JORGE TALKS PEPS

Bro Science?
100 Years of Peps

The timeline of peps in real medicine, from the first insulin shot in 1922 to the GLP-1 era. Nobel Prizes, FDA approvals, and where the newer peps came from.

- 1922 INSULIN
- NOBEL PRIZES
- 80+ APPROVED DRUGS
- GLP-1 ERA



Jorge Abreu, 44. Not a doctor. Just tired of hearing "bro science."

What a pep actually is

A short chain of amino acids.

That is it. Your body makes hundreds of them: insulin, oxytocin, GLP-1, growth hormone releasing hormone. Medicine has been copying and improving them for over a century.

1 Smaller than a protein

Usually 2 to 50 amino acids. Proteins are the long chains.

2 Signals, not fuel

Most peps act like messages, telling a cell to do something specific.

3 Mostly injected

Your gut breaks them down, which is why most pep drugs are shots.

4 Not steroids

Different chemistry entirely. Lumping them together is where a lot of the bro science label comes from.

HOW TO READ THIS TIMELINE

NOBEL Nobel Prize LASKER Lasker Award FDA APPROVED approved prescription drug RESEARCH research compound, not approved for human use

The foundation years

1922 — **First insulin shot** FDA APPROVED
A 14 year old boy with diabetes in Toronto becomes the first person treated with insulin. Diabetes goes from a death sentence to manageable.

1923 — **Nobel Prize for insulin** NOBEL
Banting and Macleod win the Nobel Prize in Medicine. Barely a year after the first patient.

1953 — **Oxytocin is synthesized**
Vincent du Vigneaud builds oxytocin in a lab, the first pep hormone ever made from scratch.

1955 — **Nobel Prize for oxytocin** NOBEL
du Vigneaud wins the Nobel Prize in Chemistry. Oxytocin is still used in hospitals every day.

1958 — **Nobel Prize for insulin's structure** NOBEL
Frederick Sanger maps the full amino acid sequence of insulin, the first protein ever sequenced.

1973 — **GHK is discovered** RESEARCH
Loren Pickart identifies the GHK tripeptide in human plasma. Its copper form, GHK-Cu, is in skin care today.

1977 — **Nobel Prize for brain peps** NOBEL
Guillemin and Schally win for discovering the brain's pep hormones, including GnRH and somatostatin.

Peps become everyday medicine

1982 — **Lab made human insulin** FDA APPROVED
Humulin becomes the first approved drug made with recombinant DNA. No more insulin from animal pancreas.

1984 — **Nobel Prize for making peps** NOBEL
Bruce Merrifield wins for solid phase pep synthesis, the method that made building peps fast and cheap.

1985 — **Leuprolide (Lupron)** FDA APPROVED
A GnRH based pep drug, approved for prostate cancer. Built directly on the 1977 Nobel work.

1988 — **Octreotide (Sandostatin)** FDA APPROVED
A longer lasting version of somatostatin, approved for acromegaly and certain tumors.

1993 — **BPC-157 is described** RESEARCH
Researchers in Croatia publish on a pep from gastric juice. Most of the work since is animal research.

1998 — **Ipamorelin is published** RESEARCH
A selective growth hormone secretagogue described in a pharmacology paper. Not an approved drug.

2005 — **Exenatide (Byetta)** FDA APPROVED
The first GLP-1 drug, based on a pep found in Gila monster saliva.

The GLP-1 era

2010 — **Liraglutide (Victoza)** FDA APPROVED
Once daily GLP-1. Later approved for weight loss as Saxenda.

2010 — **Tesamorelin (Egrifta)** FDA APPROVED
A growth hormone releasing hormone analog, approved for reducing belly fat in HIV lipodystrophy.

2017 — **Semaglutide (Ozempic)** FDA APPROVED
Once weekly GLP-1. Wegovy for weight loss followed in 2021.

2022 — **Tirzepatide (Mounjaro)** FDA APPROVED
The first dual GIP and GLP-1 drug. Zepbound for weight loss followed in 2023.

2024 — **Lasker Award for GLP-1** LASKER
Habener, Mojsov and Knudsen are honored for the discovery and development of GLP-1 drugs. The Lasker is often called the American Nobel.

NOW — **Triple agonists in trials** RESEARCH
Retatrutide and other next generation peps are in late stage clinical trials. Not approved yet.

80+

pep drugs have reached the market since insulin, according to a 2021 review in Nature Reviews Drug Discovery. GLP-1 drugs are now among the best selling medicines in the world.

So, is it bro science?

1 Peps are old

Insulin is over 100 years old. Five Nobel Prizes on this timeline went to pep science.

2 Many "new" peps are not new

GHK, BPC-157 and ipamorelin were first published in 1973, 1993 and 1998. You are just hearing about them now.

3 Evidence levels differ

An FDA approved drug and a research compound with mostly animal data are not the same thing. Know which one you are reading about.

4 Bro science is a label, not an argument

Next time someone says it, ask them if they have heard of insulin.

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