

# **Common childhood obesity**

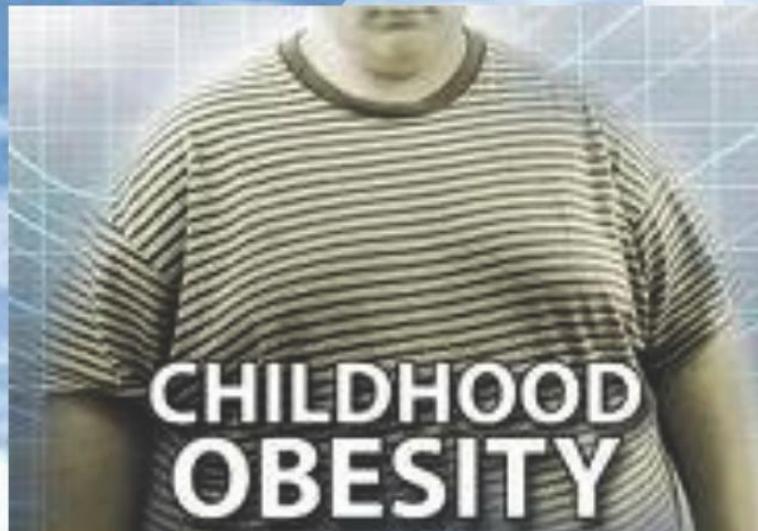
Characteristics and consequences

Zlatko Marinov

Children obesitological ambulance

# Common obesity

Pandemic civilization disease  
Chronic cardio-metabolic disease



Tip

## The development of pandemic obesity

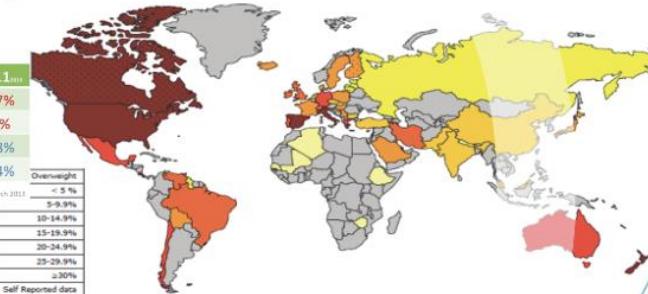


Global Prevalence of Overweight in Boys 2000-2006

Výskyt nadváhy a obezity v letech 1951 až 2011  
u sedmiletých dívek a chlapců

	1951	1981	1991	2001	...2011...
nadváha <b>DÍVKY</b>	8,9%	10,2%	15%	15,1%	16,7%
obezita	1,6%	3,5%	3%	5,2%	9,6%
nadváha <b>CHLAPCI</b>	12,1%	13,6%	17%	18,3%	19,8%
obezita	1,8%	2,3%	4%	8,2%	11,4%

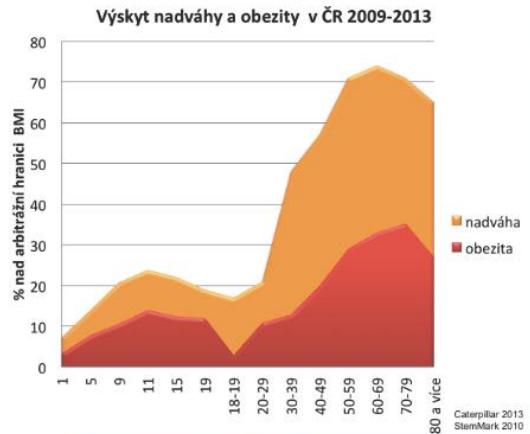
In Czech republic  
**154 000** children with  
obesity  
**85 000** children with  
metabolic changes  
**34 000** with morbid obesity



Výskyt závažné hmotnosti dětí v ČR 2009-2013

Věkové období	nadváha % nad 90 percentil BMI	obezita % nad 97 percentil BMI	podváha % pod 3 percentil BMI
kojenci	7,37	3,38	3,36
batolata	9,72	3,55	4,27
předškolní	<b>13,91</b>	<b>7,86</b>	4,05
mladší školní	20,86	10,75	2,83
starší školní	<b>24,2</b>	<b>13,29</b>	2,15
adolescence	22,07	12,4	1,52
raná dospělost	<b>18,95</b>	<b>11,92</b>	<b>5,02</b>

## The development of epidemic children obesity - Tsunami effect





**Common obesity**  
Pandemic civilization disease  
Chronic cardio-metabolic disease

**CHILDHOOD OBESITY**

**Tip of the iceberg of civilization diseases**

Genetically modified population with lack of movement and with absolute or relative overeating in obesigenic environment.

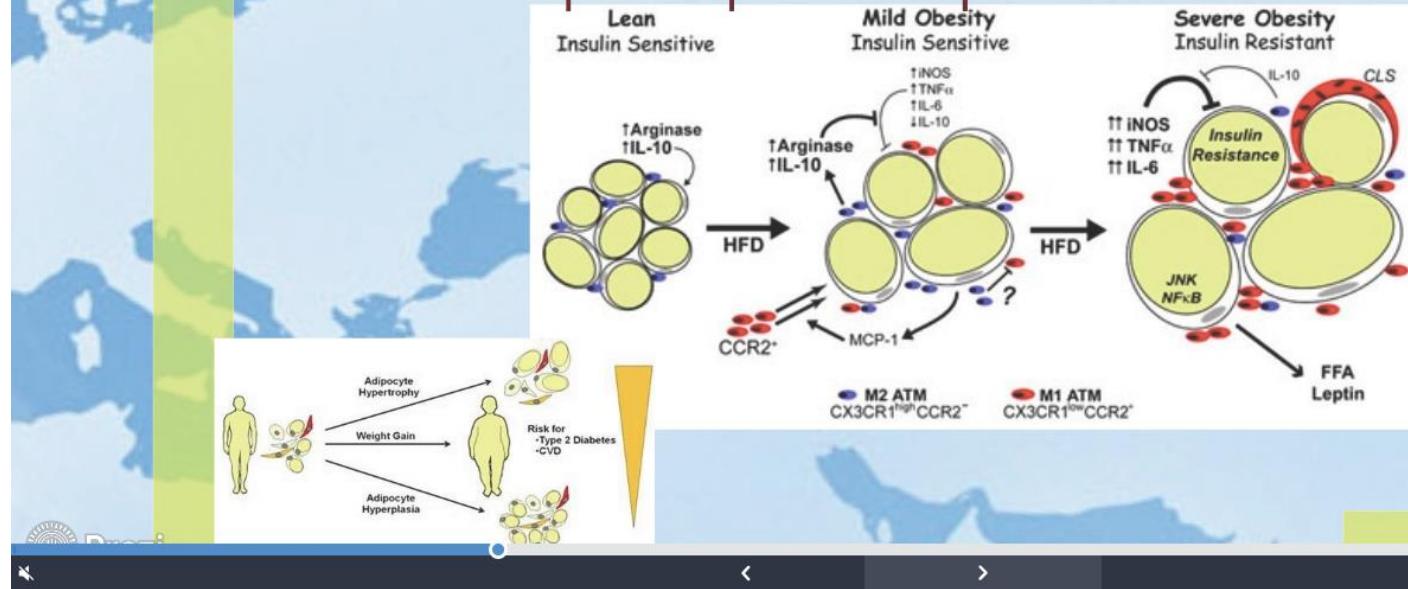
WHO define pandemic obesity as the most serious health problem

**Chronic cardio-metabolic disease**  
The loss of physiological regulatory mechanisms of fat cells and the development of cardiometabolic changes

**Adult Obesity - a health cash**  
Being overweight is 3, obesity by 7 and  
Obesity prevention prevention of car  
Treatment of obes consumes 10-15%

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# Pathophysiology of metabolic consequences prehepatic adipose tissue





## **Adult Obesity - a murderer and thief consenting health cash**

Being overweight in forty shortens life expectancy by 3, obesity by 7 and morbid obesity by 14 years.

Obesity prevention has higher importance than prevention of cancer from smoking.

Treatment of obesity and related complications consumes 10-15% of societal health costs

## **Child obesity - childhood thief and a source of unipolar depression**

zabránc  
u žen - mo  
u diabetiků - n  
u diabetiků - pokle  
po gastrickém b  
nádorová mor

Character  
common c  
obesity  
Source of childh

# Characteristics of common children obesity

**Source of childhood obesity is failing family lifestyle**

Nutritional wasteland desert

Movement abstemiousness lack

## **Thief of Childhood**

accelerate the onset of puberty by 0.13 year on 1 point of BMI  
for 25 years in the U.S. for girls to -1 year lowering population

## **Opens a window of unipolar depression**

as opposed to a European worldview  
pillars: beauty, health, success, tolerance

## **Children do not grow out of obesity**



## Long-term results of treatment

**Eat only until 80% full.**

**Leptin Signaling Pathway:**

- Normal weight: Leptin levels are low (~15-20%). Food intake = energy expenditure.
- Obese state: Leptin levels are high (~30-35%). Food intake > energy expenditure.
- Reduced obese state: Leptin levels are intermediate (~20-25%). Food intake < energy expenditure.
- Never obese state: Leptin levels are very low (~10-15%).

**ADIPOSE CELLULARITY:**

- Never obese: Small, sparse adipose tissue clusters.
- Obese: Large, dense adipose tissue clusters.
- Reduced obese: Intermediate adipose tissue clusters.

**Graph: Change in Weight (%) vs Years**

Year	Control	Banding	Vertical-banded gastroplasty	Gastric bypass
0	0	0	0	0
1	-10	-25	-20	-30
2	-12	-22	-22	-28
3	-14	-20	-20	-30
4	-16	-18	-18	-28
6	-18	-15	-15	-25
8	-19	-13	-13	-22
10	-20	-11	-11	-20
15	-22	-10	-10	-18

The lifelong incurable disease

Thank you for your attention



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The whole world lay at his feet  
and died at 38. Note the size of the funerary urn ....