1. GLP-1 RAs are non-insulin medications that work with your body's natural ability to regulate blood... -> Zhao X et al. 2021 GLP-1 Receptor Agonists: Beyond their pancreatic effects (v1.0) - DWN Article Understanding GLP-1 RA treatment: GLP-1 RA Patient Awareness Campaign (p.1) GLP-1R is widely distributed on pancreatic and other tissues and has multiple biological effects, such as reducing neuroinflammation, promoti 2. Glucagon-like peptide 1 (GLP-1) is a naturally occurring hormone that can

help you regulate blood s...

(copyright restricted)

effects (v1.0) - Rewrite Campaign. DWN Article Understanding GLP-1 RA treatment: GLP-1 RA Patient Awareness Campaign (p.3) 3. If you're living with type 2 diabetes, the cells in your body have what is thophysiology and treatment of type 2 diabetes: perspectives on the present, and future (v1.0) - Insulin Resistance (p.1) Pathophysiology and treatment of type 2 diabetes: perspectives on the past, present, and future (v1.0) - DWN Article Understanding GLP-1 RA treatment:

-> Zhao X et al. 2021 GLP-1 Receptor Agonists: Beyond their pancreatic

GLP-1 RA Patient Awareness Campaign (p.1) Pathogenesis of type 2 diabetes: from the past to the present and future The past: identifi cation of β-cell dysfunction and

4. if left untreated, can lead to issues like skin complications,

nerve damage, eye complications, an... -> (copyright restricted) medicalnewstoday.com 2021 What to know about hyperglycemia (v1.0) there is insufficient insulin in the body or the cells do not respond, and see cannot access the cells, the body uses fats for ene (copyright restricted) medicalnewstoday.com 2021 What to know about hyperglycemia (v1.0) -Complications (p.3) Consistently high blood sugar can damage the nerves in several ways: Peripheral neuropathy: This is nerve damage in the fee

medicalnewstoday.com 2021 What to know about hyperglycemia (v1.0) necrobiosis lipoidica diabeticorum, which is a rare complication that causes a sometimes painful, scar-like lesion with a violet edge (copyright restricted) medicalnewstoday.com 2021 What to know about hyperglycemia (v1.0) -People with prolonged hyperglycemia might be more prone to bacterial and fungal infections, such as boils, jock itch, athlete's foot, and ri (copyright restricted)

medicalnewstoday.com 2021 What to know about hyperglycemia (v1.0) -The complications of diabetes are often the effects of prolonged When blood sugar levels are consistently high because of d

5. There are different ways you can manage type 2 diabetes and help your body deal with insulin resis...

past, present, and future (v1.0) - GLP-1 treatment (p.5)

6. (Resolved) Hi, had a discussion on this before with Yixuan, GLP1 RA reduces gastric motility and slow the digestion. Slowing the digestion mean decrease in enzymatic activity to break down the food. Request to speak the simple language on reducing gastric motility [URQP (Usha Rani Patted)]

Thanks for marking this out - changed to 'slow down the movement of food through the digestive system' [YPZL (Li Yixuan) on behalf of ISPI (Marina

-> Pathophysiology and treatment of type 2 diabetes: perspectives on the

7. slows digestion (Resolved) Please provide the reference to this [URQP (Usha Rani Patted)] The reference to every point is reflected in the more detailed corresponding paragraph below. [YPZL (Li Yixuan) on behalf of ISPI (Marina Spyridis) 8. GLP-1 RA medication can be taken as a tablet (once a day) or injection (once a day, twice a day, o... are currently seven GLP-1 receptor agonists that include exenation

-> Buse2020_Article_2019UpdateToManagementOfHyperg (v1.0) - GLP-1 RA Pathophysiology and treatment of type 2 diabetes: perspectives on the past present, and future (v1.0) - GLP-1 treatment (p.5) 10. Liver and Pancreas: GLP-1 RAs tell your pancreas to release more insulin when needed and -> Pathophysiology and treatment of type 2 diabetes: perspectives on the

past, present, and future (v1.0) - Stomach (p.3)

9. All GLP-1 RA treatments can help with glucose control, and they also can

The gastrointestinal tract produces various peptides, not all of which directly GLP-1 RAs slows down the movement of food through the digestive system, resulting in a s... -> The role of incretins in glucose homeostasis and diabetes treatment. (v1.0) - GLP-1 RA - stomach (p.36) In a short-term study, i.v. infusion of exenatide was shown to stimulate insulin secretion in a glucose-dependent manner and to delay gastr The role of incretins in glucose homeostasis and diabetes treatment. (v1.0) GLP-1 RAs slower rise in blood sugar levels after meals (p.14)

Meier et al., 2005; Knop The role of incretins in glucose homeostasis and diabetes treatment. (v1.0) . Like GIP, GLP-1 achieves its insulinotropic effects by binding to its specific receptor (GLP-1R) that is Pathophysiology and treatment of type 2 diabetes: perspectives on the pas reported after bariatric surgery, and are thought to account for many Pathophysiology and treatment of type 2 diabetes: perspectives on the past present, and future (v1.0) - Stomach (p.3)

Important roles of the intestine and brain

SLows bowel motility [URQP (Usha Rani Patted)] Changed to 'slows down the movement of food through the digestive system', for a more general-public-friendly wording. [YPZL (Li Yixuan) on behalf of ISPI

The gastrointestinal tract produces various peptides, not all of which directly

13. GLP-1 RAs manage appetite by curbing hunger and creating a longer lasting feeling of fullness.2 -> Buse2020_Article_2019UpdateToManagementOfHyperg (v1.0) Pathophysiology and treatment of type 2 diabetes: perspectives on the pas present, and future (v1.0) - Brain (p.4) with sleep, have become a focus of investigation because changes in diurr patterns and quality of sleep can have important effects on meta nophysiology and treatment of type 2 diabetes: perspectives on the present, and future (v1.0) - Brain (p.4) The nervous system is another important regulator of metabolic processes Both sympathetic and para- sympathetic nervous systems control glu

14. GLP-1 RAs slow the progression of atherosclerosis, enhance your

GLP-1RA treatment was associated with a reduction in MACE (MH-OR 0 .87

The role of incretins in glucose homeostasis and diabetes treatment. (v1.0)

-> Mannucci E et al. Glucagon-like peptide-1 receptor agonists and

[95 % CI 0 .81, 0 .93]). Cardio- vascular and all-cause mortality,

heart's pumping ability, regulate ...

cardiovascular outcomes.. (v1.0) - Heart (p.1)

Besides affecting myocardial performance, GLP-1R signaling has been also cardioprotective effects against ischemic damage or The role of incretins in glucose homeostasis and diabetes treatment. (v1.0) the effects of GLP-1 on heart rate and blood pressure are mediated by neuroendocrine and autonomic control via vagal nerves dependent on GLP Zhao X et al. 2021 GLP-1 Receptor Agonists: Beyond their pancreatic effects (v1.0) - Rewrite Campaign. DWN Article Understanding GLP-1 RA treatment **GLP-1** RA Patient Awareness Campaign (p.3) Mannucci E et al. Glucagon-like peptide-1 receptor agonists and cardiovascular outcomes.. (v1.0) - Heart (p.5) Mannucci E et al. Glucagon-like peptide-1 receptor agonists and cardiovascular outcomes.. (v1.0) - Heart (p.3) A significant reduction of risk was also observed for non-fatal stroke and Mannucci E et al. Glucagon-like peptide-1 receptor agonists and cardiovascular outcomes.. (v1.0) - Heart (p.3) A signifi- cant reduction of MACE in patients treated with GLP-1RAs was observed (MH-OR 0 .87 [95 % CI 0 .81, 0 .93]; 15. If you do suffer a heart attack or stroke, there are also treatments options that can help reduce ... -> Mannucci E et al. Glucagon-like peptide-1 receptor agonists and cardiovascular outcomes.. (v1.0) - Heart (p.5) Mannucci E et al. Glucagon-like peptide-1 receptor agonists and cardiovascular outcomes.. (v1.0) - Heart (p.3)

A significant reduction of risk was also observed for non-fatal stroke and

Mannucci E et al. Glucagon-like peptide-1 receptor agonists and

cardiovascular outcomes.. (v1.0) - Heart (p.3) A signifi- cant reduction of MACE in patients treated with GLP-1RAs was observed (MH-OR 0 .87 [95 % CI 0 .81, 0 .93]; Mannucci E et al. Glucagon-like peptide-1 receptor agonists and cardiovascular outcomes.. (v1.0) - Heart (p.1) Mannucci E et al. Glucagon-like peptide-1 receptor agonists and cardiovascular outcomes.. (v1.0) - Heart (p.1) GLP-1RA treatment was associated with a reduction in MACE (MH-OR 0 .87 [95 % CI 0 .81, 0 .93]). Cardio- vascular and all-cause mortality, The role of incretins in glucose homeostasis and diabetes treatment. (v1.0) Besides affecting myocardial performance, GLP-1R signaling has been also cardioprotective effects against ischemic damage or The role of incretins in glucose homeostasis and diabetes treatment. (v1.0) the effects of GLP-1 on heart rate and blood pressure are mediated by neuroendocrine and autonomic control via vagal nerves dependent on GLF Pathophysiology and treatment of type 2 diabetes: perspectives on the past present, and future (v1.0) - GLP-1 treatment (p.5) I do not recommend to include a specific how to get most out of my treatment section in this GLP-1RA article, recommend to keep the current form where it is "clean" GLP-1RA information. This could be seen as promotion of GLP-1RAs

Deleted the first sentence 'If you're unsure whether your current treatment is helping you reach your goals, talk with your healthcare professional.' to decrease the possibility of being perceived as promotion of GLP-1RAs [YPZL (Li Yixuan) on behalf of ISPI (Marina Spyridis)] OK. However, I recommend that the same type of section is included in the other treatment specific articles to ensure balance [LIAU (Line Dahlfelt Thanks for the recommendation and will be taken into consideration for future content production - for the current articles as the outline has already been agreed during drafting process, will keep them unchanged. [YPZL (Li Yixuan) on behalf of ISPI (Marina Spyridis)] OK [LIAU (Line Dahlfelt Marcussen)] 17. Regardless of your type 2 diabetes treatment, it's always important to mdal T_The independent effect of type 2 diabetes mellitus on_Archives ernal medicine_2004 (v1.0) - Complications (p.5)

internal medicine_2004 (v1.0) - Complications (p.3) Almdal T_The independent effect of type 2 diabetes mellitus on_Archives o ternal medicine_2004 (v1.0) - Complications (p.3) Almdal T_The independent effect of type 2 diabetes mellitus on_Archives of ternal medicine_2004 (v1.0) - Complications (p.2) Almdal T_The independent effect of type 2 diabetes mellitus on_Archives of ternal medicine_2004 (v1.0) - Complications (p.2) 202 (3 .4 %) into the type 2 DM group.

Almdal T_The independent effect of type 2 diabetes mellitus on_Archives of internal medicine_2004 (v1.0) - Complications (p.1) and the risk of death is increased 2-fold, independent of other

Understanding GLP-1 RA treatment

Home > Treatments for diabetes

Rewriting your diabetes story is much about finding the treatment plan that works for you. GLP-1 RAs are non-insulin medications that work with your body's natural ability to regulate blood sugar and appetite.1

Glucagon-like peptide 1 (GLP-1) is a naturally occurring hormone that can help you regulate blood sugar and appetite, which can be of particular importance for people living with type 2 diabetes.¹

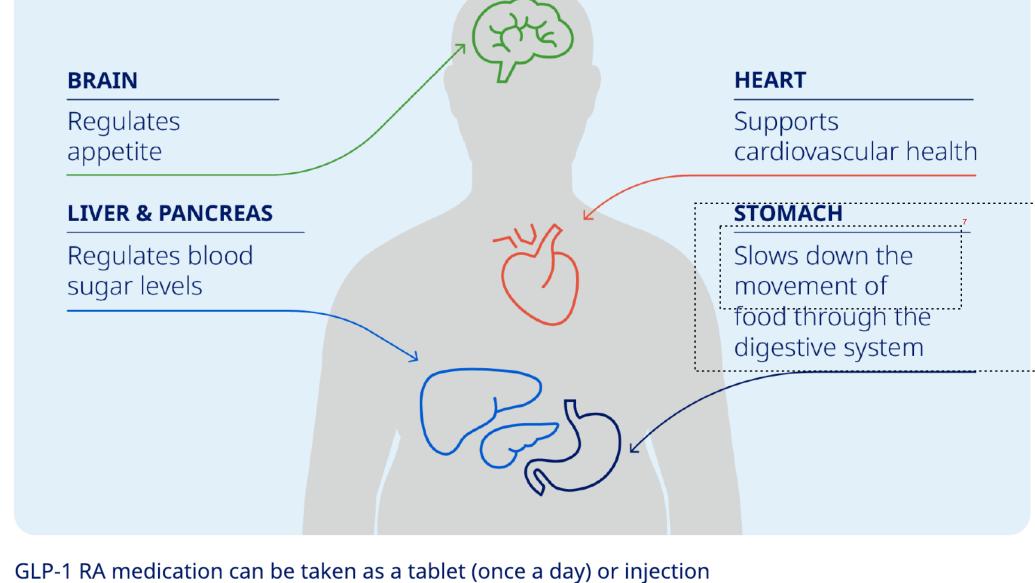
If you're living with type 2 diabetes, the cells in your body have what is called insulin resistance, and they don't respond normally to the insulin needed to control your blood sugar. To try and fix the problem, your pancreas will produce more and more insulin to try to get your cells to respond. But ultimately, the pancreas can't keep up, and blood sugar rises to levels that,2 if left untreated, can lead to issues like skin complications, nerve damage, eye complications, and diabetic ketoacidosis.3

body deal with insulin resistance. A GLP-1 Receptor Agonist (GLP-1 RA) is simply a type of medicine for type 2 diabetes that mimics the effects of the GLP-1 hormone. When prescribed, GLP-1 RAs can assist your body's natural ability to regulate blood sugar and appetite and can help with your type 2 diabetes management.²

There are different ways you can manage type 2 diabetes and help your

the body?

How does a GLP-1 RA work with



(once a day, twice a day, or once a week), depending on the specific medication, and potentially your preferences.4 All GLP-1 RA treatments can help with glucose control, and they also can

play a part in cardiovascular risk reduction and help support weight loss.^{2,5}

How do they do it?



Liver and Pancreas: GLP-1 RAs tell your pancreas to release more insulin when needed and

prevent the liver from releasing stored sugar—helping to control blood sugar levels.6



Brain: GLP-1 RAs manage appetite by curbing hunger and creating a longer lasting feeling of fullness.^{2,5}

GLP-1 RAs slows down the movement of food through the digestive

system, resulting in a slower rise in blood sugar levels after meals.^{2,7}



Heart:

GLP-1 RAs slow the progression of atherosclerosis, enhance your heart's pumping ability, regulate blood pressure, and improve lipid levels.^{1,7,8} If you do suffer a heart attack or stroke, there are also treatments options that can help reduce the risk of subsequent cardiovascular events.^{2,7,8}

How do I get the most out of my treatment? Together with your doctor, you can evaluate your treatment plan and

choose the best one for you to live a healthier life. Regardless of your type 2 diabetes treatment, it's always important to

support it with healthy eating and regular physical activity. By getting your blood sugar and weight under control early, you can greatly reduce your risk of future complications such as heart failure.9

Remember, you and your healthcare team have the power to take control of your diabetes management.



Want to know more?

Ask your doctor if a GLP-1 RA could work for you.

HQ23GLP00002

References 1. Zhao X, Wang M, Wen Z, et al. GLP-1 Receptor Agonists: Beyond

- Their Pancreatic Effects. Front Endocrinol (Lausanne). 2021;12:721135. 2. Kahn SE, Cooper ME, Del Prato S. Pathophysiology and treatment of type 2 diabetes: perspectives on the past, present, and future.
- Lancet. 2014 Mar 22;383(9922):1068-83. 3. Felman A. What to know about hyperglycemia. Medical News Today. May 7 2019:1-7
- 4. Latif W, Lambrinos KJ, Rolando Rodriguez R, Compare and Contrast the Glucagon-Like Peptide-1 Receptor Agonists (GLP1RAs). StatPearls Publishing; 2023 Jan. NCBI bookshelf
- 5. Buse JB, Wexler DJ, Tsapas A, et al., 2019 update to: Management of hyperglycaemia in type 2 diabetes, 2018. A consensus report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD). Diabetologia. 2020 Feb;63(2):221-228. 6. Zhao X, Wang M, Wen Z, et al. GLP-1 Receptor Agonists: Beyond Their Pancreatic Effects. Front Endocrinol (Lausanne).

Available from: https://www.ncbi.nlm.nih.gov/books/NBK572151/

- 7. Kim W and Egan JM. The role of incretins in glucose homeostasis and diabetes treatment. Pharmacol Rev. 2008;60:470-512. 8. Mannucci E, Dicembrini I, Nreu B, et al. Glucagon-like peptide-1 receptor agonists and cardiovascular outcomes in patients with
- and without prior cardiovascular events: An updated metaanalysis and subgroup analysis of randomized controlled trials. Diabetes Obes Metab. 2020;22:203-211. 9. Almdal T, Scharling H, Jensen JS, et al. The independent effect of type 2 diabetes mellitus on ischemic heart disease, stroke, and death: a population-based study of 13,000 men and women with 20 years of follow-up. Arch Intern Med. 2004;164:1422-6.

RELATED ARTICLES

2021;12:721135.





Gestational Diabetes Diabetes in children Diabetes symptoms Cardiovascular disease

About Diabetes

Type 2 diabetes

Type 1 diabetes

Diabetes exercise Diabetes recipes Diabetes blood sugar levels Covid and diabetes

management

Diabetes diet



Involve family, friends, support groups etc. in the journey towards a healthier lifestyle. Link to PAGs, patient organizations or likewise.

The information on this website is intended for education purpose only and should not be substituted for medical advice from your doctor.

> What should you expect from your type 2 diabetes treatment? **Living with diabetes Treatments of diabetes** Type 2 diabetes treatment Type 1 diabetes treatment Insulin treatment Gestational diabetes treatment Digital health and diabetes