and weight tracking with targets and coaching interventions in gestational diabetes: A randomized factorial feasibility trial

Authors: Dasgupta K, Chan D, Bond R, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Background:** Pregnancy guidelines recommend moderate to vigorous physical activity of ≥ 150 min/week (7000 steps/day) and weight gain specific to prepregnancy weight category. We aimed to assess step and weight changes, with tracking to achieve individualized targets and with coaching conversations on physical activity and eating. The overarching goal was to identify interventions warranting integration and evaluation through a larger trial assessing perinatal outcomes.]

57. Peer support, continuity and coordinated care between health professionals are valued by women with type 1 diabetes in pregnancy.

Butalia S, Donovan L. *Evidence-Based Nursing* 2025;28(3):106.

[**Context:** While guidelines provide evidence-based recommendations for women with type 1 diabetes in pregnancy, women's perceptions of these recommendations are not well-known. Toledo-Chavarri and colleagues explore these perceptions and found that continuity of care, coordination between health professionals and services, and a more holistic approach are key aspects that are needed for more acceptable, feasible and equitable peripartum care.^{1]}

Diabetes insipidus

58. Correction to Lancet Diabetes Endocrinol 2025; published online April 25.

Authors: Atila C, Chifu I, Drummond JB, et al

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

A novel diagnostic score for diagnosing arginine vasopressin deficiency (central diabetes insipidus) or primary polydipsia with basal laboratory and clinical parameters: results from two international multicentre prospective diagnostic studies.

59. Correction to Lancet Diabetes Endocrinol 2025; published online April 25.

Authors: Choy KW, Chiang C

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

Diagnosing arginine vasopressin deficiency and primary polydipsia.

60. Diagnosing arginine vasopressin deficiency and primary polydipsia

Authors: Choy K.W., Chiang C.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[A crucial step in evaluating hypotonic polyuria and polydipsia is distinguishing between the rarer, potentially life-threatening arginine vasopressin deficiency and the more common primary polydipsia, as their treatment approaches differ. ¹ Unlike other endocrine disorders, such as primary aldosteronism, in which diagnostic pathways and laboratory cutoffs are standardised and internationally endorsed, ² the initial screening tests and cutoffs for ruling out arginine vasopressin deficiency in polyuria polydipsia syndrome are not well established. Furthermore, dynamic tests for polyuria polydipsia syndrome have limitations: the water deprivation and arginine stimulation tests are constrained by diagnostic accuracy, and the hypertonic saline stimulation test is not widely available. ³ The absence of rapid and reliable screening methods often leads to delayed diagnoses, unnecessary specialist referrals, and excessive dynamic test requests. ⁴]

61. A novel diagnostic score for diagnosing arginine vasopressin deficiency (central diabetes insipidus) or primary polydipsia with basal laboratory and clinical parameters: results from two international multicentre prospective diagnostic studies

Authors: Atila C, Chifu I, Drummond J.B., et al.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[**Background:** Distinguishing arginine vasopressin deficiency (central diabetes insipidus) from primary polydipsia is challenging. There is no validated initial laboratory assessment or diagnostic score to rule-in or rule-out arginine vasopressin deficiency during the first consultation. Therefore, this study aimed to evaluate the diagnostic potential of basal laboratory parameters and to develop a practical diagnostic score.]

Diabetes mellitus Type 1

62. The automated correction index (ACI), a novel report-derived metric correlated to glucose control and variability in patients with type 1 diabetes on advanced hybrid closed loop therapy

Authors: Tumminia A, Santoro G.M., Oteri V, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Objective:** This study aimed to correlate the parameters of advanced hybrid closed loop (AHCL) function to the glycometabolic outcomes in a cohort of patients with type 1 diabetes (T1D) using different AHCL systems.

Research design and methods: This was a retrospective cross-sectional study on 124 adult (n = 87) and pediatric (n = 37) patients correlating the total daily insulin dose (TDD), the total daily basal (TDBa) and bolus (TDBo) insulin doses, the percentage of auto-bolus out of total daily bolus (Automated Correction Index – ACI) to the glycated hemoglobin (HbA1c) and the sensor-derived metrics.]

Diabetes mellitus Type 1

63. Cell Therapy for T1D Beyond BLA: Gearing Up Toward Clinical Practice.

Authors: Wang Y, Chen Y, McGarrigle J, et al.

Publication Date: 2025

Journal: Diabetes Therapy

[Type 1 diabetes (T1D) remains a significant global health challenge and patients with T1D need lifelong insulin therapy. Islet transplantation holds transformative potential by replacing autoimmune-mediated destruction of insulin-producing beta cells. This review examines the trajectory of islet transplantation for T1D, focusing on the process and benefits of obtaining biologics license application (BLA) approval for cell-based therapies. Following US Food and

Drug Administration (FDA) approval, the authors identify key steps urgently needed to foster islet transplantation as a viable treatment for a broader population of patients with T1D. Furthermore, the authors highlight recent advances in encapsulation technologies, stem cell-derived islets, xenogeneic islets, and gene editing as strategies to overcome challenges such as immune rejection and limited islet sources. These innovations are pivotal in enhancing the safety and efficacy of islet transplantation. Ultimately, this review emphasizes that while BLA approval represents a critical milestone, realizing the full potential of cell therapy for T1D requires addressing the scientific, clinical, and logistical challenges of its real-world implementation. By fostering innovation, collaboration, and strategic partnerships, the field can transform T1D care, offering patients a durable, life-changing alternative to traditional insulin therapy.]

64. Development and validation of a scale measuring perceived barriers to physical activity in Spanish for children and adolescents with type 1 diabetes: the Physical Activity Barriers Scale for pediatric type 1 diabetes (PABS-1) questionnaire

Authors: García-Hermoso A, Huerta-Urbe N, Hormazábal-Aguayo I, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** To develop and validate the psychometric properties, reliability, and criterion validity of the Physical Activity Barriers Scale for pediatric type 1 diabetes (PABS-1) in Spanish-speaking children and adolescents with type 1 diabetes.]

65. Effect of vitamin D supplementation on glycemic control in children and adolescents with type 1 diabetes mellitus: Data from a controlled clinical trial

Authors: Moreira C.F.F., Peres W.A.F., Do Nascimento Braga J.S., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aim:** To evaluate the effect of vitamin D supplementation on vitamin D deficiency (VDD) and glycemic control in children and adolescents with type 1 diabetes mellitus (T1DM).]

66. Impact of continuous moderate-intensity aerobic exercise on glycemic control according to different phases of the menstrual cycle in females with type 1 diabetes

Authors: Agustín R.M.S., Del Pino A.C., Sanz A.J.L., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aim:** To assess the effects of continuous moderate-intensity aerobic exercise (CONT) on glycemic control in women with type 1 diabetes (T1D) across different phases of the menstrual cycle.]

67. Making Sense: Feasibility of an education program to Empower adults with type 1 diabetes to interpret CGM data

Authors: Manos G, Apostolopoulos J, Read M, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** To assess the feasibility and acceptability of a structured education program focused on continuous glucose monitoring (CGM) data interpretation for adults living with type 1 diabetes.]

68. Paediatric screening in Italy as a gateway to secondary prevention in type 1 diabetes

Authors: Messina M.V., Pozzilli P, Zampetti S.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[This article explores Italy's pioneering national paediatric screening initiative for type 1 diabetes (T1D), the first of its kind to be mandated by the Italian law for the general population aged 1–17 years. This initiative is designed to facilitate early detection and secondary prevention of T1D and coeliac disease (CD), aiming to identify children in presymptomatic stages of T1D, regardless of family history. Emphasis is placed on autoantibody screening for T1D and CD to refine risk prediction and enhance secondary prevention efforts. Furthermore, the anti-CD3 + T cell monoclonal antibody teplizumab, which may be considered at present for compassionate use only, represents a step forward in delaying T1D onset in stage 2 patients. Italy's comprehensive screening law, passed in 2023, allows for early detection of T1D minimising the risk of consequences such as DKA at diagnosis. The screening will also advance our understanding of T1D disease pathogenesis and progression. These insights advocate for tailored prevention strategies, thus improving the design of clinical trials.]

69. Periodontal disease in adolescents with type 1 diabetes mellitus: A cross link between continuous glucose monitoring-derived metrics, caspase-3 levels, diabetic nephropathy and subclinical atherosclerosis

Authors: Elbarbary N.S., Khattab D.A., Sultan B.M., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Background:** Periodontitis can lead to the development of atherosclerotic heart disease.

Aim: To assess the relation between periodontal disease and continuous glucose monitoring (CGM)-derived metrics, caspase-3 and carotid intima media thickness (CIMT) in adolescents with type 1 diabetes mellitus (T1DM).]

70. SCI – U: Validation of an updated Self-Care Inventory for contemporary diabetes management in adolescents with type 1 diabetes

Authors: Jaser S.S., Hamdan T.A., Hilliard M.E., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** The Self-Care Inventory is a widely used measure to assess diabetes self-management behaviors. We sought to adapt and streamline the measure to reflect advances in diabetes management, including increased use of continuous glucose monitor and automated insulin delivery systems.]

71. The Urgent Need for Breakthrough Therapies and a World Without Type 1 Diabetes

Authors: Starr L, Dutta S, Danne T, et al.

Publication Date: 2025

Journal: Diabetes Therapy

[Despite significant progress, type 1 diabetes (T1D) still results in premature death, significant complications, and a substantial daily burden for those affected. T1D remains a lifelong condition that demands constant vigilance and resilience and has a significant social and economic impact. Individuals with T1D must walk a tightrope to minimize disease-related complications that result from insufficient insulin while also avoiding adverse effects from too much insulin. Achieving this balance is challenging, as diet, activity, medications, physiology, the environment, stress, and many other aspects of daily living all affect glucose levels, often differently from day to day. Persistent challenges of T1D go beyond maintaining glycemic control and include managing long-term complications and preventing potentially life-threatening adverse reactions from insulin therapy, and the emotional and cognitive burdens that often lead to diabetes distress and burnout. The T1D community-researchers, sponsors, clinicians, those living with T1D, and advocates-must look beyond managing symptoms of T1D and aim for better treatments and to bring cures. Emerging therapies need clear and efficient regulatory pathways, and new solutions are needed to address ongoing regulatory challenges. The perspectives of people with T1D must be front and center in research and regulatory decision-making. Through the collective efforts of the T1D community, the urgent needs of those with T1D can be met, and T1D can be made a thing of the past.]

Diabetes mellitus Type 2

72. Best fit framework synthesis of qualitative studies on factors associated with medication nonadherence in people with type 2 diabetes using the COM-B model

Authors: Teo V, Weinman J, Yap K.Z.

Publication Date: 2025

Journal: British Journal of Clinical Pharmacology

[This review aimed to synthesize factors associated with medication nonadherence among people with type 2 diabetes (PwT2D), using the Capability, Opportunity, Motivation and Behaviour (COM-B) model as the a priori model. Studies published between January 2014 and April 2024 were searched on five databases. Studies were included if they recruited PwT2D aged >18 years, investigated factors associated with adherence to oral and/or nonoral medications for diabetes, used qualitative research methods, were conducted in a community setting, were in English language and had accessible full-text articles. Best fit framework synthesis was undertaken, which led to the development of a hypothesized COM-B variant model specific to medication nonadherence among PwT2D. Study quality was assessed using published criteria to evaluate whether the study was adequately reported. Twenty-two studies were included. Factors were mapped onto the COM-B model: physical capability (e.g., difficulty injecting insulin independently), psychological capability (e.g., understanding about diabetes), physical opportunity (e.g., cost of medication), social opportunity (e.g., quality of communication and relationship with healthcare providers), automatic motivation (e.g., habit formation) and reflective motivation (e.g., perceived necessity and effectiveness of medications). Reflective motivation had the most themes, while physical capability only had one theme. Personality was a theme that could not be mapped onto the model. Interactions between some COM-B components (e.g., capability and motivation) were observed. This theoretically grounded synthesis may facilitate future intervention development by formulating a programme theory and identifying behaviour change techniques to address the identified factors.]

73. The burden of type 2 diabetes in China from 1990 to 2021: A comparative analysis with G20 countries using the global burden of disease study 2021

Authors: An K, Zhang J, Wang X, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

Objectives: The study aims to evaluate the burden of Type 2 Diabetes (T2D) in China from 1990 to 2021 and compare to it across G20 countries.

74. Connecting underlying factors in the associations between perceived neighborhood social environments and type 2 Diabetes: Serial mediation analyses

Authors: Tamura K, Moniruzzaman M, Rogers B.J., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** This study tested direct and indirect associations between perceived neighborhood social environments and type 2 diabetes (T2D), serially mediated via health-related (physical activity [PA], body mass index [BMI]), psychosocial factors, and inflammation.]

75. Efficacy of Orlistat in type 2 diabetes – a systematic review and meta analysis

Authors: Ghoshal S, Heron N, Mason K, et al.

Publication Date: 2025

Journal: *BJGP Open*

[**Background:** Obesity is a common comorbidity of Type 2 Diabetes mellitus (T2DM), a chronic metabolic condition affecting millions worldwide. Orlistat may be used to reduce weight as an adjunct to diet/lifestyle changes.

Aim: To assess the evidence of orlistat on weight loss in adults with T2DM/high risk of T2DM and obesity.]

76. Fasting plasma glucose outperformed 1-hour plasma glucose in predicting diabetes incidence in individuals with family history of young-onset type 2 diabetes

Authors: O C.K., Fan B, Ho J.P.Y., et al.

Publication Date: 2025

Journal: BMJ Open Diabetes Research and Care

[**Introduction:** Family history (FmH) of young-onset type 2 diabetes (YOD) and 1-hour plasma glucose (PG) during the 75-g oral glucose tolerance test predicts incident diabetes, although their interactions remain unknown.]

77. Identification of pre-diabetes subphenotypes for type 2 diabetes, related vascular complications and mortality

Authors: Washirasaksiri C, Borrisut N, Lapinee V, et al.

Publication Date: 2025

Journal: BMJ Open Diabetes Research and Care

[**Introduction:** Pre-diabetes comprises diverse subphenotypes linked to varying complications, type 2 diabetes, and mortality outcomes. This study aimed to explore these outcomes across different pre-diabetes subphenotypes.]

78. IDF Global Clinical Practice Recommendations for Managing Type 2 Diabetes 2025

Author: International Diabetes Federation

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[On behalf of the International Diabetes Federation (IDF), it is my great pleasure to present the 2025 edition of the IDF Global Clinical Practice Recommendations for Managing Type 2 Diabetes. These recommendations reflect our ongoing commitment to improving the lives of people living with diabetes worldwide by equipping healthcare providers with the tools to help them deliver high-quality, evidence-based care.]

79. Letter to “Risk factors for bone fractures in type 2 diabetes and the impact of once-weekly exenatide: Insights from an EXSCEL post-hoc analysis”

Authors: Wang M, Li Y, Sui F.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[We read with great interest the post-hoc analysis of the EXSCEL study by Maddaloni et al., contributing to the ongoing discourse on the intersection between type 2 diabetes (T2D), bone health, and glucose-lowering therapeutics [1]. This investigation stands out for examining bone fracture risk factors and the influence of once-weekly exenatide (EQW) within a large randomized, controlled cohort. However, several considerations merit further discussion.]

80. Lights and Shadows of Bariatric Surgery: Insights from a Nationwide Administrative Database of People Living with Type 1 Diabetes and Obesity.

Authors: Carette C, Rives-Lange C, Shoung N, et al.

Publication Date: 2025

Journal: Diabetes Therapy

[**Introduction:** The study aimed to describe the population of patients living with type 1 diabetes who had access to bariatric surgery (BS) in France, analyzing the changes in healthcare resource use and associated costs in the 3 years following this surgery.]

81. Neurovascular decoupling of frontoparietal cortex-putamen-cerebellum network in type 2 diabetes patient: Potential biomarker for abnormal eating patterns

Authors: Yu Y, Hu B, Yu X.W., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aim:** High rates of dropout and binge eating triggered by restrictive diet limit the effectiveness of dietary interventions in type 2 diabetes mellitus (T2DM). However, it remains unclear what the potential central underpinnings of T2DM-specific dietary behavior characteristics are.]

82. Onychomycosis and future onset of type 2 diabetes

Authors: Amar S, Reiner-Benaim A.

Publication Date: 2025

Journal: Diabetes & Metabolic Syndrome: Clinical Research & Reviews

[**Introduction:** Onychomycosis is a fungal infection of the nail with an increasing prevalence worldwide. Diabetes has been shown to elevate onychomycosis risk by 2.5-3-fold.

Objectives: The present study hypothesized that this association may represent a reverse causality relationship, namely that onychomycosis is a risk factor for diabetes, and aimed to determine if the diagnosis of onychomycosis is associated with a future diagnosis of diabetes.]

83. Patient experiences with person-centred and integrated chronic care, focusing on patients with low socioeconomic status: a qualitative study

Authors: Van Bommel H.E., Raaijmakers L.H.A., Van den Muijsenbergh M.E.T.C., et al.

Publication Date: 2025

Journal: British Journal of General Practice

[**Background:** The effectiveness of single disease management programmes in general practice may be limited for patients with low socioeconomic status (SES), as these programmes insufficiently take into account the specific problems and needs of this population. A person-centred integrated care (PC-IC) approach focusing on individual patient's needs and concerns could address these problems.

Aim: To explore experiences of patients with (multiple) chronic diseases with regard to the acceptability of a general practice-based PC-IC approach, with a focus on patients with low SES, and to establish which modifications are needed to tailor the approach to this group.]

84. Plasma proteomic signatures for type 2 diabetes and related traits in the UK Biobank cohort

Authors: Gupte T.P., Azizi Z, Kho P.F., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Objective:** The plasma proteome holds promise as a diagnostic and prognostic tool that can accurately reflect complex human traits and disease processes. We assessed the ability of proteins to predict type 2 diabetes and related traits.]

85. Predictors of diabetes remission after bariatric surgery in patients with type 2 diabetes mellitus duration ≥ 10 years: A retrospective cohort study

Authors: Zhang N, Zhou B, Wang H, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Objective:** Patients with type 2 diabetes mellitus (T2DM) duration ≥ 10 years often have significant β -cell failure. This study aimed to explore predictors of diabetes remission after bariatric surgery in these patients.]

86. Reassessing β -Cell plasticity and weight loss Thresholds in Long-Standing type 2 diabetes remission

Authors: Li Y, Wei Z, Deng X.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[We read with great interest the recently published article by Zhang et al., titled “Predictors of diabetes remission after bariatric surgery in patients with type 2 diabetes mellitus duration ≥ 10 years: A retrospective cohort study” [1]. This study provides valuable clinical insights into the interplay between β -cell function and weight loss in determining diabetes remission among patients with long-standing type 2 diabetes mellitus (T2DM). From a clinical and translational perspective, we would like to offer several in-depth considerations that may help extend the interpretation and application of these findings.]

87. Retraction notice to “Three-year experience with alendronate treatment in postmenopausal osteoporotic Japanese women with or without type 2 diabetes” [Diabetes Res. Clin. Pr. 93 (2011) 166–173]

Authors: Iwamoto J, Sato Y, Uzawa M, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[This article has been retracted: please see Elsevier Policy on Article Withdrawal]

88. Risk of dementia after initiation of sodium-glucose cotransporter-2 inhibitors versus dipeptidyl peptidase-4 inhibitors in older adults with type 2 diabetes: A five-year retrospective cohort analysis of 160,752 patients

Authors: Liu T.H., Lin Y.M., Yu T, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Objectives:** This study investigated the neuroprotective effects of sodium-glucose cotransporter-2 inhibitor (SGLT2i) in reducing dementia risk among older adults with type 2 diabetes mellitus (T2DM), compared to dipeptidyl peptidase-4 inhibitors (DPP4i).]

89. Trends in Type 2 Diabetes Mellitus and Parkinson’s Disease Related Mortality in the United States from 1999 to 2020

Authors: Sohail M.U., Batool R.M., Aamir J, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Background:** Emerging evidence indicates that individuals with Type 2 Diabetes Mellitus (T2DM) are at an elevated risk of Parkinson’s Disease (PD). While mortality trends for each condition have been studied individually, the combined burden of T2DM- and PD-related mortality remains poorly understood. This study aims to evaluate national trends and disparities in T2DM and PD related mortality among older adults in the United States (U.S.) from 1999 to 2020.]

90. Remission of type 2 diabetes is achievable in primary care with intensive lifestyle intervention

Authors: Zoungas S, Sumithran P.

Publication Date: 2025

Journal: Evidence-Based Nursing

[**Context:** Although previously thought to be inevitably progressive, evidence is growing that

type 2 diabetes (T2D) can be brought into remission with weight loss. This study by Hocking *et al*¹ was a single-arm replication of the Diabetes Remission Clinical Trial (DiRECT) randomised controlled trial² in an Australian setting. It confirms that with an intensive lifestyle intervention including total diet replacement (TDR), around half of adults with recently diagnosed T2D can achieve remission at 12 months.^{1]}

Diagnosis

91. Diagnosing arginine vasopressin deficiency and primary polydipsia

Authors: Choy K.W., Chiang C.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[A crucial step in evaluating hypotonic polyuria and polydipsia is distinguishing between the rarer, potentially life-threatening arginine vasopressin deficiency and the more common primary polydipsia, as their treatment approaches differ. ¹ Unlike other endocrine disorders, such as primary aldosteronism, in which diagnostic pathways and laboratory cutoffs are standardised and internationally endorsed, ² the initial screening tests and cutoffs for ruling out arginine vasopressin deficiency in polyuria polydipsia syndrome are not well established. Furthermore, dynamic tests for polyuria polydipsia syndrome have limitations: the water deprivation and arginine stimulation tests are constrained by diagnostic accuracy, and the hypertonic saline stimulation test is not widely available. ³ The absence of rapid and reliable screening methods often leads to delayed diagnoses, unnecessary specialist referrals, and excessive dynamic test requests. ^{4]}

92. A novel diagnostic score for diagnosing arginine vasopressin deficiency (central diabetes insipidus) or primary polydipsia with basal laboratory and clinical parameters: results from two international multicentre prospective diagnostic studies

Authors: Atila C, Chifu I, Drummond J.B., et al.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[**Background:** Distinguishing arginine vasopressin deficiency (central diabetes insipidus) from primary polydipsia is challenging. There is no validated initial laboratory assessment or diagnostic score to rule-in or rule-out arginine vasopressin deficiency during the first consultation. Therefore, this study aimed to evaluate the diagnostic potential of basal laboratory parameters and to develop a practical diagnostic score.]

93. Recent trends in diabetes mellitus diagnosis: an in-depth review of artificial intelligence-based techniques

Authors: Khalid S, Kim H, Kim H.S.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[Diabetes mellitus (DM) is a highly prevalent chronic condition with significant health and economic impacts; therefore, an accurate diagnosis is essential for the effective management and prevention of its complications. This review explores the latest advances in artificial intelligence (AI) focusing on machine learning (ML) and deep learning (DL) for the diagnosis of diabetes. Recent developments in AI-driven diagnostic tools were analyzed, with an emphasis on breakthrough methodologies and their real-world clinical applications. This review also discusses the role of various data sources, datasets, and preprocessing techniques in enhancing diagnostic accuracy. Key advancements in integrating AI into clinical workflows and improving early detection are highlighted along with challenges related to model interpretability, ethical considerations, and practical implementation. By offering a comprehensive overview of these advancements and their implications, this review contributes significantly to the understanding of how AI technologies can enhance the diagnosis of diabetes and support their integration into clinical practice, thereby aiming to improve patient outcomes and reduce the burden of diabetes.]

94. Should diabetes diagnostic thresholds be lowered? Insights from the Middle East

Authors: Alahmad B, Al-Refaei F.H., Al-Mulla F, et al.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[The year 2025 marks the 85th anniversary of the American Diabetes Association (ADA) Scientific Sessions, yet it arrives amidst significant adversity for science and global public health. As hostility towards science appears to be rising in some countries in the Global North, there is an opportunity for leadership from the Global South, particularly from regions that are at the forefront of the battle against non-communicable diseases. Nowhere is this leadership more urgent than in the Middle East and North Africa (MENA) region. At our diabetes institute in Kuwait, approximately eight out of every ten Kuwaiti adults are now living with overweight or obesity, and one in five are living with diabetes. ¹ Similar trends are observed in neighbouring Gulf countries such as the United Arab Emirates and Saudi Arabia, where the prevalence of diabetes is at or surpassing 20%. ² Collectively, the number of adults with diabetes in the MENA region surged from 17·0 million in 2000 to 84·7 million in 2024; ³ put another way, the absolute number of cases doubles approximately every 9·4 years.]

95. The automated correction index (ACI), a novel report-derived metric correlated to glucose control and variability in patients with type 1 diabetes on advanced hybrid closed loop therapy

Authors: Tumminia A, Santoro G.M., Oteri V, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[Objective: This study aimed to correlate the parameters of advanced hybrid closed loop (AHCL) function to the glycometabolic outcomes in a cohort of patients with type 1 diabetes (T1D) using different AHCL systems.

Research design and methods: This was a retrospective cross-sectional study on 124 adult (n = 87) and pediatric (n = 37) patients correlating the total daily insulin dose (TDD), the total daily basal (TDBa) and bolus (TDBo) insulin doses, the percentage of auto-bolus out of total daily bolus (Automated Correction Index – ACI) to the glycated hemoglobin (HbA1c) and the sensor-derived metrics.]

96. Baseline glucagon impacts glucose-lowering effects of acarbose but not metformin: A sub-analysis of MARCH study

Authors: Jiang L, Zhou L, Liu J, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[Background: The impact of glucagon on glucose-lowering therapies remains unclear. This study evaluated the effect of baseline glucagon levels on acarbose and metformin efficacy in newly diagnosed type 2 diabetes.]

97. Continuous glucose monitoring as equinox of nocturnal and daytime hypoglycaemia in type 1 diabetes: insights from the randomized controlled HypoDE trial

Authors: Hermanns N, Heinemann L, Kulzer B, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[Aims: This study re-analysed data from the HypoDE trial to assess the prevalence of nocturnal hypoglycaemia, evaluate the impact of continuous glucose monitoring (CGM) on nocturnal and daytime hypoglycaemia, and explore their influence on severe hypoglycaemia (SH).]

98. Continuous glucose monitoring versus fasting blood glucose basal insulin titration: a retrospective analysis

Authors: Martens T.W., Johnson J, Katz M.L., et al.

Publication Date: 2025

Journal: Diabetes & Metabolic Syndrome: Clinical Research & Reviews

[**Aims:** Continuous glucose monitoring (CGM) may complement or potentially replace fasting blood glucose (FBG) for basal insulin dose titration in type 2 diabetes (T2D). This retrospective analysis compared CGM-based titration with FBG-based titration using 7354 pairs of FBG and blinded CGM data from a clinical study in 68 people with T2D.]

99. Effect of vitamin D supplementation on glycemic control in children and adolescents with type 1 diabetes mellitus: Data from a controlled clinical trial

Authors: Moreira C.F.F., Peres W.A.F., Do Nascimento Braga J.S., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aim:** To evaluate the effect of vitamin D supplementation on vitamin D deficiency (VDD) and glycemic control in children and adolescents with type 1 diabetes mellitus (T1DM).]

100. Glycemic control and asymptomatic carotid plaque and carotid intima–media thickness

Authors: Zhang J, Song X, Zhang G, et al.

Publication Date: 2025

Journal: BMJ Open Diabetes Research and Care

[**Introduction:** The effects of different glucose metabolic states and diabetes-controlled status on asymptomatic carotid atherosclerosis has not been well investigated. Herein, we aimed to investigate the association of different diabetes status with asymptomatic carotid plaques and carotid intima–media thickness (CIMT).]

101. Narrative Review: Continuous Glucose Monitoring (CGM) in Older Adults with Diabetes.

Authors: Wilson A, Morrison D, Sainsbury C, et al.

Publication Date: 2025

Journal: Diabetes Therapy

[**Introduction:** Continuous glucose monitoring (CGM) has revolutionised diabetes care, with proven effect on glycaemic control, adverse diabetic events (such as hypoglycaemia and diabetic ketoacidosis) and hospitalisations in the general population. However, the evidence for CGM in older people is less robust.]

102. Prognostic value of the Glucose-to-Albumin ratio in sepsis-related mortality: A retrospective ICU study

Authors: Ge Y, Wang Z, Ma Y, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** To investigate the prognostic value of the glucose-to-albumin ratio (GAR) in predicting 30-day and 90-day mortality in septic ICU patients.]

103. Retraction notice to “Glycemic control outcomes of adults using theMiniMedTM670G hybrid closed-loop (HCL) system: A single-center study” [Diabetes Res. Clin. Pr. 158 (2019) 107921]

Authors: Al Qifari S.F.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[This article has been retracted: please see Elsevier Policy on Article Withdrawal]

Hyperglycaemia

104. Price analysis of antihyperglycemic agents on Indian online pharmacies

Authors: Deshpande P.R., Jadhav S.

Publication Date: 2025

Journal: Diabetes & Metabolic Syndrome: Clinical Research & Reviews

[**1 What is known about this research topic?** Despite the proliferation of online pharmacies in India, the pricing of antihyperglycemic agents across these platforms remains largely unexamined.]

Hypoglycaemia

105. Continuous glucose monitoring as equinox of nocturnal and daytime hypoglycaemia in type 1 diabetes: insights from the randomized controlled HypoDE trial

Authors: Hermanns N, Heinemann L, Kulzer B, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** This study re-analysed data from the HypoDE trial to assess the prevalence of nocturnal hypoglycaemia, evaluate the impact of continuous glucose monitoring (CGM) on

nocturnal and daytime hypoglycaemia, and explore their influence on severe hypoglycaemia (SH).]

Insulin therapies

106. Assessment of basal insulin adherence in people with type 2 diabetes in telemonitoring: Post-hoc analysis of novel data modalities including insulin injection data

Authors: Nørlev J.T.D., Kronborg T, Jensen M.H., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** Adherence in people with insulin-treated type 2 diabetes (T2D) is not well understood despite it being a prerequisite for preventing complications. This study used insulin injection data from connected insulin pens to examine adherence and characteristics of people with insulin-treated T2D in telemonitoring.]

107. Futility of plasmapheresis, insulin in normoglycaemic individuals, or heparin in the treatment of hypertriglyceridaemia-induced acute pancreatitis

Authors: Syed-Abdul M.M., Tian L, Hegele R.A., et al.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[There is a well-established link between the severity of hypertriglyceridaemia and acute pancreatitis and long-term triglyceride-lowering therapies known to prevent episodes of acute pancreatitis. Therefore, it has been assumed, without firm evidence, that rapid lowering of plasma triglycerides would be an effective strategy for reducing the clinical severity of acute pancreatitis and improving health outcomes. Therapies, such as intravenous heparin, intravenous insulin in normoglycaemic individuals (with glucose to prevent hypoglycaemia), and plasmapheresis, continue to be widely used as therapeutic interventions to rapidly reduce serum triglyceride concentration. These therapies are all associated with a risk of adverse reactions, require increased resources, and increase health-care costs. Randomised controlled clinical trials of these therapies have generally shown more rapid reductions in plasma triglycerides than conventional supportive care with the patient made nil by mouth. However, these three therapies alone or in combination, have failed to show effectiveness in improving substantial health benefit outcome measures. While we recognise the theoretical basis for rapidly reducing plasma triglycerides in hypertriglyceridaemia-induced pancreatitis—based on our review of studies using heparin, insulin, plasmapheresis, or a combination of these—these strategies overall do not reduce complications associated with acute pancreatitis or the rapidity of disease resolution. Therefore, we do not advocate the use of triglyceride-lowering therapies at this time, pending more convincing evidence.]

108. Preferences, Expectations and Attitudes on Basal Insulin from Patient-Physician-Payer Perspective: A Multi-stakeholder Survey by the Italian Diabetes Society (ITA4P Study).

Authors: Fadini G.P., Ciardullo S, Perseghin G, et al.

Publication Date: 2025

Journal: Diabetes Therapy

[**Introduction:** Diabetes management often involves complex insulin regimens, posing significant challenges for patients and healthcare systems. Weekly basal insulin formulations aim to simplify treatment, reduce injection frequency, and improve adherence and quality of life. This study explored the beliefs, preferences and attitudes of patients, physicians and payers regarding current basal insulin therapy and weekly insulin formulations.]

Management of diabetes (diet, exercise, lifestyle)

109. Associations between disease acceptance and dietary adherence in patients with type 2 diabetes mellitus in China: a cross-sectional study

Authors: Liu X, Zhang Q, Huang L, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[Studies on the correlation between dietary adherence in patients with Type 2 diabetes mellitus (T2DM) have focused on self-management, efficacy, and exercise. Limited empirical research on the impact of disease acceptance on dietary adherence. However, previous studies had shown that disease acceptance was an important factor influencing patients' self-management behavior, of which dietary management was a key component. Therefore, it is of great significance to explore the relationship between disease acceptance and dietary adherence for the later development of relevant measures to improve dietary adherence.

Aims: The aim of this study was to investigate and report disease acceptance and diet adherence, as well as the factors that influenced diet adherence in patients with T2DM in China.]

110. The beneficial effects of sesame (*Sesamum indicum* L.) products and their bioactive compounds on cardiovascular disease risk factors in patients with diabetes: A GRADE-Assessed systematic review and meta-analysis

Authors: Jafari A, Mardani H, Ghalichi F, et al.

Publication Date: 2025

Journal: Diabetes & Metabolic Syndrome: Clinical Research & Reviews

[**Objectives:** This systematic review and meta-analysis aimed to evaluate the clinical effectiveness of sesame supplementation on glycemic control, lipid profile, anthropometric measures, liver enzymes, inflammatory biomarkers, blood pressure, and oxidative stress parameters in patients with diabetes.]

111. Changes in diabetes screening and exercise during the COVID-19 pandemic in adults with prediabetes

Authors: Rodriguez L.A., Yassin M, Duru O.K., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** To evaluate changes in type 2 diabetes mellitus (T2DM) screening and exercise during the COVID-19 shelter-in-place, and whether Medicaid patients and racial/ethnic minoritized groups were disproportionately affected.]

112. Impact of physical activities in metabolic dysfunction associated steatotic liver disease, sarcopenia, and cardiovascular disease

Authors: Han E, Woo S.Y., Jeon J.Y., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Background and Aims:** There are no comprehensive studies that investigated differential effects of physical activity (PA) types on metabolic dysfunction associated steatotic liver disease (MASLD) and their associations with sarcopenia and cardiovascular disease.]

113. Optimal amount of vigorous-intensity physical activity for lowering incidence of microvascular diseases: A prospective cohort study from the UK Biobank

Authors: Yu L, Sun G, Liu Y, et al.

Publication Date: 2025

Publication Date: Diabetes Research and Clinical Practice

[**Aims:** To explore the amount–response associations between the duration of physical activity (PA) at different intensities and the risks of microvascular diseases (MVDs), with a particular focus on identifying the optimal amount of vigorous-intensity PA (VPA).]

114. Pharmacological interventions for smoking cessation in Type 2 diabetes: A systematic review with meta-analysis and GRADE evaluation

Authors: Martin A, La Rosa G.R.M., Rice H, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** To evaluate the efficacy and safety of pharmacological therapies for smoking cessation in individuals with Type 2 Diabetes Mellitus (T2DM) through a systematic review, *meta*-analysis, and GRADE evaluation.]

115. Remission of type 2 diabetes is achievable in primary care with intensive lifestyle intervention

Authors: Zoungas S, Sumithran P.

Publication Date: 2025

Journal: Evidence-Based Nursing

[**Context:** Although previously thought to be inevitably progressive, evidence is growing that type 2 diabetes (T2D) can be brought into remission with weight loss. This study by Hocking *et al*¹ was a single-arm replication of the Diabetes Remission Clinical Trial (DiRECT) randomised controlled trial² in an Australian setting. It confirms that with an intensive lifestyle intervention including total diet replacement (TDR), around half of adults with recently diagnosed T2D can achieve remission at 12 months.^{1]}

Mental health and diabetes

116. Diabetes-related distress over time and its associations with glucose levels in school-aged children

Authors: Patton S.R., Kahhan N, Milkes A, et al.

Publication Date: 2025

Journal: BMJ Open Diabetes Research and Care

[**Introduction:** In a cohort of families of school-age children (8–12.99 years old) with type 1 diabetes, we examined the stability of parent and child diabetes-related distress (DRD) over 6 months and the associations between parent and child DRD and child glycated hemoglobin (HbA1c) over time.]

117. Social determinants of distress in South Asian men with long-term conditions: a qualitative study in primary care

Authors: Awan H, Corp N, Kingstone T, et al.

Publication Date: 2025

Journal: British Journal of General Practice

[**Background:** People with long-term physical conditions are more likely to experience distress, depression, or anxiety. Physical–mental comorbidity is associated with lower quality of life, poorer clinical outcomes, and increased mortality than physical conditions alone. People of South Asian origin are the largest minority group in the UK, and more likely to have long-term conditions (LTCs) such as diabetes and heart disease.

Aim: To explore how men of South Asian origin with LTCs understand and experience emotional distress as well as the experiences of GPs supporting them.]

Pharmacological management of diabetes

118. Amylin: From Mode of Action to Future Clinical Potential in Diabetes and Obesity

Authors: Volcanoes Š, Koceva A, Jensterle M, et al.

Publication Date: 2025

Journal: Diabetes Therapy

[Precision diabetology is increasingly becoming diabetes phenotype-driven, whereby the specific hormonal imbalances involved are taken into consideration. Concomitantly, body weight-favorable therapeutic approaches are being dictated by the obesity pandemic, which extends to all diabetes subpopulations. Amylin, an anorexic neuroendocrine hormone co-secreted with insulin, is deficient in individuals with diabetes and plays an important role in postprandial glucose homeostasis, with additional potential cardiovascular and neuroprotective functions. Its actions include suppressing glucagon secretion, delaying gastric emptying, increasing energy expenditure and promoting satiety. While amylin holds promise as a therapeutic agent, its translation into clinical practice is hampered by complex receptor biology, the limitations of animal models, its amyloidogenic properties and pharmacokinetic challenges. In individuals with advanced β -cell dysfunction, supplementing insulin therapy with pramlintide, the first and currently only approved injectable short-acting selective analog of amylin, has demonstrated efficacy in enhancing both postprandial and overall glycemic control in both type 2 diabetes (T2D) and type 1 diabetes (T1D) without increasing the risk of hypoglycemia or weight gain. Current research focuses on several key strategies, from enhancing amylin stability by attaching polyethylene glycol or carbohydrate molecules to amylin, to developing oral amylin formulations to improve patients' convenience, as well as developing various combination therapies to enhance weight loss and glucose regulation by targeting multiple receptors in metabolic pathways. The novel synergistically acting glucagon-like peptide-1 (GLP-1) receptor agonist combined with the amylin agonist, CagriSema, shows promising results in both glucose regulation and weight management. As such, amylin agonists (combined with other members of the incretin class) could represent the elusive drug candidate to address the multi-hormonal dysregulations of diabetes subtypes and qualify as a precision medicine approach that surpasses the long overdue division into T1DM and T2DM. Further development of amylin-based therapies or delivery systems is crucial to fully unlock the therapeutic potential of this intriguing hormone. Graphical abstract available for this article.]

119. Brief report: Validity of self-report measures of medication adherence in young adults with youth-onset type 2 diabetes

Authors: Trief P.M., Burke B, Kalichman S, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[Poor medication adherence is a significant concern in young adults with youth-onset type 2 diabetes. We examined the validity of three self-report adherence measures in comparison to unannounced telephone pill counts, and HbA1c. Results identified two valid measures that may be useful screeners to identify those struggling with medication adherence.]

120. Correction to Lancet Diabetes Endocrinol 2025; published online April 28.

Authors: Knowler WC, Doherty L, Edelstein SL, et al.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

Long-term effects and effect heterogeneity of lifestyle and metformin interventions on type 2 diabetes incidence over 21 years in the US Diabetes Prevention Program randomised clinical trial.

121. Does tirzepatide treatment improve skeletal muscle composition?

Author: Stefan N.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[In 2021, 529 million people were living with diabetes worldwide, and an estimated 1·31 billion individuals are projected to have diabetes (>90% type 2 diabetes) by 2050. ¹ The diabetes epidemic is largely due to unhealthy diets and physical inactivity, often resulting in obesity. In addition to lifestyle factors, an individual's risk of type 2 diabetes and its complications is increased by genetic predisposition, mostly related to impaired insulin secretion and dysfunctional storage of lipids. Recent risk stratification models have incorporated this knowledge for preventive and therapeutic purposes. ² Skeletal muscle mass, function, and composition have been somewhat underestimated in this process, predominantly because of the low availability and high costs of precise measurements.]

122. The effects of SGLT2 inhibitors and GLP-1 receptor agonists on the triglyceride to HDL cholesterol ratio and the triglyceride-glucose index in patients with type 2 diabetes

Authors: Voziki D, Dimakopoulos G, Stergiou I, et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[We analyzed the medical records of 100 patients with type 2 diabetes to evaluate the effects of new antidiabetic drugs on the TG/HDL-C ratio and the TG-glucose index. We found that GLP-1 RA treatment significantly improved both markers, while SGLT2 inhibitors led to significant reductions only in the latter.]

123. Efficacy and Safety of Tirzepatide Compared with GLP-1 RAs in Patients with Type 2 Diabetes Treated with Basal Insulin: A Network Meta-analysis

Authors: Osumili B, Sapin H, Yang Z, et al.

Publication Date: 2025

Journal: Diabetes Therapy

[**Introduction:** The relative efficacy and safety of tirzepatide was compared with glucagon-like peptide 1 receptor agonists (GLP-1 RAs) in patients with type 2 diabetes mellitus (T2DM) treated with basal insulin using a network meta-analysis (NMA).]

124. Inflammation levels in type 2 diabetes mellitus patients with mild cognitive impairment: Assessment followed by amelioration via dapagliflozin therapy

Authors: Zhang W, Sun C, Huang Y, et al.

Publication Date: 2025

Journal: Journal of Diabetes and Its Complications

[**Aims:** To investigate systemic inflammation and the effect of dapagliflozin treatment in (type 2 diabetes mellitus) T2DM patients with mild cognitive impairment (MCI).]

125. The obesity drug craze in Brazil

Authors: Van Epps H.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[Rising demand for potent obesity drugs like semaglutide and tirzepatide is fuelling crime in Brazil. Armed robbers are targeting pharmacies, and smugglers are being apprehended at Brazilian airports with drug pens strapped to their bodies and concealed in their clothing. Around 8000 tirzepatide pens—not yet legally available in Brazil— have been seized since June 2024, according to Brazil's Federal Revenue Service, and 39 pharmacies were robbed in 2024, compared with only one incident in 2022. Much of the illicit activity is centred in São Paulo, one of Brazil's wealthiest cities, where more pharmacies stock the expensive drugs and more people can afford them.]

126. Tirzepatide and muscle composition changes in people with type 2 diabetes (SURPASS-3 MRI): a post-hoc analysis of a randomised, open-label, parallel-group, phase 3 trial

Authors: Sattar N, Neeland I.J., Leinhard O.D., et al.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[**Background:** Substantial weight reduction is often associated with loss of muscle mass. Tirzepatide has been associated with significant reductions in body weight in type 2 diabetes trials and a beneficial effect on body fat distribution in the SURPASS-3 MRI substudy. This post-hoc exploratory analysis studied the association of tirzepatide treatment with changes in thigh muscle volume, muscle volume Z score, and muscle fat infiltration, and aimed to contextualise the results using longitudinal MRI data from UK Biobank participants.]

127. GLP-1 medicines for weight loss and diabetes: what you need to know (Gov.UK)

Author: Medicines and Healthcare products Regulatory Agency (MHRA)

Publication Date: 2025

Guidance on the safe and effective use of GLP-1 medicines for weight loss and diabetes.

128. Increased risk of dementia in older adults starting sulfonylurea: taking sulfonylurea off the list

Author: Lima D.P., Santos L.T.R.

Publication Date: 2025

Journal: Evidence-Based Nursing

[Diabetes is already known as a risk factor for developing dementia. Multiple factors contribute to this association: presence of microvascular and macrovascular complications, chronic inflammation, hyperglycaemia, hypoglycaemia and hyperinsulinemia.¹ Older adult patients often present with multimorbidities, polypharmacy, malnutrition, sarcopenia, longer duration of diabetes and renal and hepatic dysfunction. Furthermore, low education level, high blood pressure, dyslipidemia, obstructive sleep apnea syndrome, physical inactivity, depression, alcohol consumption and smoking increase the risk of dementia. All of these issues must be evaluated to develop a care plan for diabetic patients with the aim of reducing the incidence of dementia.]

129. Diabetes prevention: current promise and future directions

Authors: Weber M.B.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[In *The Lancet Diabetes & Endocrinology*, William C Knowler and colleagues have reported results of approximately 21 years of follow-up of the US Diabetes Prevention Program (DPP) and its associated follow-up study, the DPP Outcomes Study (DPPOS).¹ The authors found that participation in either a lifestyle intervention or metformin group led to long-term, sustained reductions in type 2 diabetes incidence rate when compared with a placebo group (hazard ratio [HR] 0.76 [95% CI 0.68 to 0.85], rate difference [RD] –1.59 cases [95% CI –2.25 to –0.93] per 100 person-years in the lifestyle intervention group; and HR 0.83 [0.74 to 0.93], RD –1.17 [–1.85 to –0.49] in the metformin group), as well as increases in diabetes-free survival (median delay in diagnosis of 3.5 years in the lifestyle intervention group and of 2.5 years in the metformin group, compared with the placebo group). Improvements were observed across subgroups of the study population, although effects were greater in specific subpopulations (eg, the lifestyle intervention was more effective in reducing diabetes incidence rate among individuals with higher baseline fasting glucose or HbA_{1c}; metformin effects were greater in younger participants; and the lifestyle intervention led to a greater increase in diabetes-free survival time in older participants). The overall improvements appeared to be largely due to reductions in risk during the intervention period of the DPP trial, indicating that intervention at the prediabetes stage can have a long-term effect.]

130. Long-term effects and effect heterogeneity of lifestyle and metformin interventions on type 2 diabetes incidence over 21 years in the US Diabetes Prevention Program randomised clinical trial

Authors: Knowler W.C., Doherty L, Edelstein S.L., et al.

Publication Date: 2025

Journal: Lancet Diabetes & Endocrinology

[**Background:** In the US Diabetes Prevention Program (DPP), a 3-year randomised clinical trial in 3234 adults with prediabetes, type 2 diabetes incidence was reduced by 58% with intensive lifestyle intervention (ILS) and by 31% with metformin, compared with placebo. We sought to assess the long-term effects and potential heterogeneity of treatment effects over approximately 21 years of follow-up.]

131. Precision prevention in type 2 diabetes

Authors: Sevilla-Gonzalez M.

Publication Date: 2025

Journal: BMJ Open Diabetes Research and Care

[Type 2 diabetes (T2D) affects hundreds of millions of people worldwide, leading to significant morbidity, complications, and premature death. As the global burden rises, there is an urgent need for effective prevention strategies. Pre-diabetes—the early stage of glycemic dysfunction—offers a critical window for intervention, particularly as individuals with prediabetes, respond better to preventive strategies than those with normal glucose levels.¹ However, current diagnostic criteria fail to capture the underlying pathophysiological heterogeneity or reliably predict progression to T2D². A growing body of evidence suggests that “one-size-fits-all” prevention is insufficient. Understanding the heterogeneity of pre-diabetes is essential to identify those most likely to benefit from early, targeted interventions.³ Phenotypic subtyping -classifying individuals by distinct risk profiles- offers a promising step toward more precise and effective prevention strategies.]

132. Ultra-processed foods: yet another wake-up call

Publication Date: 2025

Journal: The Lancet Diabetes & Endocrinology

[The NOVA classification defines ultra-processed foods (UPFs) as “formulations of ingredients, mostly of exclusive industrial use, that result from a series of industrial processes.” Often high in sugar, salt, and fat; low in fibre, protein, and micronutrients; and containing additives, emulsifiers, stabilisers, colourants, and artificial sweeteners, UPFs generally having a poor nutrient profile. Strongly linked to poor health outcomes (increased risk of diet-related chronic diseases such as obesity, type 2 diabetes, cardiovascular disease, and certain cancers), UPFs are rarely out of the news. No more so than recently, given the pledge by Robert F Kennedy Junior (United States Secretary of Health and Human Services) to remove UPFs from federal programs in the USA such as the Supplemental Nutrition Assistance Program (SNAP), as part of the “Make America Healthy Again” movement.]

Teenagers with diabetes

133. Development and validation of a scale measuring perceived barriers to physical activity in Spanish for children and adolescents with type 1 diabetes: the Physical Activity Barriers Scale for pediatric type 1 diabetes (PABS-1) questionnaire

Authors: García-Hermoso A, Huerta-Urbe N, Hormazábal-Aguayo I, et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** To develop and validate the psychometric properties, reliability, and criterion validity of the Physical Activity Barriers Scale for pediatric type 1 diabetes (PABS-1) in Spanish-speaking children and adolescents with type 1 diabetes.]

134. SCI – U: Validation of an updated Self-Care Inventory for contemporary diabetes management in adolescents with type 1 diabetes

Authors: Jaser S.S., Hamdan T.A., Hilliard M.E., et al.

Publication Date: 2025

Journal: Diabetes Research and Clinical Practice

[**Aims:** The Self-Care Inventory is a widely used measure to assess diabetes self-management behaviors. We sought to adapt and streamline the measure to reflect advances in diabetes management, including increased use of continuous glucose monitor and automated insulin delivery systems.]

Disclaimer:

Royal United Hospital Bath Healthcare Library will endeavour to use the best, most appropriate and most recent sources available to it, but accepts no liability for the information retrieved, which is subject to the content and accuracy of databases, and the limitations of the search process. The library assumes no liability for the interpretation or application of these results, which are not intended to provide advice or recommendations on patient care.