

Baker Street *Elementary*

PRESENTS
"THE LIFE AND TIMES IN VICTORIAN LONDON"



Baker Street Elementary

THE LIFE AND TIMES IN VICTORIAN LONDON
073 -- A CASE OF SUGAR SICKNESS -- DIABETES -- FEBRUARY, 2022



**WELCOME TO TOPIC # 073... TODAY WE WILL BE
LOOKING AT THE DISEASE 'DIABETES' DURING THE
VICTORIAN PERIOD.**



IN THE 'BOSCOMBE VALLEY MYSTERY,' JOHN TURNER SHARED WITH YOU HE HAD DIABETES FOR 'YEARS' AND HAD PROBABLY A MONTH TO LIVE.



WHILE DIABETES HAS BEEN RECOGNIZED FOR MORE THAN 3000 YEARS, IT HAS ONLY BEEN IN THE LAST CENTURY THAT EFFECTIVE TREATMENTS HAVE BEEN DEVELOPED... PRIOR TO THE 1920s, 'SUGAR SICKNESS' WAS A FATAL DISEASE, AS IN JOHN TURNERS' PROGNOSIS.



DESCRIPTIONS OF THE DISEASE APPEAR AS EARLY AS 1552 BCE WHEN AN EGYPTIAN PHYSICIAN DESCRIBED FREQUENT URINATION AS A SYMPTOM OF SOME TYPES OF EMACIATION.





IN THE SIXTH CENTURY BCE, AN INDIAN HEALER
COINED THE TERM 'MADHUMEHA'—COMBINING THE
WORDS FOR 'HONEY' AND 'URINE'—AND USED
ANTS TO DETERMINE IF THEY WERE ATTRACTED
TO THE PERSON'S URINE.



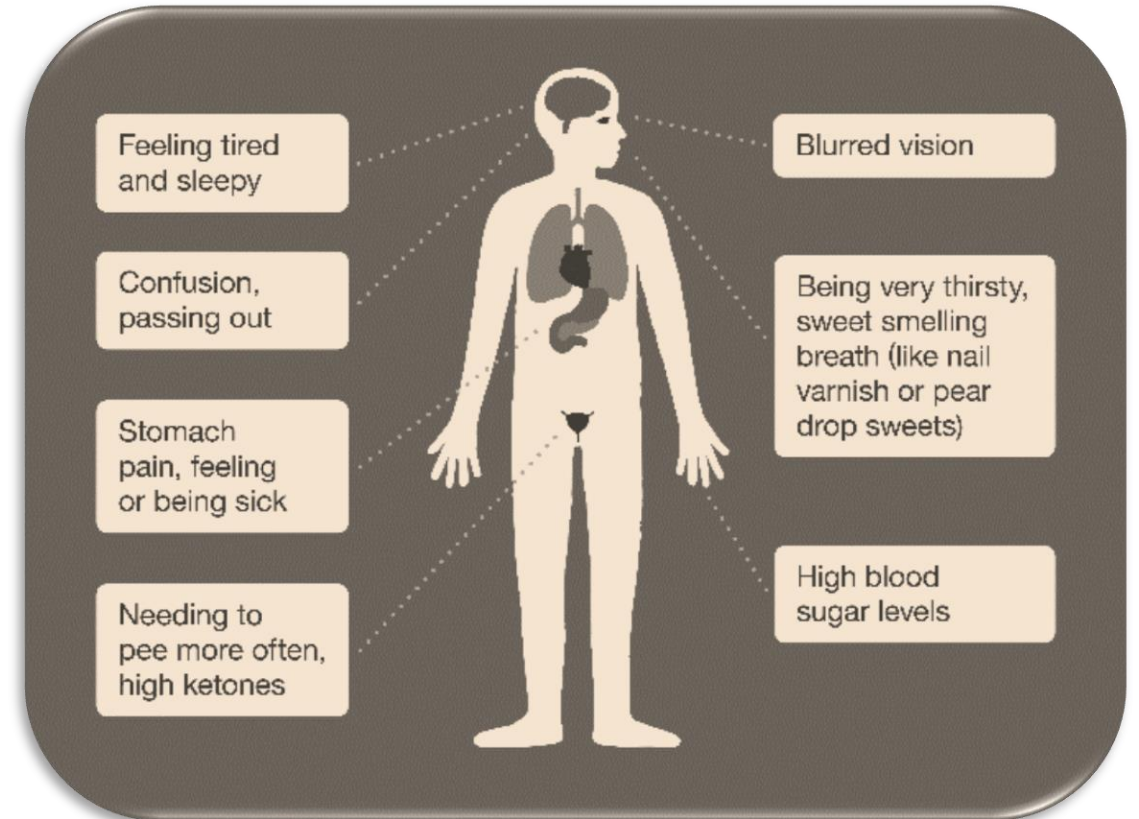
THE TERM 'DIABETE' FIRST APPEARED IN A MEDICAL TEXT WRITTEN IN 1425 AND IN 1675, THE TERM 'MELLITUS' ('HONEY') WAS ADDED TO DESCRIBE THE URINE'S SWEET TASTE.

DIABETES MELLITUS

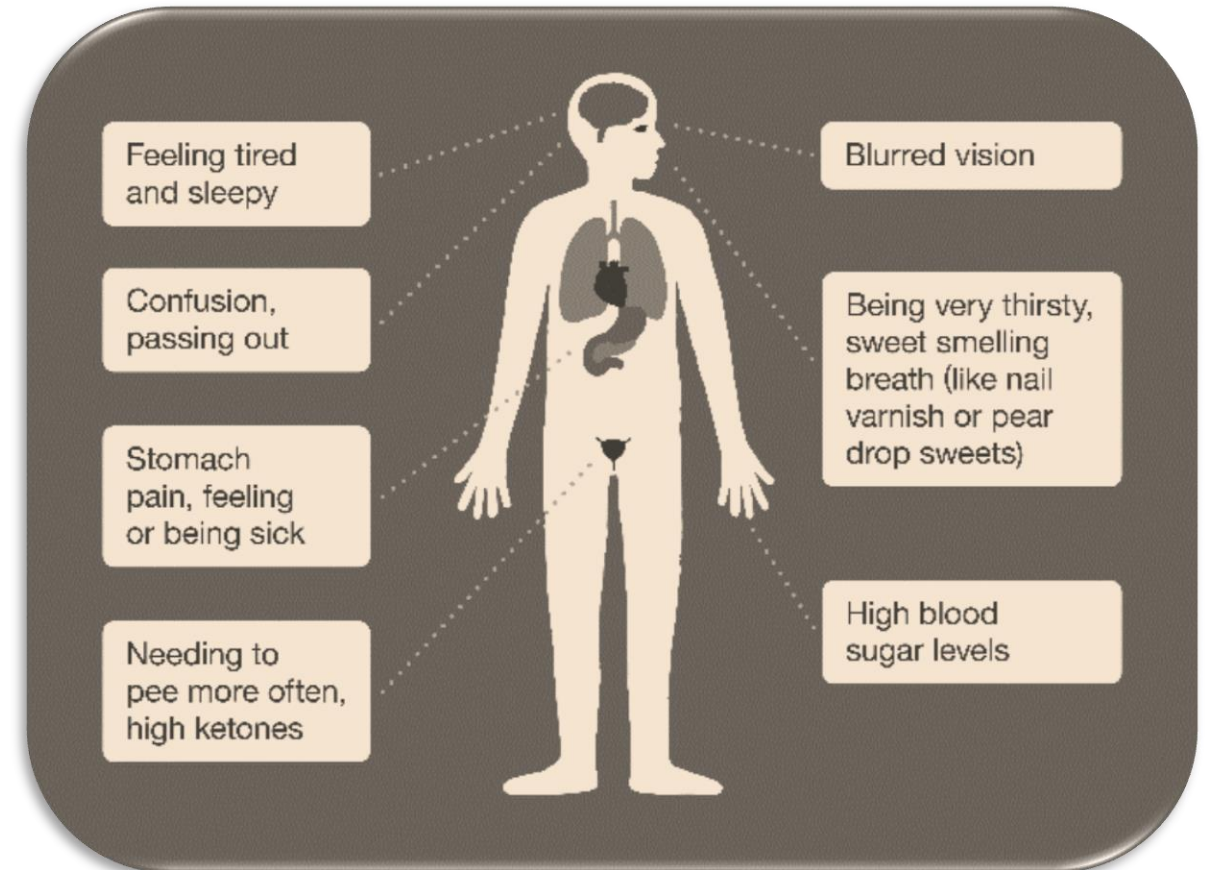


OTHER SYMPTOMS DESCRIBED AT THE TIME INCLUDED INCREASED THIRST, FREQUENT URINATION, EXTREME HUNGER, UNEXPLAINED WEIGHT LOSS, AND FATIGUE...

THE CAUSE IS NOW KNOWN TO BE RELATED TO EITHER THE INABILITY TO PRODUCE INSULIN OR TO USE IT PROPERLY, AFFECTING THE AMOUNT OF GLUCOSE IN THE BLOODSTREAM.



WHILE THE ROLE OF THE PANCREAS IN THE DISEASE WAS IDENTIFIED IN 1889, IT WAS NOT UNTIL 1910 THAT THE CAUSE OF THE ILLNESS WAS DETERMINED TO BE A LACK OF INSULIN.



DR. FREDERICK BANTING IN 1921 USED THIS KNOWLEDGE TO CREATE INSULIN USING GROUND-UP BEEF PANCREAS THAT HAD BEEN MIXED WITH ACIDIC ALCOHOL AND FILTERED UNTIL STERILE.





AFTER EXPERIMENTING ON DOGS, HE AND HIS STUDENT INJECTED THE 'THICK, BROWN MUCK' INTO A FOURTEEN-YEAR-OLD BOY WHO WAS DYING FROM DIABETES... THE BOY'S GLUCOSE LEVEL DROPPED, AND HE LIVED ANOTHER 13 YEARS UNTIL HE DIED OF PNEUMONIA.



The Health Benefits of

BEER

Beer isn't exactly the healthiest beverage of choice. However, that doesn't mean it's completely devoid of benefits. So raise a glass and cheers, to your health!

ALCOHOL

Like any alcohol, beer provides cardiovascular benefits by increasing good cholesterol and reducing the risk of heart attack by 30%. It can also help prevent blood clots, and is believed to increase insulin sensitivity which can reduce the risk of diabetes.

GRAINS

Beer is full of carbohydrates and fiber. Many grains are high in soluble fiber, which lowers cholesterol. The silicon in certain grains can help improve bone strength.

WATER

Beer that contains a high amount of water can help lower the risk of kidney stones and even bladder cancer.

YEAST

The yeast in beer offers protein, a small amount of B vitamins and potassium. It also supports your immune system and protects against some forms of cancer.

HOPS

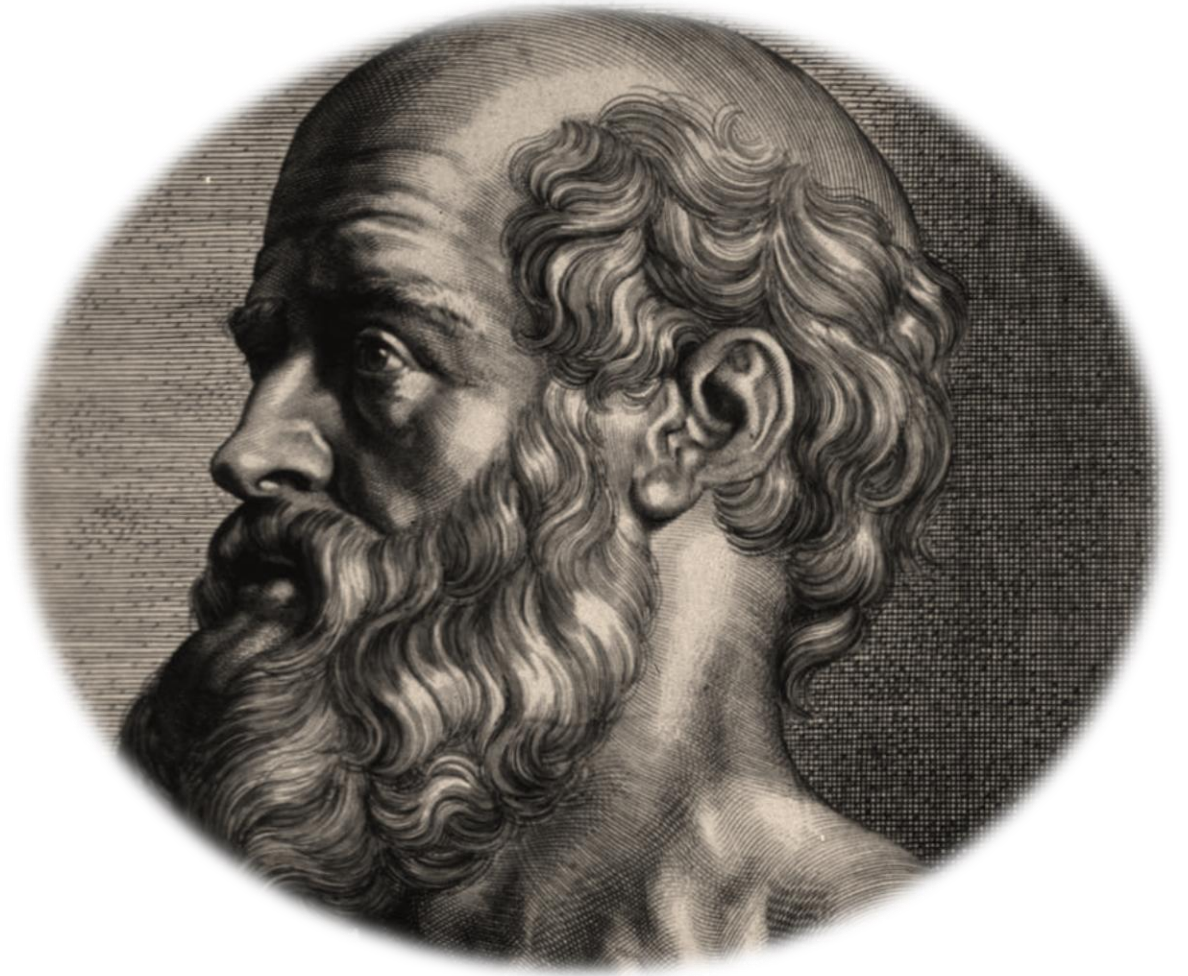
When used in enough quantity, hops offer some benefits of antioxidants.



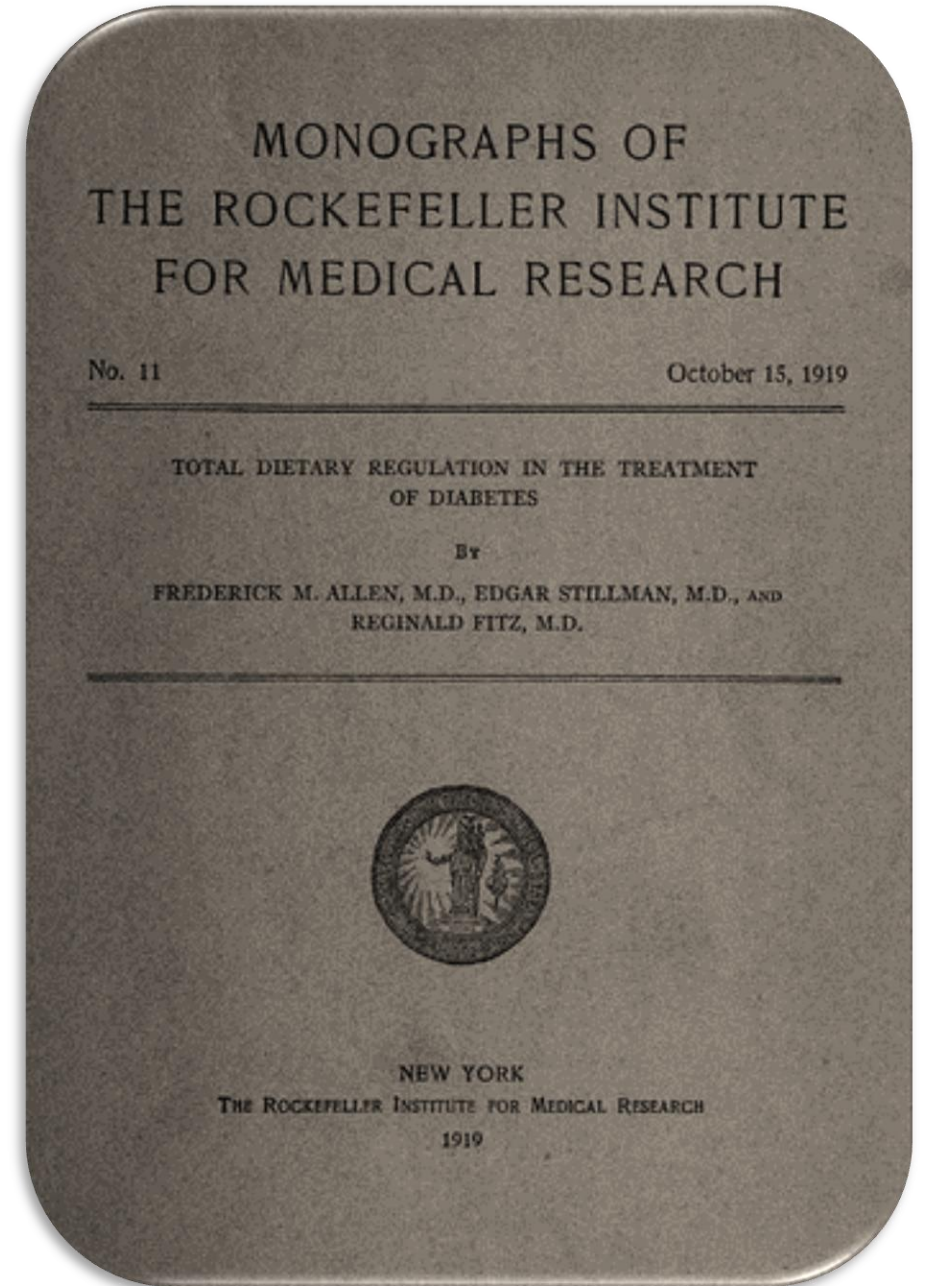
PRIOR TO THE DISCOVERY AND CREATION OF INSULIN, TREATMENTS WERE NOT ALWAYS HELPFUL (ONE, PIERRE PRIORRY SUGGESTED INGESTING LARGE QUANTITIES OF SUGAR TO REPLACE WHAT WAS BEING LOST AND ANOTHER CURE WAS THE 'BEER-SWILL').



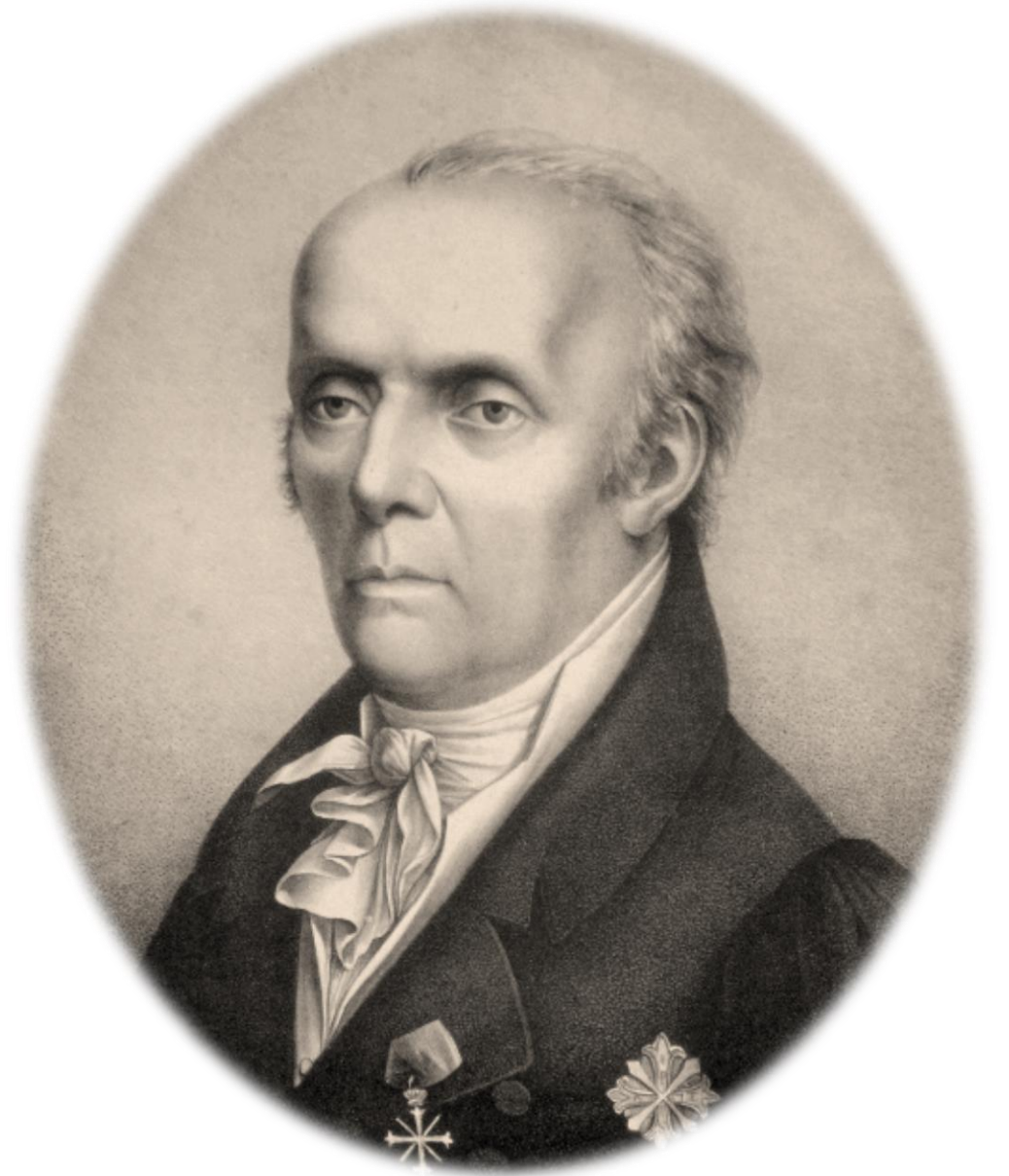
HIPPOCRATES, HOWEVER, NOTED A LOW-STARCH
DIET AND EXERCISE SEEMED TO EXTEND A
DIABETIC'S LIFE, BUT IT WAS LOST TO TIME.



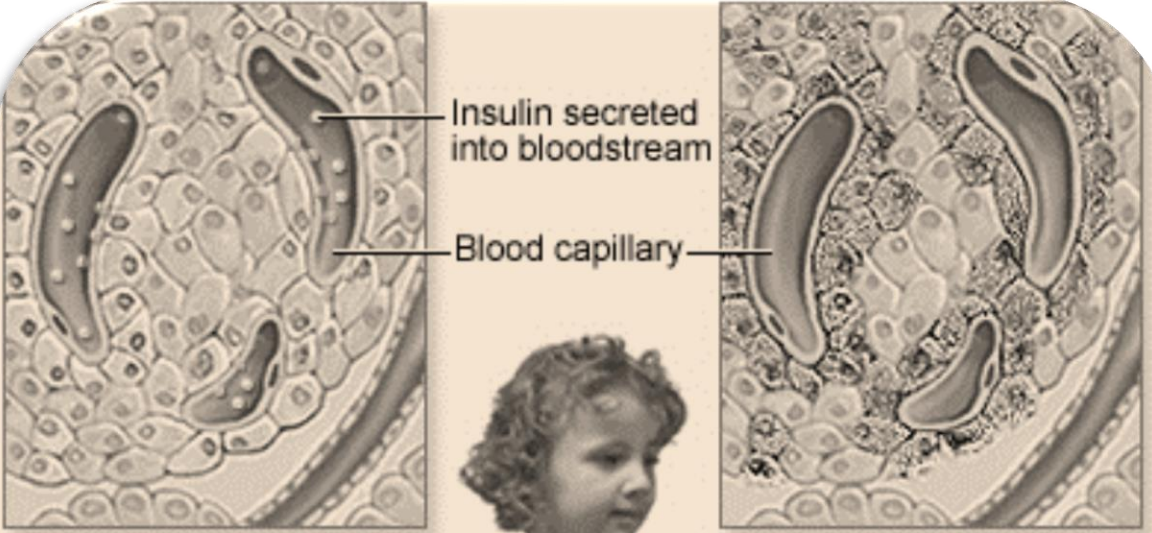
DIET WAS REINTRODUCED IN 1919 WHEN A FRENCH PHYSICIAN NOTED THAT STARVATION DIETS OCCURRING FROM MEAGER WARTIME RATIONS PRODUCED LITTLE GLUCOSE IN SOLDIERS' URINE AND SUCCESSFULLY APPLIED IT TO HIS DIABETIC PATIENTS.



**NOT ALL DIABETICS, HOWEVER, EXCRETE EXCESS
GLUCOSE IN THEIR URINE... IN 1794, JOHANN
PETER FRANK NOTED THIS PHENOMENON AND
COINED THE TERM 'DIABETES INSIPIDUS.'**



BLOOD GLUCOSE LEVELS ARE NORMAL, BUT THE KIDNEYS CANNOT BALANCE THE BODY'S FLUID LEVELS.



■ Insulin-producing cells

■ Insulin-producing cells destroyed

ADA





**IN ADDITION TO THESE TWO DISTINCT FORMS OF
DIABETES, SIR HAROLD PERCIVAL HIMSWORTH
PUBLISHED A PAPER IN 1936...**



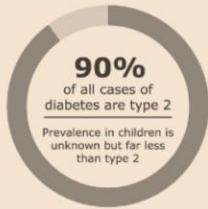
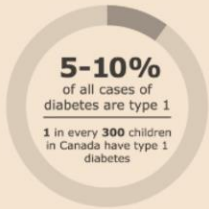
DIABETES

TYPE 1 vs TYPE 2

PREVIOUSLY KNOWN AS

- Insulin-dependent diabetes mellitus (IDDM)
- Juvenile diabetes
- Childhood diabetes
- Non-insulin dependent diabetes mellitus (NIDDM)
- Adult-onset diabetes

RATE



INSULIN PRODUCTION

None or very little
when beta cells in the pancreas cannot produce insulin well



Too little or too ineffective
when the cells do not use insulin well (insulin resistance)

AGE OF DIAGNOSIS

Usually **ages 0-40**
Mostly young children or teens



Usually **ages 40+**
Mostly adults but increasingly occurring in children and teens who are overweight and obese



TREATMENT

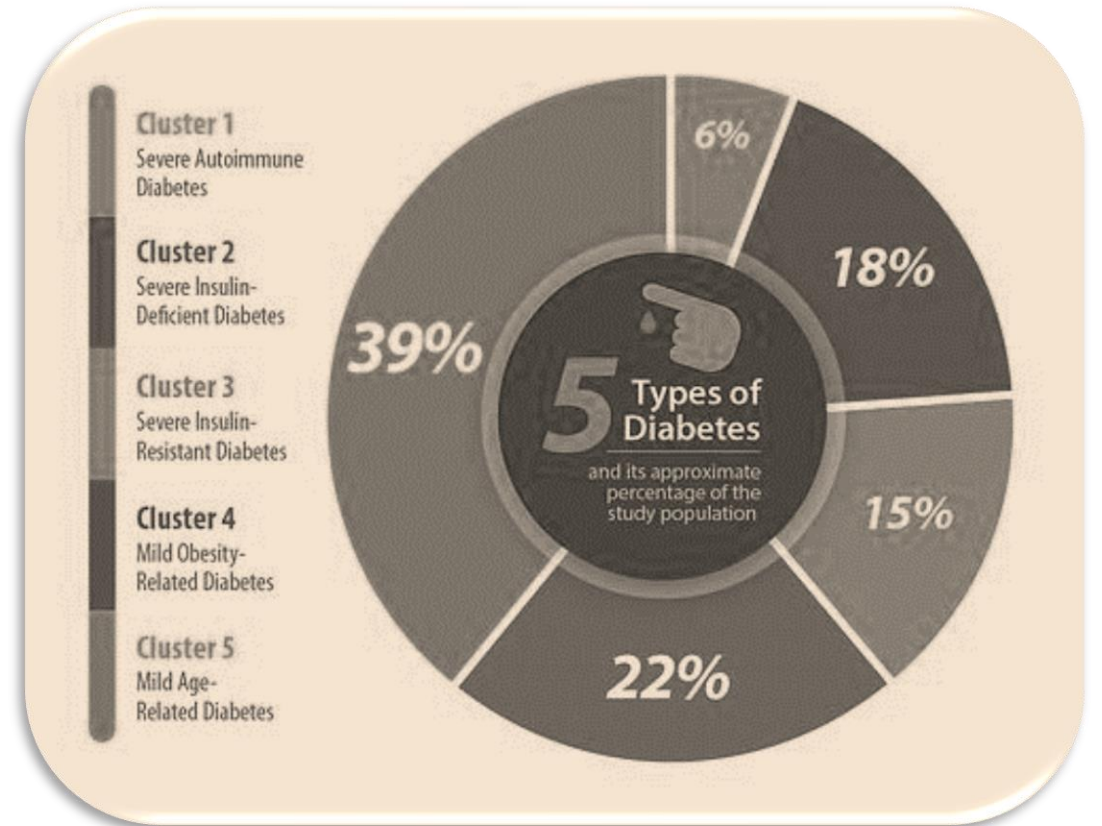
- | | | | |
|--|----------------------------------|--|---|
| | Healthy eating and meal planning | | Healthy eating and meal planning for healthier weight and decreasing insulin resistance |
| | Increased physical activity | | Increased physical activity |
| | Blood sugar checks | | Blood sugar checks |
| | Insulin injections | | Insulin injections may be needed |
| | | | Oral medication may be needed |

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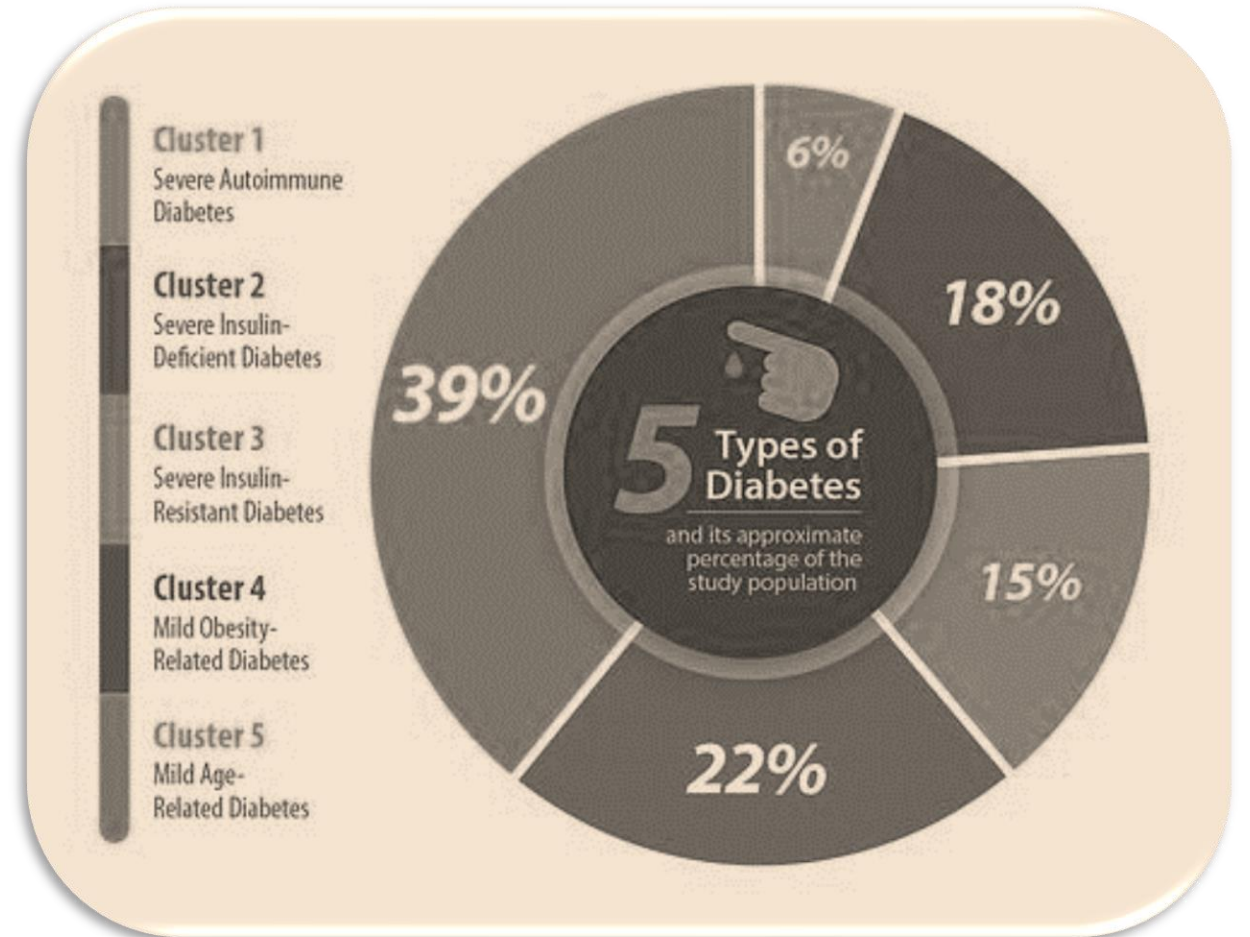
...IDENTIFYING TWO ADDITIONAL VARIETIES OF DIABETES: TYPE 1 (ALSO CALLED 'JUVENILE DIABETES,' WHICH INVOLVES NO INSULIN PRODUCTION) AND TYPE 2 (INSULIN RESISTANT).



MOST RECENTLY, A GROUP OF RESEARCHERS HAVE IDENTIFIED 5 TYPES OF TYPE 2: SEVERE AUTOIMMUNE DIABETES (OVERLAPS WITH TYPE 1 WHERE NO INSULIN IS PRODUCED)... SEVERE INSULIN-DEFICIENT DIABETES, WHICH IS SIMILAR TO THE FIRST, BUT LACKS ANTIBODIES PRESENT IN THE FIRST...



SEVERE INSULIN-RESISTANT DIABETES, WHERE THE BODY DOES NOT RESPOND TO THE INSULIN AS NEEDED; MILD OBESITY-RELATED DIABETES, WHICH INVOLVES OBESITY BUT NOT INSULIN RESISTANCE AND MILD AGE-RELATED DIABETES, WHICH IS SIMILAR TO THE FOURTH, BUT FOUND IN OLDER PATIENTS.



of people living with
TYPE 2 DIABETES

54%

have never seen a
dietitian

64%

have never seen an
endocrinologist

63%

have never seen a
certified diabetes
educator



healthline

THE GOAL OF THIS MORE DETAILED CLASSIFICATION IS TO PROVIDE ADDITIONAL INFORMATION RELATED TO POSSIBLE COMPLICATIONS AS WELL AS THE UNDERLYING MECHANISMS CREATING OR AFFECTING THE DISEASE.





WHILE THE MEDICAL COMMUNITY WAS FAMILIAR WITH JOHN TURNER'S DIAGNOSIS, IT WOULD BE ANOTHER THIRTY YEARS BEFORE AN EFFECTIVE TREATMENT WOULD BE DEVELOPED.



THESE ADVANCES, HOWEVER, BEGAN MORE THAN 3,000 YEARS AGO WITH A NOTICE OF SOME ANTS' PECULIAR ATTRACTION.



SO, WE HAVE COMPLETED TOPIC # 073 IN OUR SERIES...

IN TOPIC # 074, WE WILL BE LOOKING AT POCKET WATCHES DURING THE VICTORIAN PERIOD.



REFERENCES FOR THIS TOPIC:

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- [HTTPS://QZ.COM/1220918/THERE-MAY-BE-FIVE-TYPES-OF-DIABETES-ACCORDING-TO-A-NEW-LANCET-STUDY/](https://qz.com/1220918/there-may-be-five-types-of-diabetes-according-to-a-new- Lancet-study/)
- [HTTPS://WWW.RESEARCHGATE.NET/PUBLICATION/323563499_NOVEL_SUBGROUPS_OF_ADULT-ONSET_DIABETES_AND_THEIR_ASSOCIATION_WITH_OUTCOMES_A_DATA-DRIVEN_CLUSTER_ANALYSIS_OF_SIX_VARIABLES](https://www.researchgate.net/publication/323563499_novel_subgroups_of_adult-onset_diabetes_and_their_association_with_outcomes_a_data-driven_cluster_analysis_of_six_variables)



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"THE LIFE AND TIMES IN VICTORIAN LONDON"

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