Objectives

- Discuss feeding guidelines
  - When and how to start solids in infants
  - How to advance to different stages of feeding in infants and toddlers

- Discuss nutrition and vitamins
  - Calcium, vitamin D, and iron requirements in infants and toddlers
  - Who needs vitamin and fluoride supplementation
  - How much milk, fiber, and fruit juice is appropriate
How do I know if my baby is getting enough to eat?

- The Good News: self regulation
  - Feeding On Demand
    - Infants self regulate their intake
    - THEY will tell YOU how much, how often

- Input vs. Output
  - What Goes In Must Come Out
    - Some generalities can be made for intake and output

- Weight Gain
  - Infants lose weight the 1st wk of life (up to 10%)
  - Breastfed babies regain their birth wt by 14 days
  - Formula fed babies regain their birth wt by 7-10 days
Breastfeeding Infants

- Feed every 1.5-3 hrs in the beginning (once milk is in)
- The 1st 48 hrs: normal for baby to be sleepy and not feed this frequently -- this is ok, offer breast frequently
- Wake to feed in 1st mo if longer than 4-5 hrs since last feed
- Average time = 20 mins (most feeds 10-30 mins)
  - 0-2 mos: 8-12 times/day (once milk is in)
  - 2-4 mos: 6-12 times/day
  - 4-6 mos: 6-10 times/day
If you gotta have numbers...

- **Formula fed Infants**
  - 0-1 mos: 2-4 oz/feed, 6-10 x/day, 12-32 oz/day
  - 1-2 mos: 4-5 oz/feed, 5-6 x/day, 20-30 oz/day
  - 2-3 mos: 5-6 oz/feed, 5-6 x/day, 25-36 oz/day
  - 3-4 mos: 6-7 oz/feed, 4-5 x/day, 24-35 oz/day
  - 4-6 mos: 6-8 oz/feed, 4-5 x/day, 24-40 oz/day

- **Rules of thumb**
  - After 1st month, amt of feed increases by 1 oz/month until at 8 oz per feed
  - 2.5 oz formula / lb body weight / day (average)
How do I know if my baby is getting enough to eat?

Output

- Breastfeeding Infants
  - 6-8 wet diapers per day
  - Stools are watery, yellow, seedy
  - Initially may stool after every feed then gradually decrease

- Formula fed Infants
  - 6-8 wet diapers per day
  - Stools are soft, more formed than breastfed babies
  - 1-4 stools per day in the beginning then gradually decrease
  - Stool less frequently then breast fed babies
At Your Doctor’s Visit

- **Weight Gain and Growth Charts**
  - Gain about 1 oz/day in early months
  - Weight is checked 1-2 times after hospital discharge, then at 2 mos, 4 mos, 6 mos, etc.
  - Weight may be checked more frequently if concerns

- **Red Flags:**
  - Poor weight gain
  - “Not tracking” on growth charts
  - In times of illness: decreased # of wet diapers
Feeding Progression 4-6 months old

- Start complementary foods 4-6 mos old
- Signs of readiness for solids
  - Can sit with support w/good head/neck control
  - Opens mouth when food is offered
  - Extinction of extrusion reflex -- does not raise tongue and push against objects
  - Able to move semi solid food from front to back of mouth
Feeding Progression 4-6 months old

- **Start with single ingredient foods**
  - 1st: Infant rice cereal and pureed meats (provides iron and zinc)
  - 2nd: Strained/pureed fruits and vegetables

- **Add 1 new food every 3-7 days**
  - This will assist in ID of any food intolerance
Feeding Progression from 6 mos to 12 mos old

- Combination foods once infant tolerates individual components
- Thicker purees and mashed foods once infant can sit independently and tries to grasp food with hands at 6-8 mos
- Finger foods (finely chopped soft foods) by 8-10 mos
- Self feeding by 9-12 mos
Things To Avoid

- Avoid free water or diluting feeds < 6 mos
- Avoid unmodified cow’s milk before the age of 1 y/o
- Avoid honey (due to infant botulism) before the age of 1 y/o
- Avoid choking items like small, round foods
  - Nuts, grapes, raw carrots, popcorn, raisins, hot dogs
How Do I Know If My Toddler Is Getting Enough To Eat?

The Good News: self regulation
- Toddlers
  - Allow your toddler to self feed
  - Allow your toddler to choose what and how much food
- Parents
  - Should offer a variety of nutritious foods
  - Structured mealtimes free of distractions
  - Model healthy eating behaviors
  - Recognize and response to child’s signals of hunger and fullness
How Do I Know If My Toddler Is Getting Enough To Eat?

The Bad News

- **Picky Eater = Normal Toddler Behavior**
  - Growth rate and appetite decrease after the 1st Bday
  - Toddlers eat variable quantities at any given meal
  - Toddlers choose from a smaller variety of foods -- try new foods 8-10 times before concluding that they don’t like it

- **Food Struggles/Control Issues**
  - Don’t pressure, beg, or punish
  - Respect any strong food dislikes
Protein, Fat, and Carbs

- **Protein**
  - 1-3 y/o: 5-20% of total intake
  - 4-18 y/o: 10-30% of total intake

- **Fat**
  - 2-3 y/o: 30-35% of total intake
  - 4-18 y/o: 25-35% of total intake

- **Carbs**
  - 45-65% of total intake

- MyPyramid.Gov - interactive individualized website
At Your Doctor’s Visit

- Weight Gain and Growth Charts

- Red Flags:
  - Poor weight gain
  - “Not tracking” on growth charts

- Discuss Feeding Problems

- Feeding Clinics
Feeding Progression In Toddlers

- Important to encourage self feeding
- Wean from bottle to cup at 12-15 mos
- Completely transition from bottle to cup ideally at 15-18 mos to 2 y/o
Things to Avoid

- Power struggles
- Bottles at bedtime/naps (tooth decay)
- Unhealthy foods --> energy rich, nutrient poor snacks (salty snacks, cookies, sweetened beverages)
  - This is the time to start developing healthy eating habits, encourage outdoor play/nature, and encourage a healthy body image
Milk

- Benefits of milk include calcium and vitamin D
- Avoid unmodified cow’s milk before 1 y/o
- Transition from whole milk to skim-2% at 2 y/o
- Excessive milk intake can displace the desire for other nutrients and foods
How Much Vitamin D?

- Minimum of 400 IU per day (all ages)
- Vitamin D is essential for calcium absorption into bones
- Formula, cow’s milk, soy milk, and rice milk are fortified with Vitamin D
  - 8 oz = 100 IU Vitamin D
- Breastmilk does not have enough Vit D
- Vitamin D rich foods include
  - eggs, fortified dairy products, cereal, bread, fish
Who Needs a Vitamin D Supplement?

- Exclusively breastfed babies
- Formula fed infants who drink <32oz formula per day
- Kids > 1 y/o who drink < 32 oz (4 cups) milk/day AND don’t eat other foods containing Vitamin D
How Much Calcium?

- 1-2 y/o: 500mg/day (2 cups milk)
- 2-8 y/o: 800 mg/day (3 cups milk)
- 9-18 y/o: 1300 mg/day

- 1 cup (8 oz) milk = 300 mg Calcium
How Much Milk is Enough?

- 1 cup milk = 8 oz
  - 8 oz milk = 300mg Calcium + 100 IU Vitamin D

- 2-4 cups milk per day, but if only 2 cups, additional Vit D and/or Calcium is needed
How Much Iron for Infants?

- **Breast Fed infants after 4-6 mos**
  - Need additional iron through cereal and/or meats
  - Iron fortified infant cereal 2 oz x 2 servings
  - Pureed meats 1/2-1 jar / day

- **Formula Fed infants**
  - Do not need additional iron supplementation

- **Anemia Screening**
  - 9-12 mos; +/- 15-18 mos
How Much Iron for > 1y/o?

- Ages 1-13 y/o: 7-10 mg/day
- Males > 14 y/o: 11 mg/day
- Females > 14 y/o: 15 mg/day
Who Needs a Multi Vitamin?

- Exclusively BreastFed Infants
- Low Vitamin D intake (<400 IU/day)
- Low Calcium intake
- Low Iron Intake
- Vegetarians and Vegans (low iron/B12)
What About Fluoride?

Fluoride supplements are indicated for:

- At least 6 mos old AND
  - Exclusively breastfed infant
  - Infants fed ready to feed infant formulas
  - Formula fed AND community water is not fluoridated

- Fluoride is by prescription only
  - Multi-vitamin + fluoride rx
  - Fluoride rx only
How Much Fiber is Enough?

- Benefits of fiber
- 2 y/o or older = Age + 5-10 grams/day (not to exceed 30 grams/day)

- Fiber rich foods
  - Fruit (bananas, berries, apples, oranges, raisins)
  - Veggies (greens, peas, broccoli, carrots, corn)
  - Granola and fiber rich cereals
  - Whole wheat or multi grain breads, crackers, muffins
Fruit Juice

- Avoid fruit juice < 6mos old
- Avoid sweetened fruit juices
- 100% fruit juice is preferred
- 100% fruit juice (4-6 oz) can count as 1 fruit serving BUT lacks fiber of whole fruit
- Limit fruit juices to due to high sugar and caloric content
  - 4-6 oz/day (1-6 y/o)
  - 8-12 oz/day (> 7 y/o)
Conclusions

- Infants and Toddlers self regulate their intake
- Parents should model and offer nutritious food choices
- Routine Doctor’s visits for Growth Curves
- Check with your doctor whether a multi-vitamin +/- fluoride is needed
- Healthy eating habits in early childhood = less obesity and diabetes, HTN, heart dz