From potato chips to mini meals: Optimizing nutrient quality of snacks
Objectives

1. Explain how snacks serve as ‘mini-meals’ that can contribute significant amounts of nutrients.

2. Instruct clients how to formulate snacks from food group foods.

3. Motivate clients to plan and prepare to have healthy, appealing, convenient snacks available throughout the day.
Our Speakers:

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Kathryn Hoy, MFN, RD, CDN
Manager, Cornell Center for Behavioral Economics in Child Nutrition Programs
Cracking the Snacking Code: The who and what of America’s favorite habit

Dr. Keith Ayoob, EdD, RD
Associate Professor
Albert Einstein College of Medicine
Snacking: A cultural evolution 1977-2006

• 2012: 96% of children had at least one snack daily
• 26-27% of children’s total calories are from snacking\textsuperscript{1,2}
• 168 MORE daily calories from snacking, 1977-2006\textsuperscript{2}

\textsuperscript{1}Piernas & Popkin. \textit{J. Nutr.} 140: 325–332, 2010
\textsuperscript{2}What We Eat In America 2012: \url{http://ars.usda.gov/Services/docs.htm?docid=18349}
Snacking: A cultural evolution 1977-2006

- 97% of adults snack at least once daily
- Approximately 26% of total calories from snacking
- 222 MORE daily calories from snacking

²What We Eat In America 2012: http://ars.usda.gov/Services/docs.htm?docid=18349
Children: ALL groups are snacking more

Average # snacks/day

- 2y-6y: 1.34 (1977-78), 2.75 (2005-06)
- 7y-12y: 1.18 (1977-78), 2.28 (2005-06)
- 13y-18y: 1.2 (1977-78), 2.09 (2005-06)
- 2y-18: 1.23 (1977-78), 2.34 (2005-06)

http://content.healthaffairs.org/content/29/3/398.full.html
Adults: ALL groups are snacking more

Average # snacks/day

Multiple Snacks: The new normal

% having 3+ snacks daily

What We Eat in America: http://ars.usda.gov/Services/docs.htm?docid=18349
Snacking Frequency: Adults 1977-2012

% having snacks

More snacking = more snack calories

Daily calories from snacks

*Age 2-19
1977: 418
2006: 576

#Age 20+
1977: 357
2006: 579

*http://content.healthaffairs.org/content/29/3/398.full.html
#Piernas & Popkin J. Nutr. 2010
Snackers are diverse

Snacking frequency & race/ethnic background

- 0-2 snacks: White 35.8%, Black 43.1%, Hispanic 48.1%
- 3-5 snacks: White 43%, Black 39.8%, Hispanic 35.8%
- 6+ snacks: White 21.3%, Black 17.1%, Hispanic 16.1%

But BMI is equal opportunity for snacking

**Snacks: Bigger & more often**

Snacking on Nutrients of Concern

% intake from snacks

http://content.healthaffairs.org/content/29/3/398.full.html
Snacking on “Ingredients of concern”

http://content.healthaffairs.org/content/29/3/398.full.html
Where kids get their snack calories

% of snack calories by food group

- Other snack
- Salty snacks
- Desserts
- Milk/Dairy
- Juice/Fruit
- SSB

Source: Trends In Snacking Among U.S. Children, Health Affairs, 2010
Where adults get their snack calories

% snack calories by food group

- Candy/cookies/pastries
- Alcohol
- SS Bevs
- Salty snacks
- Fruit/ juice
- Dairy desserts
- Nuts/seeds
- Milk/milk drinks

What We Eat in America 2007-2008
Low-income mothers’ view of kids’ snacks

- Not “real food” – what kids eat BETWEEN real food
- Less is expected from snacks, nutritionally
  - Highly palatable
  - Highly desired, unlike meals
- Snacks help control behavior
- Moms like their kids’ snacks, too

http://dx.doi.org/10.1016/j.appet.2014.09.007
6 distinct reasons for **unhealthy** snacking

- Enjoying a special occasion (the biggest driver)
- Having opportunity to eat
- Gaining energy
- Coping with negative emotions
- Rewarding oneself
- Feeling social pressure

Verhoeven et al, Appetite, Jan 2015
Women’s reasons for unhealthy snacking

• Enjoying a special occasion
• Gaining energy
• Coping with negative emotions

Verhoeven et al, Appetite, Jan 2015
Young people’s reasons for unhealthy snacking

• Opportunity-induced
• Gaining energy
• Reward oneself
• Social pressure
• Coping with negative emotions

Verhoeven et al, Appetite, Jan 2015
↑BMI & reasons for unhealthy snacking

- Coping with negative emotion
- The stronger their self-perception as dieters, the more often they ate unhealthy snacks to:
  - Reward oneself
  - Felt social pressure to eat
  - Coping with negative emotions

Verhoeven et al, Appetite, Jan 2015
Define “treats”

• A “once in a while food” can be based on:
  • Economy?
  • Favorite but with limited nutritional value?
  • Limited availability

• Hint: if it’s every day or several times weekly, it’s a “LIFESTYLE”
LOOK FOR & PUSH THE POSITIVES!

• What fruits, veggies, low-fat dairy & whole grain foods does the child/adult like?
  • Most kids like at least a few of each
  • Make these the go-to DEFAULT snacks

• Point out “trifecta” foods:
  • Favorite food
  • Affordable
  • Convenient/available
Summary

- Snacking is here to stay & may even increase in some groups
- Snacking CAN and SHOULD fill dietary gaps
- Primary drivers of unhealthy snacks are:
  - Rewarding oneself
  - Opportunistic eating
- What’s needed: Factors that drive HEALTHIER snacking with SIMILAR SATISFACTION
Polling Question

- Which of the following factors most often lead your clients to snack?
  - Rewarding oneself
  - Opportunistic eating
  - To get energy
  - Planned snack
The Snacking Environment:
How Behavioral Economics Can Help Set You Up for Success

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Choice Architecture

- Choice architecture
  - *Designing the choice* to lead an individual to a particular outcome *without forcing* them
  - Uses the *tools of psychology* to access economic decision-making

- Generally, adjusting the choice architecture is *cheap*
  - *Big bang for the buck*
How Behavioral Economics Helps: Economics & Psychology

- **Reactance**
  - Rebelling against a threat to freedom
  - Limits on ketchup
  - “Don’t press this button”

- **Attribution**
  - It was my choice, I will repeat it in the future
  - Choosing between celery and carrots
What We Know About Food Decisions

- We have two decision-making mechanisms
  - Deliberative – Rational
  - Emotional – Naïve, knee-jerk reactions

- Which takes over depends on the level of cognitive resources available
  - Stress or distraction leads us to eat more and eat worse
  - It takes effort and resources to resist temptation
Hot vs. Cold Decisions

Hot State

- We eat for
  - Taste
  - Convenience
  - Size
  - Visual effect
  - “This decision is an exception”

Cold State

- We consider
  - Prices
  - Health information
  - Logic

- We buy
  - Bigger
  - More hedonistic

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What Does This Mean for Kids?

- Ever wonder why kids’ food is generally less healthy?

- Kids have not fully developed their rational system
  - Very little understanding of long term consequences
  - Developing understanding of the marketplace
  - Almost like a hot state – all the time
  - Reactance to paternalism

- Fortunately, **most kids find some healthy foods to be appealing and acceptable**
  - We can make some foods cool
  - *We can lead them* to make the right choice
6 Basic Principles to Consider

The following principles are based on research concerning various environmental cues that influence eating behavior. They are true in school lunchrooms as well as in restaurants, food courts, and even in your home kitchen!

- Manage Portion Sizes
- Increase Convenience
- Improve Visibility
- Enhance Taste Expectations
- Utilize Suggestive Selling
- Set Smart Pricing Strategies
Manage Portion Sizes

Use smaller containers, plates, and serving utensils for foods you wish to limit

Large portions = eating more

Small portions = eating less

Pay attention to the number of servings per container!

Nutrition Facts
Serving Size 4 cookies (30g)
Servings Per Container 4

Amount Per Serving
Calories 220 Calories from Fat 110
% Daily Value*
Total Fat 12g 18%
Saturated Fat 6g 30%
Trans Fat 0.5g
Cholesterol 10mg 2%
Sodium 70mg 4%
Total Carbohydrates 25g 8%
Dietary Fiber 1g 4%
Sugars 20g
Protein 3g
| Manage Portion Sizes | Increase Convenience | Improve Visibility | Enhance Taste Expectations | Utilize Suggestive Selling | Set Smart Pricing Strategies |

**Make healthy foods more convenient.**

* The easier it is to eat a food, the more likely we are to eat it!
* Make healthy foods easy to get to by putting them on the middle shelves of the pantry and refrigerator, in front.
* Put indulgent treats at the very top or bottom shelves, in the back.
Out of sight, out of mind.

* Simply *seeing* a brownie or other high-calorie food can lead to unplanned consumption – we crave it and eat it before we think twice.

* Conversely, the image or presence of a healthy food option can lead to consumption of healthier foods. In one school, simply moving a salad bar 3 feet to the center of the serving area *tripled* salad sales!
• **Food tastes how we expect it to taste** – which is why it's such a shame that people are taught to think healthy foods are yucky!

• Name, appearance, and reputation create our expectations.

If it looks delicious and sounds delicious... it must **be** delicious!
Say what??

Make Peer Pressure a Positive Force!: Encouraging others to eat healthy foods will help you reach your own nutritional goals. Order first at restaurants. Don't be afraid to be a leader!

Why it works: Birds of a feather flock together! People often follow the example of those near them, start a healthy trend

<table>
<thead>
<tr>
<th>Manage Portion Sizes</th>
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Money and Value

* People like to save money, but it can backfire... many examples of “bundling” result in eating LOTS of unplanned, unnecessary, and even unwanted calories.

* Nutritionally speaking, a Value Meal is a really bad deal!
What is a Snack?

- Characteristics we identify as a meal:
  - Eating with family
  - Eating while seated
  - Lasts longer than 30 minutes
  - Ceramic plates, cloth napkins etc.
  - Higher quality and quantity of food offered
  - Happiness

- Characteristics of a snack:
  - Packaged foods
  - Less than 10 minutes
  - Paper plates or disposable utensils
  - Boredom and impulsiveness
Nutrient Dense Snacks

- 201 3rd & 6th grade children in 4 conditions
  - Cheese only
  - Vegetables only
  - Cheese & vegetables
  - Potato chips only

- 45 minutes to watch cartoons and snack freely on food provided
- Veggies & cheese = 72% fewer calories eaten & reached satiety at a lower intake level
- Overweight & obese children had an even more pronounced effect
3 Parts to a Healthful Home

- Kitchen
  - Physical changes to the kitchen space
- Table ReDesign
  - Small mealtime habits
- Snack Proofing
  - Uncovering & Reversing troublesome habits
Kitchen Makeovers

- Can roughly predict weight by what is left out on the counters in a home
  - Cereal +21lbs
  - Regular Soda +29lbs
  - Diet Soda +24lbs
  - Crackers/Chips +8lbs
  - Any fruit -7lbs

- More time spent at home = more tempting foods should be hidden & healthful foods visible

- Empty kitchens are just as bad!
Kitchen Tips

- Make the kitchen less lounge-able
  - No TV, fluffy chairs
  - Don’t eat in the kitchen

- Make tempting foods inconvenient
  - Move the pantry to another area of the home
  - Don’t buy in bulk
    - Or pre-bag into smaller portions

- Make it easier to cook
  - Veggie prep area is bright
  - Multiple prep areas
  - Fridge opens toward the sink
  - Fridge with the freezer on the bottom
Table Redesign

- Follow the recipe
  - No eye-balling
  - Plan to cut the recipe before it’s done
- Use 9-10” plates (smaller for kids) and 4-6oz glasses
- Serve foods you want to limit from the counter & or stove; serve foods you want to eat more of from the table
- Sliced fruit increases consumption
- Serve fruit/veggies first
- Slow the meal down
Snack Proofing

Replay your last day

- Identify the issues
  - Don’t remove them…make them less enjoyable, easy

- Keep it in the kitchen
  - Once food leaves the kitchen it’s eaten

- The 2-bite rule
  - Satisfaction is just as high with a bite or two

- Storage of foods
  - Use clear containers for foods you want eaten
Polling Question

• Which of these suggestions do you think would help your clients the most to improve the quality of their snacks?
  • Shop more frequently to keep perishable items available
  • Plan ahead – put out pre-portioned, healthy snacks before sitting down to watch TV
  • Keep sliced fruit, sliced veggies and cheese sticks on a main shelf on the refrigerator
  • Plan snacks as mini-meals including at least two food groups
Questions + Resources

• HealthyEating.org/SmartSnacking

• HealthyEating.org/SnackingWebinar

10 Healthy Snacking Tips

Snack and mini-meals provide many of the nutrients you and your family need to be healthy. Do you know which foods boost snacking nutrition? This simple rule makes smart snacking easier: Plan meals from at least two of the five food groups—Milk + Milk Products, Vegetables, Fruits, Grains, and Meat + Beans.

Pick a few snacking tips to try this week:

□ Make time to shop often to keep healthy snacks—cheese, fruit, vegetables—fresh and available.

□ Enjoy protein-rich foods such as nuts, hard boiled eggs, cheese or yogurt for protein and long-lasting energy.

□ Pair healthy foods with indulgent ones. For example, pair a fruit dip or a small swirl of nut butter with chocolate chips.

□ Swap out less nutritious snacks gradually. Instead of a candy bar every afternoon, try fruit or a frozen yogurt with nuts.

□ If you are on-the-run, make a quick smoothie or banana split. Drink it on the go!

□ Remember that snacks have calories too. Enjoy snacks but make your portions smaller and healthier.

□ Set a snack schedule—perhaps every three to four hours—to minimize mindless nibbling.

□ Plan ahead. Eat a healthy snack before attending an event if “starving” snacking options will not be available. Put out small portions of healthy snacks while watching TV.

□ Make sure you have a way to keep perishable items cold. Pack foods in an insulated lunch bag with a small ice pack, or freeze foods that will be cool but tastefully made-tome.

□ Make snacking fun by chopping colorful fruits and vegetables into small portions or using cookie cutters to cut sandwiches into different shapes.

Protein-Packed Snack Ideas

Which protein-rich snack will you select to feel full longer?

- Whole grain crackers and cheddar cheese
- Low-fat yogurt with apple slices and blast of cinnamon
- Trail mix with nuts, cereal and dried fruit
- Shredded cheese and veggie sticks
- Toast with hummus and a drizzle of olive oil