





Combining Pediatric Nutrition w/ Pediatric Psychology: Providing Comprehensive & Integrative Assessment & Treatment for Children w/ Feeding Disorders & ASD

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Due to the size of our group, we will not be answering questions during the webinar. **Please type your questions** into the 'chat' box on your screen. We will review/answer questions during the Q & A at the end.


If you experience any technical problems during the webinar, the problem is likely to be on your end. Please follow-up with your technology support person.

The Webinar will end promptly at 4:30pm. If you would like to speak with us after the webinar, please send us an e-mail at rrcasd@urmc.rochester.edu.

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Learning Objectives

- Learn nutritional risks associated with feeding disorders
- Learn strategies to address severe feeding disorders
- Understand role of comprehensive care for children at nutritional risk and have feeding disorders

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What Makes Up a Feeding Disorder

- Medical
- Nutrition
- Behavior
- Feeding Skills
- Sensory
- Family Stress



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New Definition of a Feeding Disorder

- A. Persistent failure to meet nutritional/ energy needs with 1 (or more) of the following
 - Weight loss, failure to maintain weight (fall off growth chart)
 - Nutritional deficiency (significant)
 - Depends on enteral feedings or oral supplements
 - **Marked interference with social functioning**

- DSM 5 (2013)



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Diagnostic Criteria

- B. Not due to lack of food or cultural practice
- C. Does not occur with Anorexia Nervosa or Bulimia Nervosa (no body image issues)
- D. Not due to concurrent medical condition or mental health disorder
 - **Unless, severity of feeding concerns exceeds what is typically seen with that condition**
 - **Warrants additional clinical attention**

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Behavioral Eating/Feeding Disturbance

- Lack of interest in food or eating
 - Don't seem to care about what other people eat
 - Don't show hunger
- Concerns about aversive consequences of eating
 - It might make me sick, It tastes bad
- Avoidance based on sensory characteristics of food
 - That looks gross, It's too sticky, It smells bad

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Diagnostic Features

Sensory Characteristics

- Smell, texture, taste, temperature, color, shape
- Brand and Container
- Food selectivity
- Food refusal
- Food neophobia
 - Anxiety



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Role of Nutrition

- Our food supply is very fortified
- Many children on restricted diets still look "OK" during a nutrition analysis.
- Most children tend to be low in iron, Vit D, fiber, choline and potassium
- Often simple supplements will correct for these
- If a severely restricted diet is unchecked, more significant deficiencies can occur.

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Severe Nutritional Deficiencies

- Iron Deficiency – Anemia
- Vitamin D Deficiency – Rickets
- Vitamin C Deficiency – Scurvy



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History of Scurvy

- Most well known in sailors 1400-1800's
- Little to no access to fresh fruits and vegetables on board
- 1753 – James Lind proved citrus could treat it
- Though access to lemons and oranges helped reduce the incidence, others in medicine did not embrace this theory
- Thus, Vitamin C foods were offered intermittently

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Symptoms of Scurvy

- Fatigue
 - Muscle Atrophy
 - Spots on the body
 - Spongy, bleeding gums
 - May be partially immobilized
- As scurvy advances, there can be open wounds, loss of teeth, yellow skin, fever, neuropathy and potentially death from bleeding



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Foods Rich in Vitamin C

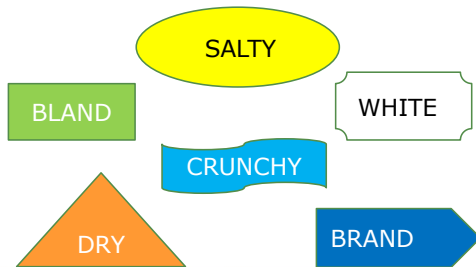
- Takes 2 weeks of Vitamin C oral supplements to reverse scurvy
- High concentrations of Vitamin C is found in
 - Sweet green peppers, kale, broccoli and Brussel sprouts
 - Citrus fruits like oranges, lemons and limes
 - Pineapple, guava, papaya, kiwi and strawberries
 - Organ meats such as liver contain more vitamin C than muscle meat.
 - Cooking significantly reduces the concentration of vitamin C as does exposure to air, copper, iron, and other transitional metals



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Food Selectivity in ASD



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Meet Allen



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History

- 10 years old
- Autism Spectrum Disorder
- Anxiety
- Ate a small variety of foods up until about 4
 - Yogurt, bologna, crackers
 - Porridge – stopped eating while on vacation in Jamaica, because it wasn't made correctly
- Diet slowly changed to primarily:
 - Specific brand of bread and water
 - Caused a previous health scare

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Food Selectivity

- Poor Stimulus Control – Extreme Rigidity
- Doesn't generalize to people and settings
- Specific Rituals and Rules
 - McDonald's
 - Dunkin Donuts
 - Papa John's/Pizza Hut



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Scurvy Sets In

- Stopped eating pizza because...
- Just bread and water for 4 months
- Fell with leg/ankle pain April 2014
- Cast/splint that limited his activity
- R side pain in shins, not walking
- Several ED visits
- Then he stopped eating his bread

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Admission

- Upon admission on 4/29/14
 - Muscle weakness
 - Bone pain
 - Gingival hypertrophy, Bleeding gums
 - Severe decrease in oral intake

Significant labs:

Vitamin C - **<5** (low average - 23)
Vitamin D - **<10** (low average - 30)
Prealbumin - **7** (low average - 20)



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Nutrition and Gastroenterology

- G-tube placed
- 8 cans of Pediasure 1.0 per day via G-tube
- Medical procedures very difficult for him
- Parents goals: off the G-tube in 5 years

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Admission



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Does He Need More Intensive Care?

- Inpatient vs day treatment hospitalization
- Eating Disorder vs Feeding Disorder
- Outpatient Therapy

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Outpatient Feeding Assessment

- Immediate and severe reactions to talking about food, discussing his diet, any handling of his G-tube
- Auditory Processing speed is slow
- Choice making is difficult for him
- Longevity of his diet, lack of previous feeding therapy, faulty stimulus control, severe refusal create multiple barriers to treatment

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Assessing His Feeding Disorder

- Texture – not an issue
- Type – definitely carbs
- Flavor – bland
- Smell – no strong smells
- Brand – especially to restaurants
- Color – Red
- Settings and people
- Food Refusal
- Food Neophobia
- Nutritional Deficiency and G-Tube dependent

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What to do

- Close medical management of G-tube, dental health
- Nutrition consultation
- Working closely with his PCP
- Rapport Building
- Anxiety Management
- Engage parents in a long-term commitment



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Anxiety management

- Neutral conversations and directions
- Reassurance
- Choices
- Escape
- Shaping
- Medication?

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What not to do

- Strict Rules and Structure
- Discussion about food
- Contingent Reinforcement for eating
- Food Chaining
- Punishment



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How Kids View Simple Foods



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Shaping

•Hierarchy

- Touch
- Smell
- Kiss
- Hold in teeth
- Lick
- Bite
 - Bite and expel
 - Bite hold and expel
 - Chew and expel
 - Chew and swallow

Koegel et al, 2011

"Touch-Smell-Kiss-Lick-Bite"



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Shaping – Things to Consider

- Try to do them in order, they are progressive
- Only back up if next step was too hard
- Can probe forward – may not need all the steps as you try it with more foods.
- Model whenever you can
- May need to add some steps between lick and bite – be creative.
- DISTRACTIONS + REWARDS

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Allen's Shaping Steps

- Smell
- Bite/expel
- Touch Tongue
- Bite/hold/expel
- Lick
- Bite/chew/expel
- Teeth Marks
- Nibbles/tiny bites
- Hold in Lips
- Swallow
- Hold in mouth

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Course of Therapy

- Foods offered were recommended by dietitian
- He chose from the array
- Sometimes food choices varied
- Somewhat child directed



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Apples

- Started with apples, introduced then 3 different times
- Compared apples to apple sauce
- Significant sensory differences
 - Food
 - His reactions

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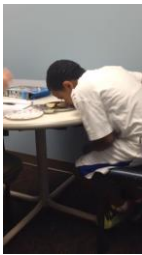
Applesauce



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Smell and Touch Tongue



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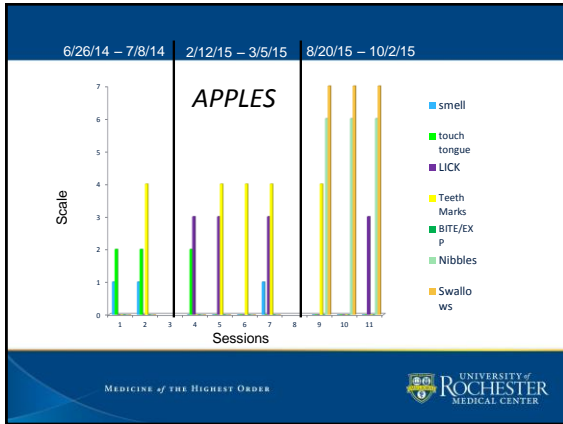
Apples



date	smell	touch tongue	LICK	Teeth Marks	BITE/EXP
6/26/2014	5	2			
7/8/2014	10	5			13
2/12/2015		1	5		
2/20/2015			27	5	
2/27/2015				16	
3/5/2015	2		5	5	0


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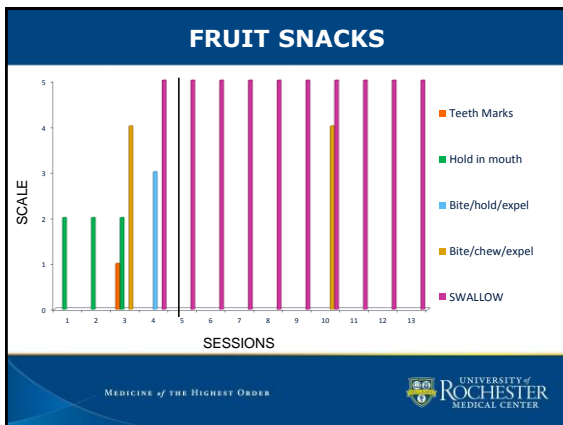
FRUIT SNACKS

date	Teeth Marks	Hold in mouth	Bite/hold/expel	Bite/chew/expel	SWALLOW
8/1/2014		1			
8/15/2014		1			
9/26/2014	11	2		8	
10/30/2014			1		1
1/23/2015					1
2/6/2015					1
2/12/2015					1
2/20/2015					1
2/27/2015					2
3/5/2015				1	1
3/12/2015					1
4/23/2015					1
8/14/2015					1



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Lick Crackers



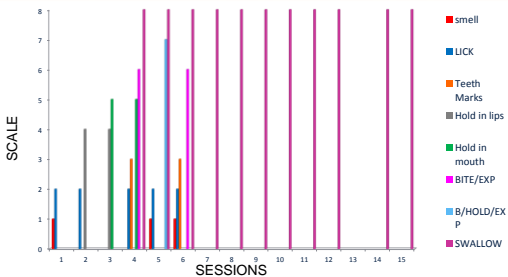
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Date	Smell	Lick	Teeth Marks	Hold in Lips	Hold in mouth	Bite/Expel	Bite/Hold/Exp	Volume
3/12/2015	7	15						
3/19/2015		8			9			
4/7/2015					5	5		
4/9/2015		2	1			4	3	1 bite
4/14/2015	1						8	3 bites
4/23/2015	1	1	1				1	1/3 cracker
4/28/2015								1 cracker
5/26/2015								1
6/16/2015								2
6/25/2015								3
7/28/2015								3
8/4/2015								6
8/7/2015								8
8/11/2015								5
8/14/2015								6



Ritz Crackers



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Change Brand, Shape

Date	Food	Lick	Swallow	Volume
8/11/2015	Town House	5	6	
8/12/2015	Town House		15	eight
8/14/2015	Town House		10	five
9/10/2015	Saltine			two
9/24/2015	Saltine			two

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Generalization

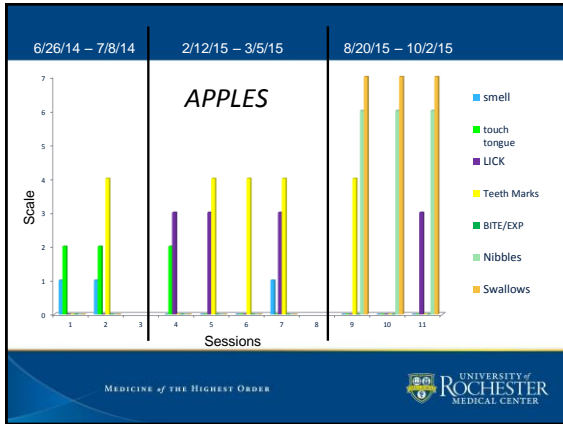
- Allen tended to do certain things, with certain people and in certain places.
- Initially, he would only eat for me in therapy.
- A new therapist was introduced, and he transitioned very well.
- With apples, waffles, cereal and flavored water.

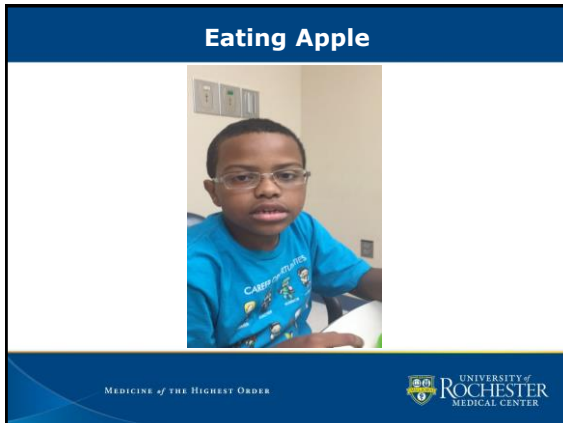
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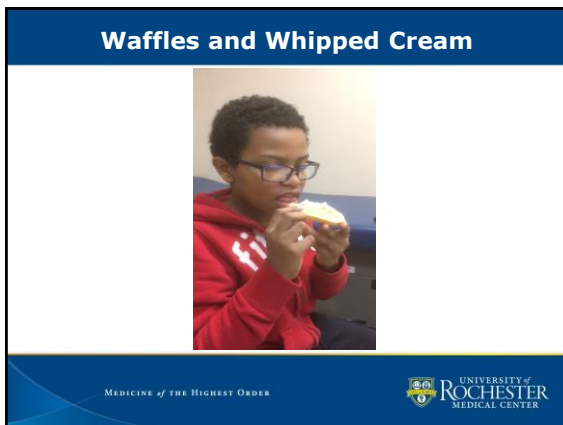


Apples Part 2 - Generalization

date	LICK	Teeth Marks	BITE/EXP	Nibbles	Swallows	Volume
8/20/2015		1		25	1	skin
8/21/2015				35	3	
9/4/2015	2			15	1	
9/10/2015				12	8	1 slice
9/11/2015					7	1 slice
9/17/2015					16	2 slices
9/18/2015					12	3 slices
9/24/2015					2	
9/25/2015					18	3.5 slices
10/2/2015						3 slices







Cereal

Date	Food	Smell	Touch Tongue	Lick	Hold in mouth	Bite/Exp	Swallow	Pieces crumbs
9/24/15	Cocoa Puffs	5		5	8	1	0	
10/13/15	Cheerios				5			
10/15/15	Cinn Toast Crunch	5	132					
10/20/15	Trix			40	5		6	six
12/1/15	Froot Loops			6	5		6	six
12/8/15	Froot Loops						13	eleven
12/10/15	Froot Loops						11	eleven
12/15/15	Froot Loops						7	sixteen

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Froot Loops



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Kool-Aid



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SoBe, and a command



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Allen's Core Food List

- Wegman's White Country Potato Bread
- Pizza Hut Cheese Pizza
- Popcorn
- Pretzels

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Foods Allen Interacted With

- | | |
|------------------------|------------------------|
| •Wegman's Potato Bread | •Cocoa Puffs |
| •Café 601 pizza | •Cinnamon Toast Crunch |
| •Applesauce | •Cheerios |
| •Pirate Booty | •Kool-Aid |
| •M&M's | •Fruit Punch |
| •Mashed Potatoes | •Orange Juice |
| | •Chocolate Milk |



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Allen's New Food List

- Apples
- Fruit Snacks
- Gummy Bears
- Pancakes – IHOP, MCD, and homemade
- Waffles
- Wegman's Whipped cream
- Hershey Bar
- Crackers – Ritz, Town House, Saltines
- Cereal – Froot Loops
- SoBe Strawberry flavored water
- Vitamin water, mixed berry flavor
- Chocolate cake on his 12th birthday



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Summary

- Allen's behaviors and eating habits have changed drastically
- No longer afraid of trying new foods
- Happy and interactive
- Eats at home with his parents
- Generalized across people and settings

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Additional Concerns

- Still has some trouble with sensory aspects of trying new things
- Needs bland flavors with minimal smells
- Prefers red foods, but can be flexible now

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Health Update

Labs

- Vitamin C – 78 (from <5)
- **Vitamin D – 15** (from <10, but minimum is 30)
- Prealbumin – 22 (from a 7)

G-Tube feedings

- Down to 2 cans every other day.
- Gained substantial amount of weight due to G-Tube feeds.
- Monitoring his calories to make changes as needed.
- Needs Vitamin D Supplementation

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Future Directions for Allen

Less dependence on Pediasure/G-Tube

- Is he getting enough micronutrients from food?

Continue to disrupt rituals (e.g., color)

Introduce more variety

- Return to apples
- Try a protein
- Continue with drinking

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Crossing to the Community

Generalization

- Program stimulus cues (placemats)
- Training – different people, different settings
- Reinforcement – Carry over settings, people
- Written plans to share
- Communication - Timing

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Parent Training Research Project

- Providing parents with strategies to improve their child's eating
- Manualized intervention
- Includes home visit and Vsee interactions
- 20 weeks of commitment
- Children aged 2-7
- Children with Autism Spectrum Disorders
- Contact Rachael Davis at 585-273-3023 for more information

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Meet Our Team

Feeding Psychologist:

Kimberly Brown, PhD (Program Director)

Medical Provider:

Lynn Cole, PNP

Registered Dietitian:

Brianne Schmidt, RD

Speech Language Pathologist:

Katherine Maruska, MS, CCC-SLP

Pediatric Social Worker:

Lisa Luxemberg, LCSW

Clinical Coordinator:

Lisa Snow, MBA



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Other Resources

Rochester Regional Center for Autism Spectrum Disorder (RRCASD)

- On-line educational resources, webinars, Information & Referral services.
- Contact information:
 - Website: www.golisano.urmc.edu/rrcasd-nyautism
 - E-mail: rrcasd@urmc.rochester.edu
 - Tele: 1-855-508-8485

Autism Speaks - Website: www.autismspeaks.org

- This site contains various toolkits and guides for home, school, work, safety, health/medical, etc.

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Question & Answer

Live Webinar Q & A Time...

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