

NUTRITION AND AUTISM

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ROLE OF THE DIETITIAN

- Member of the interdisciplinary team
- Assess dietary intake for adequacy
- Review child's dietary pattern on a case-by-case basis

BEHAVIORS AFFECTING DEVELOPMENT OF FEEDING SKILLS

- Persistence of primitive reflexes in children with autism
- Delayed development of hand dominance
- Unusual postures
- Unusual movements

FEEDING BEHAVIORS AFFECTING DIETARY INTAKE

- PICA – eating of non-food substances
- Health risks associated:
 - Ingestion of toxic substances
 - Interference with normal digestion and absorption
 - Ingestion of life-threatening substances
 - children with ASD display a higher incidence of this behavior (Erickson et al. 2005)
 - Review hemoglobin and lead levels
 - If indicated, serum total protein and albumin should be assessed to determine adequate protein status

Other Feeding behaviors...

- Food cravings
- Specific food or food preparation preferences
- Idiosyncracies and perceived eating problems according to parental reports
- Aversion to the swallowing of substances
- Oral tactile defensiveness
- Retention of bits of food in the mouth for prolonged period of time – can lead to dental problems
- Idiosyncratic and rigid food preferences

3 Types of Food habits most often seen

- 1. The need for sameness and ritual
- 2. Specific eating behaviors
- 3. limited and rigid food preferences

Anthropometric Measurements

Dietitian's Assessment

Indicators of Nutritional Status

Head circumference-for-age

<5th percentile
>95th percentile

Stunting/shortness
length or stature-for-age

<5th percentile

Underweight
weight-for-length
BMI-for-age

<5th percentile

Indicators of Nutritional Status

Overweight

Weight-for-length

BMI-for-age

$\geq 95^{\text{th}}$ percentile

Risk of overweight

BMI-for-age

85^{th} to 95^{th} percentile

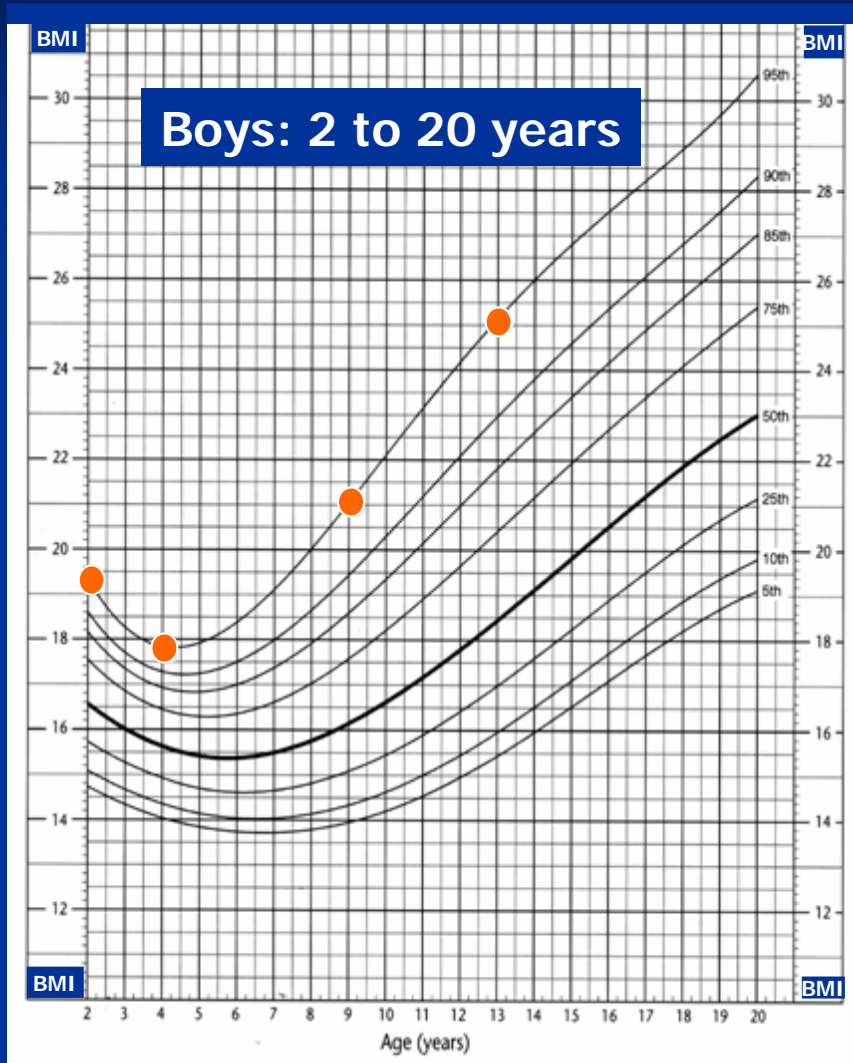
What is BMI?

- **Body mass index (BMI) =
weight (kg)/height (m)²**
- **BMI is an effective **screening** tool; it is not a diagnostic tool**
- **For children, BMI is age and gender specific, so BMI-for-age is the measure used**

Advantages of BMI-for-Age

- BMI-for-age relates to health risks
 - Correlates with clinical risk factors for cardiovascular disease including hyperlipidemia, elevated insulin, and high blood pressure
 - BMI-for-age during pubescence is related to lipid levels and high blood pressure in middle age

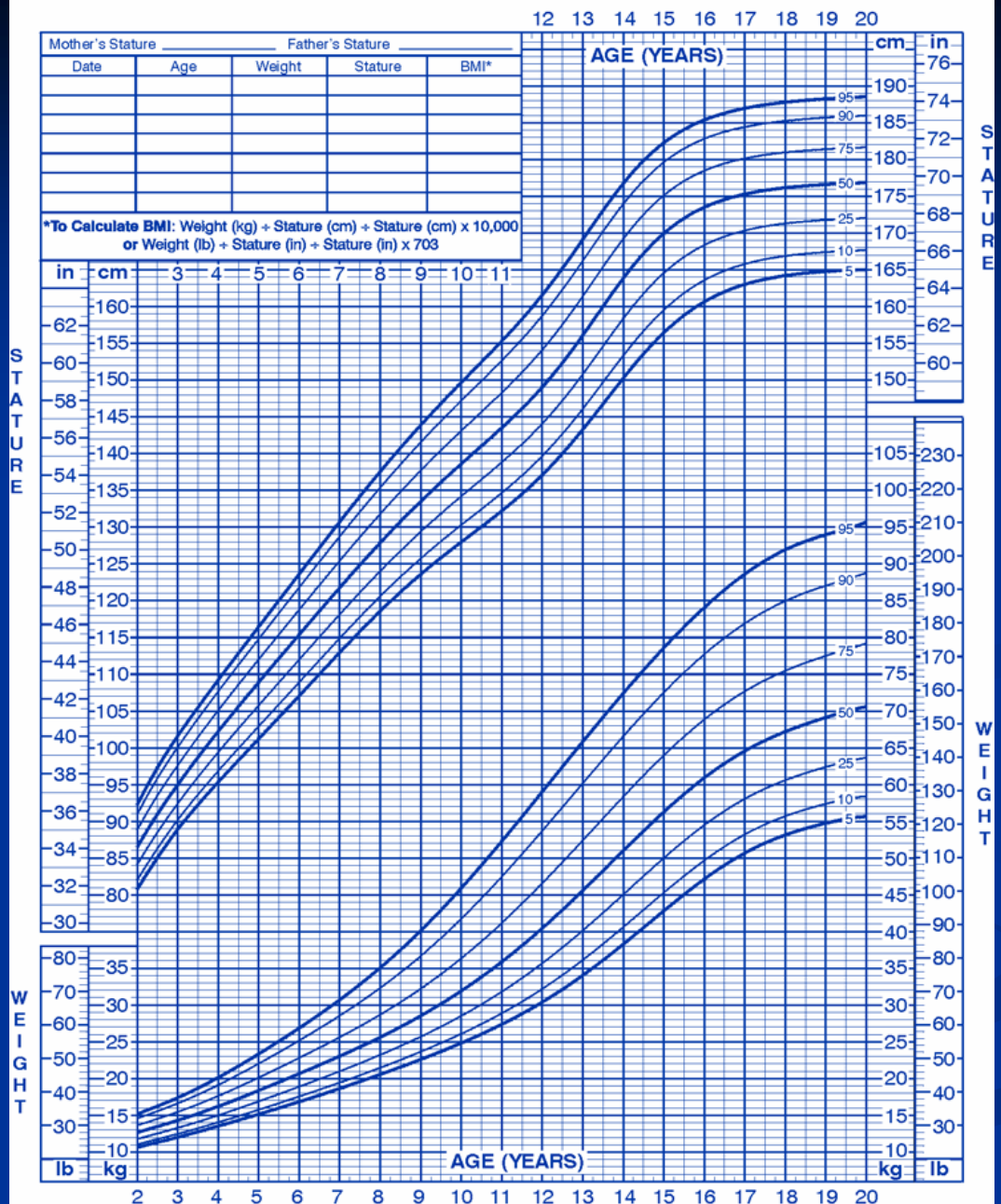
For Children, BMI Changes with Age



Example: 95th
Percentile
Tracking

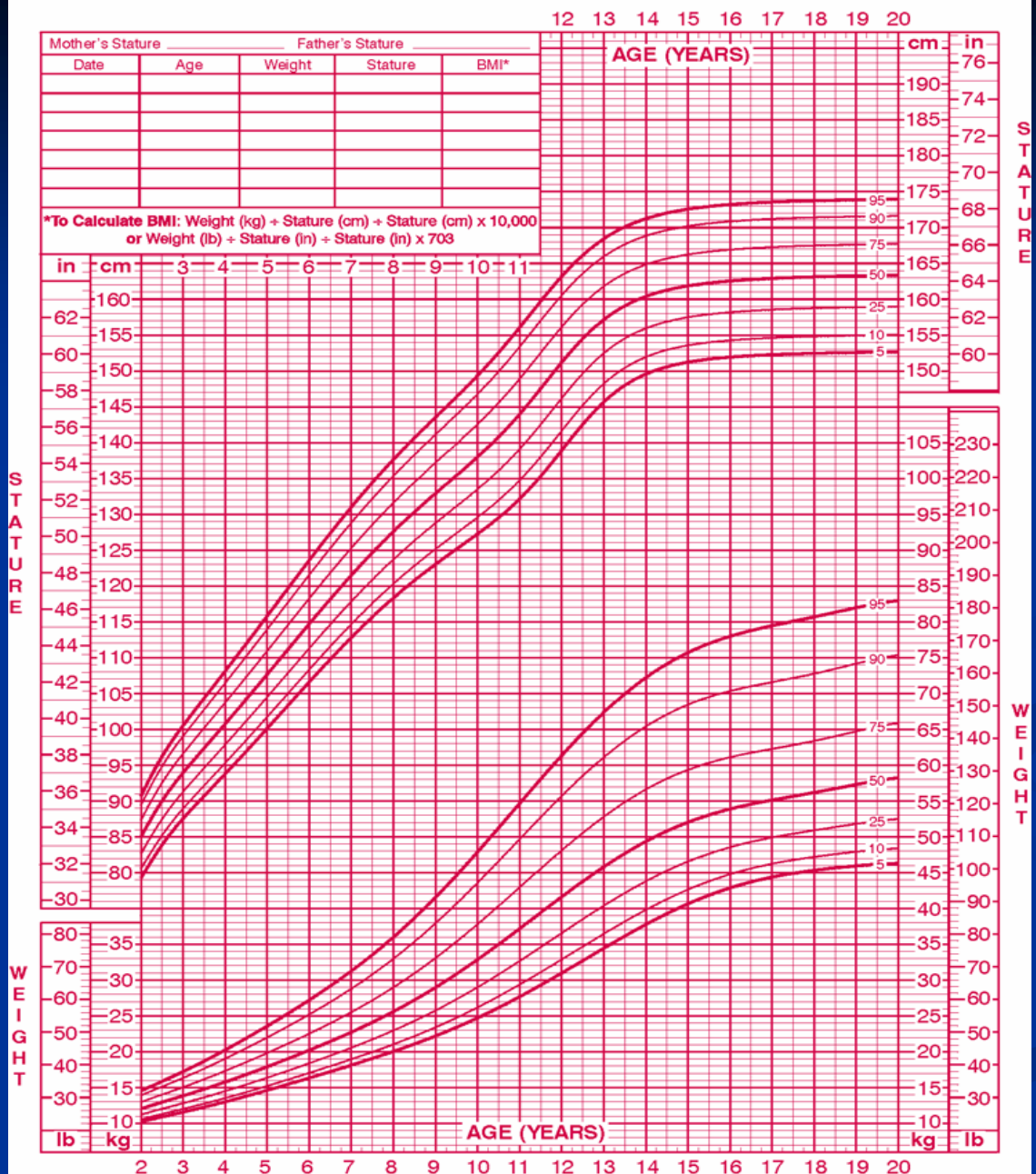
Age	BMI
2 yrs	19.3
4 yrs	17.8
9 yrs	21.0
13 yrs	25.1

Stature-for-age and Weight-for-age percentiles



Published May 30, 2000 (modified 11/21/00).
 SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).
<http://www.cdc.gov/growthcharts>





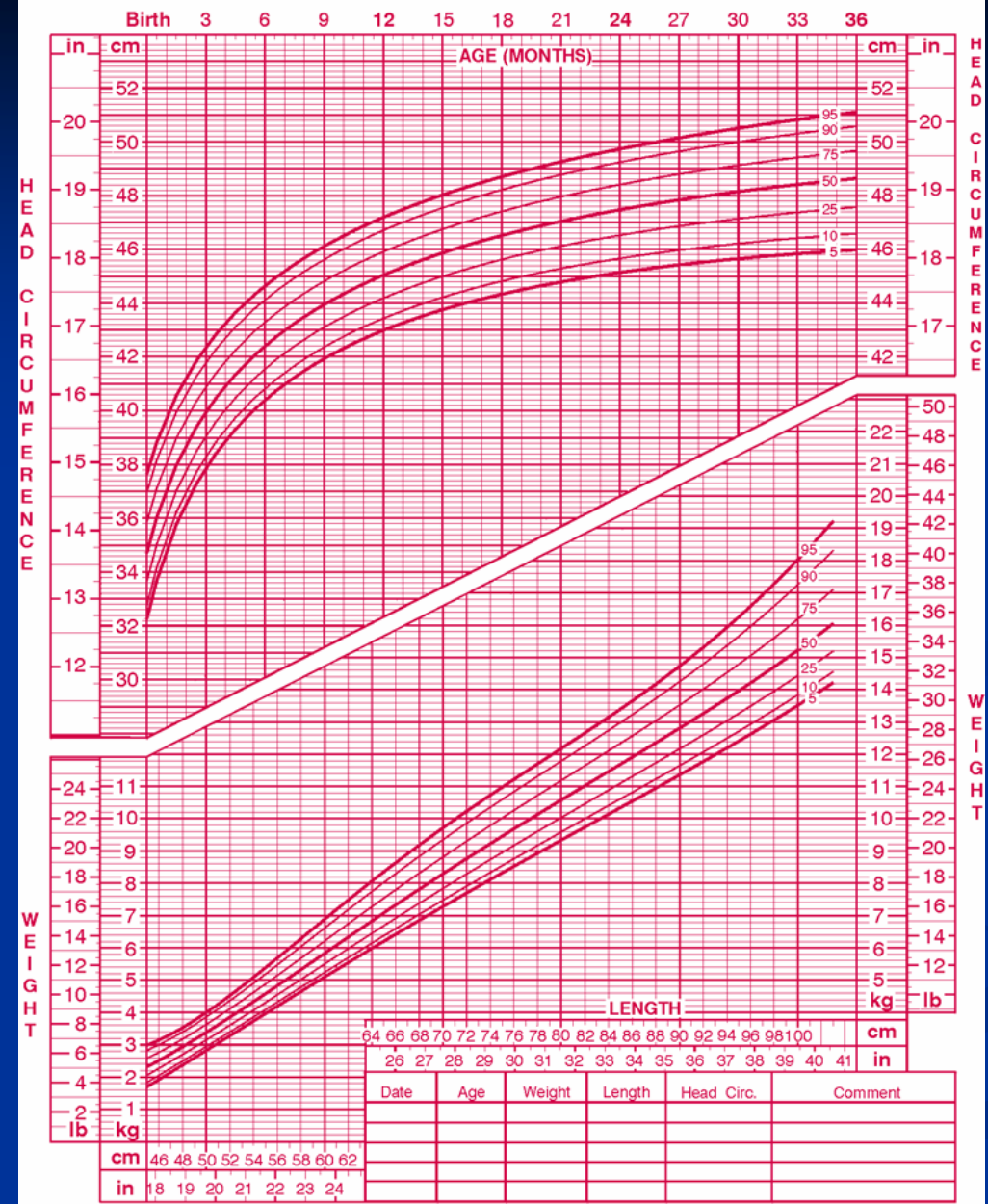
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Birth to 36 months: Girls
Head circumference-for-age and
Weight-for-length percentiles

NAME _____

RECORD # _____



Published May 30, 2000 (modified 10/16/00).
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Most common GI complaints

- Lactose intolerance
- Gastro-esophageal reflux
- Constipation
- Diarrhea
- Liver problems
- Feeding problems
- G-tube feedings

Alternative Therapies

- CURRENTLY NO RECOMMENDED DIET THERAPIES for ASD
- Role of the dietitian – analyze the diet for nutritional adequacy and to help support the family and offer current nutrition information

Gluten Intolerance

- ASD may have autoimmune links and that these foods trigger the autoimmune responses.
- The inflammation of the GI tract due to exposure to irritants is uncomfortable or even painful.
- Behavioral symptoms may worsen

Other Alternative Therapies

- Megavitamin Therapy
- Feingold Diet or no additive type

Gluten/Casein Free Diet

- Most widely investigated
- Theory: Metabolites of these foods build up in the bloodstream and penetrate the blood/brain barrier.
- The metabolites stimulate the opioid receptors causing the behaviors seen in autism

Goal for Nutrition Therapy

- To meet micro and macro nutrient needs through a regular diet to promote optimal growth and development
- In depth assessment of:
 - Anthropometrics
 - Biochemical
 - Clinical data
 - Dietary information

Used to evaluate overall diet

