

METABOLIC SYNDROME

PRESENTER

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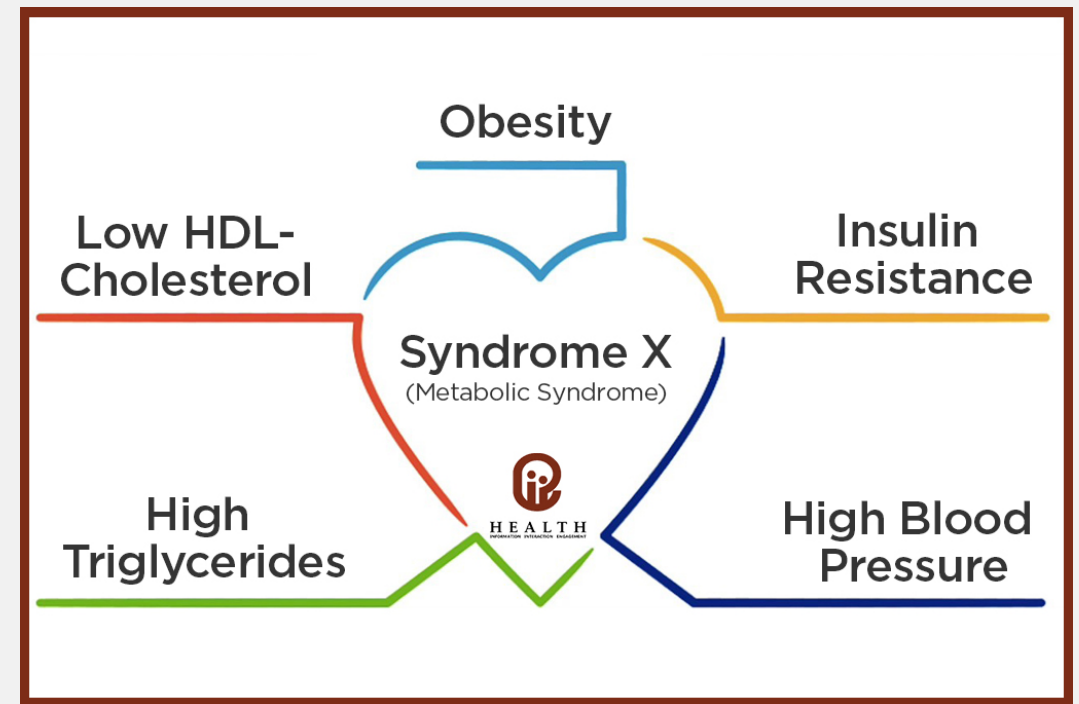
NAMES FOR METABOLIC SYNDROME

Different names for metabolic syndrome:

- Syndrome X
- Insulin Resistance Syndrome
- Insulin Resistance (in ICD-10)*
- Dysmetabolic Syndrome
- Hypertriglyceridemic Waist
- Obesity Syndrome

DEFINITION

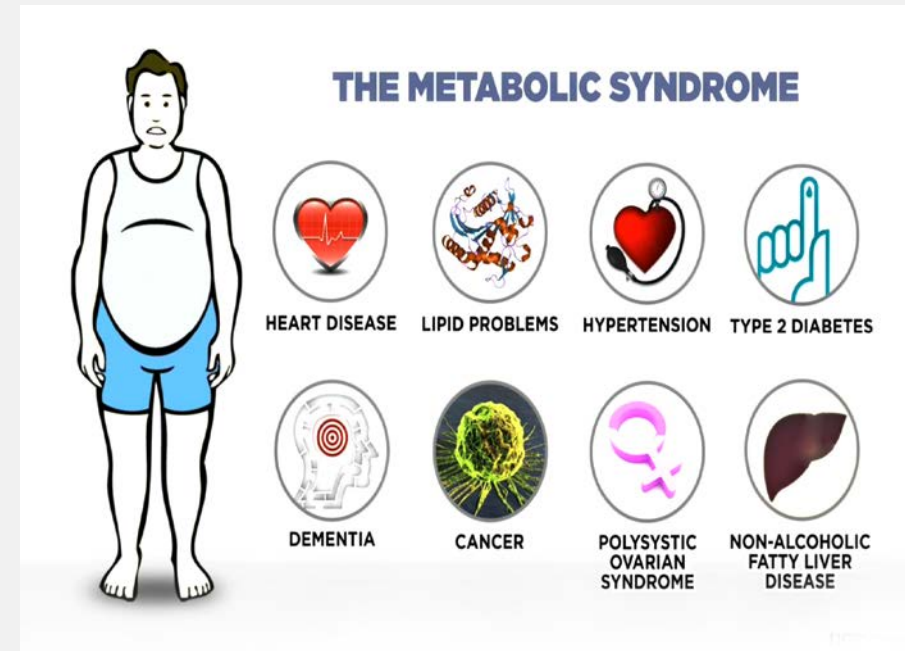
- There is no unanimous definition for *metabolic syndrome* globally, but there's an agreement on the following criteria.
- The National Institutes of Health defines **metabolic syndrome**¹ as the presence of at least 3 of the following traits (including the ones that are controlled by medication):
 - large waist (obesity)
 - elevated triglyceride level
 - reduced HDL cholesterol
 - increased blood pressure
 - elevated fasting blood glucose (insulin resistance)



HIGHER RISK OF DISEASES

Metabolic syndrome elevates the risk of serious health problems such as:

- Stroke or heart attack
- Type 2 diabetes with complications
- Certain types of cancer
- Neurological disorders
- PCOS
- Fatty liver disease
- Other diseases

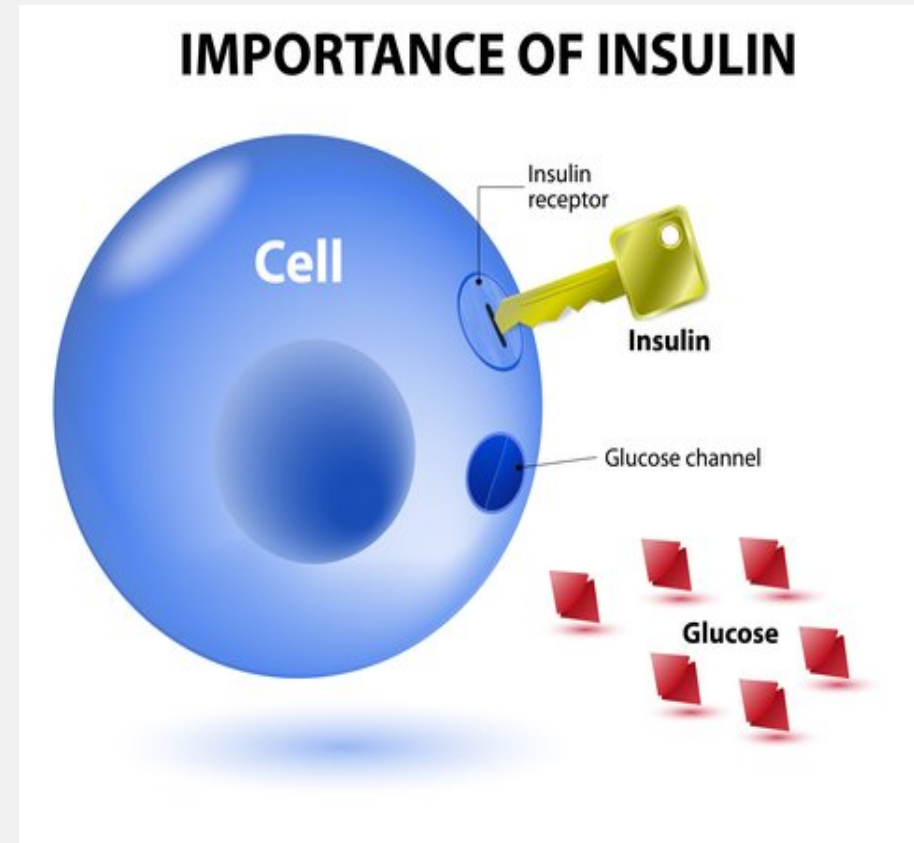


METABOLIC SYNDROME IN ICD-10

- According to coding guidelines, coders are not allowed to assume a diagnosis even when all the criteria is met for a certain condition. For example, if a provider documents:
 - Morbid obesity BMI 41 ----- E66.0, Z68.41
 - Hypertension ----- I10
 - Type 2 diabetes ----- E11.9
 - Elevated triglycerides ----- E78.1
- Metabolic syndrome can not be coded since is not documented even if almost all of the criteria is.
- But what happens when insulin resistance is documented?

INSULIN RESISTANCE DEFINITION

- Insulin resistance occurs when the insulin hormone doesn't allow glucose (our primary source of energy) to enter the cell effectively.
- This means high blood sugar levels, which leads to vascular damage over time if is not addressed or treated.
- Causes for insulin resistance are: high sugar intake diet, genetic and autoimmune.
- *Insulin resistance* may increase the risk of *metabolic syndrome*.



INSULIN RESISTANCE

- Let's say a provider documents: "acanthosis nigricans due to insulin resistance".
- The ICD-10-CM Index for the diagnosis of "*insulin resistance*," beginning with the main term, "*resistance*" then sub-term, "*insulin*," the manual then directs the coder to E88.81, *Metabolic syndrome*.
- In other words, the codes for the previous statement documented by a provider is:
 - Acanthosis nigricans ----- L83
 - Metabolic syndrome ----- E88.81

INSULIN RESISTANCE & METABOLIC SYNDROME

- From the bio-statistical and public health standpoint this is inaccurate. ICD-10 establish a direct relation between *insulin resistance* and *metabolic syndrome*, when it is only 1 (one) of the 3 (three) required criteria is met.
- Also there are other diseases where the insulin resistance is caused by genetic or autoimmune components, further classified as *Insulin Resistance Syndrome Type A and B*.
- Those classifications (Type A and B) aren't necessarily associated with hyperlipidemia and/or overweight (important components of metabolic syndrome as previously stated).

I.R.S.Type A	I.R.S.Type B
Leprechaunism	Autoimmune (very rare)
Lipodystrophies	
Rabson-Mendenhall syndrome	

QUESTIONS?

REFERENCES

- ¹National Heart, Lung, and Blood Institute. (2019, January 30). *Metabolic Syndrome* | National Heart, Lung, and Blood Institute (NHLBI). Nih.gov.
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