

A History of Diabetes Mellitus

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Chamber of Commerce

“Measuring the Impact of Diabetes on Business”

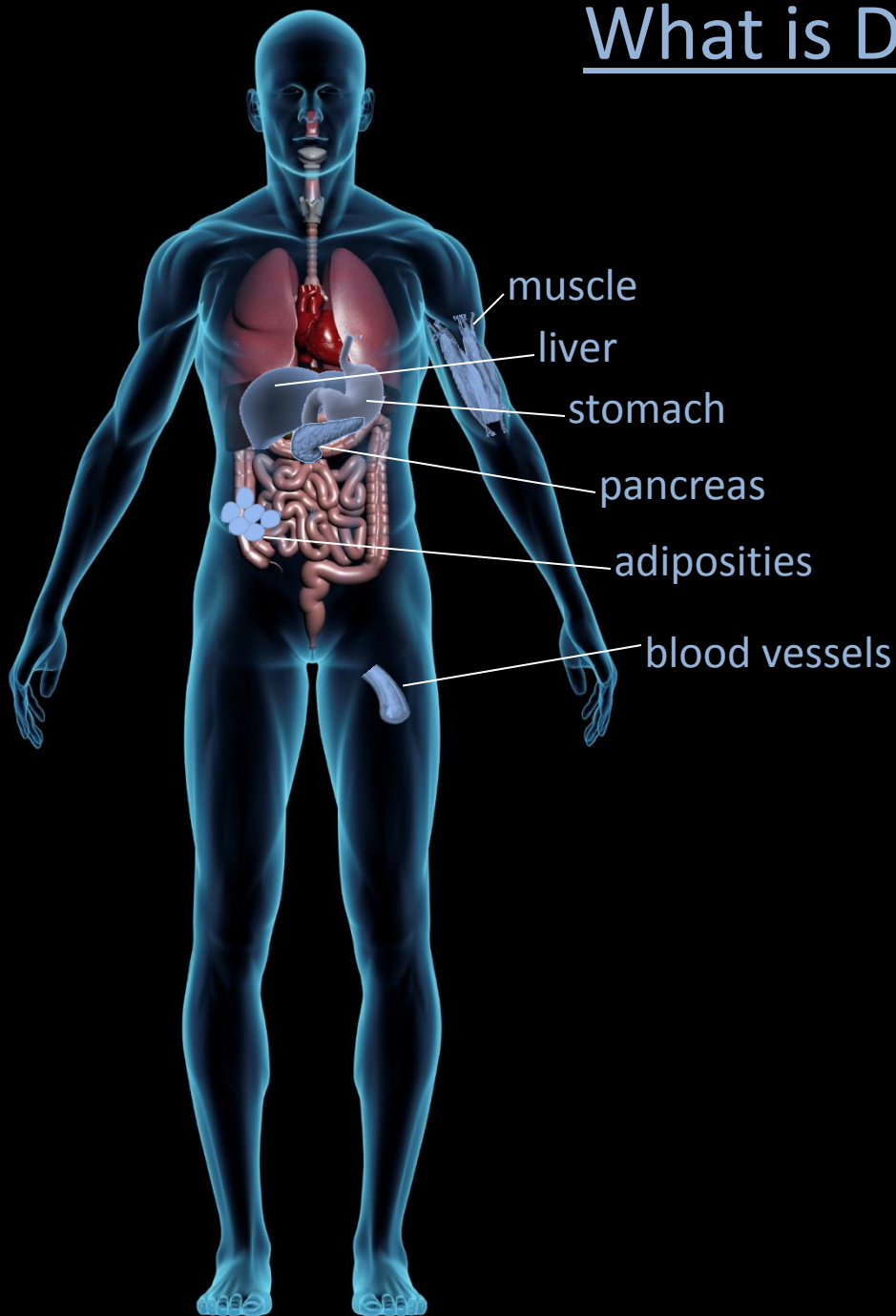
Friday 17th April, 2015.



UWI



What is Diabetes Mellitus ?



‘A group of diseases which affect how the body uses glucose (blood sugar)’

Major types of diabetes mellitus

Type 1 DM

- Juvenile onset /IDDM
- 5-10 %

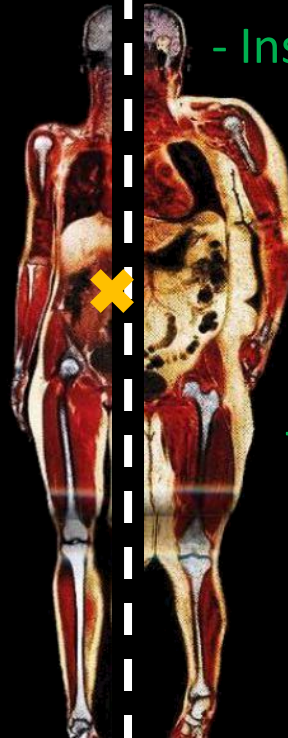
- Autoimmune destruction of β -cells
- No insulin produced
- Abrupt –Early in life
- Symptomatic

- Exogenous Insulin
- Self management

Type 2 DM

- Adult onset /NIDDM
- 90-95 %

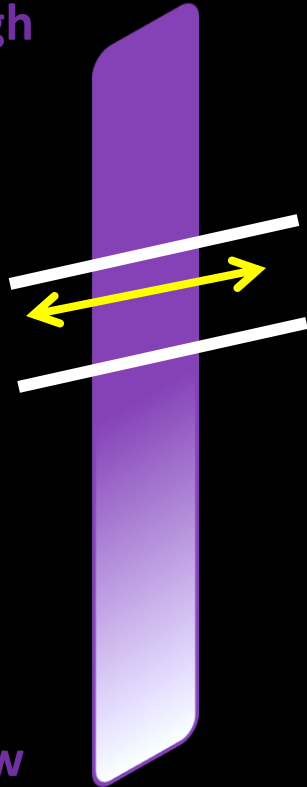
- Impaired glucose tolerance (IGT)
- Insulin insensitivity / resistance
- Risk Factors - Obesity
 - Poor diet
 - Sedentary
 - Smoking
 - Coloured
- Asymptomatic until complications
- Lifestyle modification
- Oral agents
- Insulin
- Self management



Normal Regulation of Blood Glucose

With diabetes

High

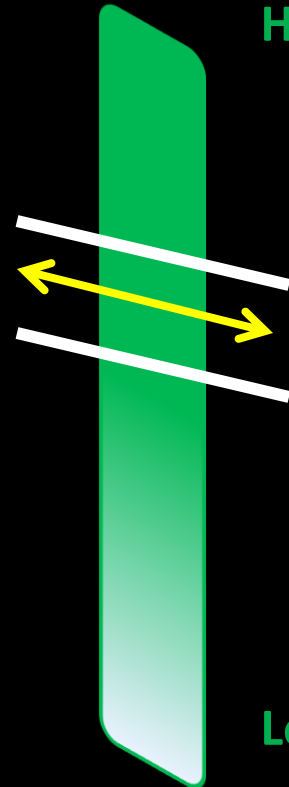


Low

Glucose



High



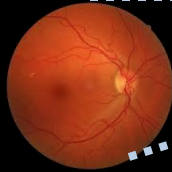
Low

Insulin

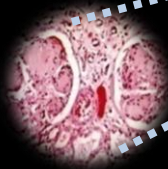
The *whole* body is affected by diabetes !!!

Micro-vascular

Eye:
Retinopathy



Kidney:
Nephropathy



Sexual
Impotence

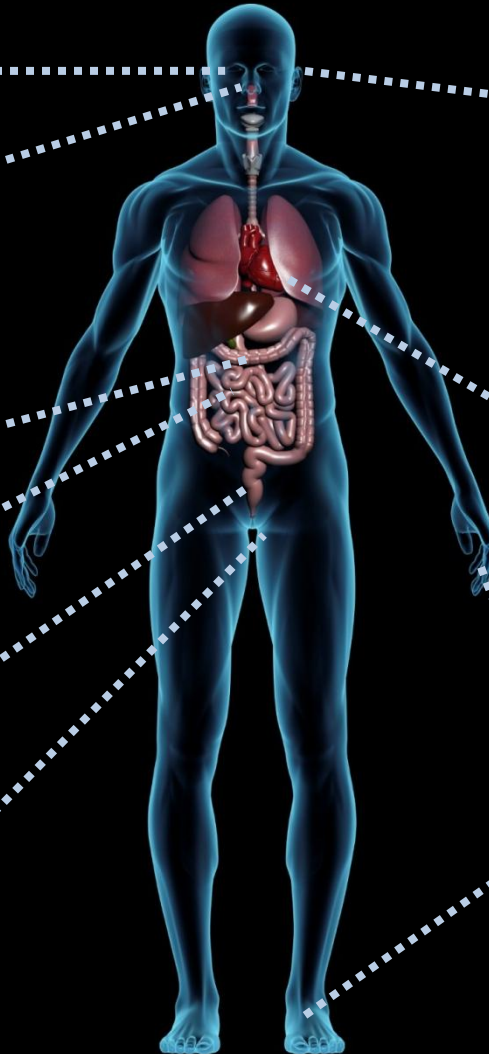


Macro-vascular

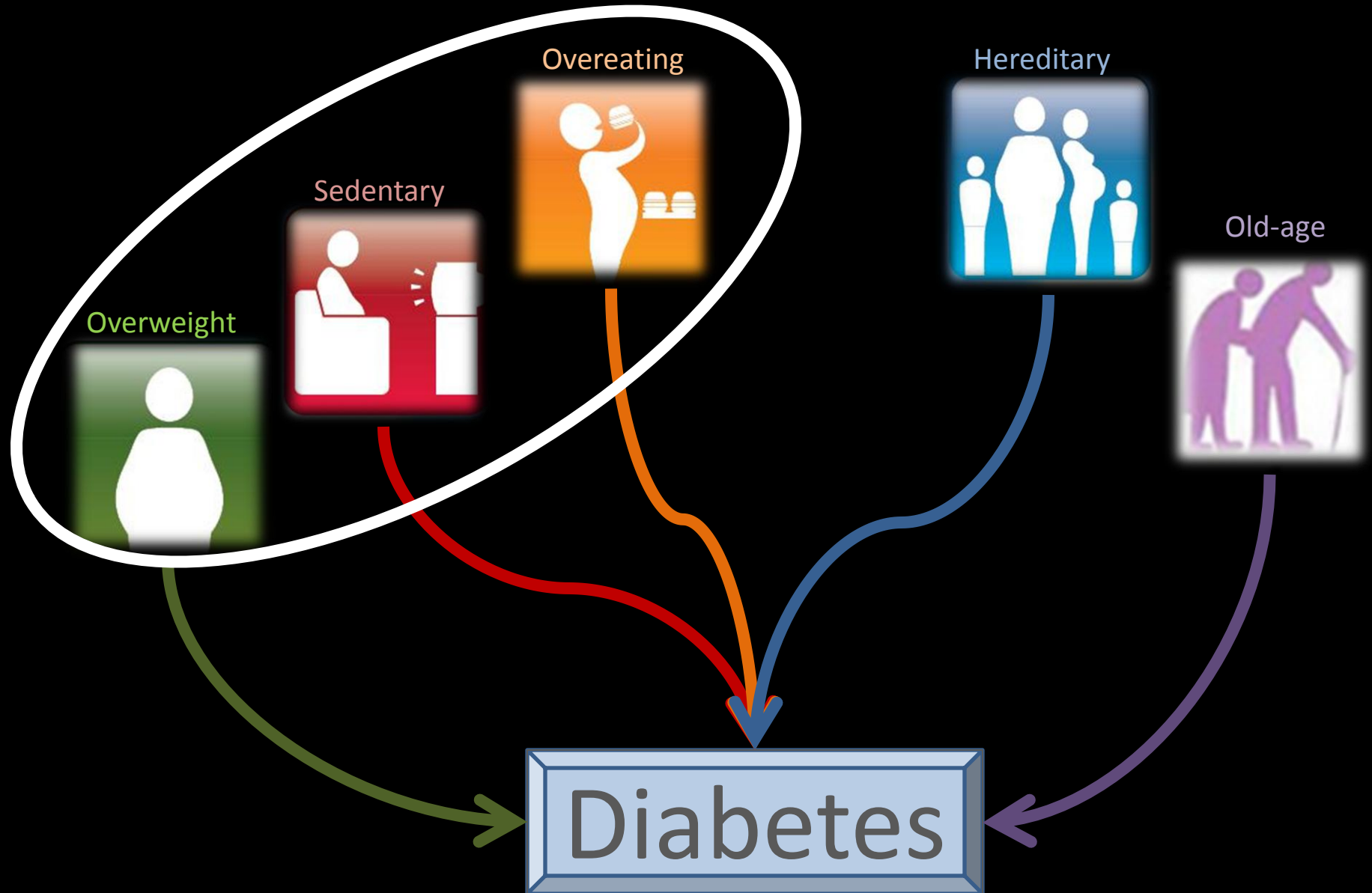
Brain:
Stroke, Cancer,
Dementia

Cardiovascular System:
Coronary artery disease

Periphery:
Peripheral Neuropathy,
Slow healing,
Amputations

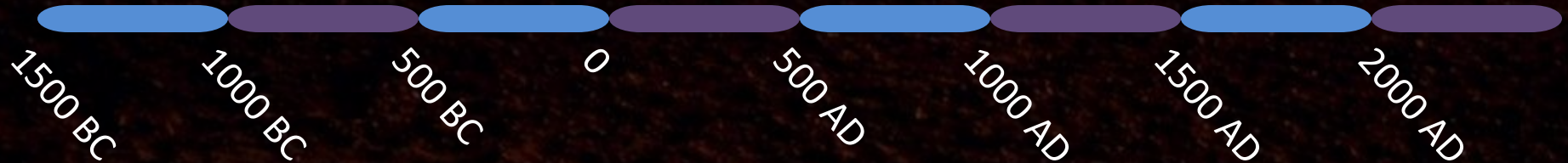


Risk factors of Type 2 DM



Once upon a time, a long time ago...

With 3500 years of diabetes history,
only the last 100 years saw an
explosion of
diabetes knowledge and treatment



1500 BC - Egypt

First written
reference to
diabetes by ancient
Egyptian physicians



1500 BC

1000 BC

500 BC

0

500 AD

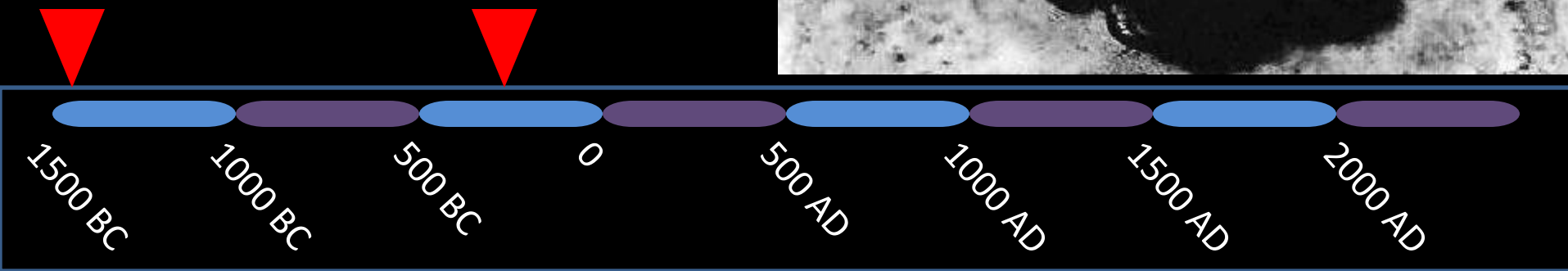
1000 AD

1500 AD

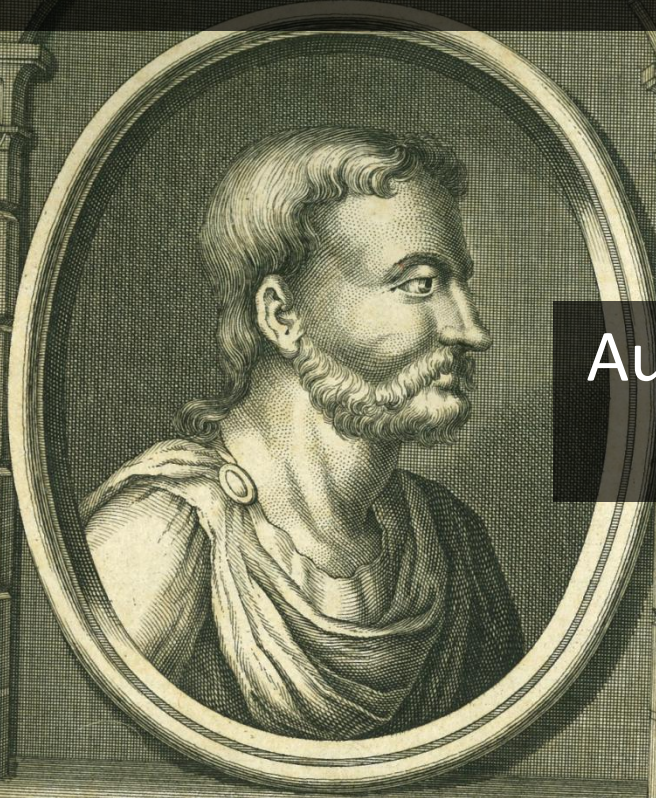
2000 AD

230 BC - Greece

Apollonius of Memphis - The name diabetes (from Greek “to pass through”) given to the disease



100 AD - Roman



A. CORN. CELSVS.
EX ICONIBUS A SAM. UCO EDITIS

Aulus Cornelius Celsus - First clinical description of diabetes

AUR. CORN.
C E L S I
DE
M E D I C I N A
LIBRI OCTO

Cum Notis integris

JOHANNIS CILICII, ROBERTI CONSTANTINI,
JOSEPHI SCALIGERI, ISAACI CASAUBONI,
et ALIORUM NOTAE

Ac locis Parallelis.

Cura & Studio

TH. J. AB ALMELOVEEN,

M. D. & PROFESSORIS.

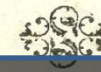
*Accedunt J. RHODII vita C. CELSI, Variae Lectiones
ex tribus antiquis editionibus, itemque Loci aliquot*

HIPPOCRATIS ET CELSI

A B

HENRICO STEPHANO

παράλληλως concinnati.



ROTTERODAMI,

Apud J. H. DANIELM BEAUN.

M D C L

1500 BC

1000 BC

500 BC

0

500 AD

1000 AD

1500 AD

2000 AD

500 AD - India

Susruta and Charaka

- First distinction between type 1 and type 2 diabetes mellitus
- People with DM has sugary urine

1500 BC

1000 BC

500 BC

0

500 AD

1000 AD

1500 AD

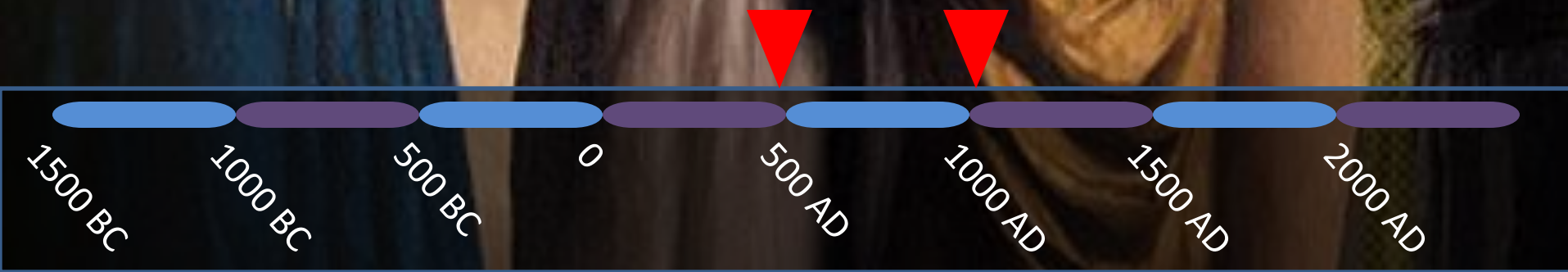
2000 AD

1000 AD - Portugal

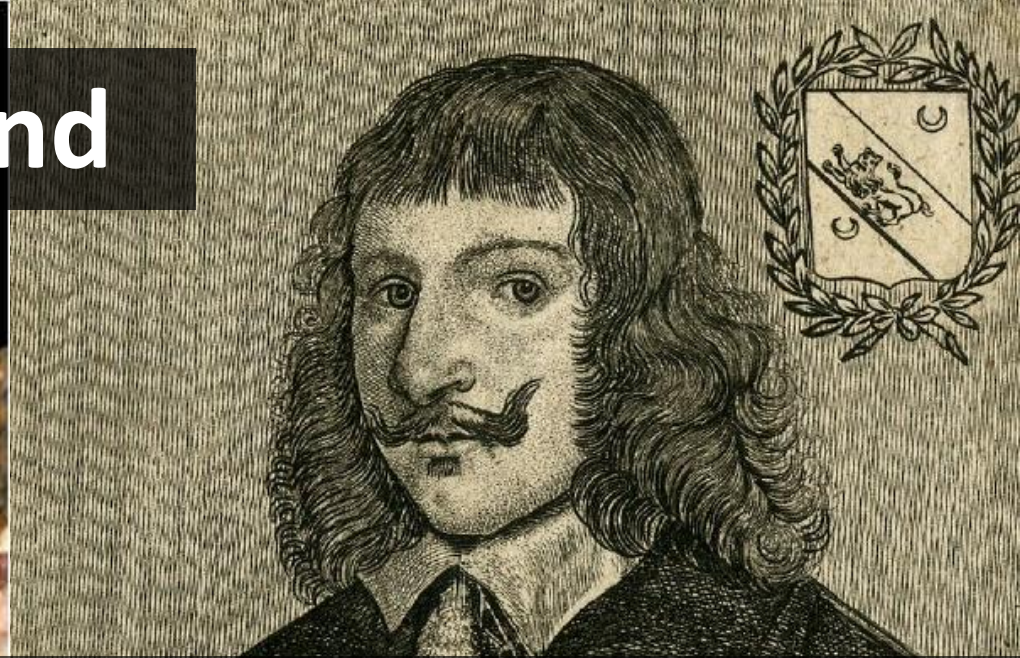
Avicenna-

Arab doctor, describes sugar in urine.

- Notes gangrene and impotence complications



1696 AD - England



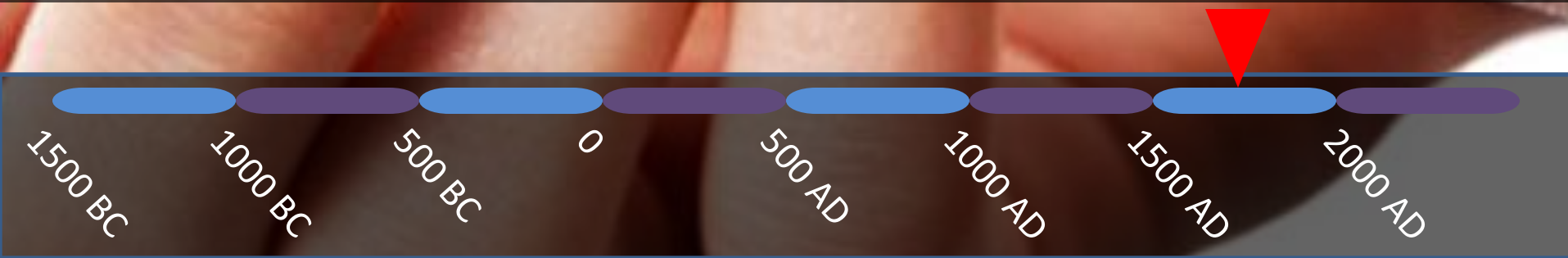
Nicholas Culpeper -
Recommends powered mouse (with Fleas) as treatment for
diabetes

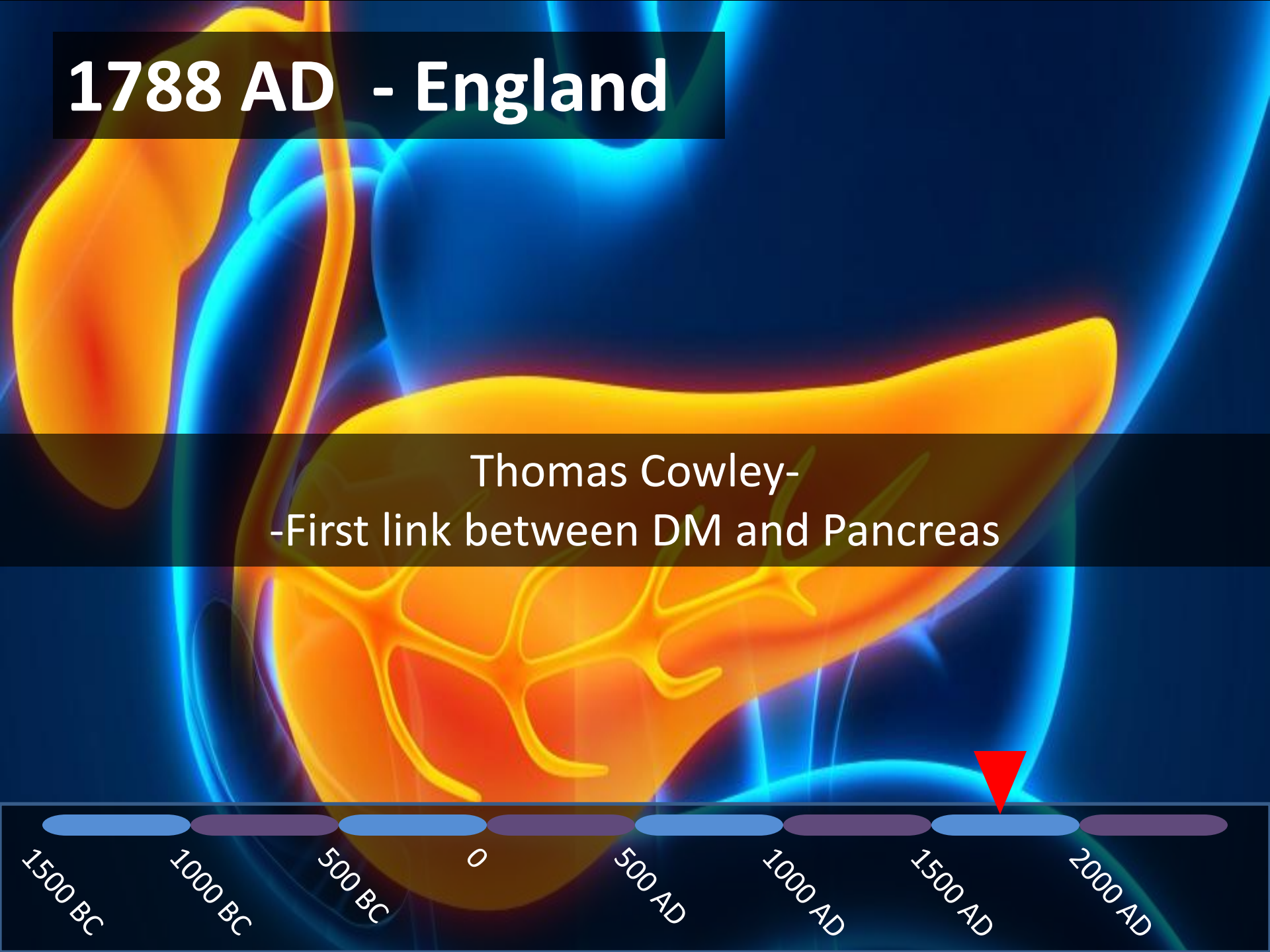


1776 AD - England

Matthew Dobson-

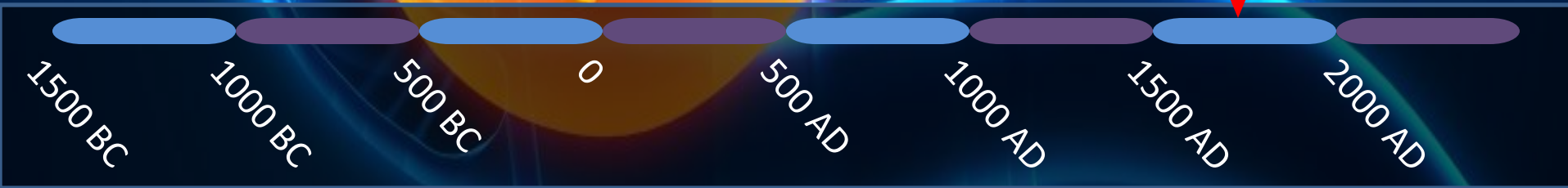
- Discovered that Blood and urine of people with DM contains sugar
- Concludes that DM is not a disease of the Kidney but the whole body.





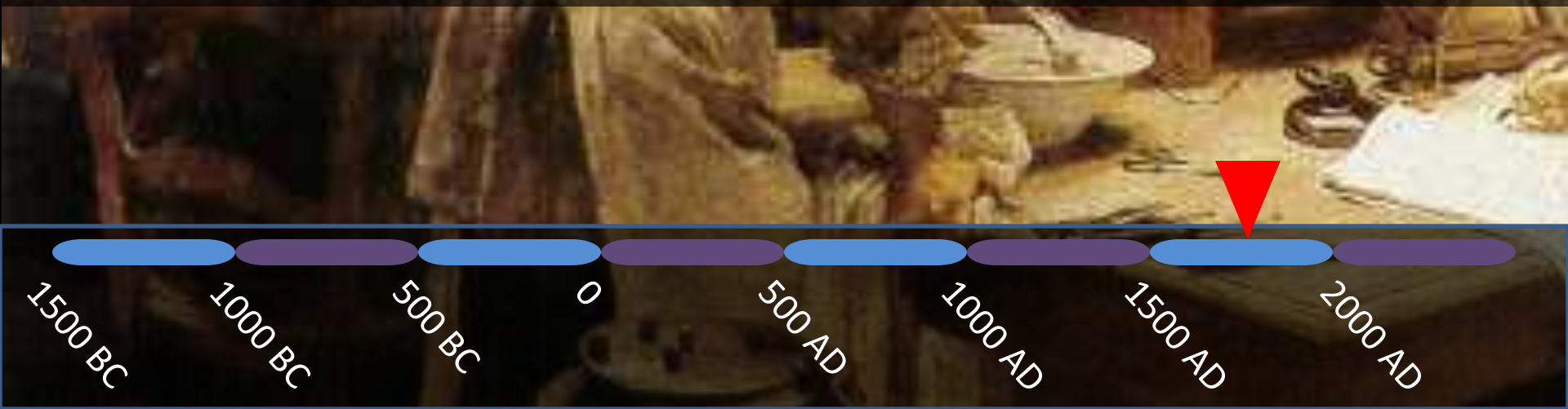
1788 AD - England

Thomas Cowley-
-First link between DM and Pancreas

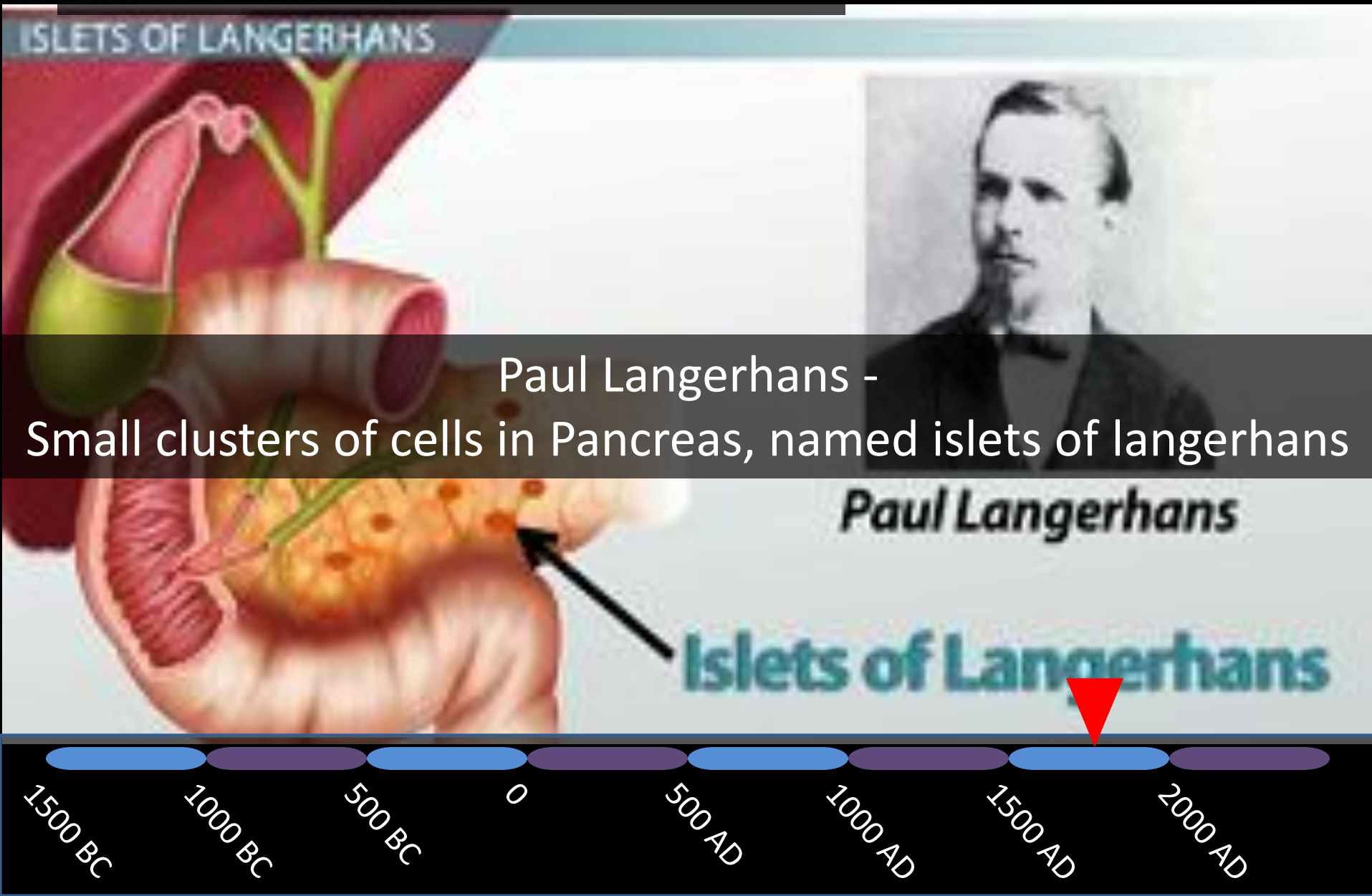


1849 AD - France

Claude Bernard -
- Glucose stored in the Liver
- Hypo (low sugar) affects the brain

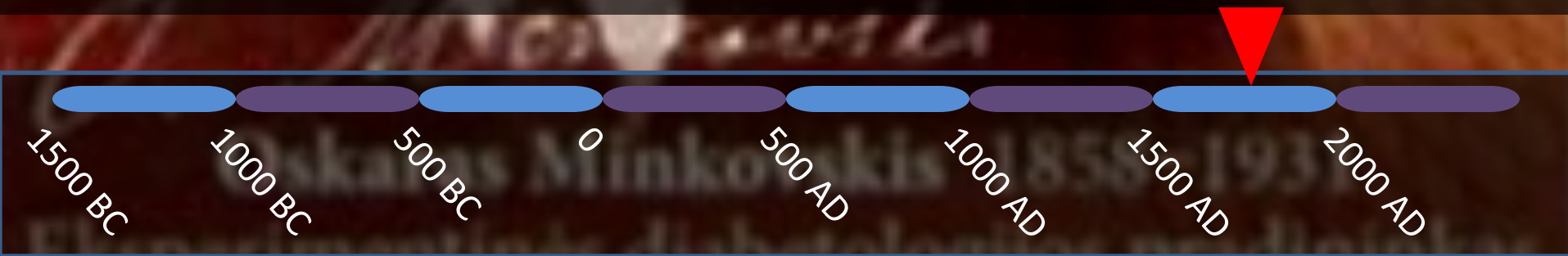


1869 AD - Germany



1889 AD - Germany

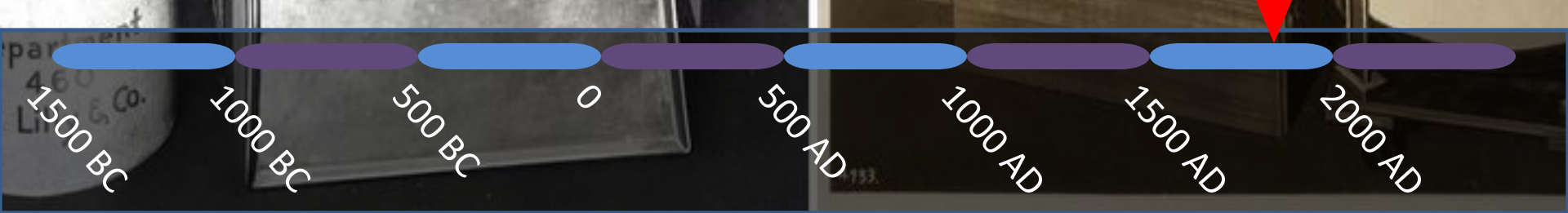
Oscar Minkowski -
Removed dog's pancreas – Show DM



1907 AD - Germany



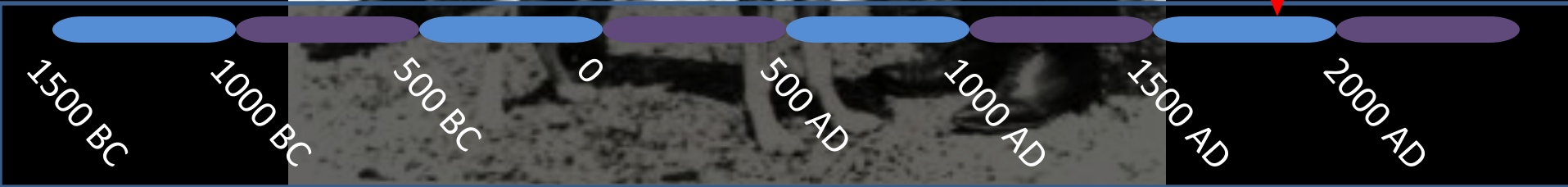
Georg Zuelzer-
Pancreatic extract "acomatol," produced by Zuelzer,
decreased glucosuria in dogs



1921 AD - Germany

Frederick Banting-
Discovery of Insulin

Commercial Extracts of Dog pancreas used on humans



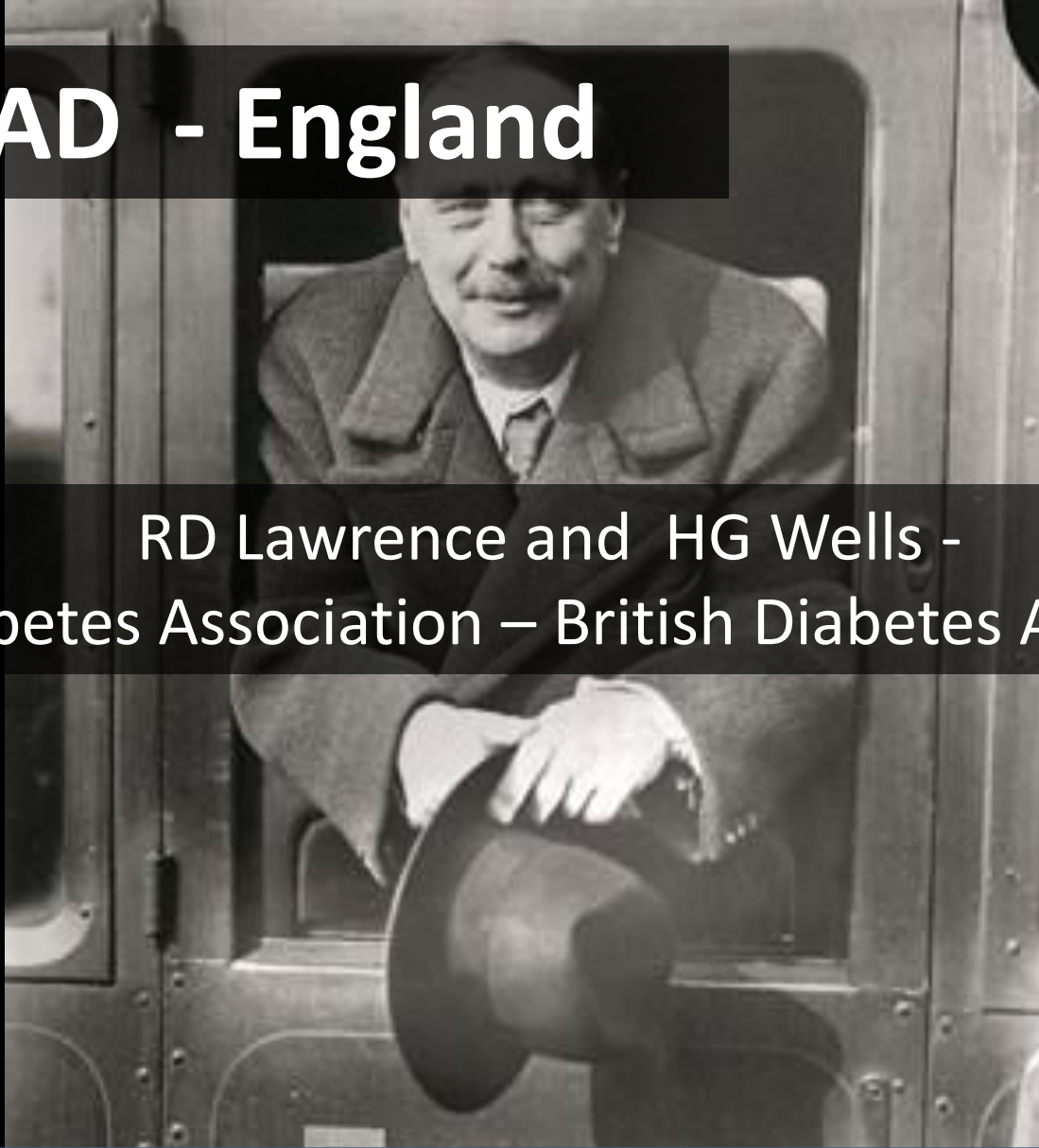
1921 AD - Germany

Synthalin-

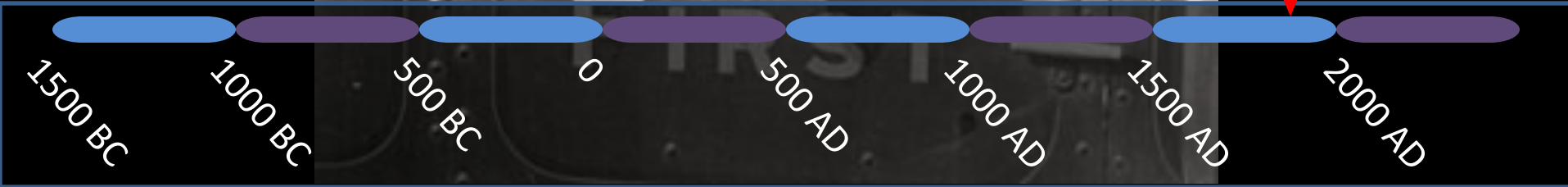
First oral blood sugar lowering medication , extract from
French lilac flower



1934 AD - England



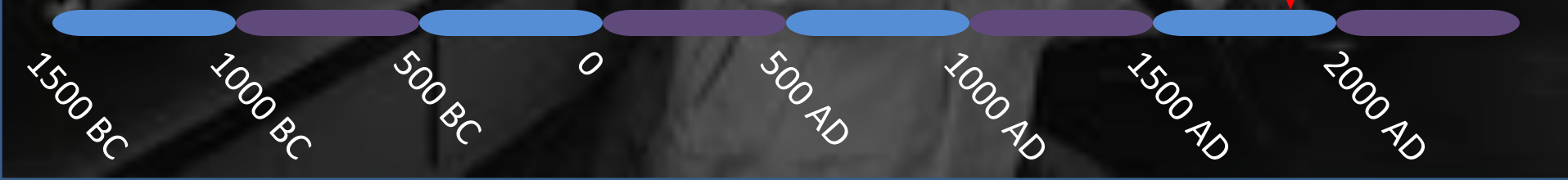
RD Lawrence and HG Wells -
First Diabetes Association – British Diabetes Association



1936 AD - Denmark



Hans Christian Hagedorn-
First Long Acting Insulin produced



1950 AD

Formation of the International Diabetes Federation (IDF)

International
Diabetes
Federation

1500 BC

1000 BC

500 BC

0

500 AD

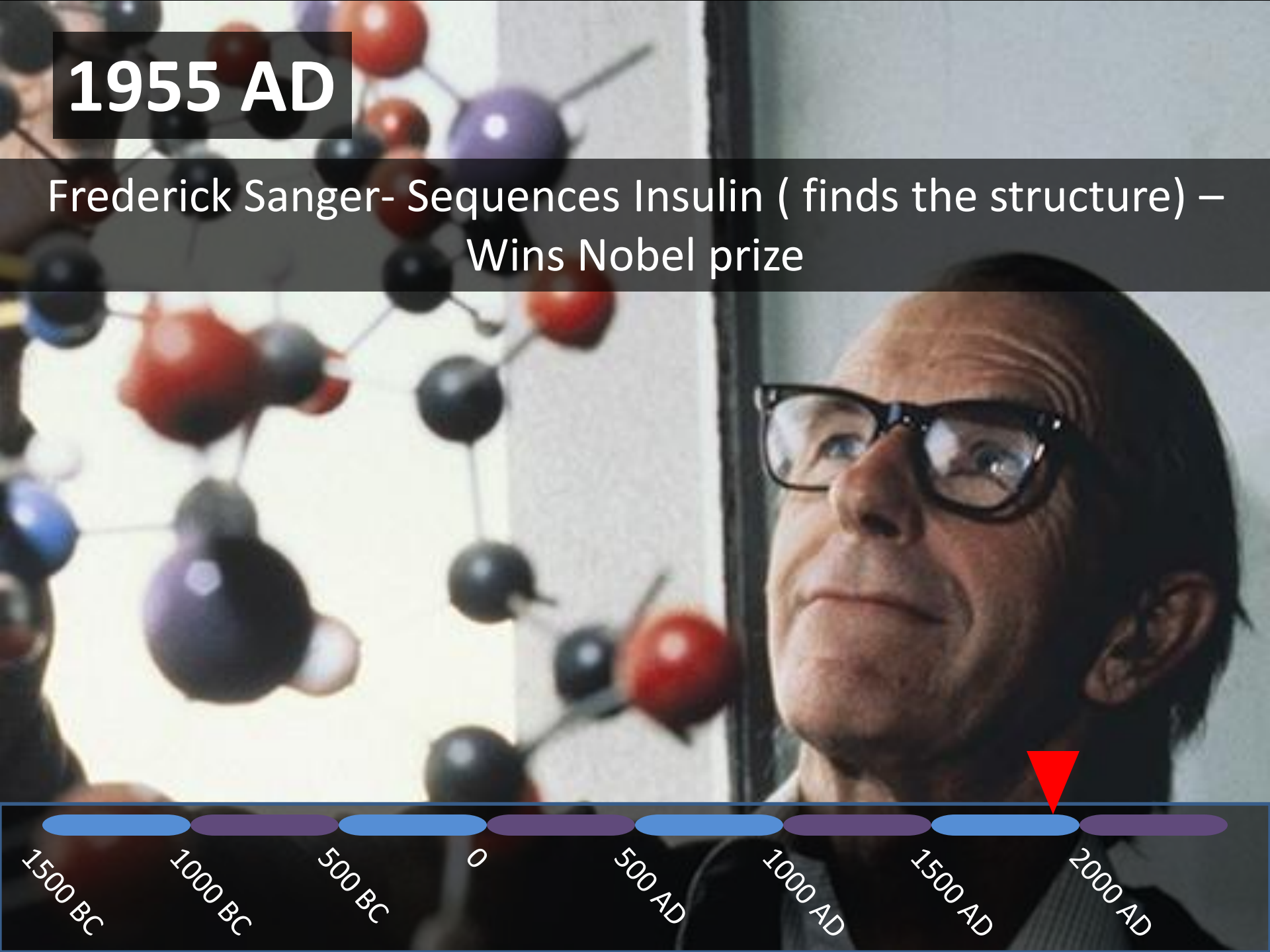
1000 AD

1500 AD

2000 AD

1955 AD

Frederick Sanger- Sequences Insulin (finds the structure) –
Wins Nobel prize



1500 BC

1000 BC

500 BC

0

500 AD

1000 AD

1500 AD

2000 AD

1970 AD

Urine testing strips introduced for easy monitoring



1980 AD

Portable blood glucose meters become available

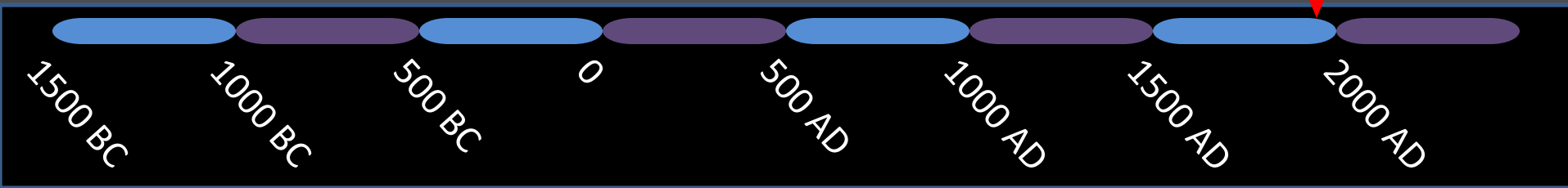
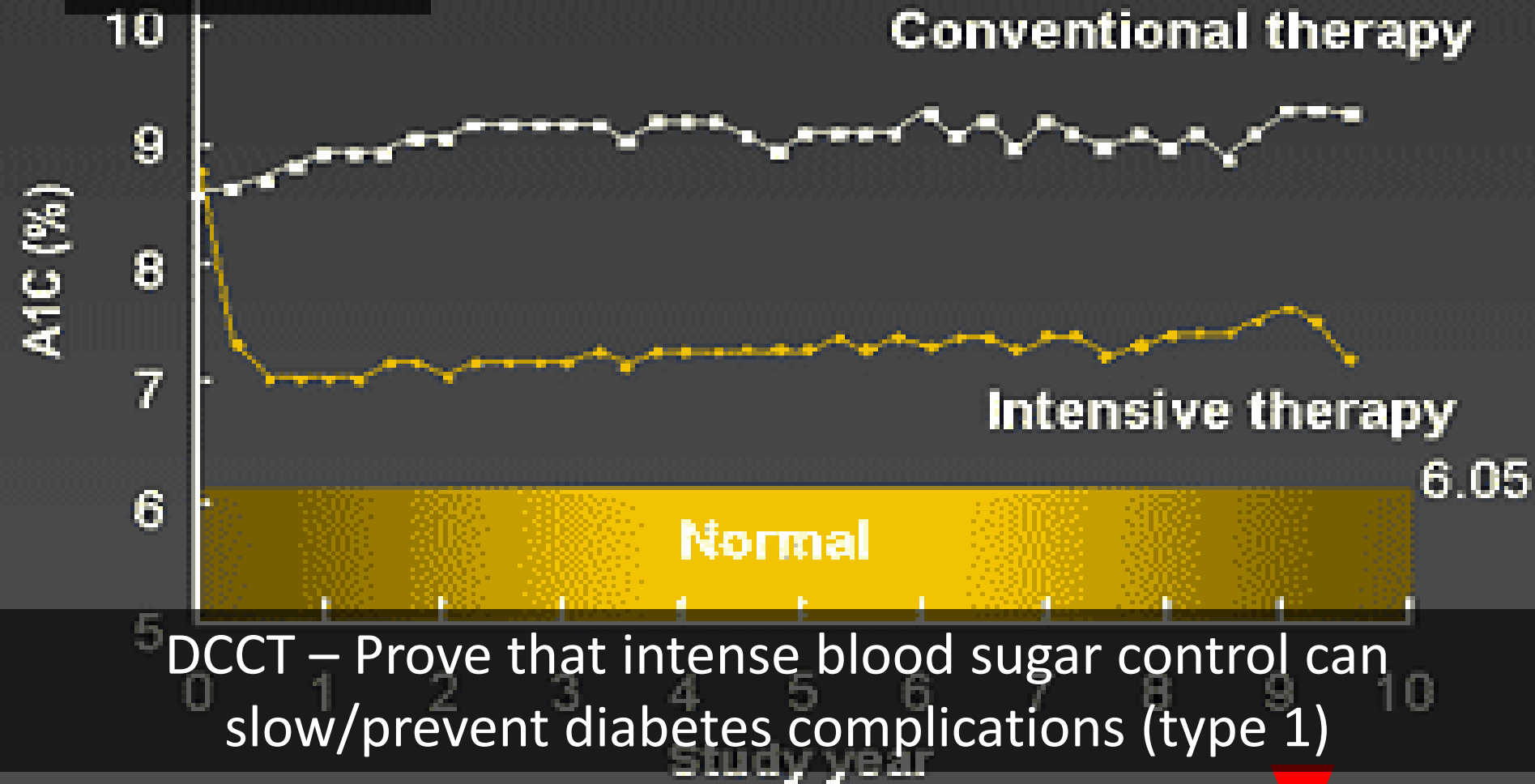


1982 AD

Diabetes Specialist Nurses (DSN) more common – One of the biggest advancements in diabetes since insulin



1993 AD

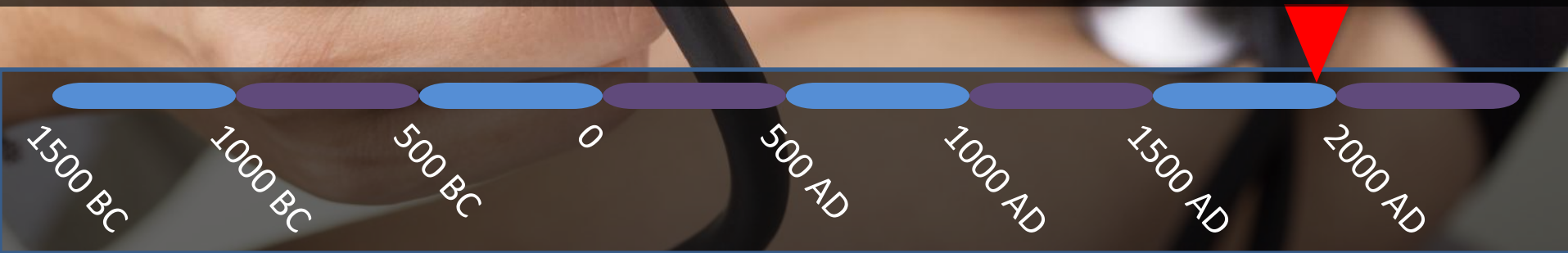


1998 AD



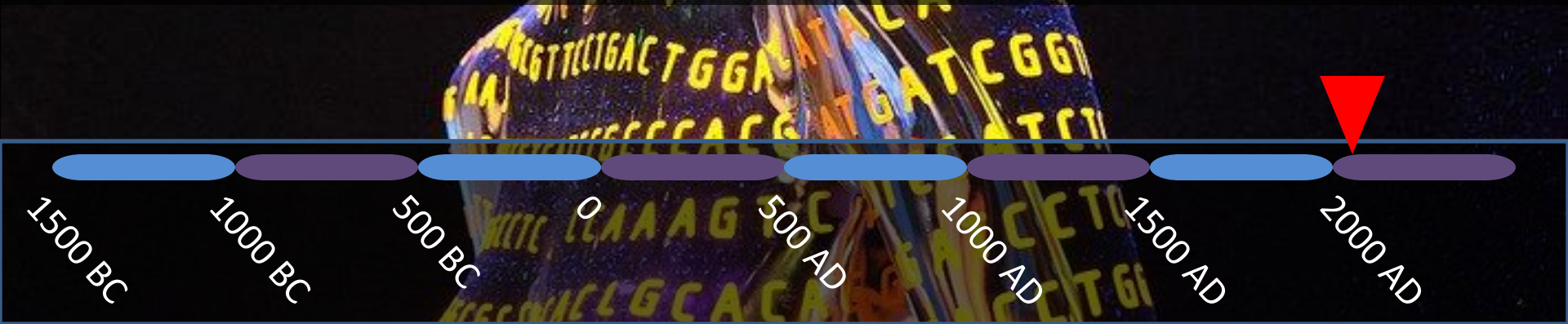
UKPDS – (Type 2) Good control of blood sugar reduces DM complications

- Healthy BP reduce Heart attacks and stroke



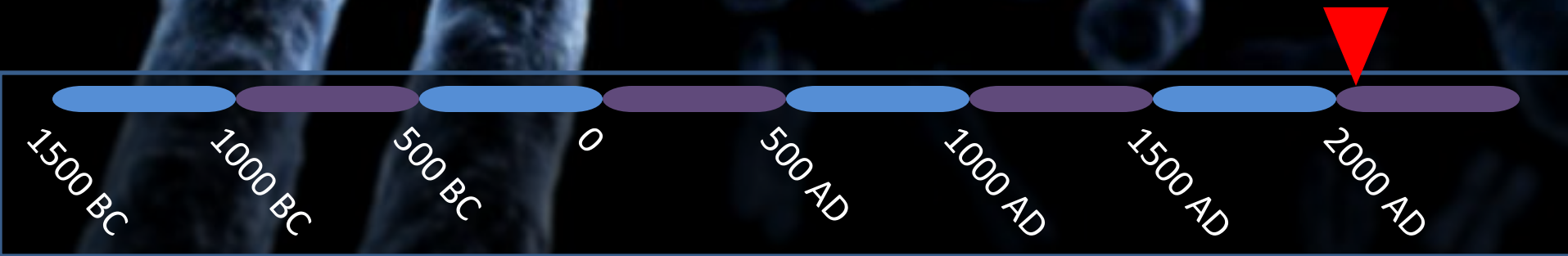
2003 AD

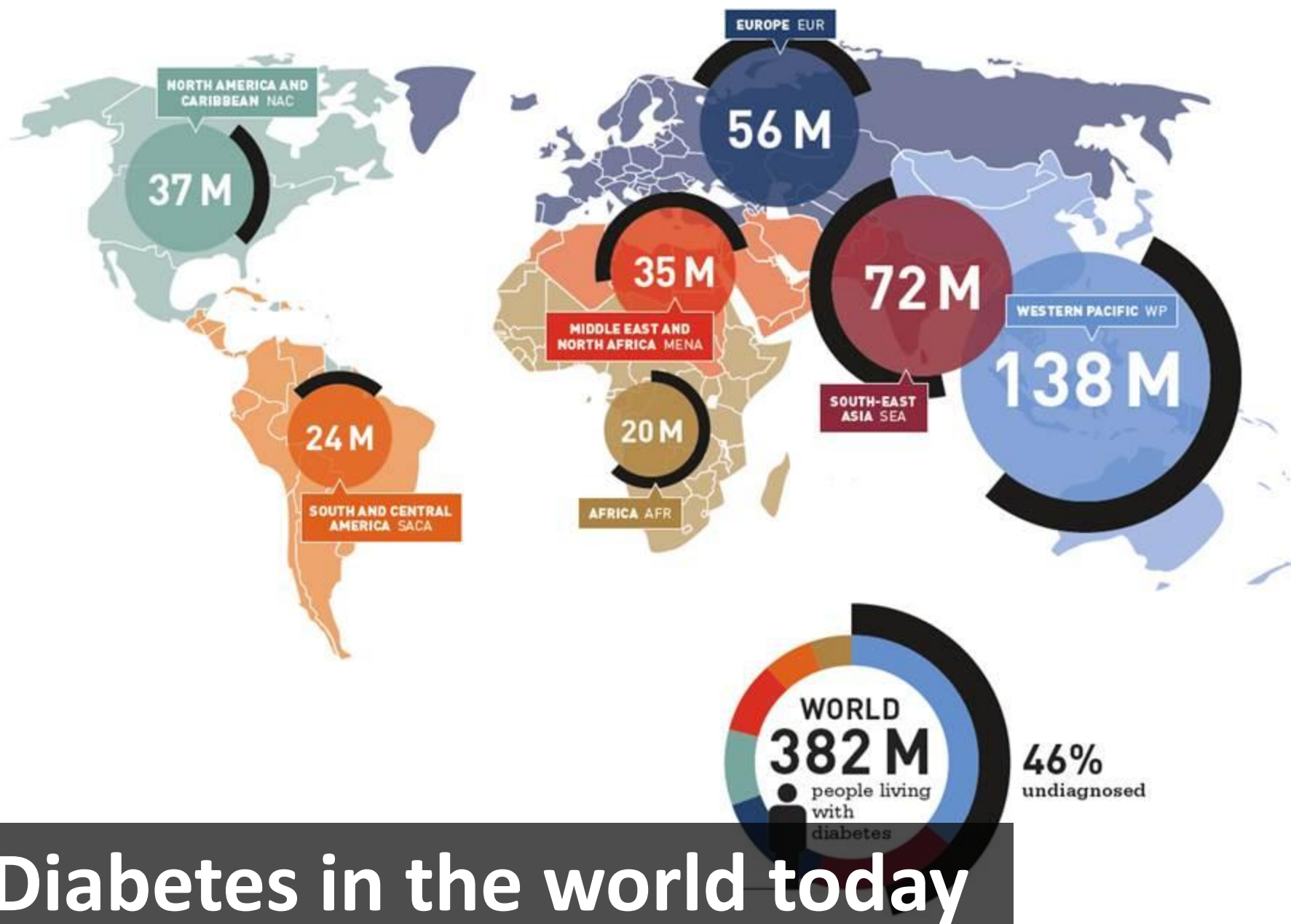
The Human Genome Project – Begin the search for genes linked to DM



2007 AD

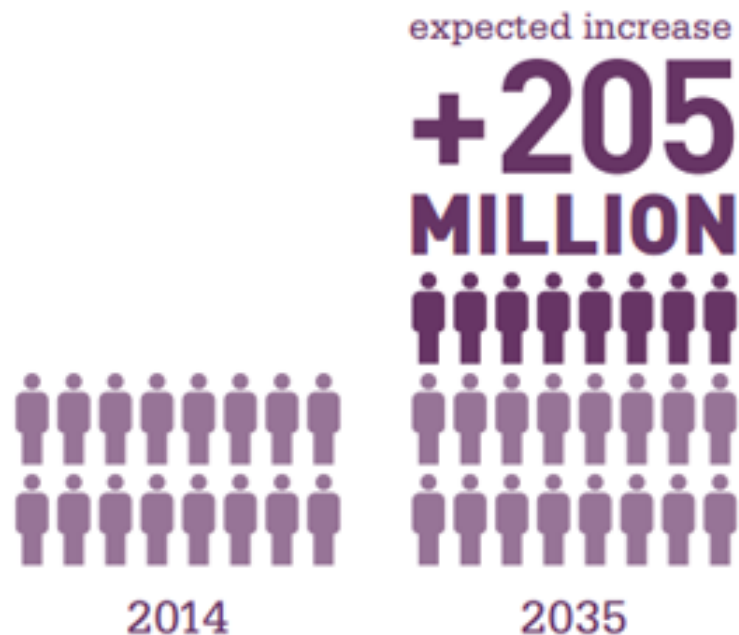
First Genome-Wide Association Studies for Diabetes – Find genes linking to Type 2 DM





Diabetes in the world today

Diabetes in the world today



**382 million people
have diabetes**

**By 2035 this will rise
to 592 MILLION**

**The number
of people with
type 2 diabetes
is increasing
in every country**

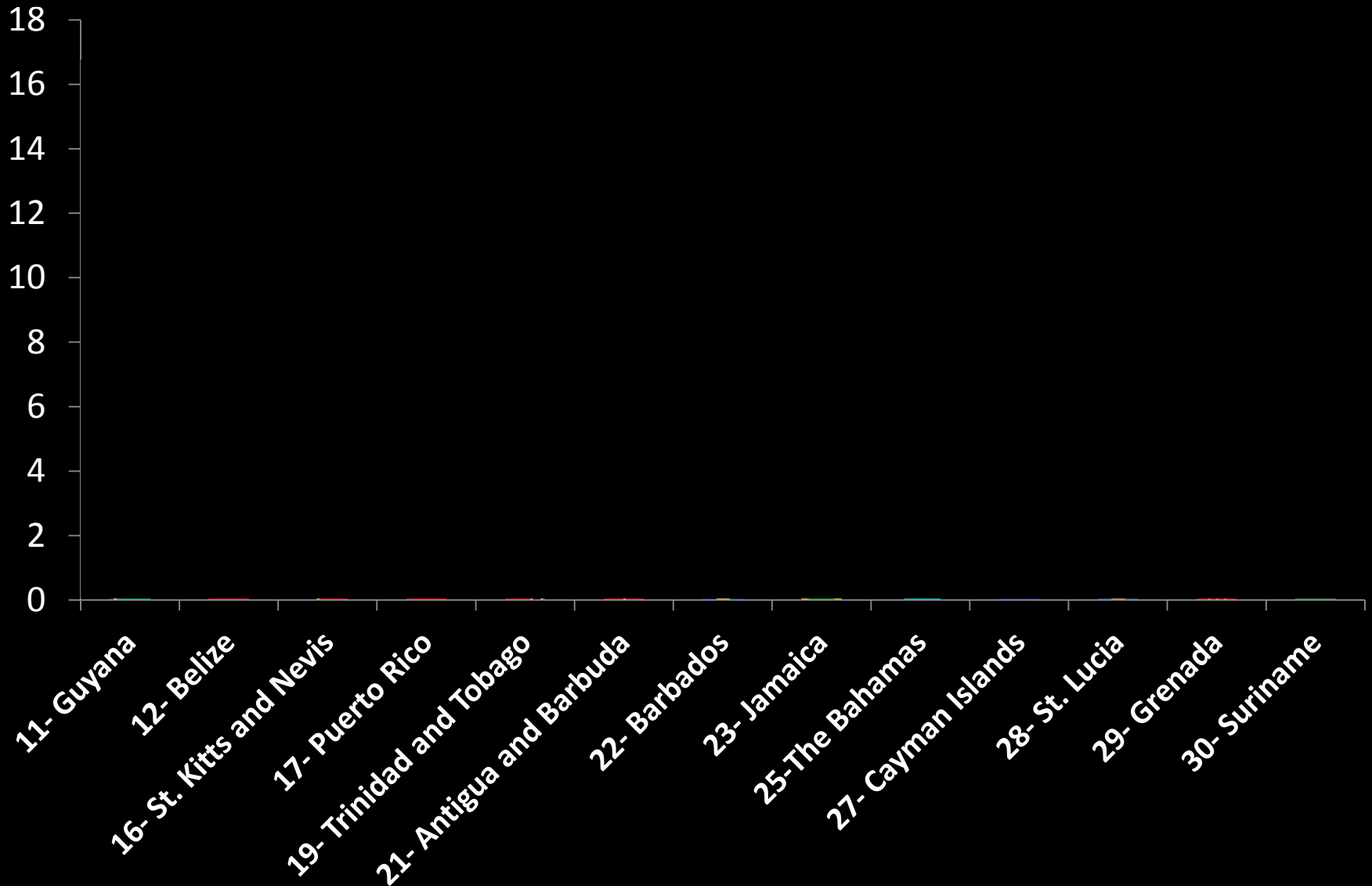


**The greatest
number of people
with diabetes are
between 40 and
59 years of age**

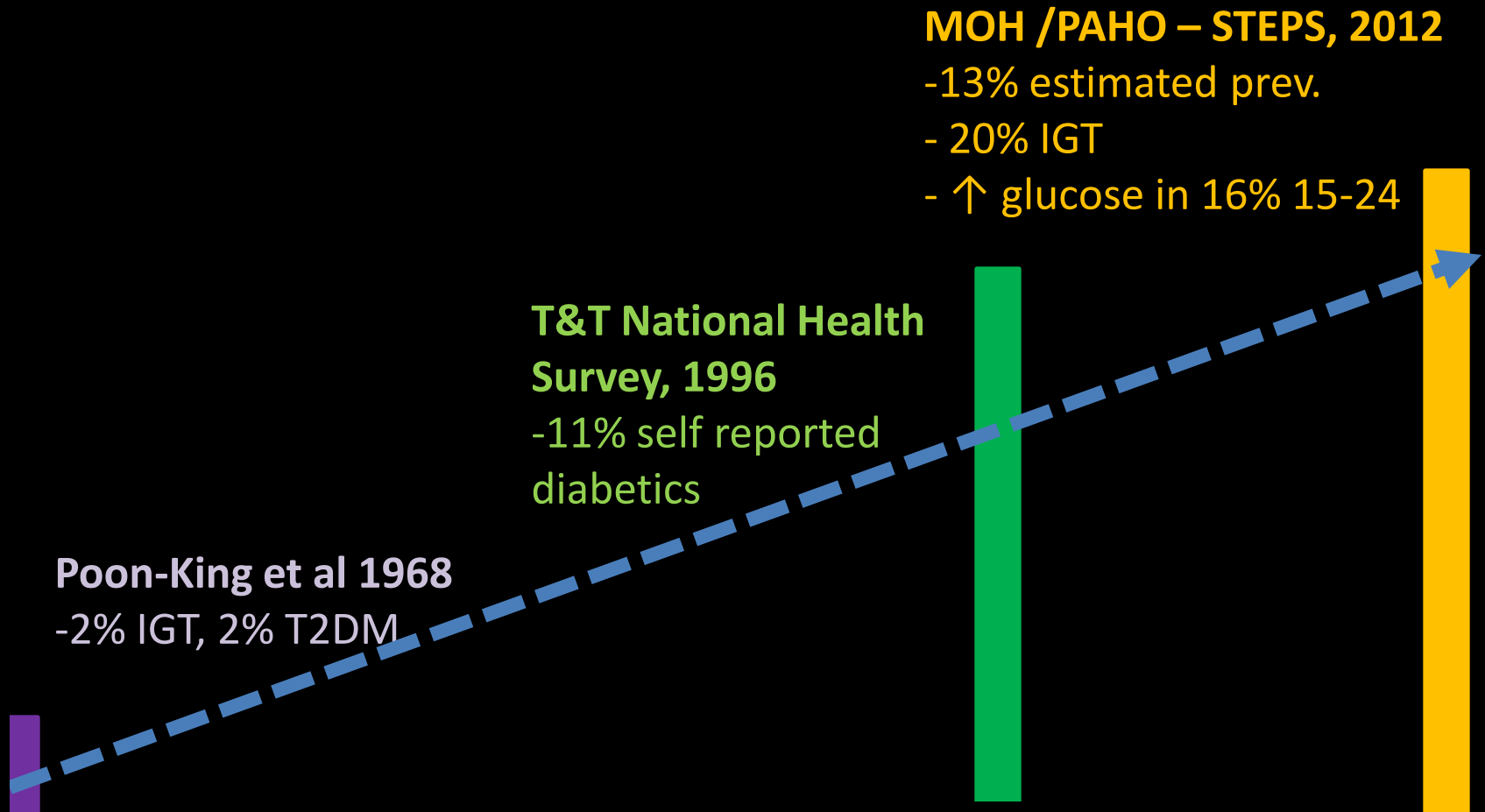
**175 million people
with diabetes are
undiagnosed**

World prevalence % By Country (2012- IDF)

223 countries



The state of diabetes in Trinidad & Tobago



2 Children <20 presented with T2DM (1962)

Poon-King et al. 1968

18:100,000 Children 5-17 with DM and/or IGT (2009)

Batson et al. 2013

20.6 % of sample 15-24 years showed ↑ fasting glucose (2012)

MOH-PAHO – STEPS 2012



Children now facing
**ADULT TYPE
DIABETES**

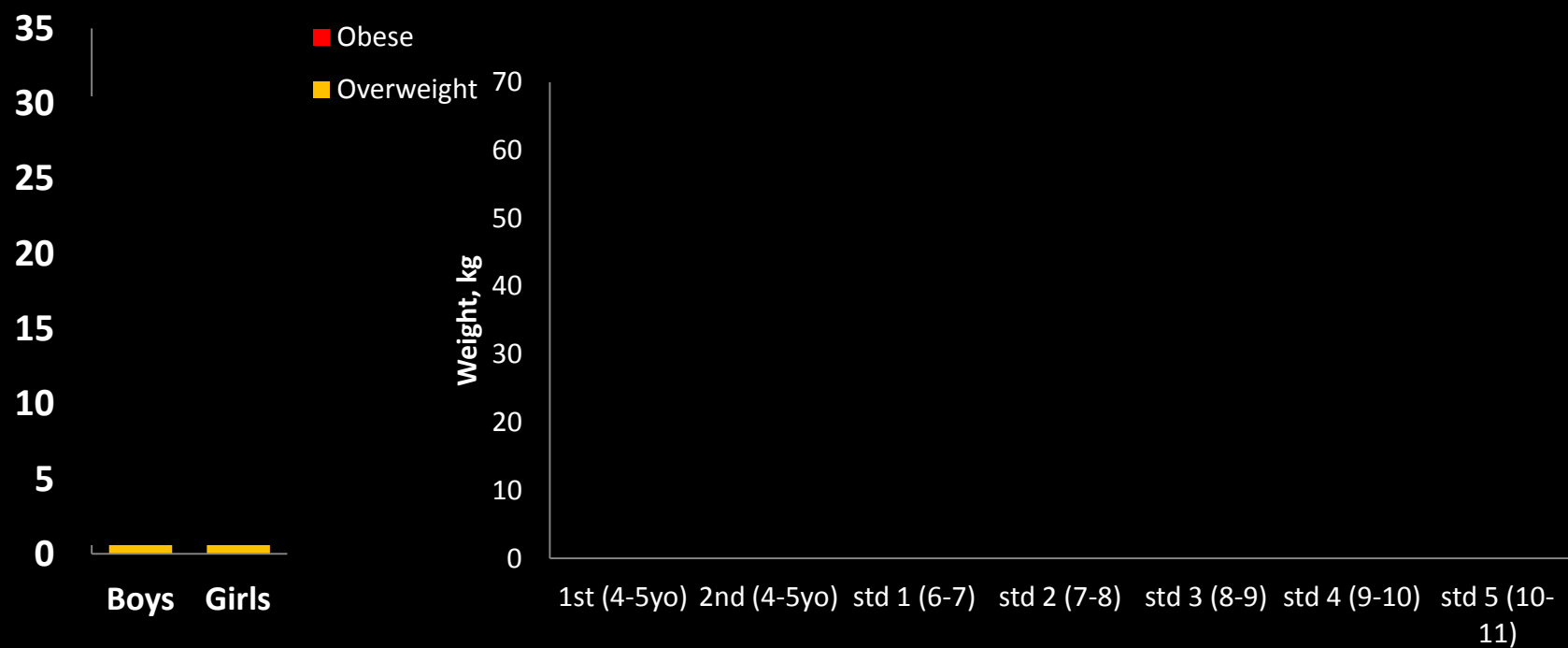
March 31st , 2014



REPORT: ONE IN FIVE CHILDREN IN SOUTH TRINIDAD OVERWEIGHT OR OBESE
-Findings highlight need for national surveillance, urgent interventions



3300 Students, 14 Primary Schools, 5-12 years



Cure or Curse ?

IMAGINING THE



**Non-invasive Screening, Cure Disease, Stop
Complications**

A vibrant scene from a Caribbean carnival. In the foreground, three women are prominently featured, wearing elaborate costumes with large, ornate headdresses and beaded necklaces. The woman on the left is holding a large bottle of beer and has her mouth open as if shouting or singing. The woman in the center is also holding a bottle and looking upwards. The woman on the right is holding a bottle and looking towards the camera. In the background, other people in similar costumes are visible, creating a festive and energetic atmosphere.

**Best known for Carnival, Calypso, Steel
band, Reggae, Salsa, Chutney & Meringue**

**-and the most flamboyant and
spectacular celebrations in the
world**



R_x PRESCRIPTION R_x

1. Eat Healthy
2. Exercise
3. Lose Weight



**DIABETES
EDUCATION
AWARENESS
IN
PRIMARY SCHOOLS
(DEAPS)**

DEAPS PROJECTS



- **A DATT Project**
- **Target Group** – Std 3 Students (Primary School)
- **Objective** - Education in a format specifically for the needs of this age group
 - Increase awareness on prevention mgt of diabetes as it relates to obesity

Skits



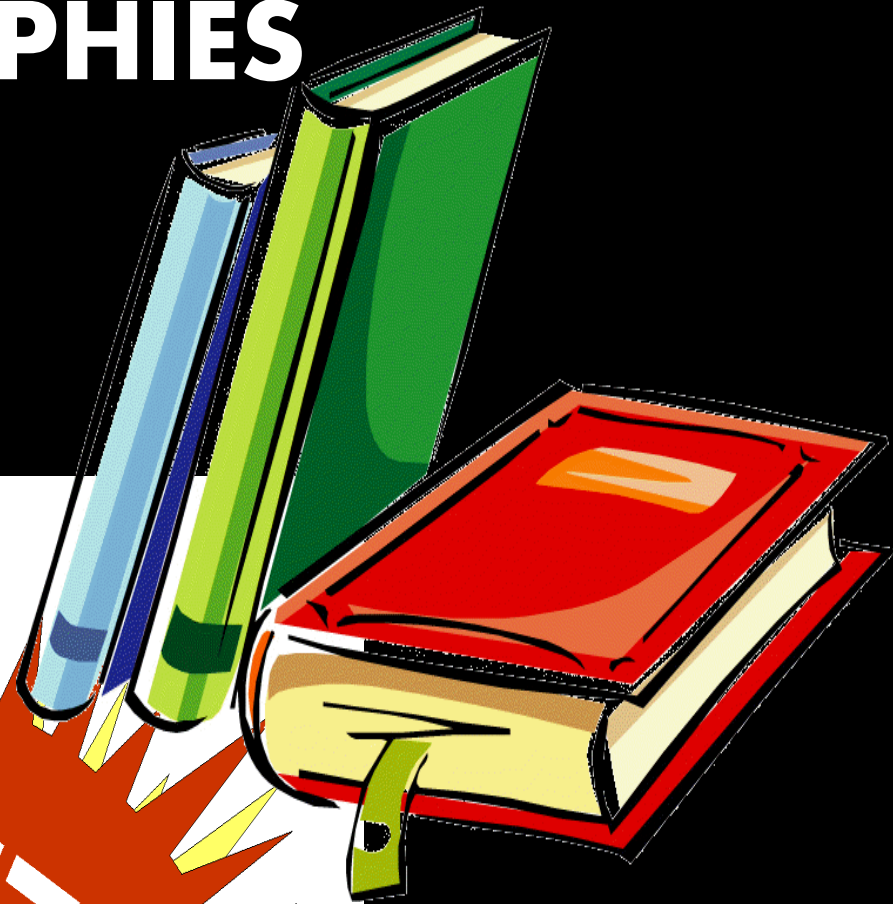
Singing & Dancing



TROPHIES



**Other School
Supplies**



BOOKS

PRIZES





Our Children
We must
protect their health

Let's Get Moving!







I would like to thank you from the bottom of my pancreas, which is deeper than the bottom of my heart..

THANK YOU!

