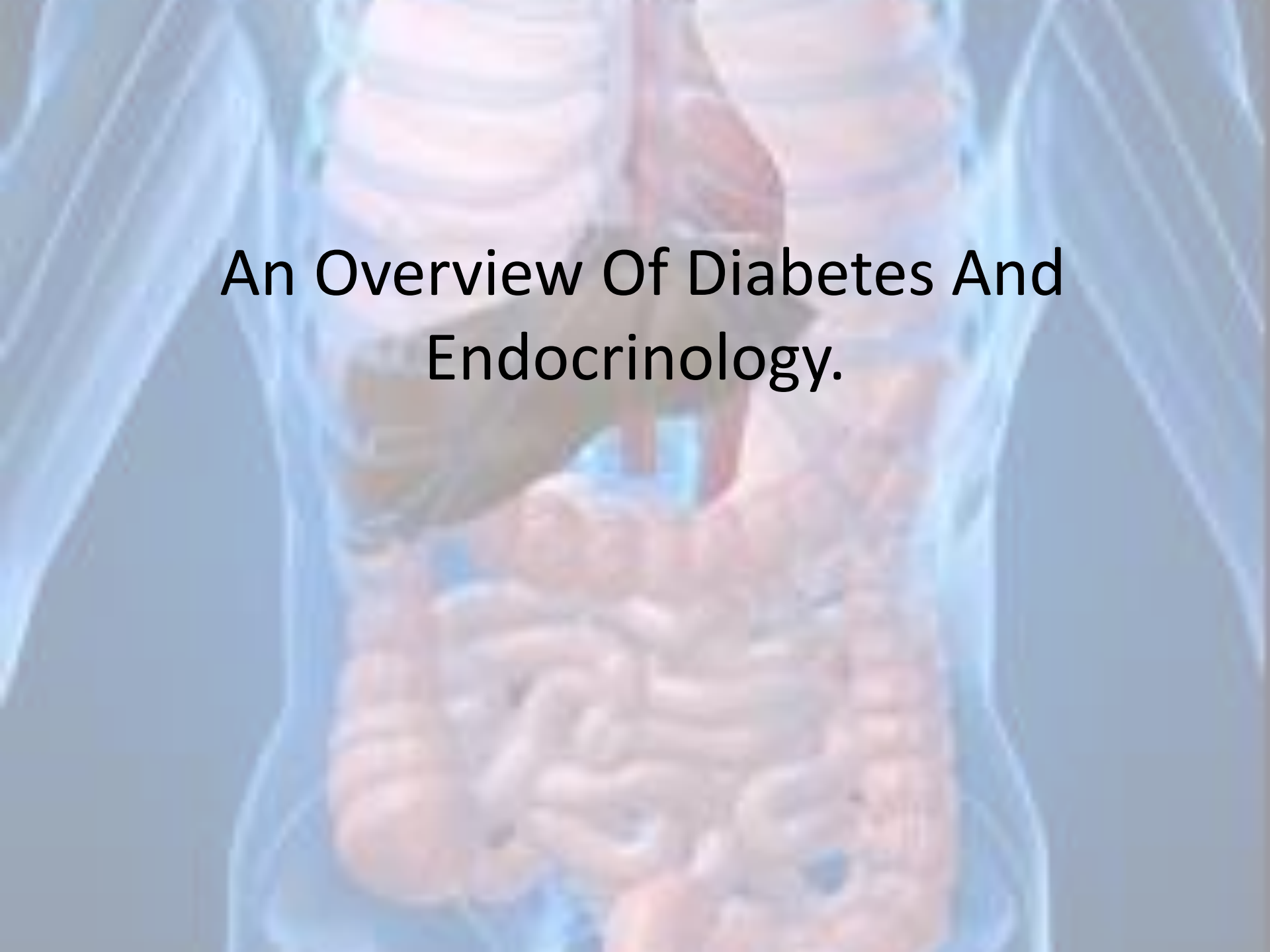


An Overview Of Diabetes And Endocrinology.

Maraveyas Anthony

- **Maraveyas Anthony**
  Department of Academi
  Castle Hill Hospital
  England
  UK
  Tel: 01482461318

Research interests

- Diabetes
- Endocrinology.

Endocrinology

- The glands in a person's body release hormones. Endocrinologists treat people who suffer from hormonal imbalances, typically from glands in the endocrine system. The overall goal of treatment is to restore the normal balance of hormones found in a patient's body. Some of the more common conditions treated by endocrinologists include:
- Menopause
- Diabetes
- Metabolic disorders
- Lack of growth
- Osteoporosis
- Thyroid diseases
- Cancers of the endocrine glands
- Over- or under-production of hormones
- Cholesterol disorders
- Hypertension
- Infertility

Endocrinology

- Endocrinology is a branch of biology and medicine dealing with the endocrine system, its diseases, and its specific secretions calledhormones, as well as the integration of developmental events
- proliferation, growth, and differentiation (including histogenesis andorganogenesis), and also the psychological or behavioral activities of metabolism, growth and development, tissue function, sleep,digestion, respiration, excretion, mood, stress, lactation, movement, reproduction, and sensory perception as caused by hormones.

Clinical trials

- Clinical trials are scientific research studies that involve people. Their overall goal is to improve endocrine health and health care by answering specific questions about how to better prevent, detect, and treat endocrine diseases. Many of today's most effective prevention and treatment methods were tested and proven in clinical trials and are now accepted as the "standard of care."

An Introduction to Clinical Trials

- A Patient's Guide to Minority Participation in Clinical Trials
  If clinical trials are to be useful to the entire U.S. population, people from all backgrounds and races need to participate. Learn more about why it is important for minorities to take part in clinical trials and how to volunteer. The patient's guide is a companion to The Endocrine Society's document on Increasing Minority Participation in Clinical Research.
- Center for Information and Study on Clinical Research Participation (CISCRP)
  CISCRP is an organization devoted to improving public participation in clinical trials by improving awareness and communication between trial conductors and participants.

- The Value of Endocrine Research
  Learn how research in cancer, growth hormone deficiency, osteoporosis, and diabetes have made substantial contributions to health and the practice of medicine.
- Program for Healthy Volunteers
  The Clinical Research Volunteer Program provides an opportunity for healthy volunteers from around the world to participate in medical research studies. Healthy volunteers provide researchers with important information for comparison with people who have specific illnesses. Every year, nearly 3,500 healthy volunteers participate in studies at the National Institutes of Health (NIH).
- NIH Clinical Alerts and Advisories
  These clinical alerts expedite the release of findings from NIH-funded clinical trials when their release could significantly affect health.

Diabetes mellitus (DM)

- Diabetes mellitus (DM), also known as simply diabetes, is a group of metabolic diseases in which there are high blood sugar levels over a prolonged period.
- This high blood sugar produces the symptoms of frequent urination, increased thirst, and increased hunger. Untreated, diabetes can cause many complications.
- Acute complications include diabetic ketoacidosis and nonketotic hyperosmolar coma.Serious long-term complications include heart disease, stroke, kidney failure, foot ulcers and damage to the eyes.

- Diabetes is due to either the pancreas not producing enough insulin, or the cells of the body not responding properly to the insulin produced.

Three main types of diabetes mellitus:

- Type 1 DM results from the body's failure to produce enough insulin. This form was previously referred to as "insulin-dependent diabetes mellitus" (IDDM) or "juvenile diabetes". The cause is unknown.[3]
- Type 2 DM begins with insulin resistance, a condition in which cells fail to respond to insulin properly.[3] As the disease progresses a lack of insulin may also develop.[6] This form was previously referred to as "non insulin-dependent diabetes mellitus" (NIDDM) or "adult-onset diabetes". The primary cause is excessive body weight and not enough exercise.[3]
- Gestational diabetes, is the third main form and occurs when pregnant women without a previous history of diabetes develop a high blood glucose level.[3]

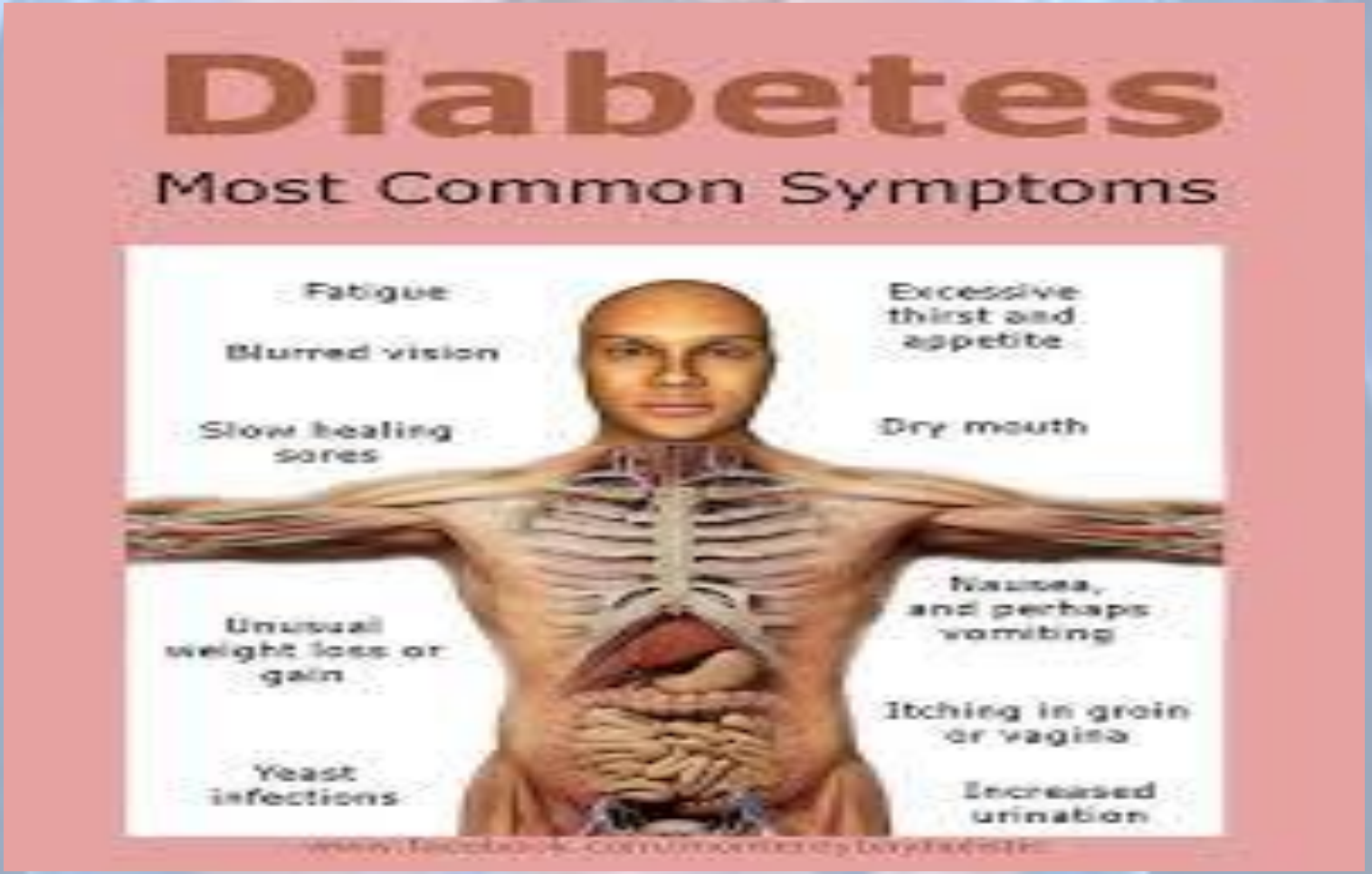
FACTS ABOUT DIABETES

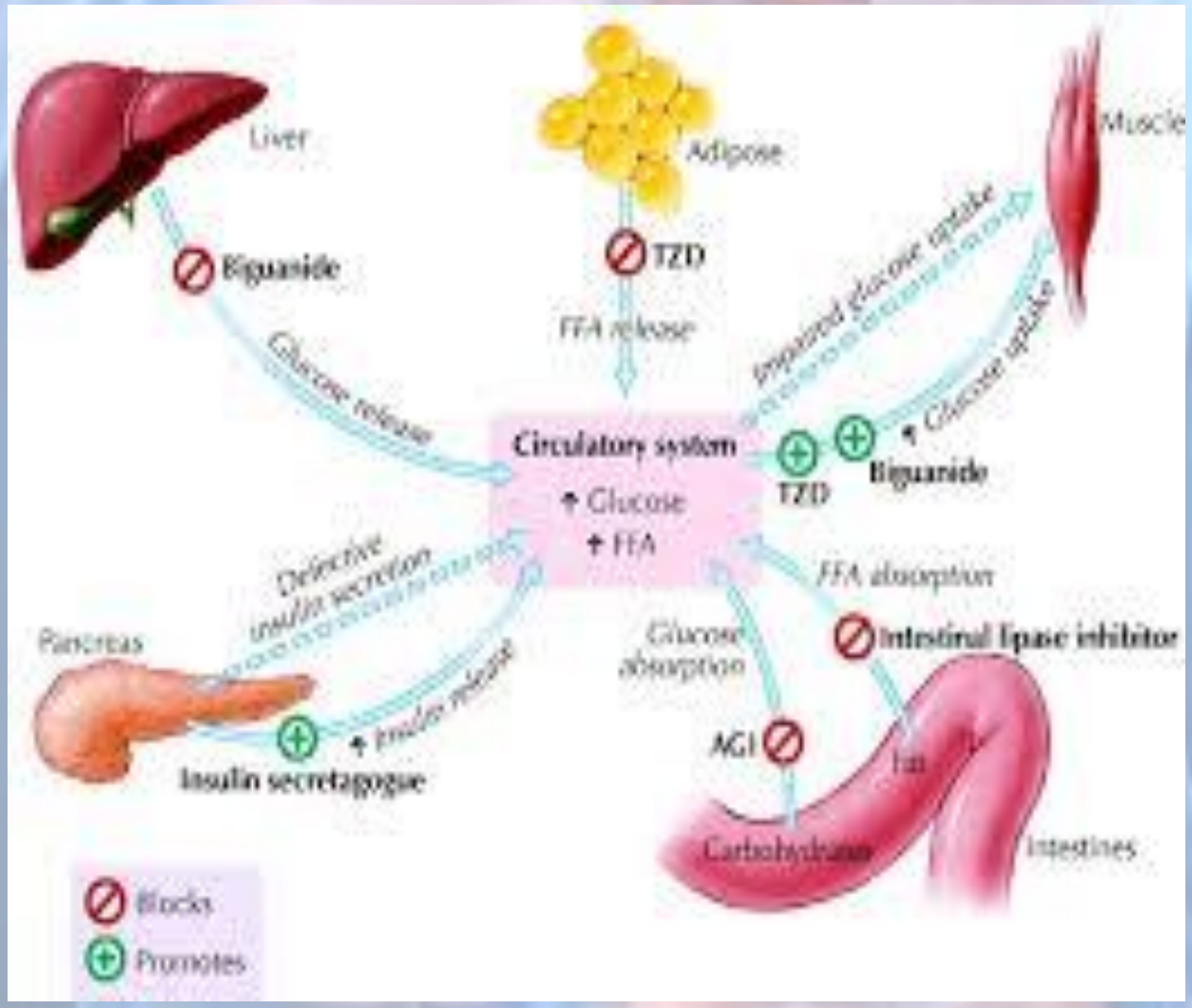
- Diabetes is a long-term condition that causes high blood sugar levels.
- In 2013 it was estimated that over 382 million people throughout the world had diabetes (Williams textbook of endocrinology).
- Hypoglycemia - low blood glucose - can have a bad effect on the patient. Hyperglycemia - when blood glucose is too high - can also have a bad effect on the patient

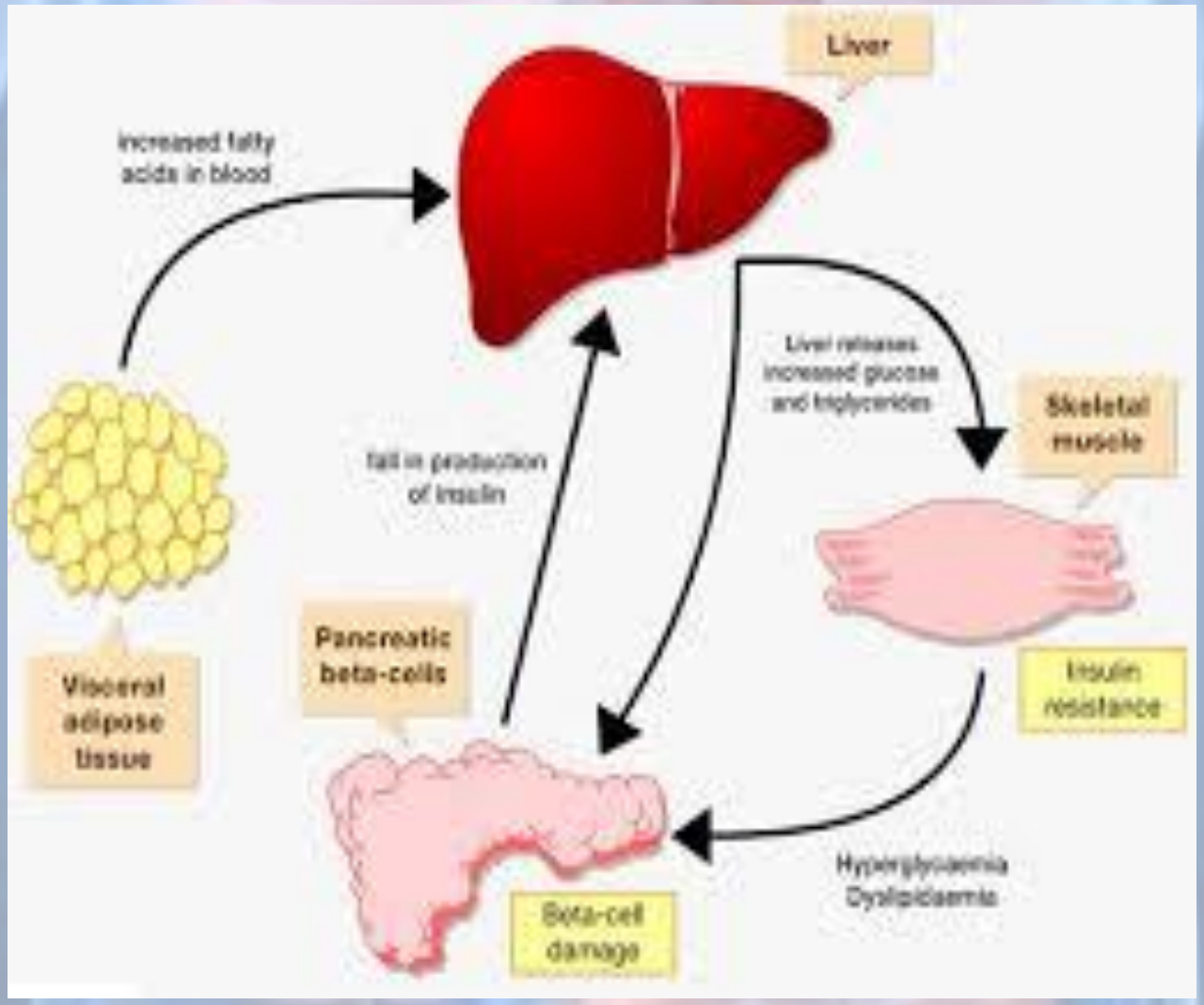
- Type 1 Diabetes - the body does not produce insulin. Approximately 10% of all diabetes cases are type 1.
- Type 2 Diabetes - the body does not produce enough insulin for proper function. Approximately 90% of all cases of diabetes worldwide are of this type.
- Gestational Diabetes - this type affects females during pregnancy.
- The most common diabetes symptoms include frequent urination, intense thirst and hunger, weight gain, unusual weight loss, fatigue, cuts and bruises that do not heal, male sexual dysfunction, numbness and tingling in hands and feet.

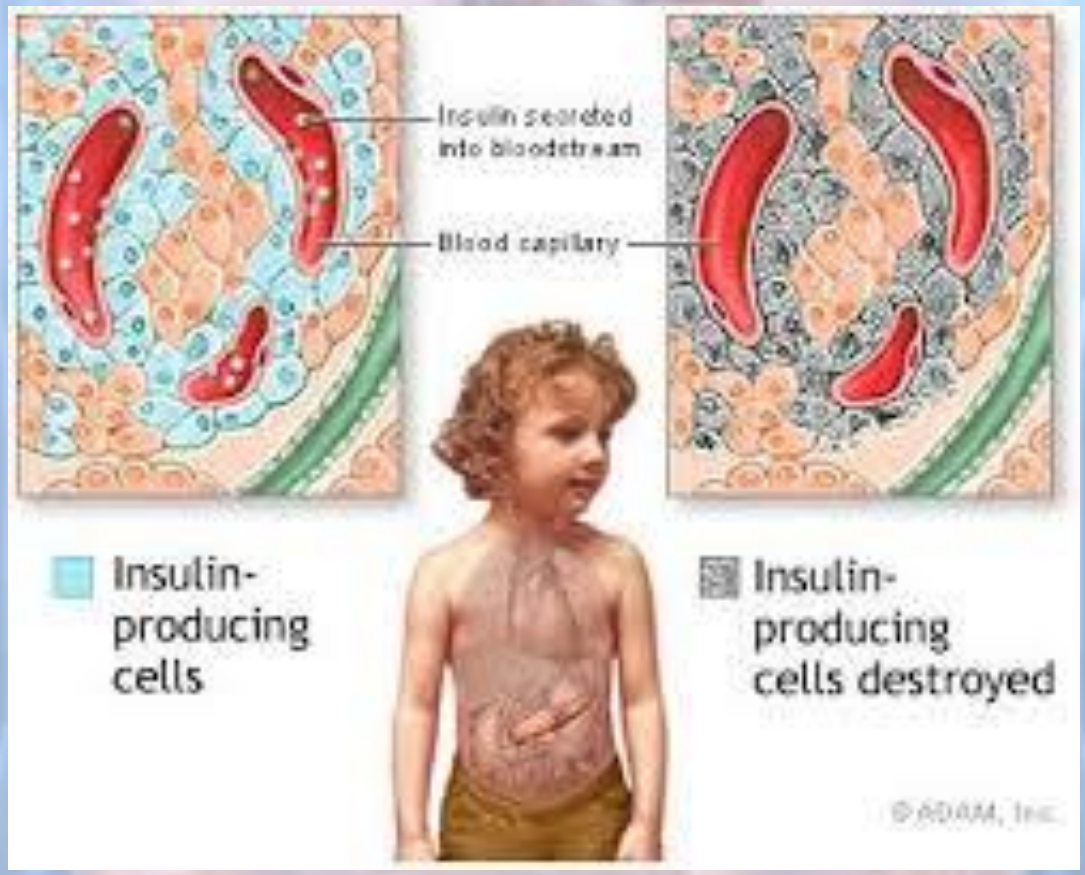
- If you have Type 1 and follow a healthy eating plan, do adequate exercise, and take insulin, you can lead a normal life.
- Type 2 patients need to eat healthily, be physically active, and test their blood glucose. They may also need to take oral medication, and/or insulin to control blood glucose levels.
- As the risk of cardiovascular disease is much higher for a diabetic, it is crucial that blood pressure and cholesterol levels are monitored regularly.
- As smoking might have a serious effect on cardiovascular health, diabetics should stop smoking.

SYMPTOMS OF DIABETES




Liver
Adipose
Muscle
Biguanide
TZD
FFA release
Impaired glucose uptake
Glucose release
Glucose uptake
Circulatory system
↑ Glucose
↑ FFA
TZD
Biguanide
Defective insulin secretion
FFA absorption
Pancreas
Glucose absorption
Intestinal lipase inhibitor
↑ Insulin release
AGI
Insulin secretagogue
Fat
Carbohydrates
Intestines
Blocks
Promotes


Liver
increased fatty acids in blood
Liver releases increased glucose and triglycerides
Skeletal muscle
fall in production of insulin
Pancreatic beta-cells
Visceral adipose tissue
Insulin resistance
Hyperglycaemia
Dyslipidaemia
Beta-cell damage


Insulin secreted into bloodstream
Blood capillary
Insulin-producing cells
Insulin-producing cells destroyed
© ADAM, Inc.

Prediabetes Exams and Tests
Find out what tests are used in diagnosing prediabetes.
How to Stop Prediabetes Progression
Treatments for prediabetes can prevent the onset of type 2 diabetes. Learn more about how to stop insulin resistance in its tracks.

Prediabetes

Prediabetes

Prediabetes, also known as "impaired glucose tolerance" or “impaired fasting glucose,” is a health condition with no symptoms.

What Is Prediabetes

More and more, doctors are recognizing the importance of diagnosing prediabetes as treatment of the condition may prevent more serious health problems.

Insulin Resistance and Diabetes

Insulin resistance or metabolic syndrome describes a combination of health problems that have a common link -- an increased risk of diabetes and early heart disease.

What Is Prediabetes or Borderline Diabetes?

People with prediabetes have glucose levels that are higher than normal but not high enough yet to indicate diabetes. The condition used to be called borderline diabetes.

THANK YOU