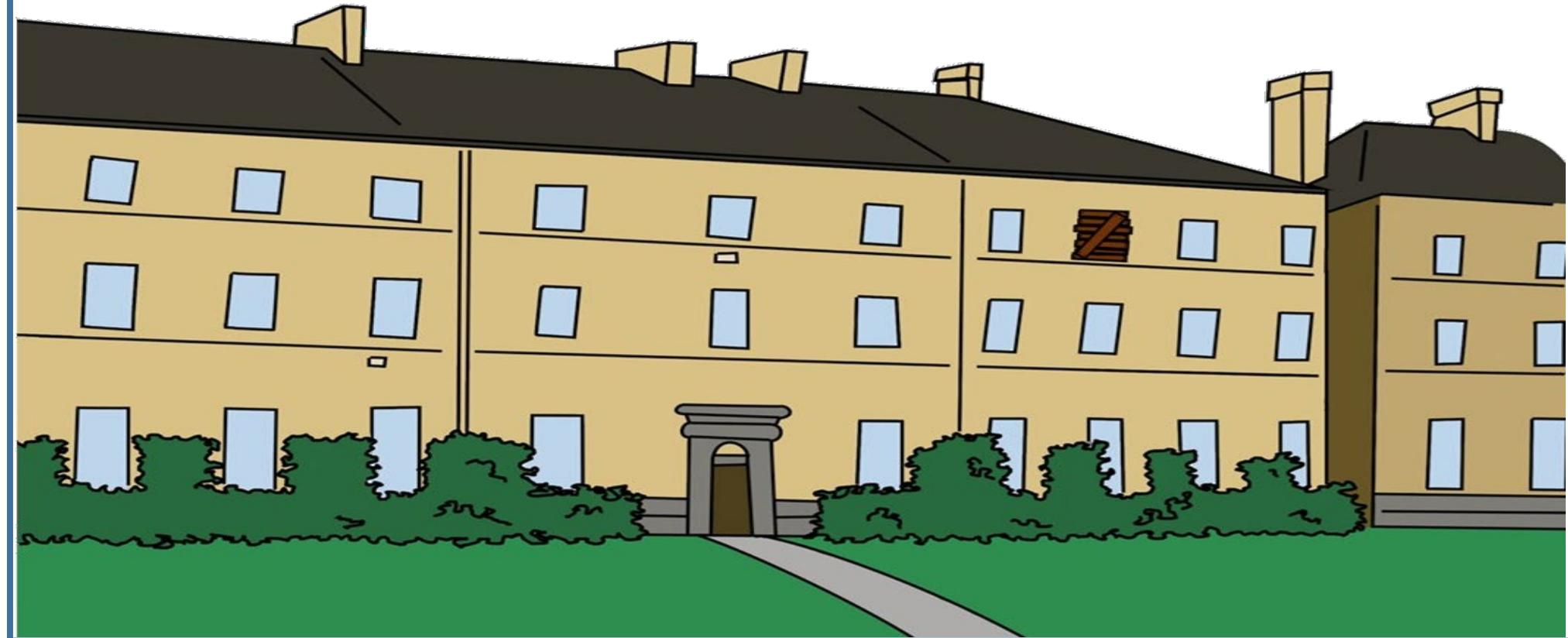


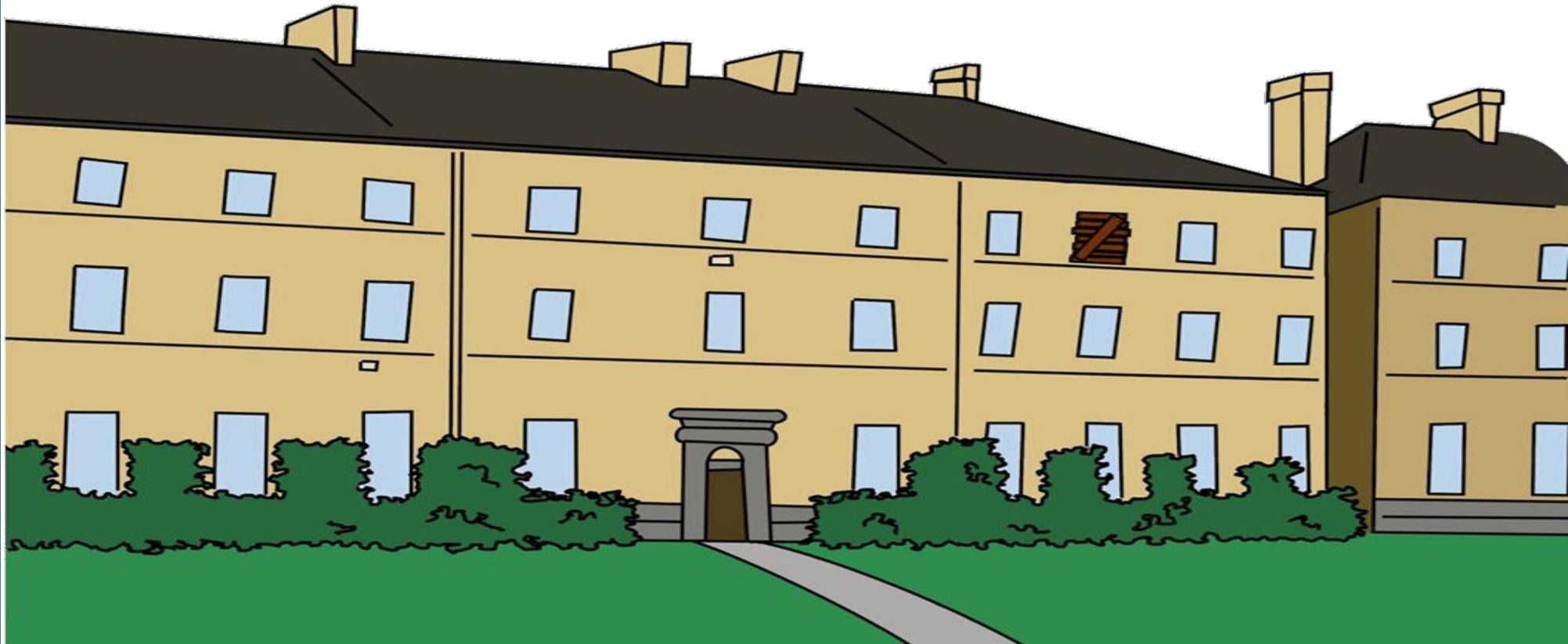
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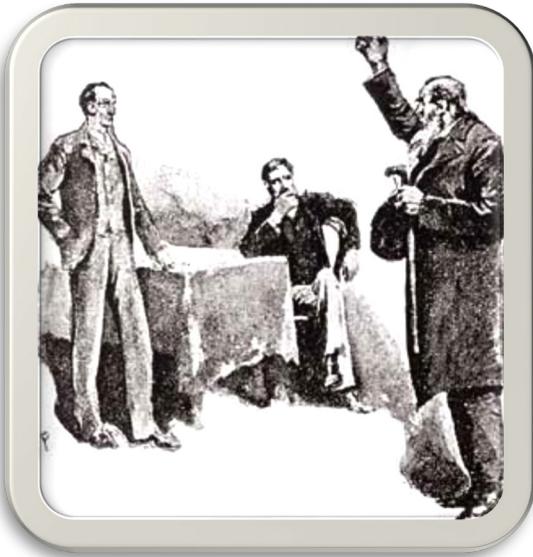
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The Life and Times in Victorian London
112 -- A Case of Sugar Sickness -- Diabetes - 09/10/2020

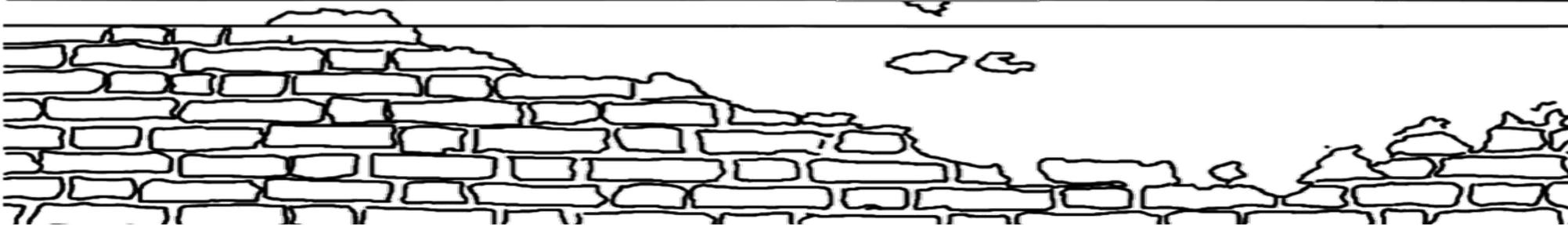


Welcome to topic number 112... today we will be looking at the disease "diabetes" during the Victorian period.



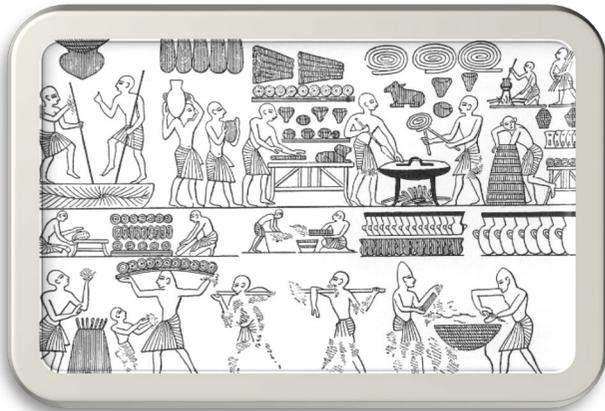


In the "Boscombe Valley Mystery," John Turner will share with Sherlock Holmes that he had diabetes for "years" and had probably a month to live.



While diabetes has been recognized for more than 3,000 years, it will be the 20th century effective treatments will be developed. Prior to the 1920s, "sugar sickness" is a fatal disease, as in John Turners' prognosis.



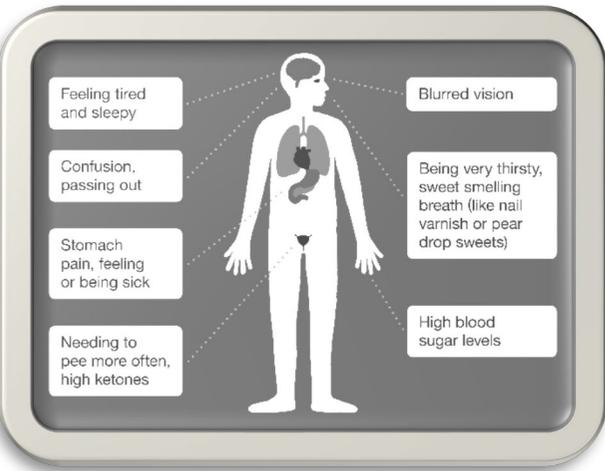


Descriptions of the disease appear as early as 1552 BCE when an Egyptian physician described frequent urination as a symptom of some types of emaciation.



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.





Other symptoms described at the time included increased thirst, frequent urination, extreme hunger, unexplained weight loss, and fatigue.



The cause will be determined 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 will be identified in 1889, it will not be until 1910 the cause of the illness will be determined to be a lack of insulin.



Dr. Frederick Banting in 1921 will use this knowledge to create insulin using ground-up beef pancreas mixed with acidic alcohol and filtered until sterile.



After experimenting on dogs, he and his student will inject the "thick, brown muck" into a fourteen-year-old boy dying from diabetes. The boy's glucose level will drop, and he will live another 13 years until dying of pneumonia.

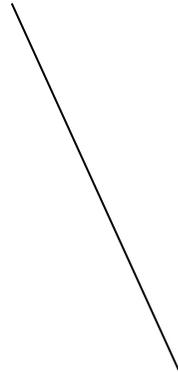
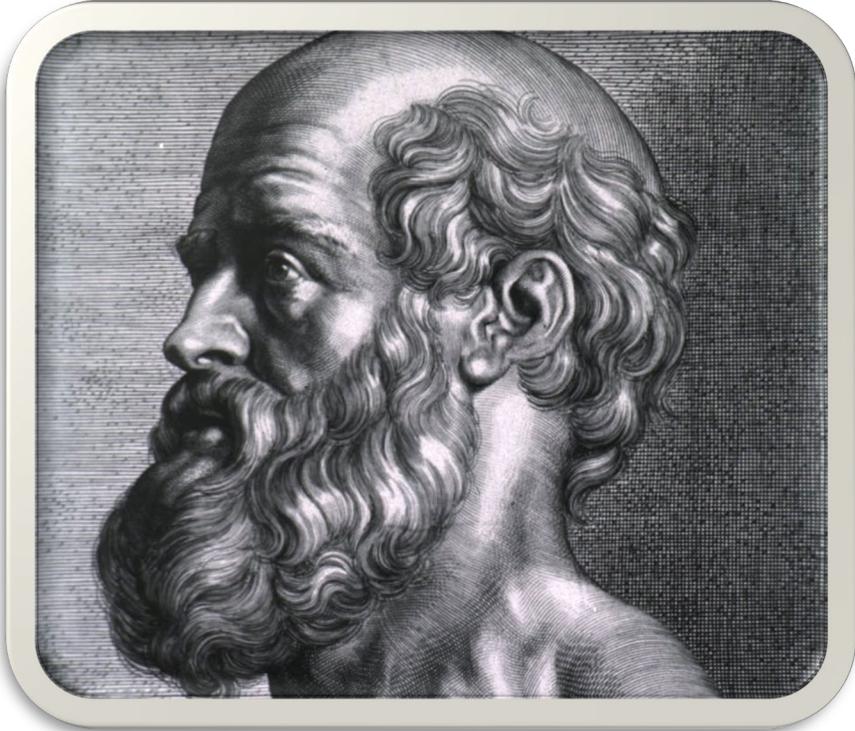


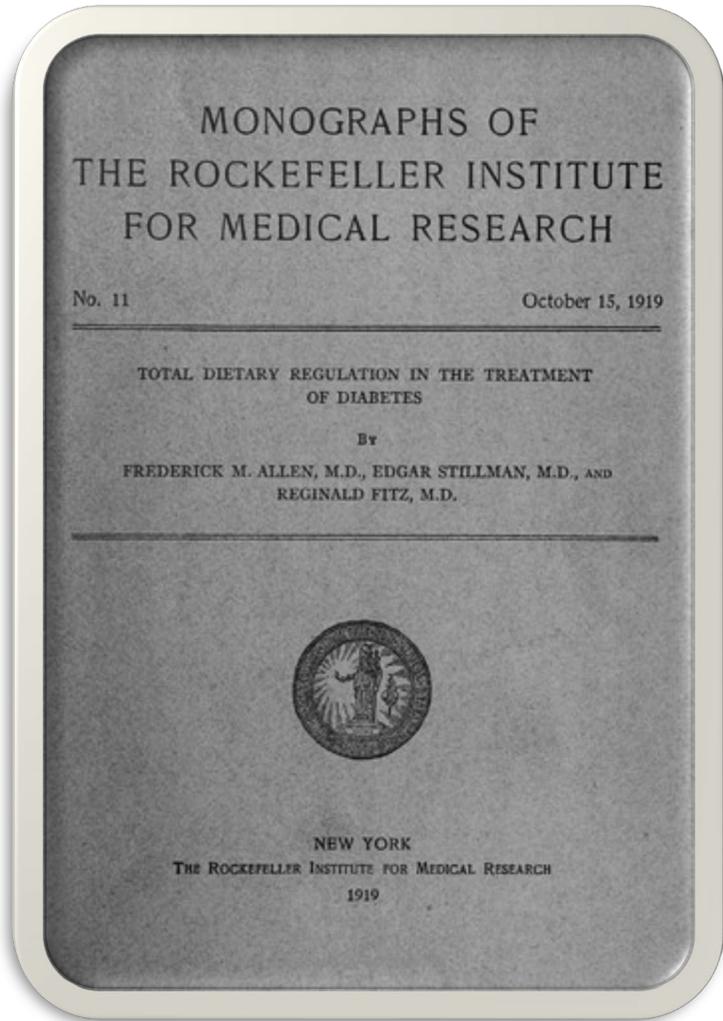


Prior to the discovery and creation of insulin, treatments are not always helpful (one, Pierre Priorry, suggested ingesting large quantities of sugar to replace what was being lost and another cure was the "Beer-Swill").



Hippocrates, however, noted a low-starch diet and exercise seemed to extend a diabetic's life, but it was lost to time.

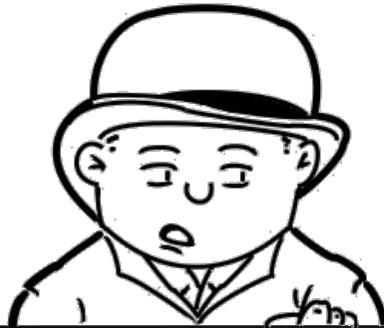
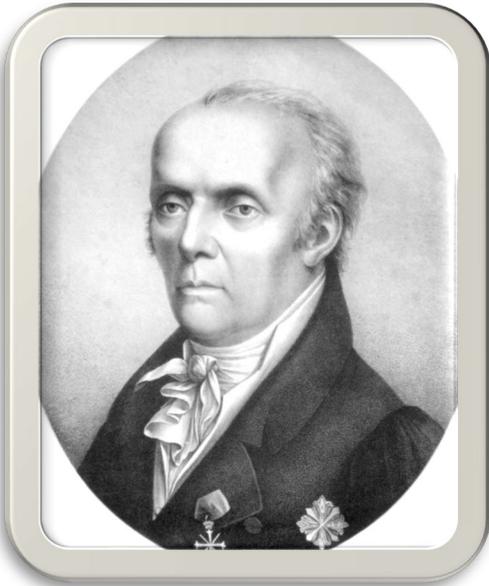




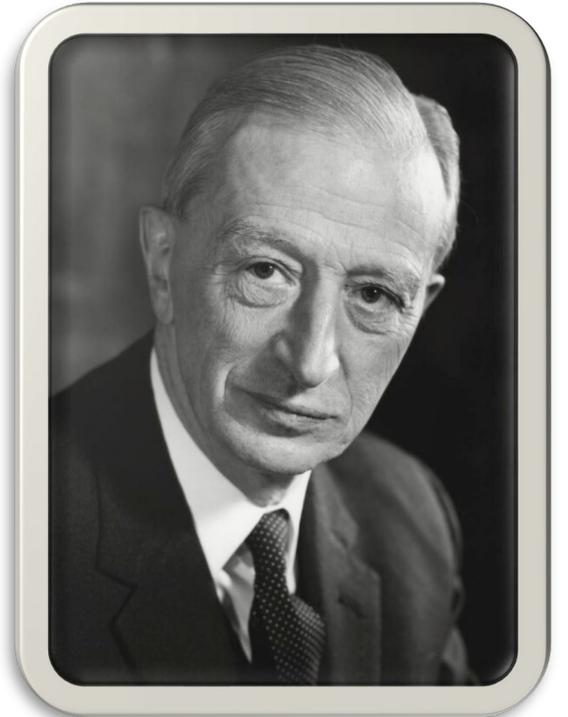
Diet will be reintroduced in 1919 when a French physician will note starvation diets occurring from meager wartime rations will produce little glucose in soldiers' urine and successfully applied it to his diabetic patients.



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. In addition to these two distinct forms of diabetes, Sir Harold Percival Himsworth will publish a paper in 1936 identifying two additional varieties of diabetes...



Type 1 (also called "juvenile diabetes," which involves no insulin production) and Type 2 (insulin resistant).



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

5-10% of all cases of diabetes are type 1
1 in every 300 children in Canada have type 1 diabetes

90% of all cases of diabetes are type 2
Prevalence in children is unknown but far less than type 2

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

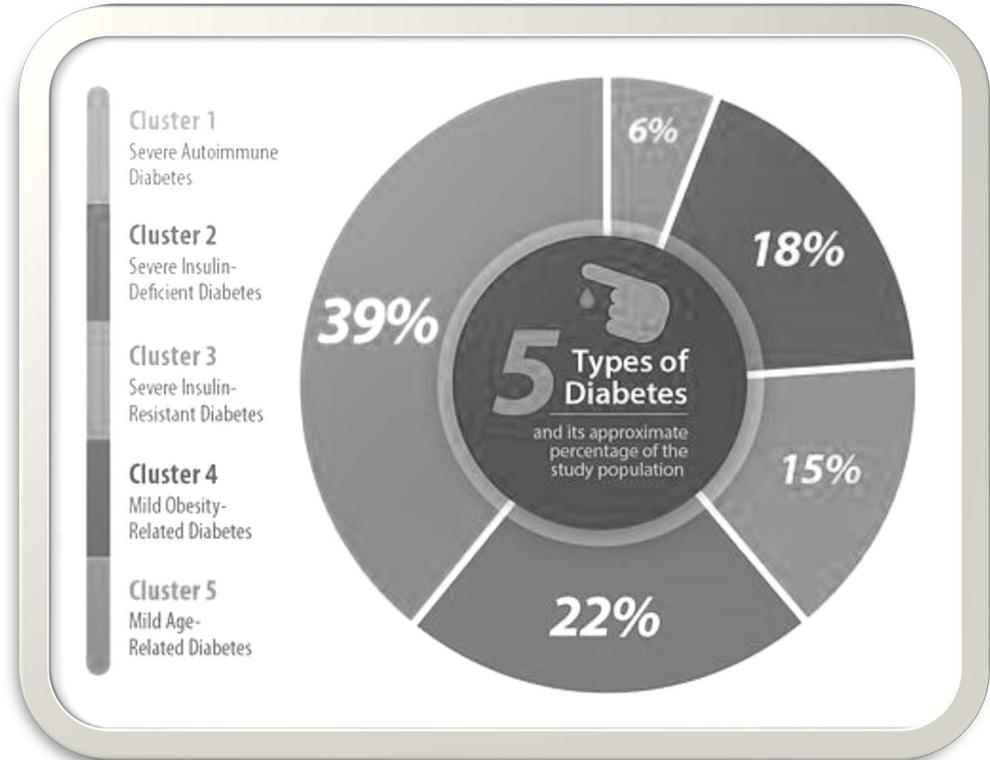
Usually **ages 0-40**
Mostly young children or teens

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

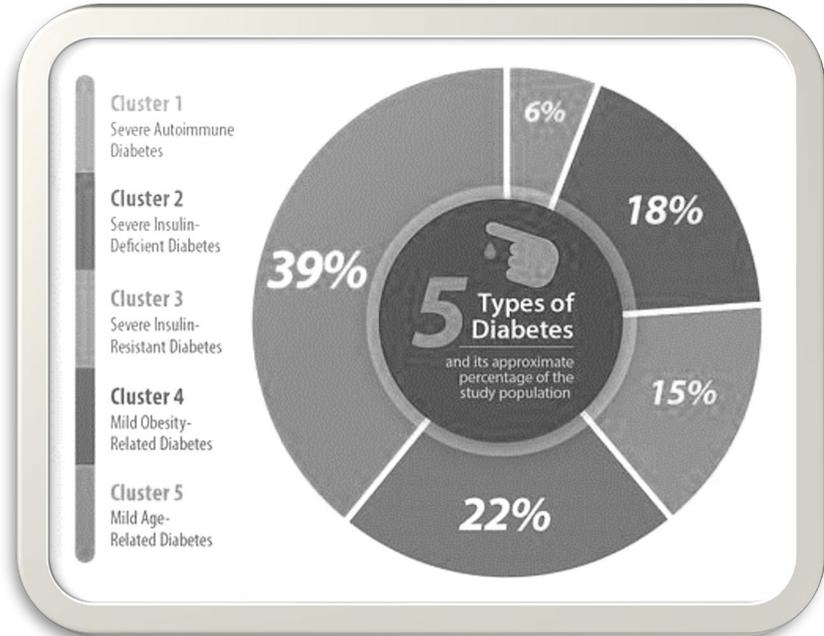
TREATMENT

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

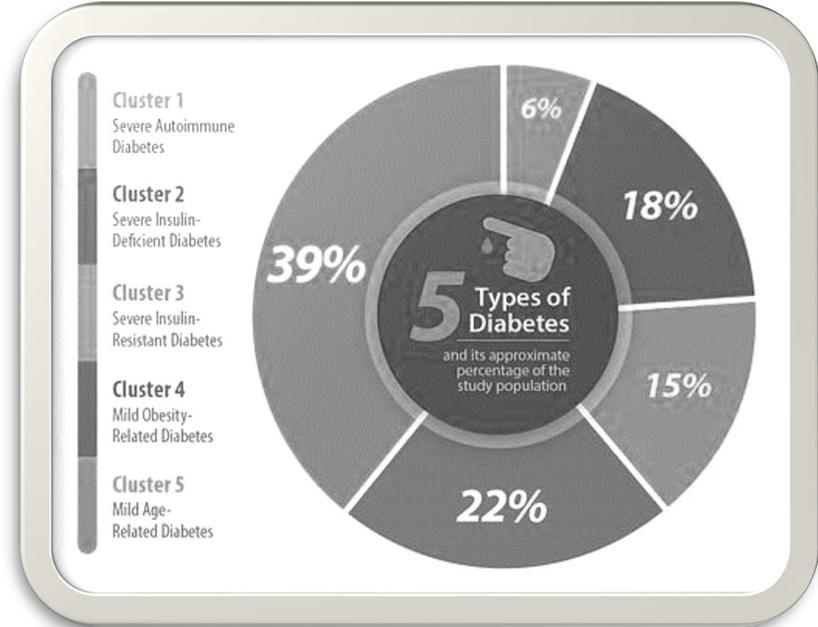
Most recently, a group of researchers will identify five types of Type 2: Severe Autoimmune Diabetes (overlaps with Type 1 where no insulin is produced);...



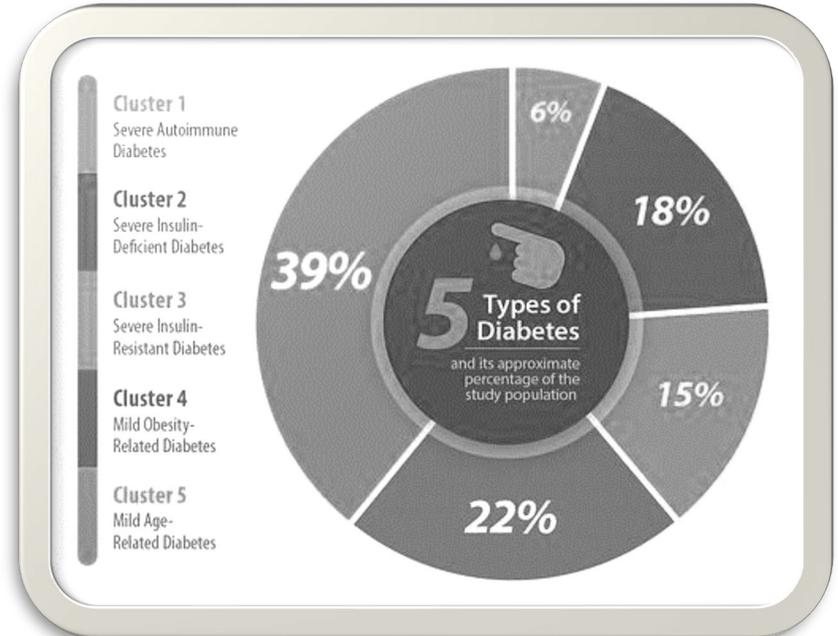
Severe Insulin-Deficient Diabetes, which is similar to the first, but lacks antibodies present in the first; Severe Insulin-Resistant Diabetes, where the body does not respond to the insulin as needed;...



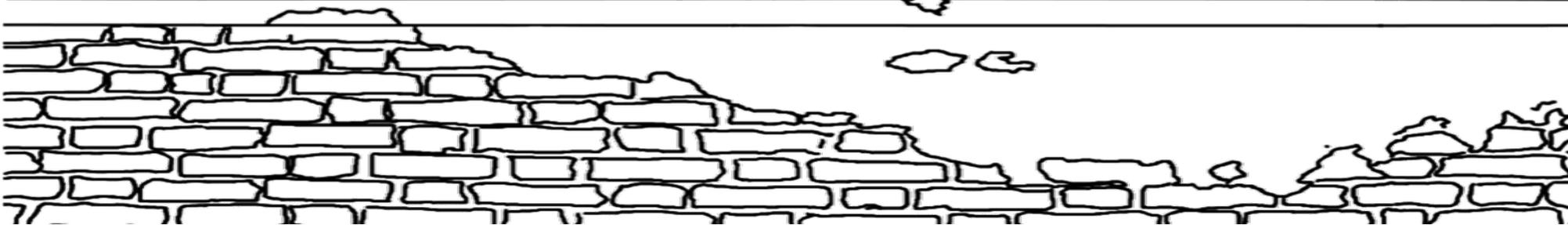
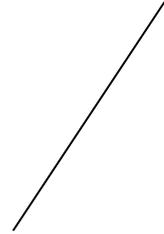
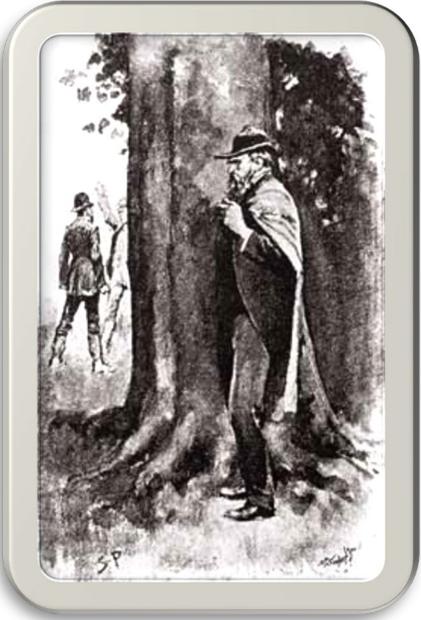
Mild Obesity-Related Diabetes, which involves obesity but not insulin resistance; and Mild Age-Related Diabetes, which is similar to the fourth, but found in older patients.



The goal of this more detailed classification will be 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 will be another thirty years before an effective treatment will 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 112 in our series...*

*Yes, but we'll be
back with another
topic soon...*



References for this topic:

- 1) <https://www.news-medical.net/health/History-of-Diabetes.aspx>
- 2) <https://www.mayoclinic.org/diseases-conditions/diabetes/symptoms-causes/syc-20371444>
- 3) <https://www.news-medical.net/health/History-of-Diabetes.aspx>
- 4) <https://spectrum.diabetesjournals.org/content/27/2/82>
- 5) <https://www.news-medical.net/health/History-of-Diabetes.aspx>
- 6) <https://beyondtype1.org/historical-diabetes-remedies/>
- 7) <https://www.niddk.nih.gov/health-information/kidney-disease/diabetes-insipidus>
- 8) <https://www.news-medical.net/health/History-of-Diabetes.aspx>
- 9) <https://qz.com/1220918/there-may-be-five-types-of-diabetes-according-to-a-new-lancet-study/>
- 10) 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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RUSTY MASON

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STEVE MASON

