

Pediatric Overweight and Obesity



Children's Hospital
Greenville Health System

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New Impact: Healthy Lifestyle Program





Objectives:

Childhood Obesity Current Practice

Describe the burden of overweight and obesity

Define overweight & obesity, including comorbidities

Identify the 4 stages of treatment (NICHQ/AAP)

[Rewind the Future](#)

The Burden of Obesity



- CDC reports that obesity is quickly approaching tobacco as the top underlying preventable cause of death
- Rates of childhood obesity have tripled in the last 30 years
 - >30% of children are overweight or obese
 - >15% of children are “obese”
 - >10% of children are “severely obese”
- In 2006, the medical consequences of obesity accounted for **40%** of the US healthy care budget

The Burden of Obesity



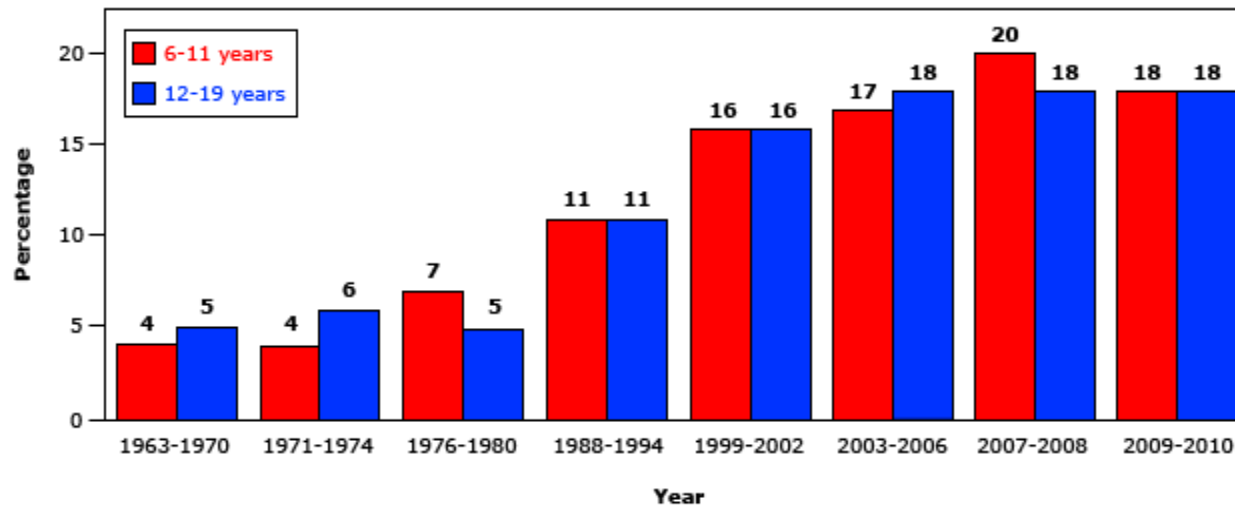
- SC ranks 7th in the nation in obesity!
- >29% SC children 2-5 years are overweight or obese
- 31.7% of SC high school students are overweight or obese
- If SC residents could reduce their average BMI by 5% by 2030, estimated cost savings of over \$9 billion!

CDC, Division of Adolescent and School Health. The 2009 Youth Risk Behavior Survey.

CDC. Division of Nutrition, Physical Activity, and Obesity. 2012 PedNSS.

Prevalence of Obesity

Prevalence of obesity* among children and teenagers, by age group and selected period--United States, 1963-2010



* Children with body mass index (BMI) values at or above the 95th percentile of the sex-specific body mass index (BMI) growth charts released by the Centers for Disease Control (CDC) in 2000. *National Health and Nutrition Examination Surveys*. Additional information is available at: <http://www.cdc.gov/nchs/fastats/overwt.htm>.

Why the increase in obesity?



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POOR NUTRITION (lifestyle choice)

Prenatal Influences: Gestational DM

Demise of family dinner (eating out, larger portions, eating fast, distracted)

“Processed” foods: High saturated fats, High fructose corn syrup

Fewer Fruits and veggies

LESS ACTIVITY (lifestyle choice)

Lack of safe play areas

Sedentary lifestyles: TV, video, computer (*with “whoa food” advertised*)

Diminished school PE requirements

Sports for recreational athlete (obese, lower SES) less accessible

Measuring Obesity in Children



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Body Mass Index (BMI)

$$\text{wt (kg)} / [\text{ht (m)}]^2$$

- 2-20 y/o BMI%ile takes into account body fat changes with age and gender
- Indirect measure of adiposity (parallels direct measurements)
- Acceptable screening tool for individuals in MD office. Must be accurate and consistent(small inaccuracy in height can greatly affect BMI curve)
- Can be Inaccurate in those with high lean body mass.

BMI: Adults vs Children

ADULTS

BMI

<18.5

18.5-24.9

25-29.9

>30

Weight Status

underweight

normal

overweight

obese

CHILDREN

< 5%ile

5-84%ile

85-94%ile

95%ile or >

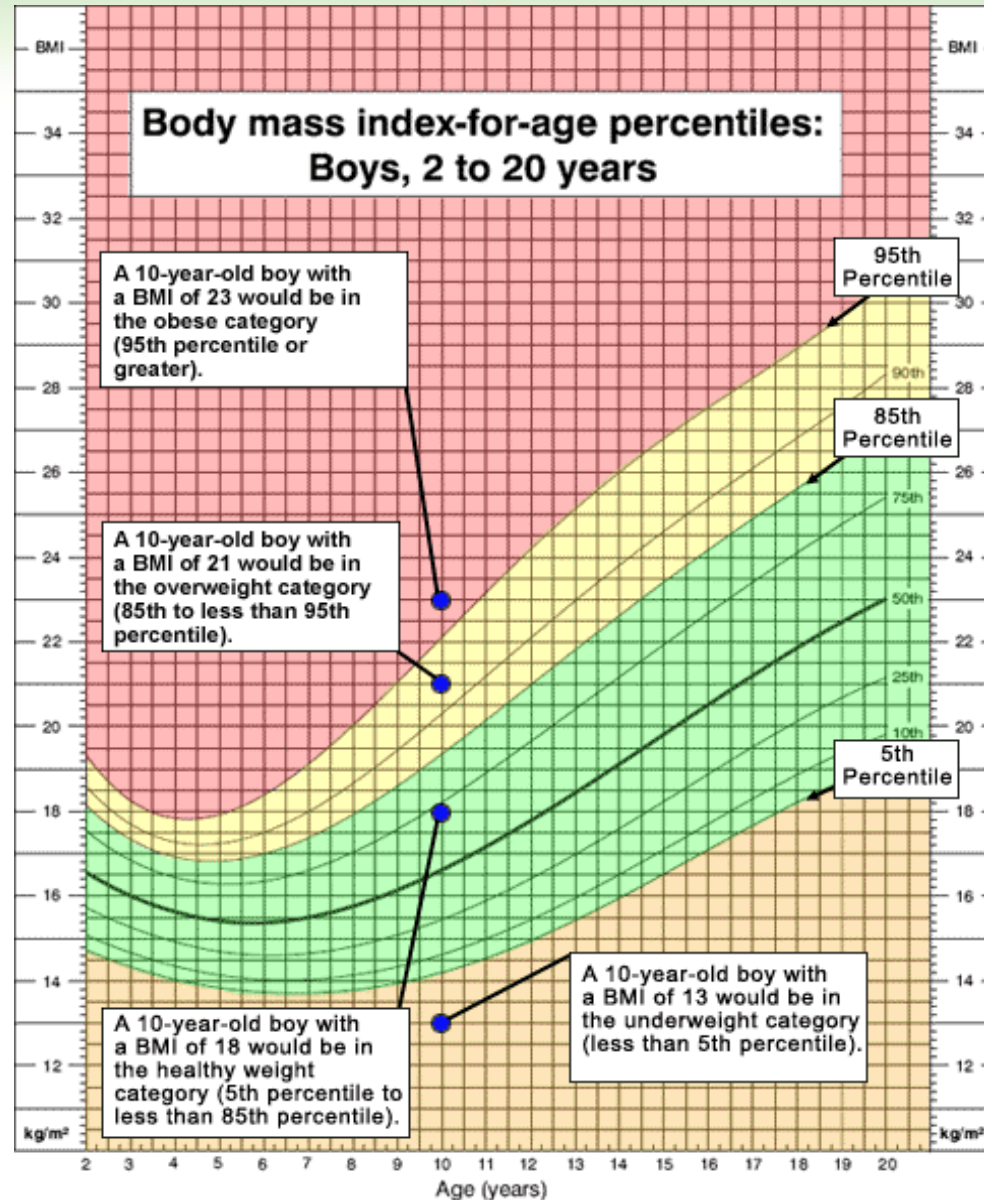
underweight

normal

overweight

obese

BMI Rebound



Why is it important to measure BMI?



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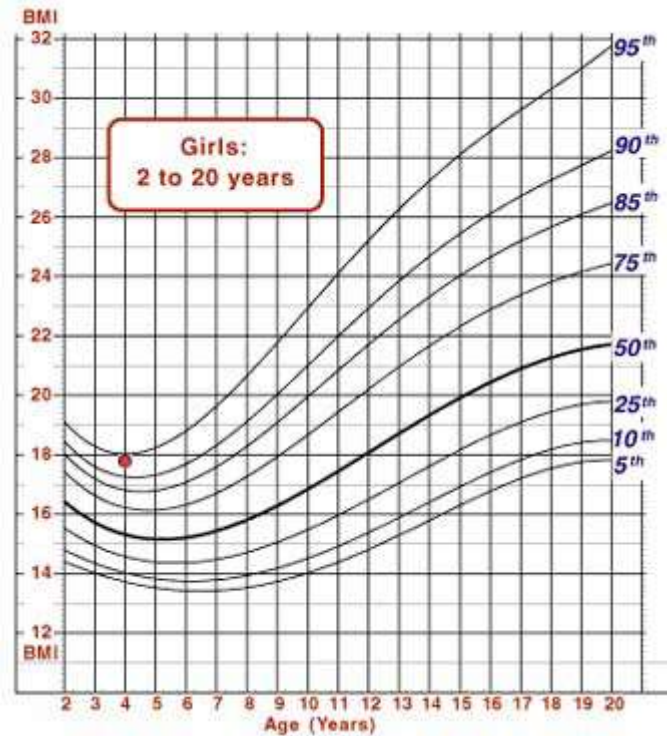
Lisa is a 4 year-old girl.

Does she appear:

1. Underweight
2. Normal
3. Overweight
4. Obese



Just < 95%ile – “overweight”



Weight Loss Targets



	BMI 85-94%ile No Risks	BMI 85-94%ile With Risks	BMI 95-98%ile	BMI >= 99%ile
Age 2-5 Years	Maintain weight velocity	Decrease weight velocity or weight maintenance	Weight maintenance	Gradual weight loss of up to 1 pound a month if BMI is very high (>21 or 22 kg/m ²)
Age 6-11 Years	Maintain weight velocity	Decrease weight velocity or weight maintenance	Weight maintenance or gradual loss (1 lb per month)	Weight loss (average is 2 pounds per week)*
Age 12-18 Years	Maintain weight velocity. After linear growth is complete, maintain weight	Decrease weight velocity or weight maintenance	Weight loss (average is 2 pounds per week)*	Weight loss (average is 2 pounds per week)*

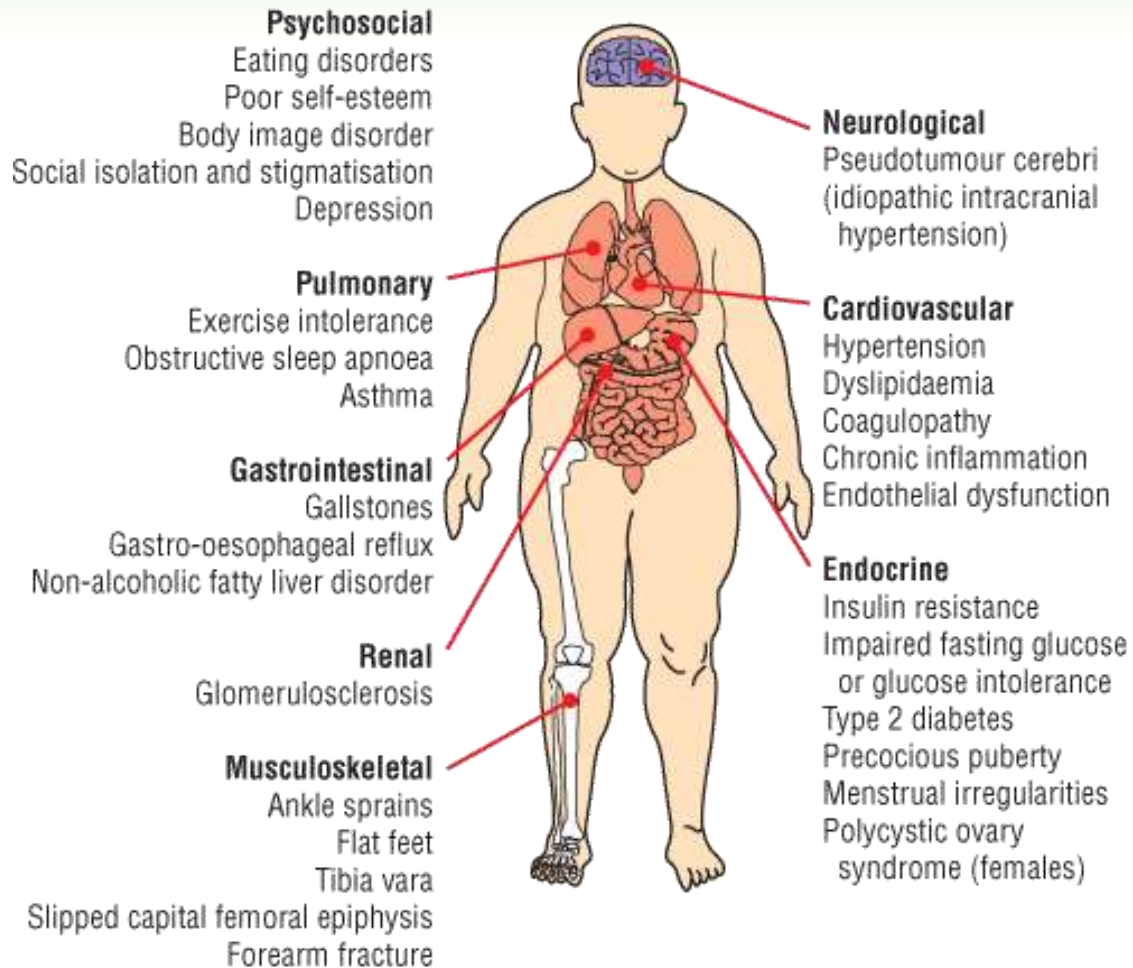
* Excessive weight loss should be evaluated for high risk behaviors

(Childhood Obesity Action Network, NICHQ, 2007)

Social/Psychological History

- Low self-esteem
- Depressive Symptoms
- Social Difficulties
- Poor Body Image
- Risk for Eating Disorders*
- Poor Quality of Life
- Major Stressors
- Home Environment- daily schedule

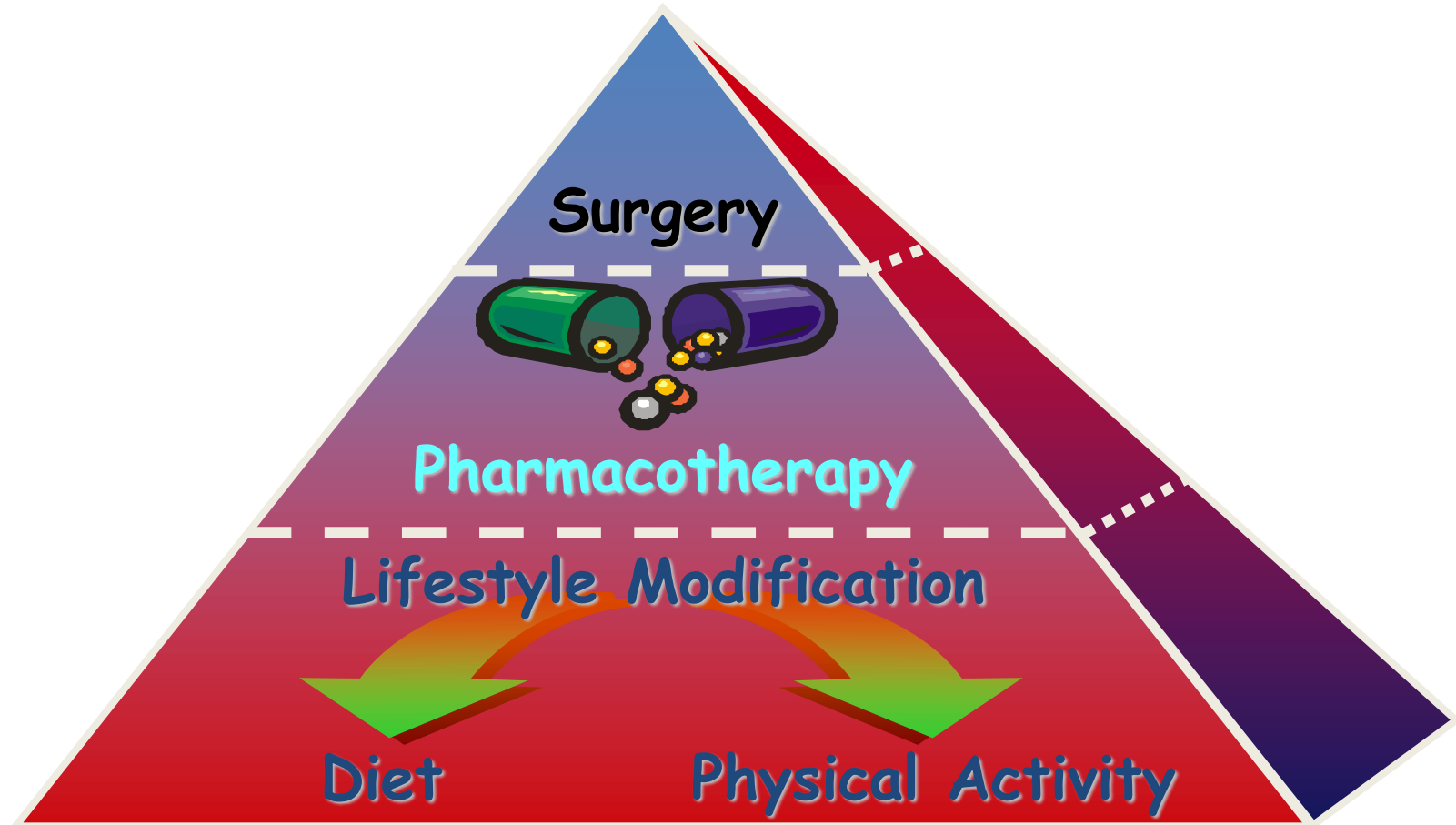




Treatment Options: What is missing?



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Staged Approach for Providers

An Overview



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- **Prevention**
- **Stage 1 - Prevention Plus**
 - Family visits with physician or health professional
 - Frequency individualized to family needs and risk factors
- **Stage 2 - Structured Weight Management**
 - Family visits with physician or health professional with training in childhood weight management. Visits can be individual or group.
 - May include visits with a dietitian, exercise therapist or counselor
 - May include self-monitoring, goal setting and rewards
 - Frequency monthly or individualized to family needs and risk factors

A Staged Approach - Overview



- **Stage 3 - Comprehensive, Multidisciplinary Intervention**
 - Multidisciplinary team with experience in childhood obesity
 - Frequency often weekly sessions for 8-12 weeks with follow up
- **Stage 4 - Tertiary Care Intervention** (for select children only when provided by experienced programs with established clinical or research protocols)
 - Medications - sibutramine, orlistat
 - Very-low-calorie diets
 - Weight control surgery - gastric bypass or banding (not FDA approved for children but in clinical trials)

"Pro Teens"
www.goproteens.com

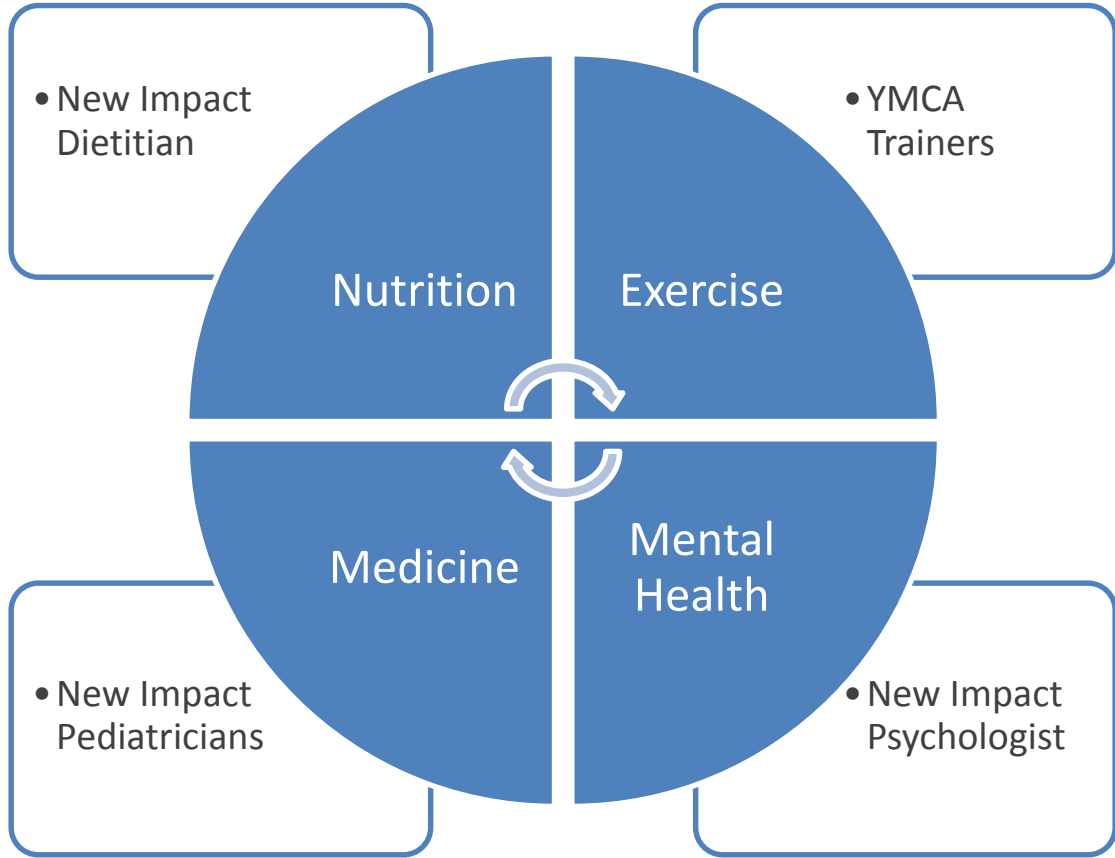
STAGE 3: NEW IMPACT



Mission: To treat overweight and obese children between the ages of 6-21 and empower them to develop active and healthy lifestyles.

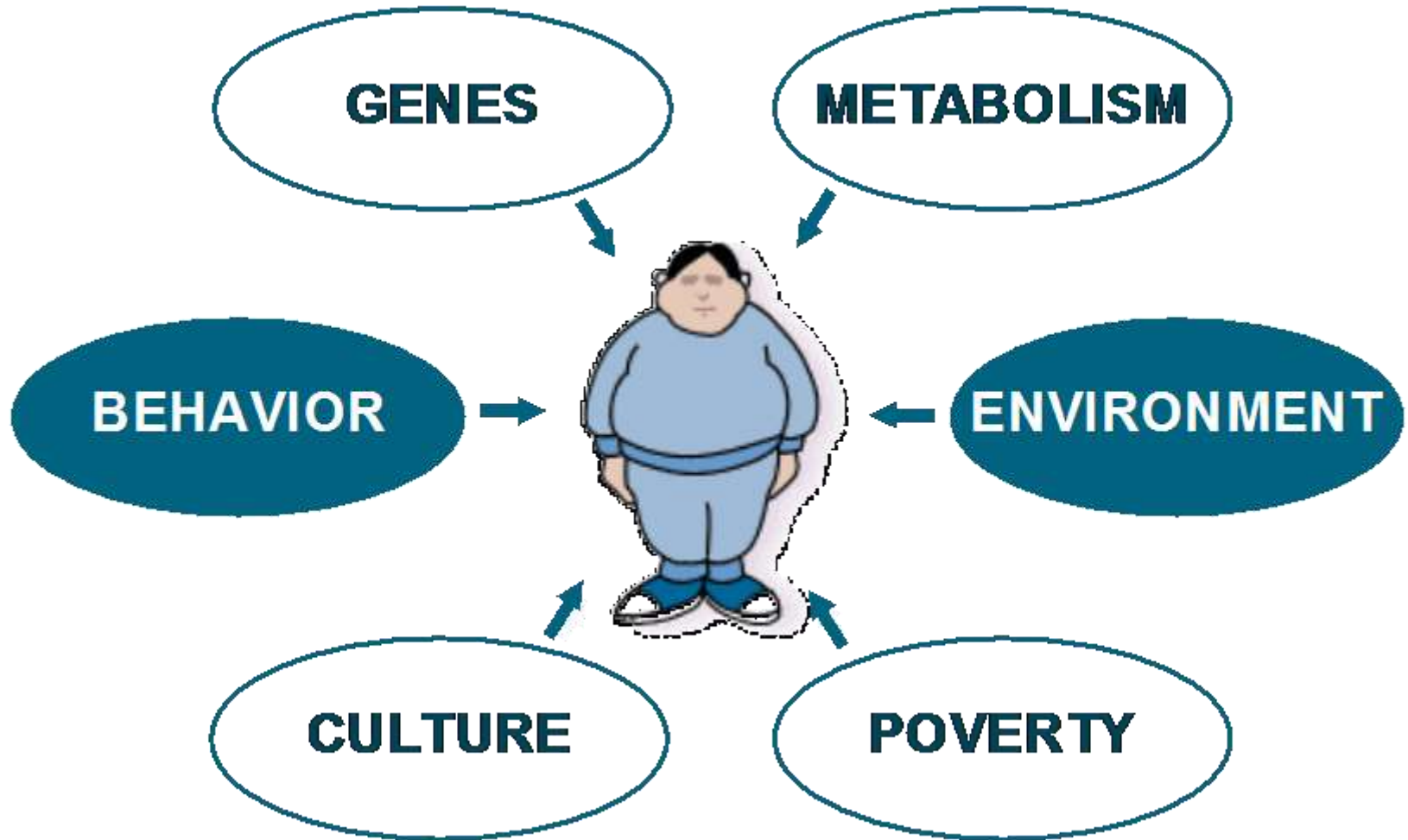
Comprehensive Approach: Our team members target the exercise and eating behavior of the entire family system. We address medical and psychological comorbidities.

STAGE 3: NEW IMPACT

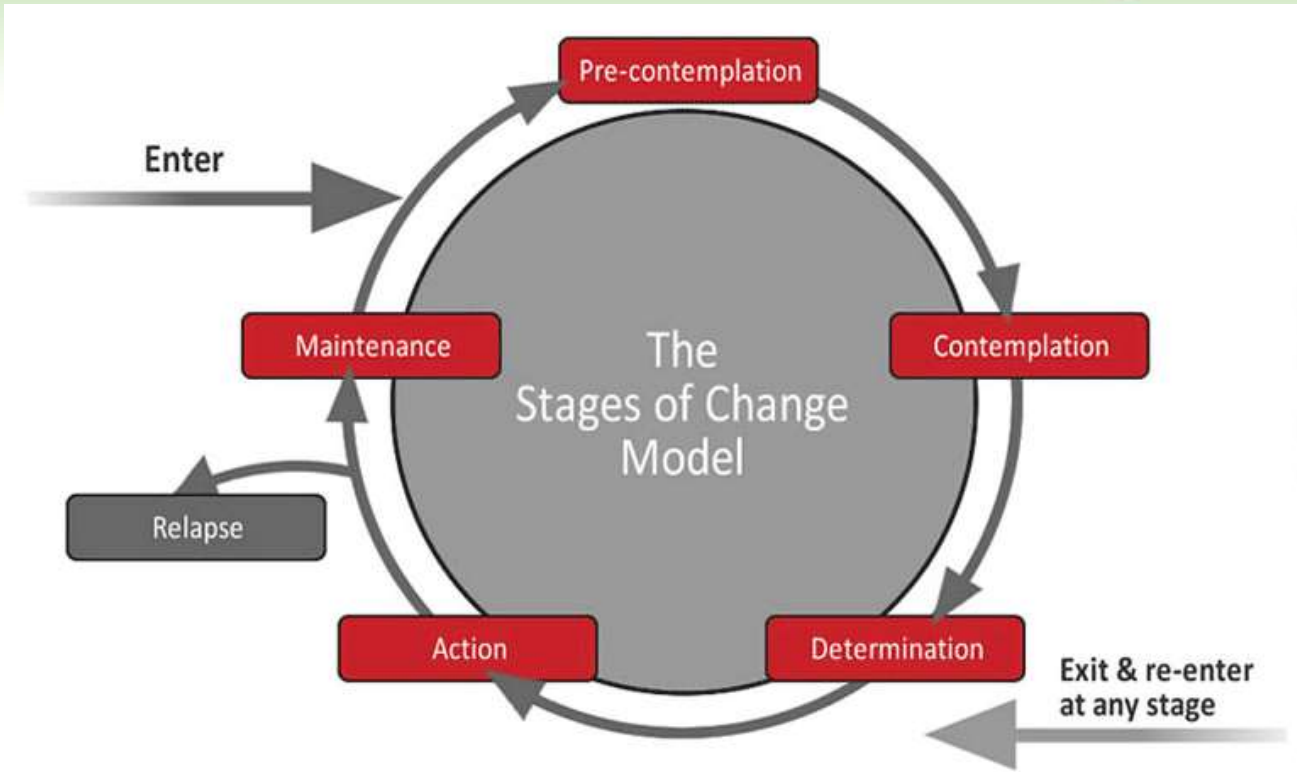


Where to Start?

Modifiable risk factors



Determine Readiness to Change



Pre-Contemplation	Contemplation	Determination/Preparation	Action	Maintenance	Relapse/Recycle
					
No; Denial	Maybe; Ambivalence	0-3 Months Yes, Let's Go; Motivated	3-6 Months Doing It; Go	Over 6 months Living It	Ugh!!



New Impact: Nutrition

-  nutrient dense foods (cooking classes)
-  calorically dense foods
- Improved meal patterns
- Budget, Lifestyle and Culturally “Friendly”





New Impact: Activity

- Less “training” and more “moving”
(decreasing sedentary time)
- Encouraging play in all age groups
(playdates planning grant)
- Building active families: families that
move more and are active together
- YMCA partnership



“Screen Time”

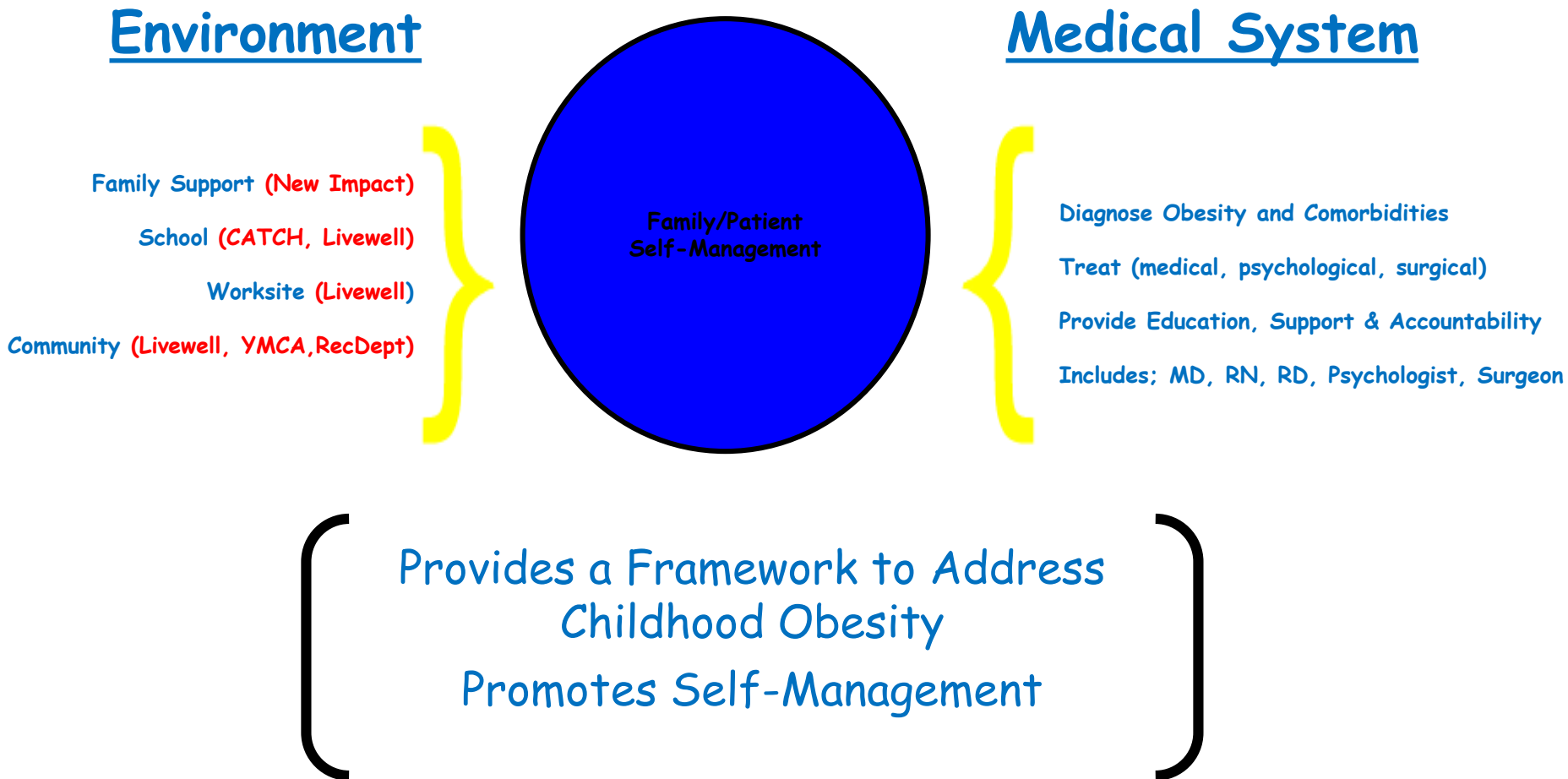
The food and drug industries spend \$10-12 billion per year advertising to children and youth. 20-40 K messages/year for WHOA food!

Only about 2% of TV ads are for fruits and vegetables

Food preferences are influenced by just **30 seconds** of commercial time



Chronic Care Model



Your Involvement Matters



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The normal physician treats the problem;
The good physician treats the person;
The best physician treats the community.



120 Pounds

