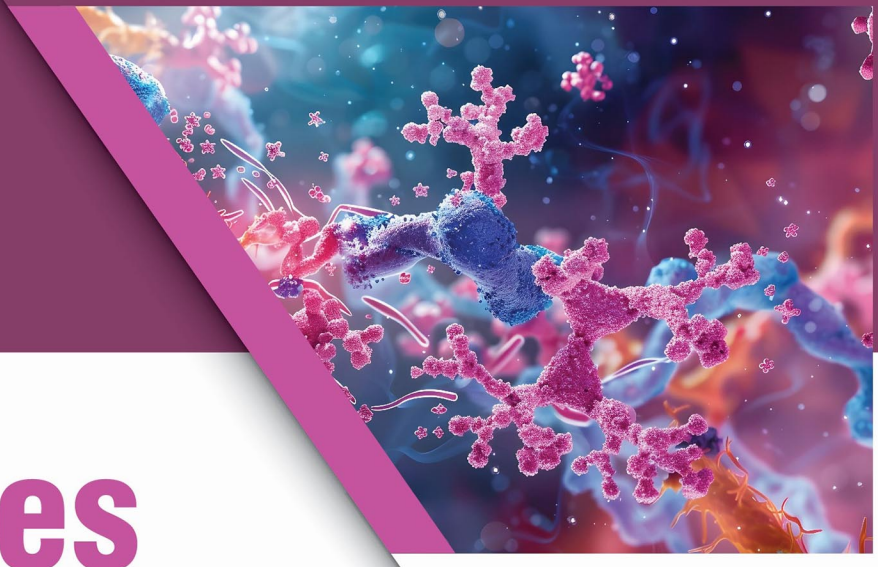
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Diabetes India



Diabetes India Update 2025

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Contents

Section 1: Prediabetes and Risk Factors

1. **Impact of Prediabetes on Women** 3
   Ripun Borpuzari
2. **Primary Prevention of Cardiometabolic Diseases in India** 4
   Vitull K Gupta, Meghna Gupta, Manpreet Singh Brar
3. **Tackling the Menace of T2DM in 2025: What are the Key Issues?** 4
   Anil Kumar Virmani
4. **Diabetes in Women: What is Different?** 5
   RM Anjana
5. **Management of Obesity to Prevent Atherosclerosis** 6
   Brian Tomlinson
6. **The Vexed Problem of Moderate Hypertriglyceridemia and Elevated Remnant Cholesterol** 6
   Brian Tomlinson
7. **PCOS and Type 2 Diabetes: Breaking the Vicious Cycle** 7
   Akansha Singh
8. **The Role of New Generation Antiobesity Medicines in Preventing Diabetes** 8
   Brij Mohan Makkar
9. **How to Deliver Obesity Care in Clinical Practice** 8
   Neeta Deshpande
10. **The Intersection of Diabetes, Atherosclerosis, and Inflammation: New Therapeutic Targets** 10
    Michel P Hermans
11. **The Perfect Storm in Diabetes: How Insulin, Glucagon, and Dietary Fallacies Fuel a Global Epidemic** 11
    Jibin Chi
12. **Diabetes Treatment, Obesity and Cardiovascular Disease: An Everchanging Puzzle** 12
    Nebojsa M Lalic

13. **Intermittent Fasting and Ketogenic Diets in Type 2 Diabetes: Evidence and Clinical Insights** 12
Majken Brinkmann

14. **NAFLD and Cardiovascular Disease Risk** 13
Madhu Pandey

15. **Effectiveness of MNT: Types of Diet for Treating Patients with Diabetes and Dyslipidemia** 14
Unnati Maniar

Section 2: Type 1 Diabetes Management and Innovations

16. **30 Years after DCCT: Transforming T1D Care in India** 17
Anju Seth

17. **Demystifying DIY Pancreas Systems: A Guide for Beginners** 17
Inge Van Boxalaer

18. **Acceptance to Insulin Pump Therapy Increases with Group Installation and Group Education** 19
Saurabh Mishra, Rishi Shukla, Anurag Bajpai, Manisha Gupta, Sangeeta Shukla, Meena Srivastava

19. **Is CGM Essential for All Insulin Users to Prevent Hypoglycemia and GV—YES** 19
Ritu Johari

20. **Once weekly Insulin: Who, When and How** 21
Parimal Swamy

21. **Insulin Pump for Everyone—YES** 22
Anushree Mehta

22. **Active Play, Exercise and Sports with an AI Augmented Insulin Pump** 22
Warren Lee

23. **Experience Using AID in India and the Journey So Far** 23
Jothydev Kesavadev

24. **Recent Updates on Artificial Pancreas, Clinical Care and Next Steps** 24
Ananda Basu

25. **Global Success of Automated Insulin Delivery as a Pathbreaking Innovation** 24
Robert A Vigersky

26. **Why Automated Insulin Delivery is Standard of Care for the Treatment of Type 1 Diabetes** 25
Robert A Vigersky

27. **Immunotherapy for Type 1 Diabetes Prevention: Advances and Pitfalls** 26
Stephen Greene

28. **CGM Monitors be Recommended for All Patients with Diabetes Irrespective of Type—NO** 26
Tejas Shah

29. **An Analysis on Practical Tips for Recognizing and Addressing Insulin Inertia in Primary Care** 27
Balaji Chidambaram

30. **Effect of Exercise Timing on Post Prandial Hyperglycemia** 29
Ajoy Tewari

Section 3: Diagnostics and Biomarkers

31. **Assessing the Predictive Value of Serum Creatinine and eGFR Values for CKD Status in T2DM** 33
Ritu Johari, Pranjali Shah, Neeta Shah, Rukiya Shaikh

32. **Ambulatory Glucose Profile (AGP): How can Clinicians get the Best Out of it?** 34
Inge Van Boxalaer

33. **Renal Gluconeogenesis and Evolution of SGLT Receptor** 36
Kamlakar Tripathi

34. **Revolutionizing AI-powered Screening for Diabetic Retinopathy, AMD and Glaucoma** 36
Bhavana Sosale, Srikanth Narayana, Usha Sharma, Sahana V Gowda, Aravind R Sosale

35. **Classification of the New Biomarkers** 37
Kiran Shah

36. **Non-invasive Glucose Monitoring Hype or Hope** 38
Debashis Das

37. **New Biomarkers in Diabetic Kidney Disease: Are we there Yet?** 38
Kiran Shah

38. **Precision Medicine** 39
Ranjit Unnikrishnan

39. **Early Diagnosis of Wolfram Syndrome Masquerading as Type 1 Diabetes with Complications** 40
Kalpana Jog

40. **Sub-non Diabetic Hypoglycemia** 40
Jaydip V Revale

41. **Managing Severe Insulin Resistance the Smart Way** 41
Sambit Das, Sheenam Gupta

42. **How, What and Why of Abnormal Glucose Physiology** 42
Rita Basu

43. **New Factors in the Control of Glucose** 42
Hu Renming

44. **Pharmacogenomics in Diabetes** 43
Shambo Samrat Samajdar

45. **Genetics of Diabetes: Monogenic, Oligogenic or Polygenic** 44
V Mohan

46. **When and Why Screen for Thyroid and Celiac Disease** 44
Warren Lee

47. **Algorithm for Assessment of MASLD in Patient with Diabetes** 45
Wahid Khan

Section 4: Technological Advances in Diabetes Care

48. **Debate: Fixed Dose Combination (FDCs) is Boon for Primary Care Physician (Favor)** 51
Deepak Kumar Das

49. **Do Devices Help a Person with Diabetes?** 52
Aravinda J

50. **Continuous Glucose Monitoring in Diabetes Management: Do they Really Help?** 53
Vivien Lim

51. **POCT: The Right Tool to Meet the Urgent Needs of the Diabetes Clinic** 53
Bijay Patni

52. **Moving from Beta Cells to Brain to Treat Diabesity** 54
Vinod Mittal

53. **Innovations in Footwear Technology to Prevent Diabetic Foot Ulcers** 55
Sanket Pendsey

54. **Metabolic Medicine 2030: What the Future will Bring** 56
Ananda Basu

55. **Use of AI in Day to Day Clinical Practice? Is It Really Working?—YES** 56
Hamid Ashraf

56. **Advanced Carbohydrate Counting, on 14th February 2025** 57
Smita Shah

Section 5: Clinical Approaches and Guidelines

57. **How do we Care our Elderly with Diabetes?** 61
Vinod Kumar

58. **Advancements in Diabetes Management and Cardiovascular Health** 62
Antonio Ceriello

59. **D-Genius Symposium (Feb 13th 2PM: Diabetes India Hall) Common yet Underrated Challenges in Daily Diabetes Therapy** 62
Praveen Gangadhara

60. **Current Goals in T2DM: Is Glycemic Control Enough?** 63
Ami Sanghvi

61. **Sarcopenia and Diabetes** 64
Anubha Srivastava, Jayant Agarwal

62. **Beyond the Numbers: Understanding and Addressing Diabetes Distress in Clinical Practice** 65
Alka Chadha

63. **Asymptomatic Bacteriuria in Females Suffering from Type 2 Diabetes Mellitus** 66
Abha Gupta

64. **Role of Family Dynamics in Managing Diabetes Related Mental Health** 67
Saritha Kakani

65. **Postpartum Care for the Women with HIP** 68
Swari Srivastava

66. **Should Periodontal Therapy be Standardized as Part of Diabetes Management Plans?** 69
Priya Phatak

67. **Focus on the Clock, Triumphs and Challenges in Diabetes Management for Shift Workers** 70
Sandeep Suri

68. **Simplifying Diabetes Management in Primary Care: New Algorithms for Treatment Decision-making** 71
Kannan Natarajan

69. **Measuring Outcomes of DSMEs** 72
Tatjana Milenkovic

70. **Engagement of People With Diabetes and Coaching Models. Albanian Example of Group Education** 72
Florian Toti, Adriana Lapardhaja, Evis Sinjari, Marilda Hysa, Luftime Bruka

71. **Targeting Glycaemic Levels in GDM: How Tight is Tight Enough?** 73
P Popova

72. **Practical Aspects of Insulin Therapy: Clinical Tips on Techniques—Store, Site and Rotation** 74
Sudhir Chandra Jha

73. **Recognizing and Addressing Foot Care in Diabetes: Practical Tips** 75
Sandeep Rai

74. **Refining Cardiovascular Risk Assessment in Diabetes in Clinical Practice: A Path to Personalized Care** 76
Rajeev Chawla

75. **Early Gestational Diabetes: Current Update** 77
V Mohan

76. **Role of Endothelial Dysfunction in Diabetic Erectile Dysfunction: A Therapeutic Target** 78
Raveendran AV

Section 6: Complications and Comorbidities

77. **Optimising CKD Care in People with Type 2 Diabetes Mellitus: Learnings from EMPA-KIDNEY Study** 81
JJ Mukherjee

78. **A Practical Approach to a Person with Fatty Liver on Ultrasound** 81
Rakesh M Parikh

79. **Diabetes and Lung: A Critical Association** 82
Agam Vora

80. **Holistic Cardio-Renal-Metabolic Care in T2DM: Optimizing Approach with SGLT2-i + DPP4-i Combination** 83
Anant Nigam

81. **Celiac Disease and Gluten Intolerance in Diabetic Patients: A Practical Approach** 83
Warren Lee, Collip Hall

82. **Novel Treatment Options in MASLD in Type 2 Diabetes Mellitus (T2DM)** 84
Ashish Kumar

83. **Emerging Clinical and Real-World Evidence on AGI: Findings from Recent START AM Study** 85
Debmalya Sanyal

84. **Diabetes and Sarcopenia** 86
Anubha Srivastava, Jayant Agarwal

85. **Multimorbidity: The Future Model for Holistic Care** 91
Kamlesh Khunti

86. **Can Cardiovascular Risk Reduction be the Sole Criterion for Selection of Diabetes Drugs** 92
Akashkumar N Singh

87. **Topic Liraglutide Biosimilar The Game Changer for Managing Diabesity in India** 93
Ameya Joshi

88. **Bone and Diabetes** 93
Vivien Lim

89. **Use of BMI in DCES Practice Give it Up** 94
Balaji Jaganmohan

90. GLP1RA—Beyond Glycemic Control **95**
Mohammed Yousuf Khan

91. Reducing Microvascular Risk in Diabetes—Insight from Recent Trials **97**
Michel P Hermans

92. Paediatric Diabetes Symposium **98**
László Barkai

93. Insulin Therapy in Pregnancy: Balancing Maternal Health and Foetal Outcomes **99**
Lotika Purohit

94. Brief Update on MASH; Implications for Diabetes **99**
Rita Basu

95. How to Prescribe Exercise in Those with Sarcopenia, Obesity, and Diabetes **100**
Mikel Izquierdo

96. VIVIFRAIL: An Evidence-based Program for Preventing Frailty and Falls **102**
Mikel Izquierdo

97. Euglycemic Diabetic Ketoacidosis (eDKA): A Critical Must-Know in Modern Diabetes Care **103**
NK Singh

98. Non-Proteinuric Kidney Disease: A Silent Epidemic in Diabetes **104**
Vipul Chavda

99. Cognitive Decline and Diabetes: A Vicious Cycle **105**
Veer Bahadur Singh

100. Diabetes Medicines and Oral Health – Focus on Metformin and SGLT2i **106**
S Sengupta

101. Advancements in Renal Protection: Insights from Key Clinical Trials in CKD and Type 2 Diabetes **107**
Arvind Gupta

102. Acute Complications of Diabetes **108**
Ahmed Al-Sharefi

103. Oral Microbiome in Patients with Diabetes: Recent Insights **109**
Chandni Radhakrishnan, Rosamma Joseph

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45. Genetics of Diabetes: Monogenic, Oligogenic or Polygenic

V Mohan

ABSTRACT

Diabetes has a large genetic component. However, its genetics varies depending on the type of diabetes. The common forms of diabetes like type 2 and type 1 diabetes are '*Polygenic*' with hundreds of loci which are associated with them but they are not casual.

'*Oligogenic*' diabetes refers to a condition when two or more genes are associated with some forms of diabetes. For example, Monogenic gene variants may be associated with type 2 diabetes also. Finally, the term '*Monogenic diabetes*' represents a group of disorders which are caused by mutation of a single gene. Monogenic diabetes is classified as those due to genes involved in insulin secretion and those due to genes involved in insulin resistance. The genes involved in insulin secretion include *neonatal diabetes (NDM)* defined as diabetes below 6 months of age and *maturity onset of diabetes of the young (MODY)*. MODY itself is of several different types, each with different clinical characteristics.

In addition, there are also other forms of monogenic diabetes like maternally inherited diabetes and deafness (MIDD) and genetic syndromes associated with diabetes. Most of the monogenic forms of diabetes are diagnosed based on genetic testing. The advantage of detecting monogenic forms of diabetes is that there could be therapeutic implications. For example, some individuals are wrongly diagnosed as having type 1 diabetes. If they found to have certain forms of monogenic diabetes like some forms of neonatal diabetes and MODY, they can be switched over to oral hypoglycemic agents (OHA). Each form of monogenic diabetes also has its own prognosis. Hence, it is important for the clinician to be aware of the various monogenic forms of diabetes and also when to order genetic testing for their diagnosis.

46. When and Why Screen for Thyroid and Celiac Disease

Warren Lee

ABSTRACT

Autoimmune thyroid diseases occur in 17–30% of patients with Type 1 diabetes (T1DM). Tests for Celiac Disease (CeD) are positive in 6–20% of people with TIDM. The prevalence of CeD is increased among first-degree relatives of children with T1D. CeD is frequently asymptomatic in children and young adults. CeD may present with gastrointestinal symptoms: diarrhea, bloat, nausea, abdominal pain and subclinical malabsorption, or extra intestinal

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Diabetes India Update 2025

The "Diabetes India Update 2025" – Speaker Abstract Book is a comprehensive compilation of the latest research, clinical advancements, and innovative discussions presented at DiabetesIndia 2025, the 15th World Congress on Diabetes. This book serves as a key resource for healthcare professionals, researchers, and diabetes care specialists, providing a broad spectrum of insights into cutting-edge developments in diabetes management.

The abstracts featured in this book represent contributions from distinguished faculty, leading researchers, and emerging experts in the field. Covering a wide range of topics—including pathophysiology, therapeutics, glucose monitoring, emerging technologies, and complication management—this collection reflects the ever-evolving landscape of diabetes care. Each abstract highlights critical scientific discoveries, novel clinical approaches, and evidence-based strategies that have the potential to reshape diabetes prevention, diagnosis, and treatment.

Designed as a reference guide for practitioners and scholars alike, this book fosters knowledge-sharing and encourages collaboration across disciplines. By bringing together diverse perspectives, it aims to bridge the gap between research and clinical practice, ensuring that the latest advancements translate into meaningful improvements in patient care.

As DiabetesIndia 2025 gathers experts and thought leaders from around the world, this book stands as a testament to the collective effort to advance diabetes science and practice. We hope it serves as a valuable tool for learning, inspiration, and professional growth, empowering readers to apply these insights to their own clinical and research endeavors.

Shashank R Joshi is a globally acclaimed Endocrinologist dedicated to diabetes, obesity, and metabolic health. He has held leadership roles as Immediate Past Chair of IDF South-East Asia, Past President of RSSDI (Current Patron), Endocrine Society of India, API, AIARO, and the Thyroid Society of India. A former Dean of the Indian College of Physicians and Past Chair of AACE India Chapter, he has authored over 1,000 research papers and 100 books. His contributions extend beyond academia, with a deep commitment to patient care and public health. A key advisor to Diabetes India for over a decade, he has received numerous global honours, including the Padma Shri by Government of India, Mastership of AACE, and International Clinician of the Year.

Amit Gupta is a distinguished Diabetologist with a strong focus on research, education, and global diabetes advocacy. He serves as the Director of the Centre for Diabetes Care, Greater Noida, Uttar Pradesh, India, and is an Adjunct Professor in the Department of Internal Medicine at Kasturba Medical College (KMC), Manipal (MAHE), Karnataka.

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Dr Gupta plays a significant editorial role as Editor-in-Chief of the Journal of Diabetes and Endocrine Clinics and Executive Editor of the Sadikot International Textbook of Diabetes and the upcoming 6th edition of the RSSDI Textbook of Diabetes. With 70 national and international publications, he continues to drive advancements in diabetes research and clinical practice globally.

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