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Schweizerische Gesellschaft für
Endokrinologie und Diabetologie - SGED



Diabetes Epidemiologie

1/12
people with
DIABETES



1 healthcare

in 9
IS SPENT ON DIABETES

In 2014 diabetes expenditure reached US\$612 billion



IDF DIABETES ATLAS Sixth edition



SANOFI DIABETES

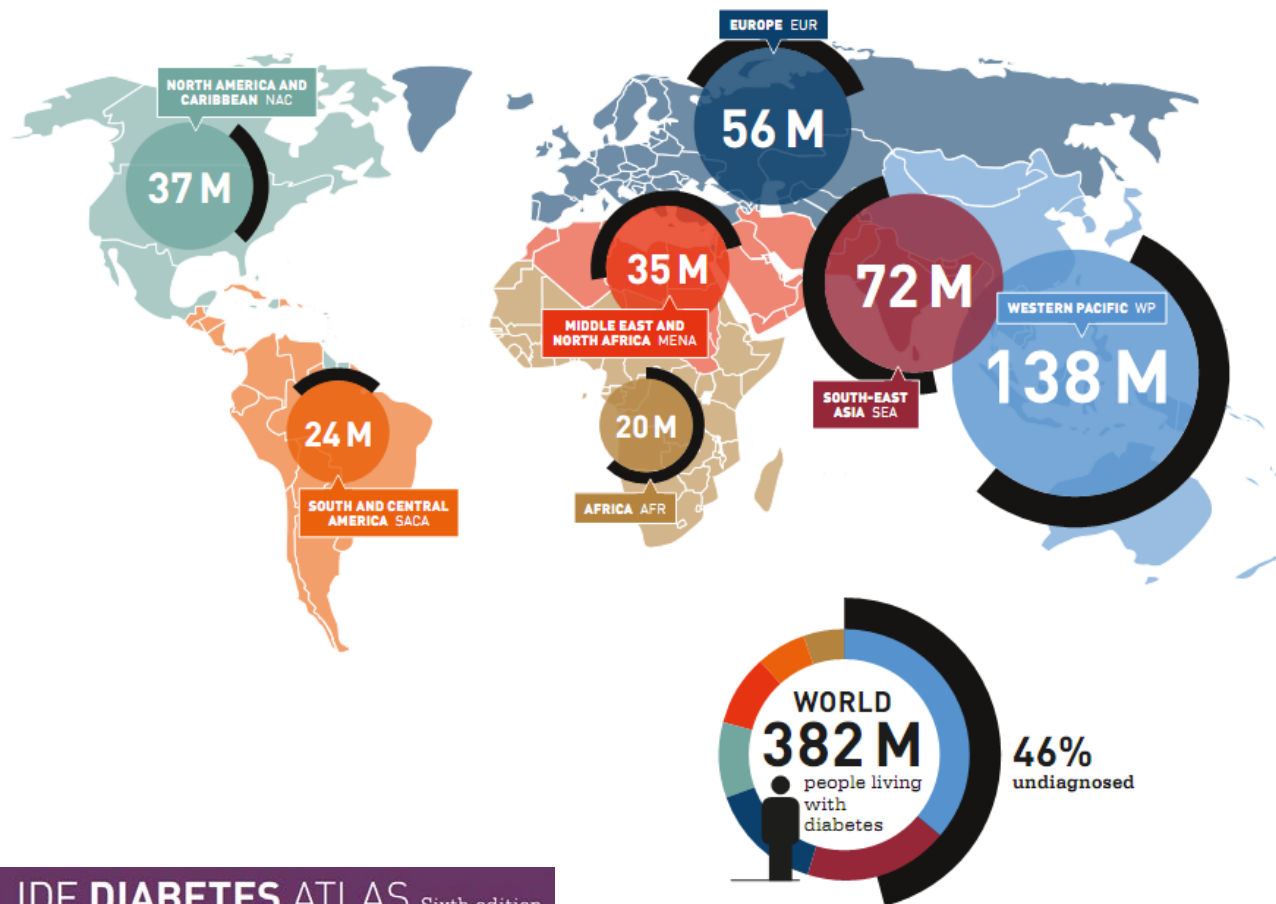


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Diabetes Epidemiologie

Number of people with diabetes by IDF Region, 2013



International Diabetes Federation **IDF DIABETES ATLAS** Sixth edition



SANOFI DIABETES



ACCU-CHEK



NOVARTIS
PHARMACEUTICALS

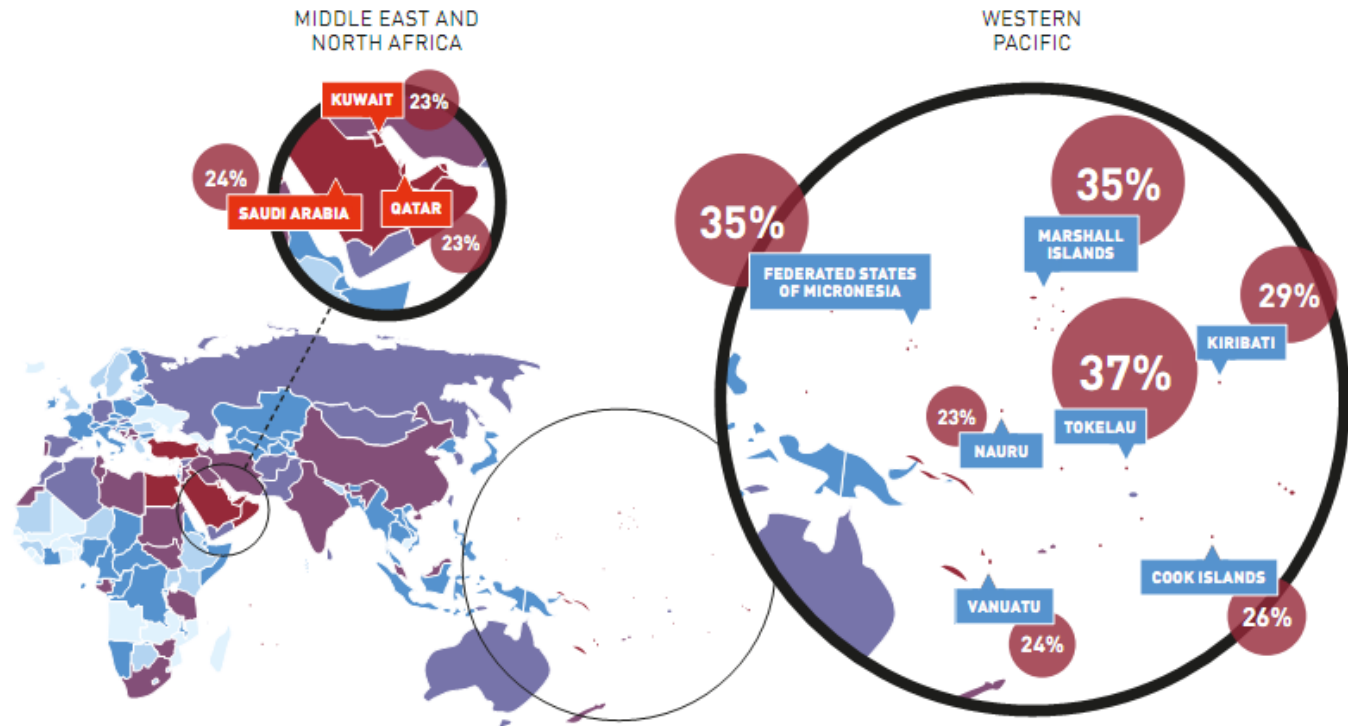
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Diabetes Epidemiologie

Top 10 countries/territories for prevalence* (% of diabetes (20-79 years), 2013)

* comparative prevalence



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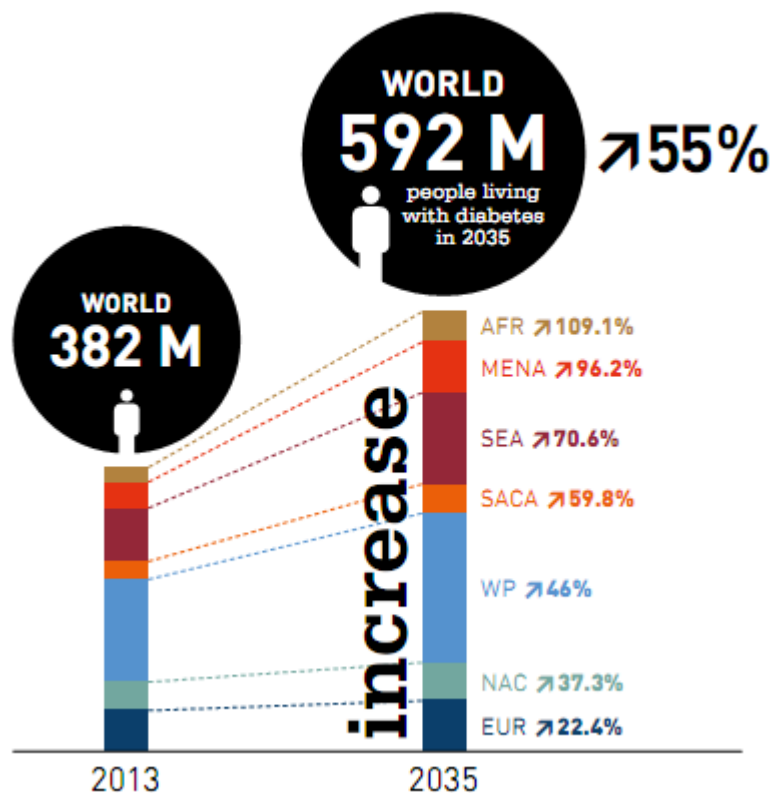
SANOFI DIABETES



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Diabetes Epidemiologie



382 Millionen Personen sind Diabetiker

Bis 2035 werden es 592 Millionen sein



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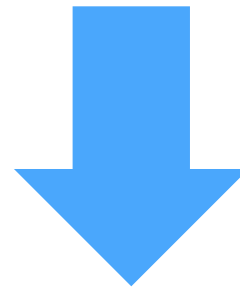


Herausforderungen für den Hausarzt bei Behandlung von Typ 2 DM

- viele Patienten
- viele Komplikationen
- viele (neue!) Medikamente
- viel Geld (vor allem für neue Medikamente)
- intensives Marketing, aber wenig gute Endpunkte



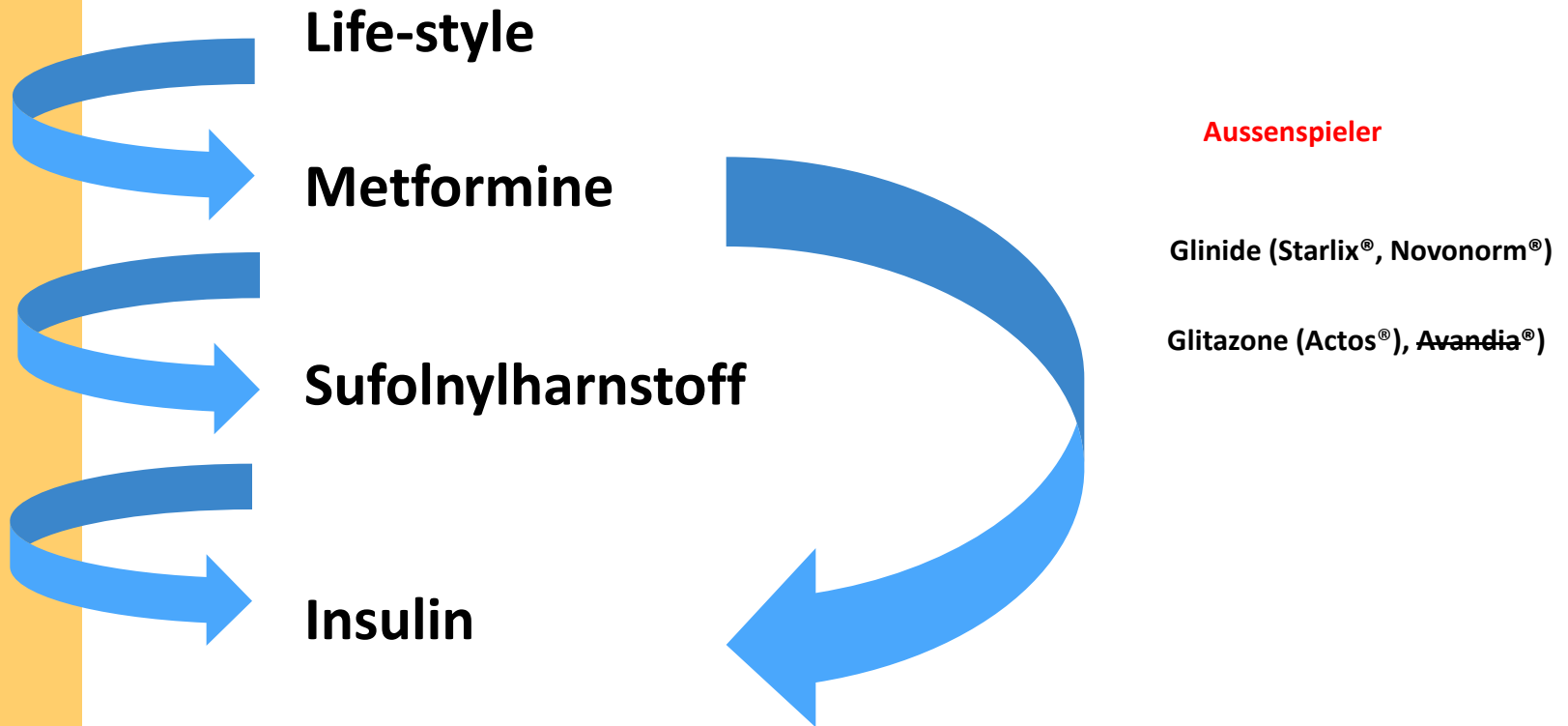
European Society for the Study of Diabetes (EASD) / American Diabetes Association (ADA) Position Statement 2012



**Management of hyperglycaemia in type 2 diabetes, 2015:
a patient-centred approach. Update to a Position Statement
of the American Diabetes Association and the European
Association for the Study of Diabetes**



« klassischer Weg »



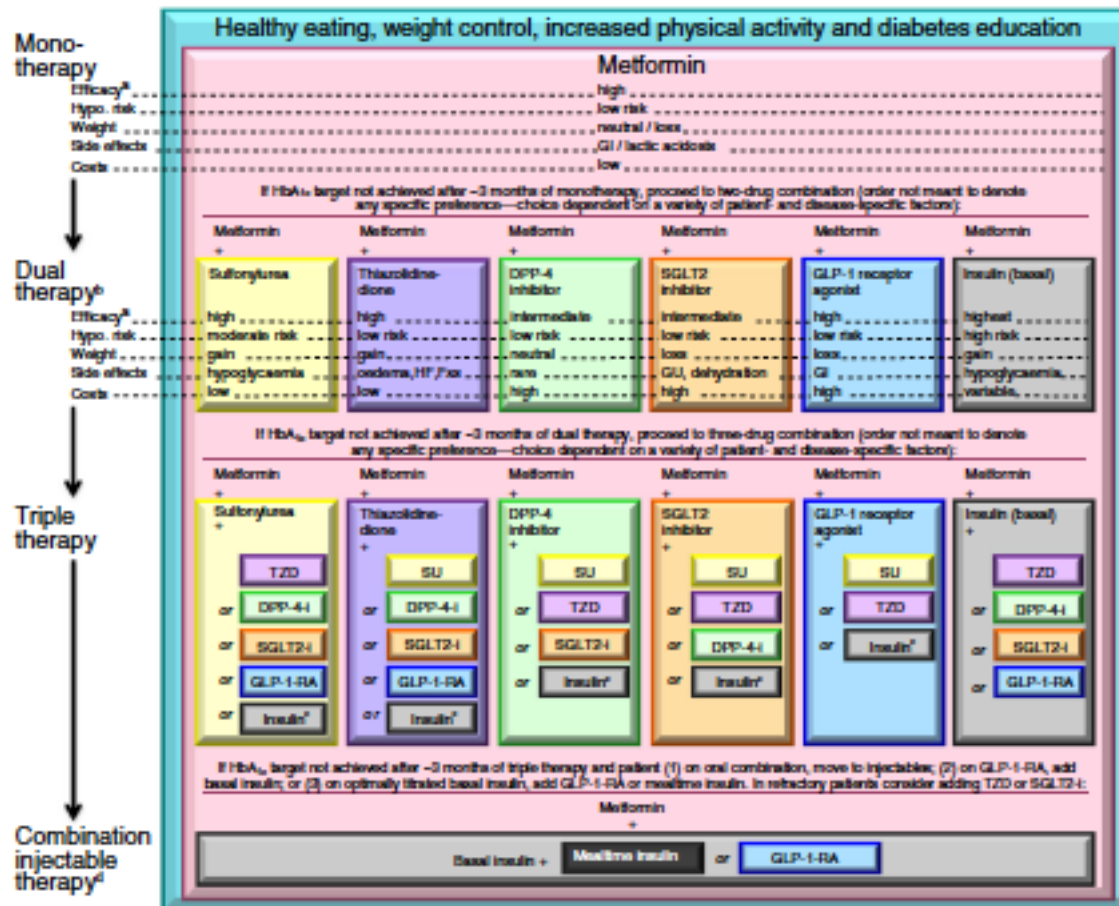
2015 Medikamente

Properties of available glucose-lowering agents in the USA and Europe that may guide individualised treatment choices in patients with type 2 diabetes						
Class	Compound(s)	Cellular mechanism(s)	Primary physiological action(s)	Advantages	Disadvantages	Cost ^e
Biguanides	• Metformin	Activates AMP-kinase (? other)	• ↓ Hepatic glucose production	• Extensive experience • No hypoglycaemia • ↓ CVD events (UKPDS)	• Gastrointestinal side effects (diarrhoea, abdominal cramping) • Lactic acidosis risk (rare) • Vitamin B ₁₂ deficiency • Multiple contraindications: CKD, acidosis, hypoxia, dehydration, etc.	Low
Sulfonylureas	2nd generation • Glibenclamide/glyburide • Glipizide • Glimepiride • Gliclazide ^b	Closes K _{ATP} channels on beta cell plasma membranes	• ↑ Insulin secretion	• Extensive experience • ↓ Microvascular risk (UKPDS)	• Hypoglycaemia • ↑ Weight • ? Blunts myocardial ischaemic preconditioning • Low durability	Low
Meglitinides (glinides)	• Repaglinide • Nateglinide	Closes K _{ATP} channels on beta cell plasma membranes	• ↑ Insulin secretion	• ↓ Postprandial glucose excursions • Dosing flexibility	• Hypoglycaemia • ↑ Weight • ? Blunts myocardial ischaemic preconditioning • Frequent dosing schedule	Moderate
TZDs	• Pioglitazone ^c • Rosiglitazone ^d	Activates the nuclear transcription factor PPAR-γ	• ↑ Insulin sensitivity	• No hypoglycaemia • Durability • ↑ HDL-C • ↓ Triacylglycerols (pioglitazone) • ? ↓ CVD events (PROactive,	• ↑ Weight • Oedema/heart failure • Bone fractures • ↑ LDL-C (rosiglitazone) • ? ↑ MI (meta-analysis, rosiglitazone)	Low
Insulins	• Rapid-acting analogues – Lispro – Aspart – Glulisine • Short-acting – Human Regular • Intermediate-acting – Human NPH • Basal insulin analogues – Glargine – Detemir – Degludec ^b • Pre-mixed	Activates insulin receptors	• ↑ Glucose disposal • ↓ Hepatic glucose production • Other	• Nearly universal response • Theoretically unlimited efficacy • ↓ Microvascular risk (UKPDS)	• Training requirements • Hypoglycaemia • Weight gain • ? Mitogenic effects • Injectable • Training requirements • Patient reluctance	Variable ^e

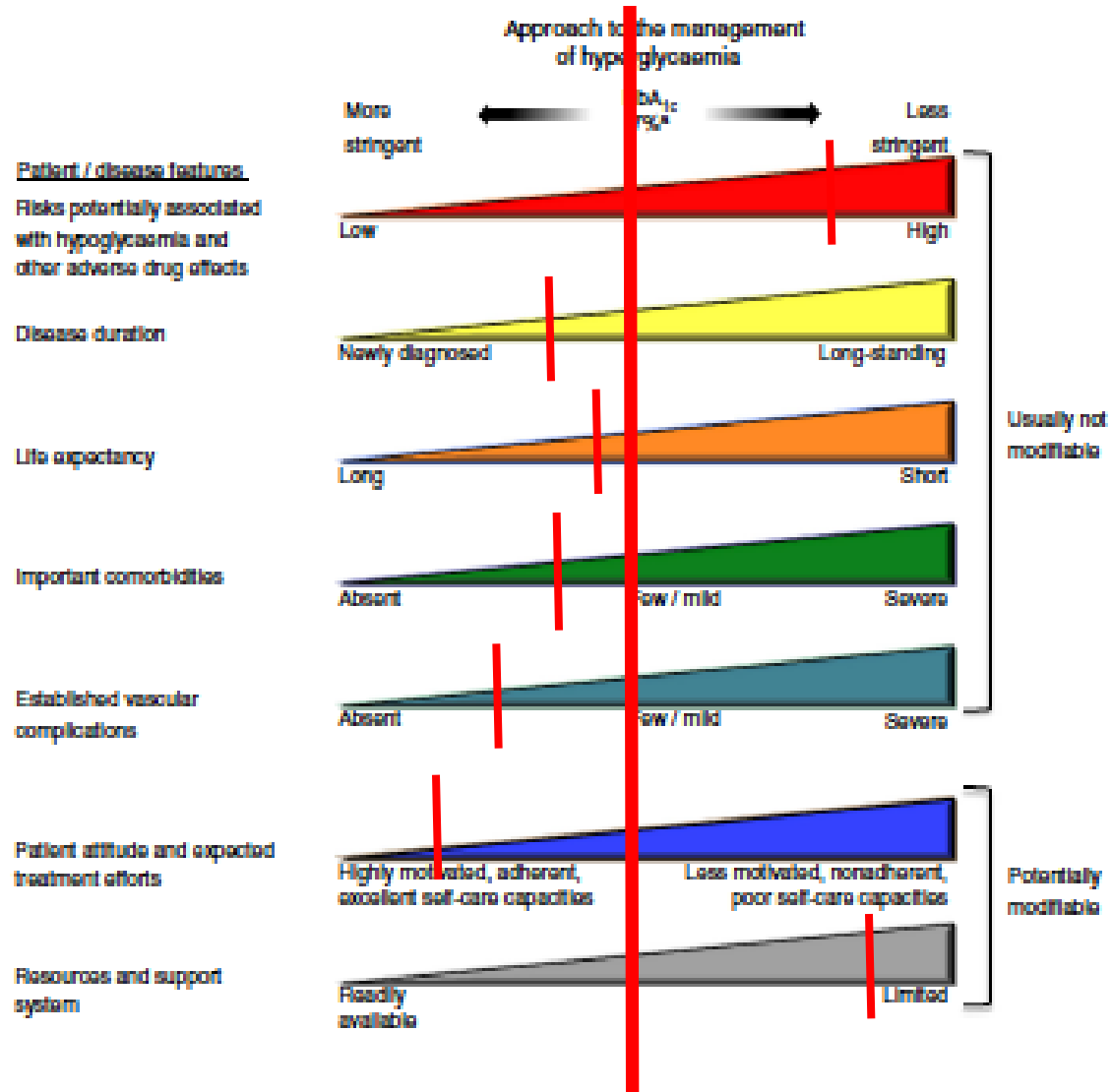
2015 Medikamente

DPP-4 inhibitors	<ul style="list-style-type: none"> • Sitagliptin • Vildagliptin^b • Saxagliptin • Linagliptin • Alogliptin 	Inhibits DPP-4 activity, increasing postprandial active incretin (GLP-1, GIP) concentrations	<ul style="list-style-type: none"> • ↑ Insulin secretion (glucose-dependent) • ↓ Glucagon secretion (glucose-dependent) 	<ul style="list-style-type: none"> • No hypoglycaemia • Well tolerated 	<ul style="list-style-type: none"> • Angioedema/urticaria and other immuno-mediated dermatological effects • ? Acute pancreatitis • ? ↑ Heart failure hospitalisations • ? Rheinitis 	High
SGLT2 inhibitors	<ul style="list-style-type: none"> • Canagliflozin • Dapagliflozin^c • Empagliflozin 	Inhibits SGLT2 in the proximal nephron	<ul style="list-style-type: none"> • Blocks glucose reabsorption by the kidney, increasing glycosuria 	<ul style="list-style-type: none"> • No hypoglycaemia • ↓ Weight • ↓ Blood pressure • Effective at all stages of T2DM 	<ul style="list-style-type: none"> • Genitourinary infections • Polyuria • Volume depletion/hypotension/dizziness • ↑ LDL-C • ↑ Creatinine (transient) 	High
GLP-1 receptor agonists	<ul style="list-style-type: none"> • Exenatide • Exenatide extended-release • Liraglutide • Albiglutide • Lixisenatide^b • Dulaglutide 	Activates GLP-1 receptors	<ul style="list-style-type: none"> • ↑ Insulin secretion (glucose-dependent) • ↓ Glucagon secretion (glucose-dependent) • Slows gastric emptying • ↑ Satiety 	<ul style="list-style-type: none"> • No hypoglycaemia • ↓ Weight • ↓ Postprandial glucose excursions • ↓ Some cardiovascular risk factors 	<ul style="list-style-type: none"> • Gastrointestinal side effects (nausea/vomiting/diarrhoea) • ↑ Heart rate • ? Acute pancreatitis • C cell hyperplasia/medullary thyroid tumours in animals • Injectable • Training requirements 	High

2015 Behandlungsbaum ADA / EASD



Zeit der individualisierten Medizin



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Key Messages 2015

- viele Patienten jetzt und noch mehr in Zukunft
- viele Medikamente
- viel Geld im Spiel
- jeder Patient ist individuell und hat sein eigenes HbA1c Ziel
- noch wenig Erfahrungen mit den neuen Medikamenten
- nicht nur HbA1c denken
aber alle kardio-vaskuläre Risiken aggressiv behandeln

